

# ADVERTISED PLAN

## ECOLOGICAL ASSESSMENT: THE BUTTER FACTORY KONGWAK

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July 2023



# ECOLOGICAL ASSESSMENT: THE BUTTER FACTORY KONGWAK

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## ACRONYMS / ABBREVIATIONS

TERM	DEFINITION
BoM	Bureau of Meteorology
BCS	Bioregional Conservation Status
CaLP Act 1994 (Vic)	Victorian Catchment and Land Protection Act 1994
Cwlth	Commonwealth
DBH	Diameter at Breast Height
DCCEEW	Federal Department of Climate Change, Energy, the Environment and Water (formerly DAWE)
DEECA	Victorian Department of Energy, Environment and Climate Action (formerly DELWP)
EPBC Act 1999 (Cwlth)	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EVC	Ecological Vegetation Class
FFG Act 1988 (Vic)	Victorian Flora and Fauna Guarantee Act 1988
GIS	Geographical Information System (mapping system)
MNES	Matter of National Environmental Significance
P&E Act 1987 (Vic)	Victorian Planning and Environment Act 1987
PSP	Precinct Structure Plan
SBV	Strategic Biodiversity Value
TPZ	Tree Protection Zone
VBA	DEECA's Victorian Biodiversity Atlas
VQA	Vegetation Quality Assessment

## GLOSSARY

TERM	DEFINITION
Bioregion	Biogeographical areas that capture the patterns of ecological characteristics in the landscape or seascape, providing a natural framework for recognising and responding to biodiversity values.
Bioregional Conservation Status (BCS of an EVC)	A state-wide classification of the degree of depletion in the extent and/or quality of an Ecological Conservation Class (EVC) within a bioregion in comparison to the State's estimation of its pre-1750 extent and condition.
Canopy tree	See 'Native Canopy Tree'.
Diameter at Breast Height (DBH)	The diameter of the trunk of a tree measured over bark at 1.3m above ground level.
Drip Line	The outermost boundary of a tree canopy (leaves and/or branches) where the water drips onto the ground.
Ecological Vegetation Class (EVC)	A type of native vegetation classification that is described through a combination of its floristic, life form and ecological characteristics, and through an inferred fidelity to particular environmental attributes. Each EVC includes a collection of floristic communities (i.e. lower level in the classification that is based solely on groups of the same species) that occur across a biogeographical range, and although differing in species, have similar habitat and ecological processes operating.
EVC Benchmark	A standard vegetation quality reference point relevant to the vegetation type that is applied in habitat hectare assessments. Represents the average characteristics of a mature and apparently long-undisturbed state of the same vegetation 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.
General Habitat Unit	A General Habitat Unit is a measure of loss (and Gain in an Offset Site) in overall biodiversity value of native vegetation (both patch and scattered tree).
General Habitat Unit Offset target	<p>A General Habitat Unit Offset target is that quantity of General Habitat Units that are to be secured to ensure that there is 'no net loss' in biodiversity value associated with the clearance of native vegetation (both patch or scattered tree).</p> <p>The General Habitat Units secured for an Offset target must meet the following attribute requirements:</p> <ul style="list-style-type: none"> <li>○ <i>Minimum strategic biodiversity value score:</i> the strategic biodiversity value score of the Offset Credits must be at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed;</li> <li>○ <i>Vicinity:</i> the offset must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.</li> </ul>
Habitat Hectare	A site-based measure of quality and quantity of native vegetation that is assessed in the context of the relevant native vegetation type.

TERM	DEFINITION
Habitat score	The score assigned to a Habitat Zone that indicates the quality of the vegetation relative to the EVC benchmark – sum of the site condition score and landscape context score usually expressed as a percentage or as a decimal fraction of 1.
Habitat Zone	A discrete area of native vegetation consisting of a single vegetation type (EVC) with an assumed similar quality. This is the base spatial unit for conducting a habitat hectare assessment.
High threat weed	Introduced plant species (including non-indigenous 'natives') with the ability to out-compete and substantially reduce one or more indigenous life forms in the longer term, assuming on going current site characteristics and disturbance regime.
Location Category	<p>There are three location categories that indicate the potential risk to biodiversity from removing a small amount of native vegetation. These location categories are identified by DEECA as follows:</p> <ul style="list-style-type: none"> <li>○ Location 3 – includes locations where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for a rare or threatened species.</li> <li>○ Location 2 – includes locations that are mapped as endangered EVCs and/or sensitive wetlands and coastal areas and are not included in Location 3.</li> <li>○ Location 1 – includes all remaining locations in Victoria.</li> </ul>
Mapped wetlands	<p>Mapped wetlands may or may not be visible on the ground and are treated as a patch of native vegetation for the purpose of Offsets unless they are covered by a hardened, man-made surface, for example, a roadway.</p> <p>The location and extent of mapped wetlands are available in NVIM and other DEECA GIS mapping systems.</p>
Matters of National Environmental Significance (MNES)	There are nine MNES identified under the EPBC Act 1999 (Cwlth): World Heritage properties; National Heritage places; wetlands of international importance (listed under the Ramsar Convention); listed threatened species and ecological communities; migratory species protected under international agreements (protected under international agreements); Commonwealth marine areas, the Great Barrier Reef Marine Park; nuclear actions (including uranium mines); and water resources in relation to coal seam gas development and large coal mining development.
Native Canopy Tree	<p>A native canopy tree is either:</p> <ul style="list-style-type: none"> <li>○ a mature tree (able to flower) that is greater than three metres in height and is normally found in the upper layer of the relevant vegetation type (EVC); or</li> <li>○ a standing dead tree (stag) if it has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above the ground.</li> </ul>
Native Vegetation	Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.
No Net Loss	An outcome where a particular gain in the contribution to Victoria's biodiversity is equivalent to an associated loss in the contribution to Victoria's biodiversity from permitted clearing.

TERM	DEFINITION
Offset	Protection and management (including revegetation) of native vegetation at a site to generate a gain in the contribution that native vegetation makes to Victoria's biodiversity. An Offset is used to compensate for the loss to Victoria's biodiversity from the removal of native vegetation. Offsets are to be secured in perpetuity with an on-Title conservation covenant.
Offset target	The amount of Offset required, measured in Habitat Units, to ensure permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity.
Patch of native vegetation	<p>A patch of native vegetation is either:</p> <ul style="list-style-type: none"> <li>○ an area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or</li> <li>○ any 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</li> <li>○ any mapped wetland included in the current wetlands layer available in NVIM and other DEECA systems.</li> </ul>
Perennial Understorey	Plants that usually live for more than two years and are found in the lower layers of vegetation, like grasses and shrubs.
Plant cover	The proportion of the ground that is shaded by vegetation foliage when lit from directly above.
Protection (of a tree)	An area with twice the canopy diameter of the tree(s) fenced and protected from adverse impacts: grazing, burning and soil disturbance not permitted, fallen timber retained, weeds controlled, and other intervention and/or management if necessary, to ensure adequate natural regeneration or planting can occur.
Recruitment	The production of new generations of plants, either by allowing natural ecological processes to occur (regeneration etc.), by facilitating such processes, or by actively revegetating (replanting, reseeding). See revegetation.
Revegetation	Establishment of native vegetation to a minimum standard in formerly cleared areas, outside of a remnant patch.
Scattered trees	<p>A scattered tree is a native canopy tree (see 'Native Canopy Tree' above) that does not form part of a patch.</p> <p>Scattered trees have two sizes, small and large:</p> <ul style="list-style-type: none"> <li>○ a small scattered tree is less than the large tree benchmark for the species in the relevant EVC;</li> <li>○ a large tree is equal to or greater than the large tree benchmark for the species in the relevant EVC;</li> <li>○ a standing dead tree that does not form part of a patch is treated as a large scattered tree if it has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above the ground.</li> </ul>
Species – General Offset Test	The species-general offset test measures the proportional impact from the removal of native vegetation on the habitat of rare or threatened species, according to the <i>Habitat importance maps</i> , and compares this to the species offset threshold.



TERM	DEFINITION
Species Habitat Unit	A Species Habitat Unit is a measure of loss (and Gain in an Offset Site) in biodiversity value of native vegetation (both patch and scattered tree) for a particular rare or threatened species.
Species Habitat Unit Offset target	A Species Habitat Unit Offset is required when the removal of native vegetation has a significant impact on habitat for a rare or threatened species. Species Offsets must compensate for the removal of that particular species' habitat.
Strategic Biodiversity Value (SBV)	The Strategic Biodiversity Value is a rank of a location's complementary contribution to Victoria's biodiversity, relative to other locations across the state with regard to its condition, extent, connectivity and the support function it plays for species.
Tree Protection Zone (TPZ)	Calculated area (based on AS 4970-2009 (Protection of trees on development sites)) of soil volume required to encompass sufficient absorbing tree root systems to ensure the long-term survival of a tree. Trees may be considered as lost (and may require an Offset) if impacts of greater than 10% intrusion into the TPZ occur.
Vegetation Quality Assessment (VQA)	<p>A site-based vegetation assessment method that measures the condition of native vegetation against a benchmark for the same vegetation type or Ecological Vegetation Class (EVC), where the benchmark represents the average mature condition of the EVC being assessed prior to European settlement.</p> <p>This is the method approved by the Department of Energy, Environment and Climate Action (DEECA) for assessing native vegetation for the purposes of regulation and investment. Qualified assessors undertake VQAs to determine the loss from clearing native vegetation and gains available at offset and investment sites.</p>
Wetlands	See 'Mapped wetlands'.

# 1. INTRODUCTION

Following a 2021 desktop environmental assessment (Ecocentric 2021), Ecocentric Environmental Consulting (hereafter referred to as Ecocentric) was engaged in May 2023 by Kongwak Butter Factory Co. to undertake an ecological assessment of the broader Butter Factory development site consisting of five adjoining parcels of land covered by two addresses; 1486 Korumburra-Wonthaggi Road and Church Road, Kongwak, Victoria (SPI: 1\PS716625, 2\PS716625, 1\PS331420, 2\PS331420 and 3\PS331420 – all five parcels hereafter referred to as the site). Kongwak Butter Factory Co. plans to develop the site as a food hub destination with restaurant, accommodation, parkland and boutique food production.

The southern part of the site, along Korumburra-Wonthaggi Road, is generally within a Township Zone (TZ), while the larger part of the site, to the north, is within a Farming Zone (FZ). The western half of the site is classified an Area of Aboriginal Cultural Heritage Sensitivity, centred on Foster Creek, and the entire site is within a Designated Bushfire Prone Area. Overlays that apply to the site include a Heritage Overlay over both the cheese and the butter factory buildings, and an Environmental Significance Overlay (ESO5 – areas susceptible to erosion) over the Farming Zone part of the site. Planning property details are listed in Table 1 below.

**Table 1. Planning property details**

ITEM	DETAILS
<b>Standard Parcel Identifier</b>	1\PS716625 2\PS716625 1\PS331420 2\PS331420 3\PS331420
<b>Local Government Area</b>	South Gippsland Shire
<b>Planning Zones</b>	Township Zone (TZ) within southern parts of the site. Farming Zone (FZ) through the larger northern parts of the site.
<b>Planning Overlays</b>	Heritage Overlay (HO4) over the cheese and the butter factory buildings in the southwest corner of the site. Environmental Significance Overlay (ESO5) over the same area covered by the Farming Zone.
<b>Other planning area information</b>	Western half of site is an Area of Aboriginal Cultural Heritage Sensitivity. Entire site is a Designated Bushfire Prone Area.

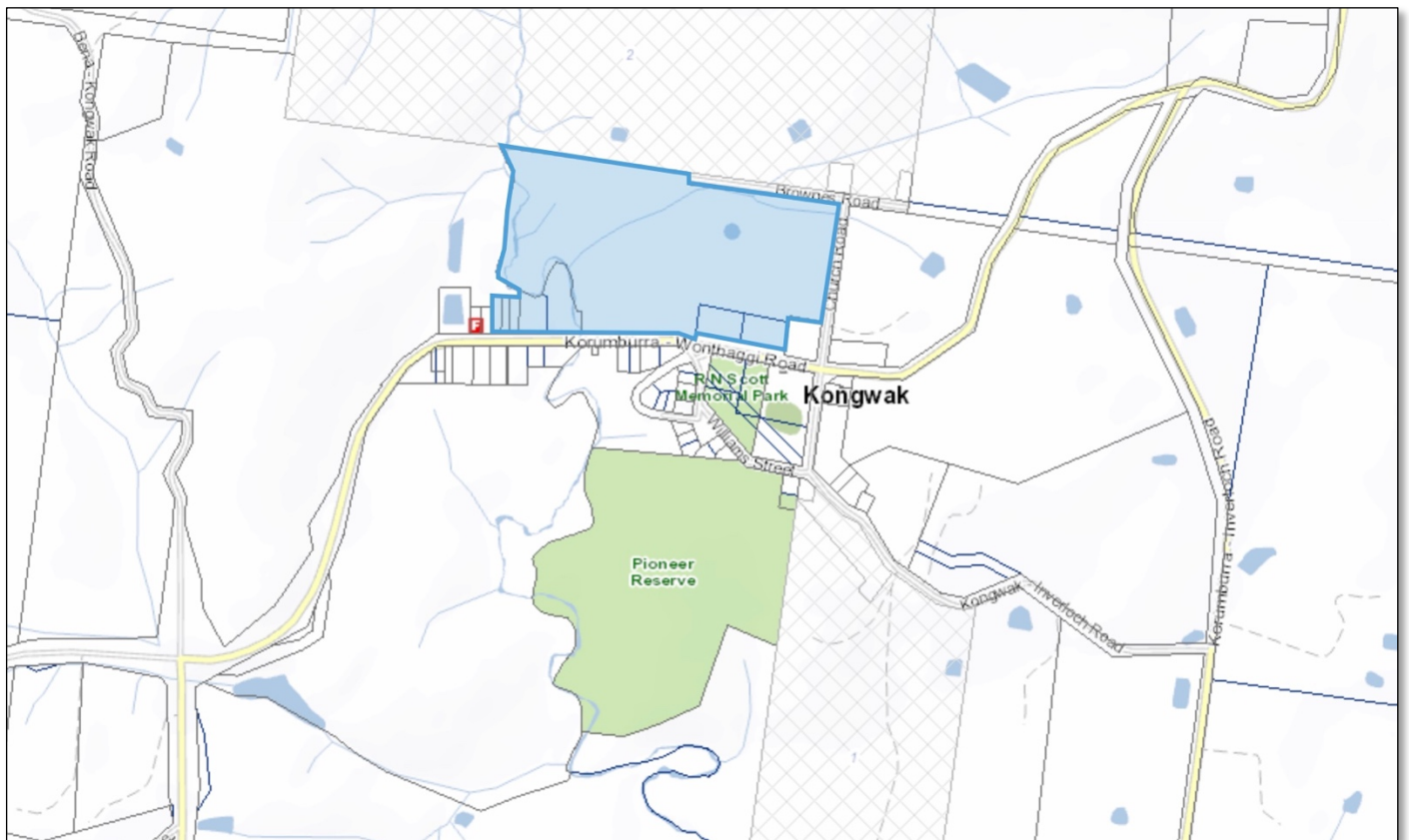
The southwest corner of the site contains the historic cheese and butter factories, while the rest of the site predominantly consists of cleared agricultural land. Features include two creeks: Browns Creek draining through the agricultural land and Foster Creek draining along its western edge, plus a farm dam and billabong. Kongwak township properties generally lie to the south of the site, while land to the west, north and east generally consists of agricultural land.

The objectives of the assessment were to:

- Identify the ecological values of the site, including:
  - Presence of threatened flora, fauna and/or vegetation communities;
  - Areas of remnant or planted habitat that may support threatened flora, fauna and/or vegetation communities; and
  - Areas of native vegetation 'patches' and 'scattered trees' on site that may have to be Offset if impacted by the proposed development;
- Map these ecological values and identify their quality and extent;
- Identify potential impacts to these ecological values from the proposed development, including implications under relevant legislation and policies;
- Identify which, if any, of these ecological values will require Native Vegetation Offsets and/or mitigation measures if impacted under Section 52.17 of the Planning Scheme and the *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* policy (DELWP 2017; hereafter the *Guidelines 2017* policy); and
- Outline appropriate measures to avoid, mitigate or Offset potential impacts.

Figure 1 provides an overview of the property in the context of the local area and surrounding properties.

**Figure 1. Property location**



The findings of this report will inform the Planning Permit application process for this development under the South Gippsland Planning Scheme, and help meet the requirements specified in DEECA's native vegetation regulations.

## **1.1 LIMITATIONS**

This report does not consider development implications which may apply to the property under the Aboriginal Heritage Act 2006 (Vic), those which may apply due to the Heritage Overlay (HO4) and the Environmental Significance Overlay (ESO5) which cover part of the site, nor those which apply due to the site being within a Designated Bushfire Prone Area.

This report assumes that the reader is familiar with the proposed development and its objectives, the planning and financing context that brought about this report's instigation, and the general ecological values of the region.

Ecocentric relied on information provided by Pete Wilson Landscape Architecture (PWLA) and sourced from publicly available online database and mapping sources. Ecocentric does not warrant that this information is not without error or faults, and cannot be held accountable for any changes to data provided to us subsequent to completion of site assessments or the publication of this report.

## 2. METHODOLOGY

### 2.1 DESKTOP REVIEW

A desktop review was undertaken as the first component of this project. This involved a review of online data resources available from relevant Victorian and Commonwealth departments, and a review of available management reports and documentation from other sites within the region. Maps of the site's indicative pre-1750 Ecological Vegetation Classes (EVCs), likely patches of remnant EVCs, and a map of the bioregion were generated online and were referred to on site during the assessment. An aerial photograph of the site was generated from NearMap and overlaid with the Title boundary data.

Existing datasets, modelling and mapping for the site that were reviewed and interrogated consisted of the following:

- Biodiversity Interactive Maps classifying extant and pre-1750 EVCs, Bioregions, Location Risk and Strategic Biodiversity Values (SBV) within the property and surrounds (DEECA 2023<sup>1</sup>; Victorian Open Data Directory 2023<sup>2</sup>);
- EVC benchmarks (DEECA 2023<sup>3</sup>);
- Victorian Biodiversity Atlas (VBA) online database, recording location datapoints of significant flora and fauna in the region (DELWP 2022<sup>4</sup>);
- The Commonwealth's Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act – Cwlth) Protected Matters Search Tool (PMST) database, modelling distributions of significant flora, fauna and vegetation communities in the region (DCCEEW 2023<sup>5</sup>);
- DEECA species distribution and habitat importance models as produced for the *Guidelines 2017* policy (GIS mapping layers from Victorian Open Data Directory 2023<sup>6</sup>; DELWP 2017);
- Aerial imagery to determine habitat extents and linkages (NearMap 2023<sup>7</sup>);
- Property and Planning Scheme information (DEECA 2023<sup>8</sup>); and
- Publicly available geospatial datasets.

Proposed development plans, feature survey and arboricultural assessments were also used for this assessment, including:

- CJ Arms (15 June 2023). *Kongwak Butter and Cheese Factory: Stormwater Management Concept*.
- Euca Planning (26 June 2023). *Bushfire Planning Considerations Report: Kongwak Butter and Cheese Factories and Group Accommodation*.
- Glenn Waters Arboriculture (18 February 2023). *Arboricultural Assessment & Report: Kongwak Cheese & Butter Factory, Kongwak*.
- Peter Wilson Landscape Architecture (PWLA) (31 May 2023). *Overall Landscape Masterplan*. Drawing No. MP-300.
- Peter Wilson Landscape Architecture (2023). *Proposed Bush Fire Mitigation Plan*. Drawing No. MP-303.

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<sup>1</sup> <https://www.environment.vic.gov.au/biodiversity/naturekit>

<sup>2</sup> <https://www.data.vic.gov.au>

<sup>3</sup> <https://www.environment.vic.gov.au/biodiversity/bioregions-and-evc-benchmarks>

<sup>4</sup> <https://vba.biodiversity.vic.gov.au/vba/#/>

<sup>5</sup> <https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool>

<sup>6</sup> <https://www.data.vic.gov.au>

<sup>7</sup> <http://maps.nearmap.com>

<sup>8</sup> <https://www.planning.vic.gov.au/schemes-and-amendments/browse-planning-schemes>

- Wardle (March 2023). *Proposed Floor Plans & Elevations Bridge*. Drawing No. TP 0550, Revision D.

## 2.2 FIELD SURVEYS

Ecological values on the property were also assessed on 7<sup>th</sup> June 2023 by suitably qualified and experienced ecologists. Ecocentric staff hold accreditation in the Vegetation Quality Assessment Competency Check; the company is also a DEECA Accredited Organisation for the assessment and establishment of Offset Sites, and a registered over-the-counter Native Vegetation Offset Broker.

The following techniques were utilised during the field surveys:

- All areas of habitat (including the native vegetation more specifically mapped as below) were assessed across the site (see Section 2.2.1). Random meander searches for threatened flora and fauna species, identified by database review as being of interest, were completed across the site, and all areas of habitat were assessed with respect to their value for these species;
- All areas of native vegetation were assessed across the site (see Section 2.2.2). Mapped extant Ecological Vegetation Classes (EVCs) were verified and assessed in the field to a hand-held tablet running Quantum GIS, and assessed for habitat quality and conservation significance against relevant EVC benchmarks and in accordance with DEECA approved methodologies. Where appropriate, habitat areas were also assessed against *impact threshold* criteria as documented under the EPBC Act for threatened vegetation communities (available on the Species Profile and Threats Database); and
- Any other incidental discussions, observations or evidence of flora or fauna were recorded.

### 2.2.1 GENERAL FLORA, FAUNA & HABITAT SURVEY

An incidental flora and fauna survey was undertaken across the site. All species of vascular flora and vertebrate and invertebrate fauna that were detected on the site were recorded.

The site was also assessed for its faunal habitat values and its potential to support threatened flora and fauna species, and/or threatened vegetation communities. The assessment involved site-based habitat assessments, and a review of aerial photography to gain an appreciation of habitat connectivity in a broader landscape context.

The general habitat assessment focused on the extent of native vegetation cover, composition and structure of the vegetation, as well as other features important in determining habitat quality. Habitat features observed and assessed included (but were not limited to):

- Presence of nectar-producing and hollow-bearing trees;
- Presence of stags (standing dead trees), ground logs, stone outcrops;
- Level of disturbance (e.g., weed invasion) and ground-layer characteristics including leaf litter and logs;
- Size, shape and connectivity of vegetation patches;
- Presence of specific habitat features (e.g., aquatic vegetation);
- Presence of waterways and riparian habitat values (e.g., pools, riffles, snags); and
- Structural heterogeneity of the vegetation.

Habitat areas were also assessed using active searching techniques. Active searching included looking for sign of fauna activity, such as (but not limited to) scats, tracks, tree marks,

burrowing, surface scratching (in particular conical pits formed by foraging bandicoots and ground fauna), hair scraps (particularly on fence lines), game trails, nests (and dreys), feed middens and scat sites. Surface habitats, such as rocks, logs, sheets of corrugated iron and building rubble, were lifted carefully and inspected for presence of fauna or sign of habitation. Waterways, wetlands and moist areas were inspected for burrow chimneys and freshwater crayfish activity. Avian surveys were conducted using binoculars while on site.

Habitat values and quality were assessed based on significance criteria as detailed below in Table 2.

**Table 2. Habitat significance**

HABITAT SIGNIFICANCE CATEGORY	DESCRIPTION
<b>Very high significance</b>	Site known to support long-term breeding population(s) of threatened flora or fauna; is contiguous with large areas (greater than 50ha) of remnant vegetation and habitat; and there is a very high cover (greater than 75%) of remnant, indigenous vegetation with EVC appropriate canopy structures intact.
<b>High significance</b>	Site provides optimal habitat conditions for rare or threatened flora or fauna; there is a high degree of connectivity to large areas (greater than 50ha) of remnant vegetation and habitat; and there is a good cover (greater than 50%) of remnant, indigenous vegetation with EVC appropriate canopy structures intact.
<b>Medium significance</b>	Site provides sub-optimal habitat conditions for rare or threatened flora or fauna; there is connectivity to areas (greater than 0.4ha) of remnant vegetation and habitat; and there is some cover (greater than 25%) of remnant, indigenous vegetation with EVC appropriate canopy structures intact.
<b>Low significance</b>	Site provides limited habitat conditions for flora or fauna, and there is some cover of remnant, indigenous vegetation on site.
<b>Negligible significance</b>	Site provides little to no habitat value with little to no native vegetation present (e.g. grazed paddocks, paved areas).

Any significant flora or fauna identified were mapped to the GIS spatial layers using a hand-held GPS (accurate to +/- 3m).

The precautionary approach was adopted for all site surveys where discretionary decisions were made. In particular, the absence of evidence of threatened flora, fauna, vegetation communities or habitat values during surveys was not interpreted as evidence of their absence on site.

### 2.2.2 NATIVE VEGETATION ASSESSMENT

A native vegetation assessment was undertaken to determine the quality and extent of native vegetation present at the site, and to inform potential Offset requirements for native vegetation clearance if approved.

Ecological Vegetation Classes were determined based on EVC modelling and benchmarks (DELWP 2017), and as confirmed in the field during the site surveys. Vegetation Quality Assessments (VQA; also commonly referred to as a Habitat Hectare Assessment) were undertaken for all areas of native vegetation (both remnant and as scattered trees) in accordance with the *Vegetation Quality Assessment Manual – Guidelines for applying the habitat hectare scoring method* (DSE 2004).

Native vegetation is defined under the *Native Vegetation Permitted Clearing Regulations* as follows:

A **patch** of native vegetation is:

- 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 trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or
- any mapped wetland included in the 'Current wetlands map', available in DELWP systems and tools (DELWP 2017).

A **scattered tree** is a native canopy tree that does not form part of a patch of native vegetation. Scattered trees have two sizes, small and large:

- a small scattered tree is less than the large tree benchmark for the species in the relevant EVC;
- a large tree is equal to or greater than the large tree benchmark for the species in the relevant EVC;
- a standing dead tree that does not form part of a patch is also classified as a large scattered tree if it has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above the ground (DELWP 2017).

The current *Guidelines 2017* policy recognises that large trees are often the oldest part of an ecological system and are difficult to replace in the short term. To address this and to ensure the protection of large trees in the landscape, any secured Offset must include large trees on a one-for-one basis whenever large trees are approved for removal. A large tree can be either a large scattered tree or a large tree within a patch.

Native vegetation is further described in the Planning Scheme as flora native to Victoria which, in some cases, may include taxa that are not indigenous to the site. Table 3 below details the categories used to classify vegetation across the site.

**Table 3. Vegetation categories**

VEGETATION CATEGORY	DESCRIPTION	IMPLICATIONS FOR PLANNING PERMIT REQUIREMENTS
<b>Site indigenous</b>	Indigenous to a local area. Defined as 'taxa that have originated in a given area without human involvement or that have arrived there without intentional or unintentional intervention of humans from an area in which they are native'.	<p>Removal, destruction or lopping of site indigenous vegetation is likely to require a permit, unless circumstances fall under the provisions detailed in the Planning Scheme's Section 52.17-7 (table of exemptions).</p> <p>Exemptions include:</p> <ul style="list-style-type: none"> <li>• 'Planted vegetation': ... <i>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 ...</i></li> <li>• 'Regrowth': ...<i>that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation, and is:</i> <ul style="list-style-type: none"> <li>○ <i>less than 10 years old; or</i></li> <li>○ <i>bracken (Pteridium esculentum); or ...</i></li> </ul> </li> </ul> <p><i>This exemption does not apply to land where native vegetation has been destroyed or otherwise</i></p>



VEGETATION CATEGORY	DESCRIPTION	IMPLICATIONS FOR PLANNING PERMIT REQUIREMENTS
		<p><i>damaged as a result of flood, fire or other natural disaster.</i></p> <p>Ecocentric generally accommodates these exemptions by identifying native vegetation that is less than 10 years old in the GIS mapping.</p>
<b>Native to Victoria</b>	<p>Non-indigenous to the local area but native to Victoria (such as Giant Honey-myrtle).</p> <p>Defined in Victorian Planning Provisions – Definitions – Clause 72 as <i>Plants that are indigenous to Victoria, including trees, shrubs, herbs, and grasses.</i></p>	<p>Removal, destruction or lopping of vegetation native to Victoria is likely to require a permit, unless exempt as detailed above.</p> <p>An additional exemption that applies is <i>native vegetation ... to the minimum extent necessary to enable the removal or destruction of a weed listed in the schedule to Clause 52.17.</i> Specifically:</p> <ul style="list-style-type: none"> <li>• Sweet Pittosporum (<i>Pittosporum undulatum</i>).</li> <li>• Sallow Wattle (<i>Acacia longifolia</i> subsp. <i>longifolia</i>).</li> <li>• Coast Wattle (<i>Acacia longifolia</i> subsp. <i>sophorae</i>).</li> </ul>
<b>Native to Australia</b>	<p>Non-indigenous (to Victoria) Australian native plants or vegetation (such as Sugar Gum).</p>	<p>Usually does not require a permit for removal, but Ecocentric generally maps these to GIS to demonstrate that these plants have not been overlooked.</p>
<b>Exotic Vegetation</b>	<p>Planted exotic vegetation, which is flora species that are not native to Australia.</p>	<p>Usually does not require a permit for removal, unless the vegetation is covered by an 'Environment Significance Overlay' or a 'Vegetation Protection Overlay' that specifically addresses exotic vegetation.</p>

### 2.2.3 LIKELIHOOD OF SIGNIFICANT SPECIES

The likelihood of occurrence of all threatened flora and fauna species listed in the five-kilometre radius of the site was determined on the basis of the species identified during the desktop assessment of the Victorian Biodiversity Atlas and the Protected Matters Search Tool databases, and through an assessment of species-suitable habitat on site (as identified through aerial imagery, previous reports and site surveys). A species was assumed to be present if suitable habitat was observed in the study area, and if that species was known to occur regionally. This is a conservative approach likely to include species that are difficult to detect.

The probability that each threatened species occurs within the study area was determined as being negligible, low, moderate, high, very high or recorded, based on the criteria listed in Table 4 below.

**Table 4. Likelihood of Occurrence Criteria**

LIKELIHOOD OF OCCURRENCE	CRITERIA - one or more of the following conditions applies for threatened flora and / or fauna species
<b>Negligible</b>	<p>The species has not been recorded previously within 5km of the site.</p> <p>The site is beyond the current known geographic range of the species.</p> <p>The species has specific habitat requirements that are not present in the site.</p> <p>The species is considered to be extinct or regionally extinct.</p>
<b>Low</b>	<p>The species has historically (&gt;20 years ago) been recorded within 5km of the site.</p>

LIKELIHOOD OF OCCURRENCE	CRITERIA - one or more of the following conditions applies for threatened flora and / or fauna species
	The species has specific habitat requirements that are present in the site, and these habitat areas are considered to be of Low habitat significance (see Table 1) for the species.
<b>Moderate</b>	The species has been recorded more recently (<20 years ago) within 5km of the site. The species has specific habitat requirements that are present in the site, and these habitat areas are considered to be of Low or Medium habitat significance (see Table 1) for the species.
<b>High</b>	The species has been recorded more recently (<20 years ago) within 5km of the site. The species has specific habitat requirements that are present in the site, and these habitat areas are considered to be of High habitat significance (see Table 1) for the species. A known population of the species with records (typically >20) is located in similar habitat within 5km of the site.
<b>Very High</b>	The species has been recorded more recently (<20 years ago) within 5km of the site. The species has been recorded very recently (<5 years ago) on site. The species has specific habitat requirements that are present in the site, and these habitat areas are considered to be of Very High habitat significance (see Table 1) for the species. A known population of the species with records (typically >20) is located in similar habitat within 5km of the site.
<b>Recorded</b>	The species was recorded on site during the current survey.

### 3. RESULTS

Pre-1750 EVC modelling identifies that prior to disturbance and clearing, this site once predominantly hosted a Swampy Riparian Woodland Ecological Vegetation Class (EVC 83; classified as endangered in the Strzelecki Ranges bioregion). Higher land along the eastern edge of the site is modelled as having hosted Damp Forest (EVC 29: also classified as endangered in the Strzelecki Ranges bioregion). 2005 EVC modelling identifies remnant Swampy Riparian Woodland in patches along the creek (see Figure 2, Attachment 1), although aerial imagery suggests that this EVC may actually continue the full length of Foster Creek beyond the site to the north and south.

The remainder of the study area is identified in the 2005 EVC modelling as cleared pasture.

#### 3.1 GENERAL HABITAT VALUES ON SITE

##### 3.1.1 CLEARED LAND

Habitat values within the cleared areas are limited and comprise approx. 85% of the total study area. Open areas consist of ground cover that is dominated by common weed pasture grasses such as Sweet Vernal-grass (*Anthoxanthum odoratum*), Cocksfoot (*Dactylis glomerata*), Yorkshire Fog (*Holcus lanatus*) and Kikuyu (*Cenchrus clandestinus*), with Flatweed (*Hypochaeris radicata*), Spear Thistle (*Cirsium vulgare*), Ox-tongue (*Helminthotheca echioides*), Dock weed (*Rumex* spp.), Veldt-grass (*Ehrharta* spp.), Paspalum (*Paspalum dilatatum*) and Carrot weed (*Daucus carota*) also common. Native ground flora is now limited to scattered plants of Austral Bracken (*Pteridium esculentum*).

There is a natural depression in the western sector of the study area (see Section 9.1 GIS aerial mapping for details) that has been drained by way of a channel being cut to the Foster Creek. This would once have been a natural billabong wetland formed as an anabranch to the Foster Creek but which is now grazed by stock. Pugging and associated impacts have led to the loss of native vegetation, with remnants now limited to scattered Slender Knotweed (*Persicaria decipiens*), Common Duckweed (*Lemna disperma*) and Pondweed (*Potamogeton* spp.). Up to 10-20 Common Froglet (*Crinia signifera*) were recorded calling at this location.

There is a farm dam in the northern sector of the cleared agricultural land (see Section 9.1 GIS aerial mapping for details) that has poor water quality attributed to stock use, and as evidenced by pugging at the margins and high turbidity. There is little to no aquatic flora, now limited to scattered plants of Slender Knotweed (*Persicaria decipiens*) and Azolla (*Azolla* spp.) on the water's surface. One Australasian Grebe (*Tachybaptus novaehollandiae*) was observed on the water and up to 5-10 Common Froglet (*Crinia signifera*) were recorded at this site calling from the water's edge.

Habitat values within the cleared areas, the former billabong and the farm dam are assessed as having a **Negligible Habitat Significance** against the assessment criteria detailed in Table 2.

Photographs below are representative of the site's cleared areas, former billabong and the farm dam.



Cleared paddock areas



Former billabong / gilgai wetland area



Farm dam

### 3.1.2 RIPARIAN CORRIDORS

The Foster Creek generally runs along the western edge of the site, cutting in to curve around the historic butter and cheese factories in the southwest of the site. The tributary, Browns

Creek, runs into Foster Creek after running in a southwesterly direction through the northern paddocks. Both Foster and Browns Creeks are fenced, on both sides, and there is evidence of revegetation of both riparian corridors using flora that is appropriate to the pre-disturbance Swampy Riparian Woodland EVC. The canopy of both waterways is dominated by Swamp Gum (*Eucalyptus ovata*), predominantly exemplified by mature trees of the same age class (as expected of a revegetation program), but also featuring a few large old remnant trees. The middle canopy consists of Blackwood (*Acacia melanoxylon*), Lightwood (*Acacia implexa*), Silver Wattle (*Acacia dealbata*) and Swamp Paperbark (*Melaleuca ericifolia*), plus woody weeds Willow (*Salix* spp.) and Sweet Pittosporum (*Pittosporum undulatum*).

The understorey is dominated by weeds, predominantly *Tradescantia* (*Tradescantia fluminensis*) at up to 60% ground cover. Other environmental weeds include Blackberry (*Rubus* spp.), Sweet Vernal-grass (*Anthoxanthum odoratum*), Veldt-grass (*Ehrharta* spp.), Carrot weed (*Daucus carota*), Soursob (*Oxalis pes-caprae*), Dockweed (*Rumex* spp.), English Ivy (*Hedera helix*), Privet (*Ligustrum* spp.) and Loquat (*Eriobotrya japonica*). Occasional indigenous understorey plants include Common Cassinia (*Cassinia aculeata*), Kurwan (*Bursaria spinosa*), Hazel Pomaderris (*Pomaderris aspera*), Snowy Daisy-bush (*Olearia lirata*), Hop Goodenia (*Goodenia ovata*), Native Raspberry (*Rubus parvifolius*), Thatch Saw-sedge (*Gahnia radula*), Red-fruit Saw-sedge (*Gahnia sieberiana*), Spiny-headed Mat-rush (*Lomandra longifolia*), Black-anther Flax-lily (*Dianella revoluta*), Tasmanian Flax-lily (*Dianella tasmanica*), Common Reed (*Phragmites australis*) and Sharp Club-rush (*Schoenoplectus pungens*).

Habitat values within the riparian corridors are assessed as having a **Medium Habitat Significance** against the assessment criteria detailed in Table 2.

Photographs below are taken from the proposed crossing site, and are representative of habitat within the riparian corridors.



Weedy understorey and ground cover within riparian corridor



Weedy understorey and ground cover within riparian corridor



Weedy understorey and ground cover within riparian corridor



Proposed waterway crossing point

### 3.1.3 INFRASTRUCTURE & ASSOCIATED EXOTIC VEGETATION

The southwestern corner of the site is covered by infrastructure and gardens associated with the historic butter and cheese factories. The old factory buildings, plus associated sheds and decking areas, offer limited shelter for arboreal mammals and insectivorous bats, plus basking opportunities for reptiles. Surrounding gardens contain trees such as peppercorn, mown lawn stretching to the waterway, and ornamental exotics planted next to the waterway. The gardens provide limited habitat values for birds and arboreal mammals.

Habitat values provided by the built infrastructure and associated exotic vegetation are assessed as having a **Negligible Habitat Significance** against the assessment criteria detailed in Table 2.

The photograph below is representative of the site's buildings and associated gardens.





Buildings and planted Peppercorn Tree (*Schinus molle*)

## 3.2 NATIVE VEGETATION

### 3.2.1 SIGNIFICANT CANOPY TREES

The *Assessor's Handbook: Applications to Remove, Destroy or Lop Native Vegetation* (DELWP 2017; hereafter referred to as the *Handbook 2017*) defines a canopy tree as a mature tree (able to flower) that is greater than three metres in height, and of a species that is typically found in the upper layer of the relevant vegetation type (EVC). Significant canopy trees are trees which meet this description and which are greater than or equal to the large tree DBH as defined in the EVC benchmark. If impacted, these trees are to be Offset in accordance with Clause 52.17 of the Planning Scheme (see Section 6.3.3 for details).

For this project, assessment of significant canopy trees would therefore include large trees occurring either within native vegetation patches or as isolated scattered trees, with a DBH of 70cm or higher for the Swampy Riparian Woodland (EVC 83) through the majority of the site, or a DBH of 90cm or higher for any Damp Forest (EVC 90) remnants along the eastern edge

of the site. Assessment also occurred for large trees on neighbouring properties, whose Tree Protection Zones<sup>9</sup> (TPZs) extend into the site.

Significant trees exist on-site within the riparian corridors' native vegetation patches, and there are two significant trees whose TPZs extend into the site that lie within the grounds of the adjacent Kongwak Public Hall. There are no significant scattered trees on site.

The direct loss of any significant trees, or impacts to the root systems within the TPZs of any significant trees, would be likely to trigger an Offset requirement in accordance with the *Guidelines 2017* policy (see Section 6.3.3 for details). However, all development plans lie well outside the TPZs of all significant trees, so there are no significant canopy tree impacts to consider.

### 3.2.2 NATIVE VEGETATION PATCHES

Native perennial vegetation within the understorey of the riparian corridors has a total projected foliage cover of greater than 25%, and thus qualifies as a *patch* in accordance with the *Guidelines 2017* policy. The loss of any native vegetation from these corridors would be likely to trigger an Offset requirement in accordance with the *Guidelines 2017* policy (see Section 6.3.3 for details). However, with the exception of a proposed new crossing of Foster Creek in the south of the site, development impacts are well outside native vegetation patches. A Vegetation Quality Assessment (VQA assessment – DSE 2004) has therefore only been conducted in the vicinity of the proposed crossing.

All native vegetation losses are confined to a relatively small area of 590m<sup>2</sup> at the proposed waterway crossing. This includes the assumed loss of one small canopy eucalypt (identified in the arborist report as Tree #47) which will be retained on site, but is Offset due to unavoidable impacts within the TPZ.

Native vegetation at the proposed crossing point is assessed as regenerating (and revegetated) Swampy Riparian Woodland EVC 83 within the Strzelecki Ranges bioregion. A general description is as already provided in Section 3.1.2 above. More specific VQA habitat hectare assessment results are provided in Table 5, below.

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<sup>9</sup> TPZ is a calculated area (based on AS 4970-2009 (Protection of trees on development sites)) of soil volume required to encompass sufficient absorbing tree root systems to ensure the long-term survival of a tree. Trees may be considered as lost (and may require an Offset) if impacts of greater than 10% intrusion into the TPZ occur.

**Table 5. Native vegetation patch VQA results**

HABITAT ZONE		Swampy Riparian Woodland (EVC 83) Endangered in Strzelecki Ranges bioregion	
Benchmark criteria	Max. Score		
Site condition	Large Old Trees	10	0 No large (DBH > 70cm) trees present
	Canopy cover	5	5 Canopy (13m) cover at benchmark, good health
	Understorey	25	5 Up to 50% lifeforms present
	Lack of weeds	15	0 Dominated by high threat groundstorey weeds
	Recruitment	10	0 No cohorts, no recruitment observed
	Organic litter	5	3 Under benchmark, dominated by eucalyptus
	Logs	5	0 No logs present
Condition total:		75	13
Landscape value	Patch Size	10	8 Contiguous with disturbed riparian corridor
	Neighbourhood	10	2 Predominantly cleared pasture within 5km radius
	Distance to Core	5	4 Contiguous with disturbed riparian corridor
Landscape total:		25	14
Habitat quality score		100	<b>27</b>
Habitat score as above = #/100			<b>0.27</b>

### 3.2.3 SIGNIFICANT FLORA

A database analysis and a habitat assessment was undertaken for flora that could potentially occur on site. A 5km search from the site using the VBA and PMST databases was undertaken to provide an indication of species that may possibly utilise habitats within the site. A complete list of flora species that were identified as potentially occurring within a 5km radius of the site is available on request from the authors.

Of the nine significant flora species recorded, eight are considered unlikely to occur on site. One – Strzelecki Gum (*Eucalyptus strzeleckii*) – is considered as having a **low likelihood of presence** on site. No Strzelecki Gums were identified during the site survey, and particularly, none were identified within the area that was more closely surveyed within the vicinity of the proposed new crossing of Foster Creek in the south of the site. All other areas of development lie well outside all areas of native vegetation, and it is therefore considered unlikely that any Strzelecki Gums will be impacted by the proposed development.

### 3.2.4 SIGNIFICANT FAUNA

A database analysis and a habitat assessment was undertaken for fauna that could potentially occur on site. A 5km search from the site using the VBA and PMST databases was undertaken to provide an indication of species that may possibly utilise habitats within the site. A complete list of fauna species that were identified as potentially occurring within a 5km radius of the site is available on request from the authors.

Of the 36 significant fauna species recorded, 29 are considered unlikely to occur on site. The other seven were considered to have a **low likelihood of presence** on site:

- Growling Grass Frog (*Litoria raniformis*) – listed as Vulnerable under the EPBC Act and Vulnerable under the FFG Act – may be found within wetland pools or low-lying marsh areas adjacent to the creeks.
- Eastern Great Egret (*Ardea modesta*) – listed as Vulnerable under the FFG Act – may be found within the riparian corridors or foraging within wet areas of open pasture adjacent to the creeks.
- Australian Painted Snipe (*Rostratula australis*) – listed as Endangered under the EPBC Act and Critically Endangered under the FFG Act – migratory; may be found foraging within long grass areas, open paddocks or at the margins of the riparian corridors.
- Eastern Dwarf Galaxias (*Galaxiella pusilla*) – listed as Vulnerable under the EPBC Act and Endangered under the FFG Act – may be found in pools within the creeks or flooded pastures and marshy areas.
- Australian Grayling (*Prototroctes mareana*) – listed as Vulnerable under the EPBC Act and Endangered under the FFG Act – may be found in pools within the creeks.
- Giant Gippsland Earthworm (*Megascolides australis*) – listed as Vulnerable under the EPBC Act and Endangered under the FFG Act – may be found within open pasture areas or adjacent to the riparian corridors (within damp, but mostly unvegetated waterway embankments). Potential Giant Gippsland Earthworm (GGE) habitat is protected by South Gippsland's Planning Scheme's Environmental Significance Overlay (ESO9), the nearest occurrence of which is within a tributary to Foster Creek approximately 500m north of the site. Whilst the site is outside of this species' modelled distribution, the presence of GGE can't be ruled out.
- Lace Monitor (*Varanus varius*) – listed as Endangered under the FFG Act – may be found across the site, within the riparian corridors, foraging ground logs and tree hollows or feeding on carrion.

Of additional note, the South Gippsland Burrowing Crayfish (*Engaeus curvisuturus*) – listed as Endangered under the FFG Act. Whilst this species was not identified by the database search, it is a locally occurring threatened species that could potentially occur within the riparian corridors and within open pasture areas nearby.

No significant fauna species were identified on site during the surveys. With the exception of the proposed new crossing of Foster Creek in the south of the site, all areas of development lie well outside the riparian corridors and areas of native vegetation habitat, and it is considered unlikely that the development would impact upon most of the significant fauna species listed above, even if present on site.

Possible exceptions to this are the Giant Gippsland Earthworm and the South Gippsland Burrowing Crayfish, which could potentially occur within damp soils adjacent to the riparian corridors, and which are less mobile than the other significant fauna species. Ecocentric conducted active searching for signs of both Giant Gippsland Earthworm and South Gippsland Burrowing Crayfish whilst on site. No signs were found, and it is considered unlikely that either of these species would be impacted by the proposed development.

## 4. POTENTIAL IMPACTS AND MITIGATION

The proposed development is considered likely to have a modest impact on native vegetation and habitat at the proposed waterway crossing point, and may result in a range of impacts to flora and fauna species extant at the site. The impacts can be classified as 'direct' impacts, for example the modification of understorey habitat and removal of canopy trees at the crossing, and 'indirect' impacts, such as assumed loss of canopy trees due to unavoidable impacts within the TPZs.

Impacts discussed below relate to those potentially affecting rare or threatened flora and fauna species and areas of native vegetation (i.e., with regard to relevant legislation and policy). Please note that impacts to other values (e.g., common fauna species) are not considered explicitly, except where they may directly affect significant ecological values.

Whilst extant habitat values within the cleared land and the waterway riparian zone, as identified in Section 3 above, are considered to be of Negligible or Medium Significance respectively, it is considered unlikely that any threatened flora or fauna would be significantly impacted by the proposed development.

Impacts are therefore largely limited to those associated with the modification of native vegetation associated with the waterway crossing (see Appendix 9.1 mapping for details).

These potential impacts are discussed in further detail below; measures aimed at the mitigation of these impacts are discussed in Section 5.

### 4.1 IMPACTS ON NATIVE VEGETATION AND HABITAT

The proposed development will result in the loss of native vegetation at the proposed waterway crossing point. These native vegetation losses will trigger Section 52.17 of the South Gippsland Shire Planning Scheme necessitating a requirement for Native Vegetation Offsets.

Table 5 below provides the GIS shapefile metadata used in EnSym to calculate the required Native Vegetation Offset target to ensure no net loss of biodiversity values associated with this project.

Please note that one small canopy tree, identified in the Arboriculture report as Tree #47, is *considered lost* due to a greater than 10% incursion of the TPZ. This tree, at the western end of the impact footprint, will be Offset with a 10m radius area in accordance with the *Guidelines 2017* policy (see also Section 6.3 and Appendix 9.1 for details).

**Table 6. GIS metadata native vegetation losses**

HH_SI	HH_ZI	HH_VAC	HH_EVC	BCS	LT_CNT	IS_PARTIAL	HH_H_S	HH_A
1	A	P	STRZ0083	E	0	No	0.27	0.0593
HH_SI: Habitat Zone number HH_ZI: Habitat Zone HH_VAC: Patch of native vegetation HH_EVC: Swampy Riparian Woodland of the Strzelecki Ranges bioregion				BCS: Bioregion Conservation Status Endangered LT_CNT: large tree count (DBH > 70cm) HH_H_S: VQA habitat score IS_PARTIAL: no = full Offset HH_A: Habitat Zone area (hectares)				

## 4.2 IMPACTS ON FOSTER CREEK

The Foster Creek, and its tributary, Browns Creek, bisect the proposed development area. These waterways are protected with a 30m buffer from the top of bank, and will not be directly impacted; with the possible exception of the proposed Foster Creek crossing discussed below. There is a proposed pedestrian walkway (which may double as a roadway for light vehicles used for cleaning the proposed accommodation huts) that crosses the Browns Creek tributary. The location of this crossing point is carefully chosen to utilise an existing waterway crossing point comprised of a concrete culvert (approx. 600mm diameter). The existing culvert is considered to be sufficient for the proposed use as a shared use pathway and should not require any additional works or upgrades. This crossing is also approx. 4m wide which should be sufficient for the proposed use.

### 4.2.1 BRIDGE CROSSING

A crossing of the Foster Creek is proposed at the southern end of the development site (see Section 9.1 GIS aerial mapping for details). The current proposal is to use a 'drop in span, that will be supported on footings and piles in order to span the waterway. The location of the crossing facilitates its primary use, namely, provision of pedestrian and light vehicle access from the Butter Factory to the accommodation sites.

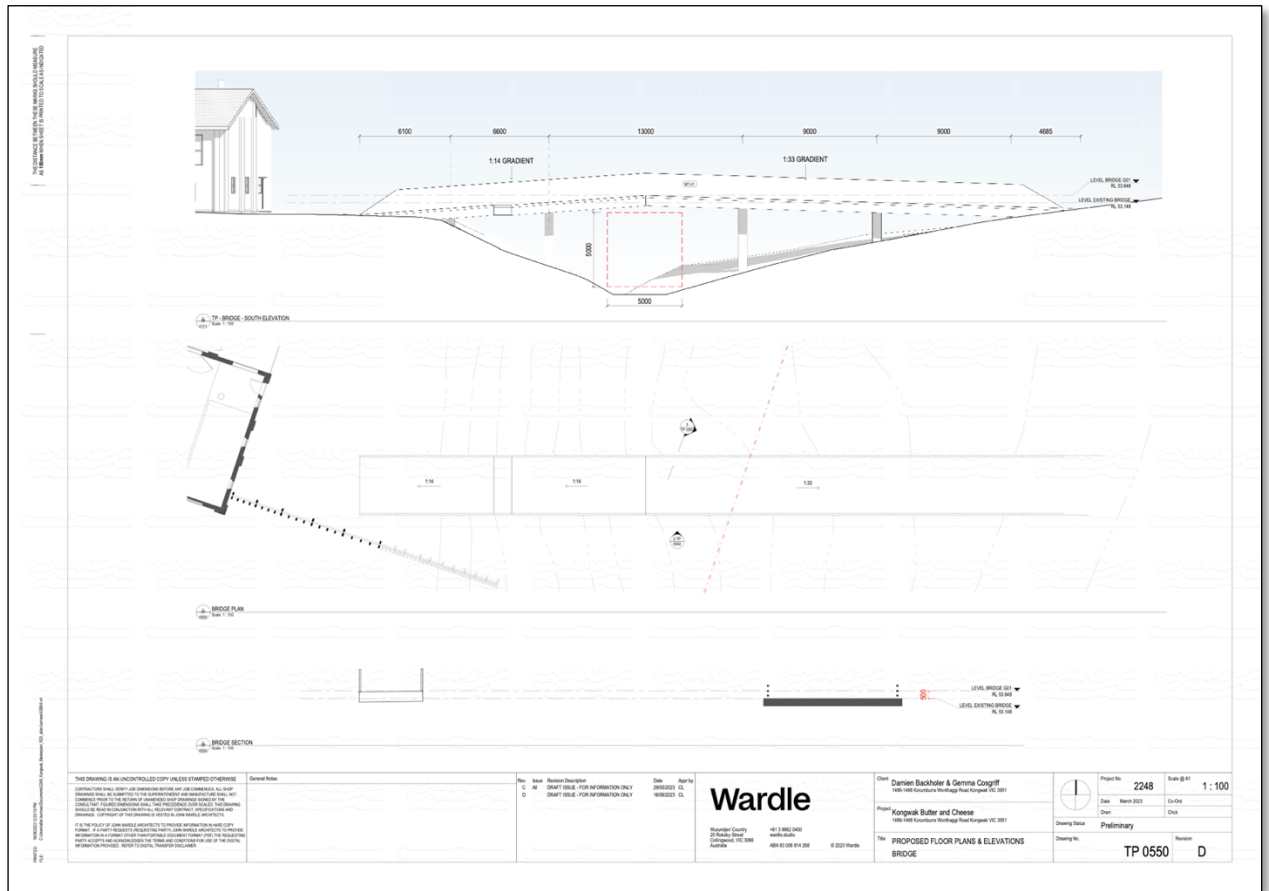
The bridge crossing will be approximately 5m above the waterway. At this height impacts on light transmissivity to the waterway will be minimal; long term impacts on native flora or aquatic fauna associated with shading are not anticipated.

Native vegetation at this site is typical of the riparian corridor, and characteristic of that described above in Section 3.1.2. The ground cover at this location is dominated by Tradescantia (*Tradescantia fluminensis*), Blackberry (*Rubus* spp.), Sweet Vernal-grass (*Anthoxanthum odoratum*), Veldt-grass (*Ehrharta* spp.), Carrot weed (*Daucus carota*), and Common Ivy (*Hedera helix*). Native vegetation losses associated with the construction of the footings and support piles will include a single, small canopy eucalypt (Tree ID #47 with a DBH of 20cm) that should be retained (but Offset due to unavoidable TPZ impacts), and the loss of scattered small shrubs and graminoids including Common Cassinia (*Cassinia aculeata*), Thatch Saw-sedge (*Gahnia radula*), Spiny-headed Mat-rush (*Lomandra longifolia*), and immature Snowy Daisy-bush (*Olearia lirata*) and Hop Goodenia (*Goodenia ovata*).

Consideration was also given to native fish species that may be present at this location in the waterway. The VBA has little to no data on fish records from this region, attributable to lack of survey rather than lack of fish, however, we note that the proposed crossing is not expected to impact the waterway itself. The span will be dropped in onto footings and support piles, and there should be no requirement to dam, or to divert the waterway. The proposed height of the crossing is such that it is higher than the roadway crossing immediately downstream of this location in order to ensure that this structure will not have a significant impact on water flow rates or waterway roughness.

The proposed development proposed waterway crossing design is provided below.

Figure 2. Proposed waterway crossing structure



## 5. IMPACT MITIGATION

The proposed development will have an impact on the current ecological values on site, albeit a minimal impact in terms of habitat loss. Impacts are generally categorized in this instance as the loss of *native vegetation and habitat* for the proposed waterway crossing. Given the scope of this project, these impacts would be considered modest and Ecocentric would like to highlight that the consideration of the *avoid* and *minimise* principles set out in the *Guidelines 2017* Offset policy have been foremost during the planning and development of this proposal.

In addition to avoiding and minimising impacts on retained native vegetation on site, it is noted that the project may also adopt several additional impact mitigation measures as part of this development, including:

- Recruitment and supplementary revegetation of the waterway riparian corridors;
- Reinstatement, revegetation and rehabilitation of a former billabong / gilgai wetland in the northern sector of the property; and
- Establishment of a bio-retention / WSUD treatment system in the southeast sector of the property.

The key 'avoid and minimise' elements of the Offset requirements, as well as a general outline of other potential mitigation works, are set out in more detail below.

### 5.1 PRELIMINARY MEASURES TO AVOID AND MINIMISE IMPACTS

A key tenet of the *Guidelines 2017* policy (DELWP 2017) is the requirement to *avoid and minimise* impacts to native vegetation; this principal is also common to legislative Acts such as the EPBC Act and the FFG Act. The principal is that preference should be given to avoidance > minimisation > mitigation > offset, and that this should be considered early in the design of the project.

Avoidance and minimisation of ecological impacts have been considered during the early design stages of this project, including:

- Careful siting and design of the proposed accommodation structures and the associated roading, parking and pedestrian pathways to ensure that native vegetation impacts are minimised;
- Careful siting of the proposed waterway crossing to avoid native vegetation and habitat losses within the riparian corridor;
- Incorporation of a 'drop in span' for the proposed waterway crossing which obviates any requirement for coffer dams, waterway diversions, or any direct impact on the waterway itself;
- Maintenance of a 30m (or greater) buffer for all waterways for all new buildings, roadways, pedestrian pathways or site infrastructure;
- Ensuring that all native canopy trees (with the exception of a single, immature canopy tree at the waterway crossing point) will be retained and protected within the property, and within neighbouring properties, through maintenance of all required TPZ buffers (or greater);
- Ensuring that there will be no native vegetation losses outside of the proposed construction footprint by clearly defining the full extent of the approved works zones.



In addition, all native vegetation losses will be Offset in accordance with the *Guidelines 2017* policy to ensure that there is 'no net loss' of biodiversity values associated with this proposed subdivision. Details of the Native Vegetation Offset requirements are provided in Section 6.3.

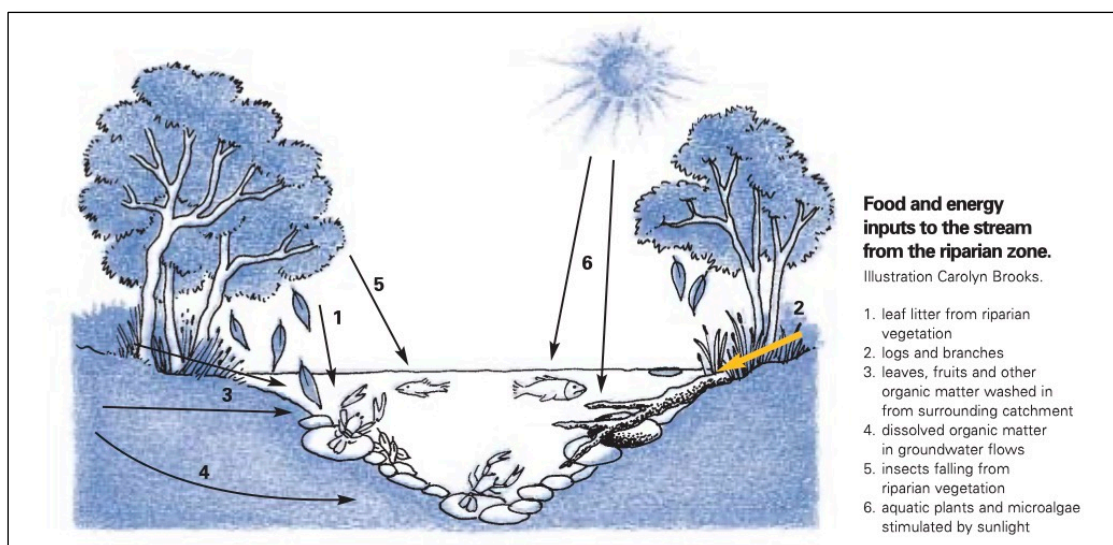
## 5.2 WATERWAY MANAGEMENT PLAN

Foster Creek and its tributary, Browns Creek, bisect the property, and a 30m setback from the top of bank has been included in the proposed development program. There is an opportunity therefore to facilitate natural regeneration of the Swampy Riparian Woodland appropriate flora and canopy structures within the 30m buffer, thereby facilitating enhancement of riparian habitat and habitat connectivity across the property. These works would make a considerable contribution to the sustainability of the proposed development, and would provide benefit for the region's threatened, and common, flora and fauna that rely on the aquatic environs that are provided in the corridor.

Benefits of widening the riparian corridor and providing EVC appropriate habitat include:

- Reduction in the *edge effects*, such as weed invasion, that are evident within the current narrow corridor;
- Provision of a buffer against nutrient and sediment runoff, also provision of a buffer for fauna movement;
- Limits to erosion of the streambank, and in this case, maintenance of a saturation zone adjacent to the waterway for provision of habitat for burrowing crayfish and potentially the Giant Gippsland Earthworm;
- Establishment of canopy cover and associated control of light and temperature in the waterways;
- Provision of appropriate habitat for flora (and associated development of biodiversity values);
- Provision of canopy food sources for fish, aquatic insects and instream fauna, such as insects and organic matter that falls from above; and
- Facilitation of migration for both flora and fauna taxa, which in turn facilitates climate change resilience.

The figure below provides a visual representation of a healthy waterway and riparian corridor.



The riparian corridors on site are currently assessed as having a **Medium Habitat Significance** against the assessment criteria outlined in Section 2.1 and Table 1 above. This suboptimal category is primarily due to environmental weed invasion within the lower canopy and groundstorey; *Tradescantia* in particular dominates much of the groundstorey with up to 60% cover in some locations. Widening the canopy cover of this corridor would reduce light transmissivity levels at the margins, which in turn would lead to a reduction in the cover of this and of other invasive weeds. Active weed control, with subsequent recruitment of understorey shrubs would also reduce ground level weed cover and lead to greater floristic diversity and improved canopy habitat values within these corridors. Supplementary revegetation, involving targeted planting of lifeforms, would also further facilitate canopy establishment and greater ecosystem robustness if incorporated into this proposed development.

The 30m buffer corridors thus provide an opportunity to improve habitat on site, which could be achieved with future development of a Waterway Management Plan. Considerations that could be incorporated into such a plan are outlined below.

### 5.2.1 ESTABLISHMENT OF A RIPARIAN BUFFER CORRIDOR

The current proposal to establish a 30m buffer from Foster Creek and its tributary is shown on the aerial GIS maps accompanying this report (see Section 9.1 for details). A buffer of this magnitude is considered to be appropriate for the protection of the waterway's bed, banks and the saturation zone against construction impacts or urban land-uses.

The 30m buffers would ideally be marked with landscaping elements such as shared user pathways with permeable surfaces and prickly vegetation that discourages movement into the buffer zone. Prickly vegetation could also be used in revegetation / landscaping works to protect the riparian corridor against urban land-use (in particular mowing or grazing), and discourage vehicles and unauthorised pedestrian access to the corridor.

Fences should not be necessary, but if they are utilised none should span the waterway corridor. This is to ensure that habitat values within the waterway and riparian corridor are contiguous, with no fence barriers to flora and fauna migration.

It is important to note that the 30m buffer will, in the vicinity of two of the accommodation buildings, cross into the defendable space of those buildings. Revegetation plans within the crossover zone between the 30m buffer and the defendable spaces will need to be amended so that plantings are restricted to graminoids (tussocks) and dispersed canopy trees only, in order to meet defendable space vegetation management standards. Bushfire management planning is still underway, with defendable space currently defined as shown in PWLA's Proposed Bush Fire Mitigation Plan, included within Appendix 9.1. Revegetation works within these areas may have to be amended to accommodate variations of the defendable space extents.

### 5.2.2 SUGGESTED FLORA FOR REVEGETATION PURPOSES

Any revegetation planned for the buffer zone would best utilise flora species, and planting densities, that are appropriate for a Swampy Riparian Woodland (EVC 83). The following revegetation template is provided as a suggested planting guide, as based on Appendix 1 of Victoria's *Native Vegetation Gain Scoring Manual (version 2)* (DELWP 2017). It can be adapted on site in response to natural recruitment events, to take best advantage of naturally established vegetation rather than risk its survival with a spray, mulch and plant approach. Once the number of tubes for planting has been decided, tubes would best be sourced from local provenance, indigenous seed sources.

**Table 7. Swampy Riparian Woodland revegetation template**

LIFE-FORM	COMMON NAME	REVEGETATION ESTABLISHMENT TARGET
Canopy tree	Swamp Gum ( <i>Eucalyptus ovata</i> )	50 plants per hectare ^
Understorey tree / shrub	Blackwood ( <i>Acacia melanoxylon</i> )	300 plants per hectare ^
	Hazel Pomaderris ( <i>Pomaderris aspera</i> )	
Medium / small shrubs	Prickly Tea-tree ( <i>Leptospermum continentale</i> )	800 plants per hectare ^
	Swamp Paperbark ( <i>Melaleuca ericifolia</i> )	
	Hop Wattle ( <i>Acacia stricta</i> )	
	Prickly Current-bush ( <i>Coprosma quadrifida</i> )	
Large graminoids	Tall Saw-sedge ( <i>Lepidosperma elatius</i> )	1,500 plants per hectare ^
	Common Tussock-grass ( <i>Poa labillardierei</i> )	
	Tall Rush ( <i>Juncus procerus</i> )	
	Tall Sedge ( <i>Carex appressa</i> )	
	Wattle Matt-rush ( <i>Lomandra filiformis</i> )	
	Black-anther Flax-lily ( <i>Dianella revoluta</i> )	
	Tasmanian Flax-lily ( <i>Dianella tasmanica</i> )	
^ natural recruits count towards the revegetation targets.		

### 5.3 RE-ESTABLISHMENT OF A BILLABONG

There is also potential to re-establish a Billabong / Gilgai wetland complex in the northern sector of the study area. A natural depression, first identified by the proponents, was confirmed during the field surveys to have supported a wetland prior to a drainage channel being cut to the Foster Creek (see also Section 9.1 GIS aerial mapping for details). The drainage line has resulted in the loss of standing water, and on-going impacts from stock such as pugging and grazing has led to the loss of native vegetation and vegetated aquatic margins. Despite these impacts, a population of Common Froglet (*Crinia signifera*) was recorded calling from this location.

There is capacity at this location to close off the drainage line and re-instate the wetlands. Re-wetting and retention of water within the natural anabranch depression is considered likely to result in suppression of the herbaceous pasture weeds that currently dominate the site. Follow-up establishment of flora that is appropriate to a wetland of this nature would also benefit the establishment of greater habitat diversity at this location.

Suggested planting guides are provided below. We note again however that revegetation projects are best conducted by being responsive to natural recruitment events, rather than being driven by a spray and mulch approach. Species suggested below are to be taken as a

guide only, and experimentation with indigenous taxa sourced from local wetlands is encouraged.

**Table 8. Billabong / Gilgai wetland revegetation template**

WETLAND STRUCTURE	SUGGESTED SPECIES
<b>Waterway margins</b>	Tall Spike-sedge ( <i>Eleocharis sphacelata</i> ), Common Spike-sedge ( <i>Eleocharis acuta</i> ), Tall Rush ( <i>Juncus procerus</i> ), Tall Sedge ( <i>Carex appressa</i> ), Fen Sedge ( <i>Carex gaudichaudii</i> ), Tassel Sedge ( <i>Carex fascicularis</i> ), Flecked Flat-sedge ( <i>Cyperus gunnii</i> ssp. <i>gunnii</i> ), Twig-sedge ( <i>Baumea</i> spp.), Slender Knotweed ( <i>Pericaria decipens</i> ), Hollow Rush ( <i>Juncus amabilis</i> ), Broom Rush ( <i>Juncus sarophorus</i> ), Great Bulrush ( <i>Schoenoplectus tabernaemontani</i> ; observed on site) and Marsh Club-rush ( <i>Bolboschoenus caldwellii</i> ; observed on site).
<b>Shallow and deep pool areas</b>	Slender Knotweed ( <i>Pericaria decipens</i> ), Eel Grass ( <i>Vallisneria australis</i> ), Course Water-milfoil ( <i>Myriophyllum caput-medusae</i> ), Amphibious Water-milfoil ( <i>Myriophyllum simulans</i> ), Water-ribbons ( <i>Cycnogeton procerum</i> ), Water Plantain ( <i>Alisma plantago-aquatica</i> ), Tall Club-sedge ( <i>Bolboschoenus fluviatilis</i> ) and River Buttercup ( <i>Ranunculus inundatus</i> ).
<b>Upstream swales, semi-dry embankments</b>	Common Reed ( <i>Phragmites australis</i> ; observed on site), Bulrush ( <i>Typha</i> spp.; observed on site), Blunt Pondweed ( <i>Potamogeton cheesemanii</i> ), Fine Twig-sedge ( <i>Baumea arthropphylla</i> ), Mud Dock ( <i>Rumex bidens</i> ) and Common Spike-sedge ( <i>Eleocharis acuta</i> ).
<b>Ephemeral outflow zones</b> (between wetland and Foster Creek)	Common Tussock-grass ( <i>Poa labillardierei</i> ; observed on site), Spiny-head Mat-rush ( <i>Lomandra longifolia</i> ; observed on site) Swamp Club-sedge ( <i>Isolepis inundata</i> ), Common Reed ( <i>Phragmites australis</i> ) and medium shrubs such as Hop Goodenia ( <i>Goodenia ovata</i> ) and Common Cassia ( <i>Cassinia aculeata</i> ).

Successful reestablishment of a billabong wetland at this location would be likely to provide habitat opportunities for burrowing crayfish and numerous common species (frogs, waterfowl, aquatic flora, benthic fauna, macro invertebrates, etc.), but also significant migratory and threatened fauna including Australian Painted Snipe (*Rostratula australis*), Eastern Great Egret (*Ardea modesta*), Latham's Snipe (*Gallinago hardwickii*) and Pied Cormorant (*Phalacrocorax varius*).

## 5.4 WSUD STORMWATER TREATMENT SYSTEM

The Stormwater Management Concept (CJ Arms 2023) that has been developed for the proposal suggests, amongst other measures, the use of an informal drainage channel and dam system in the southeast of the site utilising Industry Best Practice and WSUD Engineering Guidelines. The management concept is not yet a finalised design; rather a concept that can be further developed with detailed design alongside council approval processes.

Utilisation of Industry Best Practice and WSUD Engineering Guidelines should result in an improvement in the quality of water being discharged to Foster Creek, resulting in the potential for improved habitat for aquatic fauna species. Revegetation to support the WSUD objectives also has the potential to improve on-site habitat quality within the saturation zones for significant fauna species such as South Gippsland Burrowing Crayfish (*Engaeus curvisuturus*), Growling Grass Frog (*Litoria raniformis*) and Swamp Skink (*Lissolepis coventryi*).

## 6. LEGISLATIVE AND POLICY IMPLICATIONS

### 6.1 ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT

Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (*Cwlth*) (EPBC Act), an action will require approval from the Federal Environment Minister if the action has, will have, or is likely to have a significant impact on a matter of national environmental significance.

Documentation on the referral process, including documentation requirements, can be obtained from the Department of Climate Change, Energy, the Environment and Water (DCCEEW)'s EPBC website.

A local area Protected Matters Search Tool (PMST) query produced for this study identified one potentially occurring EPBC-listed ecological community in the locality: *Natural Damp Grassland of the Victorian Coastal Plains*. No vegetation assessed within the proposed development area is consistent with the diagnostic criteria of this ecological community.

#### 6.1.1 EPBC ACT LEGISLATIVE IMPLICATIONS

As previously discussed, no flora or fauna listed as threatened under the EPBC Act were recorded on site, and none are considered likely to be impacted by the proposed development.

The responsibility to refer the "action" (the proposal) to the Federal Department of the Environment lies with the proponent, however, given the low ecological habitat values present on site, the proposed development is considered unlikely to result in a significant impact on a Matter of National Environmental Significance (MNES).

### 6.2 FLORA AND FAUNA GUARANTEE ACT

The Victorian *Flora and Fauna Guarantee Act 1988* (*Vic*) (FFG Act) endeavours to prevent the extinction of biota and ecological communities within the state. Under the Act, a permit is required to remove listed flora or fauna species from public land.

#### 6.2.1 POTENTIALLY THREATENING PROCESSES

There are several threatening processes (as defined under the FFG Act), outlined below, that may require consideration as part of the proposed development. Schedule 3 for the FFG Act lists a range of 'Potentially Threatening Processes'. These processes have been identified as a threat to the survival of one or more species of flora or fauna or a community. Threatening processes include (amongst others):

- Invasion of native vegetation by Blackberry (*\*Rubus fruticosus* spp. agg.).
- Invasion of native vegetation by 'environmental weeds'.
- Predation of native wildlife by the Domestic Cat (*\*Felis catus*).
- Predation of native wildlife by the introduced Red Fox (*\*Vulpes vulpes*).
- Reduction in biomass and biodiversity of native vegetation through grazing by Rabbits (*\*Oryctolagus cuniculus*).
- Spread of Root Rot Fungus (*\*Phytophthora cinnamomi*) from infected sites into parks and reserves, including roadsides, under the control of a state or local government authority.
- Use of Root Rot Fungus-infected gravel for the construction of roads, bridges and reservoirs.

## 6.2.2 FFG ACT LEGISLATIVE IMPLICATIONS

The proposed development area is not located on public land and supports no critical habitats for listed species or ecological communities. It is our understanding that the proposed development would therefore not require referral to the Department of Energy, Environment and Climate Action under the FFG Act. We recommend that consideration of the threatening processes listed above be considered during the development program and if relevant to any Permit conditions that may be granted for the project.

## 6.3 PLANNING AND ENVIRONMENT ACT 1987 (VIC)

The *Planning and Environment Act 1987 (Vic)* provides a legislative framework for the *Victorian Planning Provisions*, commonly referred to as the Planning Scheme. The Planning Scheme sets out the conditions for development within Victoria. Section 52.17 *Native vegetation* is considered below.

### 6.3.1 GUIDELINES FOR THE REMOVAL, DESTRUCTION OR LOPPING OF NATIVE VEGETATION

The *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* policy (DELWP 2017; the *Guidelines 2017* policy) have been designed to manage the risk to Victoria's biodiversity associated with the removal of native vegetation. The *Guidelines 2017* policy is incorporated into the Victoria Planning Provisions and all planning schemes in Victoria under the *Planning and Environment Act 1987 (Vic)*. The principal tenet of the *Guidelines 2017* policy is to ensure permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity. This is achieved through the following approach:

- Avoid the removal, destruction or lopping of native vegetation.
- Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
- Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation (DELWP 2017).

Native vegetation is defined in planning schemes as plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses. The *Guidelines 2017* policy further classify native vegetation as a patch or a scattered tree (see Section 2.2).

The three-step approach (avoid, minimise, offset) is the key policy in relation to the removal of native vegetation to achieve no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. It is a precautionary approach that aims to ensure that the removal of native vegetation is restricted to only what is reasonably necessary, and that biodiversity is appropriately compensated for in the event that native vegetation losses cannot be avoided, and where Permitted by the Responsible Authority (DELWP 2017). A combination of site-based and landscape scale information is used to calculate the biodiversity value of native vegetation to be removed. This information is used to determine the loss in biodiversity value that needs to be compensated with an offset that provides an equivalent gain in biodiversity value, and the assessment pathway that is to be applied in an application to remove native vegetation.

The assessment pathway for an application to remove native vegetation reflects its potential impact on biodiversity and is determined from the location and extent of the native vegetation to be removed. The three assessment pathways are:

**Basic** – limited impacts on biodiversity.

**Intermediate** – could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas.

**Detailed** – could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas, and could significantly impact on habitat for rare or threatened species.

The assessment pathway determines the information that accompanies an application and the decision guidelines that are considered in determining the outcome of an application (DELWP 2017). The assessment pathway of an application is determined in accordance with the table below.

**Table 9. Determining assessment pathway**

EXTENT	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 hectare	Detailed	Detailed	Detailed

### 6.3.2 NATIVE VEGETATION CLEARANCE LEGISLATIVE AND POLICY IMPLICATIONS

A total area of 0.059 hectares of Swampy Riparian Woodland (EVC 83) within the proposed development area was identified on site as a *native patch* under the *Guidelines 2017* policy (sites of perennial native vegetation with a 25% or greater cover threshold) that would potentially be impacted by the development. This patch was identified as native vegetation that would trigger a Planning Permit requirement under Section 52.17 of the Planning Scheme if impacted, and which may require an Offset in accordance with the *Guidelines 2017* policy (see Appendix 9.1 maps for details).

The extent of native vegetation loss, habitat condition and modelled species habitat mapping layers were processed using the EnSym tool in order to determine Native Vegetation Offset targets; the EnSym report provides offset requirements for internal testing of different proposals to remove native vegetation. GIS shapefiles for the native vegetation loss area were further processed by DEECA to produce a Native Vegetation Removal (NVR) report identifying an Offset target for the project. This Offset target is to be secured prior to the commencement of works in order to ensure that there is 'no net loss' of biodiversity value associated with this project.

Table 10 below outlines the extent of native vegetation clearance associated with this project, and identifies the commensurate Offset target as set out in the NVR report (see also Appendix 9.1 for details). These Offset targets will be purchased from a third-party Offset Credit supplier registered on the DEECA Native Vegetation Credit Register and transferred to the project with an Allocated Credit Extract. The Allocated Credit Extract is to be secured *prior* to the clearance of any native vegetation on site.

**Table 10. Vegetation clearance and offset requirements**

VEGETATION CLEARANCE	
<b>Assessment pathway</b>	INTERMEDIATE Assessment Pathway
<b>Extent including past and proposed</b>	0.059 ha
<b>Extent of past removal</b>	0.000 ha
<b>Extent of proposed removal</b>	0.059 ha
<b>No. Large trees proposed to be removed</b>	0
<b>Location category</b>	Location 2  The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares in this location will not have a significant impact on any habitat for a rare or threatened species.
OFFSET REQUIREMENTS	
<b>General offset amount</b>	<b>0.023 General Habitat Units (no large trees)</b>
<b>Vicinity</b>	West Gippsland Catchment Management Authority (CMA) or South Gippsland Shire Council
<b>Minimum strategic biodiversity value score</b>	0.744
<b>Large trees</b>	0 large trees

The minimum strategic biodiversity value (SBV) required of the secured Offset is relatively high at 0.744, due to the habitat importance of the riparian corridor.

### 6.3.3 NATIVE VEGETATION AVOID AND MINIMISE STATEMENT

Every effort has been made through careful consideration of the project design and proposed siting of building envelopes to avoid and minimise impacts associated with the loss of native vegetation on site. Avoidance measures include (but are not limited to):

- Construction impacts are to be constrained to the extent of the proposed building envelopes with minimal impacts to native vegetation within the property associated with the establishment of accommodation buildings and farm sheds, a bridge over Foster Creek, access driveways, car parks, walking paths, gardens and/or drainage infrastructure.
- There is to be no storage of construction material, parking of vehicles, or clearing of native vegetation outside of the proposed building envelopes and infrastructure corridors.
- Native vegetation losses associated with the proposed bridge over Foster Creek is limited to the minimum extent necessary for construction purposes. All native canopy trees will be retained during bridge construction, but for the purpose of calculating Offset requirements have been assumed lost as a precautionary measure, to ensure that the development results in no net loss of biodiversity.
- With the exception of the aforementioned losses, there is to be no additional loss of native vegetation or canopy trees associated with this project; with the possible



exception of impacts, not losses, associated with judicious pruning of selective branches with the intent to maintain worker safety requirements.

We also note that there are no feasible opportunities to further avoid and minimise impacts on native vegetation – with the exception of the footbridge, all development lies well outside of native vegetation, and the development has minimal impact on the site’s natural habitat.

The Offset target for this project is for **0.023 General Habitat Units** and no large trees (with a minimum Strategic Biodiversity Value (SBV) score of 0.744), from an Offset Site in the West Gippsland Catchment Management Authority (CMA) or South Gippsland Shire Council; there are no waterway or wetland losses associated with this proposal.

A suitable Offset Site will be identified on the DEECA Native Vegetation Credit Register, and Offset Credits will be purchased and secured with an Allocated Credit Extract prior to the commencement of footbridge construction works.

## 6.4 WATER ACT 1989 (VIC)

The *Water Act 1989 (Vic)* is the primary legislative framework for the management and allocation of Victorian surface water and groundwater and the maintenance of aquatic ecosystem functions. The Act is administered by DEECA and regional water authorities, and applies to all surface water in Victoria, including river management, water supply, irrigation and sewerage. Among other things, the Act encompasses:

- environmental flows,
- rights to water,
- allocation of water entitlements,
- issuing of licences,
- control of construction of works on waterways,
- protection of groundwater,
- underground (groundwater) disposal, and/or
- waterway management.

Relevant Authorities as listed under Schedule 12 of the Act include regional water authorities, water boards, city and shire councils, and catchment management authorities. The authorities have powers to regulate works within and in the vicinity of waterways, including any works that may affect water quality and quantity, riparian vegetation or waterway streambeds or banks. Works on waterways usually also require a permit and/or other works approvals under the Water Act.

Details of considerations associated with the proposed waterway crossing are provided in Section 4.2. It is noted that the proposed crossing will be a dropped span clearing the waterway by approximately 5m in height. Impacts on the waterway will be marginal, with no significant impact on light transmissivity anticipated, and, as a drop span, there is no foreseeable requirement to dam, divert, coffer or pump water from the waterway. Impacts are anticipated to be limited to native vegetation losses on the upper embankments associated with the construction of footings and support piles. These impacts will be Offset in accordance with the *Guidelines 2017* Offset policy.

## 7. CONCLUSION

This report assesses potential impacts on biodiversity values associated with the proposed development of the Kongwak Butter Factory, construction of accommodation buildings and associated access roads, parking areas and footpaths, and development of a waterway crossing. Impacts are defined here as direct, or indirect loss of native vegetation and habitat, and impacts on the Foster Creek waterway and its tributary (also known as Browns Creek).

Native vegetation losses associated with this proposal are minimal given the scale of the development. Impacts have been largely avoided and minimized to the installation of a waterway crossing. The current crossing proposal is to span the waterway at a height of approximately 5 metres, with no requirement to dam, divert or pump water from the Foster Creek. Impacts at this location are therefore limited to the loss of native vegetation on the embankments for the construction of footings and support piles. These losses will be Offset in accordance with Victoria's *Guidelines for the removal destruction and lopping of native vegetation* Offset policy (DELWP 2017).

There is to be no additional loss of canopy trees associated with this project; with the possible exception of impacts, not losses, associated with judicious pruning of selective branches with the intent to maintain worker safety requirements.

Table 11 provides a summary of legislative and associated policy requirements for this proposal.

**Table 11. Summary of legislative and associated policy requirements**

LEGISLATIVE ACT AND ASSOCIATED POLICY	PLANNING CONSIDERATIONS	FURTHER ACTIONS
EPBC Act 1999 (Cwth)	<p>No internationally significant wetlands are considered likely to be impacted by this proposal.</p> <p>No vegetation communities listed as threatened under the EPBC Act were identified on site.</p> <p>No flora or fauna listed as threatened under the EPBC Act were recorded on site, and it is considered unlikely that this property would support a viable population of any threatened flora or fauna taxa.</p> <p>Active searching for Giant Gippsland Earthworm (<i>Megascolides australis</i>) was conducted within the proposed development areas; this species was not detected and is considered unlikely to be impacted.</p>	No referral required.
FFG Act 1988 (Vic)	<p>No vegetation communities listed as threatened under the FFG Act were identified on site.</p> <p>At this stage, no flora or fauna listed as threatened under the FFG Act were recorded on site, and it is considered unlikely that this property would support a viable population of any threatened flora or fauna taxa. There are several threatening processes that may have to be considered as part of the proposal's impact mitigation measures.</p>	No referral required.

LEGISLATIVE ACT AND ASSOCIATED POLICY		PLANNING CONSIDERATIONS	FURTHER ACTIONS
Planning and Environment Act 1987 (Vic)	Clause 52.17: Native Vegetation <i>Guidelines for the removal, destruction and lopping of native vegetation</i> (DELWP 2017)	Submit a Planning Permit application to South Gippsland Shire Council identifying avoidance and minimisation measures adopted, and unavoidable losses and commensurate <i>Guidelines 2017</i> Offset policy targets.	A Native Vegetation Offset may be required for this project (subject to Council approval and as a Planning Permit Condition) for the loss of 0.059 hectares for the construction of a waterway crossing. An Offset of <b>0.023 General Habitat Units (no large trees)</b> is to be secured and allocated to the project <i>prior</i> to any impacts, or removal of native vegetation on site.
Water Act 1989 (Vic)		The proposed crossing will be a dropped span with no significant impact on light transmissivity anticipated, and no foreseeable requirement to dam, divert, coffer or pump water from the waterway.	No referral required.

## 8. REFERENCES

- CJ Arms (2023). *Kongwak Butter and Cheese Factory: Stormwater Management Concept*.
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- Ecocentric Environmental Consulting (2021). *Desktop Environmental Assessment: The Butter Factory, Kongwak*.
- Euca Planning (2023). *Bushfire Planning Considerations Report: Kongwak Butter and Cheese Factories and Group Accommodation*.
- Glenn Waters Arboriculture (2023). *Arboricultural Assessment & Report: Kongwak Cheese & Butter Factory, Kongwak*.
- Peter Wilson Landscape Architecture (2023). *Overall Landscape Masterplan*. Drawing No. MP-300.
- Peter Wilson Landscape Architecture (2023). *Proposed Bush Fire Mitigation Plan*. Drawing No. MP-303.
- Wardle (2023). *Proposed Floor Plans & Elevations Bridge*. Drawing No. TP 0550, Revision D.

## 9. APPENDICES

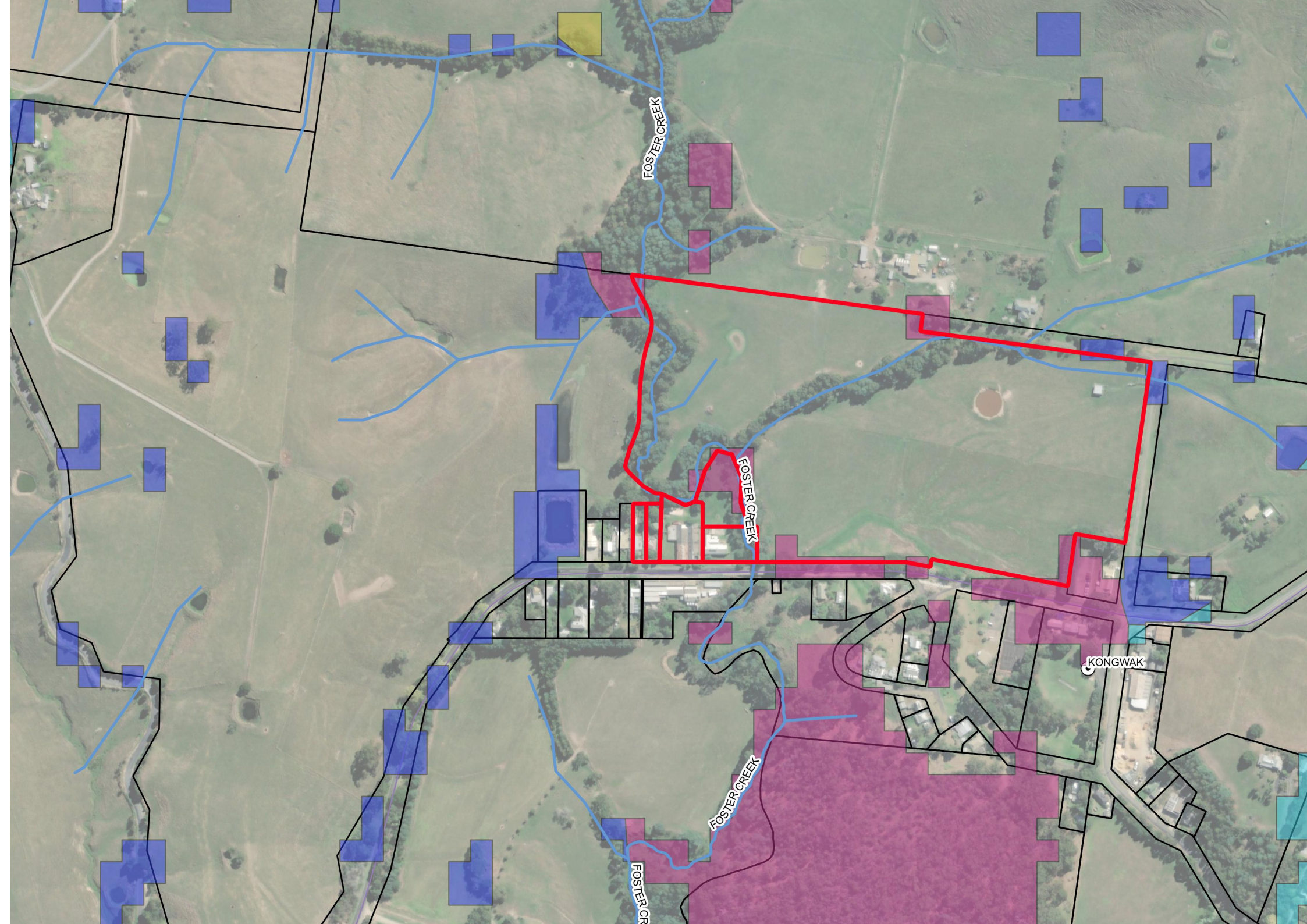
### 9.1 MAPPING

The first two GIS aerial and schematic maps were produced using Quantum GIS (QGIS 3.10) and were developed from various datasets including:

- Aerial photography available through LASSI, ESRI public and Google Maps;
- Feature survey and proposed development footprint provided by PWLA (derived from .dwg file);
- VicMap layers (Parcel, Roads, Waterways and Contours);
- GPS based data collected in the field.

Unless otherwise indicated all GIS mapping layers use the GDA94VicGrid (EPSG: 3111) mapping datum.

The final map has been provided courtesy of Peter Wilson Landscape Architects (27<sup>th</sup> July 2023).



FOSTER CREEK

FOSTER CREEK

FOSTER CREEK

FOSTER CR

KONGWAK



billabong

outflow

culvert

farm dam

pepercorn

crossing

bioretention

Drainage channel and bioretention

Woodland re-vegetation area, managed for weeds.

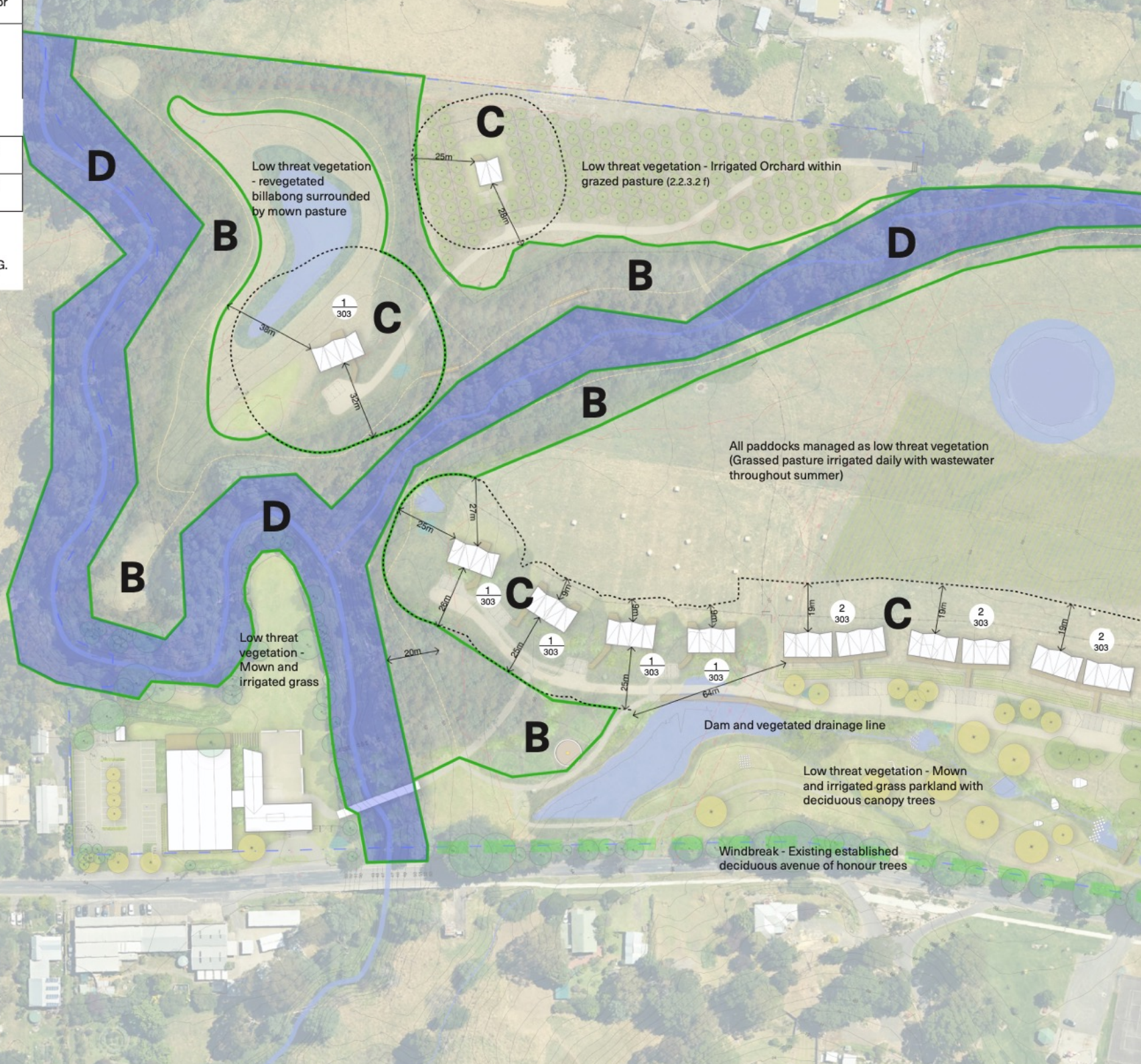
**C** Area managed as defensible space

**D** Existing low threat riparian vegetation managed for weeds

**Drawing Notes**

- 1 /303 Accommodation building constructed to BAL29
- 2 /303 Accommodation building constructed to BAL 12.5

NOTE: THIS DRAWING TO BE READ IN CONJUNCTION WITH 'BUSHFIRE PLANNING CONSIDERATIONS REPORT' BY EUCA PLANNING.





## 9.2 ENSYM REPORT

### Scenario test – native vegetation removal

This report provides offset requirements for internal testing of different proposals to remove native vegetation. **This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.** A report must be obtained from the Department of Environment, Land, Water and Planning (DELWP).

Date of issue: 04/07/2023  
Time of issue: 3:05 pm

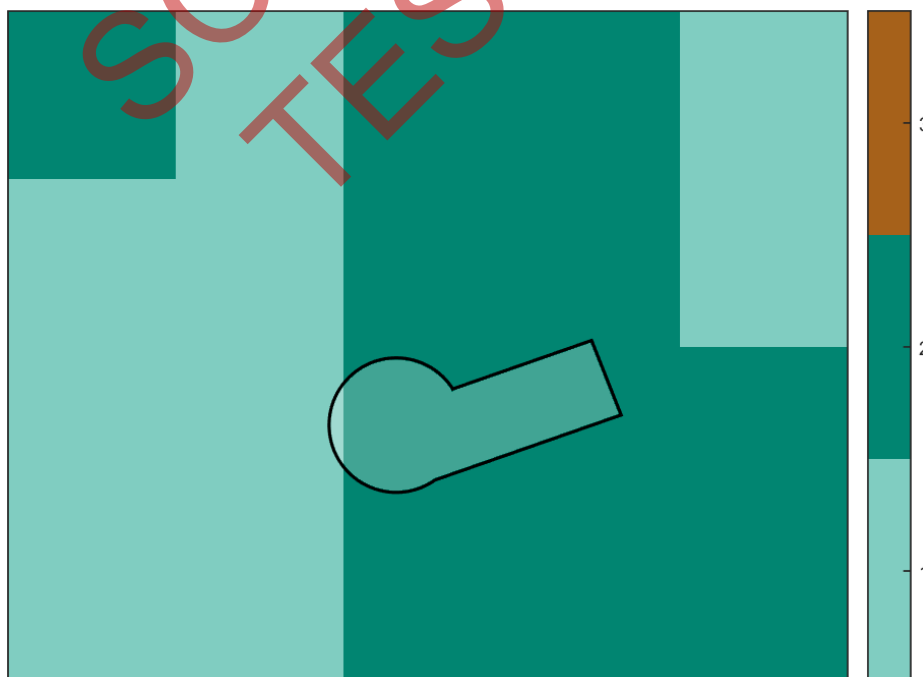
Report ID: Scenario Testing

Project ID	21043_EnSym_losses_2023-06-11_v1.0
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#### Assessment pathway

Assessment pathway	Intermediate Assessment Pathway
Extent including past and proposed	0.059 ha
Extent of past removal	0.000 ha
Extent of proposed removal	0.059 ha
No. Large trees proposed to be removed	0
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

#### 1. Location map



## Scenario test – native vegetation removal

### Offset requirements if a permit is granted

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

<b>General offset amount<sup>1</sup></b>	0.023 general habitat units
Vicinity	West Gippsland Catchment Management Authority (CMA) or South Gippsland Shire Council
Minimum strategic biodiversity value score <sup>2</sup>	0.744
Large trees	0 large trees

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

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

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

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

## Scenario test – native vegetation removal

### Next steps

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

**This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.**

If you wish to remove the mapped native vegetation you must submit the related shapefiles to the Department of Environment, Land, Water and Planning (DELWP) for processing, by email to [ensymnvrtool.support@delwp.vic.gov.au](mailto:ensymnvrtool.support@delwp.vic.gov.au). DELWP will provide a *Native vegetation removal report* that is required to meet the permit application requirements in accordance with *Guidelines for the removal, destruction or lopping of native vegetation* (Guidelines).

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## Appendix 1: Description of native vegetation to be removed

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

$$\text{General habitat units} = \text{extent} \times \text{condition} \times \text{general landscape factor} \times 1.5, \text{ where the general landscape factor} = 0.5 + (\text{strategic biodiversity value score}/2)$$

The general offset amount required is the sum of all general habitat units per zone.

### Native vegetation to be removed

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-A	Patch	strz0083	Endangered	0	no	0.270	0.059	0.059	0.930		0.023	General

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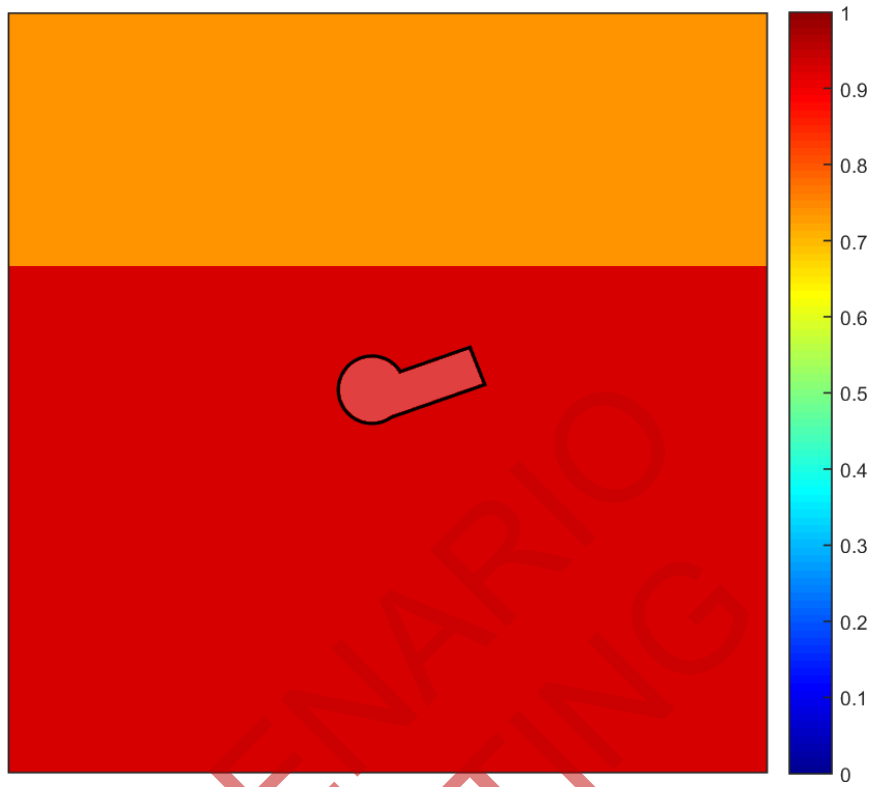
## Appendix 2: Information about impacts to rare or threatened species' habitats on site

This is not applicable in the Intermediate Assessment Pathway.

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## Appendix 3 – Images of mapped native vegetation

### 2. Strategic biodiversity values map



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