EPBC Offset Site Management Plan for Southern Brown Bandicoot: Ocean Grange (Brucknell) Offset Site (EPBC 2019/8487), Lot 9 Beach Road, Ocean Grange 3880

23 Oct 2025 (version 2.0)

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APPROVAL DETAILS AND DECLARATION

DOCUMENT	DETAILS
EPBC number	EPBC 2019/8487
Project name	Healesville - Koo Wee Rup Road Upgrade, Victoria
Proponent /approval holder and ABN	Department of Transport and Planning ABN: 69 981 208 782
Proposed/approved action	To duplicate approximately 10 kilometres of the Healesville – Koo Wee Rup Road between the Princes Freeway in Pakenham and Manks Road in Koo Wee Rup.
Location of the action	Healesville – Koo Wee Rup Road, Princess Freeway (Pakenham) to Manks Road (Koo Wee Rup)
Date of preparation of this offset management plan	23 October 2025

DECLARATION OF ACCURACY

In making this declaration, I

a) am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both.

b) I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

[redacted]……..

Full name (please print)

[redacted]

A/Director Land, Planning and Environment

……..

Organisation (please print)

VIDA Roads

……..

Date: 14 / 11 / 2025……

ACRONYMS

Cwlth	Commonwealth
DAWE (now DCCEEW)	Federal Department of Agriculture, Water and the Environment
DCCEEW	Federal Department of Climate Change, Energy, the Environment and Water (formerly DAWE)
DBH	Diameter at Breast Height
DEECA	Victorian Department of Energy, Environment and Climate Action (formerly DELWP)
DELWP (now DEECA)	Victorian Department of Environment, Land, Water and Planning
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	Matters of National Environmental Significance
MRPV	Major Road Projects Victoria
SBV	Strategic Biodiversity Value
TfN	Trust for Nature
The Department	The relevant federal government agency administering the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*; at publication the Department of Climate Change, Energy, the Environment and Water (DCCEEW)
VBA	DEECA's Victorian Biodiversity Atlas

DISCLAIMER

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- [redacted]
- [redacted]
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- [redacted]
- [redacted]

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GLOSSARY

Note that the terms used in this Offset Management Plan are consistent with those defined under approval EPBC 2019/8487 Healesville - Koo Wee Rup Road Upgrade, Victoria. Refer to EPBC approval published on the DCCEEW website for full terms.

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.
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.
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 attr butes. 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.
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.
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.
Mapped wetlands	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. The location and extent of mapped wetlands are available in NVIM and other DEECA GIS mapping systems.
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	A native canopy tree is either: • 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 • 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.
Native Vegetation	Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.
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 will be secured in perpetuity with an on-Title conservation covenant.

TERM	DEFINITION
Patch of native vegetation	A patch of native vegetation is either: • an area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or • any area with three or more native canopy 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 layer available in NVIM and other DELWP systems.
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.
Strategic Biodiversity Value (SBV)	The Strategic Biodiversity Value is a rank of a location's complementary contr bution 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.
Wetlands	See 'Mapped wetlands'.

1. CONTEXT

1.1 PROPOSED ACTION

The Healesville-Koo Wee Rup Road Upgrade (Stage 1B) was referred (EPBC2019/8487) for the following action in relation to the Victorian State Government initiative to upgrade twelve roads in the north and south-eastern suburbs of Melbourne, including Healesville-Koo Wee Rup Road. The upgrade of this road involves the duplication of approximately 10 kilometres of Healesville-Koo Wee Rup Road between the Princes Freeway in Pakenham and Manks Road in Koo Wee Rup. The referral relates only to Stage 1B of the broader Healesville-Koo Wee Rup Road Upgrade, which is the second of three stages associated with upgrades to this road.

The Approved Action includes the following construction works:

- Duplication of a 10 km section of Healesville Koo Wee Rup Road between Princes Freeway to Manks Road from 2 lanes two-way undivided carriageway to 4 lanes two-way divided carriageway;
- Upgrades to the eastbound exit and entrance ramps at the Princes Freeway;
- Installation of new roundabouts at Ballarto Road, Hall Road as well as south of Deep Creek;
- Installation of two new bridges over Deep Creek;
- One new signalised intersection at Greenhills Road, with provision for future widening;
- Upgrade of an unsignalised intersection to Pakenham Water Recycling Plant;
- Widening of two existing roundabouts at Princes Freeway;
- Installation of a Shared Use Path along the extent of the Project;
- Provision for future upgrading of Healesville Koo Wee Rup Road to freeway - standard from Manks Road to the south of Deep Creek;
- Provision of new street lighting at intersections, road signage and landscaping; and
- Provision of new drainage and utility service upgrades/relocations.

The extent of the action is shown in Figure 1.

Figure 1.1 Study area

Figure 1. Map of Action Area (EPBC 2019/8487)

1.1.1 ENVIRONMENTAL CONTEXT

The Approved Action area is situated within the Shire of Cardinia, which is characterized by a developing industrial estate at the northern end and then a mixture of rural and market garden allotments, which includes the Pakenham Water Recycling Plant (managed by South East Water), and an export feedlot and numerous poultry farms. The Approved Action area is also situated on the edge of the South-Eastern growth corridor of Melbourne (one of Melbourne's three growth areas) and is situated within the former Koo Wee Rup Swamp area, a large freshwater swamp originally covering more than 40,000 hectares (ha).

Much of the land surrounding the Approved Action area is used for a mixture of grazing, rural living, market gardening and poultry farms, however, there are some limited remnants of the previous swampy environment present throughout. The Approved Action area is crossed by a series of drains/channels which are part of a larger network of constructed drainage that funnels water from Koo Wee Rup Swamp to Westernport Bay. These drainages provide unique and valuable habitat for a range of species, and potentially provide habitat for four threatened priority species; namely Southern Brown Bandicoot (*Isoodon obesulus obesulus*) (SBB), Growling Grass Frog (*Litoria raniformis*), Swamp Skink (*Lissolepis coventryi*), and Glossy Grass Skink (*Pseudemoia rawlinsoni*). During ecological assessments, the Approved Action area was recognised as a known breeding and movement / dispersal habitat for Growling Grass Frog and Southern Brown Bandicoot.

1.1.2 IMPACTS

The Approved Action will result in the direct removal of native vegetation and habitat. Five EPBC Act-listed flora or fauna species were recorded in the broader Study Area, or have potential to occur based on the presence of suitable habitat. These include:

- Growling Grass Frog
- Southern Brown Bandicoot
- Dwarf Galaxias
- Grey-headed Flying-fox
- Australasian Bittern.

The significant impact assessment determined that the project may have an impact upon both the Growling Grass Frog and SBB. The impacts would be significant in the short to medium term, but not significant in the long term provided appropriate mitigation measures are applied.

It was anticipated that the project would result in:

- Loss of 2.240 ha of native vegetation;
- Loss of one large tree within a patch, one large scattered tree and one small scattered tree;
- Removal of EPBC and FFG Act threatened fauna habitat inclusive of:
    - 5.078 ha of SBB breeding / foraging habitat,
    - 0.255 ha of Growling Grass Frog breeding habitat,
    - 45.917 of Category 1 and 18.256 ha of Category 2 Growling Grass Frog dispersal / foraging habitat,
    - 0.062 ha of Dwarf Galaxias (potential habitat),
    - 0.062 ha Australasian Bittern foraging habitat, and

- 2.025 ha Grey-headed Flying-fox foraging habitat.

1.1.3 IMPACT AVOIDANCE AND MITIGATION

Considerable effort and collaboration was undertaken to avoid and minimise impacts to threatened fauna species habitat and native vegetation. This resulted in the existing Reference Design (i.e. Upgrade design), which has 'clustered' direct impacts mostly to the road intersections and has mostly avoided impacts to McGregors Drain. The latter being considered an important habitat corridor for the local area and extends for most of the length of the Study Area within the Healesville Koo Wee Rup Road reserve.

Despite efforts to avoid and minimise direct impacts to date, the project will still have some direct and potentially indirect impacts on the flora, vegetation communities and significant fauna/habitat identified within the Referral Area.

Mitigation measures implemented on the project include:

- Water quality monitoring in adjacent drains and waterways in the Construction Footprint and downstream;
- Noise mitigation measures to reduce impact on wildlife particularly breeding Growling Grass Frog including avoiding construction at night near Growling Grass Frog breeding habitat during the breeding season;
- Minimise the Construction Footprint using Areas of Sensitive Vegetation and design;
- Light mitigation to reduce impacts on nocturnal fauna and their habitat;
- Improvement of connectivity through installation of additional culverts and fauna underpasses;
- Barriers and fencing to reduce direct mortality;
- Revegetation and re-installation of drains to reinstate habitat connectivity;
- Deep Creek bridge design to reduce impacts on waterway;
- Pre, during and post construction monitoring of SBB and Growling Grass Frog populations to ensure the implemented mitigation measures are effective.

1.1.4 PROJECT PHASES AND SCHEDULES

The Approved Action began in August 2021 and is anticipated to reach practical completion by September 2024.

PHASE	START DATE	COMPLETION DATE
Delivery	August 2021	December 2024
Construction	January 2022	July 2024
Practical Completion	NA	September 2024

1.2 CONDITIONS OF APPROVAL

The Healesville - Koo Wee Rup Road Upgrade, Victoria (EPBC 2019/8487) was approved by the Minister with Controlling Provisions on the 18th September 2020. Conditions relevant to the development and assessment of this EPBC Offset Management Plan are set out below in Appendix 6.2.

1.3 OFFSET MANAGEMENT PLAN DEVELOPMENT

Ecocentric Environmental Consulting (hereafter Ecocentric) was engaged to develop an EPBC Offset Management Plan (OMP) in accordance with: the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy* (DSEWPaC 2012; hereafter the EPBC Environmental Offset Policy); and, Appendix 3 of EPBC 2019/8487 approval conditions for the mitigation of residual impacts to SBB associated with the Healesville-Koo Wee Rup Road Upgrade (Stage 1B) project.

SBB impacts constitute an impact on a listed Matter of National Environmental Significance (MNES) under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

This EPBC Offset Management Plan addresses requirements attached to the resulting EPBC approval for the action, namely Conditions 2, 3, and 4A) to offset residual impacts on MNES (EPBC 2019/8487 – variation decision dated 22-Dec-2023), including the loss of 5.078 ha of habitat for SBB. Specifically, this EPBC Offset Management Plan addresses Condition 4A) to identify an Alternative Offset Site (4Aa) for the for the 'Brucknell offset site' and submit an 'Offset Site Management Plan that meets the requirements of Appendix 3' under Condition 4Aa.

Figure 2 illustrates the hierarchy of offset documentation submitted as part of the Project.

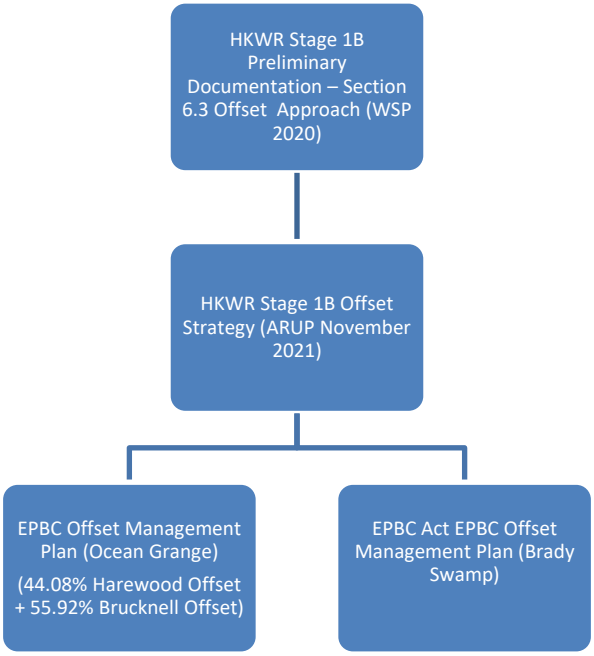

Figure 2. Hierarchy of offset documentation

The Healesville-Koo Wee Rup Road Offset Strategy outlined above identifies how a direct offset will be secured for the project at the Ocean Grange offset site for mitigation of impacts on SBB). The total quantum of offset area for the project impact (5.078 ha of SBB habitat) is calculated in two parts:

- 10 ha, approved as an alternative offset for the Harewood Offset Site for 44.08% of the total loss; plus,
- 16.5 ha, being the balance of the required offset as an alternative for the Brucknell Offset Site.

The alternative EPBC Offset Management Plan for Harewood (10ha) has already been endorsed by DCCEEW (see also Appendix 6.4 mapping for details). This EPBC Offset Management Plan therefore relates to an **additional 16.5 ha** as required as an alternative for the Brucknell offset site.

1.4 PURPOSE

The purpose of this Ocean Grange (Brucknell) offset site SBB Offset Management Plan is to:

- Identify the specific environmental outcomes to be achieved at the offset site to meet the requirements of the Environmental Offsets Policy;
- Detail how the offset will be secured, managed and monitored to meet these environmental outcomes, including:
  - Management actions, performance targets, monitoring methodology and review criteria.
  - Responsibility and timing for implementation of the actions.

1.5 OBJECTIVES

The objective of this EPBC Offset Management Plan is to address the requirements of the EPBC Act approval for EPBC 2019/8487, specifically condition 4A and associated conditions within Appendix 3.

In total, 26.5 ha of the property at Ocean Grange is to be managed to offset the total residual impact to SBB habitat as part of the Healesville-Koo Wee Rup Road Upgrade Project, comprising 10 ha as an alternative for the Harewood Offset (and as already endorsed by DCCEEW) and an *additional* 16.5 ha as an alternative for the Brucknell Offset, and as set out in this EPBC Offset Management Plan.

This objective is to be achieved by securing an area of freehold land at Ocean Grange with a Trust for Nature conservation covenant, and to improve the available SBB browsing habitat and the long-term viability of the SBB population at the offset site.

2. OFFSET SITE DETAILS

Table 1 below summarises the location, planning restrictions, and proposed security and management arrangements for the Ocean Grange (alternative Brucknell) offset site.

Table 1. Offset site ownership status and security details

ITEM	DETAILS
Landholder	[redacted]
Address/ Lot details	Lot 9 Beach Road, Ocean Grange 3880 (Lot 9 LP217552)
Parcel identifier (SPI)	EPBC offset site: 9\LP217552 Property also includes: 8\LP217552, 7\LP217552 & 6\LP217552
Local Government Area	Wellington Shire
Catchment Management Authority	West Gippsland
Bioregion	Gippsland Plain
Total Area	386 ha
EPBC Offset Area required	16.5 ha (alternative Brucknell site) (26.5 ha when including alternative Harewood site)
Planning Zones and Overlays	Rural Conservation Zone (RCZ1) Environmental Significance Overlay (ESO1 and ESO2) Bushfire Management Overlay (BMO) Floodway Overlay (FO) Land Subject to Inundation Overlay (LSIO)

2.1 OFFSET SITE LOCATION

The Ocean Grange estate is located south-east of the Loch Sport township and comprises over 386 ha of remnant coastal woodland and saltmarshes on two Titles (comprising four allotments). The EPBC offset site includes 16.5ha out of a total 166.04 ha of Coast Banksia Woodland present within the Ocean Grange estate on the north side of Beach Road, Ocean Grange, 3880. An on-title covenant will be placed on the entire property making further credits available on an ongoing basis for both Federal and State offset schemes.

The land is largely undisturbed and situated within Ocean Grange, which is a strip of land that separates Bass Strait to the south-east from Lake Reeve to the north-west. The land is accessible via Beach Road that connects to the township of Loch Sport, located on the north-western edge of Lake Reeve.

The property is located within the Wellington Shire Council, within Victoria's broader Gippsland Plain bioregion, and entirely within a Rural Conservation Zone (RCZ1). Several overlays also apply including an Environmental Significance Overlay (Schedule 1) (ESO1), Environmental Significance Overlay (Schedule 2) (ESO2), Bushfire Management Overlay (BMO), Floodway Overlay (FO) and Land Subject to Inundation Overlay (LSIO) (DELWP, 2020b). The land is also located within an area of Aboriginal cultural heritage sensitivity.

The 16.5 ha offset site is currently un-encumbered and the Landowner is committed to providing offsets and is prepared to enter into an agreement secured under a Trust for Nature offset covenant.

2.2 SITE CONTEXT

The proposed offset site is located in an area of contiguous native vegetation, much of which forms known or potential habitat for SBB. The offset property, which is currently privately held land, is located between the beach and Lake Reeve, 1.5 km from the town of Loch Sport. Lake Reeve, a tidal lake forming part of the Gippsland Lakes complex, separates the site from Loch Sport. The property of which the offset is part is contiguous with the Gippsland Lakes Ramsar site and the Gippsland Lakes Coastal Park.

A local dirt road (Beach Road) and an easement for gas pipelines (connecting offshore platforms to the Longford Gas Plant) bisect the property but are not included within the EPBC offset site. The location of the gas pipeline easement and the offset site is shown in Appendix 6.4 aerial mapping.

The Strategic Biodiversity Value (SBV) of the proposed offset site ranges from 86 to 99 (out of 100), as modelled by the Victorian Department of Energy, Environment and Climate Change (DEECA). A high SBV is indicative of high biodiversity value, with the high scores for the proposed offset site rating the area very highly for general biodiversity, and also specifically for the SBB (DELWP 2021[1]).

2.3 CURRENT HABITAT VALUES AND FLORISTICS

Vegetation within the EPBC offset site is characterised as a Coast Banksia (*Banksia integrifolia*) woodland (EVC 2) with a dense, structurally complex understorey suitable for SBB habitation (see Figure 3 for a representative image). Much of the understorey retains a vegetation structure with 50-80% average foliage density in the 0.2-1 m height range – considered to be the optimal range for supporting SBB (DSEWPC 2011; Claridge & Barry 2000) – interspersed with more open areas dominated by graminoids, offering foraging opportunities within close proximity to cover.

Canopy cover within the alternative Brucknell offset site is based off an average of this and an adjacent offset site related to this EPBC approval (the alternative Harewood offset site). Canopy cover is relatively uniform, with an open canopy of Coast Banksia (*Banksia integrifolia*) (10% cover, 10m tall). Gippsland Red-gum (*Eucalyptus tereticornis* subsp. *mediana*) and Rough-barked Manna Gum (*Eucalyptus viminalis* subsp. *pryoriana*) (<1% cover, 15m tall) are also present as secondary canopy species. The canopy species mix within the EPBC offset site and across the wider property varies in response to sandy soils and (likely) historical fire regimes resulting in a mosaic of woodland canopy cover interspersed with more open areas dominated by graminoids (see Figure 4 for a representative image).

Mid-storey vegetation within the EPBC offset site is variable and includes open areas where the mid-storey is sparse to absent, and higher density areas where shrub species form loose thickets (25% cover, 2m tall). This layer is dominated by Coast Tea-tree (*Leptospermum laevigatum*) and Heath Tea-tree (*L. myrsinoides*), but includes a number of other shrubs including Common Boobialla (*Myoporum insulare*), juvenile Coast Banksia (*Banksia integrifolia*), as well as a number of herbaceous climbers including Angled Lobelia (*Lobelia anceps*) and Love-creeper (*Comesperma volubile*).

Understorey vegetation comprises a species-rich, structurally complex assemblage of graminoids, herbs and shrubs. This layer is primarily characterised by a dense cover of Spiny-headed Mat-rush (*Lomandra longifolia* subsp. *longifolia*), various rushes (*Hypolaena fastigata*, *Ficinia nodosa*, *Cladium procerum*), tufted graminoids (*Rytidosperma* spp. and *Austrostipa* spp.), small shrubs including Seaberry Saltbush (*Rhagodia candolleana* subsp. *candolleana*), and Austral Bracken (*Pteridium esculentum*) (up to 70% cover, 0.5 – 1m tall). Openings in this

[1] https://maps2.biodiversity.vic.gov.au/Html5viewer/index.html?viewer=NatureKit

dense cover reveal a ground layer of grasses and prostrate forbs including Shiny Swamp-mat (*Goodenia radicans*), Weeping grass (*Microlaena stipoides*), and Kidney weed (*Dichondra repens*).

Weed cover across the EPBC 16.5 ha offset site is relatively low (<1% cover across the site), however two high-threat weeds, Ragwort and Spear Thistle, have been recorded.

Figure 3. Coast Banksia Woodland habitat within the offset site

Figure 4. Open graminoid understorey mosaic habitat within the offset site

The EPBC offset site (16.5 ha) is a relatively small component of a much larger area of remnant native vegetation (386 ha across two Titles (comprising four allotments) that will be protected and managed with a Trust for Nature offset covenant. Table 2 provides a summary of EVCs assessed and mapped across the property, with descriptions to follow below.

Table 2. Extant Ecological Vegetation Classes at Ocean Grove

ECOLOGICAL VEGETATION CLASSES	DESCRIPTION	TOTAL AREA AVAILABLE (hectares)	AREA REQUIRED FOR OFFSET (hectares)
Coast Banksia Woodland (EVC 2)	Occupies secondary and tertiary dunes behind Coastal Dune Scrub. Dominated by a woodland overstorey of Coast Banksia (*Banksia integrifolia*) (up to 10m tall), with Gippsland Red-gum (*Eucalyptus tereticornis* subsp. *mediana*) and Rough-barked Manna Gum (*Eucalyptus viminalis* subsp. *pryoriana*) (up to 15m tall) present over a medium shrub layer. The understorey comprises of a number of herbs, graminoids and sedges, including scramblers.	166.04	16.5 (additional area available if required)
Coastal Dune Scrub (EVC 160)	Closed scrub to 5m tall dominated by Coast Tea-tree (*Leptospermum laevigatum*) with occasional emergents occurring on secondary dunes along ocean and bay beaches and lake shores. Occupies siliceous and calcareous sands that are subject to high levels of salt-spray and continuous disturbance from onshore winds.	27.68	Not required
Wet Saltmarsh Herbland (*Sarcocornia quinqueflora* herbland) & Estuarine Flats Grassland (EVC 914) mosaic	Closed to open grassland (to 1.5m tall) with occasional shrubs occurring on estuarine flats, grading into *Sarcocornia* dominated saltmarsh herbland (to 0.5m tall). Occupies sand sheets that are occasionally inundated by high tides and areas on marginally higher ground inland from saltmarsh. Ecotonal with estuarine scrub.	61.74	Not required
Estuarine Scrub (EVC 953)	Closed scrub to 6m tall growing on the edge of estuarine waterbodies such as creeks, rivers and lagoons with intermediate salinity and poor drainage conditions. Dominated by Swamp Paperbark (*Melaleuca ericifolia*) with a halophytic (succulent) ground layer dominated by graminoids and herbs. Ecotonal with Coastal Dune Scrub, and found as intermittent patches within Coast Banksia Woodland.	106.60	Not required

Only a small portion (16.5 ha) of the available 166.04 ha of Coast Banksia Woodland on the property is required for this offset. It is expected that the larger area of contiguous remnant vegetation will also contribute niche habitat requirements for SBB and the region's other threatened and significant vegetation communities, flora and fauna, as well as mitigate against the impacts commonly associated with edge effects.

2.4 MNES HABITAT SUITABILITY

A number of studies indicate that bandicoots prefer structurally complex sites with a dense shrub and ground cover layer. Coarse woody debris is also a key habitat element for the SBB (Brown & Main 2010). As demonstrated in Figures 3 to 6, the offset site provides high quality habitat for the SBB with a dense mid and lower storey and ample coarse woody debris.

Targeted surveys conducted since the first drafting of this EPBC Offset Management Plan have confirmed that both SBB and Long-nosed Bandicoot (*Perameles nasuta*) are present on site, and that the population dynamics between these species fluctuates in response to seasonal variations (Read 2016) and that there may be instances whereby LNB are more commonly recorded on site than SBB. Since these species are sympatric (occupy the same geographic area), it is considered that active management of the offset site will provide an offset gain for both taxa and the region's flora and fauna in general.

To date survey results have confirmed the presence of bandicoots, with over 70 individual bandicoots recorded[2] across the property. Photographs provided in Figure 7 are indicative of bandicoots recorded during site surveys. SBB presence is further supported by a historical record in the Victorian Biodiversity Atlas (VBA) on the property (July 1993 observation) and two within 5 km of the site (May 1997 observed on Wattle Grove, Loch Sport, and October 2017 infrared camera record within a nearby New Holland Mouse (*Pseudomys novaehollandiae*) reference site). Conical diggings, associated with SBB foraging activity within sandy soils, have been regularly observed within the proposed offset site (see Figure 7 for details).

Potential threats to the SBB at the Loch Sport offset site are predation by foxes and cats, deer, unauthorised access, and weed infestations (Figure 8). This EPBC Offset Management Plan has been prepared to address these potential threats and to improve the quality of, and extent of, available foraging habitat for the species, and to support the persistence of the SBB at the site.

Figure 5. Areas of the offset site support an open woodland of Gippsland Red Gum (*Eucalyptus tereticornis* subsp. *mediana*) with a dense understorey of Spiny-headed Mat-rush (*Lomandra longifolia* subsp. *longifolia*) and Austral Bracken (*Pteridium esculentum*)

[2] A single bandicoot record is where a bandicoot is recorded at a permanent designated camera location during a survey period, and where there is at least a one hour interval between groups of images as identified by timestamps.

Figure 6. Open graminoid areas suitable for foraging adjacent to dense understorey cover dominated by Swamp Paperbark (*Melaleuca ericifolia*) and / or Coast Tea-tree (*Leptospermum laevigatum*) and Heath Tea-tree (*L. myrsinoides*)

Figure 7. Indicative photographs of SBB camera records, and digging activity recorded on site

Figure 8. Ragwort and Spear Thistle are high threat weeds within the offset site

3. OFFSET MANAGEMENT PLAN

This section outlines the EPBC offset management obligations at Ocean Grange. These obligations are detailed within sections 3.1 to section 3.13 of this EPBC Offset Management Plan. The obligations are designed to avoid further decline in SBB habitat values and to achieve an overall conservation gain for SBB. Table 3 below summarises how the management actions will address the critical threats to SBB and achieve a conservation gain for the species.

Table 3. Summary of SBB offset gains

POTENTIAL THREAT TO SBB	POTENTIAL THREAT CONSEQUENCE	PROPOSED MITIGATION	SBB CONSERVATION GAIN
Predation by feral predators such as foxes and cats.	Reduced SBB population.	Feral predator controls	Removal of direct threat to SBB resulting in improved habitat for the species and maintenance of SBB population on site or potential modest gain in SBB detections.
Declining habitat values due to deer impacts such as pugging, creation of game trails and browsing of native vegetation.	Degraded habitat overall, and in particular degradation of SBB foraging habitat due to direct impacts associated with pugging and tracking, and indirect due to opening of game trails providing greater access for foxes.	Deer controls	Reduction of extant deer impacts resulting in improvement of SBB foraging habitat areas.
High threat weeds invading inter-tussock areas within SBB foraging habitat areas.	Degraded habitat overall, and in particular degradation of SBB foraging habitat through crowding of inter-tussock foraging areas.	Elimination and control of the spread of Ragwort and Spear Thistle. Monitoring for, and rapid (functional) eradication of new high threat weeds if identified on site.	Improved SBB foraging habitat values through maintenance of inter-tussock foraging opportunities.
Unauthorised pedestrian access and associated vehicle impacts.	Loss of habitat due to clearing for creation of tracks and camping sites, rubbish dumping and introduction of weeds (dumped garden waste).	Installation and maintenance of fences and locked gates. Public notifications and signage identifying conservation areas.	Improved habitat and habitat connectivity through rehabilitation of unauthorised tracks and clearings. Reduced vehicle tracks and loss of native vegetation and habitat values.

3.1 IN PERPETUITY SECURITY

The 16.5 ha offset site is un-encumbered. A key component of securing offsets at this site will therefore be the establishment of a Trust for Nature Deed of Covenant for the conservation of land pursuant to section 3A of the *Victorian Conservation Trust Act 1972* (Vic). The conservation covenant will enshrine this EPBC Offset Management Plan and the management and monitoring requirements set out below. Management and performance reports (e.g. Sections 3.7 and 3.9) will be supplied to Trust for Nature and to VIDA Roads (formerly Major Road Projects Victoria (MRPV)) in accordance with schedules set out in Section 3.7; these will subsequently be provided to DCCEEW.

The property and the extent of the Trust for Nature conservation covenant to be placed on Title is mapped in Appendix 6.4 and shows all areas of habitat to which this plan applies. Note that the total on-ground area of the site is in excess of 380 ha, of which only 26.5 ha (10 ha for the alternative Harewood Offset site and 16.5 ha for the alternative Brucknell site) is required to satisfy the SBB EPBC offset requirements for the Healesville-Koo Wee Rup Road upgrade project. Under this approval, EPBC offsets were also required for GGF which have been satisfied at a different Offset location (Brady Swamp).

3.2 HABITAT CONDITION

Habitat values within the Coast Banksia Woodland are in excellent condition; this site scored 91/100 in a Vegetation Quality Assessment in July 2020, with re-assessments conducted at each site visit (VQA) (DSE 2004). The high-quality habitat is attributable to the long-term undisturbed nature of the offset site. Understorey habitat is highly varied (see Appendix 6.3 for a site flora list) and retains a mosaic of dense, shrubby thickets, interspersed with more open areas dominated by graminoids. Denser thickets provide 50-80% average foliage density in the 0.2-1 m height range, which is considered to be the optimal range to support SBB (DSEWPC 2011; Claridge & Barry 2000). SBB is known to occupy suitable sites as long-term residents, even when these occur in close proximity to residential areas (Maclagan 2016), or within proximity to roadways or slashed areas as is present within the pipe-line easement (author's personal experience).

Open areas adjacent to the understorey thickets offer excellent foraging habitat opportunities for SBB, with cover on hand nearby for protection against predators. These areas are dominated by graminoids and conical diggings, associated with SBB foraging activity within the sandy soils of these sites, and were regularly observed during the site assessments.

Table 4 below provides the Habitat Hectare assessment details for the EPBC offset site.

Table 4. EPBC Offset Site VQA values

BENCHMARK ASSESSMENT CRITERIA	MAXIMUM SCORE	EPBC OFFSET SITE SCORE	JUSTIFICATION
Large Old Trees	10	10	Exceeds benchmark for large trees (10 per hectare: eucalyptus spp. 70 cm / banksia spp. 50 cm)
Canopy cover	5	5	Exceeds benchmark canopy cover (15%)
Understorey	25	25	All lifeforms present / none modified
Lack of weeds	15	11	Low (1%) weed cover; of two high threat species
Recruitment	10	10	All woody species are recruiting well
Organic litter	5	5	Organic litter cover is at 40-60%
Logs	5	5	Large logs are abundant and well in excess of benchmark
Site condition total	75	71	
Patch size	10	8	Patch is over 20 ha but disturbed by roadway and pipeline
Neighbourhood	10	8	Neighbourhood predominantly indigenous but disturbed

BENCHMARK ASSESSMENT CRITERIA	MAXIMUM SCORE	EPBC OFFSET SITE SCORE	JUSTIFICATION
Distance to core area	5	4	Patch is contiguous with disturbed core area (total offset site exceeds 380 ha)
Landscape condition total	25	20	
HABITAT QUALITY SCORE	**100**	**91**	

There is an opportunity to improve the 'lack of weeds' component within the offset site, through the continuous reduction of Ragwort and reduction of Spear Thistle to a negligible level within the SBB foraging habitat areas. These high threat weeds, if left unchecked, will 'crowd' the inter-tussock areas that are utilised by SBB whilst foraging for food sources, and will lead to degradation of natural habitat values within the surrounding cover habitat areas. Reducing these species cover will address this threat, noting that given these species are wind-dispersed and well-established in the surrounding landscape, total eradication is not possible. Reduction measures for these species are provided in section 3.3 below.

The EPBC offset site is also a part of a much larger area of contiguous habitat with connectivity to a broad range of habitat typologies including woodlands, saltmarsh and coastal sand-dune scrubs. Connectivity to a range of habitat types, as well as connectivity to a regional population of SBB, is recognised as a key aspect for the support of a meta-population for this species (Coates *et al*. 2008). Habitat connectivity will be maintained by implementing this EPBC Offset Management Plan for the offset site, and the establishment of an 'in perpetuity' offset covenant on Title.

Ongoing monitoring of habitat condition will occur throughout the life of the Plan to assess the success of weed control measures, and impacts of feral animal control.

3.3 WEED CONTROL

Weed control within the offset site will focus on the management of two high threat weeds, Ragwort (*Senecio jacobaea*) and Spear Thistle (*Cirsium vulgare*), which were recorded invading the offset site from the pipeline easement. Whilst the cover of these species is currently very low (generally at or below 1%), there are areas where their cover is at a higher rate, with up to 2% cover at some locations. Whilst these species are likely to be scattered throughout the property, areas where these species are observed to be establishing within SBB foraging habitat are identified in Appendix 6.4 mapping. These areas will be targeted for control and reduction programs since, if left unchecked, these species are considered likely to increase in density and establish elsewhere within the offset site. It is also considered likely that the easement is a source of seed for both species; control works are therefore to be implemented across the easement in conjunction with the offset site works. Quarterly site walkovers will be undertaken to review any new and emerging locations for weed establishment.

Ragwort has been observed invading the inter-tussock areas around graminoids which are important foraging habitat for SBB. This invasive weed is to be targeted in a control program aimed at treating all individuals and continuously reducing Ragwort cover and spread so as to reduce the cover of this weed species at the offset site, with the ultimate aim of reducing its cover to a negligible level (given eradication is almost impossible to achieve with wind dispersed species and high threat weed species identified are well established in the surrounding landscape). Ragwort rosettes will be controlled primarily by hand (plants are easily pulled out of the sandy soils) and/or spot-sprayed in spring, with follow-up hand-removal, spot-spraying

and removal of flower-heads in summer; spot-spraying is to use an appropriate herbicide (such as Grazon Extra applied from a knapsack.

Spear Thistle will be systematically and continuously controlled and its cover reduced to negligible across the offset site over time using a similarly applied spring and summer spot-spraying program using a suitable herbicide applied from a knapsack.

Please note that all chemical herbicide use is to be in accordance with labelled application rates, and that extreme care is to be taken to avoid off-target impacts associated with spray-drift. The weed control works are to be conducted by the Landowner or a contractor who is licenced (with an ACUP) and experienced with working in high quality habitat environments (and who is also familiar with flora species found within the Coast Banksia Woodland EVC).

No woody weeds were recorded within the offset site, however, it is expected that Blackberry (*Rubus fruticosus* spp. agg.), which was observed within roadside reserves nearby (outer bounds of Loch Sport), may be encountered as germinant plants. Monitoring for woody weeds (through quarterly site walk overs and targeted habitat assessments), with rapid control actions to ensure that they do not establish, will be implemented at the offset site.

High threat weed management commitments include (at minimum):

- Quarterly site walkovers to review any new and emerging locations for weed establishment;
- Continuously reduce the cover Ragwort (*Senecio jacobaea*) to a negligible level (<1% by Year 10) through comprehensive treatment of infestations annually within the offset area and across the easement within 10 years;
- Reduce cover of Spear Thistle (*Cirsium vulgare*) to a negligible level (<1% by Year 10) within the offset area and across the easement;
- Monitor sites where high threat weeds have been treated to ensure re-emergence is detected and controlled, and re-treated to reduce coverage and spread of these species;
- Monitor for and ensure that woody weeds are not introduced to the offset site;
- Control herbaceous and grassy weeds and ensure that weed cover is reduced across the offset site area when compared with baseline data; and
- Monitor for, prevent, and control new and emerging woody and herbaceous weeds.

All weed control works are expected to be followed by natural recruitment and successional establishment of indigenous flora and EVC appropriate canopy structures. Emphasis is to be placed on ensuring that Ragwort and Spear Thistle cover and distribution is reduced, and that herbaceous weed cover is reduced across the offset site when compared with baseline data.

Methods for the control, timing, and targets for high threat weeds are provided in Table 5 below.

Table 5. High threat weeds, control methods and timing

COMMON NAME	SCIENTIFIC NAME	THREAT STATUS	% COVER	METHOD	TIMING	TARGET
Sweet Vernal-grass	*Anthoxanthum odoratum*	low	<1%	Spot-spray patches and monitor for recruitment of EVC appropriate flora	Active growing season in spring to summer	<1%; reduce cover where practicable to do so

COMMON NAME	SCIENTIFIC NAME	THREAT STATUS	% COVER	METHOD	TIMING	TARGET
Spear Thistle	*Cirsium vulgare*	high	1%	Hand-pull small plants (taking care to remove tap-roots); spot-spray with an appropriate herbicide (such as Grazon Extra)	Active growing season twice-yearly in spring and summer	Reduce spear thistle cover to negligible levels of <1% by Year 10 within the offset site and easement
Cocksfoot	*Dactylis glomerata*	low	<1%	Spot-spray patches and monitor for recruitment of EVC appropriate flora	Active growing season in spring to summer	<1%; reduce cover where practicable to do so
Blackberry	*Rubus* spp.	high	<<1%	Control small plants by hand; spot-spray large patches	Active growing season in spring to summer	<1%; target any new infestations
Ragwort	*Senecio jacobaea*	high	1%	Hand-pull small plants (taking care to remove tap-roots); spot-spray with an appropriate herbicide (such as Grazon Extra), physically remove flowerheads	Active growing season twice-yearly in spring and summer	Reduce cover to <1% by Year 10 and spread within the offset site and easement

3.3.1 WEED CONTROL MONITORING

Weed control works will be monitored by the Landowner and the effectiveness of actions assessed. Successful implementation of the weed control program will be demonstrated by:

- Steady decline in the coverage and distribution of Ragwort from baseline surveys, the reduction of Spear Thistle to negligible levels, and subsequent improvements in SBB foraging habitat areas;
- Steady decline in herbicide usage by volume and/or weight of flower-head being removed from the property;
- Steady decline in the required weed control works as evidenced using a hand-held GPS during the works program;
- Photo monitoring at weed control sites.

Given that Ragwort and Spear Thistle coverage rates are very low within the Offset site, it is expected that twice-yearly knapsack spot-spraying, hand-pulling and removal of flowerheads will be an effective control methodology. In the event however that it cannot be demonstrated that Ragwort is declining, or that Spear Thistle is persisting, then additional weed control works will be triggered. These additional works will include (as a minimum):

- Transect surveys of the SBB foraging habitat areas to determine the location(s) of weed infestations on site;
- Treatment using control methods as set out above in Table 5;

- GPS tracking of the treatment works program with details of treatment locations, Ragwort and Spear Thistle coverage and density;
- Follow-up monitoring at the treatment sites with increased works to be conducted as required to reduce high threat weeds (including Ragwort and Spear Thistle) to defined target levels (Section 3.3 and Table 5) over time.

The results of the monitoring will inform the requirement for, or the success of, corrective actions and/or responsive and adaptive management controls. These monitoring requirements are further detailed in Section 4.1 Management Plan.

3.4 FERAL / PEST ANIMAL CONTROL

The objective of feral animal control programs is to reduce ecological pressures associated with grazing and degradation of habitat areas, and the predation of SBB by introduced predators. This is the primary strategy for maintaining the SBB population and viability at the offset site.

Control measures for feral animals, including grazers – Sambar and Hog Deer – and predators – fox and feral cat – will be promptly implemented within the EPBC offset site and wider property should feral species be identified during the infra-red camera monitoring program or evidence is observed during site visits. The intent is to functionally eradicate pest animals within the offset site and the property. It is important to note however that total eradication of feral pests is not practical without a predator proof perimeter fence, and that there is no obligation under this OMP to eradicate all feral pest species.

The success of pest animal control programs is to be benchmarked against baseline pest animal frequency data, population trends from average daily camera detections (Table 7), and observations of habitat degradation as a result of pest animals. The results from the control program and observations will be used to inform implementation and adaptation of the control methods. A baseline pest animal population estimate is provided below in Section 3.7.2 and Table 7. It should be noted however that given the current low numbers of foxes and feral cats it may be difficult to measure any population decline over the duration of this plan. Any record of foxes or feral cats is to therefore trigger immediate implementation of control / eradication programs to ensure that SBB predation is minimised.

Reference to ‘eradication’ within this plan is intended to mean ‘functional eradication’ in which the pest or weed population is reduced to a level where it no longer causes significant negative impacts on the native ecosystem. For the purpose of this OMP, this will equate to achieving:

- <1% cover for weed species;
- Average reduction of 20% in deer detections from baseline over the course of a monitoring round (annually); and
- Less than 2 detections for cats and fox over the course of a monitoring round.

It is noted that complete / permanent eradication of all deer, cat or fox from this Offset Site is not achievable, especially given that these introduced species can enter from neighbouring properties. The intent will therefore be implementation of on-going control programs, with triggers, methods and timing as detailed below in Table 6.

An integrated approach to pest animal management is outlined in Table 6 below. All care will be taken to avoid off-target impacts or inadvertent harm to native fauna. Regardless of the control option(s) used, they must be the most effective, safe and humane methods available.

Table 6. Pest animal control, monitoring methods and timing

SPECIES	CONTROL and MONITORING METHODS	TIMING	OUTCOME
Foxes	Remove dens or disperse surface harbour taking care to ensure no impacts to SBB. Engage qualified and licenced trapper / shooter; ensure SBB are not impacted. Investigate use of Canid Pest-ejectors on the property.	Ongoing	Functional eradication of fox onsite and immediately adjacent.
Cats	Engage qualified and licenced trapper / shooter; ensure SBB are not impacted.	Ongoing	Functional eradication of cats onsite and immediately adjacent.
Sambar and Hog Deer	Engage qualified and licenced trapper / shooter with appropriate Permits; ensure SBB are not impacted.	Ongoing	Functional eradication of deer onsite and immediately adjacent.
Foxes and cats	Monitor for signs, and review detections using camera data collected during bandicoot monitoring (refer to Section 3.7 for methods). Control as necessary.	Ongoing	Accurate data on population dynamics; clear indication of control action success (or otherwise).
Deer	Monitor and control as necessary (refer to Section 3.7 for methods).	Ongoing	Accurate data on population dynamics; clear indication of control action success (or otherwise).
New and emerging pest animals	Monitor and control as necessary (refer to Section 3.7 for methods).	Ongoing	No new pest animals established within the offset site.

3.5 FENCING

The intent of fencing is to ensure that stock and unauthorised persons or vehicles do not enter the offset site; unfenced boundaries will remain unfenced until a need arises to control impacts.

There is little to no risk of stock inadvertently entering the property from the open beach foreshore along the south-eastern boundary of the offset site or from across the Lake Reeve inlets to the north. There is no fence at the northern end of the property, however, the neighbouring property at this location is heavily vegetated (providing contiguous Coast Banksia Woodland habitat for SBB) and it is unlikely that a fence would be required at this location in the future. Shared property boundaries should remain unfenced unless a need arises to control impacts. A 6 m buffer has been applied to all shared property boundaries to accommodate fencing if required in the future.

There is a fence at the southwestern end between the offset site and the neighbouring property, however, there is little to no evidence of grazing at this location and the chances of stock entering from this location is deemed to be very low; the existing fence at this location can be upgraded at a later date if required to manage stock.

The gas pipeline easement and the public roadway, which transect the property, have recently (2021) installed fences, locked gates and signage to prohibit vehicle (and stock) access (see Figures 9 and 10); it is deemed to be unlikely that additional fencing will be required. These access points are now fenced and gated to prohibit access to the property and to prohibit illegal rubbish dumping (see also GIS mapping in Section 6.4).

We note however that there is little to no chance of unauthorised vehicle access to the EPBC offset site area, attributable to the dense vegetation cover at this site, the presence of

numerous, large ground logs (up to 1 m diameter), and the absence of beach access through this location (it being north of the roadway). Monitoring for unauthorised access is a commitment of the conservation covenant to be placed on Title.

Figure 9. Recently installed fencing and locked gates to control access

Figure 10. Recently installed fencing and locked gates to control access

3.6 ACCESS AND SIGNAGE

There have been instances in the past of illegal access to the property, however, the EPBC offset site area remains generally undisturbed and is unlikely to be disturbed in the near future. Signage identifying this as private property has been erected and will be maintained by the Landowner as a requirement of this plan. Illegal activity and trespass on the property will be reported by the Landowner to the Victorian Police Force.

3.7 MONITORING AND REPORTING

The Landowner will submit a report to Trust for Nature and VIDA Roads annually for each year of Years 1 to 10 of this plan (see Section 4.1), which will commence from registration of the conservation covenant. Another two rounds of monitoring will occur during the maintenance phase to inform scheduled annual reporting (Section 3.9) and reviews (Section 3.10) in Years 2038[3] and 2040 (Table 11). The report is to include details of the monitoring and management works conducted within the offset site for that year. Results are to be compared to baseline and Year 1 results to assess progress against objectives of the OMP. Monitoring results and management actions that will be included in the report are provided below.

Annual monitoring will include walking the offset site and undertaking visual inspections for weeds, pest animals, fences and any evidence of illegal property access at a minimum of a quarterly basis. Monitoring of SBB and pest animal populations, and SBB habitat condition will be conducted by suitably qualified ecologists formally at years 1, 2, 3, 5 and 10 following plan approval by collecting quantitative data for these parameters as described in the following sub-sections. The monitoring program will be reviewed at Years 3, 6 and 9 in accordance with Sections 3.10 and 3.11 below. The progress of the EPBC Offset Management Plan will be audited if the intended conservation gains have not been achieved (see Section 3.11 for details).

Post Year 10 of the EPBC Offset Management Plan, two additional rounds of monitoring will be conducted during the maintenance phase in Years 2038 and 2040 (see Section 3.10 and 3.12 for details) following methods defined below in Section 3.7.1 and defined in Table 11.

3.7.1 MONITORING

This EPBC Offset Management Plan aims to provide a conservation gain for the SBB by improving the quality and extent of SBB foraging habitat availability within the offset site through reduction in feral grazers, predators and cover of herbaceous weeds. Through improvements to habitat quality, it is anticipated that the Plan will improve the quality, extent and value of habitat across the offset site for direct benefit to the species. Monitoring will assess the presence and population trends of bandicoots against a baseline during years 1, 2, 3, 5 and 10, followed by monitoring in years 2038 and 2040 during the maintenance phase, with the aim of demonstrating continuous presence over the 10 – year management period and that the SBB population has been maintained or results in a modest increase in numbers. Analysis of trends will consider that SBB populations typically fluctuate in response to wider landscape scale factors such as seasonal conditions, floods and fires and as a result, comparison of SBB populations from one year to the next are likely to be influenced by more than just local management actions. Further inferences on bandicoot and pest animal populations will be made by analysing camera detections (Table 8), while acknowledging the limitations of this data in estimating population abundance or density (see Section 3.7.2 and Burton *et al*., 2015).

Specific monitoring programs will be in general accord with EPBC survey guidelines for SBB and as set out in Section 3.7.3 below. Monitoring methods are based on the survey guidelines

[3] Refer to note in Section 3.14 'Timing'

in the *EPBC Act draft referral guidelines for the endangered southern brown bandicoot (eastern), Isoodon obesulus obesulus* (DSEWPaC 2011), and includes the use of infra-red remote cameras which have been used extensively in southern brown bandicoot research (Claridge *et al.* 2019). *A suitably qualified ecologist with be engaged….*

Baseline data of the existing bandicoot and pest animal monitoring is provided in the Table 7 below, based on the results of infra-red camera monitoring conducted during autumn 2022 within the 10 ha alternate Harewood offset site and an existing 5 ha site adjoining.

Monitoring results from Years 1, 2, 3, 5 and 10 (from conservation covenant registration) will be compared with baseline surveys (and previous year's surveys) to assess trends in populations of SBB and pest animals (see Section 3.7.3). Further comparisons will be made in the maintenance phase in years 2038 and 2040. Monitoring results will also be used to assess the efficacy of other actions conducted on site, and will inform responsive, adaptive management actions if required (see Section 3.13). Monitoring results will be provided to VIDA Roads / Trust for Nature in an appropriate format alongside the annual report as per DCCEEW's *Guidelines for biological survey and mapped data* (DoEE 2018). VIDA Roads is to provide updates via annual compliance reporting to DCCEEW. VIDA Roads is to publish updates online and provide these to DCCEEW within 3 months of the anniversary date of the conservation covenant registration as per Section 3.9.

3.7.2 BASELINE MONITORING DATA

Baseline data was collected during the July 2020 assessment of site conditions and autumn 2022 infrared camera survey (see tables 7 and 8 for details; also Section 3.2 for baseline habitat conditions). These datasets are to be updated as each of the surveys are completed, with the results to be provided in the Landowner and independent ecologist's monitoring reports for comparative temporal assessment.

Bandicoot and feral animal populations

A monitoring program to assess the presence and populations of bandicoots and feral animals within the offset site was conducted by the Landowner during autumn 2022. These surveys included the use of infra-red cameras at monitoring stations across the property (within the 10 ha alternate Harewood offset site and an existing 5ha site adjoining), at locations as shown in the mapping in Appendix 6.4. Camera stations were baited to attract SBB (in accordance with prescriptions set out below in Section 3.7.3). Deer and feral predators (fox and cat) were also recorded incidentally.

Table 7 provides the results of the baseline monitoring program with frequency of detections at camera monitoring stations for bandicoots and pest animals. This data pertains to areas within the property that extend beyond the offset site and are provided as an indication of the presence and population trends of bandicoots within the offset site. Additional baseline surveys will be required at set monitoring locations (identified in Appendix 6.4) within the Alternative Offset Site 'Ocean Grange (Brucknell)' for future comparisons. Over time, a median of at least three survey datasets is to be used for comparative analysis.

Table 7. Autumn 2022 monitoring data (baseline) – number of camera detections

IR CAMERA POINT	BANDICOOT	DEER	FOX	CAT
GLU01	4	3	0	0
GLU02	7	2	0	0

IR CAMERA POINT	BANDICOOT	DEER	FOX	CAT
GLU03	0	0	0	0
GLU04	13	2	0	0
GLU05	2	3	0	0
MRPV01	4	1	0	0
MRPV02	3	2	0	3
MRPV03	3	2	0	0
MRPV04	0	3	0	0
MRPV05	8	4	0	1
TOTALS (records per day)	**0.09**	**0.04**	**0.00**	**0.01**

Survey period: 4 April – 25 May, 2022
Number of cameras: 10
Total camera survey days: 496

The baseline data provided above identifies that bandicoots are recorded at 90% of the survey locations and identifies an average count of the bandicoot population of 0.09 individuals identified per (infrared camera) survey day. It is expected that bandicoot frequency will vary between seasons and years, and we note that this data is collected from across the property (not exclusively from within the offset site). It must be noted that detections of bandicoots will naturally fluctuate considerably between seasons and years reflecting local and landscape populations trends, driven by their unique reproductive biology (Paull 1992) and movement ecology (Long 2009; Robinson *et al*. 2018; Li *et al.* 2015), and as a response to climatic conditions (Barnes & Gemmell 1984), fire regimes (Hope 2012; Stoddart & Braithwaite 1979), resource availability (Mallick *et al*. 1998; Maclagan *et al*. 2021), landscape scale population dynamics (Claridge & Barry 2000), and other factors.

Inferences will be made of activity and population trends by analysing camera detections (Table 8), noting limitations of camera trapping in estimating absolute or relative population abundance as individuals cannot be reliably identified from the data (see Burton *et al,* 2015).

Long-term monitoring against this baseline population data will however enable some basic assessment of bandicoot activity trends and provide one line of evidence informing the effectiveness of management actions to improve viability on site.

Infra-red cameras will be deployed within the offset site in accordance with set up and baiting protocols set out in Section 3.7.3 below, and the results benchmarked against baseline surveys. Future surveys are to be conducted in an easily and repeatable fashion to facilitate direct comparison against the baseline data (see also Appendix 6.4 aerial mapping for camera station locations).

Weed cover and extent

Baseline surveys of the offset site have been undertaken and approximate areas of weed infestations (with a focus on Ragwort and Spear Thistle) mapped (see also aerial mapping provided in Appendix 6.4). Across the offset site, weed cover is estimated to be generally low (see Table 8), with high threat weeds showing less than 1% cover (with a few locations where cover was 2%).

Table 8. Estimated percentage cover of dominant weeds throughout offset site

COMMON NAME	SCIENTIFIC NAME	THREAT STATUS	% COVER
Sweet Vernal-grass	*Anthoxanthum odoratum*	low	<1%
Spear Thistle	*Cirsium vulgare*	high	1%
Cocksfoot	*Dactylis glomerata*	low	<1%
Blackberry	*Rubus* spp.	high	<<1%
Ragwort	*Senecio jacobaea*	high	1%

3.7.3 SOUTHERN BROWN BANDICOOT MONITORING PROGRAM

Targeted survey monitoring for bandicoots is to be conducted during autumn (and in response to rainfall patterns and seasonal conditions) at intervals of years 1, 2 ,3, 5 and 10, and is to be conducted by a suitably qualified and experienced ecologist, engaged by VIDA Roads. Further targeted survey monitoring for bandicoots is also to be conducted as part of the *maintenance phase* monitoring program following the same methods in accordance with Section 3.12 below in Years 2038 and 2040 (see Table 11).

A total of 18 survey points are to be established within, and adjacent to the 26.5 ha offset site, including: 8 within this 16.5ha Brucknell alternative offset site, and 5 within the approved 10ha Harewood alternative offset site; and, 5 additional monitoring sites associated with the broader property that will support monitoring of the Brucknell and Harewood alternate offset sites (see Appendix 6.4 for targeted survey location details). Infra-red cameras will be installed at each of the 18 survey locations during autumn in the intervals defined above.

The cameras will be maintained in the field for a minimum of 30 days during autumn (specific start date dependent upon recent seasonal conditions), with cameras installed at set monitoring locations as identified in Appendix 6.4 mapping. The monitoring program is to be conducted in designated years from inception of this EPBC Offset Management Plan.

At each site, an infra-red remote camera baited with peanut butter, oats, golden syrup and truffle oil will be placed for the duration of the survey (specific details provided below). The camera location will be mapped, permanently marked, the bearing of the camera direction recorded (south-facing recommended), and photographs taken such that the precise setup can be replicated in future monitoring events. Monitoring locations were selected based on habitat suitability, presence of active diggings, and with consideration for camera security.

At the end of the 30-day monitoring period, cameras will be retrieved and photographs downloaded for each site for analysis of SBB and feral animal records.

Setup and camera settings will be as follows:

- Cameras to be baited with 5:1:2 mixture of rolled oats, golden syrup and peanut butter, plus approx. 20 ml/kg of truffle oil, secured in an inaccessible bait holder.
- Camera to be approx. 50 cm above ground level.
- Bait to be set up 1-3 m in front of each camera. Trim vegetation between the camera and bait, and around bait, if required.
- Camera sensitivity: high.
- Quiet period: 15 seconds.
- 5 photographs per trigger.

As a direct population estimate is not possible using infra-red camera surveys, the primary focus of surveys will be to detect the presence of bandicoots across the offset site and population trends as a useful surrogate for abundance estimates and long-term progress monitoring.

A decline of the SBB population of greater than 20% against the baseline data, or an increase of the pest animal populations (cat, fox, deer) of greater than 20% against the benchmark, will trigger a contingency response to determine whether there is an issue, what it might be and what options are available to correct the situation, and implement the approved corrective actions as practicable. A decline of the SBB population of greater than 40% against the baseline data, or an increase of the pest animal populations of greater than 40% against the benchmark, will trigger a review of the management actions being implemented within the offset site and surrounding habitat areas and will also trigger implementation of corrective management actions in accordance with adaptive management prescriptions. These triggers and corrective actions are set out in Table 9 below.

It should be noted that a decline in the number of cameras on which bandicoots are detected does not necessarily reflect a decline in the overall population attributable to local land management actions.

The Landowner will respond to the results of the monitoring program. Details of corrective actions and responsive / adaptive management processes are provided below in Sections 3.8 and 3.13 respectively.

The survey data will be presented to Trust for Nature / VIDA Roads in a format that will clearly demonstrate the ongoing presence (or absence) of bandicoots at the offset site, and trends in the population against the benchmark and aims of the OMP. Similarly, deer, fox and cat numbers will be presented in the same format to facilitate an efficient reading of feral animal population trends.

Monitoring reports will provide the results of all surveys to facilitate long-term trends over the period of the EPBC Offset Management Plan. At years 3, 6 and 9 an in-depth audit of monitoring results and trends will be undertaken by VIDA Roads in coordination with the landowner (see Section 3.10) which will inform the need for adaptive management and/or corrective actions and any required modification of the monitoring program to detect trends (see also Section 3.13 below).

3.7.4 SOUTHERN BROWN BANDICOOT HABITAT ASSESSMENT

Habitat assessments will focus on monitoring of vegetation cover and density within the 0.2 – 1 m range to ensure that suitable habitat is available for SBB. The EPBC Offset Management Plan objective is to maintain 50-80% average understorey foliage cover in areas where medium shrubs are currently present (i.e., as indicated during baseline surveys), and to maintain weed-free sites where the groundstorey is more open and dominated by graminoids. These ecotonal habitat types will meet the ecological requirements for SBB breeding, foraging and movement.

Habitat assessments and monitoring efforts will also focus on areas where weed management, natural regeneration, and revegetation have occurred to determine if supplementary planting is required. If there is no natural succession of EVC-appropriate flora, then selective planting, using tube-stock propagated from local provenance (within 50 km of the site) indigenous seed sources, will be implemented as part of the responsive / adaptive management program (see Section 3.13 for details).

In addition to reviewing habitat throughout the offset site, the quality of the SBB habitat will be assessed once per monitoring season (autumn) at the same 18 locations used for SBB camera monitoring. Habitat will be assessed within a 10m radius (approx. 315 m^2) of the monitoring point. A standardised proforma will be used for each assessment and photographs taken at each site.

More broadly, where relevant, any additional works required to improve habitat quality (particularly within areas identified for weed control) across the offset site will be identified and recorded in a log for future management works.

The landowner will engage a suitably qualified ecologist to conduct habitat assessments. The habitat assessment proforma will include scoring of:

- Ground layer density and extent (vegetation at the 0.2-1m height range).
- Shelter availability (i.e. percentage of low shrubs, scrub piles, logs etc within the 0.2 – 1 m range).
- Plant species and structural canopy diversity (i.e. number of species and percentage of projected foliage cover within each lifeform).

The above habitat assessment features are based on published habitat preferences of the species (as summarised in the species' DCCEEW profile) and local studies (Maclagan, Coates & Ritchie 2018; Masters, Taylor & Maclagan 2019; Maclagan 2019).

The results of the habitat assessments will be used to inform variation / adaptation of the monitoring program in the event that implementing the plan does not achieve the plan's objectives for SBB. Under such circumstances, additional monitoring sites will be established, with regard for processes set out in the responsive / adaptive management procedures in Section 3.13 below.

Baseline monitoring of SBB habitat conditions has been completed and is provided in Tables 7 and 8, with descriptions of habitat condition provided in Section 3.2. Habitat condition will be assessed at Years 1, 2, 3, 5 and 10 and in 2038 and 2040. Progress against objectives and performance targets (Tables 11 and 12) of the OMP as well as long-term trends will be made in a comparative analysis against Year 1 results in addition to baseline conditions.

3.7.5 PHOTOPOINTS

Photo-points will be established at locations that are representative of the management area of habitat for SBB; these photo-points will be co-located at the infra-red camera survey stations (x 18) to facilitate the monitoring program. Photographs taken from these points will be representative of the annual habitat conditions and will provide a visual and temporal assessment of the effectiveness of management actions (see also Appendix 6.4 mapping for the location of the photo-points).

Photographs are to be taken annually during autumn and will use as many of the same general direction, trajectory and camera settings as is practicable. The location of photo-points is to be permanently marked on site using painted star-pickets (or equivalent), at locations as shown in the GIS aerial mapping provided in Appendix 6.4.

Photographs and annual monitoring reports will be submitted at least two months prior to the anniversary date of the execution of the covenant to allow time for compliance to be assessed before the anniversary date.

3.8 MANAGEMENT AND CORRECTIVE ACTIONS

This EPBC Offset Management Plan outlines management actions to improve the quality of SBB habitat at the offset site, thereby delivering a conservation gain for this species. The monitoring program will identify any instances where management actions are failing, or if SBB are no longer present on site, or have declined in frequency when compared with baseline surveys. Any failings in the implementation or delivery of these management targets will be addressed promptly to achieve the plan's ecological goals.

Failings would include the following events or circumstances:

- Significant (greater than 10% of baseline) increase in high threat environmental weed cover;
- Significant (greater than 100m^2 area) damage to, and loss of, SBB habitat associated with unauthorised pedestrian and/or vehicular access to the offset site;
- Failure to maintain the presence of SBB on site, indicated by a decline of 40% in average bandicoot detections identified per (infrared camera) survey day when compared with baseline surveys; and/or
- Significant increase (refer to Table 9 below for thresholds) in the feral predator (fox or cat) or grazer (deer, goat or rabbit) populations on site.

The following management and corrective actions will be implemented by the landowner (except where otherwise indicated), in consultation with VIDA Roads, in the event that failings are identified in the implementation of this EPBC Offset Management Plan or the effectiveness of the management targets.

Table 9. Corrective management actions

OMP MANAGEMENT TARGETS	MONITORING FREQUENCY	TRIGGER	CORRECTIVE ACTION
No unauthorised pedestrian or vehicular access	During site walk-overs (quarterly)	Fences or gates damaged	Repair fences and gates; increase signage.
		New tracks / clearings	Fence off access and revegetate disturbed areas; monitor for re-opening and treat promptly.
		Rubbish dumping	Remove rubbish promptly from site; monitor for re-offending and treat promptly; report dumping to Victoria Police.
		Firewood cutting	Fence off access points; monitor for re-offending and report trespassing to Victoria Police.
No Ragwort invading SBB foraging habitat areas	During site walk-overs (quarterly)	Ragwort cover is not continuously decreasing	Increase the weed control program; ensure Ragwort cover and density is continuously reduced to a neglig ble level. Implement a transect weed control program using a GPS to track coverage across the offset site with follow-up controls at all treatment sites as necessary.
No Spear Thistle invading SBB foraging habitat areas	During site walk-overs (quarterly)	Spear Thistle cover is not continuously decreasing	Increase the weed control program; ensure Spear Thistle is reduced to a negligible level. Implement a transect weed control program using a GPS to track coverage across the offset site with follow-up controls at all treatment sites as necessary.

OMP MANAGEMENT TARGETS	MONITORING FREQUENCY	TRIGGER	CORRECTIVE ACTION
No high threat weeds established	During site walk-overs (quarterly)	High threat weeds, other than Ragwort and Spear Thistle, are detected	Increase the weed control program; ensure that no new species establish, reduce cover and spread of Ragwort, and reduce Spear Thistle cover to negligible level.
Deer control	Infrared camera data analysis (Year 1, 2, 3, 5 and 10 from registration of conservation covenant)	20% increase in deer population compared to baseline numbers	Report findings to DCCEEW. Investigate cause of increase, identify plausible corrective actions and report to DCCEEW.
		40% increase in deer population compared to baseline numbers	Report findings to DCCEEW. Engage professional shooters; ensure the deer population is eradicated.
Fox control		20% increase in fox population compared to baseline numbers	Report findings to DCCEEW. Investigate cause of increase.
		40% increase in fox population to baseline numbers	Report findings to DCCEEW. Engage professional shooters; initiate baiting program; ensure the fox population is eradicated onsite and immediately adjacent.
Cat control		20% increase in cat population compared to baseline numbers	Report findings to DCCEEW. Investigate cause of increase.
		40% increase in cat population compared to baseline numbers	Report findings to DCCEEW. Engage professional shooters; initiate trapping program; ensure the cat population is eradicated onsite and immediately adjacent.
Bandicoot population	Infrared camera data analysis (Year 1, 2, 3, 5 and 10 from registration of conservation covenant)	20% decrease in SBB population compared to baseline population	Report findings to DCCEEW. Identify likely causes of population decline; engage with local expert ecologists.
		40% decrease in SBB population compared to baseline population	Report findings to DCCEEW. Initiate responsive / adaptive management actions as required to reverse population declines (see also Section 3.9 and 3.13 for details); ensure the SBB population is maintained or improved.
SBB habitat	Year 1, 2, 3, 5 and 10 from registration of conservation covenant)	Projected foliage cover <50% in 0.2-1 m height range	Report findings to VIDA Roads and TfN. Identify likely causes of habitat condition decline, engage with local expert ecologists. Report

OMP MANAGEMENT TARGETS	MONITORING FREQUENCY	TRIGGER	CORRECTIVE ACTION
			to DCCEEW as committed to in this OMP (see Section 3.9). Prepare a habitat restoration plan to achieve greater than 50% cover a 0.2 – 1 m height range.

Whilst it is not possible to foresee all eventualities, it is expected that the monitoring program will identify ecological benefits within the offset site, and the infra-red camera surveys will identify positive trends in SBB occurrence and feral animal populations. Any significant decline in ecological values or the SBB population will be reported promptly to Trust for Nature and VIDA Roads for discussion with DCCEEW. After investigation, if necessary, responsive / adaptive management actions will be initiated to improve habitat quality and/or the long-term viability of SBB on site.

3.9 ANNUAL REPORTING

Annual reports to be prepared by the Landowner will detail progress made against the commitments set out in this plan. Annual reports will therefore provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the management commitments for each management action and plan objectives, targets and triggers. VIDA Roads will have oversight of monitoring and ensure that annual reports are submitted by the landowner and provided to Trust for Nature and DCCEEW as committed to under this plan.

The annual monitoring reports will include (but not be limited to):

- Results of the bandicoot camera monitoring programs (for Years 1, 2, 3, 5 and 10 from registration of conservation covenant, and at years 2038 and 2040 during the maintenance phase) as per Sections 3.7.3 (VIDA Roads will engage ecologists to undertake the monitoring with reports provided to the landholder);
- Results of pest animal monitoring (for Years 1, 2, 3, 5 and 10 from registration of conservation covenant, and at years 2038 and 2040 during the maintenance phase) as per Section 3.4;
- Results of bandicoot habitat condition assessments (for Years 1, 2, 3 ,5 and 10 from registration of conservation covenant, and at years 2038 and 2040 during the maintenance phase) as per Section 3.7.4;
- Observations of quarterly site walkovers (e.g., reviewing fencing, weed infestations, natural regeneration etc.);
- Photographs from annual photo-points (see Section 3.7.5);
- Management works completed within the EPBC offset site including the results of:
    - Weed control programs (location of control program, area / individuals treated, species treated) as per Section 3.3,
    - Feral / pest animal control (as available),
    - Fencing / signage works (as necessary),
    - Revegetation (as necessary);

- Details of any events or impacts that have affected the offset site such as water pollution events, changes to natural hydrology and water flow regimes, illegal access by pedestrians or vehicles and any associated impacts, or any events that have had a material impact on the SBB habitat quality and extent with potential long-term implications for population on site;
- Clear indication, using the targets detailed in this plan, of whether or not offset management actions are resulting in SBB habitat improvement gains and progress towards the OMP objectives.

These activities will be implemented by the landholder with the exception of bandicoot monitoring which will be managed by VIDA Roads and involve the engagement of a suitably qualified and independent ecologist. Data will be presented in a graph and table format comparing baseline survey results against all of the surveys. Trends in the frequency of detection of SBB and results of other assessments (e.g., habitat condition assessments, weed control etc.) analysed to determine if a review of monitoring and maintenance activities is required and corrective actions need to be implemented.

The results of the monitoring programs will be reported to Trust for Nature and VIDA Roads by the Landowner in an annual report. Any major breaches of the management programs and/or impacts on the target species will be reported immediately upon identification to Trust for Nature and VIDA Roads by the Landowner and/or their appointed contractors. VIDA Roads will manage reporting obligations to DCCEEW and any notification as per the conditions of approval including any incidents as per Condition 12 of the approval and any other commitments under this plan.

VIDA Roads will submit annual monitoring reports to DCCEEW and publish them on the relevant Victorian government website e.g. https://bigbuild.vic.gov.au. Monitoring reports will inform Annual Compliance Reports in accordance with Condition 11 of approval EPBC 2019/8487.

The following sections (Sections 3.10 and 3.11) define audit and review obligations in accordance with definitions contained in the 'Environmental Management Plan Guidelines' (DCCEEW 2024).

3.10 AUDIT

Audits are the responsibility of the approval holder and will be conducted by an independent ecologist.

Audits will assess the progress of the implementation and effectiveness of the OMP. This includes assessments against objectives and targets committed to under this OMP, as well as after any major incident.

Audits will be undertaken at Years 3, 6 and 9 of this OMP. Two further audits will also be conducted by at Years 2038 and in 2040 (at the end of approval EPBC 2019/8487) during the EPBC Offset Management Plan maintenance phase (see also Section 3.12).

The audits will consider (at minimum) the following:

- Update of progress of the delivery of this EPBC Offset Management Plan including progress against the objectives of the plan, committed management actions, performance targets, and corrective actions (if any);
- Reporting and monitoring results, site inspections, trends, environmental incidents, new and emerging threats, and new information (research) on SBB ecology related to site-management;

- Description of events (if any) that led to failings of delivery of this EPBC Offset Management Plan;
- Reasons for any failures of management actions; and
- Proposed adaptive management actions (see Section 3.13) that will be undertaken to correct the failure, including when, and for how long, corrective actions are to be implemented (month or season), and by whom (Landowner, Trust for Nature and/or VIDA Roads); and
- any new research related to site management or SBB.

Provision for additional audits of this EPBC Offset Management Plan are provided in the event of the following (e.g. schedule of triggers):

- A major incident that has a significant impact on the habitat values and ecological conditions on site, and that requires considerable levels of intervention to meet the outcomes and objectives of the OMP;
- Results of consecutive annual reporting or audits reveal a trend indicating a failure to achieve OMP objectives, after significant events such as bushfire, or any indicative OMP failing such as outlined under Sections 3.10 and 3.11;
- When there is a need to improve ecological values in an area of environmental impact, such as unauthorised access or clearing of native vegetation and habitat; and/or
- The Landowner / Trust for Nature identifies that beneficial, permanent variations are required for the management of the offset site in response to changes that arise from new findings, on-ground observations and/or updated scientific approaches to species management, and which will result in improved ecological outcomes at this site.

Audits will make recommendations on corrective and adaptive management actions required to be implemented to ensure objectives and targets of this OMP are achieved. Findings and recommendations will be reviewed within 3 months of each audit and final determinations made on the adaptive management strategies required to be implemented within the provisions of the existing plan. Adaptive management approaches (if required) are developed in consultation with the Landowner and TfN, and agreed upon by the Landowner.

Findings of audits will inform whether a review of the plan is required, in consultation with the landowner, Trust for Nature, and DCCEEW (see Section 3.11). This may include a revision, change, or introduction of new management actions.

3.10.1 INDEPENDENT AUDIT

An independent audit will be undertaken by the approval holder when required in accordance with Conditions 14, 15 and 16 of the approval. The approval holder will engage a suitably qualified independent auditor to perform the audit and provide their details and draft audit criteria to the Department for approval prior to commencing the audit. The independent audit report will be submitted to the Department within the timeframe specified in the criteria. Audit reports will also be published in the VIDA website as required under relevant conditions.

3.11 PLAN REVIEW

In the event there are no major disruptions in the implementation of this offset management plan, it is anticipated that the current plan will be appropriate for implementation over the 10-year management period in its current form.

However, should results of an audit highlight a substantial lack of progress towards targets, or a significant failing of the implementation of the Plan (see event triggers below), this will trigger

the following: a review and revision of management actions; implementation of corrective actions; and/or a change to the EPBC Offset Management Plan if required.

Specific events that may also trigger a review of this management plan, in consultation with DCCEEW, include the following:

- Bushfire, habitat and/or water contamination due to chemical spills;
- Decline of more than 40% in frequency of detection of bandicoots from baseline data for more than 3 years in a row (detectable only at Year 3) or by more than 40% from baseline data when compared with Year 5 or Year 10 results;
- Increase of more than 40% in frequency of detection of feral animal species from baseline data for more than 3 years in a row (detectable only at Year 3) or by more than 40% from baseline data when compared with Year 5 or Year 10 results;
- Major fence failures and/or stock impacts within the offset site;
- Events that are significant enough to warrant an adaptive management approach within the offset areas (e.g. ongoing drought).

In the event of any of the above events occurring, or other significant failures or progress towards performance targets and the Plan's objectives by Years 3, 6 or 9, the Landowner will:

- Promptly notify Trust for Nature and VIDA Roads;
- Develop proposed corrective actions in consultation with Trust for Nature and VIDA Roads to address failings in accordance within an Adaptive Management approach (see Section 3.13); and
- Where required, propose changes to the EPBC Offset Management Plan in consultation with VIDA Roads and other stakeholders.

A review of this OMP may also be required based on the findings or recommendations of audits, major environmental incident, or results of consecutive years of monitoring or landowner report findings.

The need for a review will be determined by the approval holder in consultation with the landowner, Trust for Nature, and DCCEEW. Reviews will be undertaken by the approval holder in consultation with the landowner, Trust for Nature, and DCCEEW.

The review will consider landowner reports, results of monitoring, findings and recommendations of audits, and any directed corrective actions. A review will make recommendations on what changes (if any) are required to this Offset Management Plan to meet the objectives and defined targets committed to in the plan, or to correct for unforeseen errors, environmental incidents, challenges, or new science. A review must contain sufficient evidence and detail to clearly assess the implementation progress and effectiveness of this Plan. Adaptive management approaches (if required) are developed in consultation with the Landowner and TfN, and agreed upon by the Landowner.

Reasons for varying the OMP will be documented and a revised plan submitted to DCCEEW for approval prior to implementation.

3.12 MAINTENANCE PHASE

After Year 10 of the OMP implementation to the end of the approval in 2040, pending achievement of the OMP objectives, site activities will move into a maintenance phase. Maintenance of site conditions will be monitored by quarterly site walkthroughs including visual inspections for weeds, pest animals, fences and any evidence of illegal property access. Site conditions will be formally reviewed in 2038 and 2040 as part of the audit process (Section 3.10). Reviews will be informed by one round of monitoring at 2038 and 2040 to assess whether

the site conditions have been maintained at levels achieved at Year 10 and that have met the OMP objectives (as endorsed by Trust for Nature and DCCEEW). Monitoring will include the following activities as per methods described in this OMP for Years 1 to 10 (Section 3.7):

- Monitoring for bandicoots;
- Monitoring of pest animals and weeds; and
- Habitat assessments.

Monitoring and review in 2038 and 2040 will assess all management commitments contained in this OMP and performance targets defined in Tables 11 and 12 are met and maintained. Informed by monitoring, a review will occur in years 2038 and 2040 to report on progress of maintenance with the final review informing the end-of-approval reporting for provision to DCCEEW.

Bandicoot camera monitoring and reviews at years 2038 and 2040 will be undertaken by an ecologist engaged by VIDA Roads. All other monitoring will be undertaken by the landowner (as per Table 11), reviewed and confirmed by an independent assessment by VIDA Roads. Reports with be reviewed by VIDA Roads and submitted to DCCEEW (by VIDA Roads).

3.13 ADAPTIVE MANAGEMENT

The monitoring program is required to identify any significant failings in the implementation or outcomes of the EPBC Offset Management Plan, and any new or emerging threats that require an immediate and adaptive response.

The intent of a responsive, adaptive management action provision in this EPBC Offset Management Plan is to provide a mechanism for the Landowner and VIDA Roads that facilitates considered and scientifically-based variations to management of the EPBC offset site area. This flexible approach can be beneficial in that it enables a 'change of plan' if the frequency of detection of SBB continues to decline over a 3 year period, and/or habitat quality for the species is not improving on site, as required under the plan. Variations of this nature must be developed in consultation with ecologists and VIDA Roads, and where appropriate, other government Agencies with expertise in the management of threatened species and habitat.

Adaptive management is a mechanism for 'continuous improvement' and will only encompass actions allowed within the scope of the plan without variations. This will include flexible timing for herbicide application (based on weather) and seizing opportunities to synchronise delivery of different items for efficiency, and learnings from the monitoring findings. Any significant departures from the actions defined in this OMP will require formal approval from the Minister.

The approval holder may apply to the Minister for a variation of this EPBC Offset Management Plan by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a revised management plan then, from the date specified, the approval holder must implement the Revised OMP in place of this EPBC OMP.

3.14 TIMING

This offset management plan defines actions that will be implemented over a 10-year management period, commencing from the date of conservation covenant registration, and during a subsequent 'maintenance phase' to the end of the approval in 2040.

Where the plan refers to an action occurring in 2038 (e.g. monitoring and audits), this may be varied to a suitable year between the end of the 10-year management period and the end of the approval in 2040, in consultation with DCCEEW. This must apply consistently across all actions committed to occur in 2038 under this plan and ensure that meaningful information can

be collected by monitoring and the audit process to inform an appraisal of the OMP and management action effectiveness.

4. PERFORMANCE TARGETS

Table 10 outlines the performance targets for the actions identified within this EPBC Offset Management Plan and the year(s) that they will be achieved.

The first ten years will be an intensive management period to achieve the plan's habitat quality and SBB population criteria, before moving into a care and maintenance phase.

The performance targets for Year 10 will be maintained over the 'maintenance phase' (Table 11) for the life of the approval and will be appraised in year 2038 and 2040.

Table 10. Ten-year performance targets

MANAGEMENT ACTION	RESPONSIBILITY	FREQUENCY	PERFORMANCE TARGET	YEAR TO BE ACHIEVED
Security Agreement	Landowner & Trust for Nature With input from broker, Trust for Nature, and VIDA Roads	Once	Trust for Nature conservation covenant placed on Title	Process commenced with Trust for Nature upon approval of the OMP by DCCEEW. Completed at registration of covenant.
Habitat condition monitoring	Landowner	Year 1, 2, 3, 5 and 10 from registration of conservation covenant	Annual report to Trust for Nature & VIDA Roads; VIDA Roads to publish online and provide to DCCEEW as per Section 3.9	Annually within 3-months of anniversary of placement of covenant on Title
Fencing	Landowner	Responsive	Fencing upgraded promptly in response to stock accessing the offset site	Promptly; if/as required
Access management and signage	Landowner	Responsive	Gates, fencing and/or signage installed to prohibit / manage access	Promptly; if/as required
Ragwort & Spear Thistle	Landowner	Twice annually	All Ragwort and Spear Thistle is treated and continuously targeted to progressively reduce cover to <1% by Year 10	On-going
Weed control	Landowner	Annual	No establishment of new herbaceous or woody weed infestations	First year; on-going
Pest control	Landowner	Annual	Feral animal (predators and grazer) population is functionally eradicated	On-going
Bandicoot Monitoring	VIDA Roads	Years 1, 2, 3, 5 and 10 from registration of conservation covenant*	Monitoring is conducted in accordance with this plan. The SBB population is maintained or shows a moderate increase	Years 1, 2, 3, 5 and 10 from registration of conservation covenant
Audits	VIDA Roads	Years 3, 6, 9 from registration of conservation covenant*	In-depth audit of monitoring trends and management actions as per Section 3.10	Years 3, 6, 9 from registration of conservation covenant

MANAGEMENT ACTION	RESPONSIBILITY	FREQUENCY	PERFORMANCE TARGET	YEAR TO BE ACHIEVED
Reporting	Landowner	Annually	As per Section 3.9 Annual reports address commitments in this plan and related conditions of the EPBC Act approval	Years 1 to 10
Plan Review	VIDA Roads	A required (see Section 3.11)	Completed if required (see Section 3.11)	As required.
Independent audit	VIDA Roads and their appointed contractor (in consultation with the Landowner)	Responsive	An independent audit is conducted upon request by the Minister in accordance with Conditions 14, 15 and 16 of the approval (EPBC 2019/8487)	As requested

*Further monitoring and audits will occur during the 'maintenance phase' in 2038 and 2040.

4.1 MANAGEMENT PLAN

Table 11 provides a summary of the management actions, responsible personnel and timing of each action to be implemented over the period of effective approval. Table 12 provides a risk assessment of failure of the management actions, with contingencies provided to ensure consequences are minimal.

Table 11. Management actions, responsibility and timing.

ACTION	MANAGEMENT ACTION	DESCRIPTION	RESPONSIBILITY	TIMING OF ACTION	PERFORMANCE TARGET
INITIAL 10-YEAR MANAGEMENT PERIOD (INTENSIVE MANAGEMENT)					
Security agreement	Offset covenant lodged on Title	Ensure offset secured via Trust for Nature conservation covenant and that agreement is signed by Landowner and lodged on Title.	Landowner Conservation covenant process to be administered by Trust for Nature with input from landowner engaged offset broker and VIDA Roads	Process commenced with Trust for Nature upon approval of OMP by DCCEEW. Completed at registration of covenant.	Ensure Trust for Nature offset covenant secured on Title.
Fencing	Fencing upgrades	Stock exclusion from offset area.	Landowner	Within 3 months of commencement of the agreement	No stock within the offset area.
Monitoring of fences	Fencing installation	No threats to the offset site currently exist, if a new or emerging threat arises erect a fence immediately to ensure that the new threats are controlled.	Landowner	Immediately on identification of new or emerging threat	Construct and/or upgrade fencing as required to control new and/or emerging stock grazing threats.
Access and signage	Installation of gates, fences and signage as required to prohibit illegal access	Ensure there is no illegal trespassing by the public.	Landowner	Within first year and as required in response to incursions	No illegal access; no 4WD impacts within offset area.

ACTION	MANAGEMENT ACTION	DESCRIPTION	RESPONSIBILITY	TIMING OF ACTION	PERFORMANCE TARGET
Weed control	Control of Ragwort and Spear Thistle	Conduct annual control of Ragwort and Spear Thistle during the spring period. Monitor for any re-sprouting or seedlings and control (either spot spray or hand pull).	Landowner	Ongoing	Continuously reduce the extent and density of Ragwort and reduce Spear Thistle to neglig ble cover within the offset area (<1% cover by Year 10); ensure there is no further spread of either species. Map treatment areas using a GPS and monitor for re-emergence; re-treat promptly as required. Minimise off-target damage; avoid impacts to remnant vegetation and habitat.
Weed control	Monitoring	Monitor for and control all woody weeds and herbaceous weeds in accordance with Section 3.3 of this OMP.	Landowner	Ongoing	No increase in cover of herbaceous weeds beyond baseline levels. Minimise off-target damage; avoid impacts to remnant vegetation and habitat. No establishment of new woody or herbaceous weed species.
Monitoring of SBB habitat	Habitat monitoring	Monitor SBB habitat at the camera monitoring locations on the alternative Brucknell site as per Section 3.7.4. Progress will be assessed against Year 1 results and baseline assessments.	Landowner	Ongoing	Maintain minimum of 50-80% average understorey foliage cover in areas where medium shrubs are present as per baseline survey. Maintain weed-free (i.e., negligible cover) sites where the groundstorey is more open and dominated by graminoids as per baseline survey.
Pest control	Fox and cat control	Monitor for and reduce the fox and cat numbers on site. Refer to Section 3.4 for a list of control methods and timing of actions.	Landowner	Ongoing	Fox and Cat are controlled onsite and immediately adjacent for functional eradication.
Pest control	Deer control	Monitor for and reduce the deer numbers on site. Refer to Section 3.4 for a list of control methods and timing of actions.	Landowner	Ongoing	Deer are controlled onsite and immediately adjacent for functional eradication.

ACTION	MANAGEMENT ACTION	DESCRIPTION	RESPONSIBILITY	TIMING OF ACTION	PERFORMANCE TARGET
Pest control	New pest control	Monitor for and control all new and emerging pest animals.	Landowner	Ongoing	Control numbers of any new and emerging pest animals.
Monitoring and reporting	Targeted SBB monitoring,	Conduct monitoring and reporting in accordance with Sections 3.7 and 3.9 of this OMP.	VIDA Roads	Years 1, 2, 3, 5 and 10 from registration of conservation covenant.	Monitoring of bandicoot population with review and analysis of trends (including frequency of detection). Bandicoot population is maintained or shows a moderate increase.
Reporting	Annual Reporting	Prepare and submit annual report. See Section 3.9	Landowner Review - Trust for Nature, VIDA Roads Submission to DCCEEW - VIDA Roads	Submit at least two months prior to agreement anniversary date.	As defined in Section 3.9 Annual report is signed, dated and submitted to Trust for Nature and VIDA Roads by the Landowner at least two months prior to the anniversary date of the covenant registration. Report provides enough detail in the form of written and supporting evidence that the completion of / progress against the commitments for the EPBC offset site area can be readily determined. Obligations of the Landowner are demonstrated to be met and the obligations form is read, signed, dated and submitted with the annual report. Progress and actions, as well as failings or any new and emerging threats, are submitted to Trust for Nature and VIDA Roads. VIDA Roads to provide updates via annual compliance reporting to DCCEEW. VIDA Roads to publish online and provide to DCCEEW within 3 months of the anniversary date of the conservation covenant registration as per Section 3.9.

ACTION	MANAGEMENT ACTION	DESCRIPTION	RESPONSIBILITY	TIMING OF ACTION	PERFORMANCE TARGET
Audit	Auditing	Undertake an audit and prepare a report. As defined in Section 3.10	VIDA Roads Landowner is respons ble for providing input into the audit process.	Years 3, 6 and 9 from registration of conservation covenant.	As defined in Section 3.10 Audit provides enough detail in the form of reporting and supporting evidence that the progress and efficacy of implementation of this Plan can be easily determined.
Independent audits	Independent audits	VIDA Roads to appoint an independent and experienced ecologist to undertake an audit of compliance with conditions as requested by the Minister.	VIDA Roads Landowner is respons ble for providing input into the audit process	As requested by the Minister	Independent audits are signed, dated and submitted to DCCEEW. The audit addresses audit criteria as approved by DCCEEW.

ACTION	MANAGEMENT ACTION	DESCRIPTION	RESPONSIBILITY	TIMING OF ACTION	PERFORMANCE TARGET
MAINTENANCE PHASE					
Maintenance phase monitoring and reporting	Targeted SBB and pest animals and weeds monitoring, and SBB habitat assessments.	Conduct monitoring in accordance with Section 3.7 and Table 11 (10-year management period) and reporting against all management commitments defined in this OMP and this table (Table 11). This includes monitoring of weeds, pests, bandicoot habitat, presence, and populations with review and analysis of trends (including frequency of bandicoot detections as per Section 3.7)	Landowner VIDA Roads (SBB Monitoring only)	Years 2038 and 2040	All targets defined in this OMP (Tables 11 and 12) met and maintained. Bandicoot population is maintained or increased. OMP has been implemented, and ecological gains are maintained.
Audits	Auditing	Undertake an audit and prepare a report. As defined in Section 3.10	VIDA Roads Landowner is respons ble for providing input into the audit process.	Years 2038 and 2040	As defined in Section 3.10 Audit provides enough detail in the form of reporting and supporting evidence that the progress and efficacy of implementation of this Plan can be easily determined.
Review	Review of OMP	Engage independent ecologist to conduct a review of EPBC Offset Management Plan progress.	VIDA Roads	Years 2038 and 2040.	Progress and actions, as well as failings or any new and emerging threats, are submitted to DCCEEW. Adaptive management approaches (if required) are developed in consultation with the Landowner and TfN, and agreed upon by the Landowner. EPBC Offset Management Plan updates and adaptive management is promptly implemented by the Landowner once endorsed. 2038 and 2040 reports will be provided to DCCEEW.

The following risk assessment is based on the Environmental Management Plan Guidelines (DCCEEW 2024), with the likelihood and consequence classifications as provided in Appendix 6.1. It focuses on the risks associated with management actions required to comply with conditions of the approval.

Table 12. Management actions, risk assessment.

ACTION	TRIGGER	RISK LEVEL	CONTINGENCY	RESIDUAL RISK
Security agreement	Offset covenant not lodged on Title	Likelihood: Unlikely Consequence: Minor	Liaise with TfN to ensure covenant is lodged on Title.	Low
Unauthorised stock access	Stock found on site; damage to understorey vegetation and habitat	Likelihood: Unlikely Consequence: Moderate	Remove stock and upgrade fencing as required to prevent re-incursion; facilitate natural recruitment of understorey vegetation and habitat.	Low
Unauthorised pedestrian and/or vehicle access	Vehicles found on site; damage to understorey vegetation and habitat	Likelihood: Unlikely Consequence: High	Upgrade fencing as required to prevent re-incursion; notify Victoria Police; facilitate natural recruitment of understorey vegetation and habitat.	Low
Monitoring of fences	Fences found in disrepair	Likelihood: Unlikely Consequence: High	Upgrade fencing as required to prevent unauthorised stock or vehicle access.	Low
SBB baseline habitat assessment	Baseline monitoring not completed	Likelihood: Unlikely Consequence: Minor	Baseline monitoring has been completed; see Table 7.	Low
Access and signage	Installation of gates, fences and signage as required to prohibit illegal access not completed.	Likelihood: Unlikely Consequence: Minor	Installation of gates, fences and signage as required to prohibit illegal access has been completed.	Low
Weed control	Ragwort and Spear Thistle not controlled on site; woody weeds are present on site.	Likelihood: Unlikely Consequence: High	Increase weed control efforts. Minimise off- target damage (avoid all native plants). Undertake control works for new and emerging weed/s as appropriate.	Low

ACTION	TRIGGER	RISK LEVEL	CONTINGENCY	RESIDUAL RISK
Pest control	Fox, cat or other feral predator species observed on site.	Likelihood: Poss ble Consequence: High	Engage licenced, experienced shooters to target individual animals for functional eradication.	Low
Pest control	Deer observed on site.	Likelihood: Likely Consequence: Moderate	Engage licenced, experienced shooters to conduct deer control program.	Low
Monitoring and reporting	Targeted SBB and pest animal monitoring, and SBB habitat assessments not completed.	Likelihood: Poss ble Consequence: Moderate	Conduct monitoring as required by the EPBC Offset Management Plan as soon as practicable.	Low
SBB population variations	Total number of SBB recorded on site drops in response to increased LNB population.	Likelihood: Likely Consequence: Moderate	Continue to implement OMP and maintain SBB habitat values on site.	Low
Reporting	Annual Landowner reports not completed.	Likelihood: Poss ble Consequence: Moderate	Landowner to submit reports as required to Trust for Nature as soon as practicable.	Low
Review	Review of this Plan not completed.	Likelihood: Poss ble Consequence: Moderate	Landowner to implement a review of the implementation and efficacy of this EPBC Offset Management Plan.	Low
Audits	Independent audits not completed.	Likelihood: Poss ble Consequence: Moderate	VIDA Roads to implement an independent audit of the implementation of the EPBC Offset Management Plan as required by the Minister.	Low

4.2 IN PERPETUITY MANAGEMENT

This EPBC Offset Management Plan outlines the management actions and targets to be achieved at the offset site to improve the quality of habitat for the SBB over the 10-year time period, and to be maintained for the balance of the EPBC Act approval.

After Year 10, the Landowner is required to continue to undertake management actions to retain the population of the SBB and the quality and extent of habitat attained for the species at the Ocean Grange offset site, in perpetuity. Table 13 identifies the in-perpetuity performance targets for the Ocean Grange offset site.

Table 13. Offset site performance target to be maintained in perpetuity

MANAGEMENT ACTION	RESPONSIBILITY	PERFORMANCE TARGET
Security agreement	Landowner and Trust for Nature	Offset covenant remains on Title
Habitat condition	Landowner	Maintained at improved condition/quality
Bandicoot population	Landowner	Maintenance, or modest improvement, of SBB population
SBB foraging habitat	Landowner	Maintained at improved condition / quality of SBB foraging habitat
Fencing	Landowner	Installed or upgraded if required
Access and signage	Landowner	Illegal access prohibited
Weed control	Landowner	Woody and herbaceous weeds controlled. Spear Thistle cover is reduced to neglig ble levels. Ragwort extent and density continues to decline.
Pest control	Landowner	Pest populations at less than baseline
Final reporting	VIDA Roads	Provide report to DCCEEW at end of EPBC Act approval period.
Monitoring (SBB population, pest animal population, SBB habitat)	VIDA Roads	Monitoring at Year 2038 and 2040

4.3 MANAGEMENT PLAN COSTS

The following table (Table 14) outlines the expected cost of implementation of this EPBC Offset Management Plan. Please note that these costings are based on current market rates for materials and contract work, with annual costs increasing at 3% per annum.

Table 14. Offset Management Plan costings

MANAGEMENT ACTION	RESPONSIBILITY	COSTING
Security agreement and stewardship (single payment)	Landowner and Trust for Nature	$40,000

MANAGEMENT ACTION	RESPONSIBILITY	COSTING
EPBC Offset Management Plan	Landowner	$400,000
Bandicoot monitoring	VIDA Roads	$150,000

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6. APPENDICES

6.1 RISK ASSESSMENT MATRIX

The following risk assessment matrix sets out the qualitative assessment methodology that has been applied to the environmental risks associated with this EPBC Offset Management Plan.

Likelihood

QUALITATIVE MEASURE OF LIKELIHOOD	HOW LIKELY IS IT THAT THIS EVENT/ISSUE WILL OCCUR AFTER CONTROL STRATEGIES HAVE BEEN PUT IN PLACE
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unl kely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances

Consequence

QUALITATIVE MEASURE OF CONNSEQUENCES	WHAT WILL BE THE CONSEQUENCE/RESULT IF THIS ISSUE DOES OCCUR RATING
Minor	Minor incident of environmental damage that can be reversed
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts
High	Substantial instances of environmental damage that could be reversed with intensive efforts
Major	Major loss of environmental amenity and real danger of continuing
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage

Residual risk

		CONSEQUENCE				
LIKELIHOOD		Minor	Moderate	High	Major	Critical
	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

6.2 CONDITIONS OF APPROVAL

Conditions of approval for Healesville - Koo Wee Rup Road Upgrade, Victoria (EPBC 2019/8487)

CONDITION	DETAIL OF CONDITION	RELEVANCE TO THIS PLAN	PLAN REFERENCE
1	The approval holder must not clear more than: a) 5.078 ha of Southern Brown Bandicoot habitat, and b) 4.238 ha of Growling Grass Frog habitat within the action area.	This Offset Management Plan addresses, in part, offset requirements (10ha) for the residual impact of 5.078 ha of Southern Brown Bandicoot habitat.	Section 1
2	Prior to the commencement of the action, to compensate for the loss of up to 5.078 ha of SBB habitat and 4.238 ha of Growling Grass Frog habitat, the approval holder must implement the offset management plan specific to each offset site and submit written evidence to the Department that it has commenced implementing the management plan for each offset site. The approval holder may discontinue implementing the relevant offset management plan for an offset site from the date an Alternative Offset Site (or sites) in respect of that offset site is approved by the Minister in accordance with condition 4A(a).	This Plan provides an Offset Management Plan for the alternative Brucknell Offset site (Ocean Grange) which was approved by the Department 22/12/2023. On 23/12/2021 the Department approved the Offset Management Plan for the alternative Harewood offset site.	Section 1 and Section 2.1
3	Within 24 months of the date of this approval, the approval holder must secure each offset site, submit to the Department written evidence that each offset site has been secured and supply shapefiles containing the offset attributes for each offset site.	This offset site will be secured in perpetuity with an on-Title conservation covenant. The process of putting security arrangements in place will commence once this OMP is accepted and approved by DCCEEW.	Section 1.3, 2.1 and Table 12
4	Within 24 months of the date of this approval, written evidence must be provided to the Department to demonstrate whether SBB is present on the Brucknell offset site.	A letter to the Department (15/12/2022) confirmed that SBB had not been found at the Brucknell site and as such an alternative offset site was required. The alternative offset site proposed is the Ocean Grange site (the current offset site). Written evidence has been provided to the Department demonstrating the presence of SBB at the alternative Brucknell Offset site (Ocean Grange). This is discussed in Section 3.7.2 of this Plan.	Section 1 and 3.7.2

CONDITION	DETAIL OF CONDITION	RELEVANCE TO THIS PLAN	PLAN REFERENCE
4A)	If the approval holder is not able to secure one or more offset site/s and/or the approval holder is not able to provide written evidence to demonstrate the presence of SBB at the Brucknell offset site within the timeframes required by conditions 3 or 4 respectively, the approval holder must: c) Identify an Alternative Offset Site (or sites) and specify how it would satisfy the principles of the Environmental Offsets Policy in relation to SBB habitat and/or Growling Grass Frog habitat (as applicable to the impacts that were to be offset by the offset site for which the offset management plan will no longer be implemented), and submit this to the Minister for approval no later than 27 months from the date on which the decision to approve this action was made; d) Submit an Offset Site Management Plan that meets the requirements of Appendix 3 in respect of the Alternative Offset Site (or sites) as well as shapefiles containing the offset attributes for the Alternative offset Site (or sites) and submit these to the Minister for approval, within 3 months of the date the Minister has approved an Alternative Offset Site (or sites) in accordance with condition 4A(a); e) Commence implementing the approved Offset Site Management Plan in respect of the Alternative Offset Site (or sites), and submit written evidence to the Department that it has commenced implementing the Offset Site Management Plan in respect of the Alternative Offset Sites (or sites) within 6 months of the date the Minister has approved an Alternative Offset Site (or sites) in accordance with condition 4A(a); and f) Secure the Alternative Offset Site (or sites), and submit to the Department written evidence that the Alternative Offset Site (or sites) have been secured by 30 September 2025.	The approval holder proposed the Ocean Grange ("Brucknell") offset site as an Alternative Offset Site to the Brucknell site. The Ocean Grange site satisfies the principles of the Environmental Offsets Policy in relation to SBB habitat as evidenced by the OAG and was approved by DCCEEW on the 22/12/2023. An OMP for the site was submitted for review and approval on 22/03/2024 in accordance with Condition 4A(b). This offset site will be secured in perpetuity with an on-Title conservation covenant. The process of putting security arrangements in place will commence once this OMP is accepted and approved by DCCEEW. **Note** - the OMP for Ocean Grange ("Harewood") Alternative Offset Site was accepted by DCCEEW and OMP approved on 27/09/2022.	Section 1
9	Preparation and publication of plans The approval holder must: a) Submit plans electronically to the Department; b) Publish each plan on the website within 20 business days of the date of this approval, unless otherwise agreed to in writing by the Minister; c) Exclude or redact sensitive ecological data from plans published on the	Once the Offset Management Plan for the alternative Brucknell Offset site (Ocean Grange) is approved, it will be submitted to the Department and published on the Victoria's Big Build website within 20 business days of the approval.	Table 12

CONDITION	DETAIL OF CONDITION	RELEVANCE TO THIS PLAN	PLAN REFERENCE
	website or provided to a member of the public; and d) Keep plans published on the website until the end date of this approval.		
10	The approval holder must ensure that any monitoring data (including any sensitive ecological data), surveys, maps, and other spatial metadata required under a plan, is prepared in accordance with the Departments *Guidelines for biological survey and mapped data* (2018) and submitted electronically to the Department in accordance with the requirements of the plan.	Monitoring data will be provided to the Department in general accordance with the Guidelines.	Section 3.2
12	Reporting non-compliance The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify: a) Any condition which is or may be in breach; b) A short description of the incident and/or non-compliance; and c) The location (including the co-ordinates), date, and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.	There is an ongoing obligation to report any failure to implement this OMP.	Sections 3.9, 3.10
14	Independent audit The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.	An independent audit could encompass this OMP if requested in writing by the Minister.	Section 3.10, Table 10 and Table 11
15	For each independent audit, the approval holder must: a) Provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; b) Only commence the independent audit once the audit criteria have been approved in writing by the Department; and c) Submit an audit report to the Department within the timeframe specified in the approved audit criteria.	To be implemented if requested in writing by the Minister.	Sections 3.10, Table 11 and Table 11

CONDITION	DETAIL OF CONDITION	RELEVANCE TO THIS PLAN	PLAN REFERENCE
17	Revision of management plans The approval holder may, at any time, apply to the Minister for a variation to a management plan required to be implemented under conditions 2 and 5, or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a revised management plan (RMP) then, from the date specified, the approval holder must implement the RMP in place of the previous management plan.	This OMP may require revision for several reasons, including as an outcome of a review or audit, or as requested or approved by DCCEEW.	Section 3.11

Condition 4(A) references Appendix 3 of the EPBC approval conditions (EPBC 2019/8487) in relation to the Offset Management Plan. Appendix 3 of the approval states that the Offset Management Plan must:

- Include detailed baseline information and achievable goals for habitat quality improvement demonstrating how the proposed offset(s) meet the requirements of the Environmental Offsets Policy;
- Specify the management and monitoring activities to be undertaken, including any management and monitoring targets to be met, at the offset site(s);
- Specify goal/s, timeframes and budget for implementation of management and monitoring activities;
- Specify how management and monitoring results will be reported to the Department and the public; and
- Specify management and monitoring triggers and corrective actions that will be implemented in the event that targets are not met.

Appendix 4 of the EPBC approval (EPBC 2019/8487) identifies the location of the accepted 'Alternative Offset Site' relevant to this Offset Management Plan 'Ocean Grange (Brucknell – 16.5ha)' along with an adjacent approved offset 'Ocean Grange (Harewood – 10ha)'.

6.3 FLORA RECORDED ON SITE

* = exotic species # = native species occurring outside of its natural range	Lifeforms (LF): CT – Canopy Tree, T – Tree, MS – Medium Shrub, SS - Small Shrub, PS – Prostrate Shrub, LH – Large Herb, MH - Medium Herb, SH – Small Herb, LTG – Large Tufted Graminoid, MTG – Medium Tufted Graminoid, LNG – Large Non-tufted Graminoid, TF – Tree fern,

SCIENTIFIC NAME	COMMON NAME	LIFEFORMS
Acacia longifolia	Sallow Wattle	T / MS
Acacia longifolia subsp. *longifolia*	Sallow Wattle	T / MS
Acacia longifolia subsp. *sophorae*	Sallow Wattle	T / MS / *
Acacia mearnsii	Black Wattle	T / MS
Acacia melanoxylon	Blackwood	T / MS
Acacia paradoxa	Hedge Wattle	MS
Acaena echinata	Sheep's Burr	SH
Acaena novae-zelandiae	Bidgee-widgee	MH / SH
Ammophila arenaria	Marram Grass	*
Austrostipa spp.	Spear Grass	MTG
Banksia integrifolia subsp. *integrifolia*	Coast Banksia	T / MS
Banksia serrata	Saw Banksia	T / MS
Billardiera scandens s.l.	Common Apple-berry	SC
Bursaria spinosa subsp. *spinosa*	Sweet Bursaria	MS / SS
Caladenia parva	Brown-clubbed Spider-orchid	MH
Cassinia aculeata subsp. *aculeata*	Common Cassinia	MS / SS
Cirsium vulgare	Spear Thistle	*
Cladium procerum	Leafy Twig-rush	MNG
Comesperma volubile	Love Creeper	SC
Coprosma quadrifida	Prickly Coprosma	MS / SS
Corybas incurvus	Slaty Helmet-orchid	MH / SH
Dianella longifolia s.l.	Pale Flax-lily	MTG

SCIENTIFIC NAME	COMMON NAME	LIFEFORMS
Dichondra repens	Kidney-weed	MH / SH
Distichlis distichophylla	Australian Salt-grass	MNG
Drosera spp.	Sundew	MH / SH
Eucalyptus tereticornis subsp. *mediana*	Gippsland Red-gum	IT
Eucalyptus viminalis subsp. *pryoriana*	Coast Manna-gum	IT
Ficinia nodosa	Knobby Club-sedge	MNG
Gahnia radula	Thatch Saw-sedge	MTG
Gahnia sieberiana	Red-fruit Saw-sedge	LTG / MTG
Goodenia radicans	Shiny Swamp-mat	MH / SH
Hypolaena fastigiata	Tassel Rope-rush	SC
Juncus spp.	Rush	MNG
Lemna disperma	Common Duckweed	SH
Lepidosperma laterale	Variable Sword-sedge	MTG
Lepidosperma spp.	Sword Sedge	MTG
Leptospermum continentale	Prickly Tea-tree	MS / SS
Leptospermum laevigatum	Coast Tea-tree	T / MS / SS
Leptospermum myrsinoides	Heath Tea-tree	T / MS / SS
Leucopogon parviflorus	Coast Beard-heath	MS / SS
Lobelia anceps	Angled Lobelia	SC
Lomandra longifolia	Spiny-headed Mat-rush	LTG / MTG
Melaleuca ericifolia	Swamp Paperbark	MS / SS
Microlaena stipoides var. *stipoides*	Weeping Grass	MNG
Myoporum insulare	Common Boobialla	MS / SS
Olearia lirata	Snowy Daisy-bush	MS / SS
Opuntia ficus-indica	Indian Fig	*
Oxalis perennans	Grassland Wood-sorrel	SH
Phragmites australis	Common Reed	MNG
Pimelea humilis	Common Rice-flower	MS / SS

SCIENTIFIC NAME	COMMON NAME	LIFEFORMS
Poa labillardierei var. *labillardierei*	Common Tussock-grass	MTG
Poa poiformis	Coast Tussock-grass	MTG
Pomaderris aspera	Hazel Pomaderris	MS
Reseda luteola	Weld	*
Pteridium esculentum subsp. *esculentum*	Austral Bracken	GF
Pterostylis spp.	Greenhood	MH / SH
Reseda luteola L.	Weld	*
Rhagodia candolleana subsp. candolleana	Seaberry Saltbush	MS / SS
Rytidosperma spp.	Wallaby Grass	MTG
Samolus repens var. *repens*	Creeping Brookweed	MH / SH
Sarcocornia quinqueflora	Beaded Glasswort	MH / SH
Senecio jacobaea	Ragwort	*
Senecio quadridentatus	Cotton Fireweed	LH / MH
Senecio spp.	Groundsel	LH / MH
Tetragonia spp.	Native Spinach	MS
Tetragonia tetragonioides	New Zealand Spinach	MS
Wahlenbergia gracilis	Sprawling Bluebell	MH / SH
Wahlenbergia stricta subsp. *stricta*	Tall Bluebell	MH / SH

6.4 MAPPING

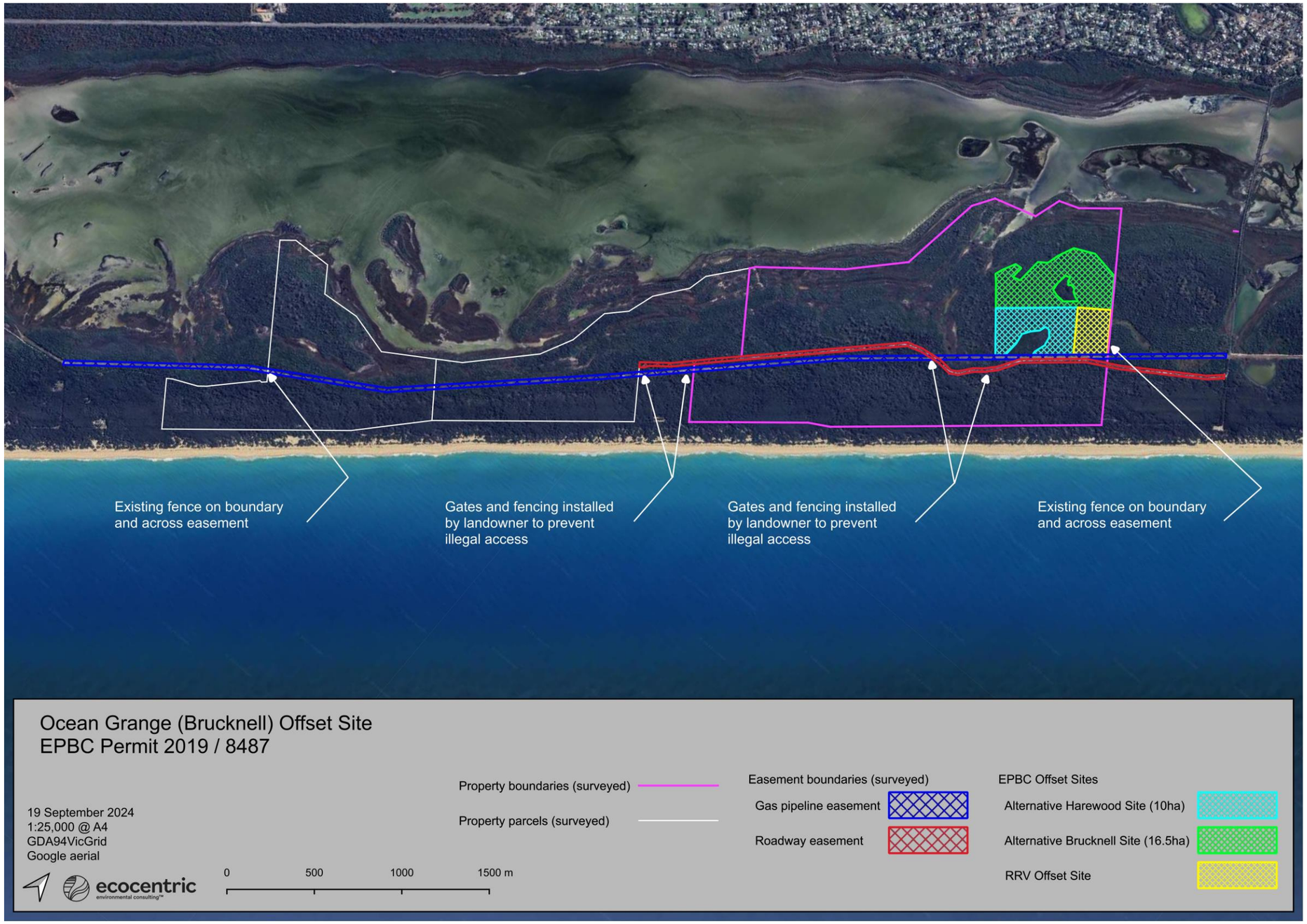
The following Maps were produced using Quantum GIS (QGIS 3.10) and were developed from various datasets including:

- Aerial photography available through DEECA NatureKit and Google Maps,
- VicMap layers (cadastre parcels, roads, waterways and contours),
- GPS based data collected in the field.

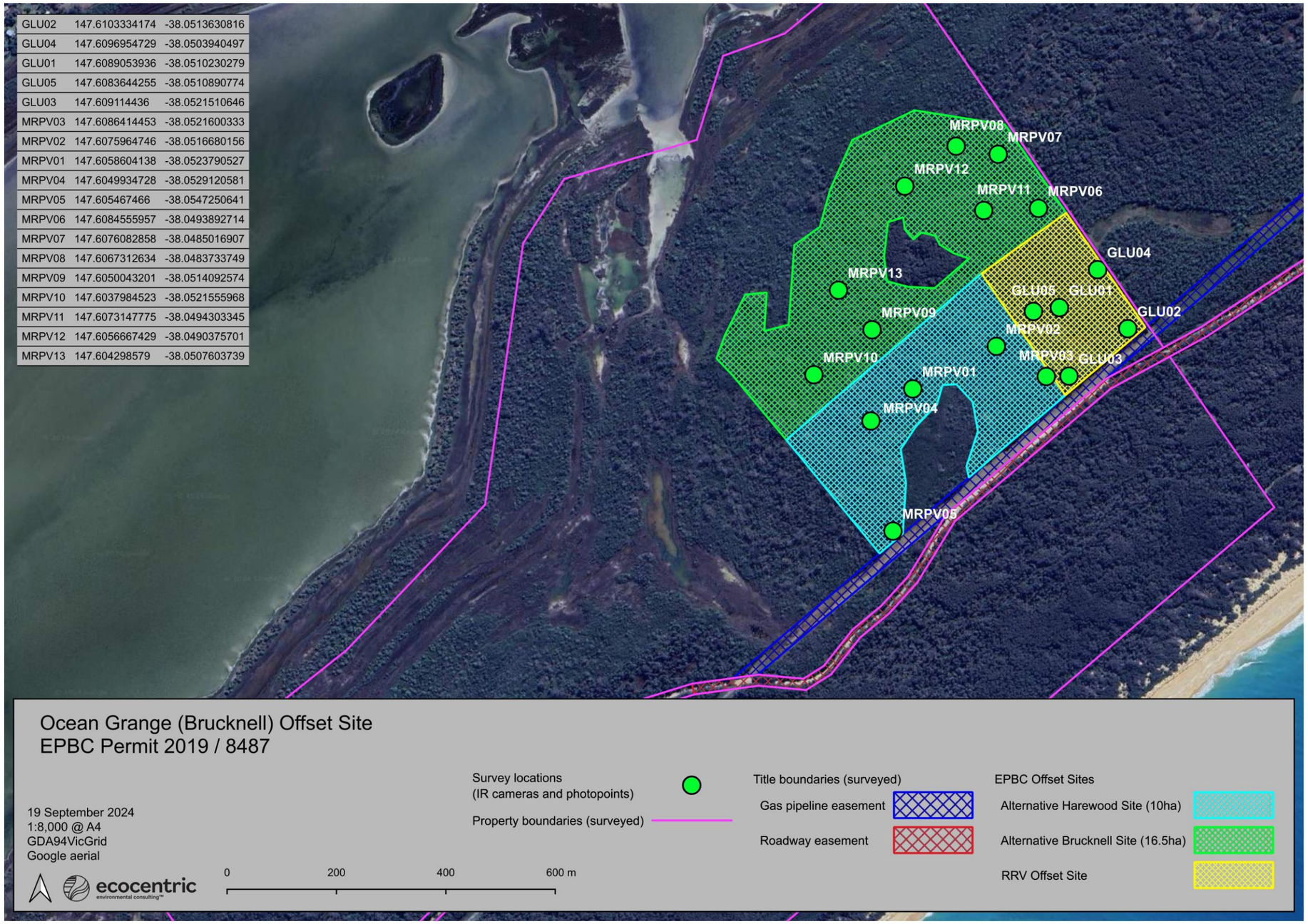
Permanent (for the life of this EPBC Offset Management Plan) infrared camera and photopoint locations are as tabled below.

Table 15. IR survey and photopoint locations

SURVEY POINT	Latitude	Longitude
GLU01	147.609695	-38.050394
GLU02	147.608905	-38.051023
GLU03	147.610333	-38.051363
GLU04	147.608364	-38.051089
GLU05	147.609114	-38.052151
MRPV01	147.60586	-38.052379
MRPV02	147.604993	-38.052912
MRPV03	147.605004	-38.051409
MRPV04	147.603798	-38.052156
MRPV05	147.604299	-38.05076
MRPV06	147.607315	-38.04943
MRPV07	147.605667	-38.049038
MRPV08	147.607596	-38.051668
MRPV09	147.608456	-38.049389
MRPV10	147.607608	-38.048502
MRPV11	147.606731	-38.048373
MRPV12	147.608641	-38.05216
MRPV13	147.605467	-38.054725


Existing fence on boundary and across easement
Gates and fencing installed by landowner to prevent illegal access
Gates and fencing installed by landowner to prevent illegal access
Existing fence on boundary and across easement
Ocean Grange (Brucknell) Offset Site
EPBC Permit 2019 / 8487
19 September 2024
1:25,000 @ A4
GDA94VicGrid
Google aerial
ecocentric
environmental consulting
0
500
1000
1500 m
Property boundaries (surveyed)
Property parcels (surveyed)
Easement boundaries (surveyed)
Gas pipeline easement
Roadway easement
EPBC Offset Sites
Alternative Harewood Site (10ha)
Alternative Brucknell Site (16.5ha)
RRV Offset Site


Ocean Grange (Brucknell) Offset Site
EPBC Permit 2019 / 8487
Property boundaries (surveyed)
Easement boundaries (surveyed)
Gas pipeline easement
Roadway easement
EPBC Offset Sites
Alternative Harewood Site (10ha)
Alternative Brucknell Site (16.5ha)
RRV Offset Site
19 September 2024
1:20,000 @ A4
GDA94VicGrid
Google aerial
ecocentric
environmental consulting™
0
500
1000
1500 m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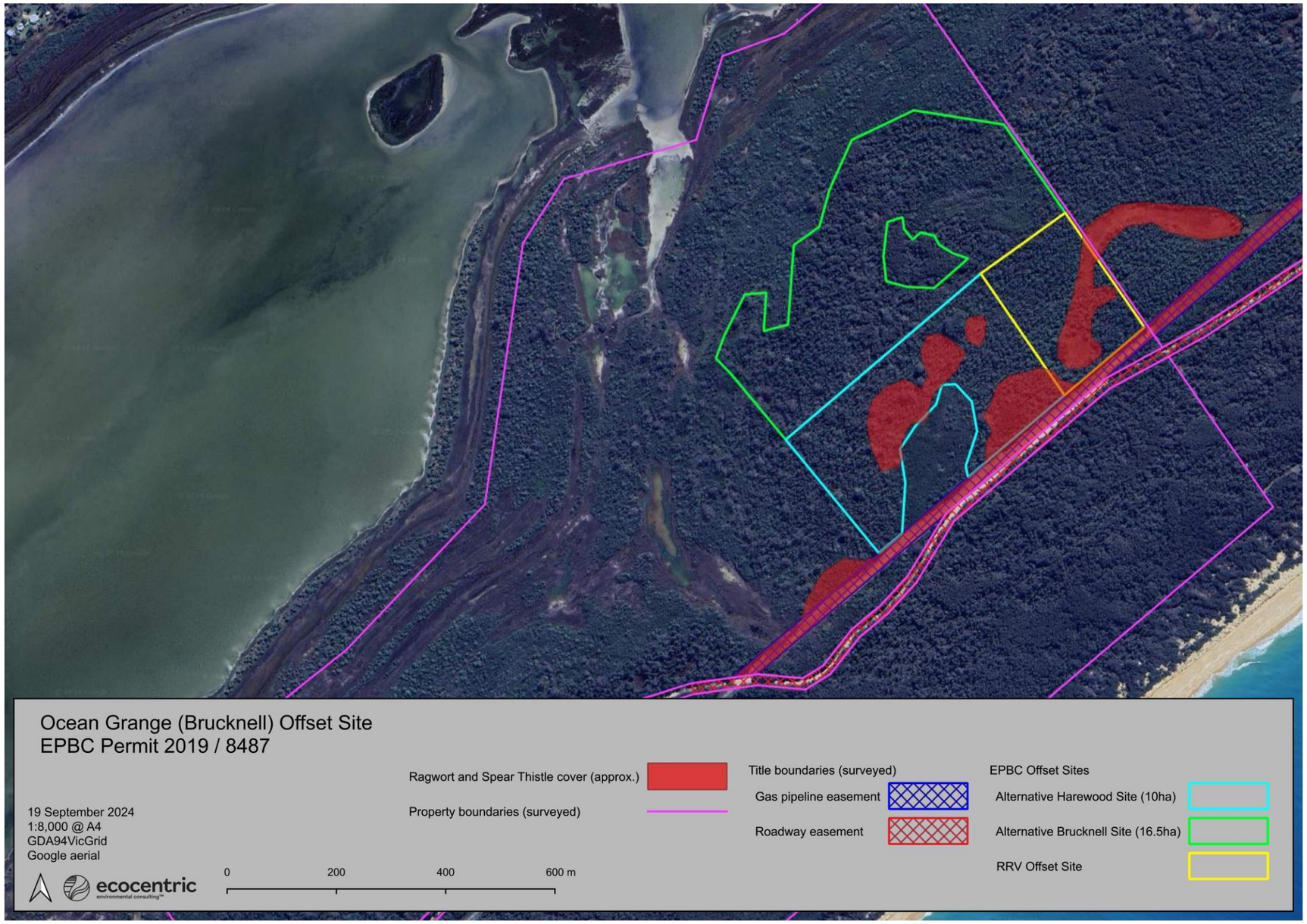
GLU04 147.6096954729 -38.0503940497
GLU01 147.6089053936 -38.0510230279
GLU05 147.6083644255 -38.0510890774
GLU03 147.609114436 -38.0521510646
MRPV03 147.6086414453 -38.0521600333
MRPV02 147.6075964746 -38.0516680156
MRPV01 147.6058604138 -38.0523790527
MRPV04 147.6049934728 -38.0529120581
MRPV05 147.605467466 -38.0547250641
MRPV06 147.6084555957 -38.0493892714
MRPV07 147.6076082858 -38.0485016907
MRPV08 147.6067312634 -38.0483733749
MRPV09 147.6050043201 -38.0514092574
MRPV10 147.6037984523 -38.0521555968
MRPV11 147.6073147775 -38.0494303345
MRPV12 147.6056667429 -38.0490375701
MRPV13 147.604298579 -38.0507603739
MRPV08
MRPV07
MRPV12
MRPV11
MRPV06
GLU04
MRPV13
GLU05
GLU01
GLU02
MRPV09
MRPV02
MRPV10
MRPV03
GLU03
MRPV01
MRPV04
MRPV05
Ocean Grange (Brucknell) Offset Site
EPBC Permit 2019 / 8487
19 September 2024
1:8,000 @ A4
GDA94VicGrid
Google aerial
ecocentric
environmental consulting™
0
200
400
600 m
Survey locations
(IR cameras and photopoints)
Property boundaries (surveyed)
Title boundaries (surveyed)
Gas pipeline easement
Roadway easement
EPBC Offset Sites
Alternative Harewood Site (10ha)
Alternative Brucknell Site (16.5ha)
RRV Offset Site


Ocean Grange (Brucknell) Offset Site
EPBC Permit 2019 / 8487
Ragwort and Spear Thistle cover (approx.)
Property boundaries (surveyed)
Title boundaries (surveyed)
Gas pipeline easement
Roadway easement
EPBC Offset Sites
Alternative Harewood Site (10ha)
Alternative Brucknell Site (16.5ha)
RRV Offset Site
19 September 2024
1:8,000 @ A4
GDA94VicGrid
Google aerial
ecocentric
environmental consulting™
0
200
400
600 m