Final Report

Offset Management Plan: 60 Watts Road, Yan Yean, Victoria (EPBC 2016/7674)

Prepared for

Level Crossing Removal Project

April 2019

Ecology and Heritage Partners Pty Ltd

MELBOURNE: 292 Mt Alexander Road, Ascot Vale VIC 3032 GEELONG: 230 Latrobe Terrace, Geelong West Vic 3218
BRISBANE: Level 22, 127 Creek Street, Brisbane QLD 4000 ADELAIDE: 22 Greenhill Road, Wayville SA 5034
CANBERRA: PO Box 6067, O'Connor ACT 2602 SYDNEY: Level 5, 616 Harris Street, Ultimo, NSW, 2007
www.ehpartners.com.au | (03) 9377 0100

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Address	60 Watts Road, Yan Yean, Victoria
Project number	10839
Project manager	Aaron Organ (Director / Principal Ecologist)
Report reviewer	Andrew Hill (Director / Principal Ecologist)
Mapping	Dr Monique Elsley (GIS Coordinator)
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GLOSSARY

Acronym	Description
CaLP	*Catchment and Land Protection Act 1994*
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning
DEWHA	(former) Commonwealth Department of Environment, Water, Heritage and the Arts
DoEE	Commonwealth Department of Environment and Energy
DSEWPaC	(former) Commonwealth Department of Sustainability, Environment, Water Population and Communities.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EVC	Ecological Vegetation Class
FFG Act	*Flora and Fauna Guarantee Act 1988*
GEWVVP	Grassy Eucalypt Woodland of the Victorian Volcanic Plain
LXRP	Level Crossing Removal Project a division of Major Transport Infrastructure Authority
NES	National Environmental Significance
OMP	Offset Management Plan

DECLARATION OF ACCURACY

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan: (60 Watts Road, Yan Yean, Victoria) is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the approval holder.
3. I am aware that:
    a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
    b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.
    c. The above offences are punishable on conviction by imprisonment, a fine or both.

Signed

Chris Papadopoulos

Full Name

Major Transport Infrastructure Authority

Level Crossing Removal Project

Organisation

29/04/2019

Date

EXECUTIVE SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was engaged by Level Crossing Removal Project to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the construction of a new eight kilometre (km) dual track railway line from the existing South Morang to Mernda by the Major Transport Infrastructure Authority (EPBC 2016/7674).

The purpose of this OMP is to detail the strategy that will offset the loss of 1.64 hectares of Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEWVVP) at the development site, by specifying offset completion criteria and outlining management actions for the protection and enhancement of 12 hectares of GEWVVP at a site located at 60 Watts Road, Yan Yean, Victoria. The OMP has been written in consultation with the landowner of the offset site and will be implemented by the landowner.

Proposed Offset Site

The offset site is 12 hectares in size and is being managed through the OMP in accordance with Condition 9 of the EPBC Act approval for EPBC 2016/7674.

The offset site will be managed for the purposes of conservation and will involve the protection of the GEWVVP, the control of pest animals and environmental weeds, biomass management and general maintenance and improvement of the quality of the GEWVVP. The landholder will adopt an adaptive management approach to allow flexibility to respond appropriately and effectively to uncertainties involved in ecological restoration. This will ensure that management objectives, in particular attainment and maintenance of offset completion criteria, are being met while allowing for altered circumstances to be included in the management of the offset site.

Any proposed uses or development of the offset site which conflict with the landowners' commitments or maintenance/improvement of the community are not permitted under this plan.

CONTENTS

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by Level Crossing Removal Project (LXRP) to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the construction of the eight-kilometre dual track railway line from the existing South Morang to Mernda by the Major Transport Infrastructure Authority.

A referral for the action was submitted for assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2016/7674), which was approved in March 2017, subject to conditions. Conditions 6 – 9 require the approval holder (Level Crossing Removal Project) to fulfil the offset requirements for the EPBC Act-listed Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEWVVP). A variation to Condition 8 was approved in October 2018.

The purpose of this OMP is to detail the ongoing management actions required to protect 12 hectares of GEWVVP habitat at an off-site offset site located at 60 Watts Road, Yan Yean, Victoria. The OMP has been written in consultation with the landowner of the offset site and is intended to be implemented by the landowner. The OMP is focused on management actions and performance measures (quantitative amounts indicated, where appropriate) to address management issues, key threats and offset completion criteria across the offset site.

This OMP provide management actions to ensure that 12 hectares within the offset site meets the listing criteria/thresholds for it to constitute the EPBC Act-listed GEWVVP.

2 OBJECTIVES AND CONTEXT OF THE PROJECT

2.1 Impact Site

The impact site (Mernda Rail Extension Project) is located between South Morang and Mernda, Victoria, approximately 27 kilometres north of the Melbourne CBD. The impact site lies between South Morang Station to the west and follows the train line towards Mernda Station.

The project involved the construction of a new eight-kilometre dual track, with the impact area falling within the Whittlesea Council municipality, the Victorian Volcanic Plains bioregion and the Port Philip and Westernport Catchment Management Authority region (Figure 1). The project has resulted in the removal of one Matter of National Environmental Significance (NES): 1.64ha of GEWVVP. The objectives of this OMP is to offset the loss of a portion of the GEWVVP by achieving at a minimum condition score [i.e. under the Vegetation Quality Assessment (VQA)] of 48/75 across the 12-hectare offset site (DSE 2004, DELWP 2017).

2.2 Offset Site

2.2.1 Description of the Offset Site

The third-party offset site is located at 60 Watts Road, Yan Yean, approximately 30 km north of the Melbourne CBD (Figure 1). The property is currently zoned Rural Conservation Zone (RCZ) and is subject to a Rural Floodway Overlay (RFO). It has previously been used for horse agistment, although horses have been removed over the past 6 months. There is residential development to the east, Yan Yean Reservoir to the north and rural lots used for grazing to the west (Plate 1). The vegetation at the proposed offset is 12 hectares in size and will be managed for conservation purposes to ensure that this area meets the listing criteria/thresholds for it to constitute the EPBC Act-listed GEWVVP.

The GEWVVP outlined within this OMP will be protected on-title through a Trust for Nature covenant with the management actions specified on the covenant. The offset site meets 100% of the direct offset requirements required as a result of the vegetation removal at the impact site

According to the Department of Environment, Water, Land and Planning (DEWLP) Native Vegetation Information Management Tool (NVIM) (DEWLP 2018), the offset site occurs within the Victorian Volcanic Plain bioregion. It is located within the jurisdiction of the Port Phillip and Westernport Catchment Management Authority (CMA) and the City of Whittlesea.

Plate 1. Location of the proposed offset site and surrounding land uses.

2.2.2 Tenure Arrangements

The proposed offset site is privately owned and is currently in the process of being protected through a Trust for Nature covenant.

2.2.3 Grassy Eucalypt Woodland of the Victorian Volcanic Plain

An ecological assessment of the offset site was undertaken by a qualified botanist on 17 December 2018. The inspections sought primarily to identify the presence, extent and quality of the GEWVVP ecological community listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). An evaluation of the quality of the vegetation within offset site was undertaken, and the data collected was used to determine the condition (through a Habitat Hectares assessment) of the offset site. The condition score given to the site based on the baseline data was 39/75 for patch condition and is outlined below (Table 1). In order to achieve the required 48/75 condition score, the focus areas of improvement should be an increase in understory diversity and reduced weed cover. Achieving these objectives should be possible in the 10-year management period, through the management methods provided in Section 3.3.

GEWVVP within the offset site is in good condition containing a diversity of native species, including various wallaby grasses *Rytidosperma* spp., spear-grasses *Austrostipa* spp. and Weeping Grass *Microlaena stipoides*

var. *stipoides*. Other native species present include Windmill Grass (*Chloris truncata*), Seaberry Saltbush (*Chenopodium candolleanum*), Fingered Rush (*Juncus subsecundus*), and Kidney Weed (*Dichondra repens*).

A moderate cover of weeds was present, with a mix of low and high threat species. Low threat species included Sheep Sorrel *Acetosella vulgaris*, Rapeseed *Brassica rapa* and Deadly Nightshade *Atropa belladonna*. Dense patches of high threat weeds periodically occurred throughout the site, such as Panic Veldgrass *Ehraharta erecta* and Capeweed *Arctotheca calendula*, as well as scattered occurrences of Chilean Needle-grass *Nassella neesiana*.

Table 1. Habitat Hectares assessment results for 60 Watts Road, Yan Yean.

Vegetation Zone		PGW1
Bioregion		Victorian_Volcanic_Plain
EVC / Tree		Plains Grassy Woodland
EVC Number		55_61
EVC Conservation Status		Endangered
Patch Condition	Large Old Trees /10	7
	Canopy Cover /5	4
	Under storey /25	10
	Lack of Weeds /15	6
	Recruitment /10	5
	Organic Matter /5	5
	Logs /5	2
	Treeless EVC Multiplier	1.00
	Subtotal =	39.00
Landscape Value /25		12
Habitat Points /100		51
Habitat Score		0.51

2.2.3.1 *Diagnostic Characteristics*

The condition thresholds for a patch of GEWVVP are (DSEWPaC 2011) are outlined within Table 2.

Table 2. Condition thresholds for GEWVVP (DSEWPaC 2011).

Condition Threshold	Assessment
Does the patch occur within or near the Victorian Volcanic Plain?	Yes. The study area is located within the Victorian Volcanic Plain.
Is the site dominated by native vegetation i.e. a native vegetation remnant?	The woodland area to the south of the access track leading to the trotting track is predominantly native. North of the access track the understorey is dominated by exotic grasses.
Are the trees present such that the projective foliage cover of native grasses is more than 5%?	Yes. Projective foliage cover is approximately 25-30% south of the access track to the trotting track.
Is the tree canopy generally dominated by River Red Gum (*Eucalyptus camaldulensis*) or associated eucalypts?[1]	Yes. River Red Gum is the dominant species. One Manna Gum *Eucalyptus viminalis* subsp. *viminalis* was also recorded on site.
Is the ground vegetation layer dominated by native grasses, native forbs, other herbs, seasonal geophytes or small native shrubs?[2]	Yes. South of the access track to the trotting track, where the understorey vegetation is predominantly native consisting of wallaby grasses *Rytidosperma* spp. and Weeping Grass *Microlaena stipoides*.
Is the patch bigger than or equal to 0.5 hectares?	Yes. South of the access track to the trotting track there is approximately 10 ha of native vegetation that meets the definition of GEWVVP. The patch is continuous with approximately 30 ha of lower quality woodland
Does 50% or more of perennial ground layer vegetation comprise native species? OR are there more than ten native perennial species AND at least three big trees per hectare?	Yes. South of the access track to the trotting track the dominant species are native perennial grasses, i.e. Wallaby Grass and Weeping Grass

[1] Dominated by River Red-gums means that this species, including hybrids, comprises 50% or more of the canopy trees present. The tree canopy cover usually falls between 5-30% of the overall site, although a lower limit of 0% canopy cover applies for the derived grassland state. High rainfall (>700 mm/year) species may include Swamp Gum *Eucalyptus ovata* or Manna Gum *Eucalyptus viminalis*.

[2] Dominated means that a minimum of 50% of ground layer cover comprising native grasses and/or other herbs

3 OFFSET IMPLEMENTATION

3.1 Management Objectives

The offset site will be managed for the purposes of conservation and will involve physical protection of the GEWVVP community, the control of pest animals and environmental weeds, biomass reduction and general maintenance and enhancement of the character and quality of the GEWVVP.

The offset site will be protected in perpetuity via a Trust for Nature covenant (Table 3). This OMP will be attached to the on-title agreement and require the landowner to manage the offset site in accordance with the requirements detailed herein. Security, management and monitoring responsibilities are summarised below (Table 3).

This requires the landowner to manage the offset site in accordance with the requirements detailed herein. This OMP relates solely to the 12 hectares of GEWVVP community identified in Figure 1, and includes actions related to the ongoing monitoring and management of the GEWVVP community.

This OMP provide management actions to ensure that 12 hectares within the offset site meets the listing criteria/thresholds for it to constitute the EPBC Act-listed GEWVVP.

Table 3. Security and Management Responsibility.

Offset Security and Management Responsibility	60-Watt Road, Yan Yean
Who is liable/responsible for meeting offset requirements?	LXRP and Brian Ruschmeyer
Type of security mechanism	Trust for Nature
Agreement or Planning Permit Number (ID)	TBC
Date 10-year offset management to commence	Upon registration of the covenant
Date 10-year offset management expires	The offset should be protected in perpetuity. At the completion of the 10-year management plan, the offset condition must have attained the offset completion criteria, management and monitoring must continue sufficient to ensure the GEWVVP condition does not decline.
Offset site management responsibility (i.e. Landowner, Authority Name)	Landowner
Offset Monitoring Responsibility (i.e. Responsible Authority)	Landowner, LXRP

3.2 Ongoing Land-use Commitments

The offset site will be managed to ensure the quality of GEWVVP is improved over 10 years to achieve a minimum site condition score of 48/75. After this period of management, the land will be required to be maintained in the condition achieved as a result of that management (i.e. condition score of 48/75), in perpetuity. From the commencement of the covenant, the Landowner agrees to undertake the following long-term (ongoing) management commitments in perpetuity in the 12 hectares of GEWVVP:

- Retain and manage all native vegetation as directed by this OMP;
- Exclude domestic stock, except as permitted by this OMP;
- Continuously control all woody weeds to eradicate infestations;
- Ensure that weed cover does not increase beyond the levels achieved at Year 10;
- Monitor for any new and emerging weeds and eliminate to < 1% cover;
- Control rabbits; and,
- If required, undertake biomass management.

3.3 Management Actions

Implementation of this OMP is the overall responsibility of LXRP, supported by the property landowners (Brain Ruschmeyer). However, direct management responsibility may be delegated to a designated site manager and/or managing ecologist with annual reports submitted to DoEE and LXRP.

Management actions detailed in this OMP will commence from the date the Covenant is registered on-title. A breakdown of management actions required over the 10-year active management period is shown below (Table 6). Following the 10-year active management period, the landowner will continue to manage the offset site as specified in this plan, such that:

- the weeds within the site are maintained at the improved state achieved at year 10, or ideally further reduced in cover;
- managed in perpetuity to ensure it does not increase beyond the level attained at year 10 of management; and,
- The GEWVVP ecological community maintains a minimum site condition score of 48/75 (DELWP 2017).

Funding for undertaking security, management and monitoring actions prescribed in this OMP has been agreed between the landowner (Brain Ruschmeyer) and the Proponent Level Crossing Removals Project.

Any proposed uses or development of the offset site which conflict with the landowner's commitments are not permitted under this plan. The sensitivities of the offset site must be considered with all management actions and all contractors entering the offset site must be made aware of its ecological values.

The management and monitoring actions detailed in this OMP have been developed with consideration for the following legislation and/or policies, and reference to where in the OMP the item has been discussed:

- EPBC Act – Section 2.2 and 3*;*

- *Flora and Fauna Guarantee Act 1988* (FFG Act) – the FFG Act ecological community Western Basalt Plains (River Red Gum) Grassy Woodland corresponds with the GEWVVP within the offset site, but as the site is private land, the FFG Act has not been discussed within this OMP*;*
- *Catchment and Land Protection Act 1994* (CaLP Act) – Section 3.3.4*;*
- Commonwealth's Threat abatement plan for competition and land degradation by rabbits (DoEE 2016) – Section 3.3.5.1;
- Commonwealth's Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (DoEE 2017) – pigs not recorded in offset site, unlikely to be a threat to site, monitoring will detect presence of pigs;
- Approved Conservation Advice for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain (DEWHA 2009) – Section 2.2.3.1.

There are multiple threats to the GEWVVP, including vegetation clearance, weed invasion, fragmentation and inappropriate management actions (DEWHA 2009).

This OMP addresses these demonstrated threats by including management actions aimed at reducing the likelihood of weed invasion and implementing an appropriate grazing regime.

Further, the actions contained in this OMP address several Priority Actions included in the conservation advice (DEWHA 2009) and will be implemented to support the recovery of the GEWVVP ecological community.

3.3.1 Risk of impact to other matters of National Environmental Significance

No other matters of National Environmental Significance (NES) were recorded within the offset area, and therefore are not addressed in this OMP. As a result, management of the GEWVVP community will not have a detrimental impact on any additional matters of NES.

3.3.2 Existing Threats

The main threats to the offset site include the existing permitted uses associated with normal farming practices, such as inappropriate grazing regimes, pasture improvement and fertiliser application. Other threats include the expansion of the existing high threat weed populations that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 1.

Enhancement and protection of the offset site will be achieved by:

- Maintaining the existing stock-proof fencing around the boundary of the broader property;
- Weed control through active management;
    - Continuously controlling all woody weeds so as to eradicate infestations;
    - Ensure that weed cover does not increase beyond the levels achieved at Year 10;
- Controlling pest animals, particularly rabbits and foxes; and
- Improving native species understorey diversity and recruitment.

3.3.3 Fencing and Access

An existing permanent stock-proof fence currently exists around the perimeter of the broader property. No grazing from livestock or horses is permitted within the offset site.

Posts marking the boundary of the offset site will be established to clearly identify the area for monitoring and management purposes. The offset site and broader property remain private property, and access or disturbance to the offset site by unauthorised persons is prohibited. Access to the broader property is provided via the north-west corner of the property, with a secondary access point provided along the north-eastern boundary (Figure 1). The existing access and security (locked gates) arrangement is adequate to service the access requirements for management of the offset site.

3.3.3.1 Actions

- Maintain existing perimeter fencing and access control to the broader property;
    - If any damage occurs to the existing fencing, repair immediately.
- Establish posts to mark the boundary of the offset site for management and monitoring purposes in accordance with advice from a qualified ecologist and land surveyor;
- Control access and any passive use of the offset site to minimise impacts on native vegetation;
- Provide access for farm owned management vehicles into the offset site, using the existing access gates. No additional vehicle access is to be established without the approval of the landowner and Trust for Nature.

3.3.3.2 Performance Indicators

- Access to the offset site is appropriately controlled via the identified access points;
- Existing and temporary fencing is maintained in good condition;
- Posts around the perimeter of the offset site are established for monitoring and management purposes.
- All fencing activities and repairs are recorded.

3.3.3.3 Adaptive Management

- The location of the temporary fencing may be slightly varied from year to year to minimise the disturbance to native vegetation along internal fence-lines.

3.3.4 Weed Control

3.3.4.1 Objectives

The objective of weed control within the offset site is to improve the quality of the GEWVVP community by reducing infestations and minimising future invasion by exotic flora. This will be achieved through a combination of controlled pulse grazing (to limit opportunities for weed establishment and seed set in exotic flora), and through on-ground management activities such as spot-spraying with herbicides.

Weed invasion is recognised as one of the main threats to GEWVVP ecological communities (DEWHA 2009). Effective management of weeds is necessary to improve GEWVVP ecological communities.

Woody weeds

No woody weeds were recorded within the offset site. Monitoring for new and emerging woody weeds will be conducted throughout the year, and any new and emerging woody weeds controlled, and infestations eradicated.

Herbaceous weeds

The aim of management is to ensure that weed cover does not increase beyond current levels and does prevent attainment of the offset completion criteria. Current weed cover within the offset site is estimated to range from 45 to 50% of the vegetative cover. Weeds listed in Table 4 were found within the offset site. These weeds will be monitored each year to ensure they are managed so as to achieve the offset completion criteria. The cover of these weeds must be controlled using the methods outlined in Table 4. Weeds must be treated prior to flowering and set seed. Indigenous plants must not be impacted as a result of weed control activities.

Annual weeds within the offset site are not considered to be a significant threat and will be managed through herbicide application to reduce their cover.

Spot spraying with appropriate herbicide is the main method for reducing weed cover. Spot spraying will be undertaken regularly, particularly in spring and early summer, with a focus on killing weed plants prior to seed set. Spot spraying will be completed in a manner which minimises non-target damage. Spot spraying will not occur during high wind days or near threatened flora without protective measures in place (i.e. physical shielding).

Weed control methodology for eradicating graminoid and herbaceous weeds will comprise manual removal and/or targeted spot spraying with an appropriate herbicide. Care must be taken when spraying herbicide to ensure that the poison does not affect native vegetation in the local application area. Weed species must be treated before seed is set, which may involve localised slashing if spot-spraying proves ineffective. A dye will be used in the spray to mark where spraying has been utilised.

The composition and distribution of vegetative cover across the offset site is likely to change over time in response to seasonal conditions or pulse grazing. Therefore, weed cover and species will be continually monitored and management activities adapted to ensure the offset completion criteria in this OMP are achieved and maintained.

New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted throughout the year, and any new and emerging weeds eradicated.

Any other significant environmental weeds identified within the broader property during monitoring will also be controlled. The landowners may consult with a qualified ecologist regarding appropriate control techniques for any new or emerging weeds identified within the offset area.

Table 4 Herbaceous weeds to be controlled at the offset site – method and timing.

Common name	Scientific name	% total cover at inception	Method	Timing
Barley grass	*Hordeum leporinum*	5%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Buck's-horn Plantain	*Plantago coronopus*	5%	Hand chip and spot spray	Spring / Summer
Cape weed	*Arctotheca calendula*	<1%	Hand chip and spot spray	Spring / Summer
Cat's Ear	*Hypochaeris radicata*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Chickweed	*Stellaria media*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Chilean Needle Grass	*Nassella neesiana*	5%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Common Nettle	*Urtica diocia*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Coxfoot	*Dactylis glomerata*	5%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Deadly Nightshade	*Atropa belladonna*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Fat Hen	*Chenopodium album*		Targeted spot spraying with appropriate herbicide.	Spring / Summer
Hair Grass	*Aira spp.*	<1%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur when annual weeds cover is equal to, or exceeds 25%.	Spot-Spray – October – January; Graze – January – October
Hare's-foot Clover	*Trifolium arvense*	<1%	Spot Spray	Spring / Summer
Large Quaking-grass	*Briza major*	<1%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur when annual weeds cover is equal to, or exceeds 25%.	Spot-Spray – October – January; Graze – January – October
Mallow	*Malva neglecta*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Onion Grass	*Romulea rosea*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Ox-tongue	*Helminthotheca echioides*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Panic Veldgrass	*Ehrarta erecta*	30%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Paterson's Curse	*Echium plantagineum*	<1%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Perennial Rye-grass	*Lolium perenne*	<1%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur	Spot-Spray – October – January;

Common name	Scientific name	% total cover at inception	Method	Timing
			when annual weeds cover is equal to, or exceeds 25%.	Graze – January – October
Rapeseed	*Brassica rapa*			
Ribwort	*Plantago lanceolata*	<1%	Hand chip and spot spray	Spring / Summer
Sheep Sorrel	*Acetosella vulgaris*	<1%	Spot Spray	Spring / Summer
Smooth Cat's-ear	*Hypochaeris glabra*	5%	Targeted spot spraying with appropriate herbicide.	Spring / Summer
Soft Brome	*Bromus hordeaceus*	<1%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur when annual weeds cover is equal to, or exceeds 25%.	Spot-Spray – October – January; Graze – January – October
Spear Thistle	*Cirsium vulgare*	<1%	Hand chip and spot spray	Spring / Summer
Toowoomba Canary-grass	*Phalaris aquatica*	5%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur when annual weeds cover is equal to, or exceeds 25%.	Spot-Spray – October – January; Graze – January – October
Yorkshire Fog	*Holcus lanatus*	5%	Targeted spot spraying with appropriate herbicide. Pulse-grazing can occur when annual weeds cover is equal to, or exceeds 25%.	Spot-Spray – October – January; Graze – January – October

Spot Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species. However, all herbicides must be used in accordance with the manufacturer's specifications and occupational health and safety policies.

Application methods for herbicides include spot spraying n sensitive areas with a foam-tipped application device, rig spraying with a pump for larger areas, dabbing of cut stumps and injection of woody weeds.

Timing of the interval of spot spraying is dependent upon many factors such as plant age and growth seasons, plant stress levels and climatic factors. Surrounding native plants' susceptibility to herbicides and ongoing uses of the treated areas must also be considered as some herbicides are residual and may persist within the soil for varying durations.

3.3.4.2 Actions

- Periodic spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer as detailed in Table 4;

- Any populations of new or emerging high threat weeds will be treated promptly and eradicated. This will be done in consultation with the TfN;
- During weed control, natural regeneration of indigenous flora will be protected from off-target damage; and
- Annual monitoring will be undertaken to monitor and evaluate the effectiveness of weed control works and the results are to be used to adapt future control works and targets.

3.3.4.3 Performance Indicators

- Reduction in the cover of weed species within the offset site (Table 4);
- No off-target damage to indigenous plants; and
- No new or high threat weeds establishing within the offset site.

3.3.4.4 Adaptive Management

- Respond to the annual monitoring report and associated recommendations;
- If objectives and performance indicators are not being met:
    - Review grazing regime;
    - Increase frequency of weed control activities; and
    - Raise any significant issues with TfN as soon as they arise, to identify the appropriate adaptive response (e.g. select alternative herbicide).

3.3.5 Pest Animals

3.3.5.1 Objectives

The objective of pest animal management is to control pest animals (e.g. rabbits, foxes) within the offset site, as required, to minimise negative impacts to the GEWVVP communities. The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

Rabbits will be monitored and controlled throughout the year. No active rabbit warrens were identified within the offset site. However, if rabbit activity is detected within the offset site, an integrated approach in accordance with BushBroker Information Sheet 7 - Standards of Management – Rabbits, will be followed which will involve fumigation, hand collapsing of burrows and baiting. Any rabbit carcasses found within the offset site will be removed to prevent poisoning of native predators. These actions are in accordance with the Commonwealth's *Threat abatement plan for competition and land degradation by rabbits* (DoEE 2016).

Ripping of rabbit warrens within the offset site is not permitted. If any warrens develop within the offset site, they will be treated by low impact measures such as fumigation or collapsing.

Foxes are a threat to native fauna and must be controlled if identified within the offset site. If identified, fox dens will be destroyed through fumigation and hand collapse.

To reduce the likelihood of pest animals inhabiting the offset site on a regular basis, any artificial piles of logs and rocks that may be used as harbour by pest animals will be removed or dispersed. Rabbits and foxes will be monitored and if required controlled as detailed below (Table 5).

Table 5. Pest animals to be controlled – species, method and timing.

Common name	Method	Timing
Rabbits	Baiting. When baiting collect and dispose of carcasses to prevent poisoning of native predators.	Ongoing
Rabbits and Foxes	Fumigation and collapse of rabbit burrows and fox dens if identified. Remove or disperse surface harbour.	Ongoing
New and emerging pest animals	Monitor and control	Ongoing

3.3.5.2 Actions

- Control and seek to locally eliminate pest animals using appropriate control techniques, including poison baits, warren fumigation and collapsing, or similar methods, without soil disturbance;
- Coordinate pest animal control with surrounding landowners to reduce the risk of pest animal dispersal onto the offset site from neighbouring properties; and
- Fumigate rabbit warrens according to best practice management techniques. Fumigation works will be conducted by the landowner or a suitably qualified operator where rabbit activity is identified.

3.3.5.3 Performance Indicators

- Any rabbit warrens or fox dens are controlled immediately following detection;
- Reduction in the abundance of pest animals, and no detectable impacts to the GEWVVP ecological community; and
- All monitoring and management activities are effectively documented.

3.3.5.4 Adaptive Management

- If pest animal management fails to achieve a reduction, or effectively control rabbit or fox numbers, or if impacts to the GEWVVP ecological community are attributable to an increase in pest animal activities, a review of the current procedures and management measures will be undertaken;
- Review performance of pest animal contractor;
- Increase active monitoring of pest animal activity;
- Incorporate addition control measures (i.e. spotlighting and shooting); and
- Improve existing fencing of broader offset property to exclude pest fauna.

3.3.6 Offset Management Plan Review

The protection and management of the nominated offset area is to be in perpetuity. The OMP will be reviewed by a suitably qualified ecologist, in consultation with the Landowner, five years from the date of approval. The focus of the review will be to determine its effectiveness in managing the GEWVVP ecological communities, and the likelihood of attaining and/or maintaining the offset completion criteria.

The 5-year review of the OMP will be submitted to Trust for Nature and DoEE for approval prior to implementing the revised plan.

3.4 Management Actions Table

Management actions proposed to compensate for the loss of native vegetation and habitat under Commonwealth legislation at the offset site are presented in Table 6. The actions constitute the minimum management requirements for the offset site over the OMP management period and are appropriate for the continuing management and conservation of the GEWVVP ecological community.

In order to achieve the offset completion criteria, the following condition attributes will be improved to achieve the target score of 48 / 75 (DSE 2004). An example of the increase in the scores (in brackets), compared with the current scores (not in brackets), are provided below:

Large Old Trees /10	7
Canopy Cover /5	4
Understorey /25	10 (15)
Lack of Weeds /15	6 (9)
Recruitment /10	5 (6)
Organic Matter /5	5
Logs /5	2

Table 6. Management Actions across the 12ha GEWVVP offset site.

Duration Area	Management Action Description	Timing	Environmental outcome to be achieved
Fencing			
All years	Maintain fencing in good condition around entire boundary of all sites where fencing exists or is required	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing
All years	If a threat arises erect an additional fence immediately around the entire boundary of the offset site	Immediately on identification of threat	Erect fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing
2019	Establish posts to mark the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor	Immediately on approval of Year 1 of management works	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.
Woody Weeds			
All years	Control all new and emerging woody weeds	Ongoing	All woody weeds eradicated by the end of 2029
Herbaceous Weeds			

Duration Area	Management Action Description	Timing	Environmental outcome to be achieved
All years	Control all herbaceous weeds. Refer to Table 4 for list of herbaceous weeds, their control method and timing of actions	Refer to Table 4	Reduction in weed cover (i.e. <15%). Minimise off-target damage (avoid impacts to all native plants)
All years	Eliminate all new & emerging herbaceous weeds	Ongoing.	<1% cover of all new and emerging herbaceous weeds at the end of Year 10
Pest Animals			
All years	When required control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions	Refer to Table 5	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks;
All years	Monitor and control rabbits and foxes	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the NTGVVP ecological community
All years	Monitor and control all new and emerging pest animals	Ongoing	Control numbers of any new & emerging pest animals

Duration Area		Management Action Description	Timing	Environmental outcome to be achieved
Annual reporting				
All years	GEWVVP Offset	Prepare and submit an annual report and photo monitoring to Trust for Nature and DoEE. Refer Section 7.3.	Submit at least 2 months prior to on-title agreement anniversary date	Annual report is signed, dated and submitted by the Landowner at least 2 months prior to the anniversary date of on-title agreement registration. Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site. Allow for ongoing auditing of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports. Obligations of the Landowner have been met and the obligations form is signed, dated and submitted with the annual report
2024	GEWVVP Offset	Review effectiveness of OMP. Refer Section 3.3.6 and 5.	End of Year 5.	If implementation of the OMP is not leading to the improvement of the GEWVVP community so as to achieve the offset completion criteria, a review will be undertaken, and a new management plan prepared for the remaining 5 years of management.

4 RISK ASSESSMENT

An assessment of potential risks associated with the objectives of this plan are outlined within Table 7. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks. The risk assessment and management definitions are provided below (Appendix 1).

Table 7. Risk assessment and management objectives for specific offset site.

Management objective/desired outcome	Event or circumstance	Risk controls	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To legally secure the offset property for conservation.	Failure to legally secure approved offset site	Engage with expert offset brokers	Unlikely	Moderate	Low	n/a	Engage an alternative offset broker/consultant	Low risk: the site is currently in the process of being secured with an on-title agreement (Trust for Nature Covenant).
	Legislative reform prejudices proposed tenure arrangements for offset properties.	Monitor DELWP, LGAs and other legislative bodies on developments to offsets	Rare	High	Low	Newsletters, expert liaison, press releases and direct contact.	Adjust offset calculations and revise the OMP to meet reform requirements.	
To achieve the OMP's offset completion criteria for GEWVVP	The offset completion criteria are not achieved within 10 years of commencement of the OMP.	This OMP	Unlikely	Moderate	Low	n/a	Extend the EPBC Act period of approval. Revise and submit the OMP for approval.	Failure to achieve the offset completion criteria may result in the requirement for additional offsets.
	Landowner-approval holder agreements fail to adequately address management commitments in the offset plan	Engage an expert to manage this process. Ensure all impacts are suitably offset.	Unlikely	High	Medium	Quality assurance and monitoring. Annual reporting	Revise on-title and/or approval holder agreements.	The site will be protected through a Trust for Nature Covenant. Trust for Nature undertakes quality assurance process for all offset sites to ensure the landowner agreements address the management commitments in the plan. Further the Trust for Nature Covenant will be

Management objective/desired outcome	Event or circumstance	Risk controls	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
								placed on-title and therefore undergo a further review by the Titles Office.
To achieve offset completion criteria for GEWVVP	Adjacent/regional landowner's land management practices fail to support attainment of offset outcomes.	Liaise with adjacent landholders. Ensure landholders understand offset objectives	Unlikely	High	Medium	Annual monitoring/reporting. Adjacent land practices begin to negatively impact offset site.	Take steps to halt negative impacts, such as encroachment by high threat weeds. Follow up with stakeholder discussions and adjust management actions to mitigate impacts	The adjacent land parcels contain agricultural land (grazing and/or cropping). Based on the current land management practices in the region and it is unlikely that any foreseeable land management practices within the vicinity will impact the offset site.
	Failure to implement plan - insufficient funds provided by approval holder to implement the plan.	Ensure an understanding of the commitment and cost by the approval holder.	Unlikely	High	Medium	Monitoring and/or annual reporting	Review plan for cost efficiencies. More funds made available to landowner to implement the OMP	The offset funds provided by the proponent will be deposited in the Trust for Nature trust account and annual payments over 10 years will be reliant on annual reports being provided each year by the landholder. In effect, the offset funds will be administered using the same system used for Victorian State offsets and this will guarantee that funds are available for the first 10 years of management, which will include the most extensive habitat improvement works required.
	Stochastic events (wildfire/drought/flo	Ensure appropriate biomass	Possible	High	Medium	Monitoring and/or annual reporting	Apply adaptive management to	-

Management objective/desired outcome	Event or circumstance	Risk controls	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve offset completion criteria for GEWVVP	od) prejudice attainment of offset completion criteria for GEWVVP	management. Plan for scheduling delays.					ensure the objectives of the OMP are not compromised, such as revegetation or watering regimes.	
	Approved development on/near project/offset prejudice plan outcomes	Liaise with proponent to ensure any proposed development does not compromise the objectives of the OMP.	Unlikely	High	Medium	Advertisement of planning scheme amendments/planning permit applications	Implement stakeholder engagement to prevent poor outcomes.	The ecological values within the offset site do not rely on habitat values within adjacent land.
GEWVVP community improved	Drought	Apply adaptive management to ensure the site is not over-grazed	Likely	Moderate	Medium	Drought Event	Apply adaptive management to ensure the site is not over-grazed	-
	Wildfire		Likely	Moderate	Medium	Wildfire Event		

Management objective/desired outcome	Event or circumstance	Risk controls	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
	Uncontrolled grazing	Maintain fences and install temporary fencing, if required (Section 4.5.2)	Highly Likely	Moderate	Unlikely	Continual vegetation monitoring for evidence of grazing impacts	Repair permanent fences, and/or install temporary exclusion fences.	The management actions specified within this plan aim to shift species dominance to favour native species abundance and diversity, improving the ecological condition and habitat.
	High biomass levels preventing establishment of native herbs	Site already relatively sparse, grazing from Eastern Grey Kangaroos will help keep biomass levels low	Highly Likely	Moderate	Possible	Annual monitoring	Monitor effectiveness of natural grazing from Eastern Grey Kangaroo, implement pulse grazing tactic if biomass levels too high	
	Loss of biodiversity due to competition with weeds	Spot spraying of weeds (Section 4.5.3) Annual monitoring to adapt future control works and targets (Section 8.1)	Likely	Moderate	Possible	Annual monitoring	Undertake weed control activities	The Offset Management Plan includes actions to reduce weed cover, improving the ecological condition of the site over the ten-year period.
	Loss of biodiversity due to pest animal activity	Rabbit warrens or fox dens are controlled (Section 4.5.4)	Likely	Moderate	Possible	Annual monitoring	Undertake pest control activities (Section 4.5.4)	The Offset Management Plan includes actions to reduce pest animal activity.

Notes. L = Likelihood; C = Consequence; RR = Residual Risk

5 CONTINGENCY RESPONSE AND CORRECTIVE ACTIONS

The landholder will use an adaptive management approach to allow the flexibility to respond appropriately and effectively to the uncertainties involved in ecosystem rehabilitation. This will ensure that management objectives are being met while allowing for altered circumstances to be addressed in the management of the site.

Upon a review of the implementation of the OMP after Year 5 of management (Section 3.3), if the actions detailed in this OMP are not likely to achieve and maintain offset completion criteria for the GEWVVP community, a new management plan will be prepared for the remaining 5 years of management. In Year 8 the effectiveness of the original or revised plan to achieve the offset completion criteria will be reviewed, and if the revised OMP is not achieving the completion criteria the approval holder (LXRP) will propose to the DoEE arrangements to extend the period of the OMP so as to achieve the completion criteria including over a larger offset area to compensate for the delay in offset delivery.

Any proposed changes to the management contrary to that specified within this plan do not required to be approved by DoEE, unless the revised management plan is likely to have a new or increased impact on the offset site. Any proposed uses or development of the site which conflict with the landowners' commitments or maintenance/improvement of the GEWVVP community and/or habitats for Matters of NES are not permitted under this plan.

Highly seasonal conditions are not uncommon across Victoria and can result in variable conditions from year to year. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the Landowner.

Alternative management measures, as part of an adaptive management approach, may be implemented if:

- The management outcomes outlined within Section 5 are unable to be met based on methods outlined within this plan; and
- A new management technique has been identified which is considered to be more effective in meeting the objectives of this OMP, and relevant recovery plans, threat abatement plans, conservation advices and does not increase risk of impacts to GEWVVP communities.

Where management outcomes outlined within Section 3 have not been met during any monitoring event (Section 7) corrective actions must be identified upon submission of the monitoring report.

Where an adaptive management approach has been implemented, the success, or failure, of the approach must be outlined within subsequent monitoring reports. The monitoring report must make recommendations on whether the approach should be continued, or whether subsequent alternative management is recommended.

All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

6 EMERGENCY CONTACTS AND PROCEDURES

Should any environmental emergency occur on-site that poses a risk to the objectives of this OMP, the relevant contacts (Table 8) must be notified as soon as possible, and no later than 12 hours following the event. At a minimum, DoEE, and the landholder must be notified; CFA and Victoria Police should be notified if assistance is required from these emergency services (e.g. control of wildfire). Emergency services must be advised of the on-site protections to avoid inadvertent damage to ecological values (e.g. creation of graded earthen fire breaks within the site must be avoided).

Table 8. Emergency contacts

Contact	Role	Telephone
Country Fire Authority (CFA)	Bushfire emergency	000
Victoria Police	Various (e.g. unauthorised access)	000
DELWP	Offset Monitoring Responsibility	03 9637 8451
Trust for Nature	Offset auditing and compliance	03 8631 5888

7 MONITORING AND REPORTING

This OMP requires the landowner to submit a report annually to Trust for Nature for each year of the 10 years of this OMP. The reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports. At the completion of the 10-year monitoring, it is a requirement that the offset site remain in a condition that is as good or better than the offset completion criteria.

A qualified ecologist will identify and establish five permanent photo-points including one in south western portion of the offset site) in the GEWVVP offset (Figure 1). Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October each year and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same camera settings as is practicable. Four photographs will be taken per photo point, with one photo taken from each cardinal direction (i.e. N, E, S, W). Photos are only required in relation to land covered in the offset agreement.

Photographs and Annual Reports are to be submitted at least 2 months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The Annual Report addresses progress against the management action and offset completion criteria commitments set out in this agreement. Annual Reports must provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against those commitments.

The template for a landowner monitoring and reporting form is shown in Table 6. Information to be provided in the reporting form includes:

- A copy of the Management Action Table from the OMP with information on which actions have been completed for year/s of this reporting period;
- Success of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.); and,
- Evidence of OMP implementation, for example photographs showing evidence of works, records of herbicide usage onsite and the location of high priority weed infestations and weed control activities.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the actions that will be action/s will be undertaken to implement the requirement.

All records/evidence of management actions must be maintained and be submitted to Trust for Nature, and any proposed changes to management must be submitted to Trust for Nature prior to the changes being undertaken.

Ongoing monitoring is required to determine whether GEWVVP quality improves over time and to ensure that management actions improve GEWVVP quality.

Site monitoring must include:

- General habitat monitoring by the landholder (or an appointed entity on behalf of the landowner) annually; and,
- Detailed monitoring to be conducted by a qualified ecologist for an initial four-year period, and then in years 6, 8 and 10 of this OMP.

Further details on the monitoring actions is outlined below.

7.1 Annual Monitoring of Habitat and Effectiveness of Management Actions

Five permanent photo-points will be established across the offset site. These points will be marked via GPS and shown on a map of the offset site. Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October annually and clearly labelled. Each photo will be taken from the same point each year and will use the same camera settings as is practicable. Four photographs with be taken per photo-point, with one photo taken from each cardinal direction (i.e. N, E, S, W).

Annual monitoring must be undertaken by the landowner (or an appointed entity on behalf of the landowner), and will include an assessment of:

- Photographs taken at established photo-points;
- The extent, severity, trend and presence of current weed species, and any new and emerging weed species, including along the offset site boundaries and access points.
- The extent, severity, trend and presence of pest animal activity;
- Biomass levels, visually assessed across the site;
- Evidence of unpermitted human/stock access; and,
- Any new threats.

The annual monitoring must be undertaken for each year of the 10 years of this OMP, and every year following for the life of the project approval under the EPBC Act approval.

7.2 Detailed Vegetation Monitoring (Years 1-4, 6, 8 and 10)

Detailed vegetation monitoring will be conducted by a qualified ecologist for an initial four-year period, and then in years 6, 8 and 10 of this OMP, and will document the following components:

- Overall assessment of the quality and quantity of vegetation and composition of species (i.e. habitat hectare assessment). This will include an assessment of the site condition score, likelihood of attainment of the offset completion criteria (condition score of 48/75 (DSE 2004; DELWP 2017) and recommendations for management across the entire offset site (one habitat zone);

- Biomass levels, assessed through 14 x 1 m^2 sampling plots equidistant throughout the offset site; and,
- The extent, severity, trend and presence of current weed species and any new and emerging weed species.

** Department of Sustainability and Environment 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria*

7.3 Reporting

To demonstrate that the management measures are effective in meeting the offset completion criteria, this OMP requires the landowner to submit a report annually to Trust for Nature for each year of the ten years of this Offset Management Plan, and every year following for the life of the project's approval under the EPBC Act (31 March 2030).

Photographs and reports are to be submitted at least 2 months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The report must address progress against the commitments set out in this agreement. Reports must 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 action commitments and attainment of offset completion criteria.

Information to be provided in the progress report includes:

- Detailing actions completed during the reporting period;
- Results of vegetation condition assessment (Habitat Hectare Assessment);
- A description of the specific monitoring results from ecological surveys undertaken;
- Results of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.);
- Photographs, herbicide usage, GPS waypoints/tracklogs showing evidence of works; and,
- Assessment on how the site is on track to meet, or meets the offset completion criteria

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and corrective actions that will be implemented to ensure the required outcomes are achieved.

All records/evidence of management actions must be maintained and be submitted to LXRP upon request.

The OMP will be reviewed by a suitably qualified Ecologist, in consultation with the Landowner, five years from the date of approval. The 5-year review of the OMP will be submitted to DoEE for approval prior to any recommendations regarding management of the offset site being implemented.

Table 6. Template for a Landowner Monitoring and Reporting Form

Landowner of offset site	
Location and address of offset site	
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	

REFERENCES

DELWP 2017. Guidelines for the removal, destruction or lopping of native vegetation. Department of Land, Water and Planning, Melbourne, Victoria.

DELWP 2018. Native Vegetation Information Management Tool [www Document]. URL: <https://nvim.delwp.vic.gov.au/>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

DEWHA 2008. Approved Conservation Advice for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain. Canberra, ACT: Department of Environment, Water, Heritage and the Arts. 18 June 2009

DoEE 2016. Threat abatement plan for competition and land degradation by rabbits. Department of the Environment and Energy, Commonwealth of Australia 2016.

DoEE 2017. Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scofra*) (2017). Department of the Environment and Energy, Commonwealth of Australia 2017.

DSE 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne, Victoria.

DSE 2009. BushBroker: Standards for management – Ecological grazing: Information Sheet No. 13. DSE, East Melbourne.

DSEWPaC 2012a. *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy (October 2012). Department of Sustainability, Environment, Water, Population and Communities, Canberra.

DSEWPaC 2012b. Offsets Assessment Guide: For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999* (2 October 2012). Microsoft Excel spreadsheet developed by the Department of Sustainability, Environment, Water, Population and Communities, Canberra.

Ecology and Heritage Partners 2018. Grassy Eucalypt Woodland of the Victorian Volcanic Plain assessment at 60 Watts Road, Yan Yean. Report prepared for Gerard Coutts.

FIGURES

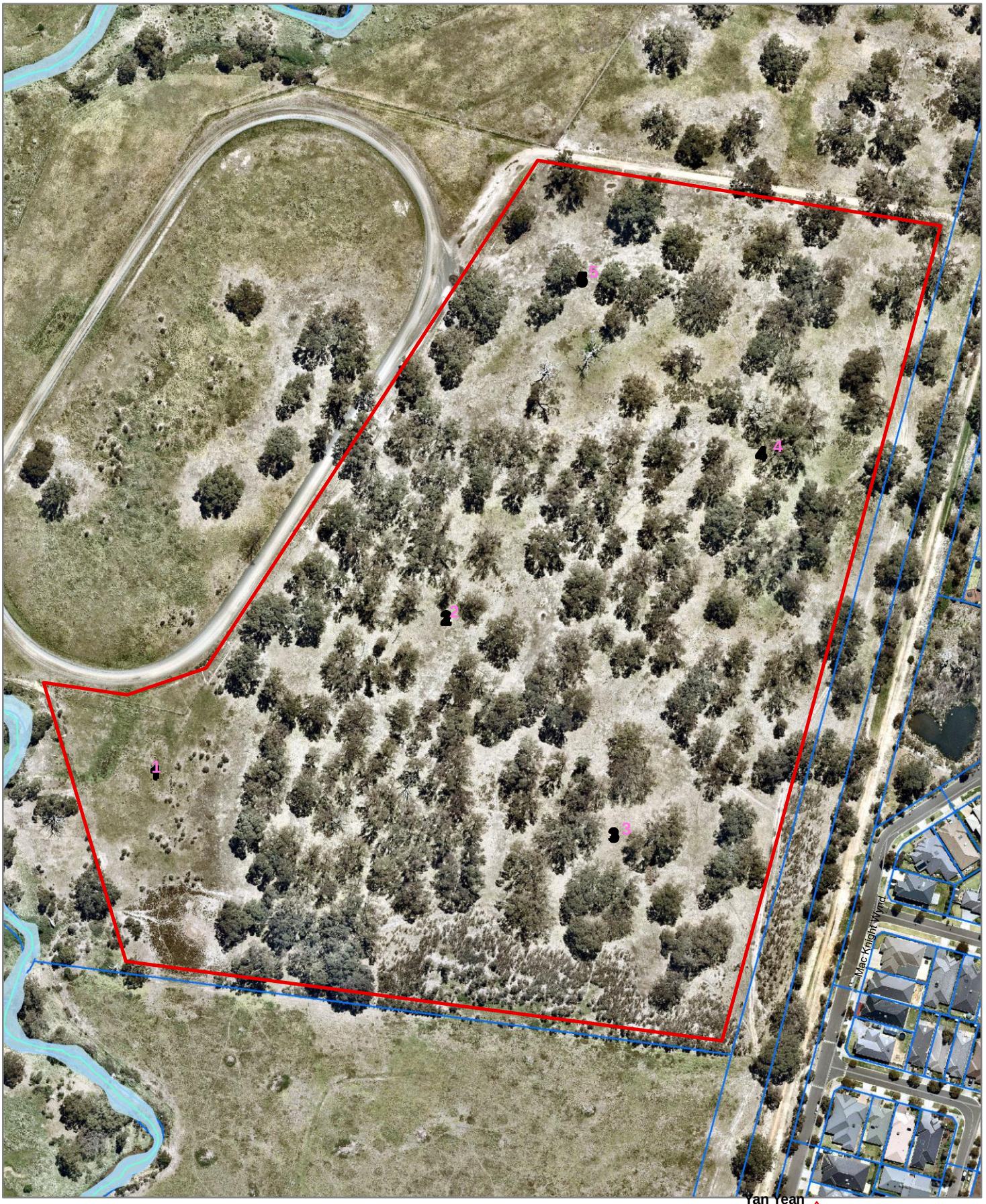

Figure 2
Proposed offset site
60 Watts Road,

Yan Yean

Legend

Proposed offset site (12 ha)

Property Boundaries

Photo points (vegetation monitoring)

0 25 50
Metres

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the Sate of Victoria shall bear no responsibility or liability whatsoever for any errors faults defects or omissions in the information. Aerial source Nearmap 2018

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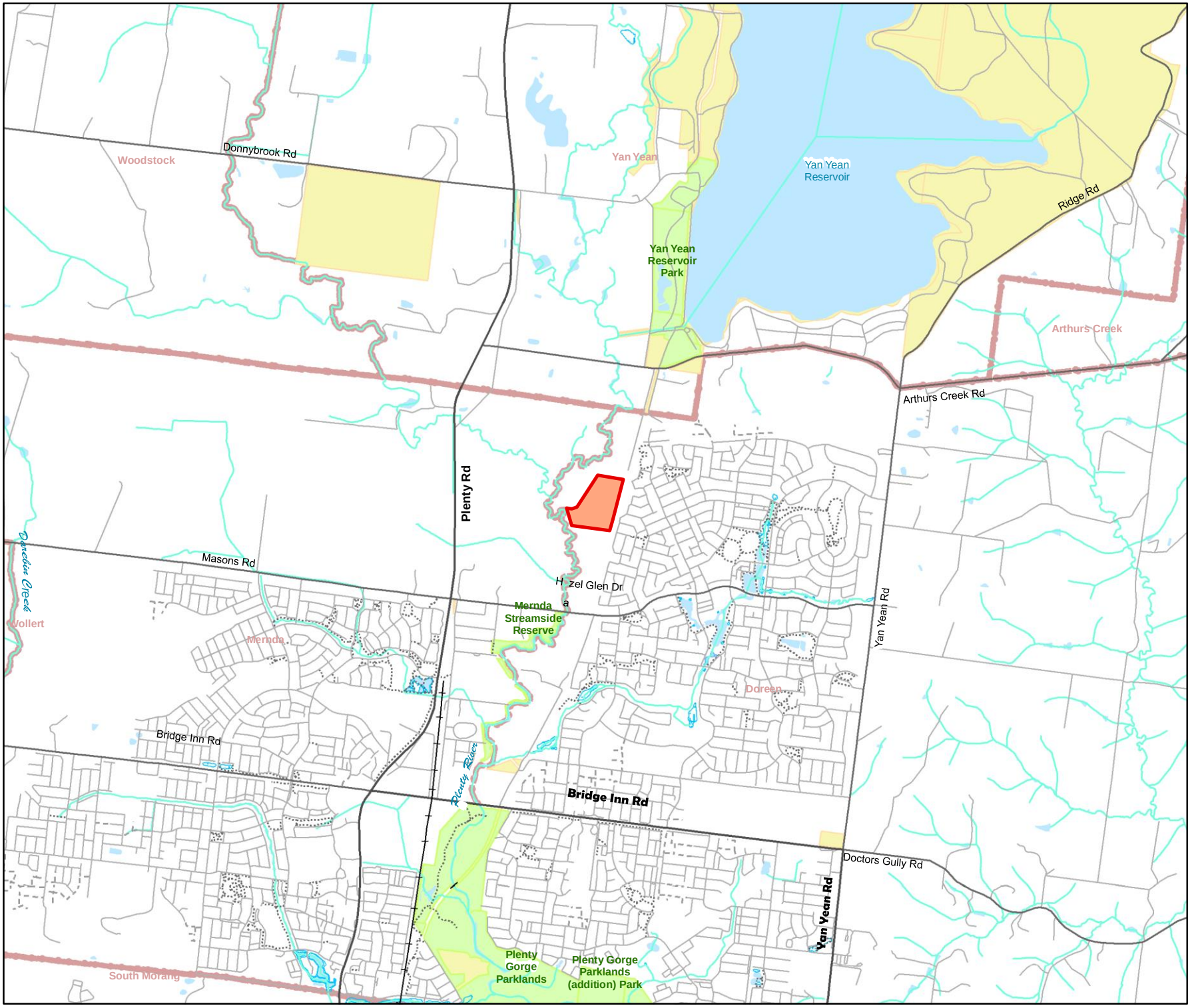

Legend

- Study Area / Offset Area
- Railway
- Major Road
- Collector Road
- Minor Road
- Proposed Road
- Walking Track
- Minor Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Wetland/Swamp
- Parks and Reserves
- Crown Land
- Localities

1

Figure 1

Location of the study area

60 Watts Road, Yan Yean

1 0 500 1,000 Metres

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10839_Fig01_StudyArea 26/04/2019 psorensen

APPENDIX

7.4 A1. Risk Assessment and Management Definitions

7.4.1 Risk framework

		Consequence				
		Minor	Moderate	High	Major	Critical
Likelihood	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

7.4.2 Likelihood and consequence

Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)	
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
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
Qualitative measure of consequences (what will be the consequence/result if the issue does occur)	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.