# APPENDIX K
# SUNSHINE SECTION THREATENED SPECIES MANAGEMENT PLAN

# MELBOURNE AIRPORT RAIL

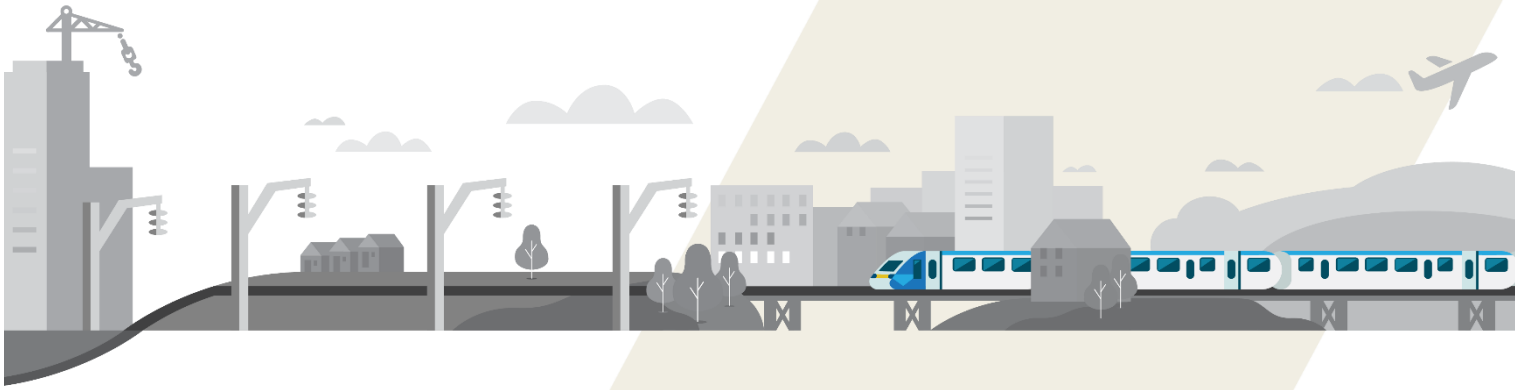
## SUNSHINE SECTION - THREATENED SPECIES MANAGEMENT PLAN

MAR-AJM-PWD-PWD-REP-XEV-NAP-0001992

6 September 2021

Revision D

Prepared for Rail Projects Victoria



# Document Control Record

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| Document Details | | | | | | |
|---|---|---|---|---|---|---|
| Project Title | | Melbourne Airport Rail | | | | |
| Document Title | | **Sunshine Section - Threatened Species Management Plan** | | | | |
| Document ID | | **MAR-AJM-PWD-PWD-REP-XEV-NAP-0001992** | | | Contract No. | CMS450111 |
| File Path | | https://geodocs.ajmjv.com/sites/vrip/WIPLibrary/MAR-AJM-PWD-PWD-REP-XEV-NAP-0001992.docx | | | | |
| Client | | Rail Projects Victoria | | | Client Contact | James Plant |
| Rev | Date | Revision Details/Status | Prepared By | Author | Verifier | Approver |
| A | 22/06/2021 | Issued to RPV | Justin Sullivan | Justin Sullivan | Alicia Michael | Ruth Macdonald |
| B | 11/08/2021 | Issued to RPV | Justin Sullivan | Justin Sullivan | Alicia Michael | Ruth Macdonald |
| C | 02/09/2021 | Issued to RPV | Justin Sullivan | Justin Sullivan | Alicia Michael | Ruth Macdonald |
| D | 06/09/2021 | Issued to RPV | Justin Sullivan | Justin Sullivan | Alicia Michael | Ruth Macdonald |
| Current Revision | | D | | | | |

| Approval | | | |
|---|---|---|---|
| Author Signature | Signed at AJM JV internal Verification and Approval process | Approver Signature | Signed at AJM JV internal Verification and Approval process |
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# Contents



# Appendices

# Glossary

| TERM / ABBREVIATION | DESCRIPTION |
|---|---|
| CaLP Act | *Catchment and Land Protection Act 1994* |
| CEMP | Construction Environmental Management Plan |
| DAWE | Commonwealth Department of Agriculture, Water and Environment |
| Delivery Partner | The contractor (including sub-contractors) to be appointed by the Project Owner to design and/ or construct the Project. |
| DELWP | Department of Environment, Land, Water and Planning |
| EPBC Act | *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) |
| EVC | Ecological Vegetation Class |
| FFG Act | *Flora and Fauna Guarantee Act 1998* |
| MNES | Matter of National Environmental Significance |
| NTGVVP | Natural Temperate Grasslands of the Victorian Volcanic Plains |
| P&E Act | *Planning and Environment Act 1987* (Vic) |
| RPV | Rail Projects Victoria |

# 1. Introduction

Aurecon Jacobs Mott Macdonald Joint Venture (AJM-JV) has been engaged by Rail Projects Victoria (RPV) to prepare a referral to the Commonwealth Minister for the Environment to outline any potential impacts to Matters of National Environmental Significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) from the development and operation of the Sunshine Section of the Melbourne Airport Rail Project (MAR Project).

Ecological assessment of the MAR State Project Land determined that two sections of the larger MAR State Land either side of Barwon Avenue, Sunshine North (Chainage 14.670), present a different magnitude of potential impacts on MNES. Specifically:

- The Sunshine Section (defined as the Section of the larger MAR State Land Project that extends south-west from Barwon Avenue) is unlikely to result in a significant impact on any MNES based on the scope of construction works and implementation of no-go zones and mitigation measures; while
- The Corridor Section (defined as the Section of the larger MAR State Land Project that extends north-east from Barwon Avenue) has the potential to result in a significant impact on Striped Legless Lizard, Spiny Rice-flower, Growling Grass Frog, and Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP).

As such, Rail Projects Victoria (RPV) is seeking assessment of the MAR Project Works on State Land through a separate referral for each geographic section (both separate to the referral for the Commonwealth land component at Melbourne Airport). A map of the larger MAR State Land Project showing both the Sunshine and Corridor Sections is included in Figure 1.

Various Matters of National Environmental Significance (MNES) have been identified as occurring within or adjacent to the Project Land in both State Land Sections of the MAR Project. The potential for impacts to MNES in each section have been assessed in separate EPBC Act referrals, and a Threatened Species Management Plan has been prepared for each section to manage the potential impacts identified.

This Threatened Species Management Plan is specifically relevant to the Sunshine Section of the MAR Project and has been developed to ensure the protection of all areas of habitat identified for MNES associated with the Sunshine Section throughout all phases of the project. This Plan is referred to as the Sunshine Section Threatened Species Management Plan (SSTSMP).

The area of land associated with the development of the Sunshine Section is herein referred to as the 'Sunshine Section of the Project Land'. No works are proposed beyond this area. Potential impacts to ecological values protected under the EPBC Act have been reduced by following a process of avoiding impacts through design modifications to the Project. This process has resulted in a construction footprint that has no direct impact on MNES. Where MNES occur within and adjacent to the Sunshine Section of the Project Land (including within the adjacent Sunshine Triangle Ecological Site and Matthews Hill Reserve), mitigation measures to reduce potential impacts on MNES are detailed in this Plan. The implementation of these mitigation measures has been considered as forming part of the action in the assessment of impacts for the Sunshine Section Project Works.

With the effective implementation of this SSTSMP, the Sunshine Section Project Works are not expected to result in any direct or indirect impacts to MNES. Importantly, based on an assessment against the relevant EPBC Act Significant Impact Guidelines for all MNES present within or adjacent to the Sunshine Section Project Land, it has been concluded that the Sunshine Section Project Works will not result in a significant impact on any MNES.MNES that occur within or adjacent to the Sunshine Section Project Land and are relevant to the SSTSMP include:

- Threatened ecological communities:
  - Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)
- Threatened flora:
  - Sunshine Diuris (*Diuris fragrantissima*)
  - Spiny Rice-flower (*Pimelea spinescens* subsp. *spinescens*)

> Large-headed Fireweed (*Senecio macrocarpus*)

- Threatened fauna
  > Striped Legless Lizard (*Delma impar*)
  > Golden Sun Moth (*Synemon plana*)

## 1.1 Purpose and objectives

The Sunshine Section Threatened Species Management Plan (SSTSMP) applies to planned works within the Sunshine Section of the MAR Project. The SSTSMP details the management measures to be implemented during construction to avoid, minimise and mitigate impacts to MNES identified within and adjacent to the Sunshine Section Project Land. The specific objectives of the SSTSMP are to:

- Avoid direct and indirect impacts to NTGVVP, Spiny Rice-flower and Striped Legless Lizard identified within the Sunshine Section Project Land
- Avoid direct and indirect impacts to Sunshine Diuris, Large-headed Fireweed and Golden Sun Moth which are known to occur in significant ecological sites that occur adjacent to the Sunshine Section Project Land
- Identify key personnel and organisations who are responsible for the implementation of the SSTSMP.

## 1.2 Sunshine Section Works Description

The Sunshine Section Project works include:

- Construction of a new MAR twin track viaduct structure, including associated Overhead Line Equipment (OHLE) and Combined Services Route (CSR) between Sunshine Station and the Albion-Jacana corridor, crossing Anderson Road, Ballarat Road, the Sunbury rail corridor, St Albans Road and Stony Creek.
- Signalling works, including the installation of trackside equipment along the length of the SUN package including along the Sunbury line towards Ginifer Station, along the Brooklyn freight corridor towards Newport Station, and along the Western rail corridor to West Footscray Station.
- Modifications to tracks, formation, drainage, CSR, OHW, and signalling equipment for the MAR, Sunbury and Bendigo tracks Albion and to the beginning of the Jacana freight corridor
- Modifications to the western and Eastern Albion Station forecourts and car parks.
- Modifications to Sunshine Station, including modifications to platforms, the Sunshine Station western car park and the construction of a new concourse.
- Modifications to the existing Sunshine and Sunshine West substations
- Diversion, relocation and protection of existing utilities and underground services.
- Establishment of temporary construction laydown areas, site offices, worksites, storage, parking areas and access roads

## 1.3 Areas supporting MNES

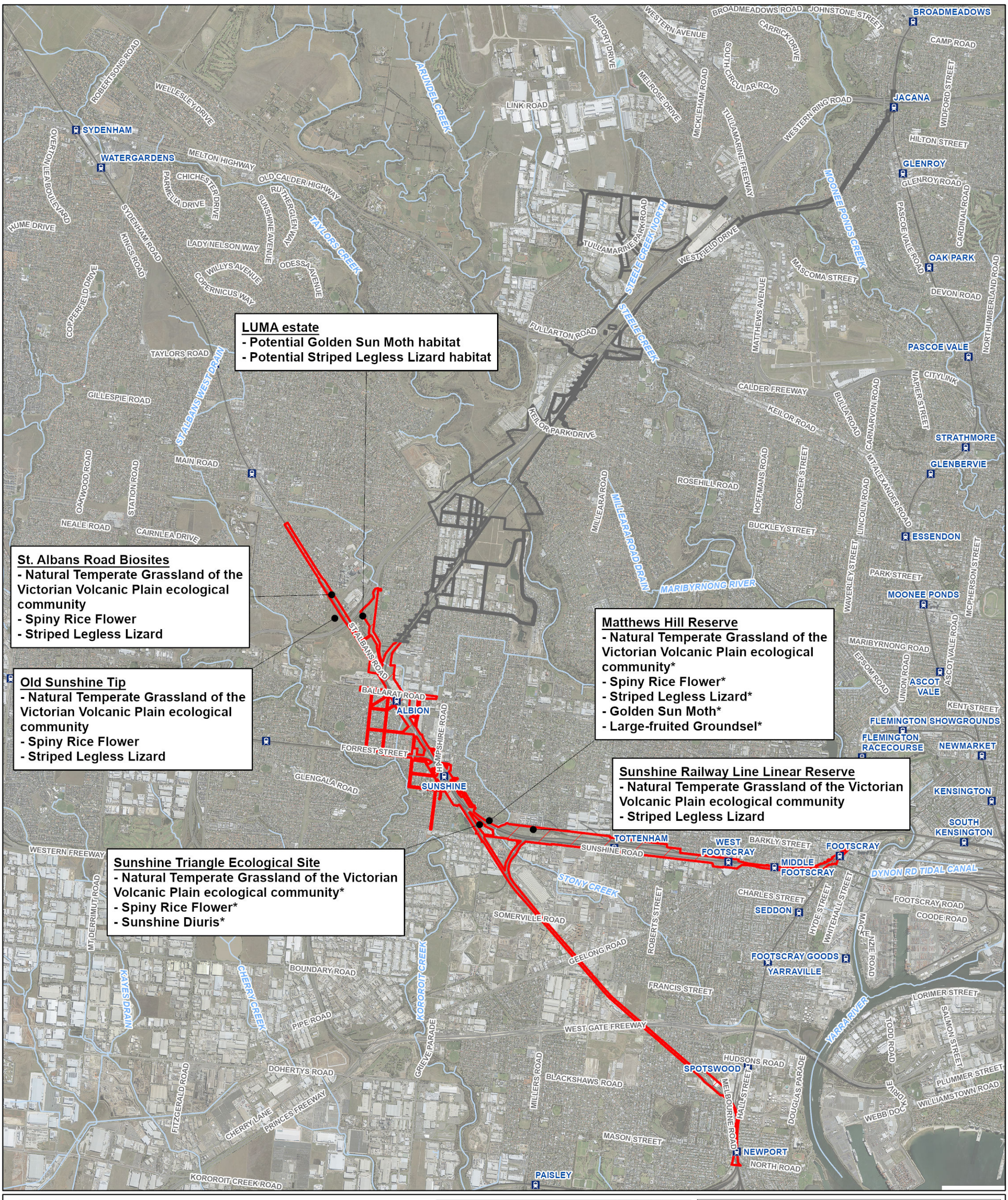
This SSTSMP applies specifically to the following locations that support MNES:

- Sites outside (adjacent to) the Sunshine Section Project Land:
  > Sunshine Triangle Ecological Site (Sunshine Diuris and NTGVVP)
  > Matthews Hill Reserve (Large-headed Fireweed, NTGVVP and Golden Sun Moth)
  > Land adjacent to the Matthews Hill Reserve (Spiny Rice-flower)
- Sites within the Sunshine Section Project Land:

- Sunshine Railway Line Linear Reserve (NTGVVP, Striped Legless Lizard)
- The St Albans Road Biosites (Striped Legless Lizard, Spiny Rice-flower and NTGVVP)
- The Old Sunshine Tip Site (Striped Legless Lizard, Spiny Rice-flower and NTGVVP)
- Rail corridor adjacent to the Sunshine Triangle Ecological Site (Spiny Rice-flower)
- Luma Estate (Potential habitat for Golden Sun Moth and Striped Legless Lizard)

Locations supporting MNES and specifically relevant to this SSTSMP are shown in Appendix A.

Figure 1-1: Sunshine Section Project Land



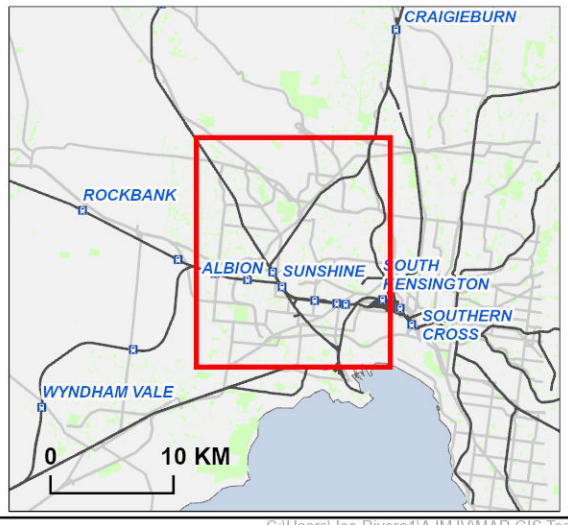

Rail station
Rail
Watercourse

**Project Land**

Corridor Section
Sunshine Section

* - Value present adjacent to, but not within the Project Land at this location

**Map 1 of 1**




Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

# Melbourne Airport Rail

## Project Wide

MNES Overview - Sunshine Section

| Drawing Number: | | | Revision: |
|---|---|---|---|
| MAR-AJM-PWD-PWD-MAP-XEV-MMN-0490564 | | | A.3 |
| Drawn By: J. Rivera | Approved By: L. McComb | Date: 3/09/2021 | Map Size: A3 |

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Metres
Coordinate System: GDA 1994 MGA Zone 55

RAIL PROJECTS VICTORIA
AJM Joint Venture
aurecon JACOBS MOTT MACDONALD

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# 2. Roles and Responsibilities

Table 2-1 outlines the key roles and responsibilities for RPV and Delivery Partners members in relation to the requirements of this SSTSMP.

Table 2-1 Outline of Roles and Responsibilities

| Role | Responsibility |
|---|---|
| **RPV** | |
| RPV Leadership Team and Land, Planning and Environment Director | • Encourages leading practices in biodiversity conservation.<br>• Approves SSTSMP and approach.<br>• Reports performance of the project against performance targets detailed in the SSTSMP on an annual basis and at key milestones. |
| **Delivery Partners** | |
| Delivery Partner Leadership Team | • Principally accountable for meeting environment contractual requirements<br>• Supports and drives leading practices in biodiversity management<br>• Reports performance of the project against performance targets detailed in the SSTSMP on an annual basis and at key milestones |
| Delivery Partner | • Principally responsible for meeting contractual requirements relating to biodiversity objectives<br>• Principally responsible for defining adequate controls in Construction Environmental Management Plan (CEMP) and associated management plans to ensure effective avoidance, minimisation, and mitigation sequencing for potential impacts to MNES<br>• Reports to RPV on progress against performance requirements<br>• Ensures processes defined in the SSTSMP, CEMP and associated management plans for avoidance of impacts to MNES and leveraging opportunities to enhance outcomes for MNES, are effectively integrated into project activities. |
| Project Ecologist | • Is suitably experienced and qualified with specific experience working with MNES relevant to the Sunshine Section of the MAR Project<br>• Holds appropriate ethics approval and authorisation under the *Wildlife Act 1975*<br>• Responsible for on-ground implementation of this SSTSMP, particularly any implementation of salvage and relocation protocols where required, and ensuring effective establishment of no-go zones |
| Site Environmental Officer | • Is suitably experienced and qualified<br>• Responsible for on-ground implementation and monitoring of this SSTSMP and the CEMP |
| Wildlife Handler | • Is suitably experienced and qualified<br>• Holds appropriate authorisation under the *Wildlife Act 1975*<br>• Is called upon as required by the Delivery Partner when clearing operations are planned or animals are identified on site that are injured or are required to be relocated. |

# 3. Legal Framework

## 3.1 Commonwealth and State Legislation

The following relevant legislation guided the preparation of the SSTSMP (Table 3-1).

Table 3-1: Relevant legislation

| Jurisdiction | Act | Relevance |
|---|---|---|
| Commonwealth | *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* | The following MNES are listed under the EPBC Act and are subject to the SSTSMP:<br>• Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)<br>• Sunshine Diuris (*Diuris fragrantissima*)<br>• Spiny Rice-flower (*Pimelea spinescens subsp. spinescens*)<br>• Large-headed Fireweed (*Senecio macrocarpus*)<br>• Striped Legless Lizard (*Delma impar*)<br>• Golden Sun Moth (*Synemon plana*)<br>The SSTSMP details measures that are part of the commitment of RPV and the Delivery Partner in meeting the legislative obligations of the EPBC Act. |
| State | *Planning and Environment Act 1987 (P&E Act)* | As part of planning approval, an acceptable Environmental Management Framework (EMF) and Environmental Management Requirements (EMRs) must be provided. Compliance with the EMF and EMRs during delivery is a contractual requirement. Compliance with the EMF and EMRs is also assessed by an Independent Environmental Auditor appointed for the Project. |
| | *Flora and Fauna Guarantee Act 1988 (FFG Act)** | The following processes have been listed as potentially threatening processes in accordance with Section 10 of the FFG Act:<br>• Invasion of native vegetation by 'environmental weeds' |
| | *Catchment and Land Protection Act 1994 (CaLP Act)* | Preventing the spread and establishment of noxious weed and pest animal species is a requirement of the CaLP Act. |
| | *Wildlife Act 1975* | It is an offence to take, destroy, acquire, capture and handle listed 'protected', 'notable' or 'endangered' wildlife in Victoria without an authorisation under the Wildlife Act 1975. Penalties for offences against listed species are significant and can include fines and / or imprisonment.<br>Any person employed by the project to undertake surveys for or to handle fauna will need to have an authorisation to do so under the Wildlife Act 1975. |

* The FFG Act Amendment Bill 2019 has passed through Victorian Parliament and amendments took effect on 1 June 2020. To support the amendments, the FFG Act threatened species list and protected flora lists have been reviewed. Updates to the threatened species list were gazetted in May 2021. Given the focus of this plan is MNES listed under the EPBC Act, any updates will not alter this plan.

## 3.2 Associated Documents

This SSTSMP provides a framework for the conservation management approach during construction and operation of the Sunshine Section of the MAR Project and should be read in conjunction with the Construction Environmental Management Plan (CEMP) and Environmental Management Framework (EMF).

# 4. Overview of MNES relevant to the Sunshine Section

## 4.1 Natural Temperate Grassland of the Victorian Volcanic Plain

### 4.1.1 Ecological community description

Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) is a critically endangered ecological community that is associated with the Victorian Volcanic Plain (VVP) bioregion. It is commonly associated with the Victorian Ecological Vegetation Class (EVC) of Plains Grassland (EVC 132).

The Natural Temperate Grassland is usually dominated by one or more of the following native tussock-forming grasses: kangaroo grass (*Themeda triandra*), wallaby grasses (*Austrodanthonia spp*.) or spear grasses (*Austrostipa spp*.), though some drainage lines may be dominated by large tussocks of *Poa labillardierei*. A variety of native herbs, including wildflowers, may be interspersed amongst the native grass tussocks (DSEWPC 2011). They usually flower in spring and may become dominant under some management regimes. In some circumstances, the native grasses may be sparse and the other native herbs are dominant, for instance after some fire regimes, and so these native herb fields are included as part of the national ecological community. Trees and large shrubs are naturally absent or sparse, and make up no more than 5% crown cover.

NTGVVP is listed as Critically Endangered under the EPBC Act.

### 4.1.2 Occurrence of NTGVVP relevant to the Project

A total of 2.144 hectares of NTGVVP has been identified within the Sunshine Section Project Land in the following locations:

- Sunshine Railway Line Linear Reserve (1.235 ha)
- St Albans Road Biosites (0.369 ha)
- Old Sunshine Tip Site (0.539 ha)

NTGVVP has also been identified adjacent to the Sunshine Section Project Land in the following locations:

- Matthews Hill Reserve
- Sunshine Triangle Ecological Site

The extent of NTGVVP within the Sunshine Section of the Project Land is shown in Appendix A. Methods and results of native vegetation and habitat surveys undertaken for this community during the impact assessment are provided in the Sunshine Section MNES Report (MAR-AJM-PWD-PWD-REP-XEV-NAP-0001983).

### 4.1.3 Existing conservation advice and recovery plans

The following key threats to NTGVVP are outlined in the published Conservation Advice for the threatened ecological community (DEWHA 2008):

- Habitat Loss, Disturbance and Modification
- Invasive weeds
- Trampling, Browsing or Grazing, and Fire

Priority actions for recovery and threat abatement at a local level include:

- Monitoring
- Protection of known remnants through the development of conservation agreements and covenants

- Weed control, particularly targeting Chilean Needle Grass and Serrated Tussock Grass.
- Preventing trampling and excessive grazing pressure at known sites.
- Developing and implementing appropriate fire management regimes.

The above guidance has been referred to in the formulation of mitigation measures associated with this management plan.

## 4.2 Striped Legless Lizard

### 4.2.1 Species and habitat description

The Striped Legless Lizard (*Delma impar*) is a long, thin-bodied lizard, which like all members of the Pygopodidae family lacks forelimbs and has reduced or vestigial hind limbs (Cogger 2014). Striped Legless Lizards reach up to a maximum of 30 cm with the tail contributing to over half of this length. They can exhibit considerable variations in colour patterning, although can be distinguished by a series of stripes which run the length of the body. Striped Legless Lizards can often be confused with juvenile snakes but can be differentiated by the presence of ear openings and an undivided tongue (Cogger 2014).

Striped Legless Lizards were thought to exclusively inhabit native grasslands dominated by Kangaroo Grass and spear grasses in south-eastern Australia, but recent studies indicate the species also utilises introduced pasture grass and inhabits cleared woodland areas (Cogger 2014). A dense grassland structure is now considered to be the primary habitat requirement as opposed to a specific native species composition.

The Striped Legless Lizard is a grassland specialist, found only in areas of native grassland and nearby grassy woodland and exotic pasture (TSSC 2016a). The species' primary habitat is encompassed by four nationally threatened ecological communities including Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) which occurs in the Sunshine Section.

The Striped Legless Lizard is listed as Vulnerable under the EPBC Act, and endangered under the FFG Act.

### 4.2.2 Occurrence of Striped Legless Lizard relevant to the Project

A total of 6.427 hectares of Striped Legless Lizard habitat has been identified in the Sunshine Section Project Land in the following locations:

- St Albans Road Biosites (0.770 ha) (Recorded during targeted surveys)
- Old Sunshine Tip Site (0.897 ha) (Species known to occur)
- Sunshine Railway Linear Reserve (4.185 ha) (Moderate habitat only, considered to potentially occur)
- Luma Estate (0.575 ha) (Moderate habitat only, considered to potentially occur).

The extent of habitat for Striped Legless Lizard in the Sunshine Section of the Project Land is shown in Appendix A. Methods and results of targeted surveys undertaken for the species during the impact assessment are provided in the Sunshine Section MNES Report (MAR-AJM-PWD-PWD-REP-XEV-NAP-0001983).

### 4.2.3 Existing conservation advice and recovery plans

The major threats to the Striped Legless Lizard and main cause for the species being eligible for listing as Vulnerable under the EPBC Act is the loss and decline of grassland habitat due to urban expansion, particularly on Melbourne's western fringe as well as inappropriate fire regimes and habitat modification from agricultural development across the species range (DSEWPaC 2011c).

The protection, management and improvement in understanding and monitoring of habitat critical to the survival of the Striped Legless Lizard are priority conservation actions in the Conservation Advice prepared by the Threatened Species Scientific Committee (2016). Habitat critical to the survival of Striped Legless Lizard is likely to include sites that possess more than one of the following characteristics:

- Provides breeding habitat
- Provides foraging habitat
- Provides refuge from disturbance events
- Provides for long term protection from development
- Has connectivity value and contributes to the evolutionary potential of the species in the wild across its natural geographic range

Key threatening processes thought to contribute to the decline of Striped Legless Lizard populations are identified in the National Recovery Plan for Striped Legless Lizards (Smith & Robertson 1999) and include:

- Loss, modification, degradation, and fragmentation of habitat
- Invasive species
  - Spread of invasive grasses
  - Feral cats and foxes adjacent to areas harbouring Striped Legless Lizard
- Fire

The above guidance has been referred to in the formulation of mitigation measures associated with this management plan.

## 4.3 Golden Sun Moth

### 4.3.1 Species and habitat description

The Golden Sun Moth (*Synemon plana*) is a medium sized, diurnal (day flying) moth with clubbed antennae (DEWHA 2009a). The species is sexually dimorphic with the females having an enlarged abdomen and ovipositor that aids in egg laying. The species is also sexually dichromatic in wing colour. The forewings of females are brown and grey while the hind wings are yellow with black spots. Male Golden Sun Moth have dark brown forewings with grey scales and bronze-coloured hind wings. Females, which only fly irregularly, position themselves on the ground in a conspicuous location (usually inter-tussock spaces), flashing their golden hind wings (petticoats) to the males, who fly low over the grasses searching for them.

Golden Sun Moth prefer warm, dry conditions (above 20°C with little to no wind and cloud) and are usually observed flying during the warm part of the day (between 10:00 and 14:00) (DEWHA 2009a). Golden Sun Moth breeding season begins in mid-October and continues through to early January (DEWHA 2009a). The breeding season differs slightly from year to year depending on climate and location. During this time adult moths emerge continuously in cohorts and males are seen actively flying in search of females.

Potential habitat for Golden Sun Moth consists of areas which previously or currently support native grasslands or grassy woodlands (including derived grasslands) across the historical range of the species. Previous studies found that Golden Sun Moths display a preference for wallaby grasses *Rytidosperma* spp. (particularly *R. carphoides*, *R. auriculata*, *R. setacea*, *R. eriantha* and *R. racemosa*). However, more recent surveys have found Golden Sun Moth present in degraded grasslands and patches invaded with weedy species, including exotic Chilean Needle-grass (*Nassella neesiana*), native Red-leg grass (*Bothriochloa macra*), spear grasses (*Austrostipa* spp.) and Weeping Grass (*Microlaena stipoides*).

The Golden Sun Moth is listed as Critically Endangered under the EPBC Act and vulnerable under the FFG Act.

### 4.3.2 Occurrence of Golden Sun Moth relevant to the Project

A total of 0.575 hectares of potential Golden Sun Moth habitat has been identified within the Sunshine Section Project Land in one location:

- Luma Estate (Moderate habitat only, considered to potentially occur).

2.48 hectares of Golden Sun Moth habitat has been identified outside the Sunshine Section Project Land in one location:

- Matthews Hill Reserve (2.48 ha) (recorded during targeted surveys)

Golden Sun Moth individuals have not been recorded in the Sunshine Section of the Project Land. Areas of Golden Sun Moth habitat are shown in Appendix A. Methods and results of targeted surveys undertaken for the species during the impact assessment are provided in the Sunshine Section MNES Report (MAR-AJM-PWD-PWD-REP-XEV-NAP-0001983).

### 4.3.3 Existing conservation advice and recovery plans

The Action Statement for the Golden Sun Moth prepared under the FFG Act (DSE 2004) notes the following threatening processes to Golden Sun Moth in Victoria:

- Habitat loss, degradation and fragmentation
- Weed invasion
- Altered fire and grazing regimes

While a National Recovery Plan currently does not exist for this species, management actions are recommended in the Conservation Advice published by the Commonwealth (DoE 2013). This includes:

- Minimisation of disturbance in known populations
- Monitoring of known populations
- Control of invasions of weeds and pasture species
- Managing the amount of grazing
- Development of appropriate fire management strategies
- Interpretation and community awareness.

The above guidance has been referred to in the formulation of mitigation measures associated with this management plan.

## 4.4 Spiny Rice-flower

### 4.4.1 Species and habitat description

Spiny Rice-flower (*Pimelea spinescens subsp. spinescens*) is a small spreading perennial shrub growing to 50cm in height (DEWHA 2009b). Leaves are green and oval-shaped about 2-10mm long and 1-3mm wide and grow from spine-tipped stems. Clusters of between 6 and 12 small, unisexual (rarely bisexual), hairless pale yellow flowers form the inflorescences. Flowers are 1.5-3mm long (males, slightly larger than females) and have four ovate petal-like loves. Floral clusters are subtended by four leaf-like bracts 3-7mm long and 1.5-4 mm wide. Plants from more northerly populations appear more robust than those from southern areas. Hairless flowers and stalks separate this subspecies from *Pimelea spinescens subsp. pubiflora* (Wimmera Rice-flower) (Carter & Walsh 2006).

Spiny Rice-flower is endemic to Victoria, with approximately 90% of the population occurring on the Victorian Volcanic Plain bioregion with the remaining population occurring in the western part of the Midlands and Riverina bioregions. It occurs on basalt soils and in areas that receive low levels of disturbance often associated with Kangaroo Grass (*Themeda triandra*) grasslands. Spiny Rice-flower is slow growing and may live as long as 100 years, with flowering occurring between April to August (DEWHA 2009b).

Spiny Rice-flower is listed as Critically Endangered under the EPBC Act and  FFG Act.

### 4.4.2 Occurrence of Spiny Rice-flower relevant to the Project

21 individual Spiny Rice-flower plants have been recorded in the Sunshine Section Project Land in the following locations:

- St Albans Road Biosites (8 plants)
- Rail corridor adjacent to Sunshine Triangle Ecological Site (12 plants)
- Old Sunshine Tip (1 plant)

An additional 17 Spiny Rice-flower plants were also recorded during targeted surveys outside the Project Land in land adjacent to Matthews Hill Reserve.

The locations of Spiny Rice-flower in the Sunshine Section of the Project Land is shown in Appendix A. Methods and results of targeted surveys undertaken for the species during the impact assessment are provided in the Sunshine Section MNES Report (MAR-AJM-PWD-PWD-REP-XEV-NAP-0001983).

### 4.4.3 Existing conservation advice and recovery plans

Key threatening processes thought to contribute to the decline of Spiny Rice-flower populations are identified as follows in the National Recovery Plan for Spiny Rice-flower (Carter & Walsh 2006) and the existing Conservation Advice for the species (TSSC 2016b):

- Weed invasion – perennial introduced grasses
- Road and rail maintenance – Spiny Rice-flower populations at great risk from maintenance works near roadsides and rail reserves, and soil compaction by vehicle movement

Management priorities for Spiny Rice-flower include:

- Habitat loss and fragmentation
  - > Protect key populations from vegetation clearing and degradation through the establishment of formal reserves and conservation agreements
  - > Install signs advising the public of the presence of a nationally Critically Endangered species and the importance of protecting it
- Invasive plants
  - > Undertake appropriate and ongoing weed control at key sites
  - > Control the spread of weeds by reducing disturbance, e.g. reducing stock, vehicle or public access
- Stakeholder engagement
  - > Establish an ongoing incentive program for actively involved community groups to help support and improve site-based conservation management
  - > Provide information on the Spiny Rice-flower distribution, ecology and habitat to relevant land managers.

The above guidance has been referred to in the formulation of mitigation measures associated with this management plan.

## 4.5 Sunshine Diuris

### 4.5.1 Species and habitat description

The Sunshine Diuris is a terrestrial herb, emerging annually from a lobed, subterranean tuber. It has 2–3 slender, channelled, grass-like green leaves up to 30 cm long. A slender green stem to 35 cm tall bears 1–10 scented flowers coloured white with variable purplish hues and streaks, while the lateral sepals are green. Flowering commences in late October, through November and is completed by early December. By late

December the leaf has shrivelled, and if pollination has occurred, the seed capsule is ripening (Murphy *et al* 2008).

The Sunshine Diuris was once abundant on the grassy plains to the west of Melbourne where it grew in native grasslands dominated by Kangaroo Grass *Themeda triandra*, on heavy basalt soils, often with embedded basalt boulders (Murphy *et al* 2008). It has suffered a catastrophic decline in range and abundance since European settlement, and is now confined to a single location at Sunshine, referred to in this plan as the Sunshine Triangle Ecological Site. This site supports a small yet significant remnant of Plains Grassland. The soil is shallow heavy clay with a friable dark surface layer and has scattered exposed basalt boulders.

The Sunshine Diuris is listed as Endangered under the EPBC Act and critically endangered under the FFG Act.

### 4.5.2 Occurrence of Sunshine Diuris relevant to the Project

Sunshine Diuris is known to occur adjacent to the Sunshine Section Project Land in the following location:

- Sunshine Triangle Ecological Site (species known to occur in this location)

The location of the Sunshine Triangle Ecological Site is shown in Appendix A. This site does not form part of the Sunshine Section of the Project Land. Given the highly limited known occurrence of this threatened species, no targeted surveys were undertaken for this species as part of the impact assessment for the project.

### 4.5.3 Existing conservation advice and recovery plans

Key threatening processes thought to contribute to the decline of Sunshine Diuris populations are identified in the National Recovery Plan for Sunshine Diuris (Murphy *et al.* 2008):

- Habitat destruction and degradation – original native grasslands have been destroyed for agricultural, industrial and urban development. Remaining areas are mostly small, highly fragmented and usually substantially degraded.
- Weed invasion – invasion by the exotic Chilean Needle-grass is extensive and poses a serious threat. Other serious weed species include annual grasses.
- Predation – predation of tubers by the introduced House Mouse. As well as damage of plants by introduced species of slugs and snails is an ongoing problem.
- Altered fire regimes - too frequent or ill-timed fire may be a threat, causing damage to plants, increasing seedling mortality and destroying immature seedpods.
- Human interference

The overall objective of recovery is to minimise the probability of extinction of the Sunshine Diuris in the wild, and to increase the probability of important populations becoming self-sustaining in the long term. The National Recovery Plan for the Sunshine Diuris outlines key objectives for the recovery of the species. Specific objectives of the National Recovery Plan for the Sunshine Diuris relevant to the maintenance and enhancement of the population at Sunshine include:

- Ongoing monitoring of plants and habitat (including monitoring to occur at plant emergence, during peak flowering and seed-set)
- Pest control (including control of weeds and pest animals such as snails, slugs and House Mouse through fencing, caging of plants and baiting)
- Ecological burning

## 4.6 Large-headed Fireweed

### 4.6.1 Species and habitat description

Large-headed Fireweed is an erect or sprawling, perennial, long-lived herb with stems to 70 cm high. It has greyish stalkless, linear, alternate leaves that are about 10 cm long and 2–5 mm wide which are covered in hairs that give a cobweb-like appearance. Each plant has 6–8 large yellowish flower-heads that are about 20 mm long and contain 50–100 individual flowers (Belcher 1983). The species flowers between August and October. In Victoria, it is largely confined to remnant Themeda grasslands on loamy clay soils derived from basalt from near Melbourne west to Skipton (Walsh 1999).

Large-headed Fireweed is listed as Vulnerable under the EPBC Act and critically endangered under the FFG Act.

### 4.6.2 Occurrence relevant to the Project

Large-headed Fireweed has been identified adjacent to (outside) the Sunshine Section Project Land in the following location:

- Within the Matthews Hill Reserve (28 individuals were recorded during targeted surveys in this area).

No Large-headed Fireweed were recorded during targeted surveys within any portion of the Sunshine Section Project Land.

The location of Matthews Hill Reserve is shown in Appendix A. Methods and results of targeted surveys undertaken for the species during the impact assessment are provided in the Sunshine Section MNES Report (MAR-AJM-PWD-PWD-REP-XEV-NAP-0001983).

Large-headed Fireweed is listed as vulnerable under the Commonwealth EPBC Act 1999, and as vulnerable under the Victorian FFG Act 1988.

### 4.6.3 Existing conservation advice and recovery plans

The following threatening processes listed in the National Recovery Plan (Sinclair 2010) are considered to have the potential to threaten populations or habitat for Large-headed Fireweed:

- Inappropriate disturbance (fire) regimes
  - If burnt at the beginning of the growing season, Large-headed Fireweed plants may be killed. If fires occur too infrequently, recruitment is likely to be reduced.
  - The relatively low biomass of understorey species in non-grassy sites probably allows Large-headed Fireweed to actively recruit under a fire regime with longer intervals between fires (i.e. decades).
- Weed invasion
  - Highly invasive weed species are actively spreading in or around Large-headed Fireweed populations. These include African Love-grass, Blue Periwinkle, Bridal Creeper and Montpellier Broom.
- Grazing
  - Grazing was probably the major factor in the historical decline of the species. Recovery is likely to be successfully only in landscapes that are not grazed.
- Clearing/removal
  - A number of smaller populations are located in areas of less secure tenure from a conservation perspective (e.g. rail reserves).

# 5. Potential Project Impacts

Potential impacts from the project have been considered for all MNES that occur within and adjacent to the Sunshine Section Project Land. These considerations include impacts during both the construction phase and operation phase as follows.

- Construction Phase Impacts:
  - > Direct removal and/or destruction of MNES or associated habitats from construction activities.
  - > Facilitating the spread of noxious weeds, pest animals and pathogens through the transport of propagules, that would result in disturbance or degradation to MNES.
  - > Temporary barriers to dispersal of MNES created by construction activities such as fences.
  - > Impacts to water quality at Stony Creek through erosion or surface runoff that may impact MNES.
  - > Increased light and noise that may impact MNES.
- Operation Phase Impacts
  - > Permanent barriers to dispersal of MNES associated with new infrastructure or clearance of vegetation.
  - > Ongoing absence of permanently removed vegetation causing a net reduction in available habitat for MNES.
  - > Increased light and noise that may impact MNES.

## 5.1 Potential Impacts to Threatened Ecological Communities

The Project has the potential to result in the following impacts on the Natural Temperate Grasslands of the Victorian Volcanic Plains (NTGVVP) ecological community:

- Direct removal of habitat
- Habitat fragmentation
- Habitat degradation through the spread of weeds and/or sediment run-off from construction activities

## 5.2 Potential Impacts to Threatened Species

The Project has the potential to result in the following specific impacts on threatened species:

- Sunshine Diuris:
  - > Habitat degradation through the spread of weed propagules, sediment run-off and/or airborne construction particulate matter (dust) into the Sunshine Triangle Ecological Site from works adjacent to the site, increased predation on tubers of Sunshine Diuris by mice if waste not appropriately disposed during construction.
- Spiny Rice-flower:
  - > Potential removal of Spiny Rice Flower plants
  - > Habitat degradation through the spread of weed propagules and/or sediment run-off into the species' habitat
- Large-headed Fireweed:
  - > Habitat degradation through the spread of weed propagules and/or sediment run-off into the adjacent Matthews Hill Reserve
- Striped Legless Lizard:

> Direct removal of habitat through construction activities

> Death of individuals during construction activities

> Habitat fragmentation through construction activities

> Habitat degradation through the spread of weed propagules and/or sediment run-off into the species' habitat

Golden Sun Moth:

- Habitat degradation through the spread of weed propagules and/or sediment run-off into the species' habitat in the Matthews Hill Reserve

Appropriate mitigation measures will be implemented as per the following sections to manage the above risks for all relevant MNES.

# 6. Management Measures – Planning Phase

## 6.1 Preparation of the Environmental Management Framework

An Environmental Management Framework (EMF) is to be prepared to ensure the Delivery Partner appropriately manages threats to the relevant MNES in the Sunshine Section. This includes minimising impacts to the MNES before, during and following construction.

Table 6-1: Environmental Management Framework

| Objective | | | |
|---|---|---|---|
| **Action** | **Timing** | **Responsibility** | **Measurable Outcome** |
| Prepare an Environmental Management Framework with Environmental Management Requirements developed to protect and manage MNES and their habitat within and adjacent to the Sunshine Section Project Land | During planning and design phases | RPV | An approved EMF |

# 7. Management Measures – Detailed Design

These measures are to be carried out prior to the finalisation of the construction footprint and commencement of works.

Table 7-1 Detailed Design Management Measures

| Objective | | | |
|---|---|---|---|
| **Action** | **Timing** | **Responsibility** | **Measurable Outcome** |
| Avoid direct removal of any individuals or habitat for MNES | Detailed design | Delivery Partner | No loss of NTGVVP.<br>No loss of any Spiny Rice-flower, Large-headed Fireweed or Sunshine Diuris individuals.<br>No loss of habitat for Striped Legless Lizard or Golden Sun Moth. |
| Avoidance of MNES by exclusion of ecologically significant sites from the Sunshine Section Project Land | Planning/design | RPV/<br>Delivery Partner | No direct impacts to MNES |
| Avoidance of MNES by designation of no-go zones for all MNES within the Sunshine Section Project Land | Detailed design | RPV/<br>Delivery Partner | No direct impacts to MNES |

# 8. Management Measures – Pre-Construction

Management measures relating to preconstruction activities must be undertaken by the Delivery Partner as detailed in Table 8-1.

Table 8-1: General Pre-Construction Management Measures

| Objective | | | |
|---|---|---|---|
| **Action** | **Timing** | **Responsibility** | **Measurable Outcome** |
| All approvals and permits need to be obtained prior to construction commencing. Any conditions associated with those approvals and permits must also be adhered to. | Prior to construction commencing. | Primary approvals – RPV<br>Secondary approvals – Delivery Partner | Compliance with all approval and permit conditions. |
| No-go zones have been identified for the project for all areas that support MNES. All No-go zones are to be included on all site maps, including all Environmental Management Plans and related documentation (including the Construction Environment Management Plan). | Prior to construction commencing. | Primary approvals – RPV<br>Secondary approvals – Delivery Partner | All no-go zones are clearly identified. |

# 9. Management Measures – Construction

Site hygiene is an important part of any construction site. With various MNES identified within and adjacent to the Sunshine Section of the Project Land, specific measures will need to be implemented. Specific measures to avoid, minimise or mitigate impacts to MNES during construction are identified in Table 9-1.

Table 9-1: Construction phase Mitigation Measures

| Action | Timing | Responsibility | Measurable Outcome |
|---|---|---|---|
| **Adherence to Project Footprint** | | | |
| The project footprint (See EPBC Referral Appendix G) is to be adhered to through the construction process. Any deviations outside the project footprint require approval from RPV, and require an impact assessment by a suitably qualified ecologist. | Prior to commencing Works. | Delivery Partner and Project Ecologist | No deviation of works beyond the project footprint |
| **General Construction Measures** | | | |
| The spread of noxious weeds and pest animals must be controlled in accordance with the CaLP Act. | For the duration of Works. | Delivery Partner | No spread of noxious weeds into any of the identified areas of habitat for MNES |
| Where possible, all vehicles, machinery and equipment will move along formed/designated access tracks to prevent the spread and establishment of weeds and diseases. Vehicles and machinery will access the Sunshine Section Project Land through defined entry and exit points. | For the duration of Works. | Delivery Partner | Entry, exit and access points defined. |
| Construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation and waterways; and placed in previously cleared or hardstand areas. | For the duration of Works. | Delivery Partner | All stockpiles and construction infrastructure to be located outside of areas of habitat for MNES. |
| All staff to be inducted. The induction must include training in the identification and specific management procedures relevant to the various ecologically significant values present (including but not limited to MNES). Site offices must include images of relevant threatened species to aid and educate staff in identification.<br>The induction of all staff to the site must include a discussion of the importance of No-go zones and must clearly outline activities which are prohibited from these areas. | Prior to commencing Works. | Delivery Partner | All personnel inducted to site and aware of management procedures specific to the various MNES present. |
| A contingency plan must be in place for salvage and translocation of any Striped Legless Lizard in the event that any individuals are recorded during construction.<br>A Striped Legless Lizard Salvage and Translocation Plan is provided in Appendix B. | For the duration of Works. | Delivery Partner | In the event of a Striped Legless Lizard being identified in an area of works during construction, the Striped Legless Lizard Salvage and Translocation Plan (Appendix B) must be implemented appropriately. |
| **No-go Zones** | | | |
| The No-go zones identified in this management plan are to be avoided by construction works, with no admittance to the areas by construction personnel, vehicles or machinery.<br>Foot access of personnel to No-go zones for the purpose of guiding bores must be accompanied by a qualified ecologist.<br>The No-go zones are to be included on all site maps, including all Environmental Management Plans and related documentation (including the CEMP). | For the duration of Works. | Delivery Partner | No admittance into No-go zones.<br>No-go zones marked clearly on all site maps. |

| Action | Timing | Responsibility | Measurable Outcome |
|---|---|---|---|
| The No-go zone must be fenced with high-visibility safety bunting or temporary construction fencing (including erosion fencing if necessary). The area is to be signed as a 'No-go zone'. fencing should enable fauna to move through areas of habitat.<br>The erection of the fencing surrounding No-go zones for MNES must be supervised or reviewed by a qualified and experienced ecologist to ensure that the values supported within that No-go zone are not impacted. The fencing is to be maintained for the duration of the works. | For the duration of Works. | Delivery Partner | No-go zones fenced prior to construction, and fencing maintained throughout construction. |
| Where a No-go zone is to be established to protect EPBC Act listed NTGVVP, additional solid construction fencing (e.g. geofabric, shadecloth or similar solid fabric) is required to be erected to prevent dust impacts. | For the duration of Works. | Delivery Partner | Solid fabric to be installed to protect areas of NTGVVP. |
| **Erosion and sediment controls** | | | |
| Implement environmental management measures for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 1834) for works in the vicinity of Stony Creek such that water quality of Stony Creek is maintained at pre-construction levels. | For the duration of Works. | Delivery Partner | Erosion and sediment controls established prior to construction. |
| **Mitigation measures specific to the Sunshine Triangle Ecological Site** | | | |
| No go zones must be clearly delineated on site using temporary construction fencing as required and signage (see above for further details under No-go zones). | Prior to commencing works | Delivery Partner | No-go zones fenced prior to construction |
| Management of dust is to be undertaken through installation and maintenance of temporary construction fencing (e.g. geofabric, shadecloth or similar solid fabric) before undertaking any works adjacent to Sunshine Triangle Ecological Site to protect the Sunshine Diuris | For the duration of Works. | Delivery Partner | Solid fabric to be installed to protect Sunshine Triangle Ecological Site, and maintained for duration of construction period |
| Further dust management is to be undertaken by limiting construction activities adjacent to the Sunshine Triangle Ecological Site to outside the flowering period of the Sunshine Diuris (1st October – 31st December). Dust monitoring must be implemented to determine if additional protocols need to be enacted. In the event that dust monitoring finds dust levels to increase beyond pre-construction levels, additional dust suppression measures must be implemented. Prior consultation with DELWP and DAWE is required prior to commencement if any major works are to occur within the flowering period. | Prior to commencing works | Delivery Partner | All works adjacent to Sunshine Triangle Ecological Site to be undertaken between 1st January and 31st September.<br>Dust monitoring to determine any significant increase in dust levels within the Sunshine Triangle Ecological Site. |
| Prior to construction, an ecologist is required to assess the distribution of current weed species within the construction footprint adjacent to the no-go zone before construction commences to enable a post-construction weed assessment and comparison (within the construction area). Notify DELWP on any planned weed control measures adjacent to the site. | Prior to commencing works | Delivery Partner | Report on the occurrence of weeds adjacent to the Sunshine Triangle Ecological Site |
| Drainage must be kept intact around the Sunshine Triangle Ecological Site. If works require any alternations to drainage, then additional drainage advice must be sought, and an assessment of impacts must be undertaken by a qualified ecologist, with approval by RPV. | For the duration of Works. | Delivery Partner | Drainage kept intact around Sunshine Triangle Ecological Site |
| Appropriate waste disposal measures must be put in place during construction to avoid any increase in the number of pest animals (particularly House Mouse) within and adjacent to the Sunshine Triangle Ecological Site. | For the duration of Works. | Delivery Partner | All waste disposed of appropriately during construction. |

# 10. Management Measures – Post-Construction

Management measures to be implemented post-construction are detailed in Table 10-1.

Table 10-1 Post Construction Management Measures

| Action | Timing | Responsibility | Measurable Outcome |
|---|---|---|---|
| Where any vegetation removal along Stony Creek is required to facilitate the proposed works, revegetation of indigenous species is required. | Post-construction operating phase | Delivery Partner, ecologist | Revegetation of indigenous species along Stony Creek in any disturbed areas. |
| Post construction, an ecologist is required to assess the distribution of weed species within the construction footprint adjacent to the no-go zone adjacent to the Sunshine Triangle Ecological Site. Notify DELWP on any planned weed control measures adjacent to the site. | Following completion of works in this area | Delivery Partner | Report on the occurrence of weeds adjacent to the Sunshine Triangle Ecological Site post construction |

# 11. Monitoring and Compliance

## 11.1 Monitoring and Review

To ensure the requirements of the SSTSMP have been implemented and reached the required performance targets associated with the monitoring and mitigation measures described above must be undertaken. Monitoring requirements are stipulated in Table 11-1.

Table 11-1: Monitoring requirements

| Frequency | Monitoring Activity | Delegated Responsibility |
|---|---|---|
| Daily, for sites where construction is currently underway. | Inspection of Works Area to ensure that all mitigation measures within this plan are being adhered to and operating effectively. | Delivery Partner Project Manager or Site Environmental Officer |
| Weekly, at sites adjacent to parts of the Sunshine Section that are known to support MNES. | Inspection of fencing and signage to ensure it is in good condition. | Delivery Partner Project Manager or Site Environmental Officer |
| Monthly, at sites adjacent to parts of the Sunshine Section that are known to support MNES. | Ensure levels of weeds and evidence of pest animals have not increased within these areas. | Delivery Partner Ecologist |

## 11.2 Non-Compliance

Where a 'non-compliance' is identified through monitoring or otherwise reported, it must be documented as per the process set out in the CEMP. The following steps must be undertaken where a non-compliance is identified:

- Where the non-compliance is identified and reported by someone other than the Project Manager or Site Environmental Officer, a site inspection of the affected area must be completed by the Project Manager or the Site Environmental Officer.
- Further investigation must be completed to determine the possible causes for the non-compliance.
- Relevant personnel, including if necessary, RPV, DELWP and/or DAWE representatives, must be informed.
- An agreed corrective action must be determined and agreed with RPV.
- The action must be implemented to rectify the problem.

Actions undertaken to rectify the problem may include the following:

- A new or revised procedure established and implemented;
- Additional training provided to the relevant personnel; and
- Additional inspections implemented.

The actions required to correct the non-compliance and the successful implementation of these actions will be documented as per the process set out in the CEMP.

DELWP and DAWE must be consulted where a non-compliance results in significant changes to the implementation of this Sunshine Section Threatened Species Management Plan.

## 11.3 Data Management

To enable the continued protection and management of the various MNES populations within and adjacent to the Sunshine Section of the MAR Project Land, it is important that all future information gathered on the presence and extent of the populations of Striped Legless Lizard, Golden Sun Moth, Spiny Rice-flower,

Sunshine Diuris and Large-headed fireweed is shared with rail agencies and other government authorities. To enable this, the following steps must be completed:

- Provide current and accurate spatial data on the extent and location of threatened species habitat and individuals to rail agencies including VLine and VicTrack.
- Provide spatial information for rail agencies internal databases and the Victorian Biodiversity Atlas.

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# APPENDIX A
# SUNSHINE SECTION MNES AND NATIVE VEGETATION IMPACTS MAPPING


Project Land (Sunshine Stage)
Construction Footprint (Sunshine Stage)
Key Assessment Areas
Removed Native Vegetation
Striped Legless Lizard Habitat

**Native Vegetation**

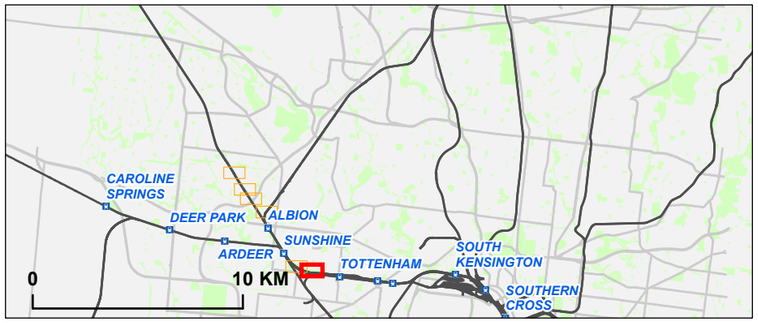
132 Plains Grassland
55 Plains Grassy Woodland
Natural Temperate Grassland of the Victorian Volcanic Plain

**No-go Zones**

No-go Zone

**Map 1 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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## Sunshine

MNES Impacts Mapping - Sunshine Package

| Drawing Number: | | | Revision: |
|---|---|---|---|
| MAR-AJM-SUN-MA7-MAP-XEV-SUN-0490628 | | | A.3 |
| Drawn By: J. Rivera | Approved By: L. McComb | Date: 3/09/2021 | Map Size: A3 |

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Metres
Coordinate System: GDA 1994 MGA Zone 55

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Matthews Hill Reserve

Sunshine Triangle Ecological Site

No-go zone 2

Sunshine Railway Line Linear Reserve

No-go zone 1

- Project Land (Sunshine Stage)
- Construction Footprint (Sunshine Stage)
- Key Assessment Areas
- Spiny Rice Flower
- Removed Native Vegetation
- Striped Legless Lizard Habitat

**Native Vegetation**

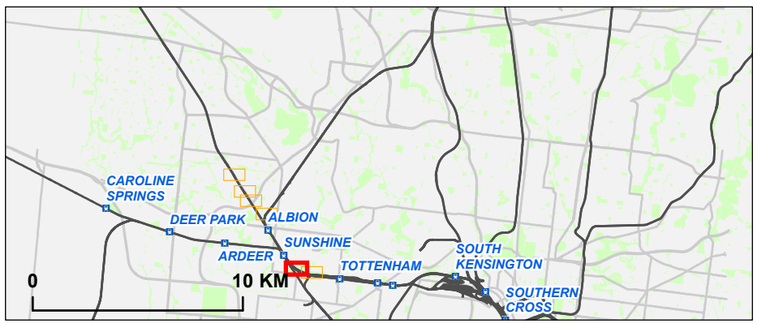
- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 55 Plains Grassy Woodland
- 821 Tall Marsh

**No-go Zones**

- No-go Zone

**Map 2 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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## Sunshine

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| MAR-AJM-SUN-MA7-MAP-XEV-SUN-0490628 | | | A.3 |
| Drawn By: J. Rivera | Approved By: L. McComb | Date: 3/09/2021 | Map Size: A3 |

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Metres
Coordinate System: GDA 1994 MGA Zone 55

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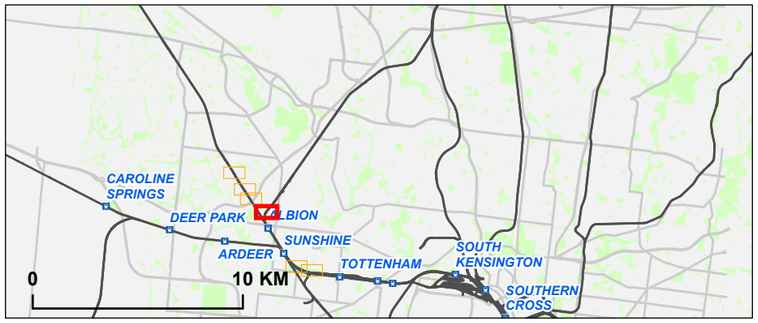
- Project Land (Sunshine Stage)
- Construction Footprint (Sunshine Stage)
- Key Assessment Areas
- Removed Native Vegetation

**Native Vegetation**

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 55 Plains Grassy Woodland

**Map 3 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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## Sunshine

MNES Impacts Mapping - Sunshine Package

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|---|---|---|---|
| MAR-AJM-SUN-MA7-MAP-XEV-SUN-0490628 | | | A.3 |
| Drawn By: J. Rivera | Approved By: L. McComb | Date: 3/09/2021 | Map Size: A3 |

0 70 140
Metres
Coordinate System: GDA 1994 MGA Zone 55

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St. Albans Road Biosites
No-go zone 6
No-go zone 3
No-go zone 5
No-go zone 4
Old Sunshine Tip
No-go zone 22
Luma Estate

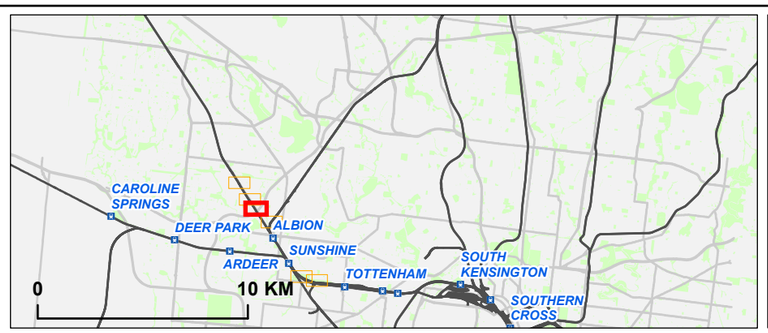
Project Land (Sunshine Stage)
Construction Footprint (Sunshine Stage)
Key Assessment Areas
Spiny Rice Flower
Removed Native Vegetation
Golden Sun Moth Habitat
Striped Legless Lizard Habitat

**Native Vegetation**
132 Plains Grassland
55 Plains Grassy Woodland
821 Tall Marsh
Natural Temperate Grassland of the Victorian Volcanic Plain

**No-go Zones**
No-go Zone

**Map 4 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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# Melbourne Airport Rail
## Sunshine
MNES Impacts Mapping - Sunshine Package

| Drawing Number: | | | Revision: |
|---|---|---|---|
| MAR-AJM-SUN-MA7-MAP-XEV-SUN-0490628 | | | A.3 |
| Drawn By: J. Rivera | Approved By: L. McComb | Date: 3/09/2021 | Map Size: A3 |

0 70 140
Metres
Coordinate System: GDA 1994 MGA Zone 55

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St. Albans Road Biosites

No-go zone 6

No-go zone 3

Old Sunshine Tip

- Project Land (Sunshine Stage)
- Construction Footprint (Sunshine Stage)
- Key Assessment Areas
- Spiny Rice Flower
- Removed Native Vegetation
- Striped Legless Lizard Habitat

**Native Vegetation**

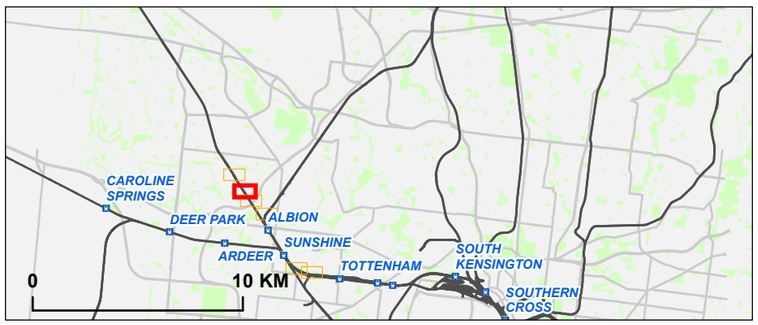
- 132 Plains Grassland
- Natural Temperate Grassland of the Victorian Volcanic Plain

**No-go Zones**

- No-go Zone

**Map 5 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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## Sunshine

MNES Impacts Mapping - Sunshine Package

| Drawing Number: | | | Revision: |
|---|---|---|---|
| MAR-AJM-SUN-MA7-MAP-XEV-SUN-0490628 | | | A.3 |
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Project Land (Sunshine Stage)

Construction Footprint (Sunshine Stage)

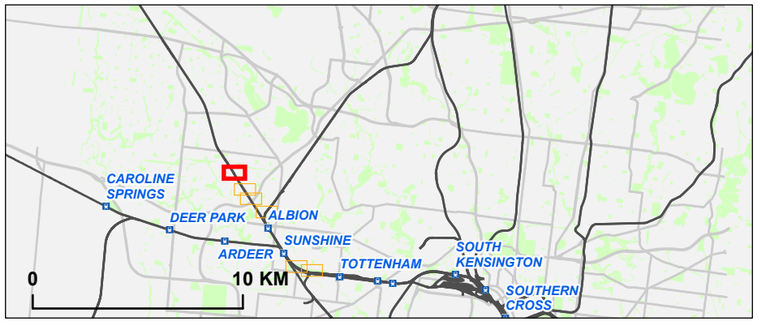
Removed Native Vegetation

**Native Vegetation**

132 Plains Grassland

**Map 6 of 6**

Data Sources:
AJMJV 2021
VicTrack 2021
Vicmap 2021
Aerial photo: DELWP Apr. 2021

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## Sunshine

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Metres

Coordinate System: GDA 1994 MGA Zone 55

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# APPENDIX B
# STRIPED LEGLESS LIZARD SALVAGE AND TRANSLOCATION PLAN

## Appendix B: Striped Legless Lizard Salvage and Translocation Plan

The Striped Legless Lizard salvage and release protocols outlined within this document have been developed to provide assistance and guidance to the associated contractors as a contingency if any Striped Legless Lizard are recorded during construction in the SUN Section Project Land.

The measures outlined within this salvage and translocation plan have been developed to where possible, avoid harm to Striped Legless Lizard.

In the event that a Striped Legless Lizard is recorded in the SUN Section Project Land during construction, works are to cease, and the Project ecologist must be contacted immediately. The capture and release protocols outlined below must then be implemented.

**Capture and release protocols:**

Any Striped Legless Lizard found in construction areas are be captured and released as per the following protocols:

- Reptiles can be captured either by hand or with nets.
- Captured reptiles other than snakes can be placed into cloth capture bags or ventilated plastic containers until released.
- Any captured reptiles should be released as soon as possible after capture into suitable grassy habitat within the marked out no-go zones (outside of the construction areas). Where release is to be delayed, all reptiles should be stored in the shade in summer to avoid overheating, or in a warm location during the cooler months.
- The Project ecologist will record all relevant details for any Striped Legless Lizard capture and release, and be responsible for notifying DELWP as soon as possible.

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