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892 Yarrawonga Development Pty Ltd
13-May-2021

West Mokoan Solar Farm

Woodland Management Plan for Lot 1 TP104377, PP2704 (95C, 97B and 97C) and Lot 2 TP173518

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1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by 892 Yarrawonga Development Pty Ltd (South Energy) to prepare a Woodland Management Plan for land connected to the proposed West Mokoan Solar Farm Project.

An area of modified Plains Grassy Woodland Ecological Vegetation Class (EVC) within the solar farm development study area will be rehabilitated to enhance woodland values. In addition, a remnant woodland currently managed for biodiversity conservation and protected under a Trust for Nature (TFN) conservation covenant will be managed by the Project. Along with adjacent areas of Crown land, these areas will be managed and restored to reconnect woodland values. The Project is located between Benalla and Goorambat, approximately 10 kilometres north-east of Benalla, Victoria.

The Woodland Management Plan (the Plan) outlines the management approaches and objectives for land that will be set aside for biodiversity conservation as part of the West Mokoan Solar Farm Project. The Plan has been developed to provide detailed management treatments and revegetation guidance that can be tailored to the area being managed.

Rehabilitation of the woodland has been developed in consideration of the *Native Vegetation Revegetation Planting Standards - Guidelines for establishing native vegetation for net gain accounting* (Department of Sustainability and Environment (DSE 2006)) and the *National Standards for the Practice of Ecological Restoration in Australia 2nd edition*, developed by the Society for Ecological Restoration Australia (SERA). The Plan also considers regional strategies for biodiversity conservation within the Goulburn Broken Catchment Management Authority (GBCMA) and Benalla Rural City areas.

2.0 Project Background

2.1 Background

The West Mokoan Solar Farm project ('the Project') is proposed to be developed as a photovoltaic solar energy facility that will supply electricity generated from solar irradiation into the National Energy Market via existing transmission line infrastructure on the Glenrowan to Shepparton network. The total Project area is approximately 426 ha (Figure 1). At completion the Project is anticipated to include 536,424 solar photovoltaic panels and supporting infrastructure.

The *West Mokoan Solar Farm Flora and Fauna Assessment Report* (AECOM 2021) provides the results of a preliminary and detailed ecology field assessments undertaken for the Project in February-March 2019 and December 2020-January 2021. The Project Concept Design was revised in early 2021 and the *West Mokoan Solar Farm Flora and Fauna Assessment Report* was revised to reflect these changes and impact areas. The Project site supports the following ecological values:

- Patches of native vegetation equating to 27 ha (8.22 habitat hectares). Patches recorded are consistent with Plains Grassy Woodland (EVC 55_62), Grassy Woodland (EVC 175_61), Plains Woodland/Herb-rich Gilgai Wetland mosaic (EVC 235) and Plains Woodland (EVC 803). All EVCs recorded have a Bioregional Conservation Status of 'Endangered'.
- 209 scattered trees
- 112 large trees in patches

Following the update to the Project Concept Design and through consultation with DELWP, the Project will take on the management of the TFN property, manage crown land adjacent to the TFN woodland and will retain an of area of Plains Grassy Woodland located adjacent to the TFN woodland in order to protect and enhance biodiversity values on the northern side of Stockyard Creek. A further description of the site layout and ecological values is provided below.

2.1.1 Location

The Project is located between Benalla and Goorambat approximately 10 km north-east of Benalla, Victoria and 7.6 km south-east of the Goorambat township (Figure 1). The Project is situated within the Victorian Riverina Bioregion, Benalla Local Government Area and the Goulburn Broken Catchment Management Authority (GBCMA) area.

The woodland restoration area is 3 ha in size and is located adjacent to the northern border of Stockyard Creek within Lot 1 TP104377. The TFN woodland is covered by Lot 2 TP173518 and covers an area of 5.92 ha. In addition, there are three crown land parcels (PP2704 (95C, 97B and 97C)) located either side of the TFN woodland that will also be managed as part of this Plan. The areas covered by this Plan are shown in Figure 2 and Figure 3.

2.2 Previous assessment

2.2.1 Existing values

The following sections summarise the site conditions based on the ecological assessments completed by AECOM (2021) as part of the Project and the site assessment and report completed for the TFN woodland in 2018 by TFN staff (TFN, 2018).

2.2.1.1 Plains Grassy Woodland restoration area (Zone 1 & 2 in Figure 3)

The three-hectare restoration area comprises a patch of remnant Plains Grassy Woodland (EVC 55_62) and an area of degraded non-native vegetation that is a legacy of past agricultural use (Figure 3). Plains Grassy Woodland has a Bioregional Conservation Status of Endangered in the Victorian Riverina bioregion. AECOM (2021) identified 19 large trees consisting of River Red Gum *Eucalyptus camaldulensis* and Grey Box *Eucalyptus microcarpa* within the woodland area. These tree species are considered characteristic of Plains Grassy Woodland EVC. An additional two large scattered trees (Grey Box) were identified within the wider restoration area (within degraded non-native understory vegetation). Photographs of the restoration area and existing Plains Grassy Woodland are provided in Appendix D.

The quality of the woodland area is low (habitat hectare score of 32) due to historical stock grazing of the site. Although the area includes large trees, the understorey is highly modified and lacks the structural characteristics and suite of species typical of the Plains Grassy Woodland EVC. In addition, the area supports a high cover of weeds which included >50% cover of high threat weeds listed under the *Catchment and Land Protection Act 1994* (CaLP Act). These weeds include Horehound *Marrubium vulgare* and Bathurst Burr *Xanthium spinosum*. Toowoomba Canary-grass *Phalaris aquatica* was also widespread throughout the restoration area and is considered a high threat weed due to it's potential to colonise in suitable conditions and its invasiveness once established. The site was noted to support logs (including large logs) but lacked suitable cover of leaf litter, likely due to past grazing.

2.2.1.2 TFN woodland (Zone 3 in Figure 3)

The TFN woodland supports Plains Woodland/Herb-rich Gilgai Wetland mosaic EVC (EVC_235) listed as Endangered in the Victorian Riverina Bioregion. Vegetation comprises a tree canopy of Grey Box, River Red Gum and White Box *Eucalyptus albens*. Few shrubs are present; however, regenerating eucalypts contribute to shrub cover. The groundcover layer contains species characteristic of the EVC, with threatened and protected flora species such as Tufted Bluebell *Wahlenbergia capillaris*, Blue Devil *Eryngium ovinum* Swamp Daisy *Brachyscome paludicola* and Broughton's Pea *Swainsona procumbens* recorded.

Historically, the covenant area was grazed by domestic stock until the site was protected and fenced from grazing in 2004. Since this time, the site has been strategically grazed on occasion as part of biomass management of the site. The covenant has been significantly flooded out on a number of occasions by the Stockyard Creek including in 1939, 1993 and 2010. The most significant flood event was in 1993 when the Broken River flooded back into the covenanted area. The site has not been previously burned through wildfire or through fuel/biomass reduction burning as part of land management.

The covenant provides habitat for a range of protected and threatened flora and fauna. Species of note include Bush Stone-Curlew *Burhinus grallarius* which was recorded by the landowner approximately 20 years ago (TFN, 2018). On occasion, Tree Goanna *Varanus varius* has also been recorded

As at 2018, the site was assessed as being in moderate condition and the main follow-up management actions were related to weed control for Bathurst Burr, Pattersons Curse *Echium plantagineum* and Toowoomba Canary-grass. Continual management of pest animals (Red Fox *Vulpes Vulpes,* European Rabbit *Oryctolagus cuniculus* and Sambar *Cervus unicolor*) was also recommended. Photographs of the TFN woodland are provided in Appendix D.

2.3 Purpose and objectives

The focus of this Plan is to set out the management actions for land that will be protected and managed for biodiversity conservation as part of the solar farm development. The Plan aims to strike a balance between providing a framework and guidance for woodland management whilst encouraging land managers to implement actions, monitor the success of these actions and adapt the Plan as necessary. This plan is informed by ecology surveys completed by AECOM (AECOM 2021) and the existing *Trust for Nature Management Plan for C0694 Pentown Pty Ltd Benalla-Yarrawonga Road* (TFN, 2018).

The woodland areas will contribute to a mosaic of remnant grassy woodland EVCs along Stockyard Creek between Winton Wetlands and Broken River. In recent years, the Regent Honeyeater Group have completed ~3.8 ha of revegetation work within Lot 1 TP104377 (see Figure 2). In addition to this rehabilitation effort, TFN (2018) suggests up to 20 ha of land surrounding the property has been identified for rehabilitation planting. The woodland management and restoration work will therefore contribute to regional landscape linkages by adding value to past revegetation efforts and connecting areas of remnant woodland through biodiversity enhancement activities.

To assist with tailoring management actions with existing site conditions, the woodland areas and degraded non-native vegetation areas have been split into separate management zones (see Figure 3).The Plan largely focuses on management actions for the woodland restoration area (Zones 1 and 2). The Plan incorporates standard biodiversity enhancement techniques whilst drawing on local experience and methods adopted by the Regent Honeyeater Group which have a high planting

success rate in the region. The remainder of the woodland area (the TFN woodland and adjoining crown land - Zone 3) will be managed in line with the existing Management Plan for the TFN woodland which was implemented in 2004. The woodland has now reached the 'maintenance' phase and management actions which focus on routine management to ensure the woodland asset is maintained to its current condition.

2.4 Alignment with regional and local strategies

Regional and local biodiversity conservation strategies that aim to restore remnant vegetation and reconnect areas of ecological value are detailed in the following documents:

- *Benalla Rural City Environment Strategy 2016-2020* (Benalla Rural City Undated);
- *Goulburn Broken Catchment Biodiversity Strategy 2016-2021* (Goulburn Broken Catchment Management Authority, 2016);
- *Conservation Plan for the Chesney Landscape Zone* (DSE, 2007).

In addition, the Stockyard Creek channel is identified to be retained as a drainage asset and 'rain rejection' storage area in the Lake Mokoan Future Land Use Strategy (Winton Wetlands, 2006). Under this Strategy, Stockyard Creek is identified as a possible future landscape link between the wetlands and Broker River. This is captured under Objective 10.5 '*Consider revegetation works in the outlet channel as part of general catchment and landscape enhancement works, following clarification of the channel's ongoing role*' (Winton Wetlands, 2006).

The objective outlined above aligns with this objective for the Stockyard Creek channel and more broadly aligns with regional and local strategies to reconnect areas of ecological value.

3.0 Statutory Requirements and Environmental Guidelines

3.1 National and State Legislation

The key piece of environmental legislation relating to biodiversity and rehabilitation that has been considered in the Plan is the CaLP Act. The CaLP Act establishes a framework for management and protection of catchments through the management of land and water resources. The CaLP Act is the principal legislation relating to the management of pest plants and animals in Victoria.

Under the CaLP Act, landowners have a number of responsibilities including:

- Avoiding causing or contributing to land degradation
- Taking all reasonable steps to conserve soil
- Protecting water resources
- Eradicating regionally prohibited weeds
- Preventing the growth and spread of regionally controlled weeds
- Where possible eradicating established pest animals declared under the CaLP Act.

Invasive species can cause environmental and economic harm or are considered to have the potential to cause such harm. They can also present risks to human health. Invasive species include weeds and pest animals.

3.1.1 Weeds

Invasive plants (weeds) can outcompete with and displace native flora which alters vegetation communities and affects habitat suitability for native fauna. Declared noxious weeds in Victoria are those listed under the CaLP Act with the following categories:

State prohibited weeds

These invasive plants either do not occur in Victoria but pose a significant threat if they invade, or are present, and pose a serious threat and can reasonably be expected to be eradicated.

They are to be eradicated from Victoria if possible or excluded from the State. The Victorian Government is responsible for their eradication, but under Section 70(1) of the CaLP Act, it may direct landowners to prevent their growth and spread.

Regionally prohibited weeds

Regionally prohibited weeds are not widely distributed in a region but are capable of spreading further. It is reasonable to expect that they can be eradicated from a region and they must be managed with that goal. Landowners, including public authorities responsible for crown land management, must take all reasonable steps to eradicate regionally prohibited weeds on their land.

Regionally controlled weeds

These invasive plants are usually widespread in a region. To prevent their spread, ongoing control measures are required. Landowners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally Controlled weeds on their land.

Restricted weeds

This category includes plants that pose an unacceptable risk of spreading in this State and are a serious threat to another State or Territory of Australia. Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited.

3.1.2 Pest animals

Pest animals listed under the CaLP Act are those that are, or have the potential to be, a serious threat to primary production, crown land, the environment or community health in Victoria. There are four categories of pest animals:

- Prohibited pest animals
- Controlled pest animals
- Regulated pest animals
- Established pest animals

Their classification is determined by their threat and potential for establishment in the wild. It is an offence to import, keep, sell or release any pest animals in Victoria without a valid permit. Several pest animals are also listed as threatening processes under the *Environment Biodiversity and Conservation Act 1999* (EPBC Act) and the *Flora and Fauna Guarantee 1988* (FFG Act).

Considerations under the CaLP Act are addressed in Section 0 and 4.3.

3.2 Environmental Guidelines

Environmental guidance documents developed to support the management of areas containing biodiversity value include:

- *Management standards for native vegetation offset sites* (DELWP, 2019)
- *Native Vegetation Revegetation planting standards* (DSE, 2006)

Whilst the restoration site won't be managed as an offset, it is considered suitable that the same management approach to weed control and planting standards apply. Where minor adjustments are made in this Plan this is clearly stated.

4.0 Management Actions

The section is structured to provide an overview of the management actions for woodland EVCs which can be tailored to the area being managed or restored. These include:

- Fencing
- Weed control
- Pest animal management
- Site preparation
- Planting standards
- Plant species selection
- Revegetation techniques
- Post-planting weed control
- Biomass management
- Maintenance

A management plan covering a five-year timeline and specific to the two areas being managed for biodiversity conservation is provided in Appendix B.

4.1 Fencing

A stock-proof fence will be constructed around the perimeter of the restoration area which will connect to existing fencing. A gate will be installed for access to the restoration area for site management. DELWP (2019) specifications for a standard stock-proof fence are as follows:

- Posts are at least 1.8 metres high and of treated pine or steel, no more than 10 metres apart and with two droppers in between.
- Strainers are 2.1-metre-high posts of either 150 mm wide treated pine, railway iron or large diameter steel.
- Stays are 3 metre treated pine.
- Wire specifications are to exclude various types of livestock are as follows:
    - dairy cattle: three strand plain wire with at least two electrified strands or seven strand plain wire.
    - beef cattle: four strand plain wire with at least two electrified strands or seven strand plain wire.
    - sheep: five strand plain wire with at least two electrified strands or seven strand plain wire.

Future land management to the east of this area may involve infrequent grazing. The Project will therefore need to consider the type of stock that will preferentially graze this area prior to the construction of a stock exclusion fence. Additional considerations include:

- Fence must not include any barbed wire or electrified wires in the bottom strand (DELWP, 2019)
- If wire fencing is used, the top wire should be white in colour to increase wildlife visibility and a gap retained at the bottom of the fence to allow native animals to pass underneath.
- As the fencing type will not exclude species such as rabbits or wallabies, it is recommended that tree guards be used during the planting phase to limit herbivory.
- Seasonal monitoring of fencing is recommended in order to ensure any damage is repaired and fencing standards are maintained (DELWP 2019).

The TFN woodland and Crown Land parcels are appropriately fenced to exclude stock. The perimeter fence should be checked regularly to ensure the fence is functioning to exclude stock and pest vermin.

4.2 Weed control

In accordance with DELWP (2019), the Project must take all necessary actions to ensure weed cover does not increase beyond the current level, as well as monitor and control CaLP Act-listed weeds. The Project should also perform regular inspections to monitor for emerging high-threat weeds. High threat weeds are considered to be all perennial weeds (including woody weeds), any weed listed as high impact and high invasive on the relevant EVC benchmark.

Two noxious weed species listed under the CaLP Act and regionally controlled in the Goulburn Broken CMA area were found within the solar farm site during previous surveys. If left unmanaged, these invasive species will likely re-colonise cleared areas and potentially further degrade native vegetation, as well as out compete planted native vegetation. Other terrestrial weeds listed as Regionally Prohibited, Regionally Controlled and Regionally Restricted under the CaLP Act along with other high threat weeds are presented in Appendix C.

A weed control program covering years 1-5 is provided in Appendix B. Further guidance to support the weed control program and weed management methods are provided below. For all proposed works, a suitably qualified weed control contractor should be engaged, and an initial site assessment undertaken to identify the target weeds and objectives for the weed control program.

All land management contractors undertaking weed control works must hold a current Australian Chemical Users Permit (ACUP) and possess detailed knowledge in herbicide type and application. A range of weed control methods should be considered in the development of the weed control program including but not limited chemical application, foliar application, cut and paint application, stem injection, slashing and hand weeding. Details on these methods are provided below. The appropriate method will depend upon a range of factors including:

- The size of the area for weed control works
- The type and extent of weed infestation present.

For the restoration area, weed control works should be implemented 6-12 months prior to planting. As part of routine weed management, weed control should be completed once a quarter during years 1-3. After year three, weed control effort can be reassessed to determine what adaptive or additional works are required. Weed management contractors should provide the following details on management actions undertaken:

- Dates that weed management was undertaken
- Species targeted for weed control (woody vs. herbaceous, annual vs. perennial)
- Method(s) for weed control (i.e. mechanical control, chemical management, cut and paint treatment etc.)
- A spraying register should be maintained including species targeted, herbicides used, weather conditions (temperature, wind and rainfall) and locations treated. Weed spraying should only be undertaken on days of suitable weather for such activities
- Percentage cover of CaLP Act-listed weeds during each successive treatment (to identify if control methods are adequately controlling the target species)
- An annual report to identify weed control works completed and success against weed control targets determined during the first site inspection.

4.2.1 Chemical management

Chemical application is often the most efficient way of achieving desired weed control outcomes and may be used in conjunction with other weed control methods described in this report. A range of herbicides are available for weed control and should be used as appropriate.

Selective herbicides listed in Table 1 below should be used where there is a risk of off target damage to native species. The three most common group of herbicides are Group A, Group B and Group I.

Table 1 Herbicide groups, active ingredients and uses for commonly used selective herbicides.

Herbicide Group	Active constituent	Applications
A	Fluazipop-P-butyl	Grass species
B	Metsulfuron Methyl	Certain broadleaf and brush species, some woody weeds, and species with underground storage organs (including species from the Iridaceae family). Easily translocated through the plant and mobile through soil
I	Triclopyr, MCPA	Contact herbicides targeting broadleaf species

4.2.2 Foliar application

Foliar application refers to the application of mixed herbicides to the foliage of the plant ensuring coverage of the entire leaf surface area. This is achieved by either large-scale boom spraying methods or knapsack spraying. The method chosen will be dependent on the size of the area to be controlled. As native perennial grasses become established in the enhancement site, annual grassy weeds such as Toowoomba Canary-grass, Quaking Grass *Briza* spp. Panic Veldtgrass *Erhrarta erecta* and Sweet Vernal Grass *Anthoxanthum odoratum* can be controlled by a well-timed low rate application of Fluazifop-P-butyl. This assists in the establishment of native grasses as eliminating the seed set for one year can remove the annual non-native seed bank from the site (Lorimer, 2017).

4.2.3 Cut and paint application

For control of small woody weeds. Stems should be cut close to the ground as practical and apply herbicide thoroughly to the cut stump. Herbicide can be applied using a dabber or spray bottle, paint brush or roller. Apply herbicide immediately after the cut is made as the plant can seal the cut quickly, thus limiting the ability of the herbicide being transported through the plant's vascular tissues. Cut materials, particularly those that contain fruiting parts should be removed from site and disposed of to prevent further dispersal of seed.

4.2.4 Hand weeding

Suitable for woody species and seedlings that can be removed by hand. This method is particularly useful where seedlings occur amongst native vegetation to avoid off-target damage from herbicide control. It is important to remember that as much of the plant root matter should be removed to avoid the plant re-shooting. Hand weeding may also be used for small infestations as an appropriate control measure for species such as Bathurst Burr (Goulburn Broken CMA 2008).

4.2.5 Slashing

Slashing is an effective way to reduce large areas in grassy weed infestation. An integrated approach including slashing and follow-up herbicide application can be useful for controlling invasive grass weeds that produce large amounts of foliage such as Toowoomba Canary-grass Cocksfoot *Dactylis glomerata* and Paspalum *Paspalum dilatatum*. Slashing is also an effective biomass control method.

4.2.6 Weed control pre-revegetation

To ensure sufficient weed control has been undertaken pre-planting, 2-3 treatments are usually conducted (DELWP, 2019). However, whilst most pre-planting weed management commences 6-12 months prior to planting, the Regent Honeyeater Group recommends completing one rotation of herbicide spraying up to four weeks prior to planting. DELWP (2019) also recommends herbicide spraying up to one month prior to planting. The focus of this treatment is to prevent weed growth for 1-2 months post-planting to eliminate weed competition.

4.2.7 Weed control post-revegetation

Follow-up weed control will be required to promote establishment of native species. Weeds should be monitored regularly, and the management plan adapted to account for new and emerging weed issues. Over time trees will create a shade effect and may naturally outcompete grass weeds. However, as a general guide, weeds should be controlled in an area one metre in diameter around new plants for at least two years to ensure plants are vigorous enough to outcompete weeds (Greening Australia, n/d). Revegetation works will be subject to regular monitoring inspections and the weed management approach adapted as necessary to address emerging weed issues.

4.3 Pest animal management

Pest animals have the potential to negatively impact on revegetation works by directly impacting recent plantings and altering the prevailing ecological conditions. European Rabbit and Red Fox are likely to be present across the solar farm site and may establish burrows or dens throughout the restoration area. In addition, Sambar deer have been recorded within the TFN woodland site (TFN, 2018). The status of these three species under the CaLP Act is provided below in Table 2.

To manage these pest animal species', it is recommended that an integrated pest management approach be developed and implemented to control rabbit and fox numbers across the site. Rabbit exclusion fencing is not recommended so pest animal management will primarily involve baiting and the removal of active warrens and harbour. Land management contractors experienced and permitted to undertake baiting programs and removal of rabbit warrens or fox dens should be engaged to undertake pest control management. Monitoring over the management period will determine the frequency at which pest management control works are undertaken.

Table 2: Pest animals likely within the restoration area and their CaLP Act status

Common name	Scientific name	CaLP Act status
Red Fox	*Vulpes vulpes*	CaLP Act Schedule 4A "Established Pest Animals". Threatening process under the EPBC Act - Predation by European red fox. Threatening process under the FFG Act - Predation of native wildlife by the introduced Red Fox *Vulpes vulpes*. FFG Act Action Statement (DSE 2003).
European Rabbit	*Oryctolagus cuniculus*	CaLP Act Schedule 4A "Established Pest Animals". Threatening process under the EPBC Act – Competition and land degradation by rabbits. Threatening process under the FFG Act - Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit Oryctolagus cuniculus.
Sambar Deer	*Cervus unicolor*	Threatening Process under the FFG Act - Reduction in biodiversity of native vegetation by Sambar (*Cervus unicolor*) Protected species under the *Wildlife (Game) Regulations 2012.* Listed as Problem Deer on Private Property under the Wildlife Act. Despite being listed as a protected species, Sambar Deer can be controlled on private land and are permitted to be destroyed on public land under an 'Authority to Control Wildlife Permit' issues under the Wildlife Act.

4.4 Pre-revegetation soil preparation

Prior to planting in the restoration area, a plough will be used to create a series of rip-lines approximately 1 m deep (Goulburn Broken CMA). This loosens the soil and encourages newly planted seedlings to establish roots quickly and deeply. Soil ripping should be undertaken during dry periods (prior to the autumn/winter planting season) to effectively work the existing topsoil profile and prevent deep rutting across the restoration area. Ripping and other forms of soil disturbance are not to be conducted within a tree canopy dripline of existing trees (DELWP 2019). Therefore, ripping will only be suitable outside of the remnant woodland area. Light scarifying of the topsoil rather than finishing smoothly is recommended as this is considered an effective method for revegetation. No fertilisers are to be used when preparing the soil (DELWP 2019).

4.5 Planting standards

4.5.1 Planting standards

Revegetation planting has also been developed in consideration of the Plains Grassy Woodland EVC being rehabilitated. The overall aim of revegetation works is to *achieve benchmark species diversity and cover targets ensuring the establishment and long-term survival and protection of native vegetation* (DSE, 2006).

DSE (2006) provides the revegetation planting target (Table 3). Note that the small shrub and Large Tufted Graminoid (LTG) planting targets have been adjusted in accordance with DSE guidance notes or professional experience related to that EVC type.

Table 3: DSE (2006) EVC planting targets

Life form	Target no. of plants / ha	Target diversity	Notes	Plains Grassy Woodland EVC (55_62) benchmark cover
Overstorey tree	50 plants	As per EVC benchmark canopy species diversity	50 plants/ ha for Woodlands	15%
Understorey tree or large shrub > 5 m tall (T)	50 plants	Based or current regional practice	Assume 10 plants / ha where benchmark cover is 1%	5%
Medium shrub 1-5m tall (MS)	200 plants	Based or current regional practice	Assume 40 plants / ha where benchmark cover is 1%	5%
Small shrub <1 m tall (SS)	500 plants	Based or current regional practice	Assume 100 plants / ha where benchmark cover is 1%	1%
Large Tufted Graminoid (grasses and grass-like tussocks >1 m tall)	500 plants	Based or current regional practice	Planting rate of 500 LTG/ha where benchmark is >10% cover. *Suggested planting rate of 250/ha based on EVC benchmark cover of 5%.	5%

4.6 Plant species selection – Plains Grassy Woodland EVC

Plant species selection has been determined with reference to both existing and predicted pre-European site conditions. A patch of Plains Grassy Woodland (EVC 55_62) is located in the restoration area. This vegetation type is also located on an adjacent land parcel to the west of the restoration area. Typically, Plains Grassy Woodland is an open eucalyptus woodland to 15 m tall. The understory comprises a sparse shrub layer over a species-rich grassy and herbaceous ground layer.

The purpose of the restoration project is to replant trees and larger woody plants to contribute to the landscape link between Winton Wetlands and the Broken River. In establishing the basic EVC structure it will allow the landscape link to naturally grow and regenerate over time which will eventually contribute to a series of landscape links in the broader Benalla-Chesney region. The restoration area will be planted in consideration of the EVC benchmark and include the structural components of the EVC including a variety of tree, shrub and graminoid species representative of the EVC.

A list of locally indigenous species based on the EVC 55_62 benchmark and the Goulburn Broken CMA revegetation lists is provided below in Table 4. The planting numbers presented in Table 4 are based on DSE (2006) planting targets (Table 3) and consideration of the EVC lifeform cover. For ease of reference Table 3 has been split into two management zones (Figure 2):

- Zone A: existing woodland supporting canopy trees where partial understorey enhancement is required.
- Zone B: degraded treeless area where complete EVC restoration is required.

The species list below may be refined in consultation with local indigenous nurseries as species suggested may be difficult to source and/or not available in the quantities required. Where the list is refined, a record should be kept of the species used for revegetation plantings.

Table 4 Revegetation species list based on EVC benchmark and Goulburn Broken CMA revegetation list.

Species name	Common name	Lifeform	Description	Restoration Zone A (lifeform planting density/ ~1 ha)	Restoration Zone B (Lifeform planting density/ ~2 ha)
Canopy Trees *(Species diversity target – 2)*					
Eucalyptus camaldulensis	River Red-gum	Canopy Tree	Tall tree growing to 40 m. Common and widespread species. Flowers over summer	19 large trees present in zone. Natural recruitment will likely take place following stock exclusion. Monitor over years 1-2 and if no natural recruitment occurs allow for minor canopy tree planting in year 3.	100
Eucalyptus microcarpa	Grey Box	Canopy Tree	Canopy tree growing to 25 m. Commonly occurs on fertile plains. Flowers Mar-May		

Understorey Tree or Large Shrub *(Species diversity target - 1)*					
Acacia implexa	Lightwood	Understorey Tree or Large Shrub	Small understorey species growing to 3-15 m high x 4-7 m wide. Produces cream to pale yellow flowers from Dec-March	50	100
Medium Shrubs *(Species diversity target - 3)*					
Acacia acinaceae	Gold-dust Watttle	Medium Shrub	Open spreading shrub to 2.5 m high x 2-4 m wide. Flowers Aug-Nov	200	400
Acacia paradoxa	Hedge Wattle	Medium Shrub	Widespread shrub growing to 2-4m high x 2-5 m wide. Excellent shrub for woodland birds. Densely flowered in Aug-Nov.		
Acacia pycnantha	Golden Wattle	Medium Shrub	Fast growing shrub to small tree to 3-10 m high x 2-5 m wide. Produces yellow flowers from Aug-Oct.		
Bursaria spinosa	Sweet Bursaria	Medium Shrub	Slender to round shrub with spines along branches. Grows to 2-6 m high x 2-3 m wide. Produces masses of cream-white flowers between Dec-Mar.		
Small shrub *(Species diversity target – 3)*					
Pimelea curviflora s.l.	Curved Rice-flower	Small Shrub	Small hairy shrub growing from 10-150cm. Flowering Sep-Feb.	100	200
Pimelea humilis	Common Rice-flower	Small Shrub	Predominantly hairy small shrub. 10-30 cm high x 0.3-1 m wide. Many white		

			flowering heads in spring.		
Large tufted graminoids *(Species diversity target - 2)*					
Austrostipa aristiglumis	Plump Spear-grass	Large Tufted Graminoid	Tall perennial grass growing to 2m. Flowers Sep-Jan.	250	N/A – re-seed with native grasses (see Section 5.7.2)
Austrostipa blackii	Crested Spear-grass	Large Tufted Graminoid	Tall perennial grass growing to 2m. Flowers Nov-Jan.		
Austrostipa mollis	Supple Spear-grass	Large Tufted Graminoid	Tufted perennial grass growing to 1.2 m high. Flowers Sep-Dec.		
Dianella revoluta	Black-anther Flax-lily	Medium to Large Tufted Graminoid	Dense to open tufted perennial 30-80 cm high x 20-50 cm wide. Flowers Sep-Jan.		

4.7 Revegetation methods

Revegetation will only be undertaken within the restoration area. Three methods are generally used in restoration projects:

1. Planting of tube stock/hikos propagated from seeds (usually), cuttings, or division;
2. Direct seeding; and
3. Facilitation of natural recruitment

4.7.1 Tubestock planting

Tubestock should be sourced from local nurseries or seed suppliers utilising propagation material that has been sourced from provenances as local and of similar ecological characteristics to the restoration area as practicable. Tubestock should be ordered in time to achieve sufficient growth and should be hardened off prior to planting (usually 6-12 months prior to planting).

Prior to planting, a planting plan (layout, species mix and spacing) should be developed. As a general guide, the layout should consider the following:

- Observe the species' growing habit with canopy trees spaced more widely across the planting area than shrubs.
- The planting layout should attempt to mix tree and shrub species to avoid creating uniform rows of trees and shrubs.
- To create a mosaic effect, shrubs should be planted closer together in 'clusters' approximately 2-3 m apart to provide competitive advantage against weeds (DSE, 2006).
- Plant density should provide good cover but avoid the waste of tubestock or prevent the growth of smaller, slower growing species due to overcrowding (SER, 2017).

In preparation for planting the following should also be considered:

- Sufficient weed control has taken place to reduce competition from non-native species.
- Seasonal conditions – planting activities should be completed in autumn/winter once the soil profile is wetted to utilise optimal growing conditions including moisture availability and adequate

soil temperatures, In certain years it may be appropriate to plant into early spring if the prevailing site conditions are suitable to support trees in their early establishment.

- Plants will be secured by stakes and tree guards to protect them from herbivory and competition. Cardboard guards are preferred to plastic guards and should be positioned flush with the soil surface to prevent browsing on young plants (Regent Honeyeater Group, n/d). Jute matting may also assist in reducing competition around the plant during establishment.
- Plants will be watered in by saturating the soil.
- Soil moisture levels should be monitored during the first spring-summer to determine whether follow-up watering is required. If conditions are particularly hot and dry a watering program will be established over the first spring-summer to improve establishment rates.
- Plantings will be subject to regular weed monitoring and management.
- Guards and stakes will be removed once plants have established.

4.7.2 Re-seeding with native grasses

Following the establishment of trees and shrubs, Zone 2 would benefit from re-seeding with native grasses. Zone 2 is largely devoid of native grass plants and a soil-stored seed source. The purpose of re-seeding is to return native seed to the soil seed bank to allow native grasses to naturally establish and regenerate over time. As a starting point, one re-seeding event is proposed as a cost-effective means to establish some of the native grasses typically found in the EVC

Native grass cover can be achieved by re-seeding with a mixture of locally indigenous winter-growing (C3) and summer-growing (C4) grass species' (Table 5). Common grass species should be selected based on the likely availability of the species and quantities of seed available from commercial nurseries, collectors and sellers (Gibson-Roy & Delpratt in Williams, Marshall & Morgan, 2015). A competent contractor experienced in native grass reseeding should be engaged to complete re-seeding works and provide site-specific advice.

Table 5 Common local indigenous grass species suitable for re-seeding

Grass Type	Species	Common Name
C3	*Anthosacne scabra*	Common Wheat-grass
C3	*Austrostipa aristiglumis*	Plump Spear-grass
C3	*Austrostipa blackii*	Crested Spear-grass
C3	*Austrostipa elegantissima*	Feather Spear-grass
C3	*Austrostipa mollis*	Supple Spear-grass
C3	*Austrostipa scabra subsp. falcata*	Rough Spear-grass
C3	*Dichelacne crinita*	Long-hair Plume-grass
C3	*Poa sieberiana*	Grey Tussock-grass
C3	*Rytidosperma setaceum*	Bristly Wallaby-grass
C3	*Rytidosperma caespitosum*	Common Wallaby-grass
C3	*Rytidosperma carphoides*	Short Wallaby-grass
C3	*Lachnagrostis filiformis*	Common Blown-grass
C4	*Aristida behriana*	Brush Wire-grass
C4	*Chloris truncata*	Windmill Grass
C4	*Themeda triandra*	Kangaroo Grass

4.7.3 Facilitation of natural recruitment

The restoration area will be fenced as per fencing specifications listed in Section 4.1 and it is anticipated that the exclusion of grazing will promote the natural regeneration of *Eucalyptus* species. Initially, there is likely to be a mass Eucalypt regeneration event that may results in dense areas of sapling regeneration. This will be carefully monitored, and some strategic thinning may be required throughout the life of the Plan based on the outcomes of monitoring events.

In addition, the establishment of a native-dominated ground cover will be facilitated through a one-off re-seeding event. It is anticipated that as trees and shrubs grow, the conditions will favour native grasses rather than exotic grasses. In the establishment of a native understorey some grass weed control may be required during the early years. Based on the outcomes of monitoring events weed control effort can be adapted as required.

4.8 Biomass management

Biomass levels should be monitored throughout the year and corrective actions implemented to ensure levels don't exceed the current levels and impact native groundcover species or revegetation works. Monitoring and addressing biomass levels is particularly important in autumn and spring when both native and non-native plants are actively growing.

Biomass management actions should be adapted in consideration of the following:

- Enhancement planting:
    - Biomass levels around individual plantings - attempt to maintain a 1 m buffer around plantings for the first 2-3 years post-planting
- Re-seeded areas:
    - Determine the native grass species present or establishing and the timing of proposed management actions compared with the grass species' ecology (see Table 5).
    - Consideration should be given to whether the species' are actively growing, flowering or seeding and management delayed until seeding has occurred to maximise recruitment potential.
- TFN woodland
    - Time of year – pulse stock grazing should be timed to coincide with the active growing season but where possible allow native species to flower and set seed prior to grazing the area.

The land management contractor will be responsible for monitoring biomass levels. Monitoring is suggested during regular weed management events as biomass control and weed control may require the same management action – e.g. either herbicide spraying, slashing, or a combination of the two actions to control non-native weeds. Methods applicable to biomass control and weed control can be found in Section 4.2.

4.9 Monitoring

Monitoring of management actions is an imperative part of adaptive management and the restoration program. Where applicable, results from the monitoring program should be used to inform future management practices.

Internal monitoring of revegetation plantings will be completed biannually at 6 months and 12 months post-planting to assess the establishment of plantings. Along with this, consideration should be given to other management actions completed such as weed control, biomass control, pest animal control and maintenance activities.

Post planting, monitoring events should be completed by an experienced ecologist at years 2 and 4 to assess progress towards management actions and the desired restoration outcomes. Monitoring of weed management, pest animal control, biomass levels, re-seeding and planting activities will help inform follow-up management actions. A final monitoring event will be conducted in year 5 to determine progress of the restoration program and to identify any ongoing management actions that

may be required. The monitoring program is captured in the Management Action table provided in Table 6, Appendix B.

Monitoring of the TFN woodland will be completed in years 1, 3 and 5 in conjunction with the monitoring events undertaken for the restoration area (Appendix B, Table 7)

Good record keeping is essential for best practice woodland restoration. By documenting the various components of the restoration program (e.g. plants used in revegetation activities, weed control, pest animal control, monitoring events, etc.), future revegetation programs can be adapted to achieve greater results based on past learnings.

4.10 Maintenance

4.10.1 Watering

Plantings will need to be closely monitored for the first 12 months and additional watering may be required (dependant on seasonal conditions). Particular attention should be paid to soil moisture levels over the first spring/summer after planting and regular watering events may be required during this period.

4.10.2 Guard removal

Remove tree guards and stakes once plants have established. For shrubs and understorey trees this is usually 2-3 years after planting. Guards around ground cover species may be removed earlier (as needed).

4.10.3 Weed control

Regular weed control is essential in the first year following planting to allow plants to establish. Weed control may include a range of methods described above in Section 4.2. In addition, weed control will be one of the primary maintenance actions in the TFN woodland. Regular weed control should be completed to ensure non-native grasses such as Toowoomba Canary-grass are kept at low levels and don't become dominant in the woodland.

4.10.4 Replacement planting standards

Monitoring events will detail establishment and survivorship rates of plantings, the outcome of which will determine whether additional or replacement planting is required.

4.10.5 Logs

A portion of native canopy trees removed during the project should be retained as logs within the restoration area as habitat for native fauna. The TFN woodland contains some logs but additional logs can also be placed in the TFN woodland to provide further habitat for fauna. Further to this, engagement with the Goulburn-Broken CMA, local community groups and the Regent Honeyeater Project to discuss opportunities for the use of logs in local revegetation/rehabilitation projects is also recommended.

5.0 References

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Appendix A

Figures

PROJECT ID 60585631
CREATED BY brierej
LAST MODIFIED brierej 13 MAY 2021

AECOM
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Coordinate System: GDA 1994 MGA Zone 55
0 500 1,000 2,000
metres
1:50,000 (when printed at A3)

Legend

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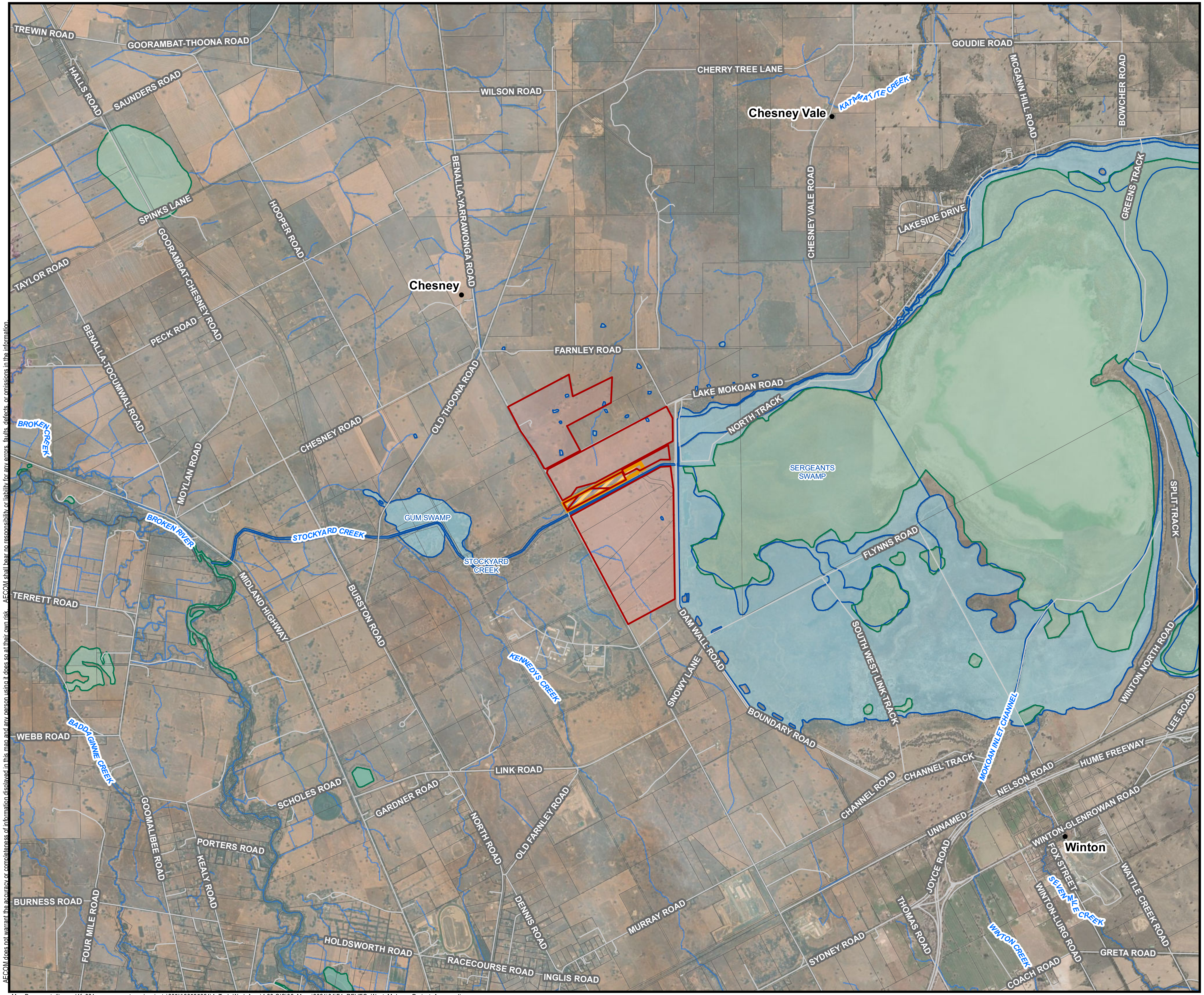
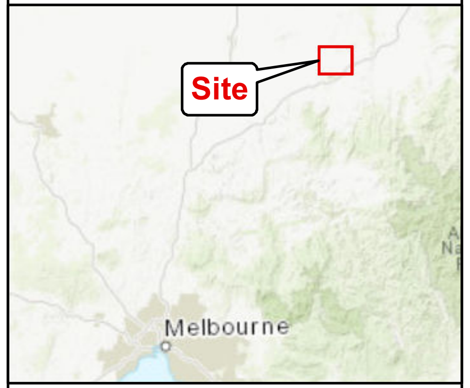
- Woodland Management Area
- Locality
- Watercourses
- Roadways
- Cadastre
- Waterbodies
- Wetland



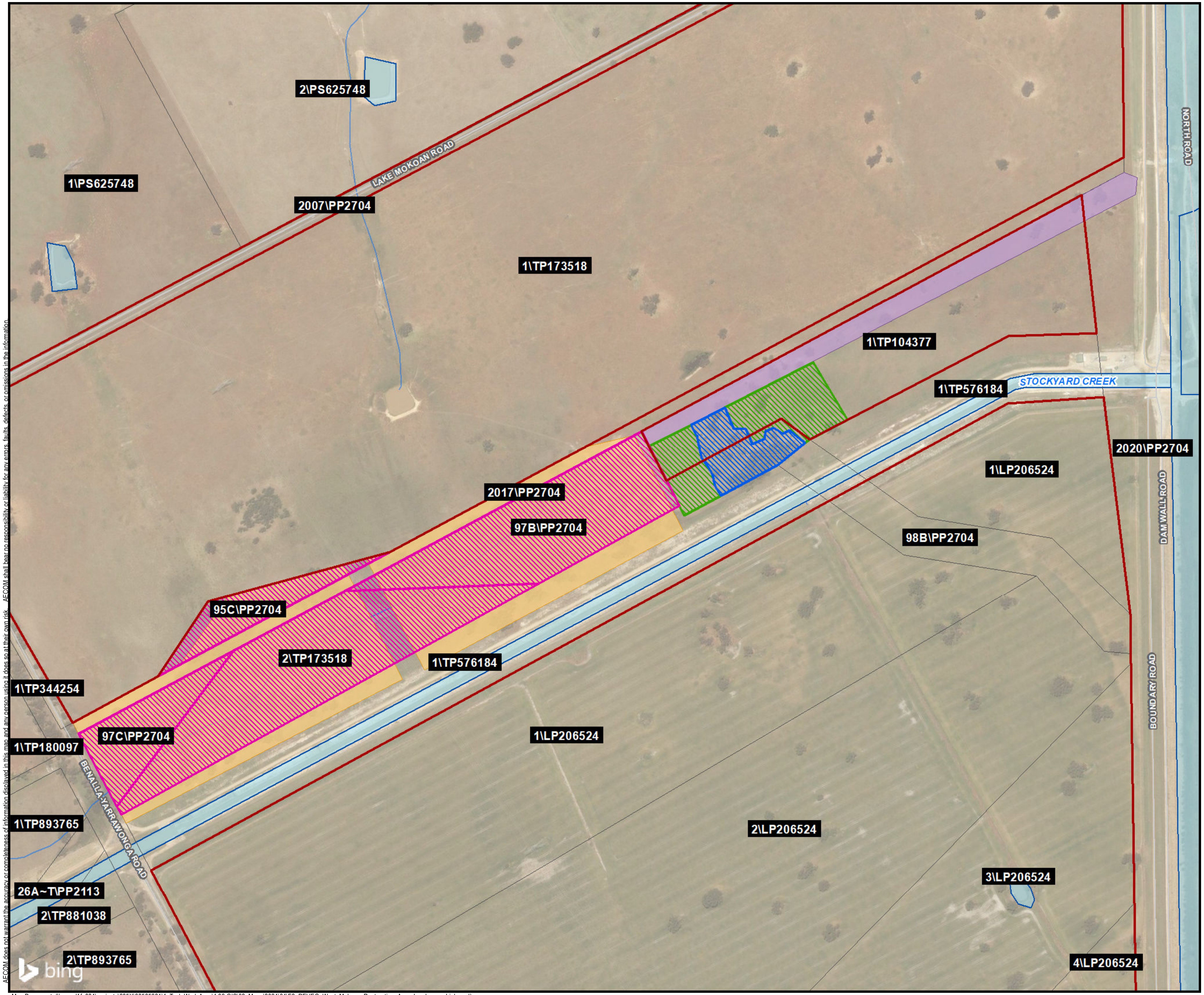


West Mokoan Project Area

South Energy
West Mokoan Solar Farm
892 Benalla-Yarrawonga Rd,

Figure 1

Map Document: (\\aumel1fp001.au.aecomnet.com\projects\605X\60585631\4. Tech Work Area\4.99 GIS\02_Maps\2021\04\F1_REVEG_West_Mokoan_Project_Area.mxd)



PROJECT ID 60585631
CREATED BY brierej
LAST MODIFIED brierej 30 APR 2021

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Coordinate System: GDA 1994 MGA Zone 55

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Legend

- Study Area
- Watercourses
- Roadways
- Cadastre
- Waterbodies

Restoration Areas

- Zone 1 - Exisiting woodland area for partial EVC enhancement
- Zone 2 - Degraded treeless area for complete EVC restoration
- Zone 3 - Trust for Nature Woodland (EVC_235: Plains Woodland/Herb-rich Gilgai Wetland mosaic)

Landscape Link

- Community Group Revegetation
- Plains Grassy Woodland Managed for Biodiversity Conservation

West Mokoan Restoration Area and landscape link

South Energy

West Mokoan Solar Farm

892 Benalla-Yarrawonga Rd,

Figure 2

Map Document: (\\aumel1fp001\projects\605X\60585631\4. Tech Work Area\4.99 GIS\02_Maps\2021\04\F2_REVEG_West_Mokoan_Restoration_Area_Landscape_Link.mxd)

LAKE MOKOAN ROAD

1.30ha

1.11ha

0.79ha

4.94ha

1.31ha

6.44ha

1.69ha

STOCKYARD CREEK

BENALLA-YARRAWONGA ROAD

bing

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Coordinate System: GDA 1994 MGA Zone 55

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metres

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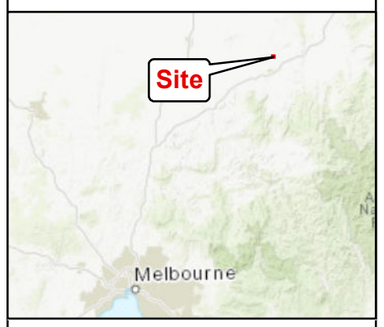
Legend

- Study Area
- Watercourses
- Cadastre
- Waterbodies

Restoration Areas

- Zone 1 - Exisiting woodland area for partial EVC enhancement
- Zone 2 - Degraded treeless area for complete EVC restoration
- Zone 3 - Trust for Nature Woodland (EVC_235: Plains Woodland/Herb-rich Gilgai Wetland mosaic)



West Mokoan Restoration Area

South Energy

West Mokoan Solar Farm

892 Benalla-Yarrawonga Rd,

Figure

3

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Appendix B

Management Actions Table

Appendix B Management Actions Table

Table 6 Management Actions Table – Plains Grassy Woodland Restoration Area (Zone 1 & 2 in Figure 3)

Year	Action	Management Action	Description of Action	Timing	Standard to be achieved	Plan reference	Completed (Yes/No)	Month and Year Completed
1	1.1	**Fence restoration area**	Fence to be constructed around perimeter of restoration area and join into existing fencing	Commencement of the Plan	Fence construction should be in accordance with specifications outlined by DELWP (2019).	Section 4.1		
1	1.2	**Weed control**	Actively control and eliminate high-threat weeds	HT weeds: between late winter and late spring. *non high-threat weed control can occur year-round Weed control to commence at least six months prior to planting and one grass weed treatment required approximately 4 weeks prior to planting	Reduce the cover of CaLP Act-listed weeds to less than 20% cover. Ensure total weed cover does not to increase beyond current level.	Section 4.2		
1	1.3	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting,	After construction of fencing	Monitor rabbit and fox numbers and maintain low levels.	Section 4.3		

			shooting or harbour destruction.		Remove all active warrens and dens.			
1	**1.4**	**Biomass management**	Reduce biomass prior to and following initial planting	Early autumn	Reduce biomass levels prior to planting and monitor post planting – apply corrective actions where required			
1	**1.5**	**Tubestock planting and re-seeding**	Plant canopy trees, understorey trees and shrubs	Late autumn/winter	Achieve EVC benchmark species diversity and density standards	Sections 4.5-4.7 Table 4 & Table 5		
1	**1.6**	**Maintenance**	Control weeds and monitor soil moisture levels	Spring-summer	Implement watering program (if required) Monitor weed levels around individual plants and complete follow-up weed control (if required)	Section 4.10		
2	**2.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds	HT weeds: between late winter and late spring. *non high-threat weed control can occur year-round	Reduce the cover of CaLP Act-listed weeds to less than 5% cover. Reduce total weed cover to 50%	Section 4.2		

2	**2.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
2	**2.3**	**Biomass management**	Reduce biomass prior to and following supplementary planting	Early autumn	Reduce biomass levels prior to supplementary planting and monitor post planting – apply corrective actions where required	Section 4.8		
2	**2.4**	**Tubestock planting and re-seeding**	Plant canopy trees, understorey trees and shrubs	Late autumn/winter	Supplementary planting required based on the outcome of first-year planting. First year planting should achieve >70% planting establishment.	Sections 4.5-4.7 Table 4 & Table 5		
2	**2.5**	**Maintenance**	Control weeds and monitor soil moisture levels	Spring-summer	Implement watering program (if required) Monitor weed levels around individual plants and complete follow-up weed control (if required)	Section 4.10		
2	**2.6**	**Monitoring**	Suitably experienced ecologist to assess the condition of the restoration	Late spring – following year 2, planting and 2nd	Monitoring to evaluate the success of year 1-2	Section 4.9		

			site, the abundance of high-threat weeds and rabbits, accumulation of biomass, as well as the survival success of planted species.	year management actions management actions	management actions and progress towards revegetation outcomes. Guidance to be provided to refine management actions for years 3-5.			
3	**3.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds.	Between late winter and late spring *non high-threat weed control can occur year-round Complete a single grass weed treatment up to four weeks prior to re-seeding with native grasses	Reduce the cover of CaLP Act-listed weeds to less than 1% cover. Reduce total weed cover to 30%.	Section 4.2		
3	**3.2**	**Biomass management**	Reduce biomass prior to re-seeding	Early autumn	Reduce biomass levels prior to re-seeding. This may occur in alignment with management item 3.1 (weed control) above.	Section 4.8		
3	**3.3**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting,	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels.	Section 4.3		

			shooting or harbour destruction		Remove all active warrens and dens			
3	**3.4**	**Re-seeding**	Re-seeding of restoration area with native grasses	Autumn	Complete a one-off native grass seeding treatment	Section 4.7.2 Table 5		
3	**3.5**	**Maintenance**	Monitor biomass and grass weed cover and implement corrective actions where required	Spring	Follow up grass weed control and biomass control may be required following native re-seeding. Implement weed control actions in consultation with land management contractor.	Section 4.10, Section 4.8		
4	**4.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds.	Between late winter and late spring *non high-threat weed control can occur year-round	Reduce the cover of CaLP Act-listed weeds to less than 1% cover. Reduce total weed cover to 20%.	Section 4.2		
4	**4.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
4	**4.3**	**Biomass management**	Reduce biomass following re-seeding	Early autumn and spring	Maintain low biomass levels to facilitate recruitment of native grasses	Section 4.8		

4	**4.4**	**Monitoring**	Suitably experienced ecologist to assess the condition of the restoration site, the abundance of high-threat weeds and pest animals, accumulation of biomass, as well as the survival success of planted species	After the completion of the 4th year management actions (spring)	Monitoring data to allow for comparison with previous monitoring events and allow for the evaluation of the success of management actions	Section 4.9		
5	**5.1**	**Weed control**	Actively control and eliminate high-threat weeds	Between late winter and late spring	Maintain the cover of all high-threat environmental weeds to less than 1% cover Maintain the total cover of non-high threat weeds to <20% cover	Section 4.2		
5	**5.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
5	**5.3**	**Biomass management**	Control biomass to low levels and maintain inter-tussock spaces for recruitment	Early autumn and spring	Maintain low biomass levels to facilitate recruitment of native grasses	Section 4.8		
5	**5.4**	**Monitoring**	Suitably experienced ecologist to assess the condition of the restoration site, the abundance of	After the completion of all 5th year	Monitoring data to allow for comparison with previous monitoring	Section 4.9		

			weeds, pest animals, accumulation of biomass, as well as the survival success of planted species	management actions (spring)	events and allow for the evaluation of the success of management actions over the 5-year period.			

Table 7 Management Actions Table – TFN Woodland (Zone 3 in Figure 3)

Year	Action	Management Action	Description of Action	Timing	Standard to be achieved	Plan reference	Completed (Yes/No)	Month and Year Completed
1	**1.1**	**Weed control**	Actively control and eliminate high-threat weeds	HT weeds: between late winter and late spring. *non high-threat weed control can occur year-round	Remove all woody weeds Reduce the cover of CaLP Act-listed weeds to less than 20% cover. Ensure total weed cover does not to increase beyond current level.	Section 4.2		
1	**1.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction. Monitor for Sambar deer.	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens.	Section 4.3		
1	**1.3**	**Biomass management**	Reduce biomass in early autumn and/or late spring	Early autumn and/or late spring	Ensure biomass levels do not increase beyond current levels. Monitor throughout the year and adapt pulse stock grazing program as necessary to control biomass			
1	**1.4**	**Monitoring**	Suitably experienced ecologist to assess the condition of the TFN	Late spring – in conjunction with	Monitoring to evaluate the success of year 1	Section 4.9		

			woodland - the abundance of high-threat weeds, pest animals and, accumulation of biomass	monitoring of the restoration area	management actions Guidance to be provided to refine management actions for years 2-3			
2	**2.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds. Monitor for Sambar deer.	HT weeds: between late winter and late spring. *non high-threat weed control can occur year-round	Reduce the cover of CaLP Act-listed weeds to less than 5% cover. Reduce total weed cover to 50%	Section 4.2		
2	**2.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction. Monitor for Sambar deer.	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
2	**2.3**	**Biomass management**	Reduce biomass in early autumn and/or late spring	Early autumn and/or late spring	Ensure biomass levels do not increase beyond current levels. Monitor throughout the year and adapt pulse stock grazing program as necessary to control biomass	Section 4.8		

3	**3.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds.	Between late winter and late spring *non high-threat weed control can occur year-round	Reduce the cover of CaLP Act-listed weeds to less than 1% cover. Reduce total weed cover to 30%.	Section 4.2		
3	**3.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction. Monitor for Sambar deer.	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
3	**3.3**	**Biomass management**	Reduce biomass in early autumn and/or late spring	Early autumn and/or late spring	Ensure biomass levels do not increase beyond current levels. Monitor throughout the year and adapt pulse stock grazing program as necessary to control biomass.	Section 4.8		
3	**3.4**	**Monitoring**	Suitably experienced ecologist to assess the condition of the TFN woodland - the abundance of high-threat weeds, pest animals and, accumulation of biomass	Late spring – in conjunction with monitoring of the restoration area	Monitoring to evaluate the success of year 2-3 management actions Guidance to be provided to refine management actions for years 4-5	Section 4.9		

4	**4.1**	**Weed control**	Control and eliminate high-threat weeds. Control and reduce the cover on non-high threat weeds.	Between late winter and late spring *non high-threat weed control can occur year-round	Reduce the cover of CaLP Act-listed weeds to less than 1% cover. Reduce total weed cover to 20%.	Section 4.2		
4	**4.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction. Monitor for Sambar deer.	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
4	**4.3**	**Biomass management**	Reduce biomass in early autumn and/or late spring	Early autumn and/or late spring	Ensure biomass levels do not increase beyond current levels. Monitor throughout the year and adapt pulse stock grazing program as necessary to control biomass.	Section 4.8		
5	**5.1**	**Weed control**	Actively control and eliminate high-threat weeds	Between late winter and late spring	Maintain the cover of all high-threat environmental weeds to less than 1% cover Maintain the total cover of non-high threat weeds to <20% cover	Section 4.2		

5	**5.2**	**Pest animal control**	Control rabbit and fox abundance as required. This will be done by baiting, shooting or harbour destruction. Monitor for Sambar deer.	Between late summer and early autumn	Monitor rabbit and fox numbers and maintain low levels. Remove all active warrens and dens	Section 4.3		
5	**5.3**	**Biomass management**	Reduce biomass in early autumn and/or late spring	Early autumn and/or late spring	Maintain low biomass levels to facilitate recruitment of native grasses. Monitor throughout the year and adapt pulse stock grazing program as necessary to control biomass.	Section 4.8		
5	**5.4**	**Monitoring**	Suitably experienced ecologist to assess the condition of the TFN woodland - the abundance of high-threat weeds, pest animals and, accumulation of biomass	After the completion of all 5th year management actions (spring)	Monitoring data to allow for comparison with previous monitoring events and allow for the evaluation of the success of management actions over the 5-year period.	Section 4.9		

Appendix C

CaLP Act Weeds

Appendix C CaLP Act weeds

Table 8: CaLP Act and Regionally Controlled weeds in Goulburn Broken CMA

Common Name	Scientific Name	Status
African Lovegrass	*Eragrostis curvula*	Regionally controlled
Alligator Weed	*Alternanthera philoxeroides*	State prohibited
Amsinckia (Yellow Burr Weed)	*Amsinckia spp*	Regionally controlled
Blackberry	*Rubus fruticosus spp. agg*	Regionally controlled
Black Knapweed	*Centaurea nigra*	State prohibited
BoxThorn	*Lycium ferocissimum*	Regionally controlled
Bridal Creeper	*Asparagus asparagoides*	Regionally restricted
Caltrop	*Tribulus terrestris*	Regionally controlled
Camelthorn	*Alhagi maurorum*	State prohibited
Cape Broom	*Genista monspessulana*	Regionally controlled
Cape Tulip	*Moraea flaccida and Moraea miniata*	Regionally prohibited
Chilean Needle Grass	*Nassella neesiana*	Regionally restricted
Dodder	*Cuscuta spp*	Regionally controlled
English Broom	*Cytisus scoparius*	Regionally controlled
Fennel	*Foeniculum vulgare*	Regionally restricted
Gorse	*Ulex europaeus*	Regionally controlled
Great Mullein	*Verbascum thapsus*	Regionally controlled
Hardheads	*Acroptilon repens*	Regionally controlled
Hawthorn	*Crataegus monogyna*	Regionally controlled
Hoary Cress	*Cardaria draba*	Regionally controlled
Horehound	*Marrumbium vulgare*	Regionally controlled
Horsetail	*Equisetum spp*	State prohibited
Ivy-leaf Sida	*Malvella leprosa*	State prohibited
Mesquite	*Prosopis spp*	State prohibited
Noogoora Burr	*Xanthium strumarium*	Regionally controlled
Parthenium Weed	*Parthenium hysterophorus*	State prohibited
Paterson's Curse	*Echium plantagineum*	Regionally controlled
Prairie Ground Cherry	*Physalis viscosa*	Regionally controlled
Ragwort	*Senecio jacobaea*	Regionally prohibited
Serrated Tussock	*Nassella trichotoma*	Regionally prohibited
Silverleaf Nightshade	*Solanum elaeagnifolium*	Regionally controlled

Common Name	Scientific Name	Status
Spiny Burr Grass	*Cenchrus longispinus*	Regionally controlled
Spiny Rush	*Juncus acutus*	Regionally controlled
St John's Wort	*Hypericum perforatum*	Regionally controlled
St Peter's Wort	*Hypericum tetrapterum*	Regionally restricted
Sweet Briar	*Rosa rubiginosa*	Regionally controlled
Artichoke Thistle	*Cynara cardunculus*	Regionally prohibited
Golden Thistle	*Scolymus hispanicus*	Regionally prohibited
Nodding Thistle	*Carduus nutans*	Regionally prohibited
Saffron Thistle	*Carthamus lanatus*	Regionally controlled
Slender/Shore Thistle	*Carduus tenuiflorus and C. pycnocephalus*	Regionally restricted
Spear Thistle	*Cirsium vulgare*	Regionally restricted
St Barnaby's Thistle	*Centaurea solstitialis*	Regionally controlled
Star Thistle	*Centaurea calcitrapa*	Regionally restricted
Stemless Thistle	*Onopordum acaulon*	Regionally controlled
Variegated Thistle	*Silybum marianum*	Regionally controlled
Thorn Apple	*Datura spp*	Regionally controlled
Tutsan	*Hypericum androsaemum*	Regionally controlled
Wild Garlic	*Allium vineale*	Regionally prohibited
Black Willow	*Salix nigra*	Regionally restricted
Crack Willow	*Salix fragilis*	Regionally restricted
Grey Sallow Willow	*Salix cinerea*	Regionally restricted

Appendix D

Photographs

Appendix D Photographs

Plate 1: Woodland restoration area within 1/TP104377

Plate 2: Regent Honeyeater revegetation planting along the government road within 1/TP104377

Plate 3: Fenced TFN woodland

Plate 4: Fenced TFN woodland with values extending into 95C/PP2074

Plate 5: Fenced TFN woodland

Plate 6: TFN woodland with overhead powerline easement