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Appendix P

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Preliminary Environmental Management Plans

West Mokoan Solar Farm

Preliminary Environmental Management Plan

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West Mokoan Solar Farm

Preliminary Environmental Management Plan

Client: 892 Yarrawonga Development Pty Ltd

ABN: 63628034300

Prepared by

AECOM Australia Pty Ltd

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In association with

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16-Jun-2021

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Job No.: 60597809

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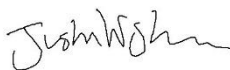

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Date 16-Jun-2021

Prepared by Sebastian Ulrichs

Reviewed by David Hyett

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	14-Jun-2019	Draft for client review	Justin Westrum Principal Environmental Scientist	
B	24-Sept-2020	Revision for final concept design	Justin Westrum Principal Environmental Scientist	
00	02-Oct-2020	Final for Client submission	Justin Westrum Principal Environmental Scientist	
01	16-June-2021	Final for Client submission	David Hyett Industry Director Environment	

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Abbreviations

Abbreviation	Term
AC	Alternating Current
AECOM	AECOM Australia Pty Ltd
AS/NZS ISO 14001	Australia / New Zealand – International Organisation for Standardisation – Standard 14001 (Environmental Management System)
BMO	Bushfire Management Overlay
CFA	Country Fire Authority
DC	Direct Current
DELWP	Department of Environment Land Water and Planning
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth.)
EMP	Environmental Management Plan (detailed)
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i> (Vic.)
FO	Floodway Overlay
Ha	hectare
km	kilometre
LSIO	Land Subject to Inundation Overlay
m	metre
MW	Megawatt
NVR report	Native Vegetation Removal report
PEMP	Preliminary Environmental Management Plan
P&E Act	<i>Planning and Environment Act 1987</i> (Vic.)
PV	photovoltaic
SEPP	State Environment Protection Policy
The Applicant	892 Yarrawonga Development Pty Ltd
The Project	Lake Mokoan Solar Farm Project

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1.0 Introduction

1.1 Plan scope and purpose

This Preliminary Environmental Management Plan (PEMP) describes the framework for the environmental management of the proposed West Mokoan Solar Farm Project (the Project), including 892 Yarrowonga Development Pty Ltd.'s (the Applicant) overarching environmental management processes that will be implemented during the detailed design, construction, operation and decommissioning of the Project.

The objective of this document is to address the requirements of the Victoria Planning Provisions, in particular Clause 53.13-2 requiring that a planning permit application for a renewable energy facility must include 'an environmental management plan, including a construction management plan, any rehabilitation and monitoring' as an element of the design response.

This PEMP presents an initial environmental management framework for the Project and is intended as a foundation for further development as additional details of Project approvals, design, construction and operations become available. This PEMP seeks to address the expected sources of potential environmental impacts identified through preliminary investigations and outline the strategies, processes and management measures that will be adopted to avoid or minimise such impacts over the life of the Project.

This document will form the basis from which the Applicant and/or the Project contractors prepare any detailed Environmental Management Plans (EMPs) and environmental sub-plans that may be required as conditions of Project approval. Depending on the details of those conditions and the environmental management needs of the Project, the detailed management plans may be prepared in a phased manner to address the various stages of the Project lifecycle (e.g. construction, operations and decommissioning).

This PEMP has been developed in alignment with the principles of the *Australia / New Zealand – International Organisation for Standardisation – Standard 14001 (Environmental Management System) (AS/NZS ISO 14001)* and aims to facilitate regular review of and 'continual improvement' in environmental performance over the life of the Project. This plan outlines the following:

- The Project's overarching environmental management system and objectives;
- A summary of identified environmental aspects and associated objectives relevant to the development of the Project;
- The Project's organisational structure, roles and responsibilities for environmental management;
- Procedures for staff environmental awareness training and communication;
- Processes for stakeholder consultation and communication regarding environmental management;
- Procedures for environmental monitoring, auditing, record keeping and reporting;
- Procedures for receiving, documenting, investigating and responding to complaints and incidents and implementing corrective actions;
- Measures for emergency preparedness and response;
- A suggested structure for the detailed EMP(s) that will be developed prior to the commencement of construction;
- A summary of key management strategies to avoid and minimise the environmental and amenity impacts of the construction, operation and decommissioning of the facility; and
- Processes for periodic review of environmental performance and continual improvement.

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1.2 Site setting and preliminary Project details

The Project is located approximately 10 kilometres (km) north-east of the town centre of Benalla within the Rural City of Benalla Local Government Area. The subject site is located on land at 892 Benalla-Yarrowonga Road, Goorambat; Benalla-Yarrowonga Road, Benalla, and 616 Benalla-Yarrowonga Road, Benalla. The site comprises the following parcels of land:

- Lot 1\PS625748;
- Lot 1\TP173518;
- Lot 1\TP104377;
- Crown allotment 98B\PP2704;
- Lots 1 to 5\LP206524;
- Lot 1\TP576184; and
- Road reserves of Lake Mokoan Road and Benalla-Yarrowonga Road.

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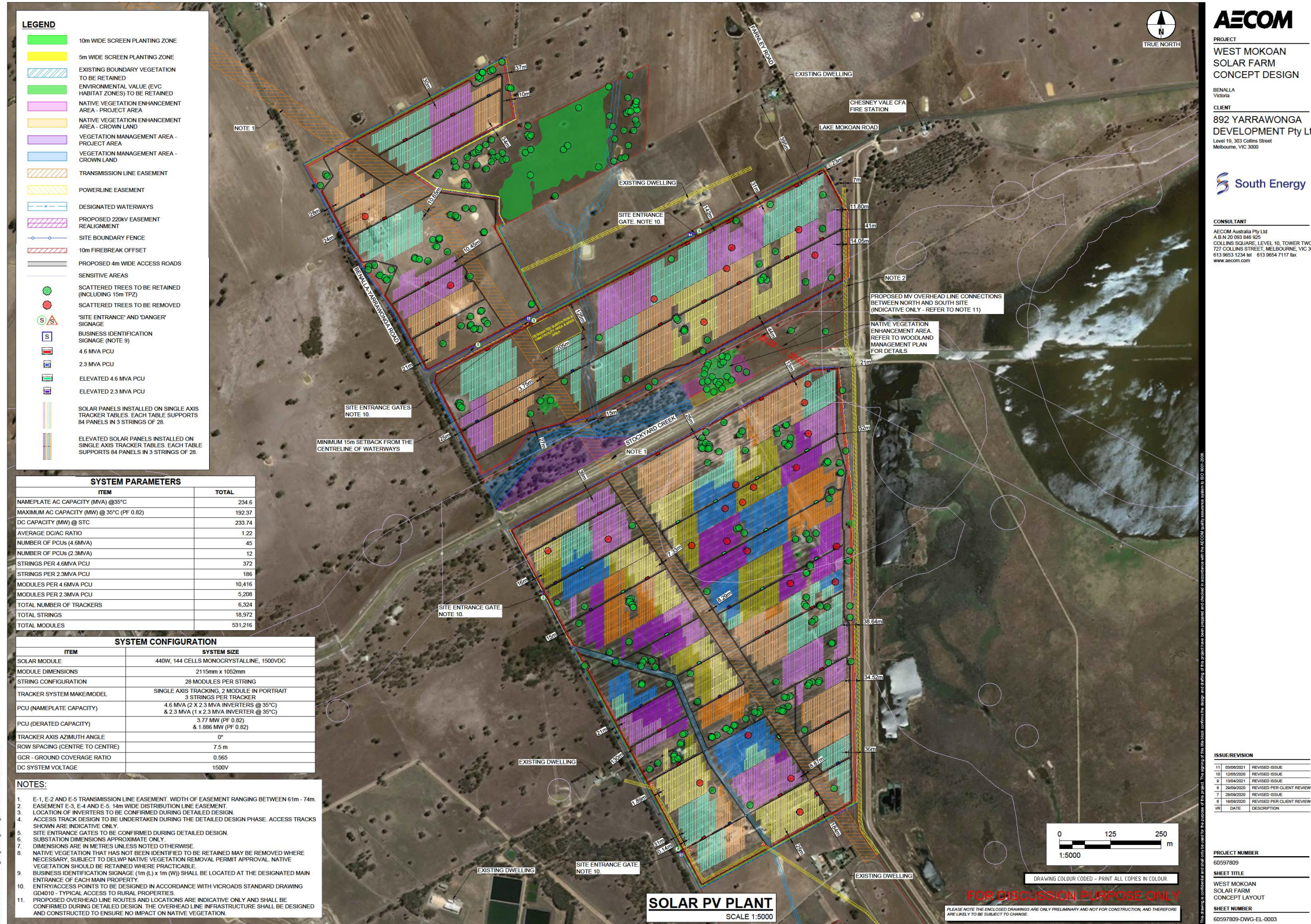
The purpose of the Project is to supply electricity generated from solar irradiation into the National Energy Market. The solar farm (referred to as the West Mokoan Solar Farm) is to connect to the overhead powerline via the existing 220 kV transmission lines associated with the Glenrowan to Shepparton network, operated by the Australian Energy Market Operator.

The Project site is approximately 426 hectares (ha) which is mostly used for broad acre farming. The entire Project footprint is located within a Farming Zone. The predominantly undeveloped land is relatively flat and includes a few scattered trees, several farm dams and various unsealed farm tracks. The farm dams are spread out across the site, with connecting drainage lines that flow downstream to the south. The site contains three residential dwellings with minimal farm related infrastructure, including out-buildings. The dwellings are located at 892 Benalla-Yarrowonga Road in the north west of the site; at 81 Lake Mokoan Road in the north east of the site, and at 616 Benalla-Yarrowonga Road in the south-west of the site. The site is bisected generally south west to north east by a Council-owned channel named Stockyard Creek. The Glenrowan to Shepparton 220kV transmission line traverses the site generally north west to south east.

The Applicant has developed a concept design for the solar facility, comprising a layout with a maximum generating capacity of up to 233 Megawatts (MW) (DC) (Figure 1). The general Project layout provided in Figure 1 comprises the following principal infrastructure:

- Approximately 531,216 solar PV panels on a single-axis tracking system mounted on aluminium or steel piles with an installed capacity of up to approx. 192 MW Alternating Current (AC) (233 DC Capacity).
- Approximately 57 Power Conversion Units (PCU – Inverter buildings with hard standings).
- Direct Current (DC) and AC cabling for electrical reticulation.
- A designated substation and operations and maintenance (O&M) facility area that includes a substation, a Battery Storage Facility/Energy Storage System (ESS) of up to 20MW/20MWh (TBC) capacity, a control building, substation transformers, office and amenities, and other site maintenance buildings.
- Internal all-weather access tracks and a laydown area.
- The creation of access to Benalla-Yarrowonga Road and Lake Mokoan Road.
- Landscaping.
- Removal of 1.891 hectares of native vegetation.
- Security fencing, CCTV and Infra-Red lighting.
- Business identification signage (details of the signage are not confirmed at this stage and will be determined during the detailed design phase to the satisfaction of the responsible authority).
- Realignment of easements.

The general layout and associated infrastructure indicated in Figure 1 are concept designs only and may be subject to modification as a result of outcomes of the approval and detailed design process.



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Figure 1 Concept Layout – Single axis tracking solar array

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1.2.1 Project surrounding setting

The existing land uses surrounding the site are as follows:

- **North:** The site's immediate surrounds to the north include broad acre farming. Further north, the land is predominantly used for broad acre farming with associated dwellings and zoned Farming Zone. The township of Goorambat is located approximately 8 km to the north-west of the site.
- **East:** The Winton Wetlands, a large restoration project, is directly adjacent to the east of the site. Two dwellings are located to the north-east, approximately 142 metres from the site boundary (81 Lake Mokoan Road), and approximately 350 metres from the site boundary (286 Farnley Road, Goorambat).
- **South:** Directly to the south of the site is 524 Benalla-Yarrawonga Road, which contains a dwelling and farm related infrastructure. Land further to the south is generally used for agricultural purposes with some properties containing associated dwellings and infrastructure within the Farming Zone, including a residence at 524 Benalla-Yarrawonga Road, Benalla, approximately 175m south of the site boundary. The Hume Freeway is located approximately 9 km south of the site. The Benalla CBD and Benalla Airport are located approximately 8-9 km south west of the site.
- **West:** Directly west of the subject site is Benalla-Yarrawonga Road. Further to the west is Thales Australian Munitions within the Special Use Zone 1 (Defence Industries Benalla) and the Benalla Landfill and Resource Recovery Centre, zoned Public Use Zone 1 (Service and Utility). Areas used as agricultural land and associated dwellings are also located in the vicinity to the west of the site, including a residence at 623 Benalla-Yarrawonga Road, Benalla, located approximately 80m west of the site boundary.

1.2.2 Site ecology

AECOM Australia Pty Ltd (AECOM) has undertaken a desktop and detailed field-based ecological site assessment of the Project site in February, March and July 2019. Further fauna habitat surveys were completed on 16 December 2020 and 19-20 January 2021 (AECOM 2021a). The assessment found that, in general, the site has been significantly modified by past and current agricultural land uses, including dryland cropping and grazing. The site is largely cleared of native vegetation except for scattered trees and some patches of native vegetation.

The identified key ecological values present are summarised below:

- 26 'Habitat Zones' of Ecological Vegetation Class (EVC) 55_62 Plains Grassy Woodland, EVC 175_61 Grassy Woodland, EVC 235 Plains Woodland/Herb-rich Gilgai Wetland Mosaic and EVC 803 Plains Woodland were recorded in the Victorian Riverina bioregion. The extent of the Habitat Zones equates to 27.94 hectares containing a total of 1.891 habitat hectares.
- 112 large trees were recorded within patches
- 209 scattered trees including Grey Box, Yellow Box, White Box, Red Box and River Red-gum within the study area. Of the 209 scattered trees within the study area, there were a total of 191 large trees and 18 small trees.
- An ecological community listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) was considered present - Victorian Temperate Woodland Bird Community on the basis of the presence of woodland EVCs which are considered synonymous with the Victorian Temperate Woodland Bird Community.
- A number of woodland species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and FFG Act could utilise the habitat within the study area but are unlikely to be resident or make substantial use of the resources within the study area.
- Hollow-bearing trees are present within the project area. Loss of hollow-bearing trees may be required to implement the project. Such loss may exacerbate the potentially threatening process 'loss of hollow-bearing trees from Victorian native forests and woodlands' listed under the FFG Act.

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The design footprint of the West Mokoan Solar Farm, as indicated in Figure 1 has avoided and minimised loss of native vegetation where possible and will result in impact to 1.891 hectares of native vegetation including 28 scattered trees (26 large and two small). The ecological assessment includes a Native Vegetation Removal (NVR) report indicating that an offset of 0.394 general habitat units with a minimum strategic biodiversity score of 0.312 would be required for this vegetation removal and an offset statement confirming that the required credits are currently available from third party providers.

Prior to commencement of the Project, the applicant will be required to supply DELWP with a credit extract confirming that the required offsets have been secured.

The final layout will incorporate any ecology requirements laid out in the planning approval.

1.2.3 Site cultural heritage

Areas surrounding the Stockyard Creek Channel, which bisects the site, and an area in the east central portion of the site, associated with the Winton Wetlands, have been identified as areas of Aboriginal cultural heritage sensitivity. Archaeological surveys and test excavations undertaken by AECOM at the Project site identified 28 surface stone artefacts, 219 subsurface artefacts and three culturally modified trees (AECOM 2021b). As indicated in Figure 1, the concept design avoids the disturbance of known areas of cultural heritage sensitivity, as well as the three culturally-modified trees.

Although the Project design avoids areas of Aboriginal cultural heritage to the extent practicable, a mandatory Cultural Heritage Management Plan (CHMP) (AECOM 2021b) has been prepared to manage any potential risk of impact to Aboriginal heritage. Part 1 of the CHMP sets out the cultural heritage management conditions that must be complied with once the CHMP is approved, and these will be incorporated into the detailed EMP(s) and have been summarised in management strategies described in Section 3.3 of this PEMP. The final layout will incorporate any cultural heritage requirements laid out in the planning approval.

1.2.4 Site surface water features

As indicated in the Surface Water Assessment and Project Amendment Addendum undertaken for the Project (AECOM 2020a, 2021c), the site is located in a sub-catchment of Broken River, which lies approximately 4.8km west of the site. East of the site is the Winton Wetlands Natural Features Reserve, formally known as Lake Mokoan. This wetlands reserve is located on a recently decommissioned artificial lake that was previously fed with water from the Broken River via the Lake Mokoan Inlet Channel.

Historically, outflow from Lake Mokoan was conveyed along Stockyard Creek and back into the Broken River. However, as part of Lake Mokoan decommissioning works completed by Goulburn Murray Water, some sections of the outlet/Stockyard creek channel have been reverse graded to allow water to be diverted from the Broken River and to flow in the opposite direction towards the Lake Mokoan Diverters Pipeline Pumping Station located immediately west of the dam wall.

Stockyard Creek, which flows between the northern and southern portions of the Project site but is not within the Project boundary, forms a natural low point through the local catchment with gentle gradients extending to the north and south of the creek. The site contains several water features including constructed drains, natural channels and farm dams. As shown in Figure 1, these include a designated waterway flowing south through the northern portion of the site into Stockyard Creek. The southern portion of the site also has a number of features that have influenced the siting and design of the proposed solar farm, as shown in Figure 1. These features include a drainage easement / designated waterway that runs through the lower south western portion of the site and a channel within an area of Crown Land in the north east. This channel drains excess water from the land and discharges it into the Stockyard Creek during wet seasons. This channel is not a designated waterway.

The Surface Water Assessment undertaken for the site includes surface water management measures that have been summarised in Section 3.3 of this PEMP and will be further developed in the Project's detailed EMP(s). The site is not located within a Land Subject to Inundation Overlay (LSIO) or Floodway Overlay (FO) designated under the Benalla Planning Scheme. The nearest FO is located along Stockyard Creek. A Hydrology and Hydraulic Modelling Assessment and Project Amendment Addendum (AECOM 2020b, 2021d) was undertaken to determine the extent of flood risks and impacts

related to the Project. The results of this flood investigation have been incorporated into the solar farm layout to avoid adverse impacts to the existing flow regime and existing flood storage, levels and velocities.

The assessment showed that solar farm development, including solar panels and associated structures, will cause insignificant changes to the existing flows and flood storage. Subsequently, the project does not increase water levels to any neighbouring buildings outside of the site boundary.

1.2.5 Bushfire risk

The Project is located within a bushfire prone area, as designated by the Minister for Planning. Whilst the site is not covered by a Bushfire Management Overlay (BMO) pursuant to Clause 44.06 of the Benalla Planning Scheme, it is anticipated that a Bushfire Management Plan will be required as a condition of the planning approval. Relevant bushfire management measures will be addressed in the Project's detailed EMP, and preliminary bushfire management strategies have been summarised in Section 3.3 of this PEMP.

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2.0 Environmental Management Framework

This document provides an overarching Project environmental management framework to be implemented through detailed EMP(s) and any required sub-plans, which will incorporate the key environmental objectives and management strategies that are identified in this document.

Detailed management plans will be prepared in consultation with the relevant authorities. Detailed management plans required as conditions of the planning approval will be subject to endorsement by the responsible authority prior to the commencement of on-the-ground activities.

2.1 Legislative and regulatory context

The detailed EMP(s) and any required sub-plans will address compliance with applicable regulatory requirements, environmental protection policies, other relevant guidelines and codes of practice and, where appropriate, will include a performance indicator schedule to be utilised for monitoring environmental compliance.

2.1.1 Key legislation

A wide range of laws, regulations and policies are relevant to the Project development works. Table 1 describes the key Commonwealth and State environmental legislation relevant to the proposed development. It also considers key regulatory and industry guidance relevant to the Project.

2.1.2 Planning and environmental approvals

The *Planning and Environment Act 1987* (P&E Act) provides the legal framework for the operation of Victoria's planning system. Therefore, approval for development of the Project is being sought under this Act. The responsible authority for the Project under the P&E Act is the Minister for Planning, with the Benalla Planning Scheme providing the framework for relevant decisions and controls for the use and development of land for the Project.

Any environmental approvals required pursuant to other legislation listed in Table 1, as determined during the planning permit application process and in consultation with the relevant authorities, will be obtained prior to the commencement of the relevant Project works or activities.

2.2 Environmental aspects and objectives

In alignment with AS/NZS ISO 14001, environmental aspects are defined here as “*elements of an organization's activities, products, or services that have, or may interact with the environment.*”

Correlating to these identified aspects are environmental objectives, which in general outline the environmental goals that the Project aims to achieve. These goals, which broadly correspond to the Project's performance targets, can be achieved through specified actions (e.g. management and mitigation measures) or through compliance with regulations, set standards or codes of practice, within defined periods of time.

Principal Project aspects that may have the potential to result in an impact on the environment, as well as corresponding objectives, are outlined in Table 2. These are preliminary and subject to review:

- During preparation of the detailed EMP(s) and any required sub-plans (to reflect the outcomes of the development approvals and detailed design process, etc.);
- Prior to the transition to the next phase of the Project lifecycle (e.g. operations or decommissioning);
- When there is a change in Project scope or site conditions, including significant design alterations or new technical information becoming available; or
- If subsequent revisions of the EMP(s) indicate the need to re-evaluate one or more of the environmental aspects.

The detailed EMP(s) and any required environmental sub-plans will address the environmental aspects and objectives and describe strategies to mitigate the associated impacts and risks.

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Table 1 Regulatory framework relevant to Lake Mokoan Solar Farm

Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
Air Quality	<ul style="list-style-type: none"> National Environment Protection (Ambient Air Quality) Measure National Environment Protection (Air Toxics) Measure 	<ul style="list-style-type: none"> <i>Environment Protection Amendment Act 2018</i> Environment Protection (Vehicle Emissions) Regulations 2013 State Environmental Protection Policy (SEPP) Air Quality Management SEPP Ambient Air Quality 	<ul style="list-style-type: none"> Civil construction, building and demolition guide, Publication 1834 (Environment Protection Authority [EPA] Victoria 2020) Environmental Reference Standards (2021)
Contamination and Hazardous Materials / Waste		<ul style="list-style-type: none"> <i>Environment Protection Amendment Act 2018</i> Environment Protection (Industrial Waste Resource) Regulations 2009 <i>Dangerous Goods Act 1985</i> Dangerous Goods (Storage and Handling) Regulations 2012 SEPP Prevention and Management of Contaminated Land in Victoria SEPP Waters 	<ul style="list-style-type: none"> Civil construction, building and demolition guide, Publication 1834 (EPA Victoria 2020) Liquid Storage and Handling Guidelines, Publication 1698 (EPA Victoria 2018) AS1940 – Storage and Handling of Flammable and Combustible Liquids
Cultural Heritage	<ul style="list-style-type: none"> <i>Aboriginal and Torres Strait Island Heritage Protection Act 1984</i> 	<ul style="list-style-type: none"> <i>Aboriginal Heritage Act 2006</i> <i>Aboriginal Heritage Amendment Act 2016</i> Aboriginal Heritage Regulations 2018 <i>Heritage Act 2017</i> Heritage Regulations 2017 	
Environmental Impact Assessment	<ul style="list-style-type: none"> <i>Environment Protection and Biodiversity Conservation Act 1999</i> Environment Protection and Biodiversity Conservation Regulations 2000 	<ul style="list-style-type: none"> <i>Environment Effects Act 1978</i> 	
Erosion and Sedimentation Control		<ul style="list-style-type: none"> <i>Water Act 1989</i> <i>Catchment and Land Protection Act 1994</i> SEPP Waters 	<ul style="list-style-type: none"> Construction Techniques for Sediment Pollution Control, Publication 275 (EPA Victoria 1991)

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Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
			<ul style="list-style-type: none"> Civil construction, building and demolition guide, Publication 1834 (EPA Victoria 2020) International Erosion and Sediment Control Association (IECA) <i>Best Practice Erosion and Sediment Control</i> Australasia guidelines
Fire Prevention and Protection		<ul style="list-style-type: none"> Country Fire Authority Act 1958 Country Fire Authority Regulations 2015 Occupational Health and Safety Act 2004 Dangerous Goods Act 1985 Dangerous Goods (Storage and Handling) Regulations 2012 Electric Safety Act 1998 Electric Safety (Bushfire Mitigation) Regulations 2013 Flora and Fauna Guarantee Act 1988 Wildlife Act 1976 	<ul style="list-style-type: none"> Liquid Storage and Handling Guidelines, Publication 1698 (EPA Victoria 2018) AS1940 – Storage and Handling of Flammable and Combustible Liquids Guidelines for Renewable Energy Installations (Country Fire Authority [CFA], 2021)
Flora and Fauna	<ul style="list-style-type: none"> Environment Protection and Biodiversity Conservation Act 1999 Environment Protection and Biodiversity Conservation Regulations 2000 	<ul style="list-style-type: none"> Flora and Fauna Guarantee Act 1988 Wildlife Act 1976 	<ul style="list-style-type: none"> Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning [DELWP] 2017)
Weeds, Pests and Disease		<ul style="list-style-type: none"> Catchment and Land Protection Act 1994 Agricultural and Veterinary Chemicals (Control and Use) Act 1992 Agricultural and Veterinary Chemicals (Control and Use) Regulations 2007 	
Noise		<ul style="list-style-type: none"> Environment Protection Amendment Act 2018 	<ul style="list-style-type: none"> Noise from Industry in Regional Victoria Guidelines, Publication 1411 (EPA Victoria 2011) Noise Control Guidelines, Publication 1254.2 (EPA Victoria 2021)

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Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
			<ul style="list-style-type: none"> • Civil construction, building and demolition guide, Publication 1834 (EPA Victoria 2020) • Environmental Reference Standards (2021)
Land Use and Planning		<ul style="list-style-type: none"> • <i>Planning and Environment Act 1987</i> • Planning and Environment Regulations 2015 	
Traffic		<ul style="list-style-type: none"> • <i>Road Management Act 2004</i> 	
Waste Management		<ul style="list-style-type: none"> • <i>Environment Protection Amendment Act 2018</i> Environment Protection (Industrial Waste Resource) Regulations 2009 	<ul style="list-style-type: none"> • Civil construction, building and demolition guide, Publication 1834 (EPA Victoria 2020)
Water Quality		<ul style="list-style-type: none"> • <i>Water Act 1989</i> • <i>Environment Protection Amendment Act 2018</i> SEPP Waters 	<ul style="list-style-type: none"> • Construction Techniques for Sediment Pollution Control, Publication 275 (EPA Victoria 1991) • Environmental Reference Standards (2021)

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Table 2 Environmental Aspects and Objectives for the Lake Mokoan Solar Project

Aspects	Objectives	Construction Phase	Operational Phase	Decommissioning Phase
Overall				
Project approach	<ul style="list-style-type: none"> Comply with relevant environmental laws, regulations, policies and guidelines Safeguard Project-associated human health, local amenity and natural environment Avoid or minimise Project impacts through utilisation of best industry practice and standards as best as reasonably practicable 	✓	✓	✓
Bushfire				
Project activities within bushfire prone area	<ul style="list-style-type: none"> Minimise bushfire hazards on site Establish appropriate bushfire preparedness and response protocols 	✓	✓	✓
Community amenity				
Community engagement	<ul style="list-style-type: none"> Establish and maintain positive relationship with communities affected by the Project Establish appropriate protocols for receiving, documenting, investigating and responding to community feedback 	✓	✓	✓
Traffic impacts	<ul style="list-style-type: none"> Minimise Project-associated traffic and roadway impacts as far as reasonably practicable 	✓	✓	✓
Changes to visual amenity	<ul style="list-style-type: none"> Minimise negative changes to visual amenity as far as reasonably practicable Minimise glint and glare to the extent practicable 	✓	✓	✓
Cultural Heritage				
Ground disturbance	<ul style="list-style-type: none"> Prevent disturbance of any Aboriginal cultural heritage and historical heritage values on site 	✓		✓
Emissions / Discharge				
Air emissions	<ul style="list-style-type: none"> Minimise release of air contaminants as far as reasonably practicable 	✓	✓	✓

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Aspects	Objectives	Construction Phase	Operational Phase	Decommissioning Phase
	<ul style="list-style-type: none"> Minimise dust generation to the extent practicable 			
Noise and vibration	<ul style="list-style-type: none"> Minimise noise and vibration generation as far as reasonably practicable 	✓	✓	✓
Stormwater discharge	<ul style="list-style-type: none"> Avoid or minimise run-off discharge of soil, sediment and any potential contaminants off site 	✓	✓	✓
Fauna and Flora				
Removal of native vegetation, including scattered trees	<ul style="list-style-type: none"> Avoid or minimise clearance of native vegetation as far as reasonably practicable Offset unavoidable Project associated vegetation loss Preserve or reinstate pre-existing environmental values and / or land uses 	✓	✓	✓
Introduction and / or spread of weeds, pests and disease	<ul style="list-style-type: none"> Prevent introduction and spread of weeds, pest fauna and diseases 	✓	✓	✓
Physical interaction with fauna	<ul style="list-style-type: none"> Avoid or minimise negative impacts to fauna as far as reasonably practicable 	✓	✓	✓
Hydrocarbons and Hazardous Materials				
Accidental release of hydrocarbons and other chemicals	<ul style="list-style-type: none"> Prevent accidental release of hydrocarbons and hazardous chemicals as far as reasonably practicable 	✓	✓	✓
Physical environment				
Ground disturbance	<ul style="list-style-type: none"> Minimise soil and ground disturbance and erosion Minimise surface and ground water regime disturbance Preserve or reinstate pre-existing environmental values and / or land uses 	✓	✓	✓
Waste				
Generation and management of on-site industrial and household waste	<ul style="list-style-type: none"> Minimise raw material use Minimise waste generation Maximise recycling and reuse Ensure safe waste disposal in compliance with relevant legislation. 	✓	✓	✓

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2.3 Roles and responsibilities

The Applicant has the overall Project responsibility for the environmental management, unless the Project ownership is transferred to another entity, in which case the overall responsibility for environmental management will also be transferred to the new owner.

All contractors that are engaged on the Project will be contractually obligated to comply with the EMP(s), including any required environmental sub-plans and any of the Project’s planning and environmental approval conditions. All Project personnel will be required to undertake work in accordance with the EMP(s) and comply with applicable environmental laws.

Specific environmental management roles and responsibilities will be specified in the detailed EMP(s). Table 3 below, however, provides a general outline of typical environmental responsibilities for principal organisational positions. It should be noted that role titles may vary, pending on future Project developments.

Table 3 Key Roles and Responsibilities

Role	Key Responsibilities
Project Manager	<ul style="list-style-type: none"> Have overall responsibility for the Project’s environmental performance Communicate clear environmental management expectations and performance standards to the Project team Ensure sufficient resources are provided to implement the EMP Review environmental management reports and plans prepared by the Environment Manager
Environment Manager	<ul style="list-style-type: none"> Assist with the development and periodic review of the detailed EMP(s) Direct on-the-ground implementation of the EMP Arrange and conduct required environmental awareness training of Project personnel Ensure monitoring, reporting and auditing of environmental performance Coordinate the management of and response to community complaints and environmental incidents
Project Construction Manager	<ul style="list-style-type: none"> Supervise day-to-day construction management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
Project Operation Manager	<ul style="list-style-type: none"> Supervise day-to-day operation management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
Project Decommissioning Manager	<ul style="list-style-type: none"> Supervise day-to-day decommissioning management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
Other personnel including contractors	<ul style="list-style-type: none"> Ensure compliance with site environmental induction requirements Ensure compliance with the EMP when undertaking Project works Report environmental incidents immediately to the appropriate supervisor or manager Follow instructions issued by the Project management team and supervisory personnel as they relate to environmental management and incidents

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2.4 Environmental awareness and training

To ensure compliance with outlined environmental performance requirements, all personnel, including staff, employees, contractors and subcontractors, involved in the Project's activities will be required to complete the following training requirements:

- Site environmental management training as part of the site induction process, prior to any work being carried out; and
- Job-specific environmental management training relevant to their role, if and where required.

Additionally, regular toolbox meetings will be held to highlight relevant environmental and safety issues, as needed.

Records of induction and training will be kept in a register, including the type and topic of training undertaken, dates, names and trainer details. Inductees will be required to sign off that they have been informed of their environmental management responsibilities. The Environment Manager will regularly review the program and monitor its implementation.

2.5 Communication and consultation

The Applicant will establish clear internal and external communication procedures to address the environmental management and performance requirements of the Project, as well as to maintain effective community engagement.

Communication and consultation procedures will be included in the regular review process of the EMP. Examples of specific external stakeholder communication and consultation to be undertaken before and during construction include:

- Notification of proposed works to all stakeholders within a set vicinity around the site, in good time; and
- Notification of works relating to changes with traffic conditions to relevant stakeholders in accordance with traffic management requirements as outlined in the detailed EMP(s) or Traffic Management Plan.

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2.6 Contractor management

The Applicant will assign a project role (e.g. Project Manager) to the overall responsibility for the management of all contractors. The Applicant will also assign roles (e.g. Project Construction Manager) with responsibility for on-the-ground contractor management and ensuring contractor compliance with the EMP(s) and any environmental sub-plans.

Responsibilities will include, but are not limited to:

- Provide site environmental management induction training of all contractors prior to commencement of works and ongoing job-specific environmental training as required;
- Ensure and confirm contractors are aware of all applicable environmental obligations;
- Oversee contractors' respective EMP implementation; and
- Track and report contractor environmental performance.

Contractor management approaches and requirements will be reviewed regularly, and adjustments incorporated in the detailed EMP(s).

2.7 Monitoring and auditing

A regular site monitoring schedule will be established to verify that EMP and environmental regulatory requirements are met and controls are in place and functioning effectively. Where the environmental monitoring determines that environmental management measures are not being implemented adequately or are not effective, corrective measures will be implemented as soon as practicable.

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These corrective actions may include revision of established, or implementation of additional, site management measures, as needed.

Works and contractor performance will be verified through regular environmental audits, conducted by a suitably-qualified independent auditor. Where practicable, audits will coincide with phases of works that comprise the greatest environmental risk.

In addition, joint site inspections with key stakeholders (e.g. EPA Victoria, DELWP) may be arranged as required.

2.8 Record keeping and reporting

Environmental monitoring and audit reports will be prepared and submitted regularly to the appropriate project management personnel. For audits, all identified environment-related non-conformances will be documented as incidents in accordance with Section 2.9 of this PEMP and be submitted with the reporting. All monitoring and auditing documentation will be handled in line with established Project document control procedures. If and where required, the findings of environmental monitoring and audits will be reported to external stakeholders.

2.9 Complaint and incident investigation and response

2.9.1 Complaint management

A complaint management approach will be developed, to capture and address all Project-associated environmental complaints in a timely and adequate manner. It will contain the following key components:

- Complaints Register, which will be maintained for the Project, recording all steps of the complaints handling process; and
- Complaint reporting and management procedures to be followed, including:
 - Opening of an incident in the register;
 - Description of the complaint;
 - Coordination of responses, including corrective actions (see Section 2.10), to address complaints;
 - Planned follow-up actions, including monitoring of actions, to address the source of the complaint and verify its resolution; and
 - Closure of incident, once all actions have been completed.

2.9.2 Incident management

An environmental incident management approach will also be established, comprising of the following key elements:

- Environment Incident Register, which will be maintained for the duration of the Project and will be updated regularly to ensure actions are completed and that controls are effective;
- Incident reporting and management procedures to be followed, including:
 - Opening of an incident in the register;
 - Description of the incident;
 - An evaluation of the level of impact and corrective action (see Section 2.10) taken or proposed;
 - Assigning follow-up actions to be undertaken, where required, to prevent recurrence of the non-conformance.
 - Monitoring of the progress and status of follow-up actions; and
 - Closing of incident, once all planned follow-up actions have been completed and the incident has been resolved.

Environmental incidents associated with Project works, including as outlined in Section 2.8 may be identified through a variety of sources, including workplace observations, environmental monitoring and audits, review of environmental monitoring data, and/or stakeholder complaints.

Incident notification and response coordination will be undertaken in line with company procedures. Environmental incidents will be investigated and managed in accordance with the Project's incident management procedures to ensure that appropriate actions are taken. Where safe to do so, identified hazards will be contained immediately. Safety of the public and the Project workforce will be the first priority when interacting with environmental incidents.

To evaluate incidents more efficiently and respond appropriately, an incident classification will be established. Significant incidents may include those that have resulted in serious injury, significant property damage, offsite environmental release or involvement of the EPA and will be reported to Project management as soon as practicable. All incidents associated with Project works will be captured and responded to in a timely and adequate manner.

2.10 Corrective action

Corrective action procedures will be established to address non-conformances with the EMP and environmental incidents. All corrective actions to be undertaken will be specified within the environmental monitoring reports or audit reports, as applicable. Each corrective action will be assigned to a person responsible, as well as a target date for completion. Corrective actions will be completed as soon as practicable following the identification of an incident or non-conformance. Each corrective action will be re-visited in the following periodic monitoring event / audit to verify conformance.

2.11 Emergency preparedness and response

Emergency response is required when an unplanned incident occurs which has or has the potential to have a detrimental impact on the environment or human health (e.g. chemical spills, bushfire).

Prior to construction, a site-specific Emergency Response Plan will be developed. All personnel will be inducted into the use of emergency procedures and provided emergency contact numbers via respective inductions. All incidents and details of corrective actions will be recorded as per the procedure outlined in Section 2.8.

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3.0 Detailed Environmental Management Plans

3.1 Overview

The detailed EMP(s), including any required sub-plans, will be developed by the Applicant and/or its contractors, prior to the start of site construction works. The detailed EMP(s) will address approval conditions and ensure alignment with the overarching environmental framework contained in this PEMP. All detailed EMPs and sub-plans required by the Project’s planning permit will be subject to endorsement by the Minister for Planning.

The detailed EMP(s) will represent the primary environmental management implementation mechanism for the Project. Depending on the conditions of approval, the EMP(s) may also contain detailed sub-plans addressing specific environmental aspects and risks. Separate EMPs may be prepared addressing the various stages or phases of the Project, or an overarching EMP addressing all phases may be prepared, subject to review and revision prior to the start of each phase.

3.2 Content and structure

The following key content and structure is proposed for the detailed EMP(s) (Table 4 – below).

Table 4 General EMP Structure

Structure	Content	Correlating PEMP Section
Introduction and Background	Introduction to the sub-proposal and application of the EMP and an overview of the Project details and scope of works to be addressed by the EMP	0
Planning permit conditions	Identification of planning permit conditions relevant to the EMP and where these conditions are addressed in the document or related sub-plans	
Regulatory Framework	Outline of applicable regulatory framework	2.1
Environmental Management Framework and Objectives	Overarching environmental management framework and objectives for the Project	2.2
Risk assessment	Identification and assessment of Project environmental aspects and risks	2.2
Measures to manage key risks	Detailed management measures for each key risk, including timeframes to meet objectives (these may also be described in the relevant detailed EMP sub-plans)	3.3
Performance Indicators	Definition and description of required level of performance to meet regulatory or company environmental standards	
Roles and responsibilities	Description and assignment of Project roles and responsibilities	2.3
Training	Outline of specific environmental awareness and competence-based training required for Project workforce	2.4
Monitoring, auditing, reporting	Outline of specific monitoring, auditing and reporting requirements for each environmental aspect	2.7, 2.8,
Internal and external communications	Outline of specific procedures and requirements for communications with the Project team, community, regulators and other stakeholders	2.5

Complaint and incident investigation and response	Outline of specific procedures to receive, document, evaluate and respond to community feedback and procedures to investigate and respond to environmental incidents	2.9
Emergency preparedness and response	Outline of specific procedures and requirements for emergency preparedness and response	2.9, 2.10, 2.11
Review and continual improvement	Outlines a process for regular review and revision of the EMP to achieve continual improvement in the Project's environmental performance based on lessons learnt	3.4

3.3 Preliminary objectives and management strategies

A general outline of preliminary objectives and environmental management strategies to be addressed in the further detailed EMP(s) are provided in Table 5 below.

3.4 Review and continual improvement

This PEMP and detailed EMP(s) are considered live documents and will regularly be reviewed and improved if and when required.

3.5 Additional documentation

A variety of detailed issues, as and where identified in the Project approval conditions or through the development of the detailed EMPs, may be addressed separately through more detailed environmental sub-plans. These sub-plans may be used to provide comprehensive direction and guidance to Project staff, employees and contractors in relation to specific environmental aspects. Detailed sub-plans potentially required include, but are not limited to:

- Native Vegetation Management Plan
- Sediment and Erosion Control Plan
- Dust Management Plan
- Traffic Management Plan
- Waste Management Plan
- Biosecurity Management Plan
- Bushfire Management Plan
- On-site and/or Off-site Landscaping Plans
- Complaint Investigation and Response Plan(s)
- Decommissioning and Rehabilitation Plan

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If required, the relevant plans will be finalised prior to the start of the relevant Project activities.

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Table 5 Preliminary Environmental Management Strategies

Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Project Approach				
Comply with all relevant environmental laws, regulations, policies and guidelines	<ul style="list-style-type: none"> Review and implement all relevant laws, regulations, policies, standards and guidelines through performance targets and environmental objectives Conduct site inductions and ongoing training of all Project personnel regarding their environmental management responsibilities 	✓	✓	✓
Safeguard human health, local amenity and natural environment	<ul style="list-style-type: none"> Focus on safeguarding priorities in all relevant Project decisions as best as reasonably practicable 	✓	✓	✓
Avoid or minimise Project impacts through utilisation of best industry practice and standards	<ul style="list-style-type: none"> Review and implement latest industry standards and guidelines in all phases of the Project as best as reasonably practicable 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Bushfire				
Minimise bushfire hazards on site	<ul style="list-style-type: none"> • Manage fuel loads on site through control of vegetation • Develop and implement hot work procedures for activities in the open that are a potential source of ignition • Internal-combustion engines will be fitted with exhaust pipes, mufflers and spark arresters consistent with manufacturers specifications and maintained in good working order • Flammable and combustible materials are stored appropriately, and flammable and combustible wastes are removed from site as soon as practicable <p>Implement key design considerations, in line with the CFA Guidelines for Renewable Energy Installations (CFA 2021), including but not limited to:</p> <ul style="list-style-type: none"> • Site Operations: <ul style="list-style-type: none"> ○ A fire break area with a ten (10) metre width is to be maintained around perimeter of the facilities, electricity compounds and substations. This area is to be on non-combustible mulch or mineral earth and must be free of vegetation and obstruction. • Firefighting Water Supply: <ul style="list-style-type: none"> ○ Location of firefighting water access points and the quantity of water supply is to be established through a comprehensive risk management process. • With regards to access tracks and to enable access for fire appliances, the CFA requires the following provisions to be considered: <ul style="list-style-type: none"> ○ A four (4) metre perimeter should be constructed within the ten (10) metre perimeter fire break. ○ Incorporate passing bays at least every 600 metres which must be at least 20 metres long and have a minimum trafficable width of 6 metres. Road networks must enable responding emergency services to access all areas of the facility. ○ At least two (2) access points must be provided to the site – this number should be informed through a risk management process. 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Establish appropriate bushfire preparedness and response protocols	<ul style="list-style-type: none"> • Appropriately train Project personnel in bushfire prevention and management and emergency response • Provide appropriate firefighting equipment and water reserves on Project site (as per CFA requirements) • Build and maintain appropriate site access tracks • Liaise with CFA during high fire danger periods and communicate the fire danger rating and any specific instructions to site personnel 	✓	✓	✓
Community amenity				
Establish and maintain positive relationship with communities	<ul style="list-style-type: none"> • Consult with nearby communities (including for example Goorambat, Benalla and Winton) regularly throughout the Project lifecycle • Provide regular updates and obtain public feedback, particularly on amenity and environmental matters 	✓	✓	✓
Establish appropriate protocols for receiving, documenting, investigating and responding to community feedback	<ul style="list-style-type: none"> • Establish mechanisms by which the community can easily submit a complaint (e.g. toll-free number, e-mail, website) and distribute the relevant contact information to the affected community • Establish a complaints register to document community feedback and any corrective actions • Establish procedures for investigating, evaluating and addressing complaints in a timely manner 	✓	✓	✓
Minimise additional Project-associated traffic and roadway impacts as far as reasonably practicable	<ul style="list-style-type: none"> • Where feasible, in line with the preliminary recommendations of the AECOM Traffic Impact Assessment Report (AECOM 2021e), implement measures to mitigate Project traffic impacts, including but not limited to: <ul style="list-style-type: none"> ○ If required as a condition of the planning approval, prepare and implement a Traffic Management Plan for the Project ○ Implement traffic management and control measures, where required, to ensure that construction and local traffic can safely use required access roads and intersections • Where required, utilise accredited traffic control services contractor • Implement an incident reporting system, allowing implementation of traffic improvement measures 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Minimise negative changes to visual amenity as far as reasonably practicable	<ul style="list-style-type: none"> Where feasible observe and implement design recommendations and opportunities, outlined in the AECOM Landscape and Visual Impact Assessment (AECOM 2021f) Limit vegetation clearing and install landscaping if required to minimise visual impacts Remove equipment from site as soon as practicable Minimise night lighting to the extent practicable, and orient site lighting away from nearby residences 	✓	✓	✓
Minimise glint and glare to the extent practicable	<ul style="list-style-type: none"> Where feasibly, reduce glint and glare in line with the recommendations of the AECOM Glint and Glare Assessment (2021g) by implementing mitigation measures including, but not limited to: <ul style="list-style-type: none"> Consider limiting the resting angle of the solar panels until a vegetation screening is sufficiently established. 		✓	
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Cultural Heritage				
Prevent disturbance of Aboriginal cultural heritage and historical heritage values	<ul style="list-style-type: none"> Avoid or minimise impacts to known heritage values through Project design Develop Project “stop work” and chance finds management and reporting procedures in the event cultural heritage assets are uncovered during construction If heritage assets are identified, undertake salvage works by qualified individual (if permitted) or revise Project infrastructure locations, where feasible 	✓		✓
Emissions / Discharge				
Minimise release of air contaminants as far as reasonably practicable	<ul style="list-style-type: none"> Where feasible, utilise latest technology, to minimise release of pollutants Maintain equipment in accordance with manufacturer specifications 	✓	✓	✓

Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Minimise dust generation to the extent practicable	<ul style="list-style-type: none"> Avoid or minimise ground disturbance, soil movement and other dust-producing activities Utilise water or wetting agent on any exposed areas, including unpaved roads and laydown areas Stabilise stockpiles and disturbed areas (e.g. through revegetation, mulch, etc.) as soon as practicable Utilise wind breaks and silt fencing Undertake flexible management of work activities and speed limits in accordance with road and wind / humidity conditions Surface site roads with suitable material (e.g. crushed rock) as soon as practicable 	✓	✓	✓
Minimise noise and vibration generation as far as reasonably practicable	<ul style="list-style-type: none"> Avoid noise-generating activities during night-time, Sundays or public holidays unless prior approval has been granted by relevant regulatory body Maintain equipment in accordance with manufacturer specifications Shut off / throttle down any vehicles or equipment not in use Where reasonably practicable, utilise latest noise reduction equipment and technology, With respect to the PCUs, where practicable, apply noise control measures directly to, or construct localised acoustic screening around the PCUs, or a combination of both, in order achieve required noise reduction for compliance with the Recommended Maximum Noise Level, as outlined in the AECOM Operational Noise Assessment (2020e) 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
<p>Avoid and minimise run-off discharge of soil, sediment and any potential contaminants off site</p>	<p>Develop and implement construction phase sediment management measures, in line with the recommendations outlined in the AECOM Surface Water Assessment report (AECOM 2020a) and Project Amendment Addendum (AECOM 2021c), including but not limited to:</p> <ul style="list-style-type: none"> • Construction activities will be effectively managed by best practice pollution prevention strategies in accordance with EPA publications 1834 <i>Civil construction, building and demolition guide</i> and 275 <i>Construction Techniques for Sediment Pollution Control</i> and International Erosion and Sediment Control Association (IECA) <i>Best Practice Erosion and Sediment Control</i> Australasia guidelines. • Construction activities will also adhere to a site-specific erosion and sediment control plan. • Areas of disturbed ground will be quickly reinstated following completion. Optimum surface treatments will be selected to fast track stabilisation of surfaces and prevention of erosion during establishment. • Sediment control fences will be employed downstream of work areas. • Sedimentation ponds will be constructed to collect silty runoff (the use of flocculants will also be considered where appropriate). • Works with a high risk of causing erosion will be scheduled during the driest periods. • Soils will be quickly remediated with topsoil (where compacted or leached), seeded and over-seeded during the correct season. • Mulches and soil binders (e.g. hydromulch) will be considered for newly exposed embankments, slopes and longer-term stockpiles. • Surface treatments for drainage infrastructure will be designed to resist scour and erosion. drainage will be designed to limit flow velocities to prevent scour. 	<p>✓</p>	<p>✓</p>	<p>✓</p>

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Flora and Fauna				
<p>Avoid or minimise clearance of native vegetation as far as reasonably practicable</p>	<ul style="list-style-type: none"> • Avoid and minimise vegetation clearing as far as reasonably practicable, in line with the with the recommendations of the AECOM Flora and Fauna Assessment Report (2021a), by implementing management and mitigation measures including but not limited to: <ul style="list-style-type: none"> ○ Implement appropriate mitigation measures prior to construction to avoid adverse impact to environmental features within or adjacent to the study area, particularly scattered trees and patches. This may include preparing a Tree Management Plan which identifies measures to be taken to avoid impact to retained scattered trees or trees in patches • Undertake clearance activities only with DELWP and Council approval • Supervise clearance activities 	✓		
<p>Offset unavoidable Project-associated vegetation loss</p>	<ul style="list-style-type: none"> • Follow all regulatory requirements, including obtaining native vegetation offsets as required by DELWP for clearance of remnant native vegetation <ul style="list-style-type: none"> ○ According to the NVR report included in the AECOM Flora and Fauna Report (2021a), offsets of 0.394 general habitat units with a minimum strategic biodiversity score of 0.312 and 26 large trees would be required for the proposed removal of 1.891 ha of native vegetation and 26 large trees, and sufficient offsets are currently available from third party providers. 	✓		

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Preserve or reinstate pre-existing environmental values and / or land uses	<ul style="list-style-type: none"> Limit disturbance to the approved Project footprint and minimise disturbance within the Project footprint to the extent reasonably practicable Develop and implement a post project decommissioning and rehabilitation plan, including but not limited to: <ul style="list-style-type: none"> Removal and disposal of above ground infrastructure components, in compliance with applicable regulatory framework and best industry practice Management of infrastructure components that cannot be removed without significant disturbance in compliance with applicable regulatory framework and best industry practice Refill of excavated areas with clean compatible material Rehabilitation of compacted areas and implementation of vegetation reinstatement program, in agreement with landowners 	✓		✓
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Prevent introduction and spread of weeds, pest fauna and known diseases.	<ul style="list-style-type: none"> Limit surface disturbance and vegetation clearing to the minimum required operationally Develop and implement robust weed management and monitoring procedures, in line with the with the recommendations of the AECOM Flora and Fauna Assessment Report (2021a), in order to avoid the spread of high threat environmental weeds including those identified in the report Develop and implement procedures to eradicate or manage pest fauna within the Project site Develop and implement procedures to prevent the spread of pathogens such as Cinnamon Fungus (<i>Phytophthora cinnamomi</i>) by soil, gravel or equipment transported to the site 	✓	✓	✓
Avoid or minimise physical negative impacts on fauna as far as reasonably practicable	<ul style="list-style-type: none"> Implement speed restrictions for on-site traffic If required, undertake fauna salvage and translocation in compliance with requirements of the Wildlife Act 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Hydrocarbons and Hazardous Materials				
Prevent accidental release of hydrocarbons and hazardous chemicals as far as reasonably practical	<ul style="list-style-type: none"> Minimise the hydrocarbons and chemicals used and stored on site Ensure storage infrastructure for onsite hydrocarbons and chemicals is in accordance with relevant regulatory requirements, standards and guidelines Develop site specific chemical storage, handling and emergency response procedures, in accordance with relevant regulatory requirements, standards and guidelines Ensure that adequate spill control and clean-up equipment and materials are available on site 	✓	✓	✓
Physical environment				
Minimise soil and ground disturbance	<ul style="list-style-type: none"> Limit ground-disturbing works to the approved development footprint of the site Implement excavation strategies minimising disturbance Ensure reinstatement and revegetation of disturbed areas as soon as reasonably practicable 	✓		✓
Minimise surface and ground water regime disturbance	<p>Develop and implement construction phase surface water quality management measures, in line with the recommendations outlined in the AECOM Surface Water Assessment report (AECOM 2020a) and Project Amendment Addendum (2021c), including but not limited to:</p> <ul style="list-style-type: none"> Works on and around waterways will only occur when they are dry. Diversion bunds will be used to direct water to sedimentation ponds for treatment. The height and alignment of bunds will be considered so as not to increase the risk of flooding. Any man-made impoundment or conveyance structures (e.g. irrigation storage ponds and channels) will be assessed for their necessity, environmental impact and ongoing safety. Discharge of channelised flow shall be via the use of level spreaders or direct outfall into Stockyard Creek with suitable erosion protection. 	✓		✓
Waste				

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Minimise raw material use	<ul style="list-style-type: none"> Where feasible, implement measures to minimise raw material use and excess, including specific purchasing and construction, operation and decommissioning techniques strategies 	✓	✓	✓
Minimise waste generation	<ul style="list-style-type: none"> Where feasible, implement measures to minimise waste generation including preference for material re-use, recycling and treatment, prior to disposal 	✓	✓	✓
Maximise recycling and reuse	<ul style="list-style-type: none"> Where feasible, implement recycling and reuse measures for the Project, including waste disposal separation and utilisation of recyclable and reusable materials 	✓	✓	✓
Ensure safe waste disposal in compliance with relevant legislation	<ul style="list-style-type: none"> Ensure provision of bins for adequate waste disposal, including segregation of wastes by type and hazard Assess wastes for contamination potential and manage/dispose in accordance with EPA requirements Utilise licensed waste contractor for waste disposal 	✓	✓	✓

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Project Amendment Addendum

Preliminary Environmental Management Plan

22-Feb-2023
Kennedys Creek Solar Farm

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Project Amendment Addendum

Preliminary Environmental Management Plan

Client: 433 Link Development Pty Ltd

ABN: 30 626 633 369

Prepared by

AECOM Australia Pty Ltd

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1.0 Introduction

1.1 Purpose

The purpose of this addendum report is to determine whether technical assessments attached to the approved permit for Kennedys Creek Solar Farm (the Project) will require further consideration and assessment following amendments to the solar farm layout and inclusion of a new transmission line.

This is an addendum report to *Kennedys Creek Solar Farm Preliminary Environmental Management Plan* (AECOM, 2019) (PEMP).

1.2 Background to Planning Permit Application

AECOM Australia Pty Ltd (AECOM) continues to act on behalf of the Project Applicant, 433 Link Development Pty Ltd, in relation to Planning Permit Application PA1900684 (the Permit) for the Kennedys Creek Solar Farm (the Project). It is noted that AECOM previously acted on behalf of South Energy, the former owner of the Project Applicant. On 22 September 2021, ownership of the Project Applicant was transferred from South Energy to Lightsource bp. South Energy retain ownership of the subject site and therefore an interest in the Project.

The Permit was granted on 30 November 2020 and amended on 5 February 2021 in accordance with Section 71 of the *Planning and Environment Act 1987* (P&E Act), to correct a clerical error at condition 73. The Application is for the **use and development of a solar energy facility, utility installation and associated buildings and works, native vegetation removal, creation of access to a Road Zone Category 1, business identification signage, and remove, vary and create easements.**

The Project site is at the following addresses:

- Murray Road, Benalla (Lot 3 and 4 PS318659S)
- 51 Nelson Road, Benalla (Lot 6 PS627741K)
- 67 Nelson Road, Benalla (Lot 7 PS627741K)
- 127 Nelson Road, Benalla (Lot 2 PS803108)
- 284 Benalla-Yarrowonga Road, Benalla (Lot 3 PS715932M).

1.3 Project Amendments

Following changes to the concept design, an application under Section 72 of the P&E Act is being sought to amend PA1900684 (the amendment). The amendment seeks to:

- Rearrange the layout of Kennedys Creek Solar Farm to:
 - Relocate the Substation to the north-east of the site and connection to new transmission infrastructure
 - Make minor updates as a result of the above.
- Include a new transmission line from the Kennedys Creek Solar Farm to the network connection point at West Mokoan Solar Farm.

The new transmission line will further affect the following parcels of land:

- Lake Mokoan Road, Winton North (Allotment 2020 Parish of Winton PP3843)
- 368 Benalla-Yarrowonga Road, Benalla (Lot 2 PS627741)
- 370 Benalla-Yarrowonga Road, Benalla (Lot 1 PS627741)
- 82 Snowy Lane, Benalla (Lot 2 LP123365)
- Benalla-Yarrowonga Road, Benalla (Lot 1 PS717978)

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- 524 Benalla-Yarrowonga Road, Benalla (Lot 6 LP206524)
- 572-616 Benalla-Yarrowonga Road, Benalla (Lot 5 LP206524; Lot 4 LP206524 Lot 3 LP206524)
- Allotment 2019 Parish of Goorambat PP2704
- Snowy Lane, Benalla road reserve.

2.0 Assessment

The PEMP addresses the requirements of the Victoria Planning Provisions, presents an initial environmental management framework as a foundation for further development, addresses the expected sources of potential environmental impacts identified through preliminary investigations, and outlines the strategies, processes, and management measures to avoid or minimise impacts over the life of the Project.

The PEMP makes recommendations regarding the preparation of the more targeted Environmental Management Plans and environmental sub-plans that may be required as conditions of Permit approval.

2.1 Relocated substation to north-east boundary

The result of the substation being relocated to the north-east boundary is that solar panels are now proposed along the southern boundary where the substation was previously located, and solar panels removed where the substation is now located in the north-east.

The internal configuration of the Project does not affect the PEMP as it addresses the strategies relating to each Environmental Aspect (e.g. bushfire, community amenity, cultural heritage), not where infrastructure and hazards are specifically located. All the Environmental Aspects addressed in the PEMP remain relevant to the project, therefore no further assessment of environmental impacts or modification of the PEMP is required.

2.2 New transmission line and associated minor changes

The PEMP does not directly consider the transmission line in its recommendations and strategies, however the transmission line is directly adjacent to the Kennedys Creek solar farm and is subject to the same environmental considerations as the solar farm. The mitigation measures outlined in the PEMP are appropriate to apply to the construction, operation and decommissioning of the transmission line (where applicable).

Additionally, the PEMP is a preliminary plan and part of its purpose is to inform the preparation of detailed Environmental Management Plans. Any specific hazards and mitigation measures relating to the transmission line will be captured in these detailed plans without the need to modify the PEMP.

The transmission line will be considered by the final EMP and management plan documents prepared as per the requirements of the planning permit.

3.0 Conclusion

The PEMP provides a sound basis to guide the development of more detailed Environmental Management Plans for the amended Kennedys Creek solar farm layout and transmission line. It is noted that many of the Environmental Aspects raised in the PEMP are addressed by specialist technical reports that are being amended, such as flora and fauna and cultural heritage. The strategies and recommendations outlined in the *Kennedys Creek Solar Farm Preliminary Environmental Management Plan* (AECOM, 2019) are not affected by the layout changes and remain relevant to the new concept design.

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Kennedys Creek Solar Farm

Preliminary Environmental Management Plan

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Kennedys Creek Solar Farm

Preliminary Environmental Management Plan

Client: 433 Link Development Pty Ltd

ABN: 30 626 633 369

Prepared by

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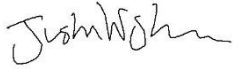
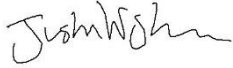
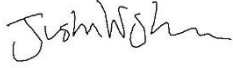
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Date 19-Sep-2019

Prepared by Sebastian Ulrichs

Reviewed by Justin Westrum

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	20-Jun-2019	Draft for client review	Justin Westrum Principal Environmental Scientist	
B	28-Aug-2019	Revision for updated concept design	Justin Westrum Principal Environmental Scientist	
0	19-Sep-2019	Final	Justin Westrum Principal Environmental Scientist	

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Abbreviations

Abbreviation	Term
AC	Alternating Current
AECOM	AECOM Australia Pty Ltd
AS/NZS ISO 14001	Australia / New Zealand – International Organisation for Standardisation – Standard 14001 (Environmental Management System)
BMO	Bushfire Management Overlay
CFA	Country Fire Authority
CHMP	Cultural Heritage Management Plan
DC	Direct Current
DELWP	Department of Environment, Land, Water and Planning
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth.)</i>
EMP	Environmental Management Plan (detailed)
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988 (Vic.)</i>
FZ	Farming Zone
ha	hectare
IN1Z	Industrial 1 Zone
km	kilometre
m	metre
MW	Megawatt
PEMP	Preliminary Environmental Management Plan
P&E Act	<i>Planning and Environment Act 1987 (Vic.)</i>
PV	photovoltaic
SEPP	State Environment Protection Policy
The Applicant	433 Link Development Pty Ltd
The Project	Kennedys Creek Solar Farm Project

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1.0 Introduction

1.1 Plan scope and purpose

This Preliminary Environmental Management Plan (PEMP) describes the framework for the environmental management of the proposed Kennedy's Creek Solar Farm Project (the Project), including 433 Link Development Pty Ltd's (the Applicant) overarching environmental management processes that will be implemented during the detailed design, construction, operation and decommissioning of the Project.

The objective of this document is to address the requirements of the Victoria Planning Provisions, in particular Clause 53.13-2 requiring that a planning permit application for a renewable energy facility be accompanied with a design response including '*an environmental management plan, including a construction management plan, any rehabilitation and monitoring.*'

This PEMP presents an initial environmental management framework for the Project and is intended as a foundation for further development as additional details of Project approvals, design, construction and operations become available. This PEMP intends to address the expected sources of potential environmental impacts identified through preliminary investigations and outline the strategies, processes and management measures that will be adopted to avoid or minimise such impacts over the life of the Project.

This document will form the basis from which the Applicant and/or the Project contractors prepare any detailed Environmental Management Plans (EMPs) and environmental sub-plans that may be required as conditions of Project approval. Depending on the details of those conditions and the environmental management needs of the Project, the detailed management plans may be prepared in a phased manner to address the various stages of the Project lifecycle (e.g. construction, operations and decommissioning).

This PEMP has been developed in alignment with the principles of the *Australia / New Zealand – International Organisation for Standardisation – Standard 14001 (Environmental Management System) (AS/NZS ISO 14001)* and aims to facilitate regular review of and 'continual improvement' in environmental performance over the life of the Project.

This plan outlines the following:

- The Project's overarching environmental management system and objectives;
- A summary of identified environmental aspects and associated objectives relevant to the development of the Project;
- The Project's organisational structure, roles and responsibilities for environmental management;
- Procedures for staff environmental awareness training and communication;
- Processes for stakeholder consultation and communication regarding environmental management;
- Procedures for environmental monitoring, auditing, record keeping and reporting;
- Procedures for receiving, documenting, investigating and responding to complaints and incidents and implementing corrective actions;
- Measures for emergency preparedness and response;
- A suggested structure for the detailed EMP(s) that will be developed prior to the commencement of construction;
- A summary of key management strategies to avoid and minimise the environmental and amenity impacts of the construction, operation and decommissioning of the facility; and
- Processes for periodic review of environmental performance and continual improvement.

1.2 Site setting and preliminary Project details

The Project is located approximately four kilometres north-east of the town centre of Benalla within the Rural City of Benalla. Benalla Rural City forms part of the Hume Region in North East Victoria. The subject site is located along Murrays Road, Nelson Road and Benalla-Yarrowonga Road. The Project site includes the following properties:

- Murray Road, Benalla (Lots 3 and 4 on Plan of Subdivision 318659);
- 51 Nelson Road, Benalla (Lot 6 on Plan of Subdivision 627741);
- 67 Nelson Road, Benalla (Lot 7 on Plan of Subdivision 627741);
- 284 Benalla-Yarrowonga Road, Benalla (Lot 3 on Plan of Subdivision 715932); and
- 125 Nelson Road, Benalla, Benalla (Lot 4 on plan of Subdivision 715932).

The Project site is approximately 283 hectares (ha), which is mostly used for broad acre farming. The Project footprint is located within a Farming Zone (FZ) and Industrial 1 Zone (IN1Z). The predominantly undeveloped land is relatively flat and includes a few scattered trees, several farm dams and various unsealed farm tracks. The farm dams are spread out across the site, with connecting drainage lines that flow downstream to the south. Two dwellings and associated farm buildings are located within the Project site, one at 51 Nelson Road and one at 125 Nelson Road.

The site is located adjacent to the existing 66kV Glenrowan Terminal Station – Benalla Zone Substation 1 overhead transmission line, which runs along the southern boundary of the site. A number of utility easements apply to the site, as shown in Figure 1

The Applicant has developed a concept design for the solar facility, comprising a layout with a maximum generating capacity of around 145 megawatts (MW) (Figure 1).

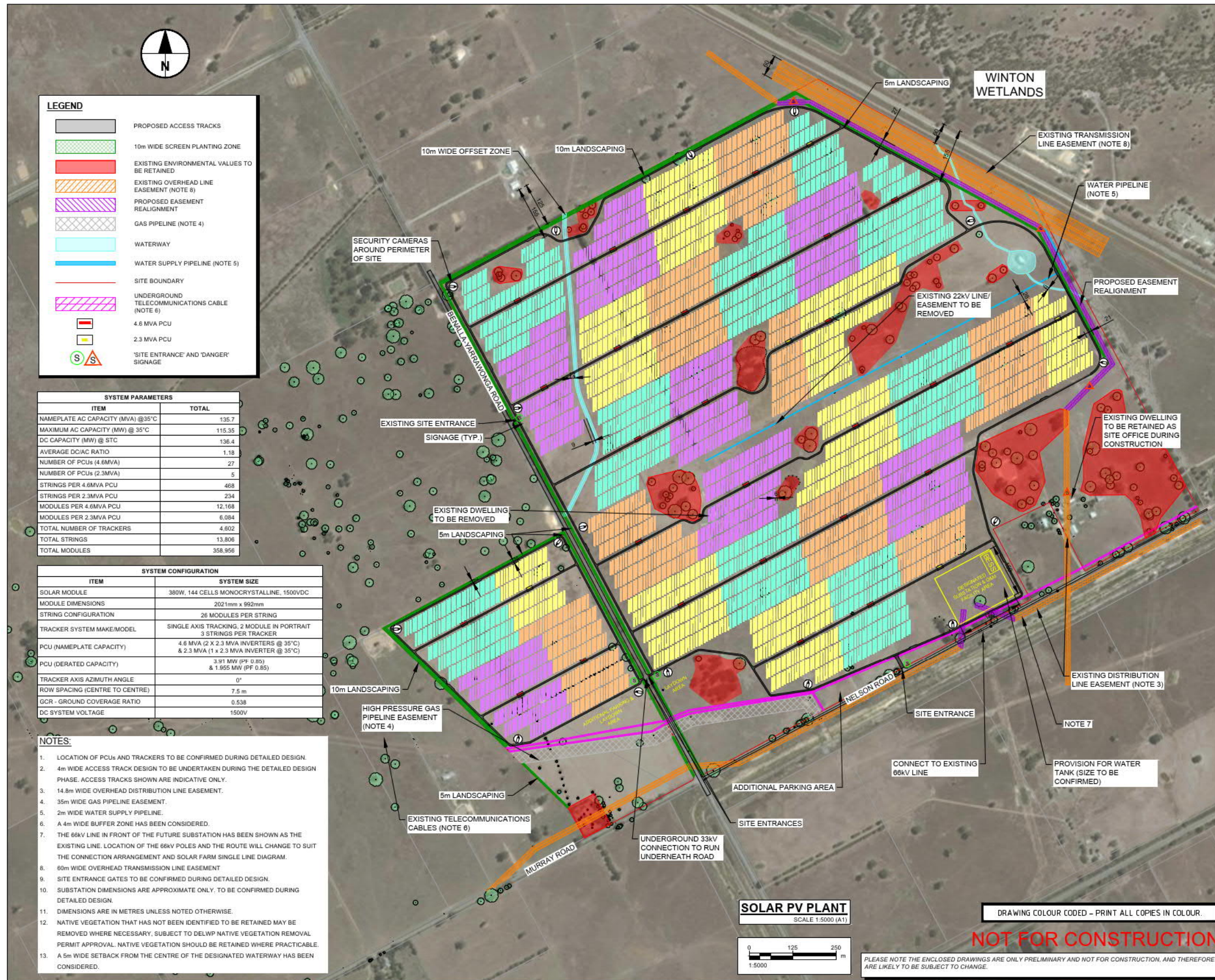
The general Project layout provided in Figure 1 comprises the following principal infrastructure:

- Solar arrays, comprising single axis tracking systems using monocrystalline solar photovoltaic (PV) panels, with a spacing of approximately 7.5m; overall about 4,602 trackers with 26 modules per string, comprising a total of around 358,956 380-watt peak capacity panels;
- Centralised Power Conversion Units (PCUs), housing inverters and transformers;
- Designated substation, Operations and Maintenance (O&M) facility area & Battery Energy Storage System (BESS) area;
- Designated parking & construction office area;
- Fencing and perimeter monitoring infrastructure; and
- Site access roads.

The general layout and associated infrastructure indicated in Figure 1 are concept designs only and may be subject to modification as a result of outcomes of the approval and detailed design process.

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SOLAR FARM
CONCEPT DESIGN

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ISSUE/REVISION

IR	DATE	DESCRIPTION
3	19/08/2019	FINAL ISSUE
2	1/08/2019	REVISED DRAFT
1	5/06/2019	DRAFT
0	26/01/2019	PRELIMINARY - FOR DISCUSSION

PROJECT NUMBER
60597829

SHEET TITLE
KENNEDYS CREEK
SOLAR FARM
SITE LAYOUT

SHEET NUMBER
60597829-DWG-EL-0003

Figure 1 Concept Layout – Single axis tracking solar array

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1.2.1 Project surrounding setting

The existing land uses surrounding the site are as follows:

- **North:** The immediate north of the site is characterised by a mixture of different land uses including defence industry purposes and agricultural purposes. Further to the north is more land used for defence industry purposes, agricultural land and associated dwellings.
- **East:** The Winton Wetlands, a large wetland restoration project, is located about 500 metres to the north-east of the site. Additionally, the Mokoan Inlet Channel is situated to the east of the subject site, running parallel to Nelson Road before connecting into Winton Creek and the swamps associated with the Winton Wetlands.
- **South:** Land to the immediate south is used for the Benalla-Winton Discovery Trail, a 21-kilometre-long bike trail that connects Benalla to the Winton Wetlands and the Mokoan Inlet Channel. The Benalla to Yarrowonga rail corridor is situated approximately 800 metres from the site. Key roads to the south include Benalla-Winton Road, located approximately 1.6 kilometres from the site and Hume Freeway, approximately 3 kilometres south of the site. Other key uses to the south include agricultural land and associated dwellings.

The Benalla CBD and Benalla Airport are located approximately 4 and 3 kilometres respectively south-west of the site.

- **West:** To the west of the site lies Kennedys Creek, which holds Aboriginal Cultural Heritage Significance. Land to the west is also used for agricultural purposes and includes associated dwellings within the Farming Zone. To the north-west of the site is land used for the Benalla Landfill and Resource Recovery Centre.

Land further to the west is generally residential land and land associated with the outer urban areas of Benalla.

1.2.2 Site ecology

AECOM Australia Pty Ltd (AECOM) has undertaken a desktop and detailed field-based ecological site assessment of the Project site in February and March 2019 (AECOM 2019a). The assessment found that, in general, the site has been significantly modified by past and current agricultural land uses, including grazing. The site has predominantly cleared of native vegetation except for scattered trees and some patches of native vegetation.

The identified key ecological values present are summarised below:

- 34 'Habitat Zones' of Ecological Vegetation Class (EVC) 55_62 Plains Grassy Woodland were recorded within the study area located in the Victorian Riverina bioregion. The extent of the Habitat Zones equates 18.82 ha containing 6.29 habitat hectares.
- 182 large trees were recorded within patches and included the species White Box, Grey Box, River Red Gum, Yellow Box, Red Box and stags.
- 318 scattered trees of White Box, Grey Box, Yellow Box, Red Box, River Red-gum and stags were recorded including 295 large and 23 small trees.
- An ecological community listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) was considered present - Victorian Temperate Woodland Bird Community based on the presence of woodland EVCs which are considered synonymous with the Victorian Temperate Woodland Bird Community.
- Ten fauna species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) have the potential to occur within the study area. This includes five threatened species, two migratory species and three marine species. Marginal suitable habitat is present for these species however the study area is unlikely to provide foraging or breeding habitat or represent significant habitat for any of these species.
- Hollow-bearing trees are present within the project area. Loss of hollow-bearing trees may be required to implement the project. Such loss may exacerbate the potentially threatening process 'loss of hollow-bearing trees from Victorian native forests and woodlands' listed under the FFG Act.

The design footprint of Kennedys Creek Solar Farm, as indicated in Figure 1, has avoided and minimised the disturbance of ecological values where possible and will result in impact to 2.838 ha of native vegetation and 41 large scattered trees. Removal of this native vegetation will be mitigated by securing the vegetation offsets required by DELWP.

The final layout will incorporate any ecology requirements laid out in the planning approval.

1.2.3 Site cultural heritage

There are no designated areas of Aboriginal cultural heritage sensitivity or registered Aboriginal cultural heritage sites within the Project site. However, the Project site is located in close proximity to the Winton Wetlands, located to the north-east of the site, and Kennedys Creek, located to the west of the site, and associated areas of Aboriginal cultural heritage sensitivity, and there is potential for Aboriginal archaeological remains to be present within the Project site.

The Project acknowledges and respects the Aboriginal cultural heritage significance of Kennedys Creek by being designed in a way that is sufficiently set back so as to protect the Creek from the development and operation of the Solar Farm (see Figure 1).

Although the Project design avoids areas of Aboriginal cultural heritage sensitivity, given the rich archaeological record surrounding the Winton Wetlands and similar landforms within the Activity Area, there is a potential for Aboriginal archaeological remains and intangible values to be present within the Activity Area. Considering the spatial relationship of artefacts and landforms surrounding the wetlands a Voluntary CHMP will be prepared as part of the Solar Farm development.

There are no registered historical heritage places within the Project site. However, there is potential for historical archaeological remains associated with early pastoral activities to be on site, and contingency measures for unexpected finds are discussed within this PEMP and will be implemented during the Project lifecycle.

1.2.4 Bushfire risk

The Project is located within a bushfire prone area, as designated by the Minister for Planning. The Project has been designed to be resilient and defendable, with access tracks throughout

The site is not covered by a Bushfire Management Overlay (BMO) pursuant to Clause 44.06 of the Benalla Planning Scheme, and the proposed solar farm land use is not a listed land use at Clause 13.02 (Bushfire). Notwithstanding, it is anticipated that a Bushfire Management Plan will be prepared prior to the development of the site as a condition of planning permit. The Bushfire Management Plan will be prepared in consultation with the Country Fire Authority (CFA) to ensure that appropriate fire risk assessments are undertaken, and measures are implemented during development and operation, to minimise the risk to life and property from fire.

General bushfire management measures are discussed in this PEMP. Management measures will be further described in the Project's detailed EMP and will consider the Country Fire Authority (CFA) Guidelines for Renewable Energy Installations (2019).

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2.0 Environmental Management Framework

This document provides an overarching Project environmental management framework to be implemented through detailed EMP(s) and any required sub-plans, which will incorporate the key environmental objectives and management strategies that are identified in this document.

Detailed management plans will be prepared in consultation with the relevant authorities. Detailed management plans required as conditions of the planning approval will be subject to endorsement by the responsible authority prior to the commencement of on-the-ground activities.

2.1 Legislative and regulatory context

The detailed EMPs and any required sub-plans will address compliance with applicable regulatory requirements, environmental protection policies, other relevant guidelines and codes of practice and, where appropriate, will include a performance indicator schedule to be utilised for monitoring environmental compliance.

2.1.1 Key legislation

A wide range of laws, regulations and policies are relevant to the Project development works. Table 1 describes the key Commonwealth and State environmental legislation relevant to the proposed development. It also considers key regulatory and industry guidance relevant to the Project.

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Table 1 Regulatory framework relevant to Kennedys Creek Solar Farm Project

Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
Air Quality	<ul style="list-style-type: none"> National Environment Protection (Ambient Air Quality) Measure National Environment Protection (Air Toxics) Measure 	<ul style="list-style-type: none"> <i>Environment Protection Act 1970</i> Environment Protection (Vehicle Emissions) Regulations 2013 State Environmental Protection Policy (SEPP) Air Quality Management SEPP Ambient Air Quality 	<ul style="list-style-type: none"> Environmental Guidelines for Major Construction Sites, Publication 480 (Environment Protection Authority [EPA] Victoria 1996)
Contamination and Hazardous Materials / Waste		<ul style="list-style-type: none"> <i>Environment Protection Act 1970</i> Environment Protection (Industrial Waste Resource) Regulations 2009 <i>Dangerous Goods Act 1985</i> Dangerous Goods (Storage and Handling) Regulations 2012 SEPP Prevention and Management of Contaminated Land in Victoria SEPP Waters 	<ul style="list-style-type: none"> Environmental Guidelines for Major Construction Sites, Publication 480 (EPA Victoria 1996) Liquid Storage and Handling Guidelines, Publication 1698 (EPA Victoria 2018) AS1940 – Storage and Handling of Flammable and Combustible Liquids
Cultural Heritage	<ul style="list-style-type: none"> <i>Aboriginal and Torres Strait Island Heritage Protection Act 1984</i> 	<ul style="list-style-type: none"> <i>Aboriginal Heritage Act 2006</i> <i>Aboriginal Heritage Amendment Act 2016</i> Aboriginal Heritage Regulations 2018 <i>Heritage Act 2017</i> Heritage Regulations 2017 	
Environmental Impact Assessment	<ul style="list-style-type: none"> <i>Environment Protection and Biodiversity Conservation Act 1999</i> Environment Protection and Biodiversity Conservation Regulations 2000 	<ul style="list-style-type: none"> <i>Environment Effects Act 1978</i> 	

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Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
Erosion and Sedimentation Control		<ul style="list-style-type: none"> • <i>Water Act 1989</i> • <i>Catchment and Land Protection Act 1994</i> • SEPP Waters 	<ul style="list-style-type: none"> • Construction Techniques for Sediment Pollution Control, Publication 275 (EPA Victoria 1991) • Environmental Guidelines for Major Construction Sites, Publication 480 (EPA Victoria 1996)
Fire Prevention and Protection		<ul style="list-style-type: none"> • <i>Country Fire Authority Act 1958</i> • Country Fire Authority Regulations 2015 • <i>Occupational Health and Safety Act 2004</i> • <i>Dangerous Goods Act 1985</i> • Dangerous Goods (Storage and Handling) Regulations 2012 • Electric Safety Act 1998 • Electric Safety (Bushfire Mitigation) Regulations 2013 	<ul style="list-style-type: none"> • Liquid Storage and Handling Guidelines, Publication 1698 (EPA Victoria 2018) • AS1940 – Storage and Handling of Flammable and Combustible Liquids • Guidelines for Renewable Energy Installations (CFA Victoria 2019)
Flora and Fauna	<ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> • Environment Protection and Biodiversity Conservation Regulations 2000 	<ul style="list-style-type: none"> • <i>Flora and Fauna Guarantee Act 1988</i> • <i>Wildlife Act 1976</i> 	<ul style="list-style-type: none"> • Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning [DELWP] 2017)
Weeds, Pests and Disease		<ul style="list-style-type: none"> • <i>Catchment and Land Protection Act 1994</i> • <i>Agricultural and Veterinary Chemicals (Control and Use) Act 1992</i> • Agricultural and Veterinary Chemicals (Control and Use) Regulations 2007 	
Noise		<ul style="list-style-type: none"> • <i>Environment Protection Act 1970</i> 	<ul style="list-style-type: none"> • Noise from Industry in Regional Victoria Guidelines, Publication 1411 (EPA Victoria 2011)

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Topic	Commonwealth Legislation	State Legislation and Policy	Guidelines and Best Practice
			<ul style="list-style-type: none"> Noise Control Guidelines, Publication 1254 (EPA Victoria 2008) Environmental Guidelines for Major Construction Sites, Publication 480 (EPA Victoria 1996)
Land Use and Planning		<ul style="list-style-type: none"> <i>Planning and Environment Act 1987</i> Planning and Environment Regulations 2015 	
Traffic		<ul style="list-style-type: none"> <i>Road Management Act 2004</i> 	
Waste Management		<ul style="list-style-type: none"> <i>Environment Protection Act 1970</i> Environment Protection (Industrial Waste Resource) Regulations 2009 	<ul style="list-style-type: none"> Environmental Guidelines for Major Construction Sites, Publication 480 (EPA Victoria 1996)
Water Quality		<ul style="list-style-type: none"> <i>Water Act 1989</i> <i>Environment Protection Act 1970</i> SEPP Waters 	<ul style="list-style-type: none"> Construction Techniques for Sediment Pollution Control, Publication 275 (EPA Victoria 1991)

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2.1.2 Planning and environmental approvals

The *Planning and Environment Act 1987* (P&E Act) provides the legal framework for the operation of Victoria's planning system. Therefore, approval for development of the Project is being sought under this Act.

Under the Victorian government's *Solar Energy Facilities - Design and Development Guideline* (DELWP 2019) and Amendment VC161, which came into effect 17 September 2019, the responsible authority for the Project under the P&E Act is the Minister for Planning. The Benalla Planning Scheme, as amended by Amended VC161, provides the framework for relevant decisions and controls for the use and development of land for the Project.

Any environmental approvals required pursuant to other legislation listed in Table 1, as determined during the planning permit application process and in consultation with the relevant authorities, will be obtained prior to the commencement of the relevant Project works or activities.

2.2 Environmental aspects and objectives

In alignment with AS/NZS ISO 14001, environmental aspects are defined here as *"elements of an organization's activities, products, or services that have, or may interact with the environment."*

Correlating to these identified aspects are environmental objectives, which in general outline the environmental goals that the Project aims to achieve.

These goals, which broadly correspond to the Project's performance targets, can be achieved through specified actions (e.g. management and mitigation measures) or through compliance with regulations, set standards or codes of practice, within defined periods of time.

Principal Project aspects that may have the potential to result in an impact on the environment, as well as corresponding objectives, are outlined in Table 2. These are preliminary only and will be subject to review:

- During preparation of the detailed EMP(s) and any required sub-plans (to reflect the outcomes of the development approvals and detailed design process, etc.);
- Prior to the transition to the next phase of the Project lifecycle (e.g. operations or decommissioning);
- When there is a change in Project scope or site conditions, including significant design alterations or new technical information becoming available; or
- If subsequent revisions of the EMP(s) indicate the need to re-evaluate one or more of the environmental aspects.

The detailed EMP(s) and any required environmental sub-plans will address the environmental aspects and objectives and describe strategies to mitigate the associated impacts and risks.

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Table 2 Environmental Aspects and Objectives for the Kennedys Creek Solar Project

Aspects	Objectives	Construction Phase	Operational Phase	Decommissioning Phase
Overall				
Project approach	<ul style="list-style-type: none"> Comply with relevant environmental laws, regulations, policies and guidelines Safeguard Project-associated human health, local amenity and natural environment Avoid or minimise Project impacts through utilisation of best industry practice and standards as best as reasonably practicable 	✓	✓	✓
Bushfire				
Project activities within bushfire prone area	<ul style="list-style-type: none"> Minimise bushfire hazards on site Establish appropriate bushfire preparedness and response protocols 	✓	✓	✓
Community amenity				
Community engagement	<ul style="list-style-type: none"> Establish and maintain positive relationship with communities affected by the Project Establish appropriate protocols for receiving, documenting, investigating and responding to community feedback 	✓	✓	✓
Traffic impacts	<ul style="list-style-type: none"> Minimise Project-associated traffic and roadway impacts as far as reasonably practicable 	✓	✓	✓
Changes to visual amenity	<ul style="list-style-type: none"> Minimise negative changes to visual amenity as far as reasonably practicable Minimise glint and glare to the extent practicable 	✓	✓	✓
Cultural Heritage				
Ground disturbance	<ul style="list-style-type: none"> Prevent disturbance of any Aboriginal cultural heritage and historical heritage values on site 	✓		✓

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Aspects	Objectives	Construction Phase	Operational Phase	Decommissioning Phase
Emissions / Discharge				
Air emissions	<ul style="list-style-type: none"> Minimise release of air contaminants as far as reasonably practicable Minimise dust generation to the extent practicable 	✓	✓	✓
Noise and vibration	<ul style="list-style-type: none"> Minimise noise and vibration generation as far as reasonably practicable 	✓	✓	✓
Stormwater discharge	<ul style="list-style-type: none"> Avoid or minimise run-off discharge of soil, sediment and any potential contaminants off site 	✓	✓	✓
Fauna and Flora				
Removal of native vegetation, including scattered trees	<ul style="list-style-type: none"> Avoid or minimise clearance of native vegetation as far as reasonably practicable Offset unavoidable Project-associated vegetation loss Preserve or reinstate pre-existing environmental values and / or land uses 	✓	✓	✓
Introduction and / or spread of weeds, pests and disease	<ul style="list-style-type: none"> Prevent introduction and spread of weeds, pest fauna and diseases 	✓	✓	✓
Physical interaction with fauna	<ul style="list-style-type: none"> Avoid or minimise negative impacts to fauna as far as reasonably practicable 	✓	✓	✓
Hydrocarbons and Hazardous Materials				
Accidental release of hydrocarbons and other chemicals	<ul style="list-style-type: none"> Prevent accidental release of hydrocarbons and hazardous chemicals as far as reasonably practicable 	✓	✓	✓
Physical environment				
Ground disturbance	<ul style="list-style-type: none"> Minimise soil and ground disturbance and erosion 	✓	✓	✓

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Aspects	Objectives	Construction Phase	Operational Phase	Decommissioning Phase
	<ul style="list-style-type: none"> Minimise surface and ground water regime disturbance Preserve or reinstate pre-existing environmental values and / or land uses 			
Waste				
Generation and management of on-site industrial and household waste	<ul style="list-style-type: none"> Minimise raw material use Minimise waste generation Maximise recycling and reuse Ensure safe waste disposal in compliance with relevant legislation 	✓	✓	✓

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2.3 Roles and responsibilities

The Applicant has the overall Project responsibility for the environmental management, unless the Project ownership is transferred to another entity, in which case the overall responsibility for environmental management will also be transferred to the new owner.

All contractors that are engaged on the Project will be contractually obligated to comply with the EMP(s), including any required environmental sub-plans and any of the Project’s planning and environmental approval conditions. All Project personnel will be required to undertake work in accordance with the EMP(s) and comply with applicable environmental laws.

Specific environmental management roles and responsibilities will be specified in the detailed EMP(s). Table 3 below, however, provides a general outline of typical environmental responsibilities for principal organisational positions. It should be noted that role titles may vary, pending on future Project developments.

Table 3 – Key Roles and Responsibilities

Role	Key Responsibilities
Project Manager	<ul style="list-style-type: none"> Have overall responsibility for the Project’s environmental performance Communicate clear environmental management expectations and performance standards to the Project team Ensure sufficient resources are provided to implement the EMP Review environmental management reports and plans prepared by the Environment Manager
Environment Manager	<ul style="list-style-type: none"> Assist with the development and periodic review of the detailed EMP(s) Direct on-the-ground implementation of the EMP Arrange and conduct required environmental awareness training of Project personnel Ensure monitoring, reporting and auditing of environmental performance Coordinate the management of and response to community complaints and environmental incidents
Project Construction Manager	<ul style="list-style-type: none"> Supervise day-to-day construction management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
Project Operation Manager	<ul style="list-style-type: none"> Supervise day-to-day operation management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
Project Decommissioning Manager	<ul style="list-style-type: none"> Supervise day-to-day decommissioning management and environmental performance Ensure implementation of EMP requirements Report environmental incidents to the Environment Manager and assist in resolution
All project personnel including contractors	<ul style="list-style-type: none"> Ensure compliance with site environmental induction requirements Ensure compliance with the EMP when undertaking Project works

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	<ul style="list-style-type: none"> • Report environmental incidents immediately to the appropriate supervisor or manager • Follow instructions issued by the Project management team and supervisory personnel as they relate to environmental management and incidents
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2.4 Environmental awareness and training

To ensure compliance with outlined environmental performance requirements, all personnel, including staff, employees, contractors and subcontractors, involved in the Project's activities will be required to complete the following training requirements:

- Site environmental management training as part of the site induction process, prior to any work being carried out; and
- Job-specific environmental management training relevant to their role, if and where required.

Additionally, regular toolbox meetings will be held to highlight relevant environmental and safety issues, as needed.

Records of induction and training will be kept in a register, including the type and topic of training undertaken, dates, names and trainer details. Inductees will be required to sign off that they have been informed of their environmental management responsibilities. The Environment Manager will regularly review the program and monitor its implementation.

2.5 Communication and consultation

The Applicant will establish clear internal and external communication procedures to address the environmental management and performance requirements of the Project, as well as to maintain constructive, positive and effective community engagement.

Communication and consultation procedures will be included in the regular review process of the EMP.

Examples of specific external stakeholder communication and consultation to be undertaken before and during construction include:

- Notification of proposed works to all stakeholders within a set vicinity around the site, in good time; and
- Notification of works relating to changes of traffic conditions to relevant stakeholders in accordance with traffic management requirements as outlined in the detailed EMP(s) or Traffic Management Plan.

2.6 Contractor management

The Applicant will assign a project role (e.g. Project Manager) to the overall responsibility for the management of all contractors. The Applicant will also assign roles (e.g. Project Construction Manager) with responsibility for on-the-ground contractor management and ensuring contractor compliance with the EMP(s) and any environmental sub-plans.

Responsibilities will include, but are not limited to:

- Provide site environmental management induction training of all contractors prior to commencement of works and ongoing job-specific environmental training as required;
- Ensure and confirm contractors are aware of all applicable environmental obligations;
- Oversee contractors' respective EMP implementation; and
- Track and report contractor environmental performance.

Contractor management approaches and requirements will be reviewed regularly, and adjustments incorporated in the detailed EMP(s).

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2.7 Monitoring and auditing

A regular site monitoring schedule will be established to verify that EMP and environmental regulatory requirements are met and controls are in place and functioning effectively. Where the environmental monitoring determines that environmental management measures are not being implemented adequately or are not effective, corrective measures will be implemented as soon as practicable. These corrective actions may include revision of established, or implementation of additional, site management measures, as needed.

Works and contractor performance will be verified through regular environmental audits, conducted by a suitably-qualified independent auditor. Where practicable, audits will coincide with phases of works that comprise the greatest environmental risk.

In addition, joint site inspections with key stakeholders (e.g. EPA Victoria, DELWP) may be arranged as required.

2.8 Record keeping and reporting

Environmental monitoring and audit reports will be prepared and submitted regularly to the appropriate project management personnel.

For audits, all identified environment-related non-conformances will be documented as incidents in accordance with Section 2.9 of this PEMP and be submitted with the reporting.

All monitoring and auditing documentation will be handled in line with established Project document control procedures. If and where required, the findings of environmental monitoring and audits will be reported to external stakeholders.

2.9 Complaint and incident investigation and response

2.9.1 Complaint management

A complaint management approach will be developed, to capture and address all Project-associated environmental complaints in a timely and adequate manner. It will contain the following key components:

- Complaints Register, which will be maintained for the Project, recording all steps of the complaints handling process; and
- Complaint reporting and management procedures to be followed, including:
 - Opening of an incident in the register;
 - Description of the complaint;
 - Coordination of responses, including corrective actions (see Section 2.10), to address complaints;
 - Planned follow-up actions, including monitoring of actions, to address the source of the complaint and verify its resolution; and
 - Closure of incident, once all actions have been completed.

2.9.2 Incident management

An environmental incident management approach will also be established, comprising of the following key elements:

- Environment Incident Register, which will be maintained for the duration of the Project and will be updated regularly to ensure actions are completed and that controls are effective;
- Incident reporting and management procedures to be followed, including:
 - Opening of an incident in the register;
 - Description of the incident;
 - An evaluation of the level of impact and corrective action (see Section 2.10) taken or proposed;

- Assigning follow-up actions to be undertaken, where required, to prevent recurrence of the non-conformance.
- Monitoring of the progress and status of follow-up actions; and
- Closing of incident, once all planned follow-up actions have been completed and the incident has been resolved.

Environmental incidents associated with Project works, including as outlined in Section 2.8 may be identified through a variety of sources, including workplace observations, environmental monitoring and audits, review of environmental monitoring data, and/or stakeholder complaints.

Incident notification and response coordination will be undertaken in line with company procedures. Environmental incidents will be investigated and managed in accordance with the Project's incident management procedures to ensure that appropriate actions are taken. Where safe to do so, identified hazards will be contained immediately. Safety of the public and the Project workforce will be the first priority when interacting with environmental incidents.

To evaluate incidents more efficiently and respond appropriately, an incident classification will be established. Significant incidents may include those that have resulted in serious injury, significant property damage, offsite environmental release or involvement of the EPA and will be reported to Project management as soon as practicable. All incidents associated with Project works will be captured and responded to in a timely and adequate manner.

2.10 Corrective action

Corrective action procedures will be established to address non-conformances with the EMP(s) and environmental incidents. All corrective actions to be undertaken will be specified within the environmental monitoring reports or audit reports, as applicable. Each corrective action will be assigned to a person responsible, as well as a target date for completion. Corrective actions will be completed as soon as practicable following the identification of an incident or non-conformance. Each corrective action will be re-visited in the following periodic monitoring event / audit to verify conformance.

2.11 Emergency preparedness and response

Emergency response is required when an unplanned incident occurs which has or has the potential to have a detrimental impact on the environment or human health (e.g. chemical spills, bushfire).

Prior to construction, a site-specific Emergency Response Plan will be developed. All personnel will be inducted into the use of emergency procedures and provided emergency contact numbers via respective inductions. All incidents and details of corrective actions will be recorded as per the procedure outlined in Section 2.8.

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3.0 Detailed Environmental Management Plans

3.1 Overview

The detailed EMP(s), including any required sub-plans, will be developed by the Applicant and/or its contractors, prior to the start of site construction works. The detailed EMP(s) will address approval conditions and ensure alignment with the overarching environmental framework contained in this PEMP.

All detailed EMP(s) and sub-plans required by the Project's planning permit will be subject to endorsement by the responsible authority.

The detailed EMP(s) will represent the primary environmental management implementation mechanism for the Project. Depending on the conditions of approval, the EMP(s) may also contain detailed sub-plans addressing specific environmental aspects and risks. Separate EMP(s) may be prepared addressing the various stages or phases of the Project, or an overarching EMP addressing all phases may be prepared, subject to review and revision prior to the start of each phase.

3.2 Content and structure

The following key content and structure is proposed for the detailed EMP(s) (Table 4 – below).

Table 4 General EMP Structure

Structure	Content	Correlating PEMP Section
Introduction and Background	Introduction to the purpose and application of the EMP and an overview of the Project details and scope of works to be addressed by the EMP	1.2
Planning permit conditions	Identification of planning permit conditions relevant to the EMP and where these conditions are addressed in the document or related sub-plans	
Regulatory Framework	Outline of applicable regulatory framework	2.1
Environmental Management Framework and Objectives	Overarching environmental management framework and objectives for the Project	2.2
Risk assessment	Identification and assessment of Project environmental aspects and risks	2.2
Measures to manage key risks	Detailed management measures for each key risk, including timeframes to meet objectives (these may also be described in the relevant detailed EMP sub-plans)	3.3
Performance Indicators	Definition and description of required level of performance to meet regulatory or company environmental standards	
Roles and responsibilities	Description and assignment of Project roles and responsibilities	2.3
Training	Outline of specific environmental awareness and competence-based training required for Project workforce	2.4
Monitoring, auditing, reporting	Outline of specific monitoring, auditing and reporting requirements for each environmental aspect	2.7, 2.8,
Internal and external communications	Outline of specific procedures and requirements for communications with the Project team, community, regulators and other stakeholders	2.5

Complaint and incident investigation and response	Outline of specific procedures to receive, document, evaluate and respond to community feedback and procedures to investigate and respond to environmental incidents	2.9
Emergency preparedness and response	Outline of specific procedures and requirements for emergency preparedness and response	2.9, 2.10, 2.11
Review and continual improvement	Outlines a process for regular review and revision of the EMP to achieve continual improvement in the Project's environmental performance based on lessons learnt	3.4

3.3 Preliminary objectives and management strategies

A general outline of preliminary objectives and environmental management strategies to be addressed in the further detailed EMP(s) are provided in Table 5 below.

3.4 Review and continual improvement

This PEMP and detailed EMP(s) are considered live documents and will regularly be reviewed and improved if and when required.

3.5 Additional Documentation

A variety of detailed issues, as and where identified in the Project approval conditions or through the development of the detailed EMP(s), may be addressed separately through more detailed environmental sub-plans. These sub-plans may be used to provide comprehensive direction and guidance to Project staff, employees and contractors in relation to specific environmental aspects. Detailed sub-plans potentially required include, but are not limited to:

- Cultural Heritage Management Plan;
- Native Vegetation Management Plan;
- Sediment and Erosion Control Plan;
- Dust Management Plan;
- Traffic Management Plan;
- Waste Management Plan;
- Biosecurity Management Plan;
- On-site and/or Off-site Landscaping Plans;
- Complaint Investigation and Response Plan(s); and
- Decommissioning and Rehabilitation Plan.

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If required, the relevant plans will be finalised prior to the start of the relevant Project activities.

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Table 5 Preliminary Environmental Management Strategies

Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Project Approach				
Comply with all relevant environmental laws, regulations, policies and guidelines	<ul style="list-style-type: none"> Review and implement all relevant laws, regulations, policies, standards and guidelines through performance targets and environmental objectives Conduct site inductions and ongoing training of all Project personnel regarding their environmental management responsibilities 	✓	✓	✓
Safeguard human health, local amenity and natural environment	<ul style="list-style-type: none"> Focus on safeguarding priorities in all relevant Project decisions as best as reasonably practicable 	✓	✓	✓
Avoid or minimise Project impacts through utilisation of best industry practice and standards	<ul style="list-style-type: none"> Review and implement latest industry standards and guidelines in all phases of the Project as best as reasonably practicable 	✓	✓	✓
Bushfire				
Minimise bushfire hazards on site	<ul style="list-style-type: none"> Develop and implement and Bushfire Management Plan, if required Incorporate appropriate design measures to achieve good compliance with CFA renewable installation guidelines Manage fuel loads on site through control of vegetation Develop and implement hot work procedures for activities in the open that are a potential source of ignition Internal-combustion engines will be fitted with exhaust pipes, mufflers and spark arresters consistent with manufacturers specifications and maintained in good working order Flammable and combustible materials are stored appropriately, and flammable and combustible wastes are removed from site as soon as practicable 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Establish appropriate bushfire preparedness and response protocols	<ul style="list-style-type: none"> • Appropriately train Project personnel in bushfire prevention and management and emergency response • Provide appropriate firefighting equipment and water reserves on Project site (as per CFA requirements) • Build and maintain appropriate site access tracks • Liaise with CFA, where required and during high fire danger periods and communicate the fire danger rating and any specific instructions to site personnel 	✓	✓	✓
Community amenity				
Establish and maintain positive relationship with communities	<ul style="list-style-type: none"> • Consult with nearby communities (including for example Goorambat, Benalla, Winton and Winton Wetlands) regularly throughout the Project lifecycle • Provide regular updates and obtain public feedback, particularly on amenity and environmental matters 	✓	✓	✓
Establish appropriate protocols for receiving, documenting, investigating and responding to community feedback	<ul style="list-style-type: none"> • Establish mechanisms by which the community can easily submit a complaint (e.g. toll-free number, e-mail, website) and distribute the relevant contact information to the affected community • Establish a complaints register to document community feedback and any corrective actions • Establish procedures for investigating, evaluating and addressing complaints in a timely manner 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
<p>Minimise additional Project-associated traffic and roadway impacts as far as reasonably practicable</p>	<ul style="list-style-type: none"> • Where feasible, in line with the preliminary recommendations of the AECOM Traffic Impact Assessment Report (2019b), implement measures to mitigate Project traffic impacts, including but not limited to: <ul style="list-style-type: none"> ○ If required as a condition of the planning approval, prepare and implement a Traffic Management Plan for the Project ○ Implement traffic management and control measures, where required, to ensure that construction and local traffic can safely use required access roads and intersections • Where required, utilise accredited traffic control services contractor • Implement an incident reporting system, allowing implementation of traffic improvement measures 	✓	✓	✓
<p>Minimise negative changes to visual amenity as far as reasonably practicable</p>	<ul style="list-style-type: none"> • Limit vegetation clearing and install landscaping if required to minimise visual impacts • Remove equipment from site as soon as practicable • Minimise night lighting to the extent practicable, and orient site lighting away from nearby residences 	✓	✓	✓
<p>Minimise glint and glare to the extent practicable</p>	<ul style="list-style-type: none"> • Where feasibly, reduce glint and glare in line with the recommendations of the AECOM Glint and Glare Assessment (2019c), by implementing mitigation measures including, but not limited to: <ul style="list-style-type: none"> ○ Assess effectiveness of existing vegetation and consider additional screening vegetation along the Western border of the Site if appropriate ○ Consider limiting tilt angles of the arrays when the sun is extremely low in the sky. 		✓	

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Cultural Heritage				
Prevent disturbance of Aboriginal cultural heritage and historical heritage values	<ul style="list-style-type: none"> Avoid or minimise impacts to known heritage values through Project design Develop a voluntary Cultural Heritage Management Plan, including Project “stop work” and chance finds management and reporting procedures in the event cultural heritage assets are uncovered during construction If heritage assets are identified, undertake salvage works by qualified individual (if permitted) or revise Project infrastructure locations, where feasible 	✓		✓
Emissions / Discharge				
Minimise release of air contaminants as far as reasonably practicable	<ul style="list-style-type: none"> Where feasible, utilise latest technology, to minimise release of pollutants Maintain equipment in accordance with manufacturer specifications 	✓	✓	✓
Minimise dust generation to the extent practicable	<ul style="list-style-type: none"> Avoid or minimise ground disturbance, soil movement and other dust-producing activities Utilise water or wetting agent on any exposed areas, including unpaved roads and laydown areas Stabilise stockpiles and disturbed areas (e.g. through revegetation, mulch, etc.) as soon as practicable Utilise wind breaks and silt fencing Undertake flexible management of work activities and speed limits in accordance with road and wind / humidity conditions Surface site roads with suitable material (e.g. crushed rock) as soon as practicable Consult with EPA, if required 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Minimise noise and vibration generation as far as reasonably practicable	<ul style="list-style-type: none"> Avoid noise-generating activities during night time, Sundays or public holidays unless prior approval has been granted by relevant regulatory body Maintain equipment in accordance with manufacturer specifications Shut off / throttle down any vehicles or equipment not in use Where reasonably practicable, utilise latest noise reduction equipment and technology 	✓	✓	✓
Avoid and minimise run-off discharge of soil, sediment and any potential contaminants off site	<ul style="list-style-type: none"> Implement best industry practice for sediment and erosion management, including minimising ground disturbance, implementing erosion and sediment controls, strategic stockpile location selection, stabilisation of stockpiles, etc. Ensure revegetation or stabilisation of disturbed areas as soon as reasonably practicable 	✓	✓	✓
Flora and Fauna				
Avoid or minimise clearance of native vegetation as far as reasonably practicable	<ul style="list-style-type: none"> Avoid and minimise vegetation clearing as far as reasonably practicable, in line with the with the recommendations of the AECOM Flora and Fauna Assessment Report (2019c), by implementing management and mitigation measures including but not limited to: <ul style="list-style-type: none"> Implement appropriate mitigation measures prior to construction to avoid adverse impact to environmental features within or adjacent to the study area, particularly scattered trees and patches. This may include preparing a Tree Management Plan which identifies measures to be taken to avoid impact to retained scattered trees or trees in patches Undertake clearance activities only with approval of DELWP and the responsible authority Supervise clearance activities 	✓		
Offset unavoidable Project-associated vegetation loss,	<ul style="list-style-type: none"> Follow all regulatory requirements including obtaining native vegetation offsets as required by DELWP for clearance of remnant native vegetation 	✓		

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
<p>Preserve or reinstate pre-existing environmental values and / or land uses</p>	<ul style="list-style-type: none"> • Limit disturbance to the approved Project footprint and minimise disturbance within the Project footprint to the extent reasonably practicable • Develop and implement a post project decommissioning and rehabilitation plan, including but not limited to: <ul style="list-style-type: none"> ○ Removal and disposal of above ground infrastructure components, in compliance with applicable regulatory framework and best industry practice ○ Management of infrastructure components that cannot be removed without significant disturbance in compliance with applicable regulatory framework and best industry practice ○ Refill of excavated areas with clean compatible material ○ Rehabilitation of compacted areas and implementation of vegetation reinstatement program, in agreement with land owners 	✓		✓
<p>Prevent introduction and spread of weeds, pest fauna and known diseases.</p>	<ul style="list-style-type: none"> • Limit surface disturbance and vegetation clearing to the minimum required operationally • Develop and implement robust weed management and monitoring procedures, in line with the with the recommendations of the AECOM Flora and Fauna Assessment Report (2019c), in order to avoid the spread of high threat environmental weeds including those identified in the report • Develop and implement procedures to eradicate or manage pest fauna within the Project site • Develop and implement procedures to prevent the spread of pathogens such as Cinnamon Fungus (<i>Phytophthora cinnamomi</i>) by soil, gravel or equipment transported to the site 	✓	✓	✓
<p>Avoid or minimise physical negative impacts on fauna as far as reasonably practicable</p>	<ul style="list-style-type: none"> • Implement speed restrictions for on-site traffic • If required, undertake fauna salvage and translocation in compliance with requirements of the Wildlife Act 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Hydrocarbons and Hazardous Materials				
Prevent accidental release of hydrocarbons and hazardous chemicals as far as reasonably practical	<ul style="list-style-type: none"> Minimise the hydrocarbons and chemicals used and stored on site Ensure storage infrastructure for onsite hydrocarbons and chemicals is in accordance with relevant regulatory requirements, standards and guidelines Develop site specific chemical storage, handling and emergency response procedures, in accordance with relevant regulatory requirements, standards and guidelines Ensure that adequate spill control and clean-up equipment and materials are available on site 	✓	✓	✓
Physical environment				
Minimise soil and ground disturbance	<ul style="list-style-type: none"> Limit ground-disturbing works to the approved development footprint of the site Implement excavation strategies to minimise disturbance Ensure reinstatement and revegetation of disturbed areas as soon as reasonably practicable 	✓		✓
Minimise surface and ground water regime disturbance	<ul style="list-style-type: none"> Maintain natural contours and drainage patterns where practicable Implement best industry practice for sediment and erosion management, including soil stabilisation controls and sediment traps, strategic stockpile location selection, bunding of stockpiles, etc. Revegetate disturbed areas as soon as reasonably practicable 	✓		✓
Waste				
Minimise raw material use	<ul style="list-style-type: none"> Where feasible, implement measures to minimise raw material use and excess, including specific purchasing and construction, operation and decommissioning techniques strategies 	✓	✓	✓
Minimise waste generation	<ul style="list-style-type: none"> Where feasible, implement measures to minimise waste generation including preference for material re-use, recycling and treatment, prior to disposal 	✓	✓	✓

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Objectives	Management strategies	Construction Phase	Operation Phase	Decommissioning Phase
Maximise recycling and reuse	<ul style="list-style-type: none"> Where feasible, implement recycling and reuse measures for the Project, including waste disposal separation and utilisation of recyclable and reusable materials 	✓	✓	✓
Ensure safe waste disposal in compliance with relevant legislation	<ul style="list-style-type: none"> Ensure provision of bins for adequate waste disposal, including segregation of wastes by type and hazard Assess wastes for contamination potential and manage/dispose in accordance with EPA requirements Utilise licensed waste contractor for waste disposal 	✓	✓	✓

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4.0 References

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