





Biosis offices

AUSTRALIAN CAPITAL TERRITORY

Canberra

Phone: (02) 6102 1200 Email: <u>canberra@biosis.com.au</u>

NEW SOUTH WALES

Albury

Phone: (02) 6069 9200 Email: <u>albury@biosis.com.au</u>

Newcastle

Phone: (02) 4911 4040 Email: newcastle@biosis.com.au

Sydney

Phone: (02) 9101 8700 Email: sydney@biosis.com.au

Wollongong

Phone: (02) 4201 1090

Email: wollongong@biosis.com.au

QUEENSLAND

Brisbane

Phone: (07) 3831 7400 Email: <u>brisbane@biosis.com.au</u>

TASMANIA

Hobart

Phone: (03) 8686 4821 Email: hobart@biosis.com.au

VICTORIA

Ballarat

Phone: (03) 5304 4250 Email: <u>ballarat@biosis.com.au</u>

Melbourne (Head Office)

Phone: (03) 8686 4800 Fax: (03) 9646 9242

Email: melbourne@biosis.com.au

Wangaratta

Phone: (03) 5718 6900

Email: wangaratta@biosis.com.au

Document information

Report to: RWE

Prepared by: Updated by Jessica Chapman (Sept 2024)

Matt Looby (original author)

Biosis project no.: 41404

File name: 41404.Limondale.BMP.FIN06.20241009_clean

Citation: Biosis 2024. Limondale Sun Farm, NSW: Biodiversity Management Plan. Report for RWE. Authors: J Chapman & M Looby, Biosis Pty Ltd. Project no. 41404.

Document control

Version	Internal reviewer	Date issued
Draft version 01	Matt Looby	9/11/2017
Final version 01	Matt Looby	10/11/2017
Final version 02	Matt Looby	30/01/2018
Final version 03	Matt Looby	16/02/2018
Final version 04	Matt Looby	13/03/2018
Final version 05	Matt Looby	17/09/2024
Final version 06	Matt Looby	9/10/2024

Acknowledgements

Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Limondale Sun Farm: John Zammit
- EMM Consulting: David Bone (on behalf of RWE)

Biosis staff involved in this project were:

• Lauren Harley and James Shepherd (mapping)

© Biosis Ptv Ltd

This document is and shall remain the property of Biosis Pty Ltd. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Disclaimer:

Biosis Pty Ltd has completed this assessment in accordance with the relevant federal, state and local legislation and current industry best practice. The company accepts no liability for any damages or loss incurred as a result of reliance placed upon the report content or for any purpose other than that for which it was intended.



Contents

1	Intr	oduction	3
	1.1	Project background	3
	1.2	Approved Project	4
	1.3	Construction of the Limondale Solar Farm BESS	4
		1.3.1 Overview	
		1.3.2 Construction Method	
	1.4	Management plan scope and objectives	5
2	Hab	oitat management	9
	2.1	Site biodiversity values	9
	2.2	Vegetation and fauna management	9
3	Spe	cific management actions	11
	3.1	Site inductions	11
	3.2	Exclusion fencing	11
	3.3	Erosion and sediment control	11
	3.4	Rehabilitation works	11
4	Env	ironmental mitigation measures	13
5	Con	npliance management	20
	5.5	Complaints handling	28
	5.6	Adaptive management	
		5.6.1 Review and continuous improvement	29
6	Ref	erences	31
7	App	pendices	32
	•		
Tab	les		
Tabl		Requirements of Development Consent Condition 11 and BMP response	
Tabl		Site environmental risks, mitigation measures and monitoring responses	
Tabl Tabl		Roles and responsibilities and contact details Monitoring Program	
IANI	IC 4	Wollitoring Frogram	∠ I
Figu	ures		
Figu	re 1	Location map – Limondale Sun Farm	8
Figu	re 2	Areas of vegetation to be retained or removed	14



1 Introduction

This Biodiversity Management Plan document (Final Version 05) has been updated by Biosis Pty Ltd (Biosis) as of the 20 September 2024 to include information to satisfy post-approval conditions of consent as required by Department of Planning, Housing and Infrastructure (DPHI) and in consultation with David Bone of EMM Consulting Pty Ltd (EMM Consulting) on behalf of RWE.

Changes made in this document version include the following:

- Addition of project description information to include the elements of the battery energy storage system (BESS) in Section 1.1.
- Description of the approved project as outlined in Section 1.2.
- Information on the construction of the approved project as outlined in Section 1.3.
- Roles and Responsibilities updates and additional information in Section 5.1.
- Addition of incident reporting requirements that have been updated due to the BESS Modification in Section 5.4.
- Complaints handling information and protocols in Section 5.5.

1.1 Project background

The Limondale Solar Farm is a large-scale solar photovoltaic (PV) generation facility in south-western New South Wales (NSW) Figure 1. The Limondale Solar Farm has been developed on a site within the Balranald Shire local government area (LGA), approximately 14 kilometres (km) south of the township of Balranald, as shown in. The project layout for the BESS can be viewed in Figure 1 of the Limondale Solar Farm Modification 2 (SSD-8025-Mod-2) Modification Assessment Report (Department of Planning and Environment 2022)).

The Limondale Solar Farm is a State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP). Development consent (SSD 8025) under Section 89E of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) was granted on 31 August 2017. This project currently has two modifications approved as detailed below.

MOD 1 (SSD-8025-Mod-1) was approved on 27 July 2018 to modify the development consent including landscape changes, relocation of a substation and other minor administrative changes.

MOD 2 (SSD-8025-Mod-2) was approved on 7 October 2022 to modify the development consent for the construction of a BESS (the project) that does not exceed a total delivery capacity of 200 MW.

Following the Planning Secretary's approval of the Environmental Management Strategy (EMS) for the project, RWE will implement the EMS for the project.

The Limondale Solar Farm is bounded by Yanga Way to the east and is surrounded by other large farming properties. The site is zoned RU1 Primary Production with portions of the site identified as having high conservation values under the *Balranald Local Environmental Plan* 2010 (Balranald LEP). In early 2017, Biosis was commissioned by RWE to prepare a Biodiversity Assessment Report (BAR) for the project. The Biodiversity Assessment assessed a broader study area (2,049 hectares) with a smaller development site that included an infrastructure footprint of 1,103 hectares located within the study area. The Limondale Sun Farm occurs in the Murray Darling Depression bioregion.



The Limondale Sun Farm involved the installation of an array of PV panels (modules) on cleared farmland and associated infrastructure, including connection to the existing Balranald substation and road access from Yanga Way. The project will require the construction of electrical connection to the Balranald Substation to export electricity produced at the site to the electricity grid. The connection line (trenches) will run within the existing easement that contains the high voltage power lines that traverse the site and enter the substation. The BAR defined the development site (footprint) as the maximum area to be impacted by the proposal. The study area (i.e. the broader site boundary) was defined as the development site plus the immediately surrounding land investigated during the field surveys (Biosis 2017). The development site is shown in Figure 1 and is the focus of this management plan. The project layout of the modified BESS area can be viewed in Figure 1 of the Limondale Solar Farm Modification 2 (SSD-8025-Mod-2) Modification Assessment Report (Department of Planning and Environment 2022)).

The site is undulating agricultural land with dune/swale topography. Remnant native vegetation is restricted to isolated patches within cropped paddocks, along roadsides or property boundaries, and in the road reserve adjacent to the existing substation (e.g. Yanga Way TSR). Due to the site's relatively flat terrain and predominantly cleared landscape, limited site preparation and civil works will be required.

1.2 Approved Project

Limondale Solar Farm consists of the following:

- Approximately 872,000 solar panels mounted on single axis-tracker frames, with a height of 4 metres (m).
- Up to 114 inverter stations (up to 2.3 m in height), each containing an inverter and a 22 or 33 kilovolt (kV) transformer, and an onsite switchyard containing a transformer and associated switchgear.
- Internal access tracks, staff amenities, offices, car parking, laydown areas, security fencing.
- A 220 kV underground power line connecting to the existing Balranald Substation that is situated 500 m to the east of the Project.

The Limondale Solar Farm BESS, as Modification 2 of the Project, consists of the following:

- A lithium-ion battery storage facility, with a 50MW battery discharging over eight hours.
- Overhead and underground lines (as per approved Option 1) connecting the onsite substation to the Limondale Substation.

The BESS will be constructed on the eastern side of the solar farm, as shown in Appendix A of the Development Consent, with cabling via overhead lines. No vegetation clearing is required.

The solar farm has been constructed and full commercial operation began in 2021. The BESS will be constructed as a stand-alone project. No staging is proposed.

1.3 Construction of the Limondale Solar Farm BESS

1.3.1 Overview

The project comprises the following key components:

- A network of PV solar panel arrays.
- Electrical collection systems, switchyard and control room.
- An operation and maintenance building (offices, amenities and equipment sheds).



- Parking and internal access roads.
- A 50MW BESS.
- Connection infrastructure to the Balranald Substation.

1.3.2 Construction Method

Site establishment works and preparation for construction of the BESS includes:

- The establishment of a fenced off area within the development footprint including a site office, containers for storage and parking areas.
- Use of the site access intersection and access road from Yanga Way.
- Construction of adjusted boundary fencing.
- Site survey to confirm infrastructure positioning and placement.
- Delivery of BESS Li-ion units.
- Connection of units to the existing electrical infrastructure using approved Option 1 overhead and underground connections.

Upon completion of the site establishment and pre-construction activities described above, construction typically involves:

- Foundations for BESS units will be prepared.
- Installation of BESS units.
- Permanent fencing and security will be constructed.
- Connection to existing electrical infrastructure.

1.4 Management plan scope and objectives

Condition 11 of the Limondale Sun Farm Development Consent requires the preparation of a Biodiversity Management Plan (to the satisfaction of the Secretary) prior to the commencement of construction. This Biodiversity Management Plan has been prepared to satisfy the requirements of Development Consent Condition 11. The following table (Table 1) lists the requirements of Condition 11 and provides a cross-reference for where these are addressed in the BMP.



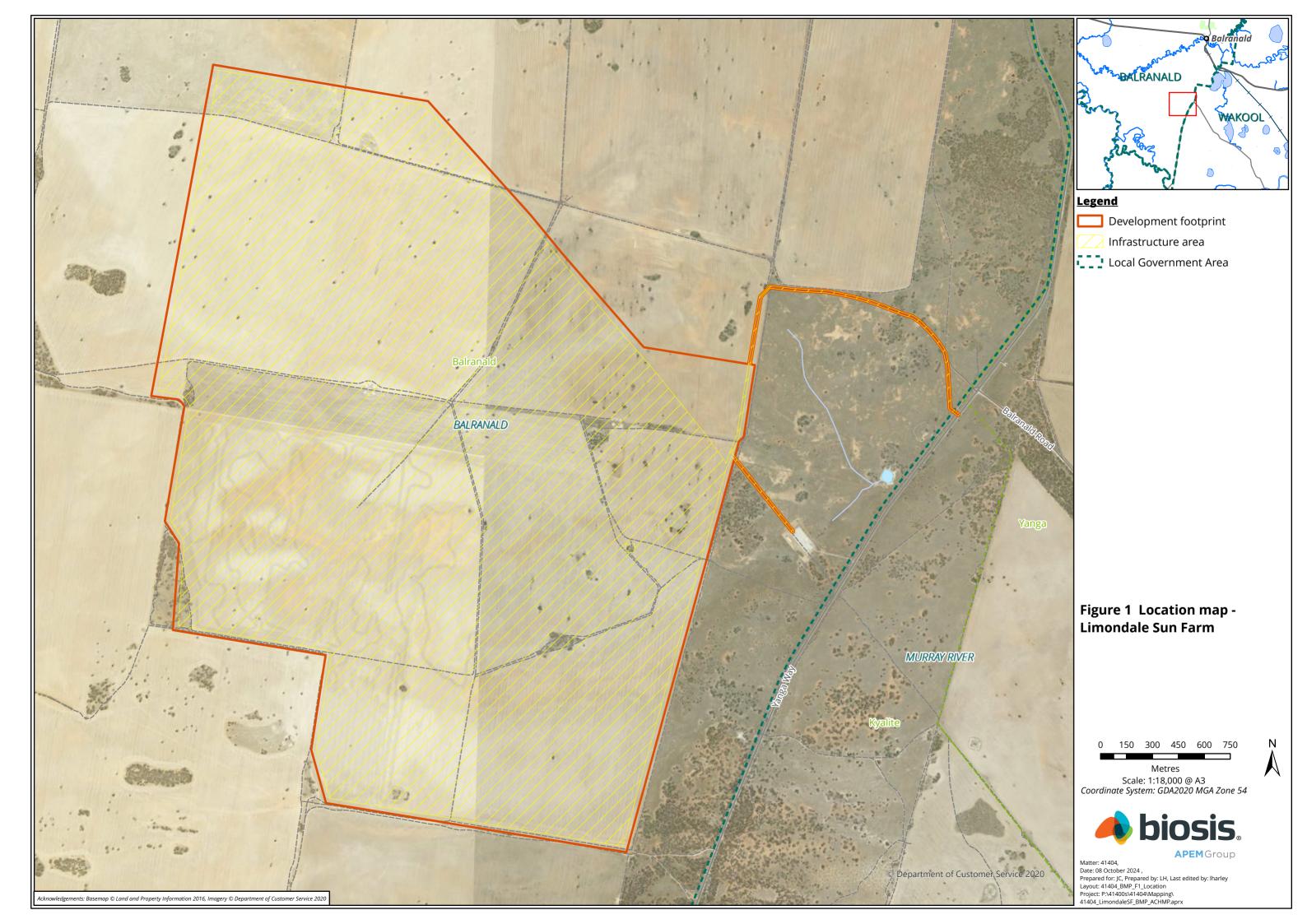
 Table 1
 Requirements of Development Consent Condition 11 and BMP response

Condition of Consent	Report section (Table 1 - Risk or Monitoring Program)	Page number in this BMP					
A description of the measures that would be implemented for:							
Managing the remnant vegetation and fauna habitat on the site	Table 1: Risk 1	16					
Minimising clearing and avoiding unnecessary disturbance of vegetation, including the vegetation communities listed in Table 1 that is associated with the construction and operation of the development	Table 1: Risk 1	16					
Minimising impacts to fauna on site and implementing fauna management protocols (not including actual fauna salvage at this point)	Table 1: Risk 2	17					
Rehabilitating and revegetating temporarily disturbance areas	Table 1: Risk 4	19					
Protecting vegetation and fauna habitat outside the	Table 1: Risk 3	18					
approved disturbance areas	Appendix 1	33					
Protecting areas of retained trees and vegetation (including locating stockpiles, parking, boundary fencing and machinery storage within cleared areas or areas proposed for clearing)	Table 1: Risk 1	16					
Maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the enhancement or the rehabilitation of the site	Table 1: Risk 4	19					
Controlling weeds and feral pests	Table 1: Risk 5	20					
Undertaking pre-clearance surveys of all hollow-bearing trees	Table 1: Risk 2	17					
if clearing will be undertaken between July and November (not including actual fauna salvage services at this point).	Appendix 1	33					
A seasonally-based program to monitor and report on the effectiveness of the mitigation measures.	Monitoring Program (Section 5.2)	22					
Details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions	Monitoring Program (Section 5.2)	22					



The Plan briefly addresses each of the items listed in Condition 11 above and provides site environmental risks, mitigation measures and monitoring responses in Table 2, which can be used as a reference document during construction and operational phases. Figure 2 also shows areas of vegetation to be retained or removed for the project, as well as the locations of no-go-zones. Table 1 and Figure 2 will be provided to construction personnel during induction sessions, as well as operational staff for use during the ongoing operation of the project.

The project layout for the BESS can be viewed in Figure 1 of the Limondale Solar Farm Modification 2 (SSD-8025-Mod-2) Modification Assessment Report (Department of Planning and Environment 2022).





2 Habitat management

2.1 Site biodiversity values

The development site is currently used for dryland cereal and legume cropping. Native vegetation and fauna habitats have been modified by past disturbances associated with land clearing, cropping, livestock grazing and weed invasion. Native vegetation occurs in isolated patches within cropped paddocks, along internal track or boundary fences or within the road reserves adjacent to the substation. The final development site of the solar farm infrastructure was refined through consideration of the findings of a preliminary ecological study and identification of constraints and opportunities mapped through the environmental impact assessment process. The intent of this process was to establish the built footprint on the development site while avoiding impacts on the ecological values (Biosis 2017). The final impacts have been restricted to small, low quality areas of remnant vegetation. Furthermore, access to the site will be via established roads and tracks that only require minor upgrades. The substation grid connection will be achieved through narrow trenches to be located in an existing disturbed transmission easement that is occupied by the current high voltage lines that traverse the development site.

The following residual impacts will arise from the solar farm in the development site (footprint):

- Removal of 2.18 hectares of PCT 16 Black Box grassy open woodland of rarely flooded depressions, south western NSW (MR518). This vegetation is composed of two small patches surrounded by cropping land.
- Removal of 3.14 hectares of the PCT 58 Black Oak Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion (MR521). This vegetation is composed of five small patches surrounded by cropping land and small areas of derived vegetation that will be impacted by ancillary infrastructure.
- Removal of 18 hollow bearing paddock trees across the development site.

Areas of native vegetation are present within the development site and may provide habitat for large mammals or highly mobile avian species capable of disbursing across the fragmented landscape. Fauna habitat features are limited to areas of remnant patch vegetation, scattered trees and mistletoe. No permanent or semi-permanent wetlands are present within the development site. Large old trees generally provide good habitat for a range of threatened species; however, due to the fragmented and isolated nature of these trees it is unlikely they provide key habitat for any listed threatened species. No threatened flora species were identified within the development site despite targeted surveys being undertaken. Major Mitchell's Cockatoo *Lophochroa leadbeateri* may occasionally utilise trees as a foraging and nesting. Major Mitchell's Cockatoo may utilise crops and crop weeds, such as Wild Melon *Citrullus* sp., as a food source but this vegetation does not provide key habitat for listed species. Black Falcon was not recorded on the site during the flora and fauna surveys.

2.2 Vegetation and fauna management

Removal of vegetation is limited to small, isolated patches within cropped paddocks or small corridors through previously disturbed areas. Site access for construction and operation will be from Yanga Way. Access points will be through existing farm gates and along existing tracks currently used for agricultural purposes. Mitigation measures are outlined in Section 4 to avoid and minimise indirect impacts from construction and operation on remnant vegetation and fauna habitat on the site. These measures include



minimising clearing and avoiding unnecessary disturbance of vegetation, including the vegetation communities listed in Table 1 of the Development Consent that are associated with the construction and operation of the development. Other measures are outlined in Section 4, which involve minimising impacts to fauna.



3 Specific management actions

Construction management activities for the development are discussed briefly below. A description of the mitigation measures to be implemented is also provided in Section 4.

3.1 Site inductions

The RWE Site Supervisor and Environment and Community Manager (E&CM) are to undertake a biodiversity induction prior to commencing construction. Contractor Supervisors are required to brief construction staff on all potential environmental impacts and implement and maintain control measures, procedures and constraints accordingly. Site specifics include the presence of threatened species habitat and significant vegetation communities and strict hygiene protocols to reduce the potential the introduction of invasive species or disease into the protected vegetation on the subject site. The site inductions will be prepared and delivered by a suitably qualified E&CM.

3.2 Exclusion fencing

Areas of vegetation to be retained (no-go-zones) are shown on Figure 2. Prior to the commencement of earthworks, exclusion fencing will be installed along the boundaries of vegetated areas to be retained. The alignment of this fencing will be in accordance with the Australian Standard *Protection of Trees on Development Sites (AS4970-2009)* and incorporate the relevant tree protection zones for trees and vegetation to be retained.

The fencing will be constructed of, as a minimum, capped star pickets and high visibility para webbing and have appropriate signage stating that it is an environmentally sensitive area to alert construction personnel to avoid the area. Exclusion zones will be clearly marked and labelled on design drawings issued for construction and will be displayed in prominent places (e.g. site offices) and provided in site inductions. No storage of materials or machinery is allowed within exclusion zones or retained vegetation. There is also to be no preparation of chemicals or concrete in these exclusion areas, or adjacent areas, and care must be taken to avoid the compaction of soils.

3.3 Erosion and sediment control

Earthworks are not to commence until sediment and erosion controls have been installed as per standards outlined in the "Blue Book" (Landcom 2004) and in accordance with conditions 22 (a) & (b) in the Development Consent. Erosion and sediment control will be observed and monitored for the entire construction phase of the development. RWE will provide BCS (NSW DCCEEW) (previously OEH) with a copy of all construction related plans prior to commencing construction.

3.4 Rehabilitation works

The development area is highly disturbed and has a long history of cropping. Due to this history of ongoing soil disturbance, it is likely that the soil has experienced changes to the natural soil flora and the structure has already experienced significant decline. Given the past and current land use of the development site, encouraging the natural regeneration of pre-existing vegetation is an effective form of achieving ground cover to protect soil from wind and water erosion. Temporarily disturbed areas will be left to naturally regenerate with a mix of local native colonisers and non-native pastures following the



reinstatement of the original topsoil. This approach will apply to the access road to Yanga Way and electricity trench that runs through the TSR to the substation. If there is a risk of erosion of the bare soil, jute matting or straw will be used to stabilise the area while natural regeneration occurs. It is not practical to actively revegetate via direct seeding or planting under the solar panel infrastructure. Seeds and propagules exist within the seed bank and re-establishment of the community will follow natural patterns of re-colonisation and succession.



4 Environmental mitigation measures

This section outlines the biodiversity risks and impact mitigation measures associated with construction and operation of the Limondale Sun Farm. Figure 2 shows areas of vegetation to be retained or removed for the project, as well as the locations of no-go-zones. Table 2 describes the management practices and mitigation measures to be implemented to reduce the risks and potential direct and indirect impacts on biodiversity. Table 2 also describes the monitoring responses and responsibility for implementing these measures. Management protocols and actions for vegetation clearance and fauna salvage are also provided in Appendix 1. Figure 2, Table 1 and Appendix 1 will be provided to construction and operational staff during site induction and will guide implementation of biodiversity protection controls.

The intent of Figure 2, Table 1 and Appendix 1 is to describe the measures to be implemented for biodiversity protection in the *development site* and protect retained areas in broader *study area* or on adjacent public land.

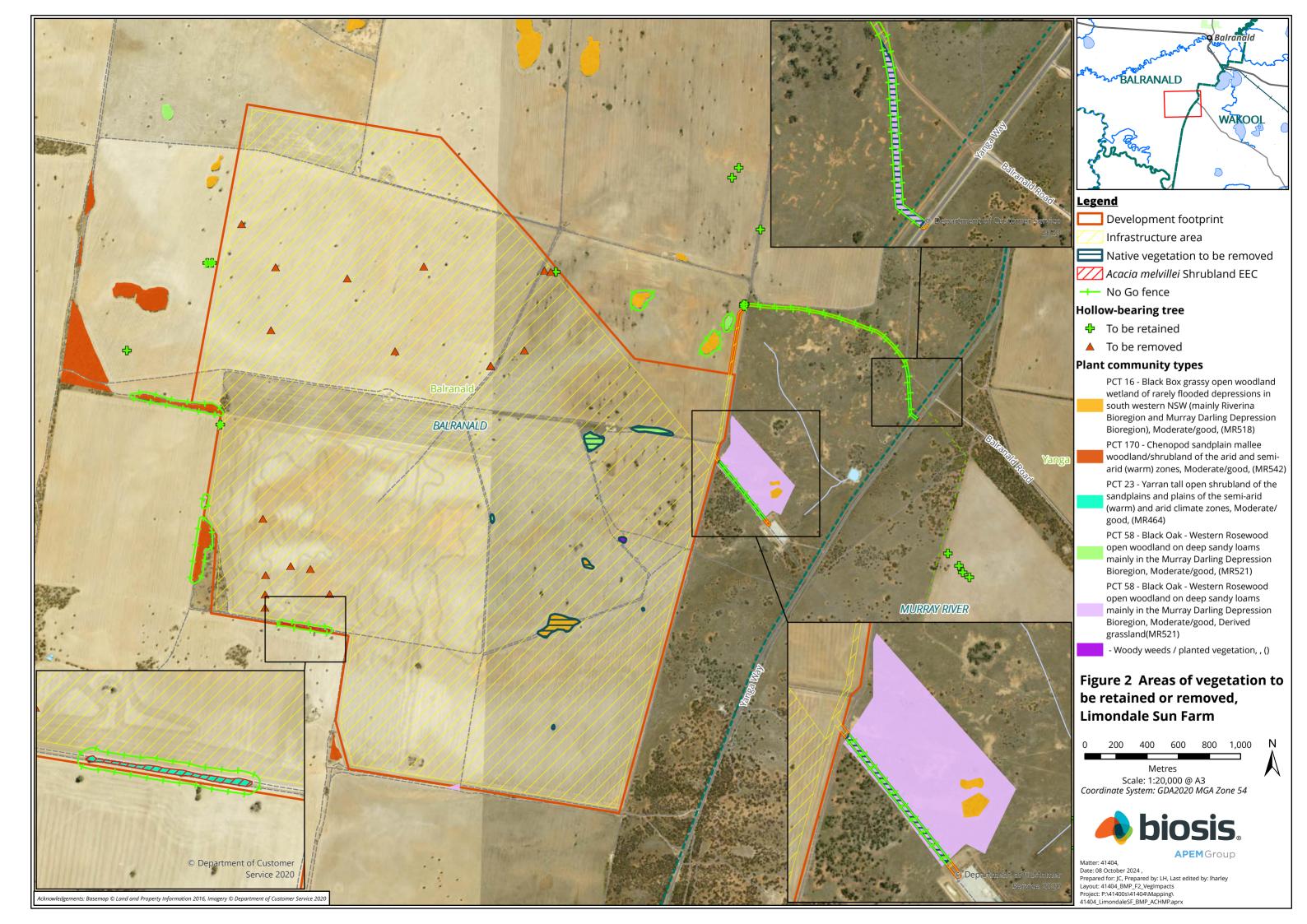




 Table 2
 Site environmental risks, mitigation measures and monitoring responses

Risk to be			Monitoring response	Responsibility	
remo reten	tation	Managing vegetation removal, retention and disturbance: 1.1 The principle of minimising removal of native vegetation will be applied to all approved clearing activities in the development site. 1.2 Access/egress to the development site will be via existing roads and vehicle access tracks or via approved new access points. 1.3 Vegetation to be removed in the development site will be clearly marked under the supervision of the RWE E&CM to ensure only the approved vegetation is removed. A spray-painted 'X' or standard marker will be placed on trees and patches to be removed. 1.4 All areas of retained vegetation in or near the development site will be clearly marked by means of high visibility temporary fencing to be installed under the supervision of the RWE E&CM. High visibility temporary fencing (using high visibility bunting and star pickets) must be installed before clearing of other vegetation and construction work commences. These areas will be treated as no-go zones and installed using the following principles: - The radius of the tree protection zone (TPZ) is calculated for each tree by multiplying its diameter at breast height (DBH) by 12 (i.e. TPZ = DBH x 12) in accordance with the Standards Australia Committee (2009). - A TPZ will not be less than 2 metres or greater than 15 metres, except where crown protection is required (Standards Australia Committee 2009). - Appropriate signage such as 'No Go Zone' or 'Environmental Protection Area' must be installed. - Identify the location of any 'No Go Zones' in site inductions and on site plans. 1.5 Vegetation removal protocols and fauna salvage will be discussed in detail at the site induction.	 Daily visual inspection of pre and post construction clearing (during clearing). Twice weekly inspection and maintenance of exclusion fencing (check for wind damage etc.). Maintain a diary and photolog of any issues and actions taken to remedy breaches of exclusion areas. Include inspection results in regular reporting to BCS (NSW DCCEEW). 	Site Supervisor E&CM	



Risk to be managed	Mitigation measures	Monitoring response	Responsibility
2. Direct impacts on flora, fauna and ecological communities as a result of clearing activities	Managing direct impacts on flora and fauna, especially threatened biota: 2.1 The stand of the threatened ecological community <i>Acacia melvillei shrubland in the Riverina and Murray-Darling Depression bioregions</i> that occurs adjacent to the south-west corner of the development site will be fenced and protected according to the principles outlined in this table. 2.2 E&CM to undertake pre-clearance surveys of all hollow-bearing trees if clearing will be undertaken between July and November, this will focus on identifying nesting trees for hollow-dependent species such as Major Mitchell's Cockatoo. 2.3 A licenced wildlife salvage team will be on-site during vegetation removal to catch and relocate (if appropriate) any wildlife encountered in vegetation or hollow-bearing trees. 2.4 If any footings or trenches are required to be left open overnight, they must be inspected (daily) prior to the commencement of construction or pouring concrete. 2.5 If injured wildlife is encountered the environment and community manager will be immediately notified and a licenced wildlife handler/carer or local veterinarian will be consulted (phone WIRES on 1300 094 737, NSW rescue line) 2.6 Where practical, all scattered hollow-bearing trees to be removed will be sensitively placed in areas of retained vegetation in the broader study area to provide additional fauna habitat. 2.7 Security fence construction and associated materials storage must be located within the development footprint.	 Visual inspections to ensure vegetation removal is carried out in accordance with development consent. Inspections will be carried out as required at construction area mark out and when construction / vegetation clearing commences. Maintain a log of salvaged animals and actions taken to relocate them. Daily visual inspections during construction where footings have been left open over-night and prior to re-commencing or back filling. Include inspection and salvage results in regular reporting to BCS (NSW DCCEEW). 	Site Superviso E&CM Wildlife Handler



Risk to be Mitigation measures managed		Monitoring response	Responsibility
3. Indirect impacts on biodiversity values outside the development site.	Managing impacts outside the development site: 3.1 The infrastructure area will be fenced to contain all works and any areas of adjacent native vegetation or fauna habitat will be treated as no go zones as per the principles for exclusion areas outlined in this table. 3.2 All material stockpiles, vehicle parking and machinery storage will be located within cleared areas or areas proposed for clearing in the development site, and not in areas of adjacent retained native vegetation. 3.3 Sediment and erosion control measures will be implemented as outlined in this plan and the project specific sediment management plan. 3.4 Avoid contamination of stockpiles from bedding material, gravel, or imported fill. Bund, cover and wet down stockpiles if left for more than one month.	 Visual inspections to ensure vegetation removal is carried out in accordance with development consent and no impacts occur outside the development site. Inspections will be carried out as required at construction area mark out and when construction / vegetation clearing commences. Daily visual inspections of stockpiles and storage areas to ensure that are not impacting areas outside the development site. Include results in regular reporting to BCS (NSW DCCEEW). 	Site Supervisor



Risk to be managed	Mitigation measures	Monitoring response	Responsibility
4. Soil erosion, sedimentation and rehabilitation of temporarily disturbed areas	 Managing soils and rehabilitation of temporary disturbance: 4.1 Where appropriate native vegetation cleared from the development site will be mulched for re-use on the site, to stabilise bare ground within the development site. This mulch must not be placed in areas of retained vegetation outside the development site. 4.2 Dust suppression measures will be implemented during construction including use of a water truck, where appropriate. Refer to sediment and erosion controls standards outlined in the "Blue Book" (Landcom 2004). 4.3 Implementation of temporary stormwater controls during construction is necessary to ensure that discharge to local drainage lines are consistent with existing conditions. Refer to sediment and erosion controls standards outlined in the "Blue Book" (Landcom 2004). 4.4 Sediment and erosion control measures will be implemented prior to construction works commencing (e.g. install silt fences, sediment traps), to protect drainage channels to the west and to the south. These will conform to relevant guidelines, will be maintained throughout the construction period and will be carefully removed following the completion of works. Refer to sediment and erosion controls standards outlined in the "Blue Book" (Landcom 2004). 4.5 If topsoil is required to be stockpiled for more than a week, stockpiles will be bunded and sprayed / wetted down with water; or covered with jute matting to maintain soil microbe viability if stockpiled for more than one month. 4.6 Soil stripped from areas to be temporarily disturbed (e.g. electricity trench to sub-station) will be stockpiled in the development site for reinstatement over the trench/disturbed ground. The top 100-200 mm of soil will be stockpiled and re-instated as soon as practicable. This will enhance site rehabilitation. 4.7 Temporarily disturbed areas will be left to naturally regenerate after reinstatement of top soil. If there is a risk of wind or water erosion, high risk parts	 Sediment control measures and rehabilitation areas will be checked and maintained at regular intervals (daily during construction and after rainfall events greater than 10 mm in a 24 hour period). Daily visual inspections of construction progress including maintaining the construction area, stockpile/lay down areas and installation/maintenance of sediment control devices. Weekly follow up visual inspections of rehabilitation works during construction to assess the success of soil and vegetation stabilisation. Quarterly inspections of rehabilitated areas for two years after works and implement appropriate responses if rehabilitation fails. Include monitoring results in regular reporting to BCS (NSW DCCEEW). 	Site Supervisor E&CM



Risk to be managed	Mitigation measures	Monitoring response	Responsibility
5. Weeds, feral pests and soil pathogens	Managing weeds, pathogens and pests: 5.1 Prior to works commencing, undertake a weed assessment / mapping to provide a baseline for monitoring actions. 5.2 Prior to works commencing any machinery, equipment and PPE will be washed down off-site to remove soil and weed seeds. 5.3 Ensure any imported construction materials area weed and pathogen free. 5.4 Weed control will be undertaken in temporarily disturbed areas with aim of eliminating annual/short-lived high threat herbaceous species that inhibit natural regeneration, target weed species include: - Carrichtera annua Ward's Weed, Centaurea melitensis Maltese Cockspur, Conyza bonariensis Fleabane, Echium plantagineum Patterson's Curse, Erodium cicutarium Common Crowfoot, Lactuca serriola Prickly Lettuce, Limonium lobatum Winged Sea Lavender, Malva parviflora Small-flowered Mallow, Onopordum acaulon Stemless Thistle, Psilocaulon tenue Wiry Noonflower, Sisymbrium erysimoides Smooth Mustard and Solanum nigrum Blackberry Nightshade 5.5 Sterile exotic crops or native ground cover species will be considered, where practical, if plantings are required beneath solar panels to minimise the impact of weed incursion into retained native vegetation adjacent to the development site. 5.6 Control of weeds, including African Boxthorn Lycium ferocissimum and Horehound Marrubium vulgare, will occur in retained native vegetation directly adjacent to the development site. 5.7 Weed control methods must be selected to ensure that retained native vegetation is not subjected to off-target impacts 5.8 Undertake regular monitoring of feral pests and implement appropriate adaptive management responses as required: - Undertake hand collapse, ripping or fumigation of warrens when established. - Integrate local fox control methods. - Trapping, poisoning, trapping or shooting feral pigs.	 Follow up visual inspections to detect weed germination and signs of soil pathogen infection – weekly during construction and monthly for 1 year after construction completion. On-going weekly inspections to detect presence of feral pests. Include results in regular report to BCS (NSW DCCEEW) during construction period. 	Site Supervisor



5 Compliance management

The environmental risks associated with construction will be monitored on a regular basis. The Site Supervisor will be responsible for undertaking regular assessments (daily to weekly) of positive and negative impacts during the construction program and appropriate photographic records will be kept. Specialist advice on environmental issues will be sought as required from a suitably qualified environmental professional during the construction period.

5.1 Roles and responsibilities

The roles and responsibilities for implementation of environmental management are detailed in the Environmental Management Strategy (EMS). The Site Supervisor and Environment and Community Manger (E&CM) (see Table 3) are responsible for implementation of the BMP, including undertaking all consultation with key stakeholders. The Site Supervisor is responsible for ensuring all activities in this Plan are carried out prior to and during construction, along with reporting any incidents to BCS (NSW DCCEEW) and formulating responses to incidents. The Site Supervisor is responsible for ensuring that other construction and operational management plans correlate with the BMP and that actions in other plans do not contradict those listed in the BMP. The Site Supervisor will also identify actions that are likely to overlap with other construction management plans and ensure consistency with responsibilities and reporting.

The Site Supervisor must comply with the activities outlined in this Plan and any deviation to activities outlined must be reported to the BCS (NSW DCCEEW). Prior to the commencement of construction, the E&CM and Site Supervisor must conduct an induction that will include the following:

- A description of the ecological values of the site, including the presence of threatened species habitat and locally significant vegetation communities.
- A description of the biodiversity to be retained and the vegetation to be removed.
- The mitigation measures included in this Plan (Section 4).
- Appropriately scaled maps and GPS data as appropriate.

Contractor Supervisors are required to identify to construction staff all potential environmental impacts and implement and maintain control measures, procedures and constraints accordingly.

Table 3 Roles and responsibilities and contact details

Site	RWE Role/Position	Contact details
Limondale BESS	Site Supervisor	1800 844 007
Limondale BESS	Environment & Community Manager	1800 844 007



5.2 Monitoring program

The Site Supervisor and Environment and Community Manager will all be responsible for various monitoring and reporting actions prior to, during and following construction. Table 4 below outlines a monitoring program that will be implemented, as well as decision triggers and adaptive responses for the risks (and mitigation measures) described previously in Table 1. All actions and outcomes from monitoring and adaptive responses will be included in the reporting process.

Table 4 Monitoring Program

Risk (Table 1)	Monitoring action	Timing / F	Responsibility	Decision trigger / adaptive response	Reporting
Pre-construc	tion				
1, 2, 3	Visual inspection of vegetation clearance activities	Daily inspections during clearing activities	RWE Site Supervisor with the E&CM	Vegetation is being cleared in accordance with the development consent. If not, stop work and follow process for reporting an incident outlined in Section 5.4.	Site Supervisor and E&CM to undertake monitoring . Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.
1, 2	Inspection of exclusion fencing	Twice weekly inspections, or after wind events	RWE Site Supervisor with the E&CM	Exclusion fencing is damaged or not being maintained. Exclusion fencing to be reinstated and maintained as per mitigation measures described in Table 1. If lack of exclusion fencing leads to damage to retained vegetation, stop work and follow process for reporting an incident outlined in Section 5.4. Reinstate exclusion fencing as required.	Site Supervisor and E&CM to undertake monitoring . Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.



Risk (Table 1)	Monitoring action	Timing / F	Responsibility	Decision trigger / adaptive response	Reporting
1, 2	1.3 Maintain a diary and photo-log of any issues and actions taken to remedy breaches of exclusion areas.	As required.	RWE Site Supervisor –	If exclusion areas are breached or incidents occur.	Site Supervisor to undertake recording . Include the diary / photo-log in BCS (NSW DCCEEW) monthly report.
4	Inspect all sediment and erosion control measures implemented prior to works	Prior to earthworks and clearing activities commencing	RWE Site Supervisor with the E&CM	Control measures to be implemented as per Blue Book standards.	Site Supervisor and E&CM to undertake monitoring. Include details in BCS (NSW DCCEEW) informal monthly report.
During const	ruction				
1, 2, 3	Visual inspection of vegetation clearance activities	Daily inspections during clearing activities	RWE Site Supervisor with the E&CM	Vegetation is cleared in accordance with the development consent. If not, stop work and follow process for reporting an incident outlined in Section 5.4.	Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4.
2	Maintain a log of salvaged animals and actions taken to relocate them.	As required prior to and during vegetation clearance and construction.	E&CM Wildlife Handler	If any animals are identified during preclearance surveys or construction and are salvaged. Follow preclearance, clearance and fauna salvage protocols.	E&CM to provide log to Site Supervisor to be included in informal monthly reporting as well as in annual report.
2	Inspections for fauna where footings have been left open overnight.	Every morning where left open overnight and prior to recommencing or back filling.	E&CM Wildlife Handler	If footings or trenches have been left open overnight. Follow fauna salvage protocol.	E&CM to include details in salvage log to be provided to Site Supervisor for inclusion in BCS (NSW DCCEEW) reporting.



Risk (Table 1)	Monitoring action	Timing / frequency	Responsibility	Decision trigger / adaptive response	Reporting
3, 4	Inspections of stockpiles and storage areas to ensure no impact outside development site.	Daily inspections required at construction area mark out and during construction.	Site Supervisor to undertake inspections	If stockpiles and / or storage areas encroach on areas outside the development site or onto areas for retained vegetation, stop work and follow process for reporting an incident outlined in Section 5.4. See further guidance from BCS (NSW DCCEEW) regarding reinstatement.	Site Supervisor to undertake monitoring . Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.
4	Check and maintain sediment control measures	Daily during construction and as required.	Site Supervisor to undertake inspections	Maintain daily and after rainfall events greater than 10 mm in a 24 hour period. Reinstate measures as required. Bund and wet down stockpiles if left for longer than one week. Cover stockpiles with jute matting if left for longer than one month.	Site Supervisor to undertake monitoring . Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.



Risk (Table 1)	Monitoring action	Timing / frequency	Responsibility	Decision trigger / adaptive response	Reporting
4	Inspection of rehabilitation works during construction	Weekly inspections	Site Supervisor to undertake inspections	Following reinstatement of topsoil in areas of disturbance (as soon as practicable) to assess the success of soil and vegetation stabilisation. This will occur through natural regeneration, with a target of 50% plant cover (mix of native colonising species and non-native pasture species) within 12 months of reinstatement. Implement appropriate responses if rehabilitation fails (contact BCS (NSW DCCEEW) for further guidance).	Site Supervisor to undertake monitoring. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary in BCS (NSW DCCEEW) annual report. Contact BCS (NSW DCCEEW) if rehabilitation / soil stabilisation fails.
5	Inspections to detect weed germination and signs of soil pathogen infection	Weekly during construction.	Site Supervisor with the E&CM	Implement weed / soil pathogen control measures if weed germination or pathogen infection is detected. 10% cover weed control to be undertaken at rosette stage / prior to flowering.	E&CM to advise Site Supervisor . Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.



Risk (Table 1)	Monitoring action	Timing / F	Responsibility	Decision trigger / adaptive response	Reporting
4	Inspection of rehabilitation / soil stabilisation following construction	Quarterly for 2 years following construction	Site Supervisor with the E&CM	Following reinstatement of topsoil in areas of disturbance (as soon as practicable) to assess the success of soil and vegetation stabilisation. This will occur through natural regeneration, with a target of 50% plant cover (mix of native colonising species and non-native pasture species) within 12 months of reinstatement. Quarterly inspections of rehabilitated areas for two years following works and implement appropriate responses if rehabilitation fails (contact BCS (NSW DCCEEW) for further guidance).	E&CM to advise Site Supervisor . Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary in BCS (NSW DCCEEW) annual report. Contact BCS (NSW DCCEEW) if rehabilitation / soil stabilisation fails.
5	Inspections to detect weed germination and signs of soil pathogen infection	Monthly for 1 year following construction completion.	Site Supervisor with the E&CM	Implement weed / soil pathogen control measures if weed germination or pathogen infection is detected. 10% cover weed control to be undertaken at rosette stage / prior to flowering.	E&CM to advise Site Supervisor. Report incidents to BCS (NSW DCCEEW) immediately as per Section 5.4. Include details in BCS (NSW DCCEEW) informal monthly report as well as a summary and details of any incidents in BCS (NSW DCCEEW) annual report.



Risk (Table 1)	Monitoring action	Timing / frequency	Responsibility	Decision trigger / adaptive response	Reporting
5	On-going inspections to detect presence of feral pests	Weekly during operations	Site Supervisor	Undertake regular (weekly) monitoring of feral pests and implement adaptive management responses if pests are detected: - Undertake hand collapse, ripping or fumigation of warrens when established Integrate local fox control methods Trapping, poisoning, trapping or shooting feral pigs.	Site Supervisor to include details of any pest management in informal monthly report as well as a summary in BCS (NSW DCCEEW) annual report.



5.3 Reporting and record keeping

The Site Supervisor will supply an informal monthly report to BCS (NSW DCCEEW) during the construction period. This report will take the form of an email or phone call, and cover issues such as:

- Construction progress.
- Timelines.
- Any environmental issues encountered.
- Responses implemented to address issues.
- Dated photographs of key issues and responses.
- The construction monitoring program for identified environmental risks is outlined in Table 2.

The reports will be provided to the BCS (NSW DCCEEW) South West Branch based in Albury, NSW. The reports will be submitted to rog.southwest@environment.nsw.gov.auu

An annual report will be provided to BCS (NSW DCCEEW) summarising results of monitoring, identifying opportunities for improvement or recommended changes to the program, and including relevant monitoring data. All logs and monitoring data will be available to BCS (NSW DCCEEW) on request. Copies of all reports will also be supplied to DPE as the consent authority in addition to BCS (NSW DCCEEW).

To meet the conditions of consent, biodiversity management will continue through operation of the development. The post construction monitoring actions outlined in the Monitoring Program will be implemented during the operational phase of the development.

5.4 Incident and non-compliance management

The Site Supervisor and Environment and Community Manager will be notified immediately of all incidents and non-compliances. In the case of an incident, vehicles and equipment will not be moved and/or removed from the scene until the incident has been investigated.

In addition to the above process, incidents and near misses and non-compliances will be investigated and documented in accordance with the Limondale Solar Farm Environmental Management Strategy to:

- Establish root cause and identify contributing factors.
- Identify preventative and corrective actions to be implemented to prevent reoccurrence.
- Share learnings amongst the project team and other stakeholders as appropriate.

For incidents, and in accordance with the CoA Schedule 4, Condition 3, Limondale will:

- Immediately notify the Secretary and any other relevant agencies of any incident on site or related to site vehicles.
- The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.
- Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix A of the EMS.

As part of incident investigation, corrective and preventative actions will be identified, assigned to an appropriate person and closed out according to set timeframes. Corrective actions will include reference to the relevant incident report to track closeout.



As part of a non-compliance review, the notification will be in accordance with CoA Schedule 4, Condition 4A, Limondale will:

- Notify the Planning Secretary in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.
- The notification must:
 - Identify the development and the application number.
 - Set out the condition of consent that the development is non-compliant with.
 - The way in which it does not comply.
 - The reasons for the non-compliance (if known) and;
 - What actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.

The Applicant must immediately notify the Secretary and any other relevant agencies of any incident on site. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

If an incident occurs that results in actual or potential impacts on retained biodiversity the BCS (NSW DCCEEW) will be informed immediately.

The report to BCS (NSW DCCEEW) will also be sent to the Site Supervisor and Environment and Community Manager and include the following information:

- Any contravention to the measures outlined in the Plan.
- The nature of the incident.
- The actual or likely impact of the incident on retained biodiversity.
- The measures which have been taken or will be taken to remedy the issue and prevent a recurrence of the incident.

5.5 Complaints handling

The RWE Renewables Australia Community and Stakeholder Engagement Framework is available on the Limondale BESS website (https://au.rwe.com/projects/limondale-bess/) and provides a 24-hour contact number 1800 844 007 and an email contact.

The Site Supervisor will respond to community complaints relating to incidents or issues. All complaints received will be documented in a Complaints Register, which will record the nature of the complaint, any corrective / mitigative actions undertake in response, and response times. All complaints will be responded to within 24 hours.

The following details will be recorded:

- Date and time of the complaint.
- Method by which the complaint was made.
- Personal details of the complainant (if provided).



- Nature of the complaint.
- Action taken in relation to the complaint.
- Follow-up actions required.

All complaints will be investigated by the Environment and Community Manager (E&CM), who will also be responsible for:

- Ensuring adequate mitigative actions are implemented to prevent reoccurrence.
- Liaising and following-up with complaints.
- Review of the complaints register to monitor the effectiveness of mitigation measures and identify any recurring themes of complaints that indicate a need to amend management approach.

The complaints procedure and contact details for the public to make complaints will be included on the project website and provided to Balranald Shire Council. Contact methods will include a phone number and email address.

5.6 Adaptive management

An adaptive management approach will be employed in respect to the works forming part of this Plan. An adaptive management approach involves an integrated process of the ongoing evaluation of environmental management performance. The purpose of this is to:

- Identify opportunities for the improvement of environmental management and performance.
- Determine the cause or causes of non-conformance and deficiencies.
- Development and implementation of a plan of corrective and preventative actions to address any non-conformance in this Plan.

Adaptive management responses are outlined in the Monitoring Program in Section 5.2. Update and amendment of this Plan will occur as required. A copy of the updated Plan will be distributed to all relevant stakeholders. Adaptive management responses as a result of decision triggers outlined in the Monitoring Program will be included in the reporting to BCS (NSW DCCEEW).

It is expected that management of failures associated with rehabilitation can be addressed, if and as necessary, to achieve the desired objectives in response to regular monitoring of progress. Regular monitoring will be qualitative through observations by the Site Supervisor and Environmental and Community Manager. The cycle of 'do, monitor, evaluate and respond' is the foundation of adaptive management and is widely applied to in land rehabilitation and restoration of natural systems. Consistent with adaptive management, monitoring results will be reviewed and actions revised from time to time, or where on ground evidence supports a change in rehabilitation trajectory. This plan will be followed prior to and during construction, as well as during the on-going operation of the development. The plan will be updated accordingly in consultation with BCS (NSW DCCEEW). Further information regarding BMP review and continuous improvement is provided below in Section 5.6.

5.6.1 Review and continuous improvement

During construction, operation and decommissioning, the BMP will be reviewed internally every six months by the RWE Site Supervisor to:

• Assess the continuing suitability of the BMP in relation to construction progress, changing conditions and information.



Incorporate feedback from external stakeholders, including the general community.

Regular review of the BMP will allow opportunities for improvement to be identified and implemented, achieving the overall aim of continual improvement.

Where the review process identified changes the BMP material, relevant stakeholders will be consulted regarding the changes. Following consultation and incorporation of mutually agreed changes, the BMP will be resubmitted to DPHI for approval where material changes are required.

Prior to upgrading or decommissioning activities, this plan will be reviewed and updated as required. Where material changes are required as a result of upgrading or decommissioning activities, and following consultation and incorporation of mutually agreed changes, the BMP will be resubmitted to DPHI for approval.

This BMP will also be reviewed and where necessary revised, as per the above process, within one (1) month of the:

- Submission of an incident report; or
- Any modification to the conditions of consent.



6 References

Biosis 2017. Limondale Sun Farm, NSW: Biodiversity Assessment Report. Report for Limondale Sun Farm Pty Ltd. Authors: E Kelly, A Barreto, M Looby & C Wharfe, Biosis Pty Ltd. Project no 24031.

DPE 2022. Limondale Solar Farm Modification 2 (SSD-8025-Mod-2) Modification Assessment Report.

Landcom 2004. Managing Urban Stormwater: Soils and Construction (4th Edition). New South Wales Government.

RTA 2011. Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects. Roads and Traffic Authority of New South Wales.



7 Appendices

Table A. 1 Management protocols and actions for vegetation removal adapted from Biodiversity Guidelines (RTA 2011)

Management protocol	Objectives	Triggers and legislation	Management steps for RWE E&CM
Pre-clearing process (To be conducted by a qualified and experienced ecologist)	The pre-clearing process is designed to be a final site assessment before commencement of construction to reduce the impact of construction activities on biodiversity. This involves identifying any threatened flora and fauna, as well as hollow-dependent fauna that may have moved into the study area since the initial flora and fauna surveys that formed part of the environmental assessment for the development. This process guides the location of exclusion zones and the potential need for staged habitat removal where hollow-bearing trees will be removed.	The pre-clearing process is triggered when: threatened populations of flora occur or have potential to occur on site (according to initial flora and fauna surveys) hollow-bearing trees will be removed or disturbed bushrock will be removed or disturbed substantial potential threatened fauna habitat or potential microbat roosting sites will be removed or disturbed. 'Clearing of native vegetation', 'loss of hollow-bearing trees', 'bushrock removal' and 'removal of dead wood and dead trees' are key threatening processes under the NSW BC Act. 'Land clearing' is a key threatening process under the EPBC Act.	 Incorporate any additional management controls for biodiversity identified during the pre-clearing assessment into the BMP. Confirm locations and mark biodiversity features. Check for presence of threatened flora or fauna deemed likely to occur on site during flora and fauna surveys and identify any fauna at risk of disturbance or mortality during construction. Record habitat features and the location of hollowbearing trees and trees providing habitat for threatened flora or fauna.



Management protocol	Objectives	Triggers and legislation	Management steps for RWE E&CM
Clearing of vegetation and removal of bushrock (A qualified and experienced ecologist or wildlife carer on site during removal)	Management steps will be implemented during clearing of vegetation to minimise damage to native flora and fauna, and habitat. This involves staged clearing to allow an opportunity for affected fauna to relocate to alternative suitable habitat prior to removal of utilised habitat, as well as fauna salvage during vegetation and bushrock removal to minimise injuries/fatalities.	The management steps for clearing of vegetation and removal of bushrock applies to construction activities that involve the removal of hollow-bearing trees, habitat trees or bushrock. 'Clearing of native vegetation', 'loss of hollow-bearing trees', 'bushrock removal' and 'removal of dead wood and dead trees' are key threatening processes under the NSW BC Act. 'Land clearing' is a key threatening process under EPBC Act.	1. Alert vets and wildlife carers prior to commencing works to gauge willingness to provide assistance in treating injured wildlife, and contact details provided to site supervisor. All fauna fatalities/injuries/relocations recorded. 2. Confirm timing of works to minimise impact on flora and fauna, e.g. avoiding seasonal impacts such as breeding times. 3. Guide habitat removal in two or more stages, e.g. clear non-habitat trees in the first stage, followed by habitat tree clearance. 4. A licensed wildlife carer and/or ecologist will be on site during habitat removal. Fauna encountered during the clearing process will be handled only by a licensed ecologist or wildlife carer. Displaced fauna to be relocated to pre-determined fauna release sites. 5. Remove non-habitat vegetation first (e.g. shrubs, regrowth, ground cover and non-habitat trees). Allow fauna at least 24 hours to vacate remaining habitat. Wildlife carer and/or ecologist to inspect trees before and after felling. Capture and relocate non-injured fauna identified in felled trees to predetermined fauna release sites. 6. Fell habitat trees carefully using equipment that allows habitat trees to be lowered to the ground with minimal impact (e.g. claw extension). Do not fell trees towards exclusion zones. Relocate felled habitat trees in areas of retained vegetation. 7. Records of the habitat removal process and fauna relocation will be kept and included in monthly reporting to BCS (NSW DCCEEW) (Section 5.3). Any fauna mortality will be recorded and BCS (NSW DCCEEW) will be notified if significant species are impacted, or as per the ecologists and wildlife handler's permit.