BERYL SOLAR FARM

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

FIRST SOLAR (AUSTRALIA) PTY LTD

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Revision History

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Final (V1)	14/5/19	Incorporating FSA comments	Downer

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APPENDICES

APPENDIX A
Conditions of Approval

Abbreviations

APZ	Asset Protection Zone
BMP	Biodiversity Management Plan
BOS	Biodiversity Offset Strategy
BSF	Beryl Solar Farm
CEMP	Construction Environmental Management Plan
CEP	Community Engagement Plan
CFP	Chance Finds Protocol
CHMP	Cultural Heritage Management Plan
CoA	Condition of Approval
DMP	Decommissioning Management Plan
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
EA	Environmental Assessment
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environment Protection Authority
EPC	Engineering, Procurement and Construction
ERP	Emergency Response Plan
ETL	Electricity Transmission Line
ESCP	Erosion and Sediment Control Plan
FRNSW	Fire and Rescue NSW
FSA	First Solar (Australia) Pty Ltd
kL	Kilolitre
kV	Kilovolt
LEMC	Local Emergency Management Committee
LP	Landscaping Plan
MM	Mitigation Measure
MW	Megawatt
MWRC	Mid-Western Regional Council
NOW	NSW Office of Water
NPfI	Noise Policy for Industry
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
PCS	Power Conversion Stations
PCT	Plant Community Type
PVIS	Photovoltaic Combining Switchgear
RAP	Registered Aboriginal Parties
RFS	Rural Fire Service
SDS	Safety Data Sheets

Introduction

1.1 APPROVED PROJECT

The 95 MW_{AC} Beryl Solar Farm (BSF) was granted development consent by the Minister of Planning on 5 December 2017 (SSD 8183).

A copy of the Development Consent is provided in **Appendix A**.

The as-built BSF layout is shown on **Figure 1**.

1.2 FARM OWNER

BSF is owned by FS NSW Project No 1 AT Pty Ltd as trustee for FS NSW Project No 1 Asset Trust.

1.3 FARM OPERATOR

First Solar (Australia) Pty Ltd (FSA) is engaged by the farm owner to provide maintenance works under a Maintenance Services Agreement.

1.4 PLAN FUNCTION

This Operational Environmental Management Plan (OEMP) details the procedures and actions required to enable FSA to operate the BSF in compliance with the Minister's approval.

1.5 LIVE PLAN

This OEMP is a 'live' document and will be reviewed and updated as required.

Triggers for amendments to the OEMP will include:

- When there is a need to improve performance in an area of environmental impact;
- As a result of changes in environmental legislation applicable and relevant to the farm;
- Where the outcomes from monitoring establish a need for change; or
- As a result of an incident or complaint occurring that necessitates an amendment.

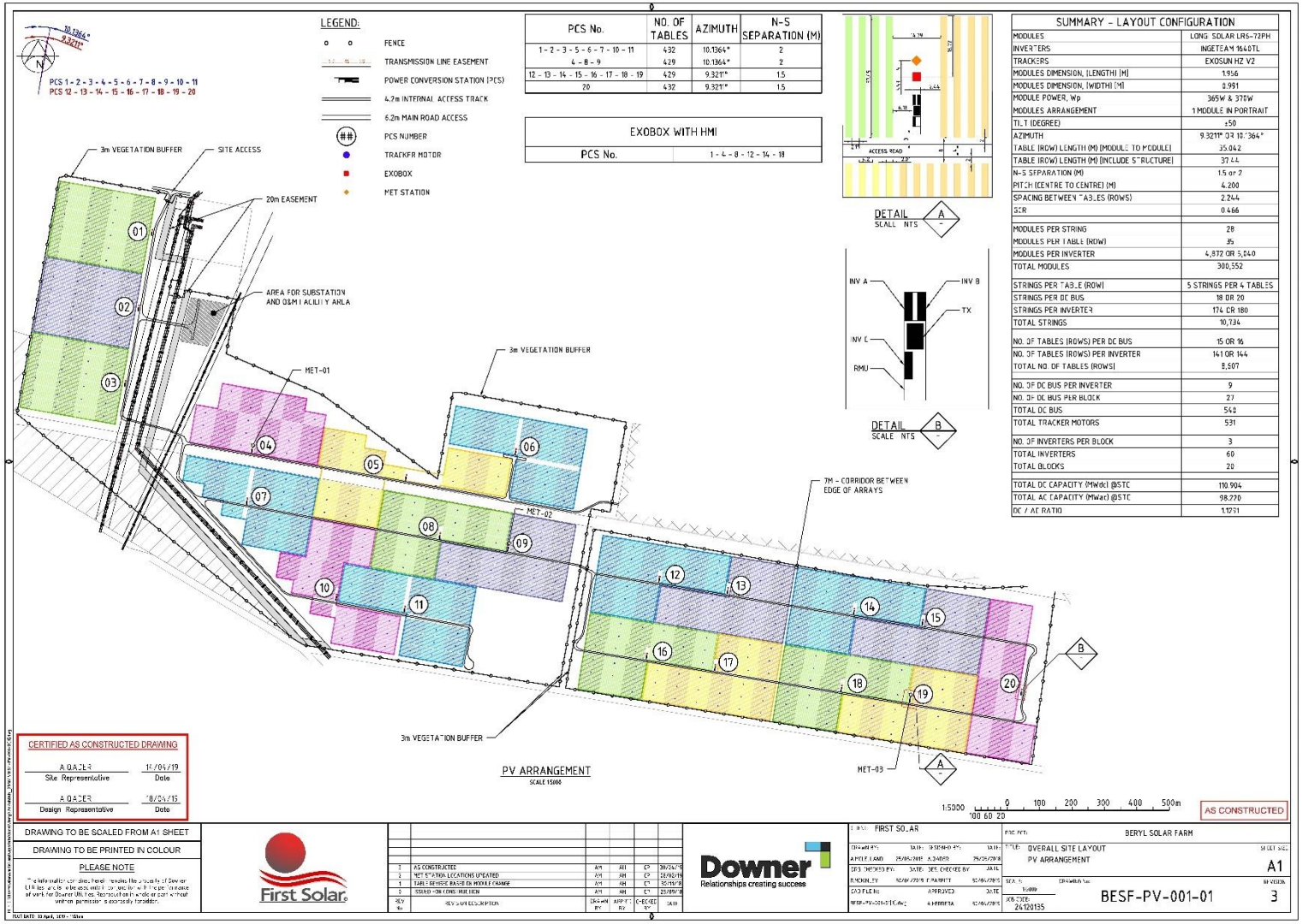

Figure 1: As-Built Farm Layout

Statutory Obligations

2.1 DEVELOPMENT CONSENT

FSA has an obligation to operate the BSF in compliance with the Minister's Development Consent and associated Conditions of Approval (CoA).

Schedule 2 CoA (2) states:

> *The Applicant must carry out the development:*
>
> *(a) generally in accordance with the EIS; and*
>
> *(b) in accordance with the conditions of this consent.*

In the context above Environmental Impact Statement (EIS) includes the Mitigation Measures (MM) identified in both the

- *Beryl Solar Farm – Environmental Impact Statement* (nghenvironmental, April 2017); and
- *Beryl Solar Farm – Submissions Report* (nghenvironmental, July 2017).

FSA's environmental management objective is to comply with all CoA and MM.

2.2 ENVIRONMENTAL MANAGEMENT STRATEGY

This OEMP is consistent with the requirements of the *Beryl Solar Farm – Environmental Management Strategy* (EMS), as approved by the Department of Planning and Environment (DPE).

The preparation of an EMS was a CoA. Specifically Schedule 4 CoA (1):

> ***Environmental Management Strategy***
>
> *1. Prior to the commencement of construction, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:*
>
> *(a) provide the strategic framework for environmental management of the development;*
> *(b) identify the statutory approvals that apply to the development;*
> *(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;*
> *(d) describe the procedures that would be implemented to:*
>
> - *keep the local community and relevant agencies informed about the operation and environmental performance of the development;*
> - *receive, handle, respond to, and record complaints;*
> - *resolve any disputes that may arise;*
> - *respond to any non-compliance;*
> - *respond to emergencies; and*
>
> *(e) include:*
>
> - *copies of any plans approved under the conditions of this consent; and*
> - *a clear plan depicting all the monitoring to be carried out in relation to the development.*
>
> *Following the Secretary's approval, the Applicant must implement the Environmental Management Strategy.*

The EMS identified the preparation of an OEMP as an environmental hold point prior to the BSF commencing operations.

2.3 APPROVED PLANS

Post approval a number of environmental plans have been prepared and approved in consultation with relevant Government agencies. These plans were required as CoA.

In addition to requirements relating to the construction phase of the BSF, these plans also include requirements relevant to the operation of the BSF. The commitments, procedures and monitoring specified in these plans relevant to the operation of the BSF have been incorporated this OEMP.

Table 2.1 provides a listing of the plans applicable to the OEMP.

Table 2.1 – Approved Environmental Plans

Plan	Requirement
Landscaping Plan	To the satisfaction of the Department of Planning and Environment and prepared in consultation with the Office of Environment and Heritage and Mid-Western Regional Council.
Biodiversity Management Plan	To the satisfaction of the Department of Planning and Environment and prepared in consultation with the Office of Environment and Heritage.
Cultural Heritage Management Plan	Preparation of a Chance Finds Protocol in consultation with the Aboriginal Stakeholders and to the satisfaction of the Office of Environment and Heritage.
Emergency Response Plan	Prepared in consultation with the Rural Fire Service and Fire & Rescue NSW.

2.4 SECRETARY'S REQUESTS

Pursuant to Schedule 2 CoA 4, FSA must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:

- any strategies, plans or correspondence that are submitted in accordance with the development consent;
- any reports, reviews or audits commissioned by the Department regarding compliance with the development consent; and
- the implementation of any actions or measures contained in these documents.

2.5 LEGISLATIVE OBLIGATIONS

As it relates to the operation of the BSF, FSA has a legal obligation to comply with the following legislation.

Table 2.2 – Legislative Obligations

Act	Requirement
Protection of the Environment Operations Act 1997	Section 148 requires the EPA to be notified in the event of a pollution incident causing or threatening material harm to the environment.
Rural Fires Act 1997	If ever proposed, prior to conducting any Hot Works in a Total Fire Ban an exemption must be obtained from the Commissioner of the NSW Rural Fire Service (RFS) pursuant to s.99.
Biosecurity Act 2015	Section 21 imposes a duty to prevent, eliminate or minimise biosecurity risk (noxious weeds).
Environmental Planning and Assessment Act 1979	The BSF must be operated in accordance with the Minister's approval.

Roles and Responsibilities

3.1 MANAGEMENT STRUCTURE

FS NSW Project No 1 AT Pty Ltd as trustee for FS NSW Project No 1 Asset Trust, as the owner of BSF, has ultimate responsibility to ensure all CoA are satisfied.

As the operator of BSF providing maintenance works under a Maintenance Services Agreement, FSA has responsibility to implement and adhere to the requirements of this OEMP.

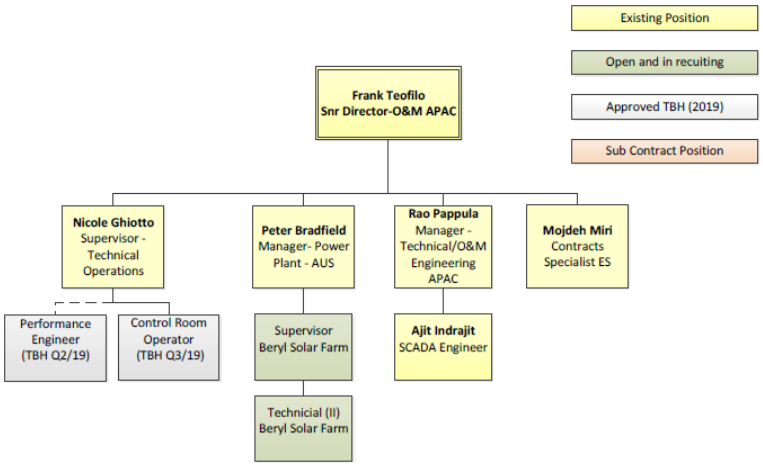

Figure 2: Management Structure

3.2 ROLES AND RESPONSIBILITIES

3.2.1 SUPERVISOR

FSA's Supervisor has responsibility to:

- implement and adhere to all requirements of this OEMP as they relate to on farm activities; and
- ensure that FSA employees and contractors are aware of and understand their environmental responsibilities required by this OEMP.

3.2.2 MANAGER POWER PLANT

FSA's Manager Power Plant has responsibility to:

- Ensure adequate resources are provided to implement the requirements of this OEMP;
- Participate in management reviews to monitor the effectiveness of the OEMP.

3.3 ENVIRONMENTAL DUE DILIGENCE INDUCTION

Prior to any person commencing operational activities on-farm they will be required to attend an Environmental Due Diligence induction. This induction will provide competency training on the scope and requirements of this OEMP.

Environmental Policy

First Solar (Australia) Pty Ltd's Health, Safety and Environmental Policy Statement is the principal environmental policy that will be applied in operating the BSF.

First Solar

Health, Safety and Environmental Policy Statement

First Solar is committed to creating a culture where HEALTH, SAFETY AND THE ENVIRONMENT is an integral part of all our employees and subcontractors daily lives, creating a better future for the world by being the HSE industry leader.

We will always conduct our business in a manner that protects the HEALTH AND SAFETY of every person on our sites and protects the ENVIRONMENT around us. We expect all personnel to undertake their work in a manner that does not place either themselves or their colleagues at risk.

We maintain a goal of zero workplace injuries, which is consistent with our vision and values that all workplace injuries are preventable.

To achieve this outcome we will:

- Conduct business in a manner that actively integrates the elements of the First Solar HEALTH, SAFETY AND ENVIRONMENTAL Management Systems into all aspects of our operations;
- Promote First Solar sustainability through ENVIRONMENTAL operational excellence, waste minimisation, resource conservation and a world-class recycling program;
- Comply with all applicable laws, regulations and statutory obligations;
- Proactively identify and control HEALTH, SAFETY AND ENVIRONMENTAL hazards and risks in the workplace;
- Support employees, contractors and subcontractors in their decision to stop work and intervene when unsafe acts or conditions are identified;
- Enable First Solar to continuously improve the HEALTH, SAFETY AND ENVIRONMENTAL management systems and our HSE performance through open communication and consultation with employees, clients, subcontractors and visitors;
- Provide the necessary tools, resources and training to facilitate continuous improvement, ensure the objectives and targets derived from this policy are achieved thereby ensuring HSE excellence throughout First Solar operations;
- Maintain proactive leadership in the management of HEALTH, SAFETY AND THE ENVIRONMENT.

9 January 2018

Endorsed By: Steven Jackson, Vice President APAC **Date**

Figure 3: First Solar (Australia) Pty Ltd - Policy Statement

Environmental Aspects

5.1 DEFINITION

Pursuant to definitions in the International Standard *ISO 14001* an environmental aspect is an element of FSA' services that interacts or can interact with the environment. FSA's services are to maintain and operate the BSF.

Changes to the environment, either adverse or beneficial, that result wholly or partially from environmental aspects are called environmental impacts.

FSA's environmental aspects and associated environmental impacts provide the focus and scope for its procedures and protocols to manage these impacts such that compliance with the Minister's approval can be achieved. Potential environmental impacts identified during the environmental assessment and planning approvals process form the basis for identifying FSA environmental aspects to be addressed in this OEMP.

5.2 ASPECTS/IMPACTS

Based on the above, and consideration of the CoA and MM, key environmental aspects relevant to FSA's operation of the BSF include:

- Visual amenity;
- Cultural heritage protection;
- Biodiversity values;
- Fuel load/groundcover management;
- Community engagement
- Waste minimisation

5.3 ENVIRONMENTAL OBJECTIVES

This OEMP identifies actions FSA will undertake to address its environmental aspects and compliance obligations through documenting environmental objectives as operational criterion, and specifying:

- standards and performance measures to be applied;
- the means by which environmental performance will be periodically monitored, reviewed and improved (where necessary); and
- what actions will be taken in the case that non-compliance with the requirements of the Minister's approval are identified.

These operational criteria are the management policies designed to ensure that environmental performance goals are met and the operation of the BSF comply with the Minister's Conditions of Approval.

Operational Criterion

6.1 VISUAL AMENITY

6.1.1 REQUIREMENTS

The Minister's approval obligates FS NSW Project No 1 AT Pty Ltd as trustee for FS NSW Project No 1 Asset Trust to implement visual impact mitigation measures.

Specifically, Schedule 3 Condition of Approval (CoA) 10 and 11 of the Minister's development consent states:

> ***Visual Impact Mitigation Measures***
>
> *10. The Applicant must establish and maintain a mature vegetation buffer around the site at the locations outlined in Appendix 1, to the satisfaction of the Secretary. These measures must:*
>
> *(a) be planted prior to commencement of operations;*
> *(b) consist of vegetation species that facilitate the best possible outcome in terms of visual screening;*
> *(c) be effective at screening views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction; and*
> *(d) be properly maintained and kept free of weeds.*
>
> ***Landscaping Plan***
>
> *11. Prior to the commencement of construction, the Applicant must prepare a detailed Landscaping Plan for the planting within the vegetation buffer in consultation with OEH and Council, to the satisfaction of the Secretary. The plan must:*
>
> *(a) include a description of measures that would be implemented to ensure that the vegetated buffer achieves the objectives of Schedule 3 condition 10 (b) – (d) of this consent:*
> *(b) include a program to monitor and report on the effectiveness of these measures; and*
> *(c) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.*
>
> *Following the Secretary's approval, the Applicant must implement the Landscaping Plan.*

In addition to the above, CoA 9 states:

> *9. For a period of 3 years from the commencement of construction, the owner of Lot 59 DP755434 may ask the Applicant to implement visual impact mitigation measures on their land to minimise the visual impacts of the development on their residence (including its curtilage).*
>
> *Upon receiving a written request from the owner, the Applicant must implement appropriate mitigation measures (such as landscaping and vegetation screening) in consultation with the owner.*
>
> *These mitigation measures must be reasonable and feasible, aimed at reducing the visibility of the solar panels and ancillary infrastructure from the residence and its curtilage, and commensurate with the level of visual impact on the residence.*
>
> *All mitigation measures must be implemented within 12 months of receiving the written request, unless the Secretary agrees otherwise.*
>
> *Notes: To avoid any doubt, mitigation measures are not required to be implemented to reduce the visibility of the solar panels and ancillary infrastructure from nay locations on the property other than the residence and its curtilage.*

6.1.2 LANDSCAPING PLAN

The strategy inherent in the approved *Landscaping Plan* is that suitable species selection, optimal planting technique and timing, and appropriate maintenance are the best measures to establish a vegetated buffer that will be effective at screening views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction.

As it relates to the operational phase of the BSF, the approved *Landscaping Plan* identifies maintenance and monitoring requirements relevant to this OEMP. Detail of these is provided below.

6.1.3 SCREEN PLANTING MAINTENANCE

6.1.3.1 Overview

While the vegetative screening must be maintained for the life of the BSF, the scope and frequency of maintenance activities should diminish over time. Appropriate species selection, bed preparation, planting technique and suitable early maintenance during the plantings' establishment phase will reduce longer term maintenance requirements.

6.1.3.2 Initial Three Years

The development consent requires that the landscaping be effective at screening views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction. To ensure optimum survival and facilitate healthy growth, the plantings will be maintained for the first three (3) years as detailed below.

Scheduled Inspections

Frequency

Regular scheduled inspections will be undertaken to assess watering, fertilising and weeding requirements. These inspections will also assess plant losses and tree guard integrity.

Four (4) inspections will be undertaken in the first 12 months of planting, dropping to three (3) inspections each year for the following two years. Seasonal conditions will determine the actual timing of these inspections.

Parameters Monitored

Monitoring over the initial three years from planting will include:

- Planting mortality rates
- Tree guard integrity
- Soil fertility
- Soil moisture levels
- Plant health and growth rates

Photographic Record

Each of these maintenance inspections will be complemented with site photographs that will record growth rates and screening effectiveness.

Mortality Replacement

Mortalities greater than 10% or gaps greater than 5 m will be replaced within the first 3 years.

Table 6.1 provides a list of tree and shrub species that will be used. These species are part of the Plant Community Type (PCT 281) *Rough-Barked Apple Red Gum Yellow Box woodland on alluvial clay to loam soils on valley flats in the NSW South Western Slopes and Brigalow Belt South Bioregions* identified in the locality. They are relatively fast growing, are representative of the communities endemic to locality and will offer a diversity of growth characteristics (such as density and height at maturity) to avoid a continuous dense 'hedge' effect.

Table 6.1 – Landscape Species

Scientific Name	Common Name	Maximum Height (m)	Minimum Spacing (m)
Overstorey Species			
Eucalyptus floribunda	Rough-barked apple	30	6
Eucalyptus blakelyi	Blakely's Red Gum	20	6
Eucalyptus melliodora	Yellow Box	30	6
Callitris endlicheri	Black Cypress Pine	20	2-3
Callitris glaucophylla	White Cypress Pine	20	2-3
Midstorey Species			
Acacia decora	Western Silver Wattle	4	1
Acacia gladiiformis	Sword Wattle	3	1-2
Acacia implexa	Hickory Wattle	12	2-3
Acacia leiocalyx	Black Wattle	6	1-2
Acacia pennivervis var. pennivervis	Mountain Hickory	8	2-3
Acacia sertiformis	Curvy Leaved Wattle	2	1
Acacia ulicifolia	Prickly Moses	2	1
Acacia uncinata	Round-leaved wattle	2.5	1
Bursaria spinosa subsp. spinosa	Blackthorn	10	2-3
Cassinia quinquefaria	Wild Rosemary	3	1-2
Exocarpos cupressiformis	Cherry Ballart	8	2-3
Geijera parviflora	Wilga	10	2-3
Grevillea floribunda	Seven Dwarfs Grevillea	2	1-2
Notalaea macrocarpa var. microcarpa	Native Olive	10	2-3

Where possible tube stock of local provenance that is genetically adapted to the local environment will be sourced. If a particular species is not available at the time of planting a close approximate species will be chosen in replacement.

Soil Testing

Soil testing will be recorded and repeated at 12 months and 24 months at the same locations to ensure that if any changes occur to soil makeup over the time, that fertiliser and micro nutrient levels (if required) can be adjusted accordingly.

Sub surface moisture

Sub surface moisture levels will be checked to determine whether additional watering is required.

Weed Treatment

Noxious weeds will be spot sprayed or, dependent on the weed and extent of infestation, chipped/pulled.

Plant Growth and Health

Plant health will be checked for stress indicators (disease and pest problems).

6.1.3.3 Contingency Plan

Four (4) scheduled inspections are to be undertaken in the first 12 months from planting.

Should drought conditions persist during the establishment period, the number of scheduled inspections will be increased and supplementary watering and fertilising be undertaken should it be required.

6.1.3.4 Ongoing

Following the intense maintenance undertaken during the initial three (3) years after initial planting, monitoring of the vegetative screen would be undertaken annually and be restricted to weed control, mortality and replacement, and general check on vegetation health.

For the life of the BSF all screen planting mortalities would be replaced.

6.1.4 PERFORMANCE REPORTING

6.1.4.1 Internal Reporting

Each of the maintenance inspections will be documented and complemented with photographs taken at the time of inspection. Documentation will include observations and findings, along with recommendations for any specific maintenance tasks required, including timeframes for when these tasks need to be completed. These records form a key component of the approved Landscaping Plan and will be held to ensure (and demonstrate) measures specified in the Landscaping Plan are implemented and that the landscape plantings are effective in meeting their visual mitigation objective.

6.1.4.2 External Reporting

Six (6) monthly evaluation reports will be prepared and submitted to DPE throughout the first two (2) years of the screen planting's life.

These evaluation reports will assess the health and growth of the landscape plantings and identify the need for (and detail of) any targeted enhanced landscaping techniques.

In terms of monitoring and reporting on the success of the landscape plantings, these performance evaluation reports will provide an assessment of the health and growth of the plantings and assess anticipated compliance against the 3 year performance objective of breaking up views of the BSF infrastructure. Where non-compliance is identified as a possibility, the evaluation reports will provide a targeted strategy for rectification.

6.1.5 AS-BUILT VERIFICATION

A Mitigation Measure that forms part of the development consent is to address the 'as-built' visual impacts of the BSF. Specifically:

> *A post construction audit would be undertaken to assess the effectiveness of the screening layout with reference to the final constructed infrastructure and augment the former as required.*
>
> *Involvement of the most affected landowners (relevant to medium impact view locations). This may include increased onsite planting density in specific locations suggested by the landowners (for example, where the proposed solar farm would be visible from outdoor recreational areas).*
>
> *Verification of predicted and actual impacts. This would improve the reliability of the measures and provide a trigger to undertake additional mitigation if required.*

Pursuant to the above an 'as-built' visual impact verification will be undertaken three years after construction commencement (ie. August 2021). This process will include consultation with those four (4) landowners identified in the Environmental Impact Statement (ngh, 2017) as having 'medium impact view locations'.

If and as required, additional plantings will be undertaken within the established vegetation screening buffer, and or as additional rows of plantings at select locations, to provide for increased planting density and/or visual impact mitigation.

6.1.6 KEY MILESTONES AND ACTIONS

Table 6.2 – Milestone Timeframes

Timeframe	Commitment
August 2018	Construction start
March 2019	Plantings undertaken
In the first year after planting	Four scheduled inspections (with a contingency plan to increase the number of inspections if drought conditions persist during the establishment period).
For both the 2nd and 3rd year after planting	Three scheduled inspections
For the first two years after planting	Six (6) monthly evaluation reports submitted to DPE
August 2021	Effective screening of BSF infrastructure/'As-built' verification audit
Ongoing for life of farm	Annual inspections

6.2 CULTURAL HERITAGE PROTECTION

6.2.1 INTRODUCTION

A *Cultural Heritage Management Plan* (CHMP) has been approved for the BSF (OzArk, 2018).

The purpose of the CHMP was to synthesise the Minister's development consent conditions and the mitigation measures pertinent to the management of recorded Aboriginal and historical heritage sites over the BSF for both the construction and operation phases of the BSF. The CHMP was developed in consultation with registered Aboriginal community stakeholders and the NSW Office of Environment and Heritage (OEH).

The CHMP provides information and actions required to:

- Protect both identified and unidentified Aboriginal cultural heritage and historical heritage from damage or harm;
- Ensure that in the event that Aboriginal cultural heritage cannot be protected that appropriate management, such as salvage and storage of Aboriginal cultural heritage material occurs;
- Ensure that effective and open consultation with the Wiradjuri people occurs with the registered Aboriginal stakeholders.

6.2.2 REGISTERED ABORIGINAL PARTIES

Four groups have registered their interest in the BSF.

- Buudang
- Murong Gialinga Aboriginal & Torres Strait Islander Corporation
- Warrabinga Native Title Claimants Aboriginal Corporation
- Wellington Valley Wiradjuri Aboriginal Corporation

The Mudgee Local Aboriginal Land Council (LALC) is also a stakeholder.

6.2.3 HERITAGE RESOURCE

Consistent with the Minister's consent requirement five recorded Aboriginal sites have been salvaged and the artefacts relocated in accordance with OEH guidelines and in consultation with the Registered Aboriginal Parties (RAP).

The selection of the relocation site was based on picking a location that will not undergo development impact and will be conserved into the future. Following salvage all artefacts from these sites are now located at Beryl Solar Farm – Salvaged Artefact Relocation (AHIMS #36-2-0493).

Table 6.3 – Relocation Site

AHIMS	Site Name	GDA Zone 55 Easting	GDAS Zone 55 Northing	Site Description
36-2-0493	Beryl Solar Farm – Salvaged Artefact Relocation	731024	6417553	Artefacts are relocated in an area along the southern boundary of project site, approximately 40m northeast of Spring Ridge Road.

6.2.4 MANAGEMENT MEASURES

6.2.4.1 Induction Training

Members of the operation team, including sub-contractors, will undergo site inductions concerning cultural heritage issues prior to working on the site. This induction should inform workers/contractors of:

- the location of reburied Aboriginal artefacts within the BSF and measures for their protection;
- the legislative protection for all Aboriginal objects under Section 90 of the NSW *National Parks and Wildlife Act 1974*;
- what specific controls are in place to manage potential Aboriginal sites within the BSF;
- the management to be afforded the railway embankment through the site; and
- the protocol to be followed should farming implements be found.

Such inductions assist greatly in avoiding inadvertent impact to Aboriginal and Historic sites by improving the site specific heritage knowledge of the workers on site.

6.2.4.2 Aboriginal Site Protection

To ensure that the location where the artefacts collected during the salvage were placed is not inadvertently impacted during operation of the Beryl Solar Farm, the following mitigation measures have been employed:

- The area where the artefacts from the five salvaged sites were relocated to has been permanently fenced. The fencing is clearly visible and signed with 'Do Not Enter'.
- Employees and contractors will be made aware of the presence of the relocated Aboriginal artefact location during site inductions and training.

6.2.4.3 Due Diligence

- Any alterations to the development footprint that extend beyond the study area surveyed during the Aboriginal heritage field program will require assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*.

6.2.4.4 Historic Heritage

To ensure best practice historic heritage management during operation of the BSF, the following mitigation measures will be employed:

- Ensure that any maintenance activities required along the railway embankment that runs through the site are undertaken with the aim of preserving this embankment as far as possible, and minimise impacts as far as practicable.
- Should an item of historic heritage be identified, the Heritage Division (OEH) would be contacted prior to further work being carried out in the vicinity, and the Unanticipated Finds Protocol will be followed.

6.2.4.5 Unanticipated Find Protocols

Aboriginal

An Aboriginal artefact is anything which is the result of past Aboriginal activity. This includes stone (artefacts, rock engravings etc.), plant (culturally scarred trees) and animal (if showing signs of modification; i.e. smoothing, use). Human bone (skeletal) remains may also be uncovered.

Cultural heritage significance is assessed by the Aboriginal community and is typically based on traditional and contemporary lore, spiritual values, and oral history, and may also take into account scientific and educational value.

Protocol to be followed in the event that previously unrecorded or unanticipated Aboriginal object(s) are encountered:

1. If any Aboriginal object is discovered and/or harmed in, or under the land, FSA (or its sub-contractors) must:

    a. Not further harm the object;
    b. Immediately cease all work at the particular location;
    c. Secure the area so as to avoid further harm to the Aboriginal object;
    d. Notify OEH as soon as practical on 131 555, providing any details of the Aboriginal object and its location; and
    e. Not recommence any work at the particular location unless authorised in writing by OEH.

2. In the event that Aboriginal burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.

3. Cooperate with the appropriate authorities and relevant Aboriginal community stakeholders to facilitate:

    a. The recording and assessment of the find(s);
    b. The fulfilment of any legal constraints arising from the find(s), including complying with OEH directions; and
    c. The development and implementation of appropriate management strategies, including consultation with stakeholders and the assessment of the significance of the find(s).

4. Where the find(s) are determined to be Aboriginal object(s), recommencement of work in the area of the find(s) can only occur in accordance with any consequential legal requirements and after gaining written approval from OEH.

Historic

A historic artefact is anything which is the result of past activity not related to the Aboriginal occupation of the area. This includes pottery, wood, glass and metal objects as well as the built remains of structures, sometimes heavily ruined.

Heritage significance is assessed by suitably qualified archaeologists who place the item or site in context and determine its role in aiding the community's understanding of the local area, or their wider role in being an exemplar of State or even National historic themes.

Protocol to be followed in the event that previously unrecorded or unanticipated historic object(s) are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately the finds are uncovered.

    a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted; and
    b) The site supervisor will be informed of the find(s).

2. If finds are suspected to be human skeletal remains, then NSW Police must be contacted as a matter of priority, and contact with OEH should follow.

3. If there is substantial doubt regarding the historic significance for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be significant. If a quick opinion cannot be gained, or the identification is that the item is likely to be significant, then proceed to the next step.

4. Immediately notify OEH (Heritage Branch) of the discovery:

5. Facilitate, in co-operation with the appropriate authorities:

    a) The recording and assessment of the finds;
    b) Fulfilling any legal constraints arising from the find(s). This will include complying with OEH directions; and
    c) The development and conduct of appropriate management strategies. Strategies will depend on consultation with stakeholders and the assessment of the significance of the find(s).

6. Where the find(s) are determined to be significant historic items, any re-commencement of construction related ground surface disturbance may only resume in the area of the find(s) following compliance with any consequential legal requirements and gaining written approval from OEH.

6.3 BIODIVERSITY VALUES

6.3.1 REQUIREMENTS

Schedule 3 CoA 15 states:

> ***Biodiversity Management Plan***
>
> *15. Prior to the commencement of construction, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with OEH, to the satisfaction of the Secretary. This plan must:*
>
> *(a) include a description of the measures that would be implemented for:*
>
> - *managing the remnant vegetation and fauna habitat on site;*
> - *minimising clearing and avoiding unnecessary disturbance associated with the construction and operation of the development;*
> - *minimising the impacts to fauna on site (including fauna interaction with perimeter fencing) and implementing fauna management protocols;*
> - *rehabilitating and revegetating temporary disturbance areas;*
> - *protecting vegetation and fauna habitat outside the approved disturbance areas;*
> - *maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the enhancement of the offset area or the rehabilitation of the site;*
> - *controlling weeds and feral pests*
>
> *(b) include a seasonally-based program to monitor and report on the effectiveness of these measures; and*
>
> *(c) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.*
>
> *Following the Secretary's approval, the Applicant must implement the Biodiversity Management Plan.*
>
> *Note: If the biodiversity offset area is conserved via a Biobanking Agreement, then the Biodiversity Management Plan does not need to include any of the matters that are covered under the Biobanking Agreement*.

6.3.2 VALUES AND IMPACTS

The BSF Biodiversity Assessment Report (BAR) (ngh Environmental 2017) identified the biodiversity values and impacts of the project and comprise:

- 0.99 ha of PCT 281 Rough-barked Apple – Red Gum – Yellow Box Woodland on alluvial clay to loam soils on valley flats in Moderate/good condition (**Zone 2** in ngh Environmental 2017);
- 12.6 ha of PCT 281 Rough-barked Apple – Red Gum – Yellow Box Woodland on alluvial clay to loam soils on valley flats in Low condition (**Zone 3** in ngh Environmental 2017);
- 64.3 ha of PCT 281 Rough-barked Apple – Red Gum – Yellow Box Woodland on alluvial clay to loam soils on valley flats in Low (derived grassland) condition (Zone 4 in ngh Environmental 2017); and
- 63 ha of non -assessed sown pasture.

Zones 2 and 3 (refer **Figure 4** - sourced from the approved *Biodiversity Management Plan*) represent the endangered ecological community (EEC) White Box-Yellow Box-Blakely's Red Gum Woodland listed under the *NSW Biodiversity Conservation Act 2016* (BC Act). Areas of the community which meet the listing criteria for the critically endangered ecological community (CEEC) White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are located outside of the development footprint. No impacts to the EPBC Act listed CEEC will occur.

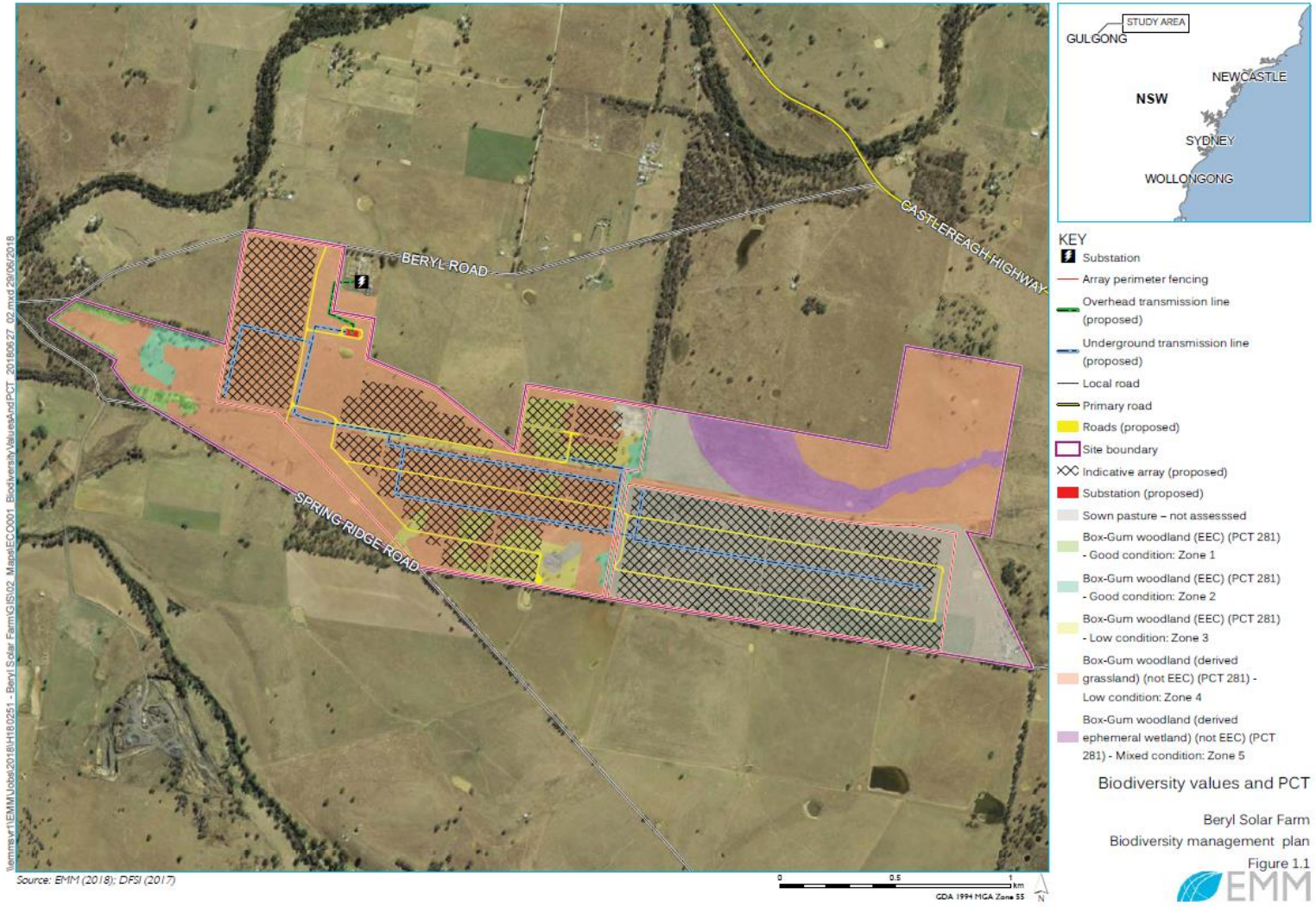

Figure 4: Biodiversity Values and Plant Community Types

Consideration has been given to avoiding and minimising impacts to biodiversity. The layout has been revised and excludes impacts on higher value EPBC Act listed Box-Gum Woodland CEEC on the project site western corner and most of the higher value EEC associated with the site's central laneway north-south. Areas of derived ephemeral wetland in the north-east section of the site are also now avoided. Residual impacts are mostly in low condition EEC. The low condition EEC has limited potential for regeneration after a long history of grazing; only one tree species is present in low abundance and this is not dominant species of the EEC. Groundcover vegetation is highly modified with a low percentage of native species.

As a result of these measures to avoid and minimise impacts, residual impacts requiring offsets have been limited to 0.99 ha of 16.14 ha of PCT 281 in Moderate/good condition and 16.14 ha of PCT 281 in Low condition. Impacts to 95.04 ha of PCT 281 in Low (derived grassland) condition do not require offsets due to their site value score. The total credit requirement for the project is 684 credits.

Also as a result of the measures to avoid and minimise impacts, significant areas of native vegetation will be retained. Areas of retained native vegetation contain potential habitat for a number of threatened species.

6.3.3 MANAGEMENT ZONES

As it pertains to biodiversity protection, two management zones (refer **Figure 5**) were designated in the project area:

1. groundcover re-establishment zone – the solar farm footprint; and
2. retained vegetation zone – areas of retained vegetation.

The groundcover re-establishment zone is the area cleared for installation of the solar array, and adjacent construction areas, and which will be re-established following construction. The management objectives of the groundcover re-establishment zone are to:

- ensure sensitive removal of native vegetation, minimising clearing and impacts to native fauna;
- restore ground cover in the solar farm footprint to prevent erosion as soon as practicable and within 12 months following the completion of construction, using suitable species; and
- maintain the restored groundcover and keep it free of weeds.

The retained vegetation zone includes all areas of retained vegetation, outside of the solar array, which will be retained. The management objectives of the retained vegetation zone are to:

- manage and protect remnant vegetation and fauna habitat;
- minimise vegetation and habitat clearing and disturbance; and
- control weeds.

6.3.4 MANAGEMENT MEASURES AND IMPLEMENTATION

6.3.4.1 Retained Vegetation

The following measures will be implemented for the protection of the retained vegetation zone:

- maintenance of the perimeter fence for long term protection of retained vegetation outside the fence; and
- restriction of entry to the retained vegetation zone (ie. only for the purposes of environmental monitoring and weed management).

Weed inspections will be conducted in this area to identify any priority and/or invasive weeds and conduct weed control as appropriate.

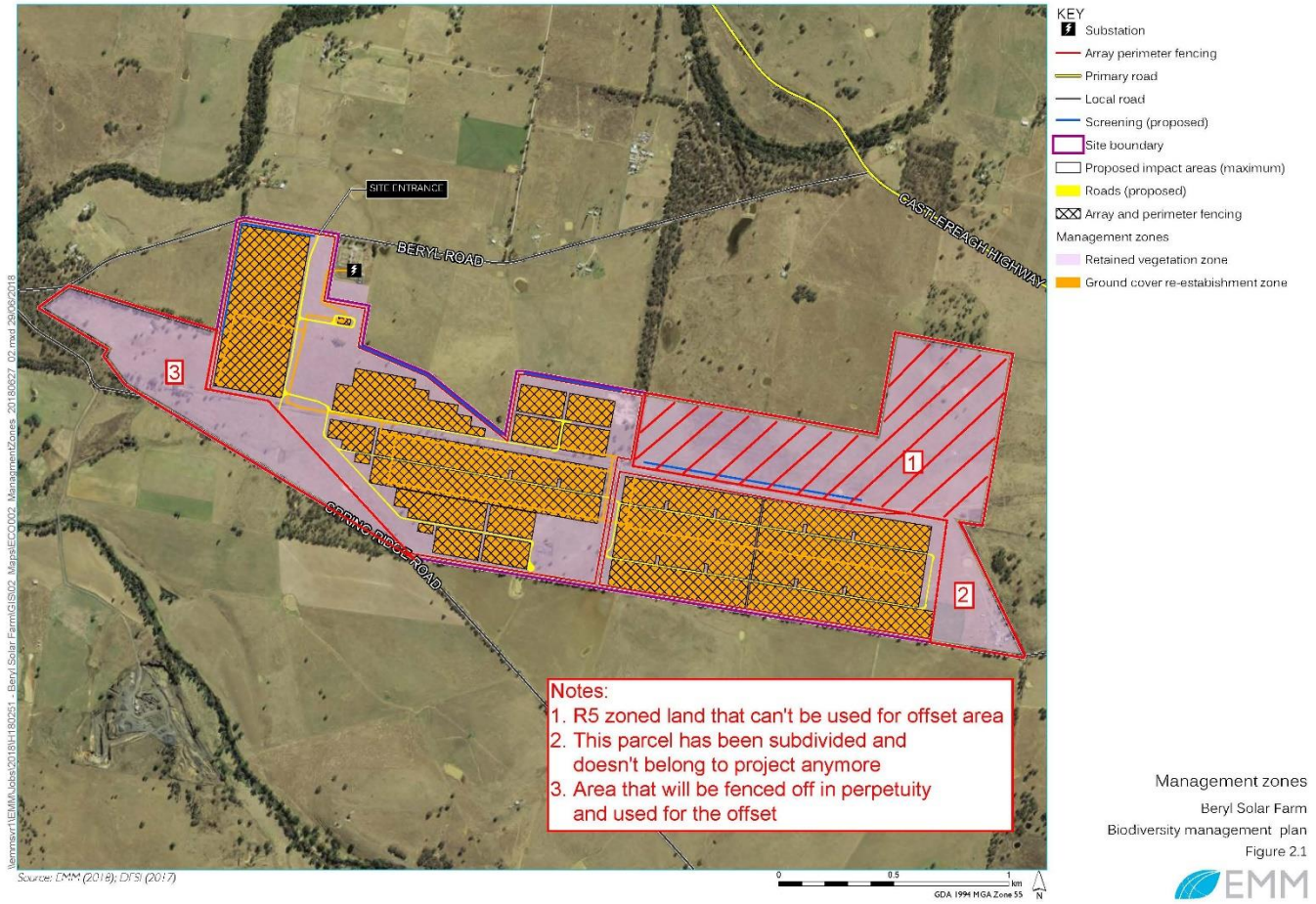

Figure 5: Biodiversity Management Zones

6.3.4.2 Control of Introduced Species

Flora

A total of 74 exotic and non-indigenous flora species were identified by ngh Environmental (2017) as occurring within the BSF project area. None of these species are identified as priority weeds in the *Central Tablelands Regional Strategic Weed Management Plan* (LLS 2017).

Quarterly weed monitoring will be undertaken during the first year following completion of construction. This will be followed by biannual monitoring each year during operation. This will comprise of traverses across vegetation screens forming the landscape screen plantings, and groundcover re-establishment zones, as well as opportunistic observations. If significant weed outbreaks, defined as a greater than 20% cover of priority weeds (LLS 2017) in any strata, are identified, controls will be undertaken following best practise methods by a qualified bush regeneration contractor.

As outlined above, the retained vegetation zone will be passively managed. No weed monitoring is proposed in this area.

Fauna

A total of five introduced vertebrate pest species were identified as occurring within the Beryl Solar Farm site. There include the Common Starling (*Sturnus vulgaris*), Rock Dove (*Columba livia*), Hare (*Lepus europaeus*), European Rabbit (*Oryctolagus cuniculus*) and the European Red Fox (*Vulpes vulpes*).

Quarterly feral species monitoring will be undertaken within the solar farm and in retained vegetation zone during the first year following completion of construction, and biannually each year during operation. Monitoring will consist of visual inspections for signs of introduced fauna species, focusing on the Hare and European Rabbit. If significant introduced fauna species outbreaks are identified, controls will be undertaken. Best practise methods include the biannual inspection, ripping and rehabilitation of rabbit and hare warrens as detected.

Table 6.5 provides a summary of the management measures, their relevant objectives, monitoring requirements, performance criteria and corrective actions and a timeframe for their implementation.

Table 6.4 – Biodiversity Management Measures and Implementation

Management Objective	Monitoring	Performance Criteria and Corrective Actions	Management Zone
Establishment of vegetation screen			
Manage weed outbreaks	Quarterly weed monitoring during the first year following completion of construction followed by bi-annual monitoring each year during operation	Exotic plant cover does not exceed pre-construction weed cover of 90% (as derived from ngh Environmental 2017). Weed control conducted as necessary.	Vegetated screen plantings
Minimisation of fauna impact			
Manage and protect remnant vegetation and fauna habitat.	Biannual fencing inspections for the first 6 years during project operation.	Permanent fence is in good working order with any damage observed during inspections repaired.	Retained native vegetation
Control weed outbreaks	Quarterly weed monitoring during the first year following completion of construction followed by biannual monitoring each year during operation. Monitoring will comprise traverses across the management zone and removal of identified weeds as per best practice methods.	Exotic plant cover does not exceed pre-construction weed cover of 40% (Zone 1), 82% (Zone 2) or 48% (Zone 5) (as derived from ngh Environmental 2017). Weed control conducted as necessary.	Retained native vegetation
Restoration and maintenance of groundcover			
Restore ground cover in the solar farm footprint as soon as practicable and within 12 months following the completion of construction, using suitable species.	Monitor grass for mortality during establishment in 20 m x 50 m nested plots. The groundcover monitoring method follows Section 5.3.2 of the Framework for Biodiversity Assessment. Plots will be undertaken during each monitoring event in the groundcover re-establishment zone. The location and number of plots has been determined based on areas requiring clearing and removal of topsoil, and resultant requirements for restoration of groundcover. The plots will record the percent cover of native and exotic vegetation. The plots are 50 m x 20 m. A 20 m x 20 m quadrat is positioned within this larger plot. Marker pegs will be positioned at the top-middle of the plot to establish a permanent plot position. GPS coordinates will be recorded to ensure monitoring plots can be relocated over time. The 20 m x 20 m quadrat will record details of the groundcover structure including composition and percent cover of native/exotic species. The 50 m transect will assess the projected cover of the grasses at 50 points (ie each 1 m). Monitoring will be undertaken quarterly during the first twelve months following seed application. Monitoring frequency for the second year will be defined based on results of assessment of performance criteria at the end of the first year.	Re-establishment a predominantly native, groundcover. Overall groundcover post restoration should target 60% to limit and prevent erosion (25% native groundcover, based on values from ngh Environmental 2017). This should be achieved within two years or two growing seasons (whichever is greater) of groundcover restoration being completed. Measures to ensure success may include supplementary watering, if below average rainfall occurs. As a contingency measure, if required, a sterile non-native crop will be used to establish groundcover and overplanted by native seed mix.	Groundcover re-establishment

Table 6.4 – Biodiversity Management Measures and Implementation

Management Objective	Monitoring	Performance Criteria and Corrective Actions	Management Zone
Maintain the restored groundcover and keep it free of weed outbreaks.	Quarterly weed monitoring during the first year following completion of construction followed by bi-annual monitoring each year during operation.	Exotic plant cover does not exceed pre-construction weed cover of 90% (as derived from ngh Environmental 2017). Weed control conducted as necessary.	Groundcover re-establishment
Management of remnant vegetation and fauna habitat			
Manage and protect remnant vegetation and fauna habitat.	Biannual fencing inspections for the first 6 years during project operation.	Permanent fence is in good working order with any damage observed during inspections repaired.	Retained native vegetation
Control weed outbreaks.	Quarterly weed monitoring during the first year following completion of construction followed by biannual monitoring each year during operation. Monitoring will comprise traverses across the management zone and removal of identified weeds as per best practice methods.	Exotic plant cover does not exceed pre-construction weed cover of 40% (Zone 1), 82% (Zone 2) or 48% (Zone 5) (as derived from ngh Environmental 2017). Weed control conducted as necessary.	Retained native vegetation
Protection of vegetation and fauna habitat outside approved disturbance area			
Manage and protect remnant vegetation and fauna habitat.	Biannual fencing inspections for the first 6 years during project operation	Permanent fence is in good working order with any damage observed during inspections repaired.	Retained native vegetation
Control weed outbreaks	Quarterly monitoring during the first year following completion of construction followed by biannual monitoring each year during operation. Monitoring will comprise traverses across the management zone and removal of identified weeds as per best practice methods.	Area is free of all weed outbreaks with weed control conducted as necessary.	Retained native vegetation
Control of introduced species			
Control weed outbreaks.	Quarterly weed monitoring during the first year following completion of construction followed by biannual monitoring each year during operation. Monitoring will comprise traverses across the management zone and removal of identified weeds as per best practice methods. Opportunistic observations of weeds.	Exotic plant cover does not exceed pre-construction weed cover of 40% (Zone 1), 82% (Zone 2), 90% (Zone 4) or 48% (Zone 5) (as derived from ngh Environmental 2017). Priority weed species (LLS 2017) do not exceed 20% in any strata of the native vegetation communities. Weed control conducted as necessary.	Groundcover re-establishment Retained native vegetation
Control introduced fauna species	Quarterly introduced fauna species monitoring during the first year following completion of construction followed by biannual monitoring each year during operation. Monitoring will consist of visual inspections for signs of introduced fauna species, focusing on the Hare and European Rabbit. If significant introduced fauna species outbreaks are identified, best practise controls will be undertaken	Introduced fauna species do not reach outbreak levels within any zones in or surrounding construction and operation.	Groundcover re-establishment Retained native vegetation

6.3.5 INDUCTIONS

The above requirements relating to the management zones and objectives and the requisite measures to achieve them will be communicated to all staff and contractors undertaking maintenance works on-site.

6.3.6 MONITORING AND REPORTING

Performance criteria have been set for each management measure to determine if these have been satisfactorily achieved. The monitoring measures described in **Table 6.4** must be implemented and reported annually. Records must be kept to document the dates, methods and outcomes of the management measures.

A report will be submitted to the DPE and OEH 12 months following the completion of construction. This report will assess the efficacy of the management measures implemented against the relevant biodiversity performance criteria. A second report will be submitted 24 months following the completion of construction. If performance criteria have been achieved, no further reporting will be undertaken.

6.3.7 RETIREMENT OF BIODIVERSITY CREDITS

Schedule 3 CoA 13 and 14 state, respectively:

> ***Retirement of Credits***
>
> *13. Within two years of commencing development under this consent. unless otherwise agreed by the Secretary, the Applicant must retire biodiversity credits of a number and class specified in Table 1 below to the satisfaction of OEH.*
>
> *The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offsets Policy for Major Projects, and can be achieved by:*
>
> *(a) acquiring or retiring credits under the Biobanking Scheme in the Threatened Species Conservation Act 1995;*
> *(b) making payments into an offset fund that has been developed by the NSW Government; or*
> *(c) providing supplementary measures.*
>
> ***Table 1 – Ecosystem Credit Requirements***

Vegetation Community	*PCT Number*	*Credits Required*
Rough-Barked Apple- Red Gum- Yellow Box woodland on alluvial clay to loam soils on valley flats in the NSW South Western Slopes and Brigalow Belt South Bioregions (CW111)	*281*	*684*

> *14. The Applicant must not use any land zoned R5 - Large Lot Residential on Lot 20 DP 1173059 as an offset to retire the required biodiversity credits specified in Table 1.*

In the absence of definitions in the consent, the date of 'commencing development' is assumed to be the date advised in the notification made to the DPE prior to commencement of construction consistent with CoA 8 Schedule 2. As such the date of 'commencing development was 7 August 2018.

It is understood that First Solar is currently investigating the use of parts of the retained vegetation zone as an offset, as well as other measures such as retirement of suitable credits from an off-site BioBank site, payment into the Biodiversity Conservation Fund or supplementary measures. Until this matter is resolved, consistent with the approved Biodiversity Management Plan (EMM, August 2018) areas of retained vegetation will be fenced off and passively managed.

The following is also noted. **Figure 5** is sourced from the approved *Biodiversity Management Plan* (EMM, August 2018) with annotated notes reflecting constraints and developments relevant to the offset area. Specifically,

> **Note 1**: Pursuant to the Minister's approval, land zoned R5 - Large Lot Residential can not be used as an offset area.
>
> **Note 2**: Land in the south east corner of the development site has been sub-divided and does not belong to the BSF anymore.
>
> **Note 3**: The only area of the development site proposed to be fenced off in perpetuity and used for the offset is in the south west of the BSF site.

Contingent on the outcome of the credit retirements, the management requirements of the retained vegetation zone would change if this area is to be utilised for the offsetting. This outcome would necessitate updating this section of the OEMP.

6.4 BUSHFIRE HAZARD REDUCTION

6.4.1 OBJECTIVE

In operating the BSF FSA's objectives relating to bush fire management are to minimise ignition risks.

6.4.2 RISK MANAGEMENT

6.4.2.1 Fuel Reduction

The fuel load over the farm will be monitored in the lead up to bushfire season and reduction measures will be implemented as required. These measures will include grazing and/or mechanical slashing.

Asset protection zones (APZs) based on the NSW policy document *Planning for Bushfire Protection*, will be maintained around the BSF,.

6.4.2.2 Work Practices

- No burning of vegetation will take place on the BSF site.
- In bushfire season all vehicle and plant movements beyond formed roads and trafficable hard stand areas will be restricted to diesel vehicles and fitted with hand held fire extinguishers.
- Total Fire Ban rules will be adhered to. That is, FSA will not:
  - drive or use any motorised machine unless the machine is constructed so that any heated areas will not come into contact with combustible matter;
  - carry out Hot Works (e.g. welding operations or use an angle grinder or any other implement that is likely to generate sparks), unless FSA has the necessary exemption from the NSW RFS Commissioner and complies with all requirements specified in the exemption.

6.4.2.3 Fire Fighting Equipment

Appropriate firefighting equipment will be provided in the maintenance building, including portable fire extinguishers and protective clothing.

6.5 EMERGENCY RESPONSE

6.5.1 REQUIREMENT

The Minister's consent requires that an Emergency Response Plan (ERP) be prepared in consultation with the Rural Fire Service (RFS) and Fire and Rescue NSW (FRNSW) prior to commencement of operations. CoA Schedule 4 (28) requires:

> ***Emergency Response Plan***
> *Prior to the commencement of operations, the Applicant must prepare an Emergency Response Plan for the development in consultation with the RFS and Fire & Rescue NSW. This plan must identify the fire risks and controls of the development, and the procedures that would be implemented if there is a fire on site or in the vicinity of the site. Two copies of the plan must be kept on site in a prominent position adjacent to the site entry point at all times.*

6.5.2 EMERGENCY MANAGEMENT COMMITTEE

Following preparation of the ERP and prior to commencing operations, FSA will notify the relevant Local Emergency Management Committee (LEMC).

6.6 COMMUNITY ENGAGEMENT

6.6.1 ACCESS TO INFORMATION

FSPL will keep the local community and relevant agencies informed about the operation and environmental performance of the development by providing up to date information on the BSF on its dedicated website: http://www.firstsolar.com/en-AU/Resources/Projects/Beryl-Solar-Farm

6.6.2 WEBSITE

The BSF website will make the following information publicly available as relevant to the stage of the development:

- Environmental Impact Statement.
- Final layout plans for the development;
- Current statutory approvals for the development.
- Proposed staging plans for the construction, operation or decommissioning (if relevant).
- How complaints about the development can be made;
- A complaints register.
- Any other matter required by the Secretary.

6.7 WASTE MINIMISATION

6.7.1 HOUSEKEEPING

- General Solid Waste (non-putrescible and putrescible) associated with the on-site presence of maintenance personnel will be stored in a secure 240 L wheelie bin near the maintenance building and disposed of.
- No waste will be received on the farm.
- No burning of any waste type, including vegetation will be undertaken on farm.
- No burial of any waste materials will be undertaken on farm.

6.7.2 CLASSIFICATION

No potentially hazardous material is expected to be generated from operations. FSA will ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with the EPA's (2014) *Waste Classification Guidelines* before it is removed from the farm.

6.7.3 RECYCLING

Equipment that is replaced as the farm infrastructure ages will, where possible, be recycled.

6.7.4 WASTE TRACKING

All wastes, including recyclable materials, from the farm's operation will be tracked using a Waste Register. All waste/recyclable material transported off-site will be recorded.

This register will record the following information:

- Date the load departed site;
- A description of the waste/recyclable material in the load.
- Clarification whether the material is to be recycled or whether it is a waste to be disposed off.
- If a waste for disposal, the waste classification.
- The quantity of material (either tonnage or volume).
- Its destination.
- The freight company transporting the material.

6.8 DANGEROUS GOODS

6.8.1 HAZARDOUS GOODS STORAGE

Potentially hazardous materials will be stored in secure containers with appropriate signage and Safety Data Sheets (SDS) will be held on-site.

Hazardous goods and combustible liquids will be stored and handled in accordance with:

- all relevant Australian Standards;
- a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bud; and
- the EPA's *Environment Protection Manual Technical Bulletin Bunding and Spill Management*.

6.8.2 SPILL RESPONSE KIT

An appropriately sized spill kit will be provided on-site.

6.8.3 SPILL RESPONSE PROCEDURE

In the event of a spill the following procedures would be followed.

- The spill will be contained utilising a spill kit;
- Impacted soil will be scraped to a depth where there is no visible contamination staining, and material placed in a secure covered receptacle;
- The soil will have samples analysed to establish the waste classification; and
- The material will be transported and disposed of at a waste facility legally permitted to accept the material.
- An Environmental Incident Report will be completed for any spill occurrence.

6.8.4 PLANT MAINTENANCE

No higher risk maintenance works (eg. oil changes) of maintenance plant and equipment will be undertaken on-site.

6.8.5 BUNDED INFRASTRUCTURE

Bunded infrastructure will be routinely monitored to ensure that volume of oil could be fully contained in the event of leak.

Incident Management

7.1 MATERIAL HARM

The Minister's development consent defines an incident as:

> *An occurrence or set of circumstances that causes or threatens to cause material harm.*

The Minister's development consent defines material harm as harm that:

> *involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or*
>
> *results in actual or potential loss of property damage of an amount, or amounts in aggregate, exceeding $10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).*

This definition of 'material harm' is consistent with the definition in s.147 of the *Protection of the Environment Operations Act 1997* and the associated legal obligations to notify the Environment Protection Authority (EPA) where a 'pollution' incident occurs such that material harm to the environment is caused or threatened.

7.2 IMMEDIATE RESPONSE

Any incident that occurs that causes or threatens to cause material harm will be reported immediately to FSA's Supervisor.

Upon receiving notification of an incident, he/she (or their nominee if off-site at the time of the incident) will immediately attend the incident and:

- Isolate the area affected by the incident;
- Stop works around the area;
- Implement containment measures to prevent the impact of the incident spreading; and
- Make a determination as to whether the incident has caused or threatens to cause material harm.

7.3 EXTERNAL NOTIFICATIONS

7.3.1 DUTY TO REPORT

If the Supervisor (or their nominee if off-site at the time of the incident) has determined the incident has caused or threatens to cause material harm, he/she will, pursuant to requirements under Part 5.7 (Duty to notify pollution incidents) of the *Protection of the Environment Operations Act 1997* ***immediately*** notify the EPA.

The EPA will be notified (verbally) and provided the following relevant information.

- the time, date, nature, duration and location of the incident;
- the location of the place where pollution is occurring or is likely to occur;
- the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known;
- the circumstances in which the incident occurred (including the cause of the incident, if known); and
- the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

The EPA may direct FSA to notify such other persons of the incident as the EPA requires.

7.3.2 NOTIFICATIONS

Following EPA notification FSA would then immediately notify DPE and MWRC.

Consistent with the Minister's development consent Schedule 4 CoA 3, the DPE will be notified in writing to compliance@planning.nsw.gov.au and:

- identify the development (***Beryl Solar***) and the application number (***SSD 8183***); and
- set out the location and nature of the incident.

Specific to the DPE notification the following is noted.

- DPE notification will be undertaken immediately after the EPA has been notified, not immediately after FSA becomes aware of the incident.
- MWRC will be notified verbally.

This initial notification to DPE and MWRC would be for information purposes alone and FSA would continue to concentrate on responding to any instruction or request from the EPA.

7.4 INCIDENT INVESTIGATION

7.4.1 AVOID RECURRENCE

As soon as the incident has been contained and external notifications undertaken FSA will then undertake an incident investigation. One purpose of the investigation will be to identify and understand the cause of the incident with a view to modifying procedures to avoid the potential for a recurrence. The types of preventative actions taken could include revision to a Construction Work Method Statement or undertaking targeted Environmental Due Diligence sessions at tool box meetings prior to works re-commencing.

7.4.2 RESTORATION

The other purpose of the incident investigation will be to define the appropriate remediation work required in order to address any bio-physical impact of the incident. The appropriate remediation work (if required) would be determined by the specific circumstances of the incident.

7.5 INCIDENT REPORTING

7.5.1 DOCUMENTATION

Any environmental incident will be recorded on an ***Environmental Incident Report*** and an updated ***Environmental Incidents Register*** will be maintained.

Each ***Environmental Incident Report*** will include details on:

- the date, time and duration of the incident;
- clarify whether there was material harm to the environment;
- detail the nature of the incident;
- climatic conditions;
- the location of the incident;
- pollutants involved;
- circumstances in which the incident occurred; and
- corrective action taken; external notification (EPA).

7.5.2 DISSEMINATION

For an incident in which material harm has or could have resulted and the EPA has been notified, FSA will provide reporting to the EPA as may be instructed, in accordance with the timeframes that may be so specified by the EPA.

Complaints Management

8.1 SCOPE

This section describes the procedures that would be implemented to receive, handle, respond to and record complaints;

8.2 MEANS OF MAKING A COMPLAINT

FSA will ensure that the following contact details are available for the community to make a complaint:

- A 24 hour telephone number.
- A postal address to which written complaints may be sent.
- An email address to which electronic complaints may be transmitted.

These details will be provided on the BSF website by First Solar.

8.3 HOW ANY COMPLAINT WILL BE HANDLED

Any complaint received will be immediately logged in a ***Complaints Register***.

As soon as is practicable the Supervisor will investigate the cause of the complaint and identify actions required to avoid a recurrence. Regardless of circumstance, this initial response will be completed with 24 hours of receiving the complaint.

If so requested when the complaint was received, the Supervisor will also make contact with the complainant to discuss the cause and advise them of the actions taken to avoid a recurrence.

This investigation and contact will be fully documented on a ***Complaint Record*** and a ***Complaints Register*** will be updated and uploaded by FSA onto its website.

8.4 RECORDING COMPLAINTS

Any and every complaint will be documented through maintaining an up to date ***Complaints Register*** (cross referenced against a ***Complaint Record***).

8.4.1 COMPLAINTS REGISTER

The ***Complaints Register*** will record:

- A complaint reference number.
- The date and time the complaint was received.
- Whether the complainant wanted to be contacted.
- Nature of the complaint.

For the life of the development the ***Complaints Register*** will be updated on a weekly basis and listed on the BSF website.

As the ***Complaints Register*** will be a publicly available document, it is not proposed to include details of who the complainant is on this register.

8.4.2 COMPLAINTS RECORD

The ***Complaints Record*** will record:

- the date and time of the complaint;
- the means by which the complaint was made (telephone, mail or email);
- any personal details of the complainant that were provided, or if no details were provided a note to that effect;
- the nature of the complaint;
- any actions taken in relation to the complaint, including timeframes for implementing the action;
- if no action was undertaken in relation to the complaint, the reasons why no action was taken; and
- if the complainant wanted to be contacted, whether the action taken was considered acceptable to the complainant.

A copy of every ***Complaints Record*** will be filed and held on-site and, on request, be provided to:

- the Department of Planning and Environment; or
- Environment Protection Authority;
- Mid Western Regional Council; or
- the complainant.

As the ***Complaints Record*** will contain information on who made the complaint, it is not proposed to make this information publicly available on the BSF website.

8.5 DISPUTE RESOLUTION

In the event that the procedure for investigating and responding to a complaint, including the implementation of measures for avoiding a recurrence can not be resolved and a dispute does arise, FSA will:

- Advise both DPE and MWRC that there is a dispute.
- Provide both DPE and MWRC with copies of the relevant complaint history, including relevant documentation in the form of ***Complaints Record****(s)*.
- Engage a specialist with expertise relevant to the issue at hand to investigate the dispute and provide recommendations for resolution.
- Advise the third party in dispute, DPE and MWRC, in writing, as to when the dispute investigation will be completed.
- Provide the third party, DPE and MWRC a copy of the dispute investigation report, inclusive of FSA's intentions with regards to the implementation of the recommendations for resolution.

Performance Evaluation

9.1 MANAGEMENT REVIEWS

FSA will conduct two types of management reviews to ensure compliance with the Minister's Development Consent.

9.1.1 PROGRAMMED REVIEWS

FSA will review the OEMP annually to ensure its continuing suitability, adequacy and effectiveness.

This management review will include consideration of

- the status of actions from previous management reviews;
- changes in the needs and expectations of stakeholders;
- the extent to which environmental objectives have been achieved;
- complaints and incidents; and
- opportunities for improvement.

The outputs of these management reviews will include:

- conclusions on the continuing suitability, adequacy and effectiveness of the OEMP;
- decisions related to continual improvement opportunities;
- decisions related to any need for changes to the OEMP; and
- actions if environmental compliance has not been achieved.

FSA will retain documented information as evidence of the results of management reviews.

9.1.2 TRIGGERED REVIEWS

Separate to these programmed reviews FSA will conduct a management review in the event of the following circumstances:

1. There is an environmental incident with circumstances that have caused or threatened to cause material harm to the environment.
2. In the event that the procedure for investigating and responding to a complaint, including the implementation of measures for avoiding a recurrence, can not be resolved to the satisfaction of a third party, and a dispute has arisen.
3. Any modifications to the existing Development Consent (5 December 2017).
4. Finalisation of the biodiversity credit retirement outcomes and any associated implications for the management of the retained vegetation zone.

9.2 COMPLIANCE TRACKING

FSA will implement a compliance tracking program to track compliance with the requirements of the Minister's approval during the operation of the BSF.

This program includes:

- if so directed by the Secretary, reporting on compliance status with the Minister's approval to DPE through submission of an independent environmental audit;
- a commitment to continual improvement and documenting corrective actions as specified in this OEMP;
- recording environmental incidents and actions taken in response to those incidents as specified in this OEMP;
- reporting environmental incidents to DPE as specified in this OEMP; and
- ensuring all employees, contractors and sub-contractors, prior to commencing operational activities on-farm, are informed through the site induction, of the specific environmental conditions as they align with this OEMP.

Evidence of the implementation of the compliance tracking program during operation of the BSF will be available through the environmental performance reporting documentation and deliverables identified in **Table 9.1 and Table 9.2**, inclusive of monitoring results, reports, audits (external and internal) and management reviews.

In addition to making performance reporting documentation available to DPE on request, FSA, will make these documents available (subject to reasonable confidentiality requirements) for public inspection on request.

9.3 INDEPENDENT ENVIRONMENTAL AUDIT

If so directed by the Secretary, FSA will commission an Independent Environmental Audit of the BSF. The audit(s) will:

- Be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- Be carried out in consultation with relevant agencies;
- Assess whether the development complies with the relevant requirements in this consent, and any strategy, plan or program required under the development approval; and
- Recommend appropriate measures of actions to improve the environmental performance of the development and any strategy, plan or program required under this consent.

Within 3 months of commencing an Independent Environmental Audit, or unless agreed otherwise by the Secretary, a copy of the audit report will be submitted to the Secretary, and any other NSW agency that requests it, together with a response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations.

9.4 MONITORING PROGRAM

Monitoring is designed to ensure compliance with the Minister's Development Consent and the commitments made in this OEMP are being implemented, and that on-ground mitigation measures, procedures and work practices are effective in achieving requisite environmental outcomes.

Table 9.1 – Environmental Monitoring Program

Requirement	When
LANDSCAPE SCREEN PLANTINGS	
In the first year after plantings (ie. March 2019 – March 2020) four (4) scheduled inspections (with a contingency plan to increase the number of inspections if drought conditions persist).	
Three scheduled inspections a year, for both the 2nd and 3rd years after planting (ie. March 2020 – March 2022)	
On an ongoing basis (from March 2022) annual inspections.	
BIODIVERSITY VALUES	
Quarterly weed monitoring during the first year following completion of construction followed by bi-annual monitoring each year during operation	
Biannual fencing inspections for the first 6 years during project operation	
Quarterly introduced fauna species monitoring during the first year following completion of construction followed by biannual monitoring each year during operation.	
GROUNDCOVER MANAGEMENT	
Monitor grass for mortality in the groundcover re-establishment zone – recording percent cover of native and exotic vegetation. Quarterly during the first twelve months following seed application. Monitoring frequency for the second year will be defined based on results of assessment of performance criteria at the end of the first year.	

9.5 PERFORMANCE REPORTING

Table 9.2 – External Performance Reporting

Requirement	When
VISUAL IMPACT MITIGATION	
Six (6) monthly evaluation reports submitted to DPE ror the first 2 years after planting	Until April 2021
'As-built' verification audit (3 years after commencement of construction)	August 2021
BIODIVERSITY VALUES	
A report will be submitted to the DPE and OEH 12 months after completion of construction assessing the efficacy of the management measures implemented.	May 2020
A second report will be submitted 24 months following the completion of construction. If performance criteria have been achieved, no further reporting will be undertaken.	May 2021
ENVIRONMENTAL INCIDENTS	
Notification to EPA, DPE and MWRC for any incident that causes or threatens to cause material harm.	Immediately
INDEPENDENT ENVIRONMENTAL AUDIT	
On request from the Secretary a copy of the audit.	3 months from commencing any audit.
COMPLAINTS	
For the life of the BSF, weekly update onto the BSF website of a *Complaints Register*.	Weekly
A copy of any Complaint Record to DPE, MWRC, EPA and the complainant.	On request
NON-COMPLIANCE	
Notifying DPE of any non-compliance with the Development Consent.	Within 7 days

Non-Compliance

10.1 COMMITMENT

A failure to comply with a CoA, MM or statutory approval will constitute a non-compliance.

10.2 RESPONSE

In the event of a non-compliance FSA will undertake the following five steps, consistent with the guidance advice for *ISO 14001 – Environmental management systems*.

Table 10.1 – Non-compliance Response

Step	Action
React	React to the non-compliance and, as applicable, 1. Take action to control and correct it. 2. Deal with the consequences, including mitigating adverse environmental impacts.
Evaluate	Evaluate the need for action to eliminate the cause of the non-compliance in order that it does not recur or occur elsewhere by: 1. Reviewing the non-compliances. 2. Determining the cause of the non-compliances. 3. Determining if similar non-compliances exist, or could potentially occur.
Act	Implement any action required.
Review	Review the effectiveness of any corrective action taken.
Change	Make changes to the environmental management plans, if necessary.

10.3 CORRECTIVE ACTION

Any non-compliance will trigger a ***Corrective Action*** appropriate to the significance of the effect of the non-compliance. FSA will retain documented information as evidence of the nature of the non-compliance and any subsequent actions taken, and the results of the ***Corrective Action***.

10.4 NOTIFICATION

Consistent with the Minister's development consent Schedule 4 CoA 4, the Department will be notified in writing to compliance@planning.nsw.gov.au within 7 days of becoming aware of any non-compliance.

The notification will:

- identify the development (***Beryl Solar***) and the application number (***SSD 8183***);
- set out the condition of consent that the development is non-compliant with;
- the way in which it does not comply;
- the reasons for non-compliance (if known); and
- what actions have been done, or will be, undertaken to address the non-compliance.

References

ISO 14001:2015(E) *Environmental management systems – requirements with guidance for use*

DIPNR (2004) *Guidelines for the Preparation of Environmental Management Plans*

EPA (2017) *Noise Policy for Industry*

Geolyse (August 2018) *Beryl Solar Farm – Environmental Management Strategy*

EMM (August 2018) *Biodiversity Management Plan*

nghenvironmental (April 2017) *Beryl Solar Farm – Environmental Impact Statement*

nghenvironmental (July 2017) *Beryl Solar Farm – Submissions Report*

OzArk (August 2018) *Beryl Solar Farm Cultural Heritage Management Plan*

Appendix A

CONDITIONS OF APPROVAL