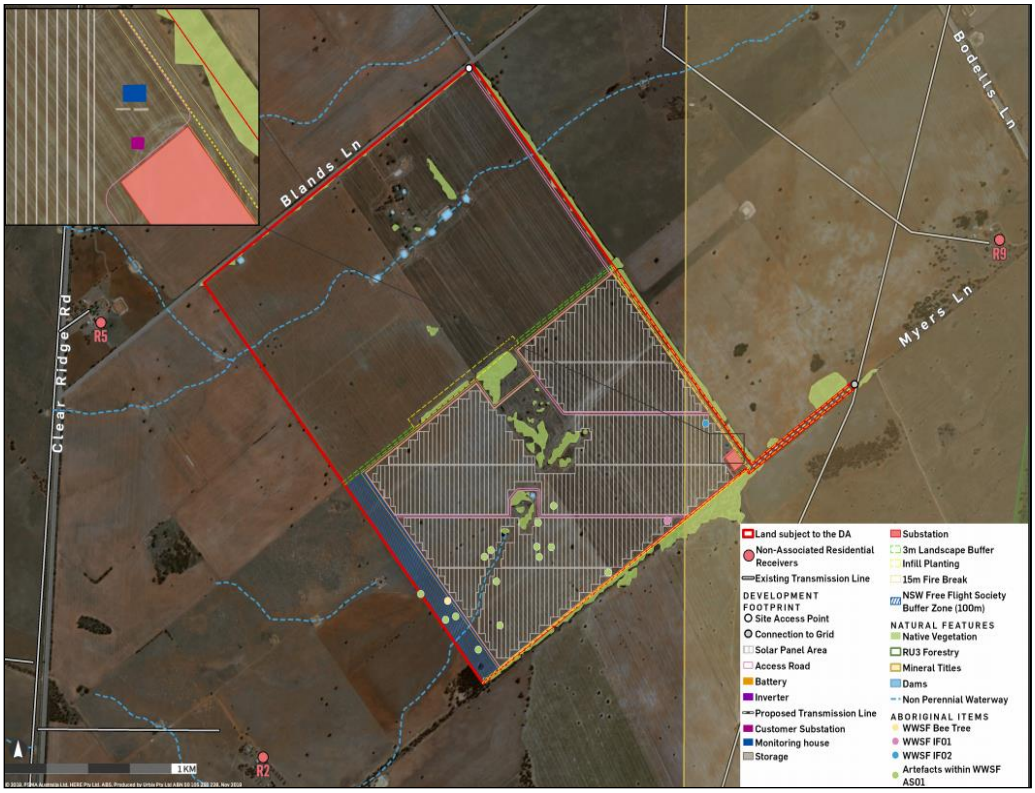


Layout of West Wyalong Solar Farm

BIODIVERSITY MANAGEMENT PLAN

WEST WYALONG SOLAR FARM

WEST WYALONG

NOVEMBER 2020

Report prepared by

OzArk Environment & Heritage

for Pitt & Sherry on behalf of Lightsource bp

OzArk
Environment & Heritage

145 Wingewarra St
(PO Box 2069)
Dubbo NSW 2830

Phone: (02) 6882 0118
Fax: (02) 6882 0630
enquiry@ozarkehm.com.au
www.ozarkehm.com.au

This page has intentionally been left blank.

DOCUMENT CONTROLS

Proponent	Pitt & Sherry	
Client	Lightsource bp	
Purchase Order #		
Document Description	West Wyalong Solar Farm Biodiversity Management Plan	
OzArk Job No.: 2671	File Location: Public>OzArkEHM>Clients>Pitt&Sherry>WestWyalongBMP	
Document Status: **V3.0 FINAL**	Date:	
Draft V1.1 Author to Editor OzArk 1st Internal (Series V1._ = OzArk internal edits)	29/06/2020 2/07/2020	AC to DE AS to JEB
Draft V2.0 Report Draft for release to client (Series V2._ = OzArk and Client edits)	03/07/2020 08/07/2020 20/07/2020 20/07/2020 22/07/2020 21/08/2020 28/08/2020 20/09/2020 17/11/2020 8/12/2020	JEB to client JEB to client – update edits AC to JEB – updated edits V2.1 to Client V2.2 to BCD V2.3 BCD Edits V2.4 to Client V2.5 to BCD JEB BCD update V2.6 to Client V2.8 to client w DPIE updates V2.9 to Client
FINAL V3._once latest version of draft approved by client	9/12/2020	V3.0 to Client

Prepared For	Prepared By
Eleanor Parry Environmental Consultant pitt&sherry PO Box 5487, West Chatswood NSW 1515 Direct +61 2 9468 9313 Mobile +61 490 127 167 eparry@pittsh.com.au	Jane Book Environmental Scientist OzArk Environment & Heritage 145 Wingewarra Street (PO Box 2069) Dubbo NSW 2830 P: 02 6882 0118 M: 0427 661 436 jane@ozarkehm.com.au

Acknowledgement

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

CONTENTS

FIGURES

TABLES

1 INTRODUCTION

1.1 PURPOSE

Lightsource bp was granted Development Consent on 28 November 2019 to construct and operate a new State Significant Development (SSD) solar farm approximately 16 kilometres (km) northeast of West Wyalong, in the Bland Shire local government area. The West Wyalong Solar Farm ('the Project') is an important contribution to Australia's renewable energy supply.

The purpose of this Biodiversity Management Plan (BMP) is to document the strategies to be employed for the management of remnant vegetation and fauna habitat on the Project site.

The BMP has been prepared to meet the requirements of Condition 13 in Schedule 3 of the Development Consent SSD 9504. **Table 1-1** identifies where each requirement is addressed in this Biodiversity Management Plan.

Additionally, Condition 11 (minimise vegetation clearing in Myers Lane), Condition 12 (Biodiversity Offsetting) and Conditions 8 and 9 (Landscape Management) are also referenced within the document (**Tables 1-2 to 1-5**).

Table 1-1: Condition 13 consent requirements

Condition requirement	Location in this document
Prior to commencing the development, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with BCD, and to the satisfaction of the Secretary. This plan must:	1.6
(a) include a description of the measures that would be implemented for:	Section 4
• managing the remnant vegetation and fauna habitat on site;	Table 4.1
• protecting vegetation and fauna habitat outside the approved disturbance areas;	Table 4.1
• minimising the clearing of native vegetation and fauna habitat within the Myers Lane road reserve	Table 4.1
• minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development;	Table 4.1
• minimising the impacts to fauna on site and implementing fauna management protocols;	Table 4.1
• avoiding the removal of hollow-bearing trees during spring to avoid the main breeding period for hollow-dependent fauna;	Protocol 1
• rehabilitating and revegetating temporary disturbance areas with species that are endemic to the area;	Table 4.1
• 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; and	Protocol 3
• controlling weeds and feral pests	Table 4.1
(b) include a fauna monitoring and management protocol, including identification and reporting of fauna mortalities to BCD; and	Protocol 6
(c) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.	Sections 1.5 and Tables 4.1 and 4.2.

Table 1-2: Condition 11 consent requirements

Condition requirement	Location in this document
The Applicant must minimise the clearing of native vegetation and fauna habitat located within the Myers Lane road reserve.	Section 4.2 Table 4.1 Protocol 13 Section 5

Table 1-3: Condition 12 consent requirements

Condition requirement	Location in this document
Within two years of commencing construction under this consent, the Applicant must retire biodiversity credits of a number and class specified in Table 1 below, to the satisfaction of BCD, unless the Secretary agrees otherwise. The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme and can be achieved by: *a)* acquiring or retiring 'biodiversity credits' within the meaning of the *Biodiversity Conservation Act 2016;* *b)* making payments into an offset fund that has been developed by the NSW Government; or *c)* funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme.	

Table 1: *Ecosystem Credit Requirements*

Vegetation Community	***PCT ID***	***Credits Required***
Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion	26	5
Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions	55	41
Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions	76	2
Blue Mallee - Bull Mallee - Green Mallee very tall mallee shrubland of the West Wyalong region, NSW South Western Slopes Bioregion	177	13

Section 6

Table 1-4: Condition 8 consent requirements

Condition requirement	Location in this document
The Applicant must establish and maintain a mature vegetation buffer and infill planting (landscape screening) at the locations outlined in the figure in Appendix 1 to the satisfaction of the Secretary. This vegetation buffer must: (a) be planted prior to commencing operations; (b) be comprised of species that are endemic to the area; (c) be established within 3 years of commencing operations; and	Section 7

Condition requirement	Location in this document
(d) be properly maintained with appropriate weed management, unless the Secretary agrees otherwise	

Table 1-5: Condition 9 consent requirements

Condition requirement	Location in this document
Prior to commencing construction, the Applicant must prepare a detailed Landscaping Plan for the development to the satisfaction of the Secretary. This plan must include: (a) a description of measures that would be implemented to ensure that the vegetated buffers achieve the objectives of condition 8 (a) - (d) above; (b) a program to monitor and report on the effectiveness of these measures; and (c) details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for the completion of actions. .	Section 7

1.2 PROJECT OVERVIEW

The Project involves the construction, operation and eventually decommissioning of a solar farm with a generating capacity of approximately 90 megawatts (MW) and 50 MW/90 MW-hour (MWh) of battery storage.

The main components of the Project include:

- approximately 296,000 single-axis tracking solar panels (up to 4.1 m high) and 15 inverter stations;
- 30 lithium-ion battery units with a total capacity of 50 MW/90 MWh (to be constructed at a later date);
- an on-site substation and connection to Essential Energy's 132 kV transmission line via overhead or underground transmission lines along Myers Lane;
- a monitoring house and two storage sheds;
- landscape screening; and
- internal access tracks, car parking and security fencing.

During operation of the solar farm, the ground cover and landscape screening would be properly maintained with appropriate species and weed management. Sheep grazing, where practicable, would be undertaken on the site during operation to manage ground cover.

The expected operational life of the infrastructure is approximately 30 years. However, the Project may involve infrastructure upgrades that could extend the operational life.

The Project is located on a 562 hectare (ha) property in Wyalong on the northern fringes of the Riverina Murray region of NSW. The development footprint of the Project is 211 ha and was designed to avoid site constraints, including native vegetation, Aboriginal heritage items of high significance and a watercourse. Site entry would be via a new access point on Blands Lane. The approved general layout of the Project is shown in **Figure 1-1**.

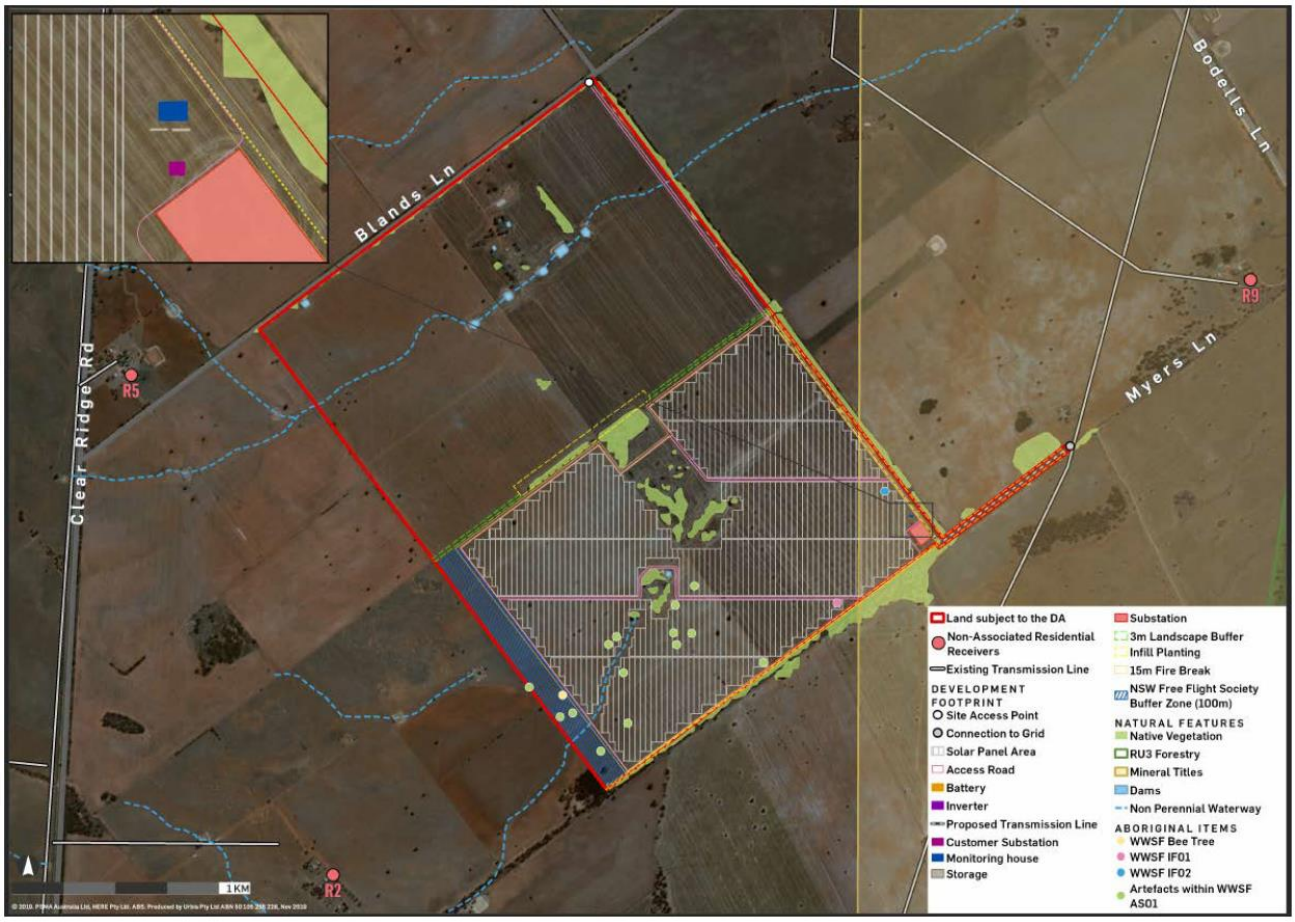


Figure 1-1: General layout of the West Wyalong Solar Farm as identified in the development consent

1.3 THE PROPONENT

The proponent for West Wyalong Solar Farm is Lightsource bp. Lightsource bp will engage an Engineering, Procurement and Construction (EPC) contractor to construct the Project and an Operation and Maintenance (O&M) contractor to manage the operation.

1.4 RELATED DOCUMENTS

This BMP is part of the environmental management system for the Project which is based on a hierarchy of documents. The environmental management system follows Lightsource bp's environmental objectives and management processes.

The Environmental Management Strategy (EMS) is the overarching document for the Project in the system that includes a number of management documents. The purpose of the EMS is to provide a framework for compliance with the Conditions of Consent and the management of environmental issues associated with the Project. A flowchart of the documents in the environmental management system is shown in **Figure 1-2** below.

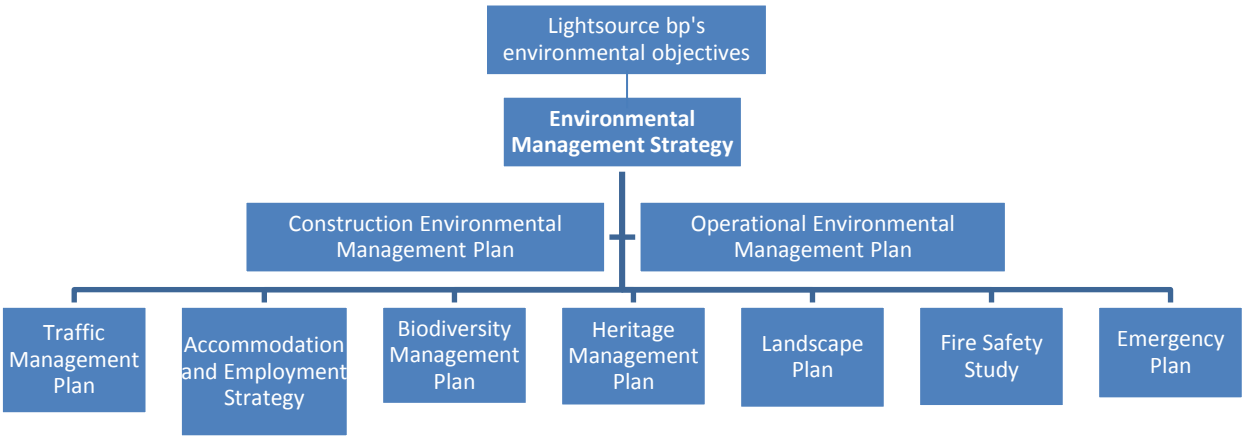


Figure 1-2: Flow chart of environmental management system

As the project is within the jurisdiction of Essential Energy, specifically the installation of transmission line in Myers Lane, its document "CEOP8008 Vegetation Management Plan" (VMP) will complement this plan as well as provide advice for the authorised vegetation management workers.

Additionally, Essential Energy's "CEOP2010 Vegetation Clearing Guidelines for New Powerlines" and "CEOP2021 Removing Vegetation Near Overhead Powerlines" (Essential Energy, 2019) contain essential information relating to vegetation removal, and relevant sections of these documents have been provided in Section 5.

The Biodiversity Development Assessment Report (BDAR) (SLR, 2019) was used substantially in the development of this BMP.

1.5 ROLES AND RESPONSIBILITIES

1.5.1 Construction

Whilst the construction of the Project is occurring, the following roles and responsibilities will apply.

Table 1-6: Construction roles and responsibilities

Role	Responsibility
Lightsource bp Project Team	• Overall accountability for the implementation of the BMP
EPC Project Manager	• Ensure that all works on site are undertaken in compliance with this management plan • Implementing the procedures and protocols contained in this management plan • Post induction education and contact with all employees and contractors on issues • Analysis of monitoring results and inclusion in reporting • Timely reporting of environmental monitoring data • Organise revisions of the plan as necessary • Ensure that all training, auditing, reporting and incident management requirements are met
EPC Site Manager	• Ensure all site personnel (including contractors and sub-contractors) have received the appropriate inductions and training for their responsibilities • Ensure controls provided in the Management Protocols of the BMP are implemented • Report any incidences or complaints immediately to the EPC Project Manager • Provide feedback on the adequacy and effectiveness of this plan
EPC Health, Safety and Environment (HSE) Coordinator/Manager	• Organise pre-clearance surveys by an ecologist to identify habitat trees • Organise supervision by ecologist of habitat tree clearing • Organise supervision by ecologist of the management of fauna impacted by habitat tree clearing (as per recommendations) • Organise supervision by ecologist of annual fence monitoring and fauna • Identify if the BMP needs to be reviewed and updated • Conduct regular inspections of the work area to monitor compliance with this plan
Project Ecologist	• Pre-clearance surveys and habitat tree clearing • Displaced fauna management and annual fence monitoring • Vertebrate Pest management advice during fencing
All EPC contractors and sub-contractors	• Ensure the implementation of this plan with respect to their specific work practices • Act in accordance with the management procedures or protocols outlined in this plan • Ensure any potential or actual issues, including environmental incidents and non-compliances, are reported to the immediate supervisor

1.5.2 Operation

When the Project is operational, the following roles and responsibilities as shown **Table 1-7** will apply.

Table 1-7: Operation roles and responsibilities

Role	Responsibility
Lightsource bp Project team	• Overall accountability for the implementation of the BMP
O&M site manager	• Ensure that all works on site are undertaken in compliance with this management plan • Ensuring monitoring responsibilities in accordance with this management plan's requirements • Undertake consultation with relevant organisations regarding operational activities which may impact biodiversity values (e.g. weed control, tree trimming) • Ensure that all training, auditing, reporting and incident management requirements are met
O&M contractors	• Ensure the implementation of this plan with respect to their specific work practices • Act in accordance with the management procedures or protocols outlined in this plan • Ensure any potential or actual issues, including environmental incidents, are reported to the immediate supervisor
Project Ecologist	• Monitoring of fauna mortality • Monitoring of remnant vegetation

1.5.3 Contact details for staff and subcontractors

Contact details for staff and subcontractors are provided below.

Table 1-8: Contact details of staff and subcontractors (to be completed when available)

Role	Phone number	Email
Lightsource bp Project team		
EPC Project Manager		
EPC Site Manager		
EPC Health, Safety and Environment Coordinator/ Manager		
O&M site manager		
O&M contractors		
Project Ecologist		

1.5.4 Document Control

The BMP will be reviewed periodically as required under Condition 2 of Schedule 4 of the development consent SSD 9504 and Sections 4.1 – 4.4.

The BMP would be:

(a) updated to the satisfaction of the Secretary prior to carrying out any upgrading or decommissioning activities on site; and
(b) reviewed and, if necessary, revised to the satisfaction of the Secretary within 1 month of the:
    - submission of an incident report under condition 4 of Schedule 4;
    - submission of an audit report under condition 6 of Schedule 4; or
    - any modification to the conditions of this consent.

1.6 CONSULTATION

In accordance with Condition 13 of Schedule 3 of Development Consent SSD 9504, the Biodiversity Conservation Division (BCD) was consulted on 2 July 2020 by the subcontractor OzArk Environment and Heritage on behalf of Lightsource bp.

Feedback from BCD on the 14th August 2020 and 21st September 2020 on the first and second drafts of the BMP was incorporated into this version of the document (see Appendix 4).

Feedback from DPIE dated 9th November 2020 has been included into this version of the BMP. This includes consultation with DPIE via email on 24th November 2020 advocating the need for fauna mortality reporting (as identified by DPIE) above and beyond that accepted by BCD was unreasonable, unnecessary and outside of the requirements of Condition 13(b) of the Consent. Lander Robinson of DPIE called pitt&sherry on 4th December 2020 advising it would accept fauna fatality reporting on an as needs basis as accepted by BCD.

1.7 STUDY AREA

The Project site is comprised of Lot 17 and 18 (DP753081). The majority of the proposed development is restricted to Lot 18 (211 ha) with access being via Lot 17. Overall location of the site is shown in **Figure 1-3.**

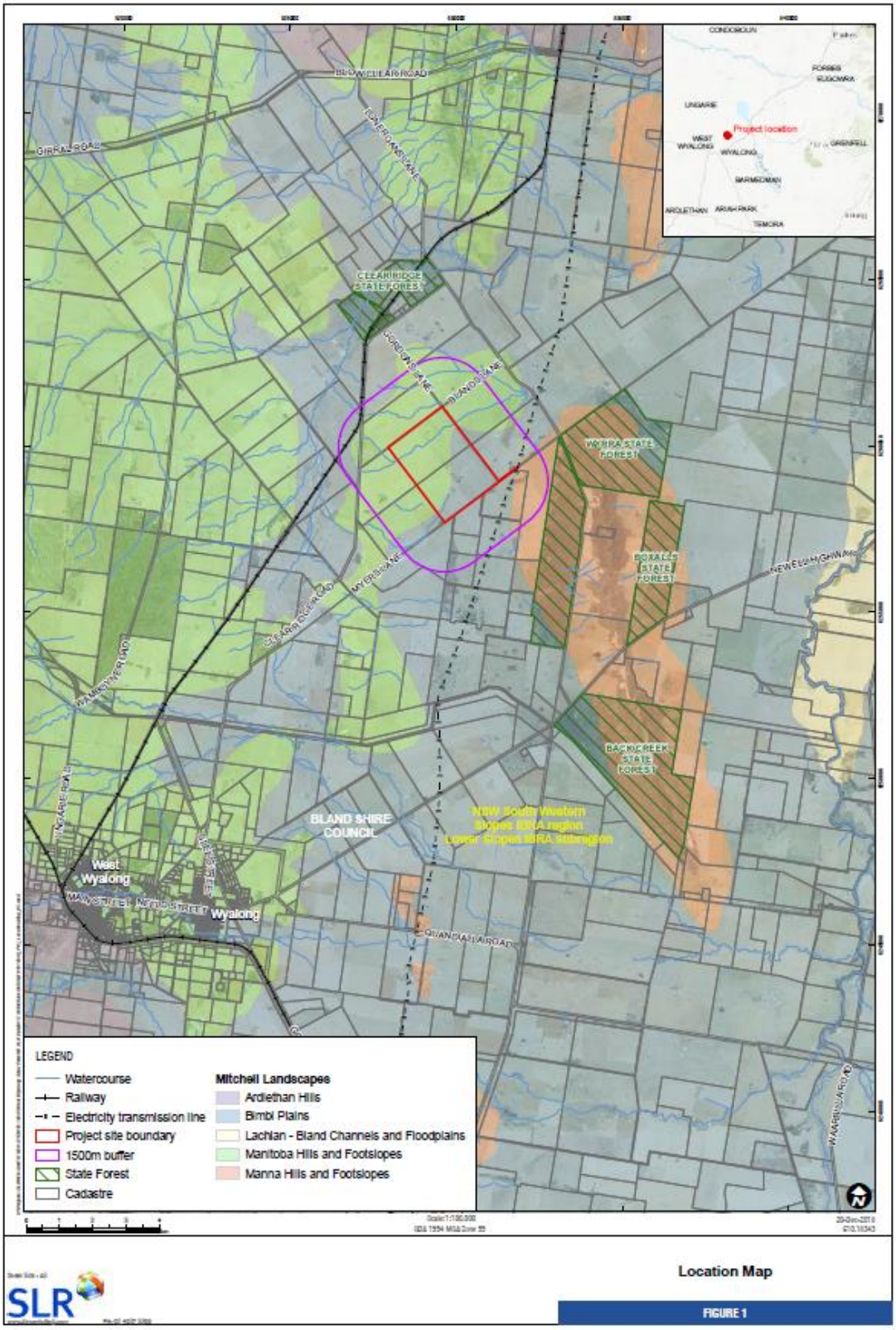


Figure 1-3: General location of the Project site (Source: SLR)

2 STATUTORY REQUIREMENTS

2.1 DEVELOPMENT CONSENT

As stated in Section 1.1, this BMP is a condition of the Development Consent SSD 9504 granted on 28 November 2019. Condition 13 in Schedule 3 of the Development consent requires the following:

Prior to commencing the development, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with BCD, and 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;*
- *protecting vegetation and fauna habitat outside the approved disturbance areas;*
- *minimising the clearing of native vegetation and fauna habitat within the Myers Lane road reserve;*
- *minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development;*
- *minimising the impacts to fauna on site and implementing fauna management protocols;*
- *avoiding the removal of hollow-bearing trees during spring to avoid the main breeding period for hollow-dependent fauna;*
- *rehabilitating and revegetating temporary disturbance areas with species that are endemic to the area;*
- *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; and*
- *controlling weeds and feral pests;*

(b) include a fauna monitoring and management protocol, including identification and reporting of fauna mortalities to BCD; 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 credits are retired via a Biodiversity Stewardship Agreement, then the Biodiversity Management Plan does not need to include any of the matters that are covered under the Biodiversity Stewardship Agreement.

2.2 LEGISLATION

Lightsource bp will conduct the Project consistent with the requirements of the Development Consent and any other legislation that is applicable to an approved State Significant Development under the *Environmental Planning and Assessment Act, 1979* (EP&A Act).

In addition to the statutory obligations described in Sections 2.1, the following NSW Acts (and their Regulations) may be applicable to the conduct of the Project:

- *Biodiversity Conservation Act, 2016* (BC Act)
- *Biosecurity Act, 2015*
- *Crown Lands Management Act, 2016*
- *Contaminated Land Management Act, 1997*
- *Dangerous Goods (Road and Rail Transport) Act, 2008*
- *Electricity Supply Act, 1995*
- *Electricity Supply (Safety and Network Management) Regulation, 2014*
- *Energy and Utilities Administration Act, 1987*
- *Environmental Planning and Assessment Act, 1979* (EP&A Act)
- *Fisheries Management Act, 1994*
- *Protection of the Environment Operations Act, 1997* (POEO Act)
- *Roads Act, 1993*
- *Soil Conservation Act, 1938*
- *Water Management Act, 2000*
- *Work Health and Safety Act, 2011*

Commonwealth Acts which may also be applicable to the conduct of the Project include:

- *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act); and
- *Native Title Act, 1993.*

On 9 May 2019 the Department of the Environment and Energy (DoEE) determined that the Project is not a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). This means that the Project does not require further assessment and approval under the EPBC Act.

3 EXISTING ENVIRONMENT

3.1 LAND USE HISTORY

The Project site has a long history of agricultural (cropping) land use. As such, a large percentage of the area proposed to be developed has previously been cleared and is significantly modified.

3.2 LANDFORM, GEOLOGY AND SOILS

The soils within the Project site consist of Red Earths derived from Devonian Wyalong Granite (northwest) and Quaternary alluvial deposits (south-east).

The elevation within the Project site ranges from 237m (north-east) to 227m (south-east).

3.3 BIODIVERSITY

A BDAR prepared by SLR to support the Environmental Impact Statement (EIS) for the Project found the following:

- Mapped waterways occur within the Project Site; however, no aquatic habitat or obvious drainage channels are present. Five constructed dams are present; however, all of these lack aquatic and emergent vegetation. The existing dams are not in the development area and are located on Lot 17.
- Extensive vegetation clearing has (evidently) occurred for agricultural development. The remaining native vegetation consists of small patches of woodland and isolated paddock trees.
- A total of 123 plant species were identified. These comprise 86 native and 37 exotic species.
- No threatened plants listed under the NSW BC Act or Commonwealth EPBC Act were detected.
- Native vegetation comprises five plant community types (PCTs), these being
    - *Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions* (PCT 55).
    - *Dwyer's Red Gum - White Cypress Pine - Currawang shrubby woodland mainly in the NSW South Western Slopes Bioregion* (PCT 185).
    - *Blue Mallee - Bull Mallee - Green Mallee very tall mallee shrubland of the West Wyalong region, NSW South Western Slopes Bioregion* (PCT 177). .
    - *Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions* (PCT 76).
    - *Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion* (PCT 26).

- PCT 177 is listed as 'critically endangered' under the BC Act as *Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion*.
- PCT 76 is listed as 'endangered' under the EPBC and BC Acts as *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions.*
- PCT 26 is listed as 'endangered' under the EPBC and BC Acts as *Weeping Myall Woodlands*.
- A total of 73 fauna species were detected within the Project Site, comprising 51 birds, 15 mammals and seven amphibians.
- Three of the species recorded are listed under the BC Act, these being the:
    - Grey-crowned Babbler (*Pomatostomus temporalis temporalis*);
    - Painted Honeyeater (*Grantiella picta*); and
    - Inland Forest Bat (*Vespadelus baverstocki*).
- The Painted Honeyeater is also listed under the EPBC Act.
- Important habitat features for fauna species within the Project Site include woodland vegetation and those habitat trees that contain hollows.

Figure 3-1 to **Figure 4-1** show current vegetation and vegetation to be removed as part of the Project.

No-Go Zones, including 10 m buffer adjacent to the waterway, are also shown on **Figure 4-1**.

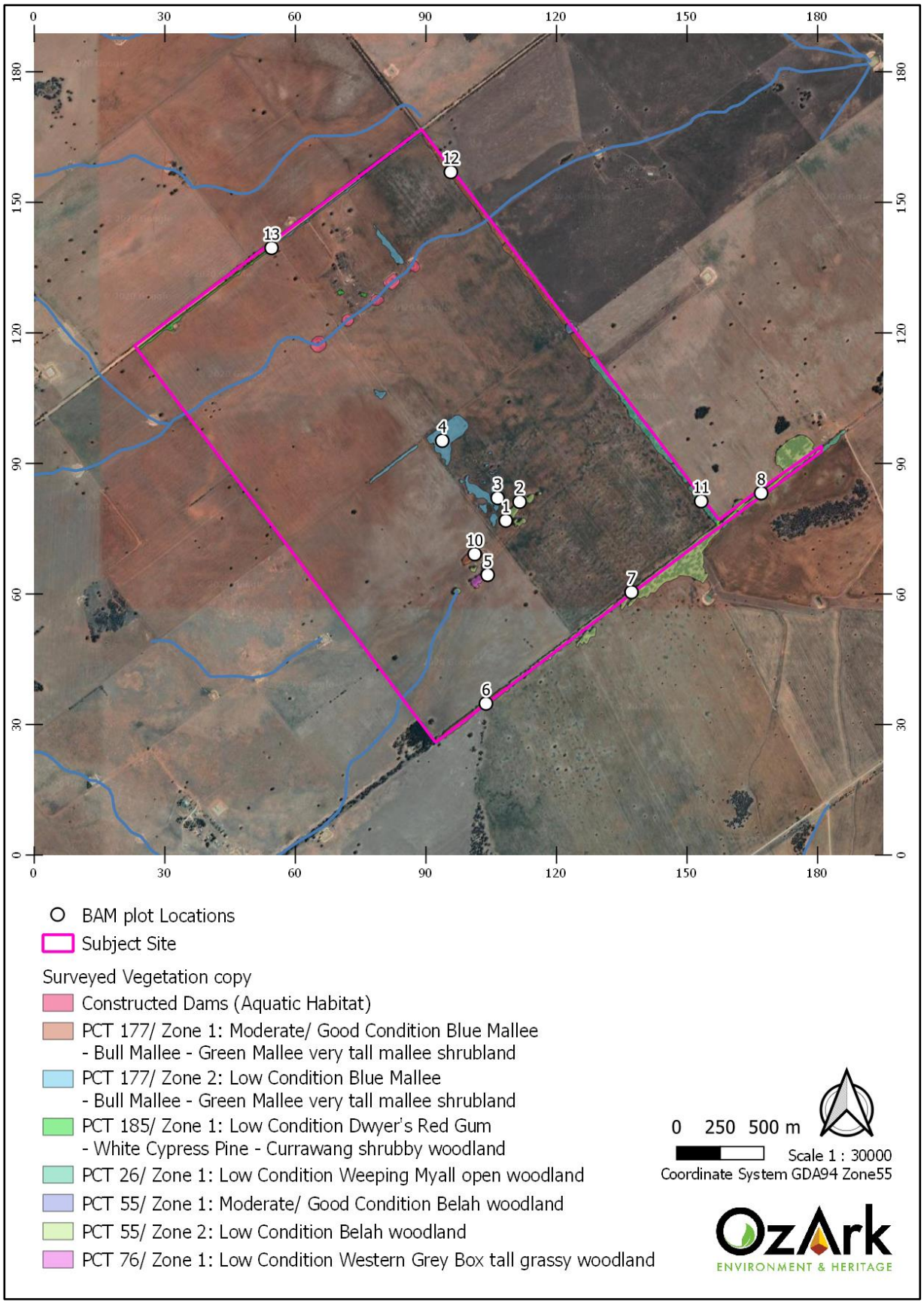


Figure 3-1: Plant Community Types and Vegetation Zones (full site)

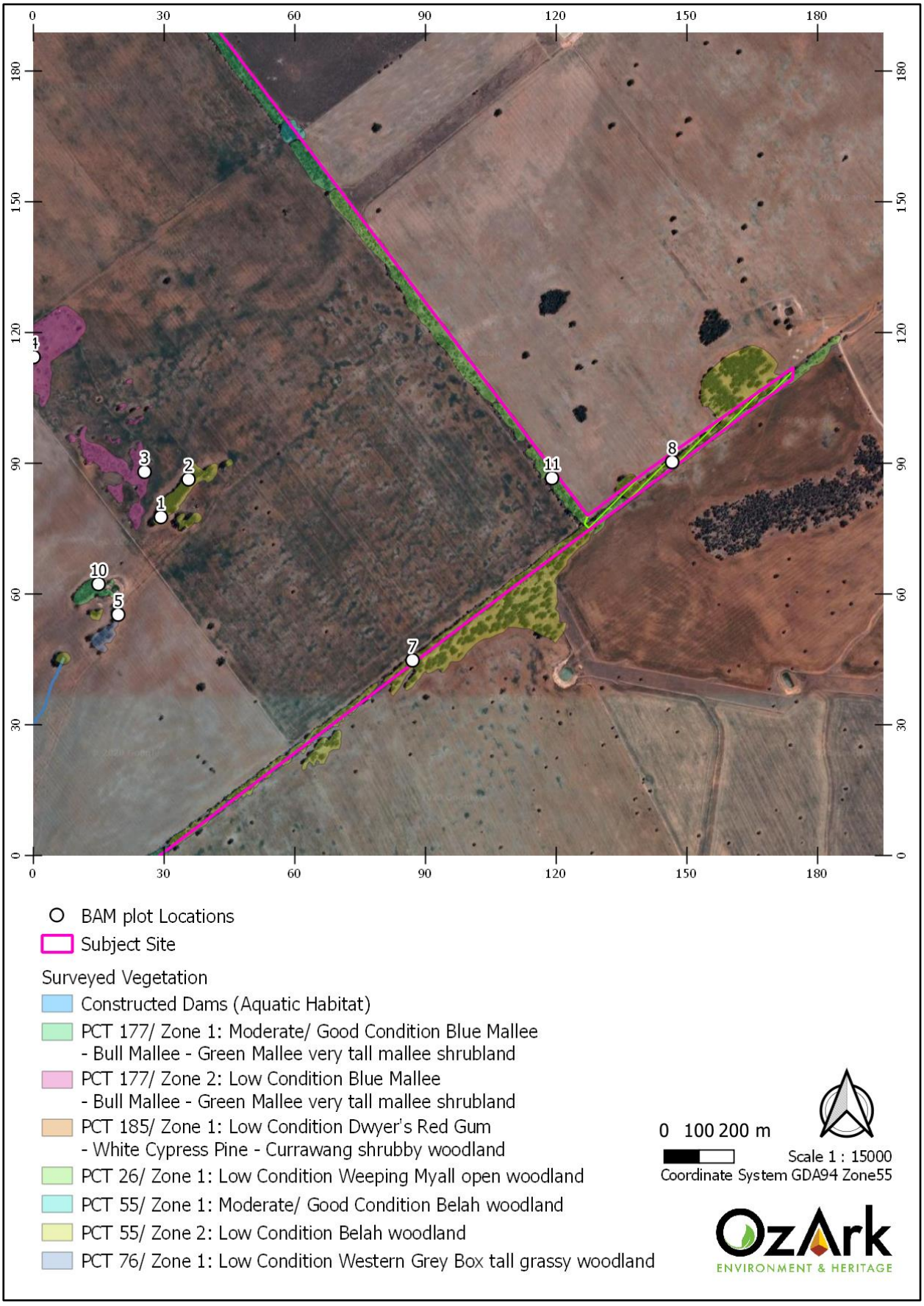


Figure 3-2: Plant Community Types and Vegetation Zones (eastern zone)

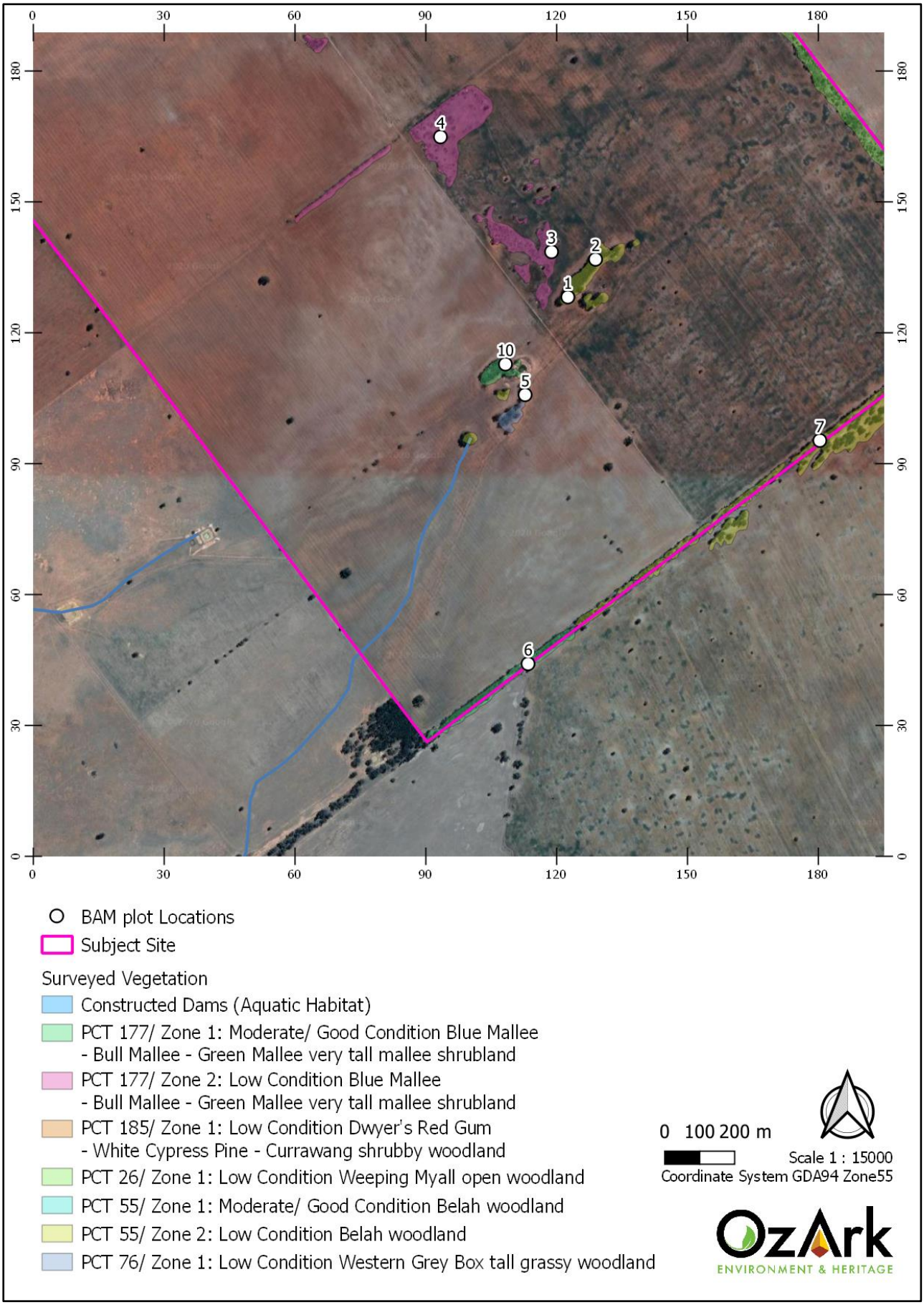


Figure 3-3: Plant Community Types and Vegetation Zones (southern zone)

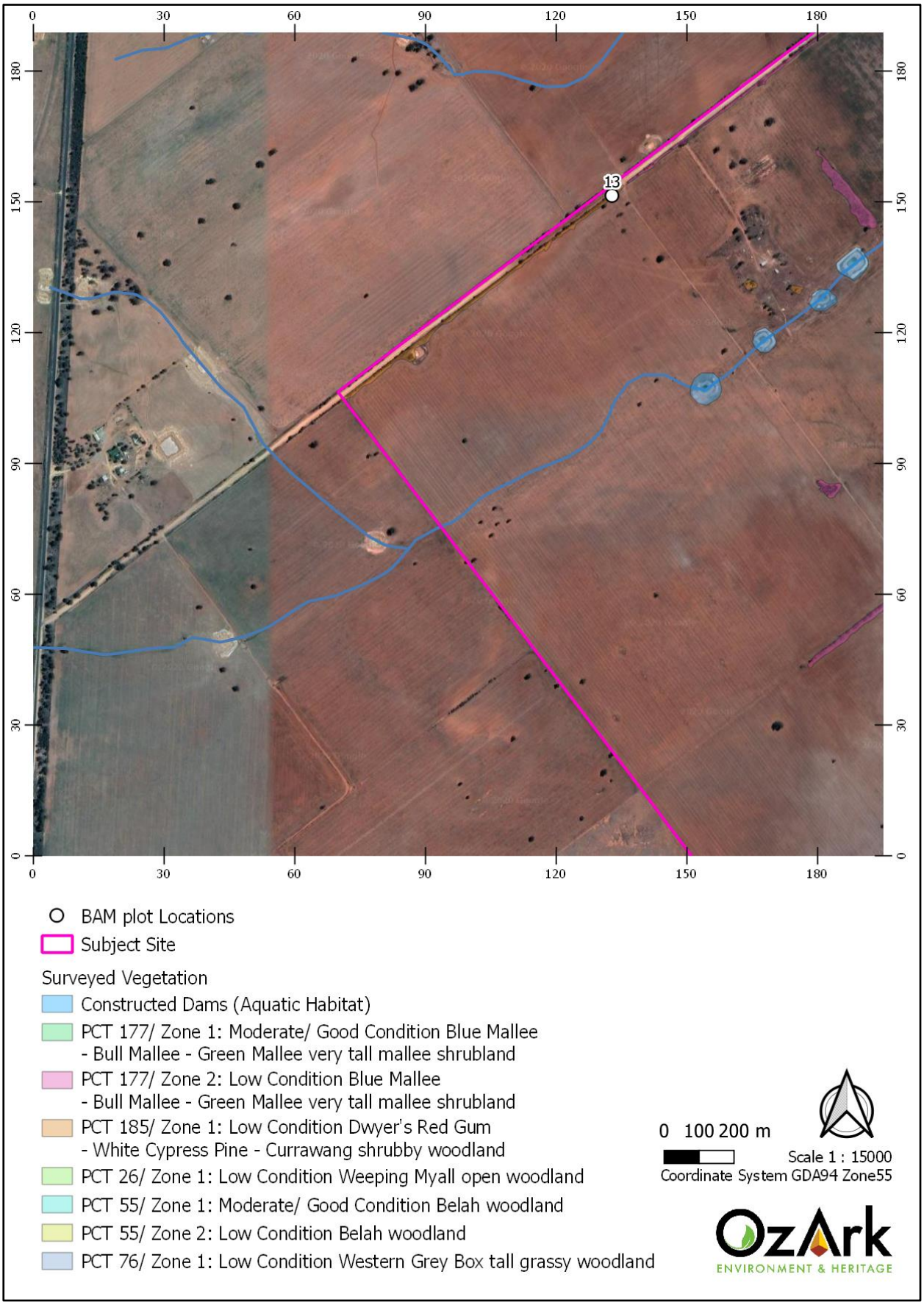


Figure 3-4: Plant Community Types and Vegetation Zones (western zone)

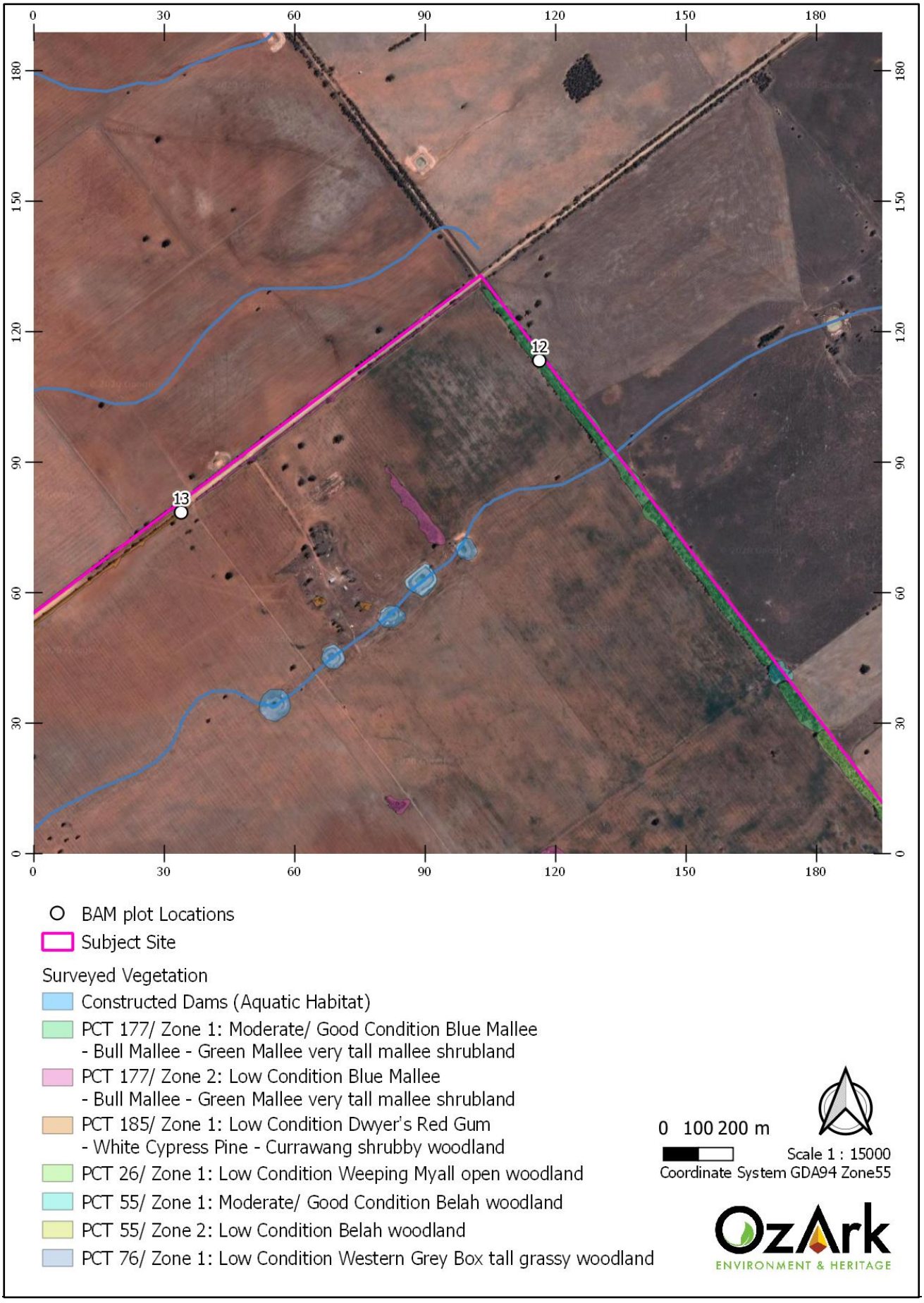


Figure 3-5: Plant Community Types and Vegetation Zones (western zone)

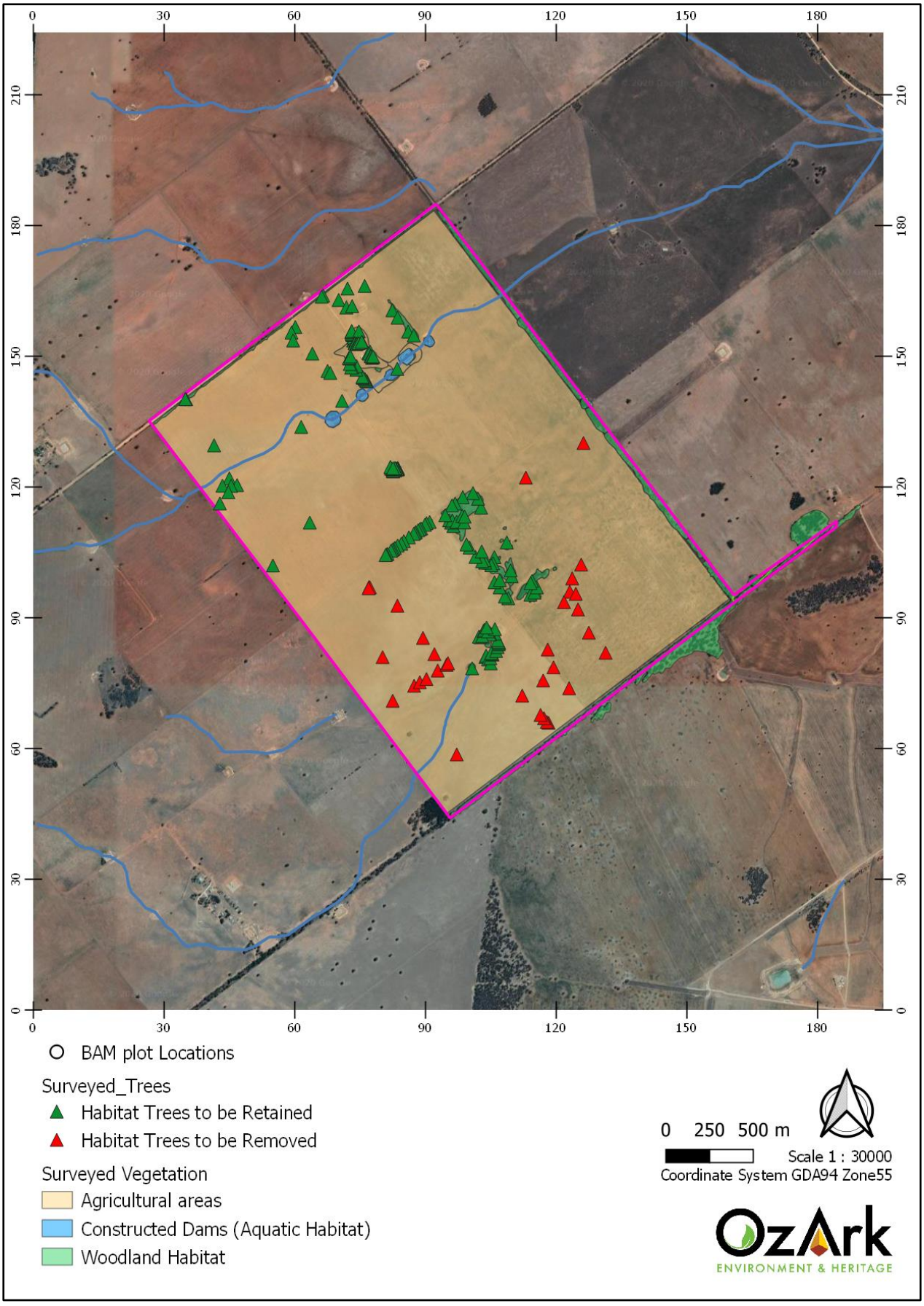


Figure 3-6: Habitat and paddock trees to be removed (full site)

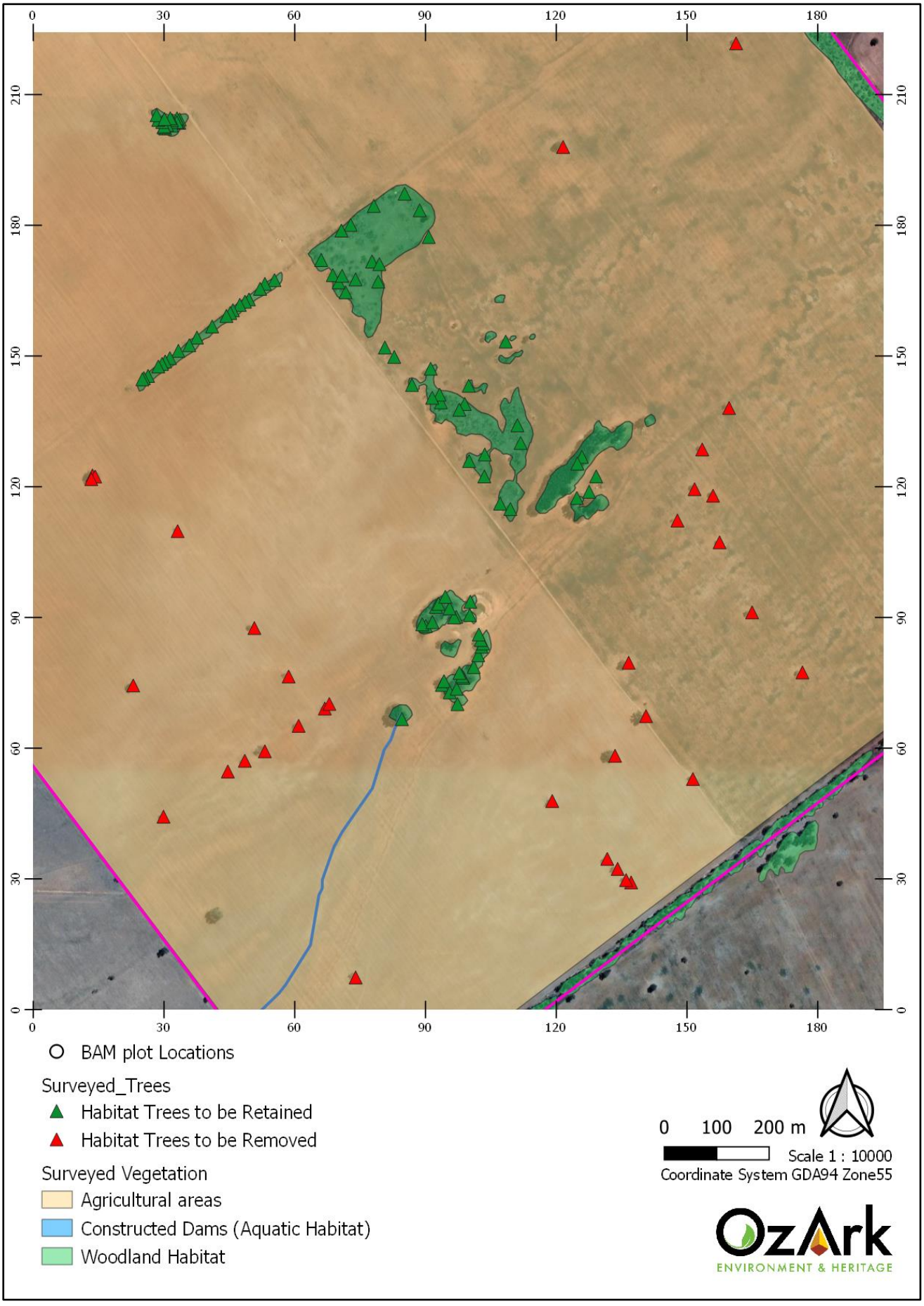


Figure 3-7: Habitat and paddock trees to be removed (southern side)

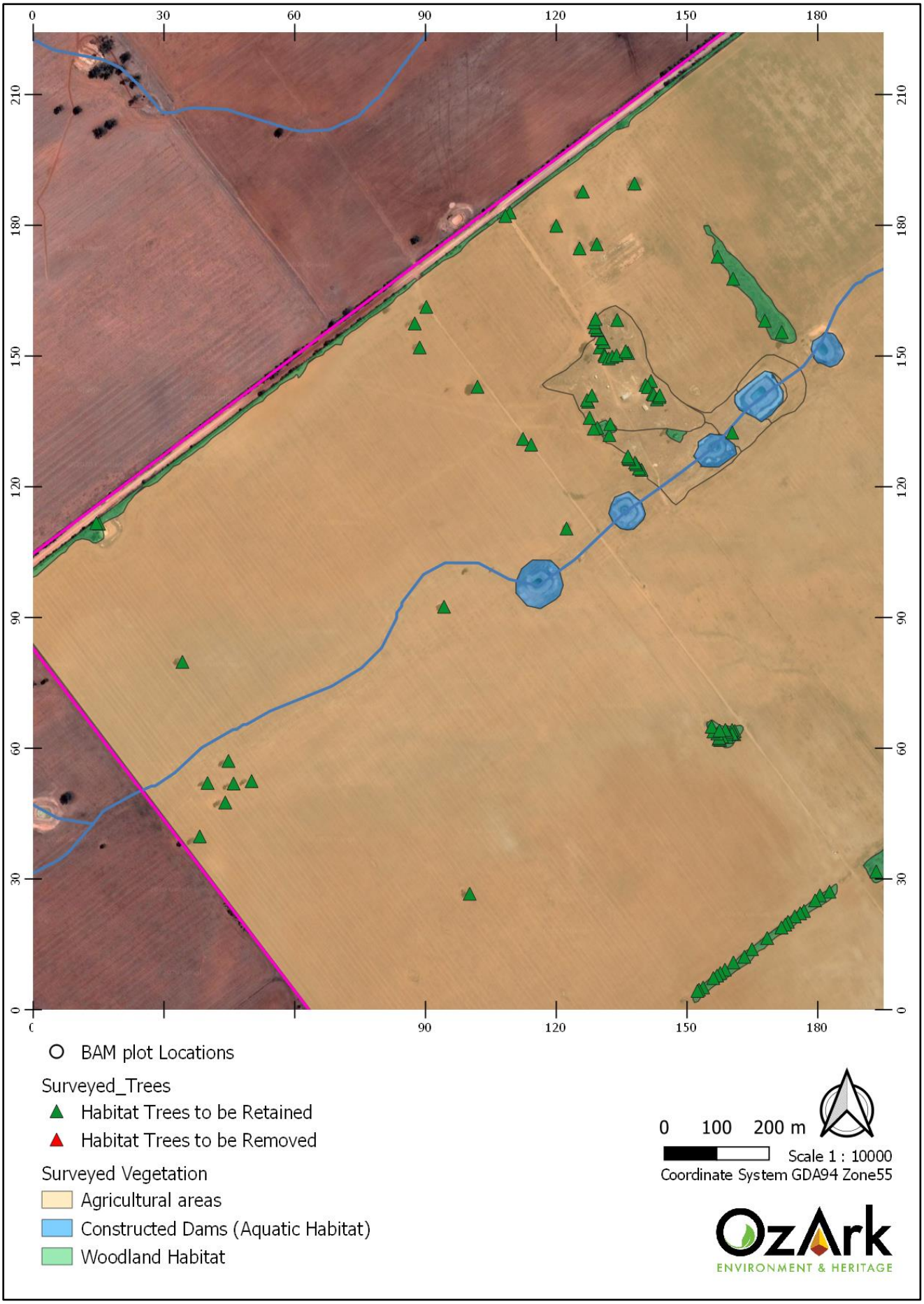


Figure 3-8: Habitat and paddock trees to be removed (northern side)

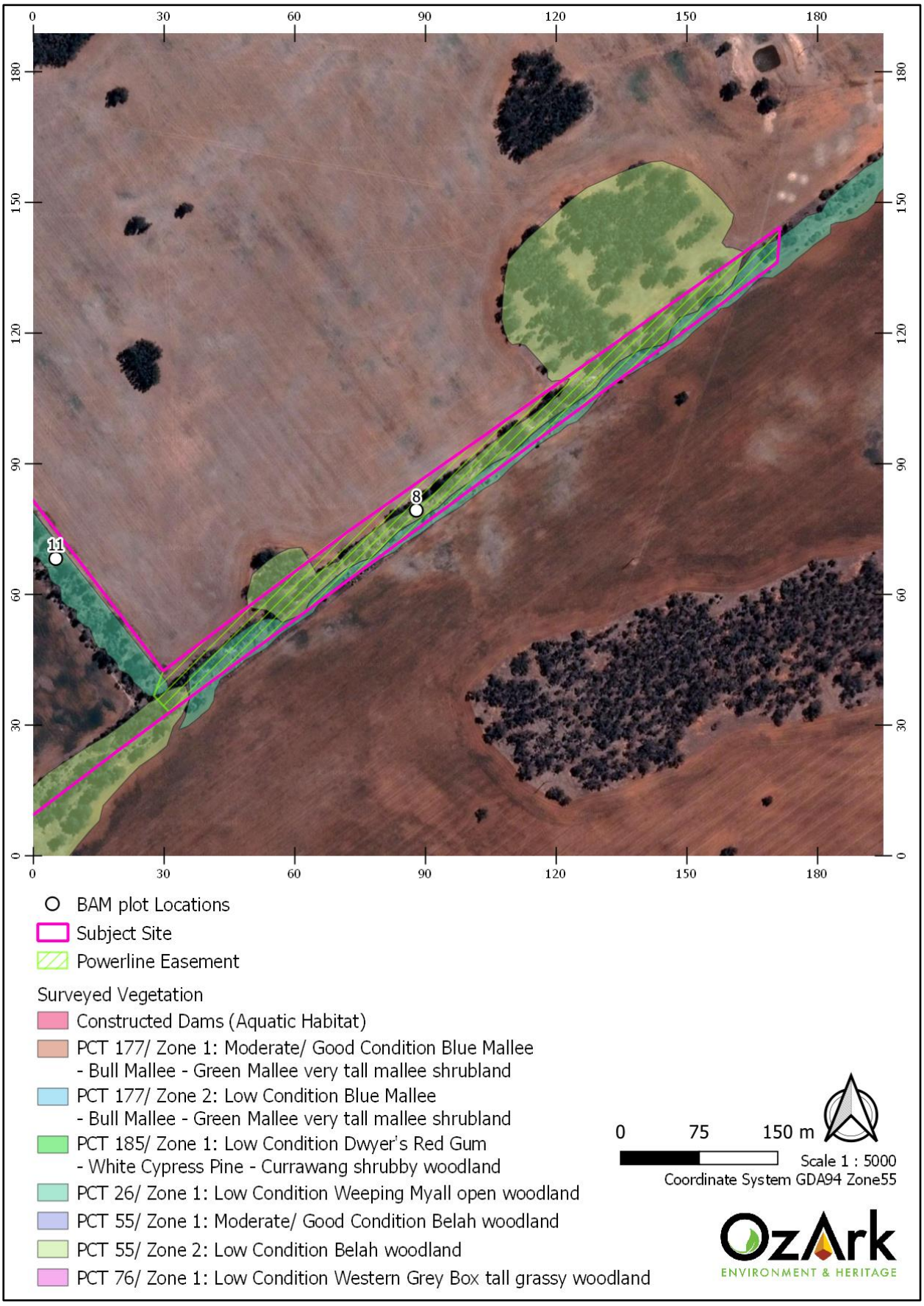


Figure 3-9: Vegetation type – Myers Lane

4 BIODIVERSITY MANAGEMENT PLAN AND COMPLETION CRITERIA

The BMP covers the construction and operation phase of the project. Information relating to the direct and indirect impacts, strategies/mitigation measures from the BDAR and development consent conditions form the basis of the plan (Table 4.1 and Table 4.2). Monitoring and Reporting, along with Triggers and Responses are included as Table 4.3 and Table 4.4 respectively. Management Protocols referred to in these tables are listed in Section 5 and are based on the **mitigation measures** from the BDAR.

The requirements of the BMP should form a component of the site inductions that all contracted personnel are expected to undertake.

4.1 PROJECT DESIGN IMPACT

The layout of the Project has been specifically designed to avoid areas of high biodiversity value such as larger woodland patches with higher vegetation integrity. As a result, impacts of the Project are limited to the following:

- The removal of 1.44 ha of native vegetation within Myers Lane which is woodland habitat for fauna species, comprising:
    - 1.24 ha of 'Belah woodland' (PCT 55); and
    - 0.20 ha of Weeping Myall open woodland (PCT 26);
- The removal of 32 trees within the Project's development footprint, including 11 habitat trees (containing a total of 16 hollows).

No-Go Zones, including 10 m buffer adjacent to the waterway, are shown on **Figure 4-1**. The No-Go Zones are areas of high biodiversity value, including Endangered Ecological Communities (EEC), native vegetation and water courses. These are to be protected throughout the construction and operation of the project. Protocol 13 provides management principles for the No-Go Zones.

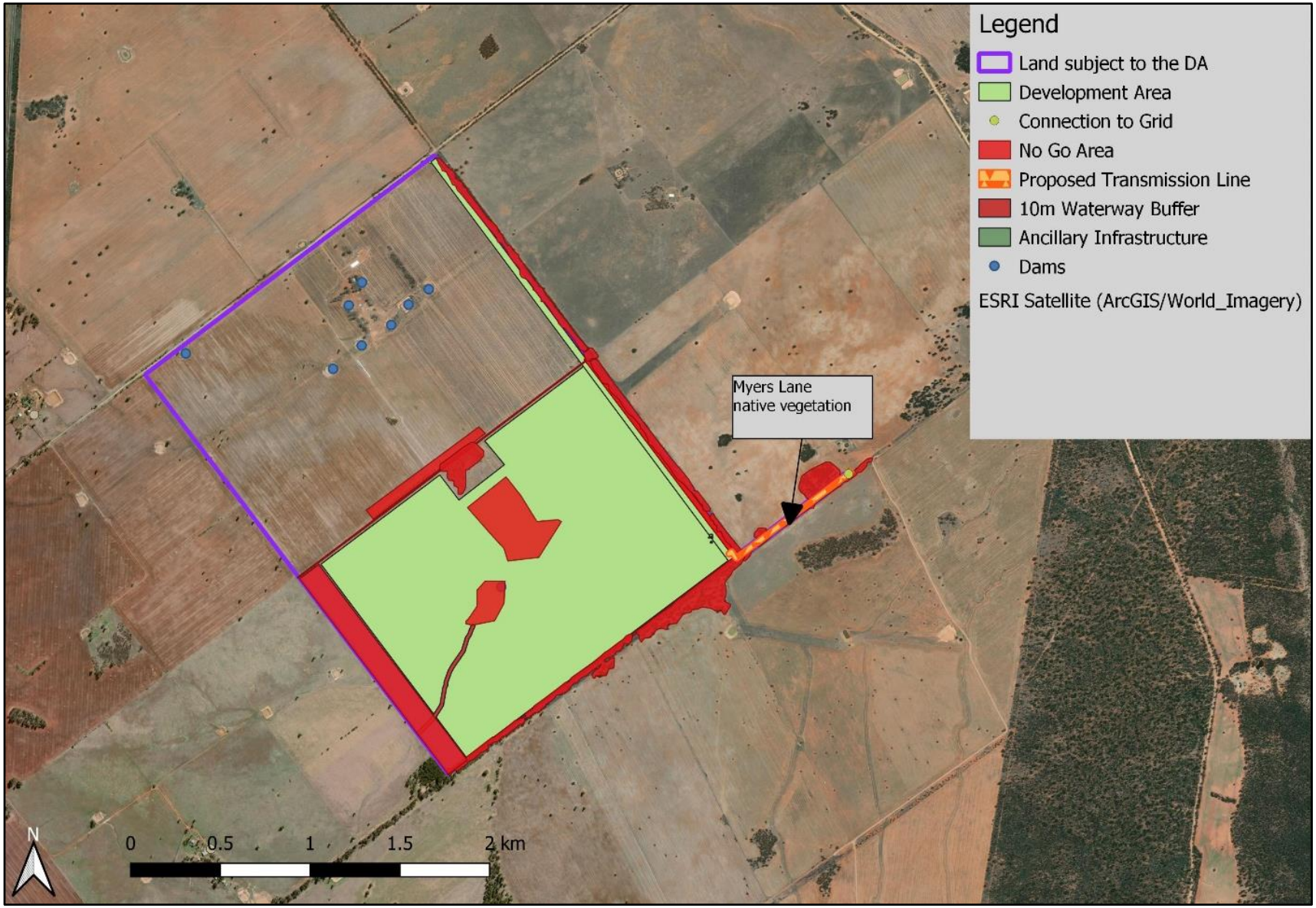


Figure 4-1: Development area and No-Go areas (Source: Layers provided by Pitt and Sherry)

4.2 IMPACT AND MITIGATION MEASURES

Table 4.1 describes the management practices and mitigation measures to be implemented to reduce the risks and potential and indirect impacts on biodiversity. It also describes the monitoring responses and responsibility for implementing these measures. Management protocols and actions for a range of issues.

Table 4-1: Site environmental risks, mitigation measures and monitoring responses

Risk/Impact to be managed	Consequences	Mitigation Measures	Monitoring	Responsibility
DIRECT IMPACTS				
1. Removal of native vegetation	Two threatened bird species (Grey-crowned babbler and Painted Honeyeater) will be impacted due to woodland clearing. One threatened microbat (Inland Forest Bat) will be impacted due to loss of 11 habitat trees. Two Threatened Ecological Communities are present and will be directly impacted: - Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia; - Weeping Myall Woodlands. Clearing in Myers Lane Road reserve. Creation of temporary disturbance areas.	Ensure that only those areas identified and offset in the conditions of approval are cleared. Protocol 1 - Habitat Tree Removal Protocol 2 – Habitat Box Procedure Protocol 3 – Methods for re-using resources as woody debris Protocol 5 – Management of Displaced Fauna Protocol 12 – Vegetation Clearing Procedure Protocol 13 – No-Go Zone Rehabilitation planting to consider measures such as species, rate and watering in accordance with the West Wyalong Solar Farm Landscaping Plan (RevH – approved 4 September 2020).	Inspection and supervision of clearing site to ensure relevant protocol requirements are met. Inspection of habitat boxes twice yearly to identify occupancy, and repair damage. Maintain a log of salvaged animals and actions taken to relocate them. Regular inspection and maintenance of fencing. Maintain a diary of issues and actions taken to remedy breaches of no-go areas.	EPC HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.

Risk/Impact to be managed	Consequences	Mitigation Measures	Monitoring	Responsibility
		Minimise clearing in Myers Lane through detailed design with consideration of Essential Energy C2010 Operational Procedure: Vegetation Clearing Guidelines For New Power Lines(see Appendix 3). Once vegetation to be cleared in Myers Lane is identified, a map of the impacted areas will be added to the appendices of this BMP.	Review of detailed design and impacts on vegetation. Records of vegetation removed in Myers Lane	EPC Project Manager EPC HSE Manager to record vegetation removed.
2. Construction of solar panels and perimeter fencing	Trapped fauna may exhaust food resources and water supply, causing death. Trapped fauna may cause degradation of retained native vegetation. Security fences may obstruct the movement of larger terrestrial species such as kangaroos, wallabies and other fauna species	Protocol 6 - Vertebrate Pest Management Protocol 7 – Fence Construction and Management	Inspection and supervision of clearing site to ensure relevant protocol requirements are met. Maintain a log of salvaged animals and actions taken to relocate them. Regular (weekly) inspection and maintenance of fencing during construction and monthly during first year of operation. Maintain a diary of issues and actions taken to remedy breaches of no-go areas.	EPC HSE Manager
INDIRECT IMPACTS				
3. Changed management practices on Site.	Vegetation condition may decline over time.	Protocol 4 - Weed Management. Protocol 6 - Vertebrate Pest Management Maintain condition of native vegetation (PCT vegetation integrity and flora species richness)	Completion of BAM plots after first year of operation to compare to baseline and then as required	EPC HSE Manager

Risk/Impact to be managed	Consequences	Mitigation Measures	Monitoring	Responsibility
4. Increased traffic and visitation	Degradation and modification of retained habitat due to spread of weeds and feral pests.	Protocol 4 - Weed Management. Protocol 6 - Vertebrate Pest Management Protocol 13 – No-Go Zone	Visual inspections to detect weed germination. Weekly during construction and monthly after construction completion. On-going weekly inspections to detect presence of feral pests.	EPC HSE Manager
5. Ground disturbance	Creation of dust and facilitate water borne sediment. Sedimentation could adversely affect the surrounding vegetation.	Protocol 8 - Erosion and Sediment Control Protocol 11 – Dust Control Rehabilitate and revegetate temporary disturbance areas with species that are endemic to the area. Measures including species, rate and watering as listed within the West Wyalong Solar Farm Landscaping Plan (RevH – approved 4 September 2020) to be used.	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.	EPC HSE Manager
6. Light Spill	Light spill from artificial light may affect nocturnal species such as arboreal mammals, large forest owls and foraging microbats.	Protocol 9 – Lighting Design Protocol	Inspection at commencement of operation.	O&M Manager

Risk/Impact to be managed	Consequences	Mitigation Measures	Monitoring	Responsibility
7. Pollution	Contamination of land and water from chemical spill.	Protocol 10 – Chemical Management	Regular (weekly) inspections during construction of chemical storage areas	O&M Manager

4.3 MONITORING AND REPORTING

Monitoring and reporting commitments are summarised below in Table 4-2. Reports will be provided to the proponent and BCD. Any recommendations or changes to the ecological aspects of the monitoring should be acted upon by the proponent. All monitoring actions/inspections will be recorded in an electronic log (excel spreadsheet), saved within Lightsource bp's file management system and stored on-site, and used to meet reporting requirements.

Table 4-2: Monitoring and reporting requirements

Risk/impact (Table 4.1)	Monitoring Action	Timing/ frequency	Responsibility	Decision Trigger	Adaptive Response	Reporting
CONSTRUCTION						
1, 2	Inspect the clearing site to ensure relevant protocol requirements are met.	Daily during clearing activities	EPC HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.	Vegetation is not being cleared in accordance with the development consent.	If vegetation is removed outside the approved development footprint, stop work, and report incident. If work not being completed in accordance with this BMP, stop work and review protocols.	Project Ecologist to record any fauna handling undertaken. EPC HSE Manager to report to Project Team. Lightsource bp to report any fauna mortalities to BCD as required.
1, 2	Inspect and maintain fencing.	Weekly	EPC HSE Manager	Fencing is damaged or not being maintained. Injured or deceased fauna is identified along or near fencing	Fencing to be repaired, re-instated and maintained. Reinstate fencing to relevant protocols standard. Investigate cause of death or injury and record details	EPC HSE Manager to report to Project Team. Lightsource bp to report any fauna mortalities to BCD as required.

Risk/impact (Table 4.1)	Monitoring Action	Timing/ frequency	Responsibility	Decision Trigger	Adaptive Response	Reporting
					Review fencing design if investigation identifies improvement required	
1, 2	Maintain a log of salvaged animals and actions taken to relocate them.	As required/ incident based	EPC HSE Manager to ensure compliance and review log Project Ecologist to undertake fauna handling and record details	Pattern of fauna mortalities/injuries is identified	Investigate and identify corrective actions	Project Ecologist to record details of fauna handling EPC HSE Manager to undertake recording and report to Project Team. Lightsource bp to report any fauna mortalities to BCD as required.
1, 2	Maintain a diary of issues and actions taken to remedy breaches of No-Go areas.	As required / incident based	EPC HSE Manager	If exclusion areas are breached or incidents occur	Repair breach points and record actions.	EPC Site Manager undertake recording and report to Project Team.
3,4	Inspect for weeds	Weekly	EPC HSE Manager	Increase in weed density and distribution	Identify and implement control measures	EPC HSE Manager report results to Project Team.
4	Inspect for the presence of feral pests on project site	Weekly	EPC HSE Manager	Feral pests are detected within the project site	Implement management actions in Protocol 6	EPC HSE Manager report to Project Team.
5	Inspect Erosion and Sediment Control devices	Daily	EPC HSE Manager	Erosion and sediment control devices not functioning.	Repair and replace devices	EPC HSE Manager report results to Project Team.

Risk/impact (Table 4.1)	Monitoring Action	Timing/ frequency	Responsibility	Decision Trigger	Adaptive Response	Reporting
	installed and operational			Sedimentation occurring.		
7	Inspect chemical storage areas	Daily	EPC HSE Manager	Chemical spills	Repair and/replace chemical. Organise rehabilitation of polluted area.	EPC HSE Manager report results to Project Team.
OPERATION						
1, 2	Maintain a log of salvaged animals and actions taken to relocate them.	As required/ incident based	O&M Site Manager to ensure compliance and review log Project Ecologist to undertake fauna handling and record details	Pattern of fauna mortalities/injuries is identified	Investigate and identify corrective actions	Project Ecologist to record details of fauna handling EPC HSE Manager to undertake recording and report to Project Team.
2	Inspect and maintain fencing.	Monthly for first year of operation and then as required	O&M Site Manager	Fencing is damaged or not being maintained. Injured or deceased fauna is identified and is caused by fencing	Fencing to be repaired, re-instated and maintained. Reinstate fencing to Protocol standard. Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required	EPC Site Manager and Project Ecologist to undertake monitoring and report to Project Team. Lightsource bp to report any fauna mortalities to BCD

Risk/impact (Table 4.1)	Monitoring Action	Timing/ frequency	Responsibility	Decision Trigger	Adaptive Response	Reporting
1, 2	Maintain a diary of issues and actions taken to remedy breaches of no-go areas.	As required / incident based	O&M Site Manager	If exclusion areas are breached or incidents occur	Repair breach points and record actions.	O&M Site Manager undertake recording and report to Project Team.
1	Inspect habitat boxes to identify occupancy and damage.	Twice yearly in late winter and mid-summer for the first three years of operation	Project Ecologist	Habitat boxes require repair or 30% occupancy not achieved.	Repair or replace boxes. Review likely cause of limited occupancy. Response may involve modification of style of boxes or an increase in box numbers.	Project Ecologist review results and report to Project Team.
3	Complete BAM plots to compare to baseline	To occur once, after first year of operation and then as required	Project Ecologist	Reduction in vegetation integrity and flora species richness compared to baseline	Review likely cause of decline, e.g. weather, fence breaches, increase in weeds and pest animals. If cause is related to fencing, weeds and pest animals, repair fence, and implement Weed and Vertebrate Pest Management Protocols. Implement Landscape Management Plan as required.	Project Ecologist review results and report to Project Team.

Risk/impact (Table 4.1)	Monitoring Action	Timing/ frequency	Responsibility	Decision Trigger	Adaptive Response	Reporting
4	Inspect for weeds	Monthly	O&M Site Manager	Increase in weed density and distribution At 10% cover weed control is to be undertaken at rosette stage/prior to flowering.	Implement control measures	O&M Site Manager report results to Project Team
4	Inspect for presence of feral pests on project site	Monthly	O&M Site Manager	Feral pests are detected.	Implement management actions in Protocol 6	O&M Site Manager report results to Project Team.
5	Monitor rehabilitated areas	Quarterly for first three years of operation then as required	O&M Site Manager	Proliferation of non-native vegetation or no ground cover.	Implement landscape management plan	O&M Site Manager report results to Project Team
6	Inspect lighting in project area	Upon commencement of operation.	O&M Site Manager	Light spill above best practice level.	Reduce light spill by implementing Protocol 9	O&M Site Manager report results to Project Team

4.4 SUMMARY OF REPORTING

The following will be reported to the Lightsource bp Project Team at the end of the construction period.

- Vegetation cleared
- Fauna mortalities
- Weeds and feral pest observations
- Habitat box occupancy
- Performance in relation to carrying out works in accordance with this BMP.

The following details will be included in reports to be submitted to BCD by Lightsource bp either during construction as required, or at the end of construction:

- Fauna mortalities (numbers, species and likely cause of death)
- Corrective measures undertaken to address fauna mortalities if necessary.

After commencement of operation, reporting requirements to the Project Team will be specified by Lightsource bp.

4.5 REVIEW AND IMPROVEMENT

Continuous improvement of this BMP will be achieved by the ongoing evaluation of performance to identify opportunities for improvement and will be completed by the Project Team, O&M Site Manager and Project Ecologist. This BMP will be reviewed at the following timeframes of the project:

- after construction is completed
- if there is a biodiversity management incident
- if there is a project modification
- if the Secretary requests a review
- every three years after project operation commences.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.

- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

4.6 TRAINING

Induction

As part of the induction for construction phase of the Project, personnel and relevant subcontractors will become familiar with:

- The purpose of the BMP
- The protocols of the BMP and environmental controls
- The No-Go zones
- Key roles and responsibilities relevant to BMP.

Protocols in this BMP relevant to that day's activities will be highlighted in the pre-start meeting, and protocols that relate specifically to managing flora and fauna on site, as well as No-Go zones are to be included in the induction material developed for the project.

Induction register will be kept on-site, signed by inductees, with awareness of the requirements of the BMP highlighted.

Project Ecologist

The Project Ecologist should have an applicable tertiary qualification or similar. The ecologist should be familiar with the scope of works proposed, the project objectives and have a clear knowledge of the ecology of the locality. The ecologist should:

- Maintain standard licences and approvals including a National Parks and Wildlife Act 1974 Section 132c Scientific License and Animal Ethics Committee Research Authority to Handle/Survey Wildlife
- Maintain a current first aid certificate
- Maintain working at heights qualifications (required as part of the habitat box installation process)
- Maintain all necessary vaccinations required to handle microchiropterans and be vaccinated against the bacterial infection caused by *Clostridium tetani* (Tetanus).

Proof of all licences, approvals and qualifications should be provided to the Project Manager at the commencement of the ecologist's involvement in this project.

5 MINIMISING CLEARING IN MYERS LANE

Clearing will be minimised in Myers Lane via the following:

- Minimise clearing in Myers Lane through detailed design with consideration of Essential Energy C2010 Operational Procedure: Vegetation Clearing Guidelines for New Power Lines(see Appendix 3).
- Once vegetation to be cleared in Myers Lane is identified, a map of the impacted areas will be added to the appendices of this BMP.
- Implementing No-Go Zone Protocol 13

6 BIODIVERSITY OFFSETTING

A separate biodiversity offsetting plan has been developed to meet the requirements of Condition 12 of the development approval. The BMP has been prepared cognisant that offsetting biodiversity impacts of the development will be required under Sch 3 Condition 12. Lightsource bp intends to retire the biodiversity credit liability by either acquiring or retiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016 or making payments into an offset fund that has been developed by the NSW Government.

7 LANDSCAPING PLAN

A separate Landscaping Plan (LP) has been developed to meet the requirements of Conditions 8 and 9 of Schedule 3. Guidance on the species, mix, quantity and watering regime are defined within the LMP and will be used in the rehabilitation areas as needed.

The species chosen are endemic to the area and have low water requirements, though specific establishment watering requirements are listed in the LP. The species include:

Botanical name	**Common name**
Casuarina cristata	Belah
Callitris glaucophylla	White cypress
Eucalyptus behriana	Bull Mallee
Eucalyptus sideroxlylon	Mugga Ironbark
Acacia oswaldii	Umbrella Wattle
Acacia pendula	Weeping Myall
Acacia salicina	Sally Wattle
Acacia trineura	Three-nerve wattle
Dodonaea viscosa	Sticky Hop Bush

Eremophila michelli	False Sandalwood
Geijera parvifolia	Wilga
Melaleuca lanceolata	Black Teatree

8 MANAGEMENT PROTOCOLS

The following protocols have been developed to make the implementation of the BMP easier to manage for both the Construction and Operation phase.

PROTOCOL 1 - HABITAT TREE REMOVAL PROTOCOLS

Habitat trees must be carefully felled under the supervision of the Project Ecologist. The following recommendations have been developed in consideration of best practise guidelines:

- Habitat tree removal should be avoided in Spring and only occur before 1 September or after 30 November.
- Check weather conditions prior to removal and do not remove habitat trees in hot weather (above 35^{o}C) due to potential to add stress to fauna.
- All habitat trees to be cleared are to be surveyed and marked with high visibility tape prior to clearing.
- Habitat trees are to be mechanically shaken or agitated prior to felling to encourage any remaining animals to either leave the tree or show themselves and subsequently be removed by the Project Ecologist prior to felling.
- Felling will involve gently pushing the tree and lowering or felling using a forestry harvester to avoid sudden falling as this is likely to injure wildlife.
- Following felling, habitat trees will be systematically checked from the ground by the Project Ecologist for any remaining fauna.
- Felled habitat trees will be left overnight (i.e. in an adjacent habitat area if required) to allow any undetected fauna further opportunity to escape.
- If any hollow-bearing tree is found or suspected to contain any threatened species, the tree should be left in place for a minimum of two days and, must be reinspected no more than two hours prior to felling.
- Habitat links must be maintained during clearing to permit fauna species to move safely from the site to adjacent areas.
    - Clearing should begin in the area that is furthest from those areas of vegetation that are to be retained and move progressively towards the area retained.
    - The direction of clearing should ensure that fauna species are directed away from threats such as roads, developed areas or disturbed areas.

    - Sequential clearing should not create an 'island' of habitat that is isolated from adjoining habitat by roads, or cleared and disturbed areas

- Records of the habitat clearing must be kept by Project Ecologist, submitted to EPC Project Manager. Information recorded to include: species, size, hollow and species (if obtainable), staff/contractors involved in clearing.

PROTOCOL 2 - HABITAT BOX PROCEDURE

To reduce the potential for impacts to arboreal fauna species including the Inland Forest Bat (*Vespadelus baverstocki*)) it is recommended that the removal of habitat trees be offset by the installation of habitat boxes using the following protocol:

- Prior to conducting any clearance works, purpose-built habitat boxes will be placed in retained vegetation within the Project Site.
- Habitat boxes suitable for a range of fauna species will be installed at a 1:1 ratio (1 box for each habitat tree removed).
- A total of 11 habitat boxes will be installed and monitored by the Project Ecologist.
- It is important that the density of habitat boxes in the retained vegetation is no greater than the natural density of hollows in better quality habitats.
- The habitat boxes should be monitored twice a year (late winter and mid-summer) after installation to check for signs of use and condition.
- During the monitoring period, any damaged boxes will be replaced on a like for like basis by the Project Ecologist unless deemed inappropriate. If deemed inappropriate, they will be replaced with suitable alternatives
- At the completion of each monitoring stage, a brief report should be prepared by the Project Ecologist and provided to the O&M Site Manager and Project Team.

PROTOCOL 3 - METHODS FOR RE-USING RESOURCES AS WOODY DEBRIS

To reduce the potential for impacts to native vegetation and fauna species, it is recommended that the following re-using resources protocol be implemented:

- Identify and mark out suitable stockpile locations.
- Stockpiles to be located away from native vegetation and drainage paths and in areas already cleared/disturbed.
- Place salvaged vegetation and soil resources in disturbed areas to maximise salvage potential.
- Salvage vegetation and soil from construction would be inspected and reserved for beneficial re-use on site in similar locations/environments if suitable.
- When areas that require regeneration are ready for re-establishment, preference is given to re-using resources available from on site. If this is not successful, the Landscaping Plan will be the guiding document on species, mix, ratio and watering requirements.
- Woody debris, including hollows, be placed within the areas of the Project Site where vegetation is to be retained.

PROTOCOL 4 - WEED MANAGEMENT

Measures to prevent the spread of weeds should include the following weed hygiene procedures:

- Induction materials containing detailed information pertaining to the identification of high threat weeds should be prepared by a suitably trained ecologist or bush regenerator. These materials should be provided to contractors who will carry out construction works within the Project Site (see attached Noxious weed information sheets provided in Appendix 1 as a guide).
- Prior to construction, control of High Threat Exotic weeds must be completed.
- All vehicles, equipment, footwear and clothing should be clean and free of weed propagules prior to entering the Project Site. In a designated area, vehicles will be decontaminated using the Vehicle Hygiene Procedure (Appendix 5).
- Any weeds that are removed during the construction phase must be disposed of via an appropriate waste facility.
- Weed abundance and fuel load to be managed through monitored sheep grazing, with regimes based on annual vegetation surveys.
- Livestock exclusion fencing to be installed around areas of native vegetation to be retained.
- Regular (weekly) weed monitoring and control will be completed, documented and reported to Lightsource bp during construction.
- Quarterly weed reconnaissance and reporting during normal operations and measures implemented to control new infestations.
- This protocol will be incorporated into the induction process for the project.

PROTOCOL 5 - MANAGEMENT OF DISPLACED FAUNA

The following recommendations apply to the management of any displaced fauna species during vegetation clearing activities or routine inspections:

- All handling of fauna species should be conducted by the Project Ecologist.
- Animals are to be removed and relocated to the adjacent bushland/nest boxes prior to felling or the tree shall be sectioned and dismantled under the supervision of the Project Ecologist before relocating the animals.
- In the event that arboreal animals do not move or they cannot be captured because the tree hollow to be removed is too large, too high or its recovery would breach OH&S requirements, then the tree will be felled (i.e. in the direction of other tree debris if possible) and animals recovered and relocated to suitable adjacent habitat.
- Nocturnal fauna species, such as microbats, are to be ‘soft released’ using bat boxes placed in adjacent habitat.
- Nocturnal fauna species, such as gliders and possums, are to be secured in suitable enclosures and kept in a quiet, dark and cool environment until they can be released into suitable habitat after dark.
- If any injured fauna species are found, works in the immediate vicinity of the fauna must stop immediately so that the injured animal can be taken to a veterinarian or wildlife carer. Contact the local WIRES 1300 094 737 for advice.

PROTOCOL 6 – FERAL PEST MANAGEMENT

Measures to control feral and over abundant native herbivores:

- Conduct animal inspection prior to completion of fencing to reduce risk of animals being trapped within the Project site.
- Bi-annual monitoring of project site to determine presence of feral animals and over abundant native herbivores to reduce impact to native vegetation.
- Species management will be determined by species specific culling requirements as follows:
    - Feral Cat: cage trapping in late winter to catch dispersing young (annual – late winter)
    - Feral Rabbit: Combination of chemical (Pindone or 1080) and mechanical (ripping of burrows) (annual or on demand)
    - Feral Pig: Combination of chemical (1080 poisoning), ground shooting and trapping
    - House mouse: Rodenticides (bromadiolone)
    - Over abundant native herbivores: A non-commercial licence to harm kangaroos from NPWS is required
- Recording fauna mortalities on the Project Site and subsequent notification to BCD
- Adjoining landholders will be notified by letterbox drop if and when 1080/baiting for feral animals is planned to be used.
- This protocol will be incorporated into the induction process for the project.

PROTOCOL 7 - FENCE CONSTRUCTION AND MANAGEMENT

To reduce the potential for impacts to fauna species including the Inland Forest Bat (*Vespadelus baverstocki*), it is recommended that the following fencing construction and management protocol be implemented:

- The use of barbed wire be avoided, where possible, (acknowledging operational requirements of the project) in the site perimeter fence. If required, limit to one strand of barbed wire on the top.
- Fencing should not act as a barrier to the movement patterns of flying species, or those small animals (body height < 600 mm) that are ground traversing.
- Weekly inspection of perimeter fencing will be undertaken during construction to identify any fauna incidents related to the fencing.
- The security perimeter fence is inspected monthly for the first year of operation. If fauna incidents are regularly identified, then monthly monitoring to continue. However, if fauna incidents are infrequently identified then monitoring to be conducted annually.
- Fence security reconnaissance and reporting during normal operations to allow for remedial actions will be implemented.
- This protocol will be incorporated into the induction process for the project.

PROTOCOL 8 - EROSION AND SEDIMENT CONTROL PROTOCOL

Measures to control erosion and sediment control:

- Install erosion and sediment control measures prior to any works.
- Complete regular inspection, particularly after rainfall to ensure ongoing functionality.
- Temporary stockpiles that have suitable erosion and sediment control measures will be implemented.
- Avoid stockpiling of materials adjacent to native vegetation, use cleared/disturbed areas.
- Undertaken maintenance of silt fences and other mitigation measures to isolate runoff.

PROTOCOL 9 - LIGHTING DESIGN PROTOCOL

National Light Pollution Guidelines for Wildlife has the following Best Practice Lighting Design.:

- Start with natural darkness and only add light for specific purposes.
- Use adaptive light controls to manage light timing, intensity and colour.
- Light only the object or area intended – keep lights close to the ground, directed and shielded to avoid light spill.
- Use the lowest intensity lighting appropriate for the task.
- Use non-reflective, dark-coloured surfaces.
- Use lights with reduced or filtered blue, violet and ultra-violet wavelengths.
- Refer to Australian Standard 4282 – Control of the obtrusive effects of outdoor lighting for additional management options.
-

PROTOCOL 10 – CHEMICAL MANAGEMENT

Simple management principles to reduce potential for chemical spills are:

- All chemicals must be kept in clearly marked bunded areas
- Regularly inspect vehicles and mechanical plant for leakage of oil or fuel.
- No re-fuelling, washing or maintenance of vehicles and plant to be undertaken within 20 m if natural drainage lines.

PROTOCOL 11 – DUST CONTROL

Specific measures to minimise the generation of dust and associated impacts on adjacent natural environments include:

- Setting maximum speed limits for all traffic within the study area to limit dust generation (see Traffic Management Plan).
- Use of a water tanker or similar to spray unpaved access tracks during construction phase.
- Application of dust suppressants or covers on soil stockpiles.

PROTOCOL 12 – VEGETATION CLEARING PROCEDURE

Specific measures to minimise the impact of vegetation clearing include:

- Areas of vegetation outside the development footprint are to be clearly demarcated by the EPC Project Manager with high visibility orange or yellow bunting to prevent accidental clearing during the construction phase.
- Existing cleared areas, farm tracks or areas of existing disturbance will be used to minimise the amount of vegetation clearing required.
- Processes/actions/management measures that will minimise ground disturbance during construction include:
    - Digital capture and display of clearance areas
    - Recording of vegetation clearance
    - Recording of rehabilitation works completed
- Pre-clearing surveys must be undertaken by a Project Ecologist prior to commencement of any vegetation clearing activities within the Project Site. The Project Ecologist will conduct pre-clearing surveys to identify:
    - Fauna species likely to be encountered during construction and potential impacts to fauna during vegetation clearing;
    - Potential fauna habitat in the Project Site; and
    - Preferred locations to relocate fauna species and habitat features that can be retained following construction.
- Pre-clearing surveys will take place 1-2 weeks prior to the commencement of vegetation clearing. The Proposal Ecologist will mark all potential fauna habitat (e.g. habitat trees, nest trees, burrows, etc.) in the development footprint with high visibility tape (e.g. trees, large woody debris and nests).
- The Project Ecologist is to be present on site during all vegetation clearing operations.
- Vegetation should be cleared in a way that will allow fauna species living in or near the clearing site enough time to move out of the area without additional human intervention.
- No clearing should occur during the early evening or at night, as this is when fauna species are most likely to be on the move and are more vulnerable to injury.
- Habitat links must be maintained during clearing to allow fauna species to move safely from the site to adjacent areas.
- Clearing should begin in the area that is furthest from vegetation to be retained.
- The direction of clearing should also ensure that fauna species are directed away from threats such as roads, developed areas or disturbed areas (e.g. residential areas or cleared spaces >100m).
- This protocol will be incorporated into the induction process for the project.

PROTOCOL 13 – NO-GO ZONE

No-Go Zones are identified in Figure 4-1.Specific measures relating to the No-Go Zone include:

- No-Go Zones will be clearly sign posted and demarcated prior to any work commencing. The alignment of this demarcation 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.
- No-Go 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-Go Zone will be demarcated using high visibility orange or yellow bunting and will be in place as part of the Site Establishment phase and prior to any other construction activities being undertaken.
- No storage of materials or machinery is allowed within No-Go Zones or retained vegetation. There is also to be no preparation of chemicals or concrete in these areas, or adjacent areas, and care must be taken to avoid the compaction of soils.
- If stock is allowed to access the site, a stock proof fence will be erected around areas of Threatened Ecological Communities to control access.
- This protocol will be incorporated into the induction process for the project.

9 BIBLIOGRAPHY

Essential Energy. (2012). *Operational Procedure: Vegetation Clearing Guidelines for New Powerlines - CEOP2010.* Port Macquarie: Essential Energy.

Essential Energy. (2019). *Vegetation Management Plan.* Port Macquarie: Essential Energy.

NSW Department of Primary Industries. (2020, July). *NSW Weed Wise*. Retrieved from NSW Biosecurity & Food Safety: https://weeds.dpi.nsw.gov.au/

NSW Department of Primary Industries. (2020, August). *Vertebrate pest animals*. Retrieved from Biosecurity & Food Safety: https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests

SLR. (2019). *West Wyalong Solar Project Biodiversity Development Assessment Report.* New Lambton: SLR .

ABBREVIATIONS AND GLOSSARY

Term / Acronym	Description
BC Act	*Biodiversity Conservation Act, 2016* (NSW)
BCD	Biodiversity Conservation Division within the NSW Department of Planning, Industry and Environment
BDAR	Biodiversity Development Assessment Report
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW). Provides the legislative framework for land use planning and development assessment in NSW
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Provides for the protection of the environment, especially matters of national environmental significance, and provides a national assessment and approvals process.
Habitat tree	A tree containing hollows or nests
POEO Act	*Protection of the Environment Operations Act 1997*
SSD	State Significant Development

APPENDIX 1 – WEED INDUCTION INFORMATION SHEETS

Three High Threat Exotics weeds were found in low abundance throughout the Project Site (mainly as single shrubs) in September 2018. Information on the species and control information is provided below. Specific details on control measures available at NSW Weedwise (see links for each species below).

High Threat Weed	Control
Asparagus asparagoides (Bridle Creeper) 	Bridle Creeper has a number of features which make it difficult to control as it often has underground tuber reserves. However, the seedbank is relatively short lived and only occurs on emerging stems, and seed output in old infestations is small. It is vital to keep un-infested areas free of bridal creeper. Herbicides are a good control method. However, as it grows in areas of native vegetation, it is important to avoid contact with desirable plants or soil near tree roots. Isolated plants can be treated with recommended herbicide via spot spray, and best applied with a hand sprayer. Both Glyphosate and Mesulforon-methyl are approved treatment controls. See NSW Weedwise website for detailed information usage rates: https://weeds.dpi.nsw.gov.au/Weeds/BridalCreeper
Lycium ferocissimum (African Boxthorn) 	African boxthorn is a very thorny scrub that grows close together and forms an impassable spiky wall. They group up to 5m high and 3m wide. It is toxic to humans and provides shelter and food for pest animals including foxes, rabbits and starlings. It is a Weed of National Significance (WoNS) and is regarded as one of the worst weeds because of its invasiveness, potential for spread, and economic and environmental impacts. Successful weed control requires follow up after initial efforts. This means actively looking for and killing regrowth or new seedlings. A combination of control methods us usually more successful. To tackle African boxthorn: • treat mature plants and follow-up to suppress regrowth • kill young plants before they are two years old to prevent seed set • follow-up until African boxthorn is eradicated • promote vigorous perennial pastures to resist invasion Options include physical removal and chemical control. A number of chemicals and application methods are approved treatment controls. See NSW Weedwise website for detailed information usage rates: https://weeds.dpi.nsw.gov.au/Weeds/AfricanBoxthorn

High Threat Weed	Control
Xanthium spinosum (Bathurst Burr) 	Bathurst burr is amongst the most common and economically serious weeds in Australian agriculture. The burrs readily adhere to the wool of sheep and contaminated represents a substantial cost as additionally processing is required to separate the burrs. It is a compact annual, summer growing herb. Stems produce many groups of 3-pronged, stiff, yellowish spines at the base of each leaf or branch. Leaves are dark green with prominent white veins, lighter underneath due to covering of fine hairs. Control measures for Bathurst Burr include: • Cultivation (effective method of controlling seedlings) • Slashing (useful clean-up after spaying with herbicide or if infestations are small and scattered. Equipment needs to be cleaned of burrs to prevent spreading) • Chipping/hand hoeing (economical in small areas, individual plants or isolated populations. Effective follow up control method) • Pasture Management (pasture gaps increase burr germination and seedling survival) • Grazing (adult plants not easily eaten by livestock and seedlings are toxic to animals, resulting sometimes in death) • Herbicides (most effective when plant is young and actively growing) • Surveillance (important to monitor sites for further germination events) A number of chemicals and application methods are approved treatment controls. See NSW Weedwise website for detailed information usage rates: https://weeds.dpi.nsw.gov.au/Weeds/BathurstBurr

APPENDIX 2 – BAM SITE - FIELD SURVEY SHEETS (FROM BDAR) AND VEGETATION INTEGRITY ASSESSMENT SUMMARY TABLE

BAM Field survey sheets Will be provided in the final version of the document.

The Vegetation Integrity Assessment (Site Condition) and Patch Size (from the BDAR page 50)

3.2.5 Vegetation Integrity Assessment (Site Condition) and Patch Size

Isolated patches of vegetation occur centrally within the Project Site; however, all vegetation associated with the boundaries and adjoining road reserves is considered to be part of the same vegetation patch. This vegetation extends to the south and extends for several kilometres until becoming fragmented by agricultural areas and major roadways. This vegetation patch is estimated (via GIS software) to be approximately 86 hectares.

The vegetation integrity assessment was conducted in accordance with the BAM (OEH 2017c) for each of the vegetation zones as presented in **Table 18**. In accordance with the BAM, patch size was assigned to each vegetation zone as a class, being < 5ha, 5–24 ha, 25–100 ha or ≥ 100 ha.

Table 18 Vegetation Integrity Calculations

Veg Zone Name	Area within Project Site	Area within the Development Footprint	Patch Size (Ha)	Composition Condition Score	Structure Condition Score	Function Condition Score	Vegetation Integrity Score
PCT 177_Moderate	7.66	0.00	86.00	52.4	83.2	43.5	57.4
PCT 177_Low	7.59	0.00	3.10	22.2	67.5	54.7	43.4
PCT 55_Moderate	7.07	0.80	86.0)	38	57.6	61.1	51.2
PCT 55_Low	7.5	0.00	86.0	16.9	46.1	31.6	29.1
PCT 76_Moderate	0.46	0.00	0.46	6.3	47.8	14.5	16.3
PCT 185_Low	1.23	0.00	86.0	9.2	14.0	4.5	8.3
PCT 26_Moderate	5.77	1.03	86.0	21.3	83.2	63.8	48.4
Total	**37.28**	**1.83**					

APPENDIX 3 – ESSENTIAL ENERGY C2010 OPERATIONAL PROCEDURE: VEGETATION CLEARING GUIDELINES FOR NEW POWER LINES

Operational Procedure: Vegetation Clearing Guidelines for New Power Lines

CEOP2010

Before you begin ...

1 CHECK that this printed document is the most recent version before you use it

- The online version of this document is the current version.

2 DO NOT unlawfully disclose any restricted information in this document

- To see how the law applies to you:
  - Employee: Read your contract of employment with Essential Energy
  - Contractor: Read your contract of engagement with Essential Energy
  - Sub-contractor: Read your contract with the contractor engaged by us
  - Accredited Service Providers: comply with Essential Energy policies, state acts and regulations.

Summary

Positions and Responsibilities

Key positions	Responsibilities
All employees	Hyperlink to area of document
Position 1	Eg. 4.5.3; Attachment A
Position 2	Eg. 4.5.3; 4.6.1; Attachment A

Contacts

Position	Extension number

CONTENTS PAGE

1 INTRODUCTION

The purpose of this procedure is to provide requirements for the clearing of vegetation prior to the installation of the new overhead and underground power lines.

There is an increasing public awareness of environmental issues and therefore when planning new power lines, routes should be selected, where possible, to have the least possible disruption to the environment whilst minimising any ongoing maintenance costs to Essential Energy.

While Essential Energy has a statutory obligation to provide a safe, reliable and quality electricity supply, it is recognised that the management of trees and other vegetation near power lines can be one of the major factors in this regard.

This procedure applies to the clearing of vegetation for the construction of all new overhead and underground power lines which are to be connected to the Essential Energy's electricity network.

2 ACTIONS AND RESPONSIBILITIES

2.1 Environmental Impact Assessment

As part of the Project Design process, it is the responsibility of the Level 3 Accredited Service Provider to ensure an Environmental Impact Assessment (EIA) is carried out in accordance with Corporate Manual CECM1000.70 *Environmental Impact Assessment.* The Assessment shall include all clearing work and other work necessary for their safe construction and operation of the designated works.

It is the responsibility of the Level 3 Accredited Service Provider to ensure that a Site Specific Vegetation Clearing Management Plan is prepared for the Project. This Plan shall address all the issues identified in the Environmental Impact Assessment.

The Environmental Impact Assessment and the Site Specific Vegetation Clearing Management Plan shall be presented to the Nominated Essential Energy Officer for approval as part of the project Design Certification process.

It is the responsibility of the Nominated Essential Energy Officer to ensure the Environmental Impact Assessment and the Site Specific Vegetation Clearing Management Plan meet the Essential Energy requirements prior to Certifying the Project Design.

It is the responsibility of the Nominated Essential Energy Officer to approve any requests for variation from this Procedural Guideline. If it is absolutely necessary to vary from the requirements, the Nominated Essential Energy Officer shall reach agreement on the variations with Essential Energy's Planning and Customer Connection Officers in the region prior to approving any variations.

Clearing works shall not commence until the Project Design (including the Environmental Impact Assessment and the Site Specific Vegetation Clearing Management Plan) submitted by the Level 3 Accredited Service Provider has been certified by the Nominated Essential Energy Officer. When the Project Design has been certified, it is the responsibility of the Nominated Essential Energy Officer to provide, in writing, permission to proceed with vegetation clearing works.

The Level 3 Accredited Service Provider shall ensure that the Level 1 Accredited Service Provider who will carry out the power line construction is provided with a copy of the certified Site Specific Vegetation Clearing Management Plan before construction commences.

The Level 1 Accredited Service Provider shall ensure that construction of the power line does not commence until all vegetation clearing has been carried out in accordance with the requirements of the Site Specific Vegetation Clearing Management Plan. Any non-conformances shall be notified to the Level 3 Accredited Service Provider for resolution.

Essential Energy's Network Compliance Officer shall ensure that all vegetation clearing works actually carried out comply with the requirements of the Site Specific Vegetation Clearing Management Plan and the requirements of this Procedural Guideline.

2.2 Community and Environmental Considerations

Electricity Council Guideline EC22 provides guidelines for community consultation for the installation of new lines to manage any adverse public reaction to the installation of the power lines.

3 CLEARING REQUIREMENTS

All clearing shall be done in accordance with the requirements of the EIA and relevant legislation.

Clearing requirements for both underground and overhead lines are specified to satisfy Essential Energy's Vegetation Management Plan i.e. to provide safety to people and the environment and maintain a continuous and high quality electricity supply, whilst complying with the requirements of the Electricity Supply Act 1995 and Essential Energy's Network Management Plan.

Clearing on steep slopes or in the vicinity of creeks and rivers is not to commence without approval from the relevant authority.

Consideration should be given to avoiding stands of roadside trees and in this regard contact should be made with the regional Vegetation Management Committee and the local Council that may have prepared a roadside management plan and/or have special requirements for the area.

It is the responsibility of the project manager to specify any variation from this procedure. If it is absolutely necessary to vary from the requirements of this procedure the project manager shall obtain written permission from Essential Energy's responsible officer for the area.

3.1 Clearing Requirements for Underground Lines

Clearing shall be carried out to allow for the installation of the line and to limit the potential effects of roots with connection boxes, conduits and cables.

The clearing zone shall allow adequate working clearance for excavation, construction and backfill equipment. The clearing zone width will vary according to the construction methods and is at the discretion of the project manager.

Tree roots can extend beyond the drip line of trees up to 5 times the drip line radius. The roots of some species can be a particular nuisance with connection boxes, conduits and cables, ficus species (figs) are an example of this type of vegetation. Horticultural advice should be sought in these circumstances.

At the completion of the construction the area shall be rehabilitated to prevent erosion.

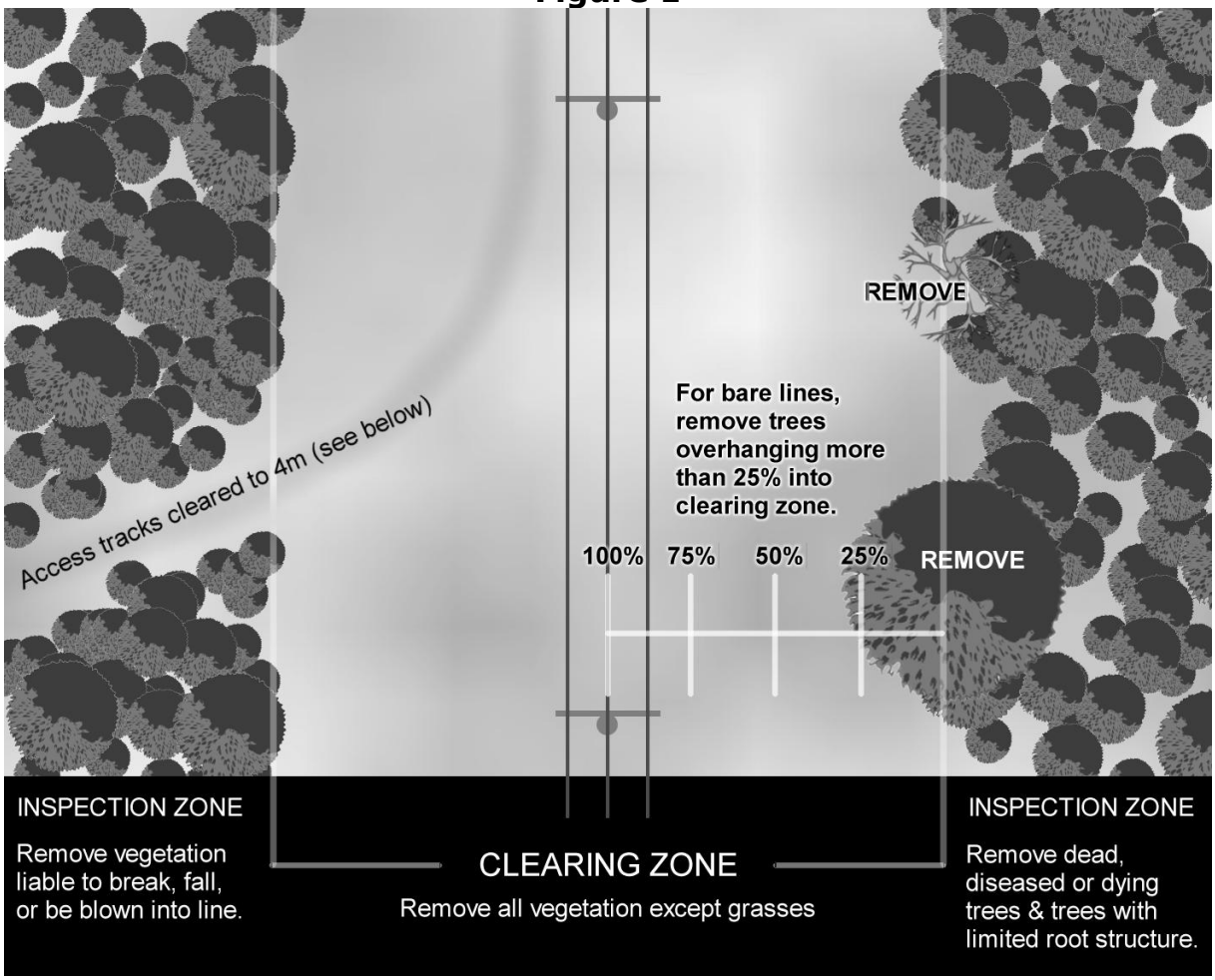
3.2 Clearing Requirements for Overhead Lines

The extent of clearing for any overhead power lines is often a difficult decision.

Many factors affect the extent of clearing including the length of the span, the amount of sag on hot days with heavily loaded lines, the amount of conductor swing, the degree of whip of adjacent trees on a windy day, the type of vegetation and regrowth rates, the terrain etc.

The following (including Figure 1) provides the general requirements for clearing for overhead power lines including those in urban areas:

Figure 1



3.2.1 Clearing Zone

All vegetation except grasses are to be removed from the clearing zone except as below:

- Low growing species shall be retained at river or creek crossings.
- All vegetation in deep valleys where the conductors will be well above the maximum height of the prevailing vegetation and the clearance space will never be compromised shall be retained (except for construction access requirements).
- Low growing species may be retained for the first 5 metres of the corridor adjacent to main roads for a visual buffer zone.
- Stumps shall be retained where there is the possibility of erosion.

In long spans, the cable may blow out a considerable distance (easement width shall allow for any conductor blow out) and vegetation should be cleared appropriately, the Level 3 Accredited Service Provider shall specify the width.

The power line shall generally be installed in the centre of the clearing zone. Where the powerline traverses the side of steep slopes the Level 3 Accredited Service Provider may specify an appropriate offset.

3.2.2 Inspection Zone

Trees within this zone should, wherever justified from a practical, safety and economical position, practical and economically justified, be a distance from the power line equal to or greater than their potential height i.e. a 20 metre tree should not be allowed to be retained within 20 metres of the line. The topping or lopping of tall trees is not considered as a suitable solution to reducing their potential threat to the powerline

Vegetation liable to break, fall or be blown into the line in this zone shall be removed. This includes dead, diseased and dying trees or trees with limited root structure.

Trees within this zone that overhang or could overhang into the clearing zone past the first one quarter of the width of the clearing zone for bare conductors shall be removed (see Figure 1).

All tree trimming shall be done to Australian Standard AS4373 – Pruning of Amenity Trees.

Low growing species are allowed in this zone.

Where the extent of clearing within this zone is not apparent, or is difficult to define, or cannot be agreed to by the party's involved then direction is to be sought from the local Essential Energy construction project manager or vegetation control officer.

3.2.3 Access Tracks

Where possible, 4m wide tracks are to be provided for construction and maintenance access along the line easement adjacent to the centreline.

Where access tracks are to be constructed to individual pole structures (if not able to access the poles along the line) they are to be cleared to a width of 4 metres.

Stumps are to be removed and all holes backfilled and compacted within the access track area.

Where appropriate, contour banks are to be provided to minimise track erosion.

3.2.4 Covered Conductor Thick (CCT) and Aerial Bundled Conductors (ABC) including Service Lines

CCT and ABC are used to limit the extent of clearing and to provide a safe method of overhead distribution. To ensure safety, allow construction and limit Essential Energy's future clearing costs a clearing zone width of 6 metres applies.

Notwithstanding the above, to allow for conductor swing and tree whip a minimum clearance of 1.0 metres is required from all vegetation for the whole power line under all conditions. Trees shall not require trimming in the future or they should be removed.

Overhangs that are unlikely to break may be retained if they are mature branches and are more than 2 metres above the CCT and ABC under all conditions.

3.2.5 Bare Conductors

The Clearing zone width required is dependent on the line voltage as provided below:

Voltage	Clearing Zone Overall Width
240 V	20m
11kV	20m
19.1kV	20m
22kV	20m
33kV	30m
66kV	30m
132kV	45m

The easement width shall reflect the clearing zone width.

3.2.6 Stays

Vegetation is to be cleared to a width of 5 metres along the line of the stay and for a radius of 3 metres around the stay peg. Deep disturbance of soil at the stay position is to be avoided.

3.3 New Lines in State Forests

A minimum clearing zone width of 32 metres applies in State Forests or similar situations and this does not negate any of the above requirements.

This may not be sufficient to ensure safety and the integrity of the power line and extra clearing zone width will be required, the *Rule of Thumb* in 4.2.2 provides guidance in this regard.

The Level 3 Accredited Service Provider is to specify the clearing zone width in this case to ensure safety. The easement width shall reflect the clearing zone width.

4 SITE SPECIFIC VEGETATION CLEARING MANAGEMENT PLANS

The Site Specific Vegetation Clearing Management Plan shall include but not be limited to the following information:

1 Name of the person(s) or Entity who will carry out the work.

2 Name and Mobile Phone No. of the Site Supervisor in charge of works on the site.

3 Details of similar work carried out in the previous 18 months.

4 Plan of the area to be cleared showing all relevant features. This can be the Construction Plan if sufficient detail is included. This plan shall include:

- The location of vegetation to be removed relative to the proposed power line location.
- The location of vegetation that is requested to remain by the Level 3 Accredited Service Provider and must be approved by the Nominated Essential Energy Officer.
- Locations of any additional clearing required for conductor blowout.
- Any offsets in the clearing zone as a result of steep slopes etc.
- Any site specific environmental or safety hazards identified during the field inspections and by the Environmental Impact Assessment.

5 Where the work will be carried out in public road reserves, public places or on property not owned by the proponent of the power line:

- Photo Copy of the WorkCover OH&S Construction Induction Training Certificate all persons who will be involved in the work.
- A Traffic Control Plan and details of Provider.
- A Work Cover Certificate for all Elevated Work Platform Equipment to be used.
- Evidence of Chainsaw Proficiency Training if chainsaws are to be used.
- Evidence of current $20M Public Liability Insurance applicable to the work to be carried out.
- Evidence of vehicle Third Party Property Insurance for all vehicles to be used on the project.
- Evidence of current Workers Compensation Insurance covering the type of work to be carried out and all workers involved in the work.

6 Details of any Herbicides and evidence of Herbicide Application Training of staff involved in the use of herbicides.

7 Description of works to be carried out and method of vegetation clearing and disposal of debris in accordance with this Procedural Guideline. This should include the type of species to be cleared and the approximate number of each species to be cleared. Where the vegetation is to be removed from site, details of the removal location are to be provided. Written approval to dump must also be provided from the owner of the location.

8 Written evidence that all Approval requirements as identified in the Environmental Impact Assessment have been obtained.

9 Details of any conditions attached to Approvals and the measures proposed to accommodate those conditions.

10 Details of any site specific environmental or safety hazards identified in the Environmental Impact Assessment and the control measures proposed to manage the risk associated with them.

11 Description of any works proposed to be carried out that are not in accordance with this Procedural Guideline.

5 NOXIOUS WEEDS

The following categories of noxious weeds shall be eradicated prior to any works commencing, as maintenance works can become difficult or more expensive:

- In New South Wales noxious weeds categorised as W1 or W2 weeds;
- In Queensland declared plants categorised as P1, P2 or P3 weeds; and
- In Victoria declared noxious weeds categorised as State Prohibited or Regionally Prohibited weeds.

Clearing works shall be carried out to minimise the spread of all noxious weeds and in accordance with Essential Energy's procedure for Preventing the Spread of Noxious Weeds, Plant and Animal Diseases.

6 REVEGETATION OF CLEARED AREAS

All clearing works shall be carried out to limit the possibility of erosion in accordance with Essential Energy's Erosion and Sediment Control procedure.

Therefore all exposed areas shall be re-established with grasses, preferably those native to the area. This will also limit the establishment of noxious weeds, the possibility of bushfires, facilitate the ease of access for routine and emergency maintenance and also provide grazing areas for native animals, birds and insects.

7 HERBICIDE TREATMENT

Tree stumps, which cannot be removed, shall be cut at ground level and treated by cut stump application.

All suckers, saplings or immature trees in the clearing zone shall be treated by a herbicide to prevent regrowth. This is best done when the vegetation is actively growing and shall be carried out to the manufacturer's recommendations using a herbicide suitable and registered for the vegetation involved.

In some instances herbicide application may not be appropriate at the time initial clearing works are undertaken. In such instances, the Project Manager is to specify an appropriate follow up period for the customer to carry out herbicide control of suckers and regrowth. The follow up period specified will generally not exceed twelve months from the date the original clearing was carried out.

Herbicide use shall be in accordance with National Farm Chemical Users Program Certificate and all relevant legislation.

8 CLEARING METHODS AND DEBRIS DISPOSAL

Vegetation shall be cleared and debris shall be disposed of prior to the power line being constructed. This shall be carried out to meet all relevant legislation requirements and debris should be recycled where possible.

1 Vegetation carried out in public road reserves, public places or on property not owned by the proponent of the power Line.

Vegetation shall be cut or mulched to minimise soil disturbance. Vegetation clearing shall not be carried out using bulldozers or similar bladed machinery. All stumps should be removed where possible except where required to stabilize the soil for erosion purposes. Where retained, stumps shall be cut or ground down to natural ground level and herbicide treated as required in Clause 8.

Vegetation debris shall be disposed of by chipping and mulching or removal from site. Vegetation debris shall not be burnt. Where possible, chippings and mulchings shall be spread over exposed areas to reduce the possibility of soil erosion. Where the debris is to be removed from site, details of the removal location are to be provided to Essential Energy. Written approval to dump from the owner of the location must also be provided to Essential Energy.

2 2. Vegetation carried out on property owned by the proponent of the Power line.

Vegetation clearing shall be carried in accordance with the Site Specific Vegetation Clearing Management Plan approved by Essential Energy. If vegetation debris is to be burnt, fire restriction and any other local and legal requirements are to be complied with.

9 RECORDING VEGETATION WHICH COULD AFFECT THE NEW POWER LINE

Any vegetation that may affect the new power line or become a future liability to Essential Energy is required to be recorded on Essential Energy's "special tree" database.

This will ensure that there is no doubt as to whom is responsible for future trimming costs and must be recorded in the database by the approving Essential Energy responsible officer.

This vegetation would fall into the following categories.

a Approved significant trees that cannot be removed – trimming at Essential Energy's cost other than (c) below.

b Vegetation that is allowed to remain as specified by the project manager, in accordance with clause 4.0, and will affect the power line. This will become Essential Energy's maintenance cost other than (c) below.

c Vegetation, which will affect dedicated customer connection assets in the future, on the customer's property. Vegetation control will be at the property owner's expense as stipulated in the general terms and conditions of supply.

10 KEY TERMS AND DEFINITIONS

COMMERCIAL-IN-CONFIDENCE: this is a general sensitivity label to be applied to information assets that are not to be released outside of the organisation, but are freely available to all employees and other personnel working directly for Essential Energy. An example of the use of this sensitivity label would be its application to the corporate policies, forms, procedures, standards, manuals and guidelines to be applied across the organisation. For more information refer to Information Security Sensitivity Labelling and Handling CEOP1096.

Accredited Service Provider (ASP): A contractor accredited under Part 10 of the 'Electricity Supply (General) Regulation 2001 (NSW)' for undertaking contestable works.

Contestable works: Works (including design), funded by the developer, required to enable a new or altered connection where the developer may choose the ASP (Designer or Constructor) to carry out the works.

Clearing Zone: That area which is to be cleared for the new power line.

Drip line radius: The radius around the outer edge of the tree at ground line.

Inspection Zone: That area outside the Clearing Zone.

Nominated Essential Energy Officer: That person who has delegated authority from Essential Energy to carry out various activities relating to Vegetation Clearing Management.

Overhang: The side branches of a tree that could grow above and overhang the powerlines.

Vegetation: Means trees, tree regrowth or any plant material.

11 REFERENCES

CECM1000.90 – SSHE Manual: Handbook

CEOP8008 – Vegetation Management Plan

CEOP8029 – Network Management Plan

Electricity Association Guideline ISSC3 Guide to Managing Vegetation Near Power Lines

Electricity Council Guideline EC22 – Community and Environmental Considerations

Electricity Supply Act 1995 No 94

Environmental Planning and Assessment Act 1979

12 REVISIONS

Issue Number	Section	Details of Changes in this Revision
Original		21 February 2002
2	4.2.2 5 7 10	Direction on inspection zone clearing requirements added. Categories of noxious weeds updated to specific State requirements. Correct name of Country Energy policy provided. Section heading amended from Chemical Treatment; Requirements for follow up herbicide control added. References updated.
	2 3.1 5 9	Additional definitions. Update requirements. New section inserted – Site specific vegetation clearing management plans. Rename section and update requirements.
3	All	Updated template in-line with Essential Energy re-branding

APPENDIX 4 – RESPONSE TO BCD COMMENTS

Response to comments from BCD are summarised below. A copy of the email is also included below.

Layout of the tables in Section 4 were re-arranged and updated to include the comments from BCD. The tables now include the recommendations from BCD as shown below.

Impact and mitigation measure information

1. **Risk/impact to be managed**
2. **Mitigation measures** – description of measures to minimise (or avoid) the impact - to a large extent this is described in the management protocols that are in the draft BMP and can be referred to in the table as you have done
3. **Monitoring** – description of monitoring focus
4. **Who** is responsible

Monitoring and reporting

1. **Risk (*impact*)** (taken from the previous Table so the tabulated information in the BMP can be cross referenced and much easier to follow)
2. **What** is monitored and **when** – (from table above)
3. **Who** is responsible
4. **Decision** trigger – based on impact
5. **Adaptive** response
6. **Reporting**

Suggested updates to the protocols were accepted.

APPENDIX 5 – VEHICLE HYGIENE PROCEDURE

Vehicle hygiene procedures will be implemented for any vehicle that enters the development site during construction and operation which is likely to come into contact with the natural ground or weeds. The procedures include:

- Inspection upon arrivals in laydown area.
- Removal of dirt and/or plant matter from newly arrived vehicles at a designated washdown area by trained site personnel.
- Washing and inspection prior to vehicles being given the all clear to enter indirect disturbance areas.
- Inspection and washing after leaving indirect disturbance areas and prior to leaving the site.
- Inspections and washdowns will be recorded on a Vehicle Hygiene Register and kept on site.

Any water from the washdown area will be managed in accordance with the Storm Water Management Plan.