



LIVERPOOL RANGE WIND FARM

Biodiversity Management Plan
– Pre-construction Minor Works

FINAL

February 2025



LIVERPOOL RANGE WIND FARM

Biodiversity Management Plan
– Pre-construction Minor Works

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Liverpool Range Wind Farm Pty Ltd

Project Director: Luke Bettridge
Project Manager: Corey Deverell
Technical Director: Bill Wallach
Report No. R01
Date: February 2025



This report was prepared using
Umwelt's ISO 9001 certified
Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Disclaimer

This document has been prepared for the sole use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Umwelt (Australia) Pty Ltd (Umwelt). No other party should rely on this document without the prior written consent of Umwelt.

Umwelt undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. Umwelt assumes no liability to a third party for any inaccuracies in or omissions to that information. Where this document indicates that information has been provided by third parties, Umwelt has made no independent verification of this information except as expressly stated.

©Umwelt (Australia) Pty Ltd

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	Corey Deverell	6 February 2025	Bill Wallach	6 February 2025
V1.1	Corey Deverell	20 February 2025	Bill Wallach	20 February 2025
V2	Corey Deverell	28 February 2025	Bill Wallach	28 February 2025

Table of Contents

Abbreviations	iv
Glossary	vi
1.0 Introduction	1
1.1 Background	1
1.2 Project Overview	1
1.3 Staging	5
1.3.1 Overview	5
1.3.2 Applicability of BMP	6
1.4 Purpose and Aim	9
2.0 Statutory Context	10
2.1 NSW Development Consent	10
2.2 EPBC Act Approval	12
2.3 Legislation, Standards and Guidelines	12
3.0 Stakeholder Consultation	13
3.1 Agency Consultation	13
4.0 Existing Environment	14
4.1 Land Use	14
4.2 Flora and Vegetation Communities	14
4.2.1 Plant Community Types	14
4.2.2 Threatened Ecological Communities	17
4.2.3 Threatened Flora	19
4.2.4 High Threat Weeds	19
4.3 Fauna	19
4.3.1 Fauna Habitat	19
4.3.2 Threatened Fauna and Migratory Species	19
5.0 Project Activities and Biodiversity Impacts	20
5.1 Approved Biodiversity Impacts	20
5.2 Potential Biodiversity Impacts for this BMP	22
6.0 Biodiversity Impact Avoidance, Mitigation and Management	23
6.1 Minimising Native Vegetation Disturbance during Vegetation Clearance	27
6.1.1 Approved Clearing Limits	27
6.1.2 Minimising Loss of Hollow-bearing Trees	27

6.1.3	Demarcation of Clearance Boundaries	27
6.1.4	Management of Vegetation Clearance	28
6.1.5	Salvage of Habitat Features and Vegetative Materials	30
6.2	Protection of Remnant Vegetation	30
6.3	Minimising Impacts on Native Fauna	30
6.4	Unexpected or Incidental Flora and Fauna Finds	31
6.5	Biosecurity (Weeds, Pathogens and Vertebrate Pests)	32
6.5.1	Weeds and Pathogens	32
6.5.2	Vertebrate Pests	33
6.6	Bushfire	33
6.7	Soil and Water	34
6.7.1	Erosion and Sedimentation	34
6.7.2	Contamination of Soils and Waterways	35
6.8	Noise, Dust and Light	35
6.9	Rehabilitation of Temporary Disturbance Areas	36
6.9.1	Stockpiling of Soils and Vegetative Materials	36
6.9.2	Land Preparation	37
6.9.3	Fauna Habitat Enhancement	37
6.9.4	Vegetation Establishment	37
6.10	Biodiversity Offsetting	38
7.0	Roles, Responsibilities and Training	39
7.1	Roles and Responsibilities	39
7.2	Training, Competence and Awareness	40
7.2.1	Site Inductions	40
7.2.2	Toolbox Talks	40
8.0	Monitoring, Reporting and Corrective Actions	41
8.1	Cumulative Vegetation Clearing and Disturbance Register	41
8.2	Inspections	41
8.3	Auditing	41
8.4	Management Triggers and Corrective Actions	42
9.0	Incident and Non-Compliance Management	43
9.1	Incident Notification and Reporting	43
9.2	Non-Compliance Notification and Reporting	44
10.0	Review and Revision	45
10.1	Triggers for Review and Revision	45
10.2	Matters to be Considered During BMP Review	45

11.0 References

Figures

Figure 1.1	Project Locality	3
Figure 1.2	Liverpool Range Wind Farm Project	4
Figure 1.3	Proposed Project Staging	5
Figure 1.4	Proposed Pre-construction Minor Works Locations	8
Figure 4.1	PCTs and Condition Zones (Vegetation Zones)	18

Tables

Table 2.1	Relevant Development Consent Conditions	10
Table 3.1	Agency Consultation during the Development of the BMP	13
Table 4.1	Plant Community Types Identified within the Wind Farm and Public Road Upgrades Development Footprints	15
Table 5.1	PCT Clearing Extents (within the Wind Farm and Public Road Upgrades Development Footprints)	20
Table 5.2	Identified Threatened Fauna Habitat Clearing Limits within the Wind Farm and Public Road Upgrades Development Footprints	21
Table 5.3	Land Category/PCTs within the Pre-construction Minor Work Areas	22
Table 6.1	Summary of Biodiversity Management and Monitoring Measures	24
Table 6.2	Calculated Credit Liability	38
Table 7.1	Key Roles and Responsibilities	39

Appendices

Appendix A	Agency Consultation
Appendix B	Pre-construction Minor Works Locations and Associated PCT Figures

Abbreviations

Abbreviation	Definition
AG	Australian Government
AGL	Above ground level
ARMA	Active revegetation management actions
AS	Australian Standard
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCS	NSW Biodiversity, Conservation and Science Directorate
BDAR	Biodiversity Development Assessment Report
BGW	Box Gum Woodland
BMP	Biodiversity Management Plan
BOS	Biodiversity Offset Scheme
BSSAR	Biodiversity Stewardship Site Assessment Report
CEEC	Critically Endangered Ecological Community
CPHR	NSW Conservation Programs, Heritage and Regulation Group
CWO REZ	Central-West Orana Renewable Energy Zone
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DECC	Department of Environment and Climate Change
DNG	Derived Native Grassland
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EEC	Endangered Ecological Community
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ESCP	Erosion and Sediment Control Plans
ha	Hectares
IBRA	Interim Biogeographic Rationalisation for Australia
km	Kilometres
kV	Kilovolts
LGA	Local Government Area
MOD	Modification
NSW	New South Wales
NSW BCS	New South Wales Biodiversity Conservation and Science Directorate
O&M	Operation and Maintenance
OSOM	Oversized over-mass
PCT	Plant Community Type
PVC	Power Curve Validation

Abbreviation	Definition
RFS	Rural Fire Service
RTS	Response to Submissions
SSD	State Significant Development
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened Ecological Community
VDP	Vegetation Disturbance Permit
WIRES	Wildlife Information, Rescue and Education Services

Glossary

Term	Definition
Development Consent	Development Consent SSD 6696 granted under Section 4.38 of the NSW <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) on 27 March 2018 and as modified on 23 October 2024.
Development Corridor	Includes the Development Footprint – Wind Farm and Development Footprint – External Transmission Line in its entirety as well as areas of adjoining land and the corridor and road upgrade locations shown in the figures in Appendix 2 of the Development Consent.
Development Footprints	This is a combination of the Development Footprint – Wind Farm, Development Footprint – External Transmission Line and the Development Footprint – Public Road Upgrades and comprises the entirety of the temporary and permanent ground disturbance and vegetation removal required for the construction and operation of the Liverpool Range Wind Farm project.
Development Footprint – External Transmission Line	The total impact area within the External Transmission Line Site associated with the construction of the transmission line (i.e. that portion of the transmission line generally between the southern on-site collector substation and the point of connection at Ulan). It includes all temporary and permanent ground disturbance and vegetation removal required to construct access tracks within the transmission line easement and access tracks to the transmission line easement from nearby public roads, pole/tower locations, string pads, and potential upgrade to Transgrid infrastructure at Ulan, and vegetation removal required within the balance of easement required in accordance with Transgrid vegetation management guidelines. It is a realistic estimate of ground disturbance and vegetation removal, and will be refined further during detailed design once contractor(s) are engaged. The Proponent is not authorised to construct unless Planning Secretary's agreement is given (refer to Schedule 2, Condition 8A of Development Consent).
Development Footprint – Public Road Upgrades	The total impact area associated with the construction of the anticipated public road upgrades/repairs required as part of the Project. It is a realistic estimate of temporary and permanent ground disturbance and vegetation removal required to construct the anticipated public road upgrades/repairs, and will be refined further during detailed design once contractor(s) are engaged.
Development Footprint – Wind Farm	The total impact area within the Wind Farm Site associated with the construction of the wind farm, and includes all temporary and permanent ground disturbance and vegetation removal required to construct wind turbines, internal access tracks and ancillary infrastructure, internal portion of the transmission line and vegetation removal required within the balance of easement required in accordance with Transgrid vegetation management guidelines. It excludes the public road upgrades and external portion of the transmission line. It is a realistic estimate of ground disturbance and vegetation removal and will be refined further during detailed design once contractor(s) are engaged.
Ecosystem Credit	A measurement of the value of threatened ecological communities and threatened species habitat for species that can be reliably predicted to occur with a PCT, and PCTs generally. Ecosystem credits measure the loss in biodiversity value at a development site and the gain in biodiversity value at an offset site.

Term	Definition
External transmission line	The portion of the transmission line extending from the southern-most collector substation near Rotherwood Road, Cassilis, south to the connection substation at Ulan, consisting of overhead powerline of up to 330 kV, supported by poles or towers and located within a 60 m wide easement. The Proponent is not authorised to construct unless Planning Secretary's agreement is given (refer to Schedule 2, Condition 8A of Development Consent).
Internal transmission line	The portion of the transmission line extending from the northwest of the Project site to the southernmost collector substation near Rotherwood Road, Cassilis, consisting of overhead powerline of up to 330 kV, supported by poles or towers and located within a 60 m wide easement.
Proposed Works	Reference to proposed works throughout this BMP refers to the pre-construction minor works stage of the Project to which this BMP applies.
Species credit	The class of biodiversity credits created or required for the impact on threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates. Species that require species credits are listed in the Threatened Biodiversity Data Collection database.
The Project	Liverpool Range Wind Farm Project.
Wind Farm Site	Refers to the portion of land within the Site Boundary generally located north of Rotherwood Road, Cassilis, where wind farm infrastructure including the internal portion of the transmission line is located. The portion of land generally south of Rotherwood Road is referred to as the External Transmission Line Site.

1.0 Introduction

1.1 Background

Liverpool Range Wind Farm (the Project) is an approved large scale renewable energy project that is owned by Tilt Renewables Australia Pty Ltd (Tilt Renewables) as trustee for Liverpool Range Wind Farm Project Trust. The Project is located approximately six kilometres (km) east of the township of Coolah, New South Wales (NSW) within the Local Government Areas (LGAs) of Warrumbungle Shire, Upper Hunter and Mid-Western (**Figure 1.1**). The Project is also located within the Central-West Orana Renewable Energy Zone (CWO REZ).

State Significant Development (SSD) Consent 6696 (the Development Consent) was originally granted on 27 March 2018 and subsequently modified (MOD 1) on 23 October 2024 for the construction and commissioning, operation, maintenance, and decommissioning of the Project. Tilt Renewables lodged an application with Department of Planning and Environment (DPE)¹ to modify the Development Consent in September 2022. MOD 1 proposed a decrease to the maximum number of turbines to 185 (reduction of 82), an increase to the maximum blade tip height to 215 metres (m) above ground level (AGL) (increase of 50 m), and various changes to the site layout, ancillary infrastructure, and connection works.

1.2 Project Overview

The Project includes the construction and commissioning, operation, maintenance, and decommissioning of a wind farm, including transmission line and ancillary infrastructure, consisting of the key components outlined below:

Wind Turbines: up to 185 wind turbines with a maximum blade tip height of 215 m, including an adjacent hardstand area for lift cranes and a material laydown.

Collector Substations: up to seven collection substations that step-up the voltage of the reticulation cabling (typically 33 kilovolts (kV)) to the transmission line voltage (anticipated to be 330 kV).

Connection Substation: located off Rotherwood Road, Cassilis, to facilitate connection into the CWO REZ transmission project.

Internal Transmission Line: overhead powerline of up to 330 kV, supported by poles or towers and located within a 60 m wide easement, that extends from the north-west of the Development Corridor to the connection substation proposed near Rotherwood Road, Cassilis. Steel poles and towers are anticipated to have an indicative height of approximately 40 – 50 m.

Reticulation Cabling: underground electrical reticulation cabling, and potentially some overhead powerlines, that provide an electrical connection between the wind turbines and the collector substations.

Access Tracks: access tracks, typically with a trafficable width of 5.5 – 6 m, to provide access from the public road network to wind farm and transmission line infrastructure and meteorological masts, and include required cut/fill batters and drainage infrastructure.

¹ Note following government changes, as of 1 January 2024 the NSW Planning Group is now situated within the Department of Planning, Housing and Infrastructure (DPHI)

Site Access Points: provision of up to 34 site access points from nearby public roads to facilitate construction and ongoing maintenance of the wind farm components located north of the Golden Highway.

Operation and Maintenance (O&M) Facilities: up to three O&M facilities incorporating a control room, maintenance and equipment storage facilities. The O&M facility is anticipated to occupy a 3D envelope approximately 45 m long x 30 m wide x 15 m high.

Temporary Construction Compound/Laydown Area/Concrete Batch Plants: up to nine temporary construction facilities, including temporary concrete batching plants, rock crushing equipment, temporary laydown facilities, and construction compounds.

Accommodation Camp²: an ancillary Project-specific accommodation camp to accommodate a peak of approximately 550 construction staff over a four-year period. The Accommodation Camp would be approximately 9 ha in area and would be comprised of prefabricated accommodation building modules, kitchen and dining facilities, administrative and maintenance buildings, recreational facilities and wastewater treatment facilities. Upon completion of construction of the Project, the Accommodation Camp will be decommissioned and the site rehabilitated in accordance with the relevant landholder's requirements.

Public Road Upgrades/Repairs: upgrades/repairs to Local and Regional public roads, intersections and associated structures, in proximity to the Project required for the delivery, installation and maintenance of wind turbines, transmission lines, and related infrastructure, in accordance with upgrade/repair standards as agreed with relevant roads authorities.

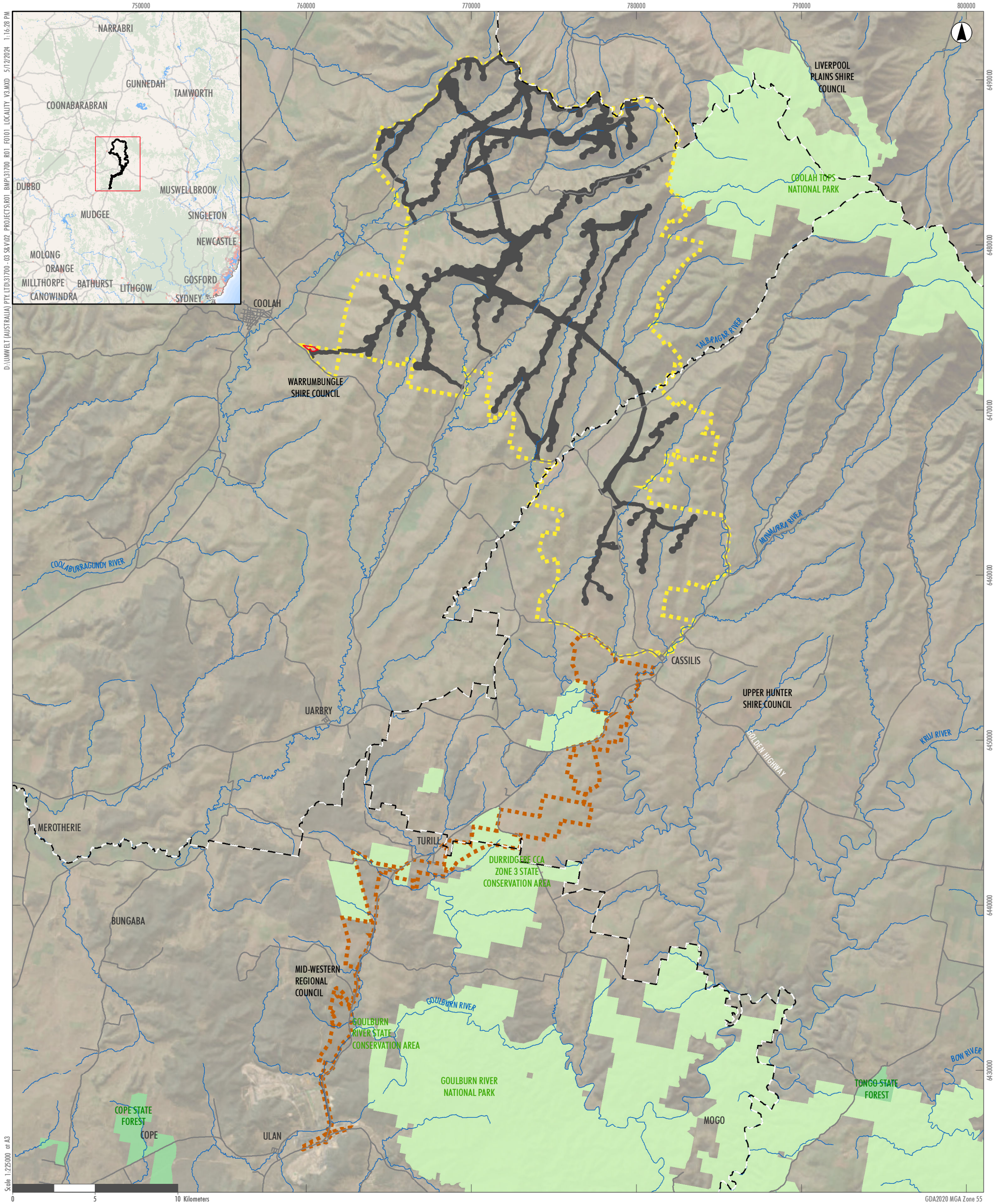
Permanent Wind Monitoring Masts (Met Masts): up to 10 permanent Power Curve Validation (PCV) met masts to the final hub height, and associated access tracks.

Temporary Site Calibration Met Masts: up to 10 temporary site calibration met masts to the final hub height, to be located at a subset of the turbine locations and removed prior to erection of each relevant turbine.

The approved Project includes development of an external transmission line and connection substation at the southern end of the Project site boundary at Ulan, which is not proposed to be constructed due to the Project connecting into the proposed CWO REZ transmission line project, being developed by the Energy Corporation of NSW. Should an alternate connection be required using the external transmission line, agreement of the Planning Secretary is required in accordance with Schedule 2, Condition 8A of the Development Consent.

The approved Project layout, excluding the external transmission line connection, is shown on **Figure 1.2**. This layout will be further refined throughout detailed design and a Final Layout Plan will be prepared and submitted to the DPHI in accordance with Schedule 2, Condition 10 of the Development Consent.

² Note this is referred to in the Mod-1 Application assessment documentation as 'Temporary Workforce Accommodation Facility (TWA Facility)'

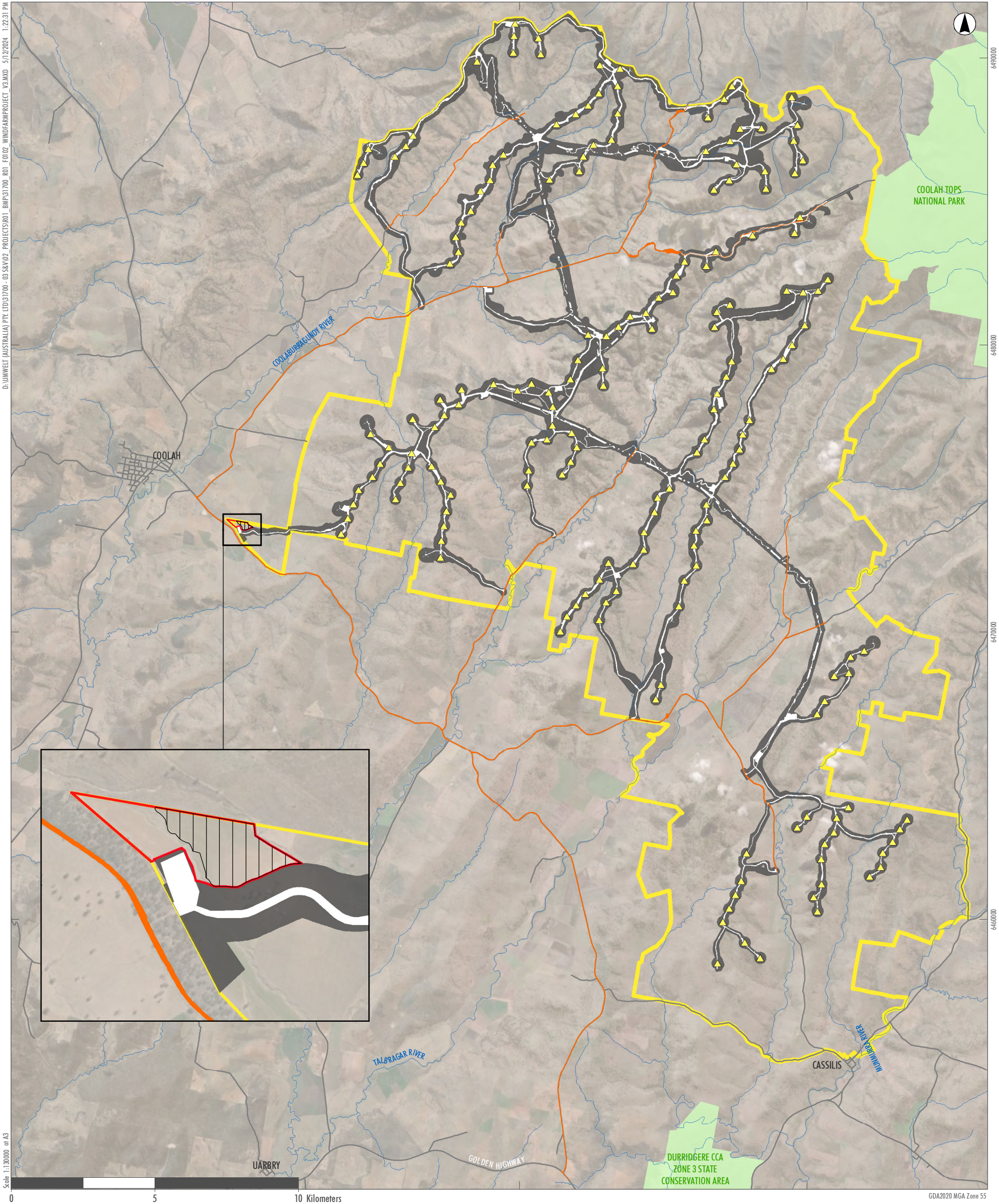


Legend

- Project Site (Wind Farm)
- Project Site (External Transmission Line)
- Development Corridor – Wind Farm
- Development Corridor – TWA Facility
- National Parks (NPWS Estate)
- State Forest
- Local Government Boundary
- Road
- Drainage Line

FIGURE 1.1

Project Locality



Legend

- | | |
|------------------------------|---|
| Project | Development Corridor |
| Project Site | Development Corridor – Wind Farm |
| Wind Turbines | Development Corridor – TWA Facility |
| National Parks (NPWS Estate) | Indicative Development Footprints |
| Road | Indicative Development Footprint – Wind Farm |
| Drainage Line | Indicative Development Footprint – Public Road Upgrades |
| | Indicative Development Footprint – TWA Facility |

Note: The External Transmission Line Development Footprint is not shown on this figure as it does not form part of this Biodiversity Management Plan.

Image Source: ESRI Basemap (2022) Data source: NSW DSFI (2022)

FIGURE 1.2
Liverpool Range Wind Farm Project

1.3 Staging

1.3.1 Overview

Due to the scale of the Project, Tilt Renewables is proposing to develop the Project using a staged approach, consistent with Schedule 2, Condition 9 of the Development Consent. Where staging of the Project is proposed, the conditions of the Development Consent are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stages.

An overview of the proposed staging of the Project is provided in **Figure 1.3**. It is noted that there may be overlap in the timing of the Project stages, for example the construction and commissioning of the initial phase of the wind farm may occur during the construction of the second phase of the wind farm. Further details and the applicability of the Development Consent conditions for each stage will be confirmed with DPHI in line with the staging requests made to DPHI.

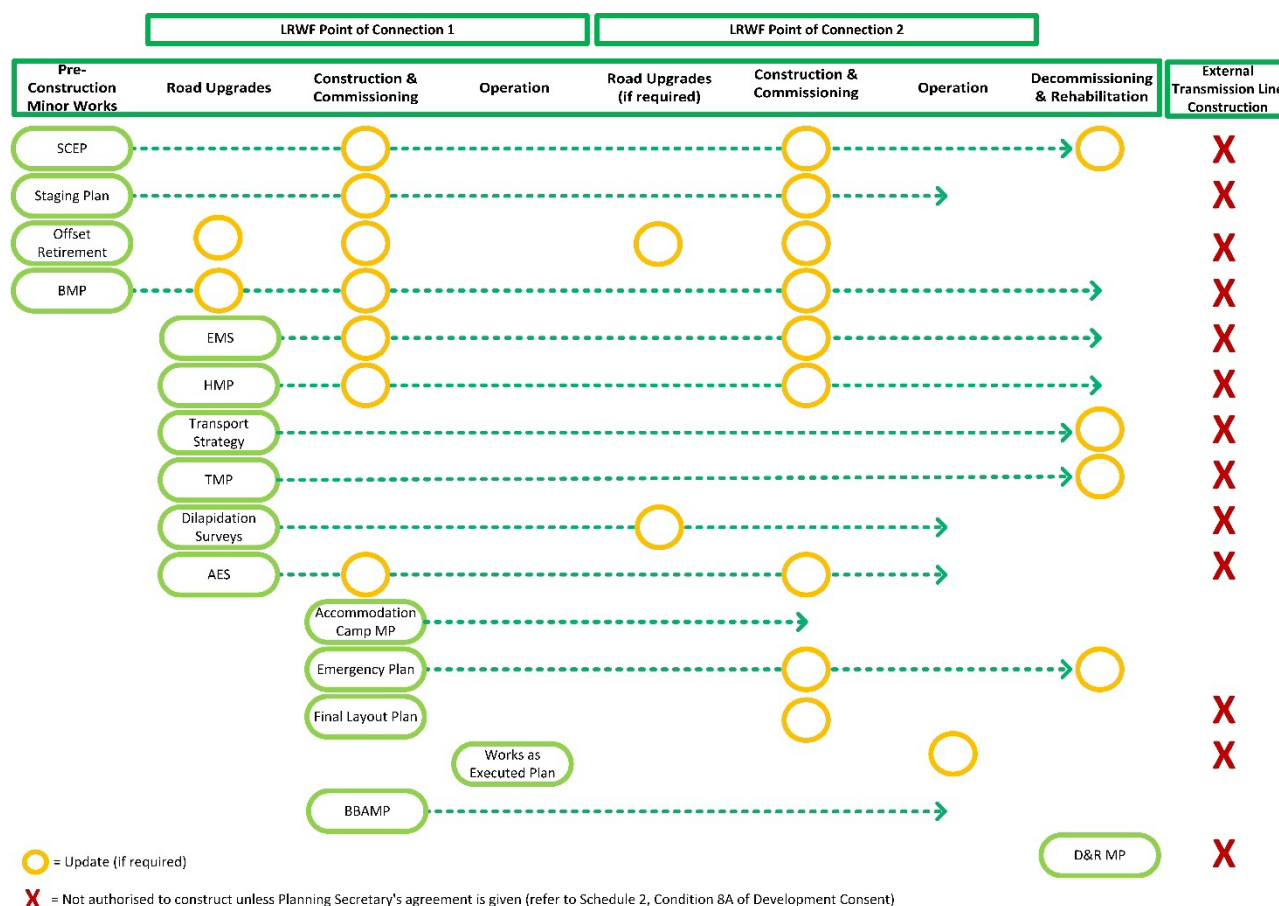


Figure 1.3 Proposed Project Staging

The strategies, plans or programs required by the Development Consent will be prepared and implemented relevant to the specific stage of the Project, consistent with the requirements of Schedule 2, Condition 16 of the Development Consent. Where required, Tilt Renewables will submit revised strategies, plans or programs for the consideration of the Planning Secretary prior to commencing the relevant stage of the Project. For the avoidance of doubt, Tilt Renewables will ensure that all development being carried out on site is covered by suitable strategies, plans or programs at all times.

The External Transmission Line does not currently form part of the detailed project planning and Tilt Renewables does not intend to construct this component of the Project. Tilt Renewables is currently in discussions with EnergyCo around the CWO REZ Access Agreement and the specific connection arrangements for the Project. As the final access arrangements are not fully determined, the External Transmission Line is still included in the Development Consent as noted in Schedule 2, Condition 8A, being:

“Note: this consent includes the approval of the external transmission line, however the development is expected to connect to the Central-West Orana REZ Transmission line and construction of the external transmission line is unlikely to be required.”

Schedule 2, Condition 8A requires the Project to receive Planning Secretary agreement if the development is not connected into the CWO REZ Transmission line. As this agreement has not been requested, and the Project continues to propose connection into the CWO REZ, the External Transmission Line has not been included in the BMP assessment. This clarification has been further illustrated in **Figure 1.3**, which has also been updated with revision to the current BMP.

Tilt Renewables acknowledges that any plans, strategies or programs may need to be revised to account for this component should a request be made to the Planning Secretary for the construction of the External Transmission Line.

The specific stage to which this Biodiversity Management Plan (BMP) applies, the relationship of the BMP to any future stages of the Project and the trigger for updating the BMP is further described in **Section 1.3.2**.

1.3.2 Applicability of BMP

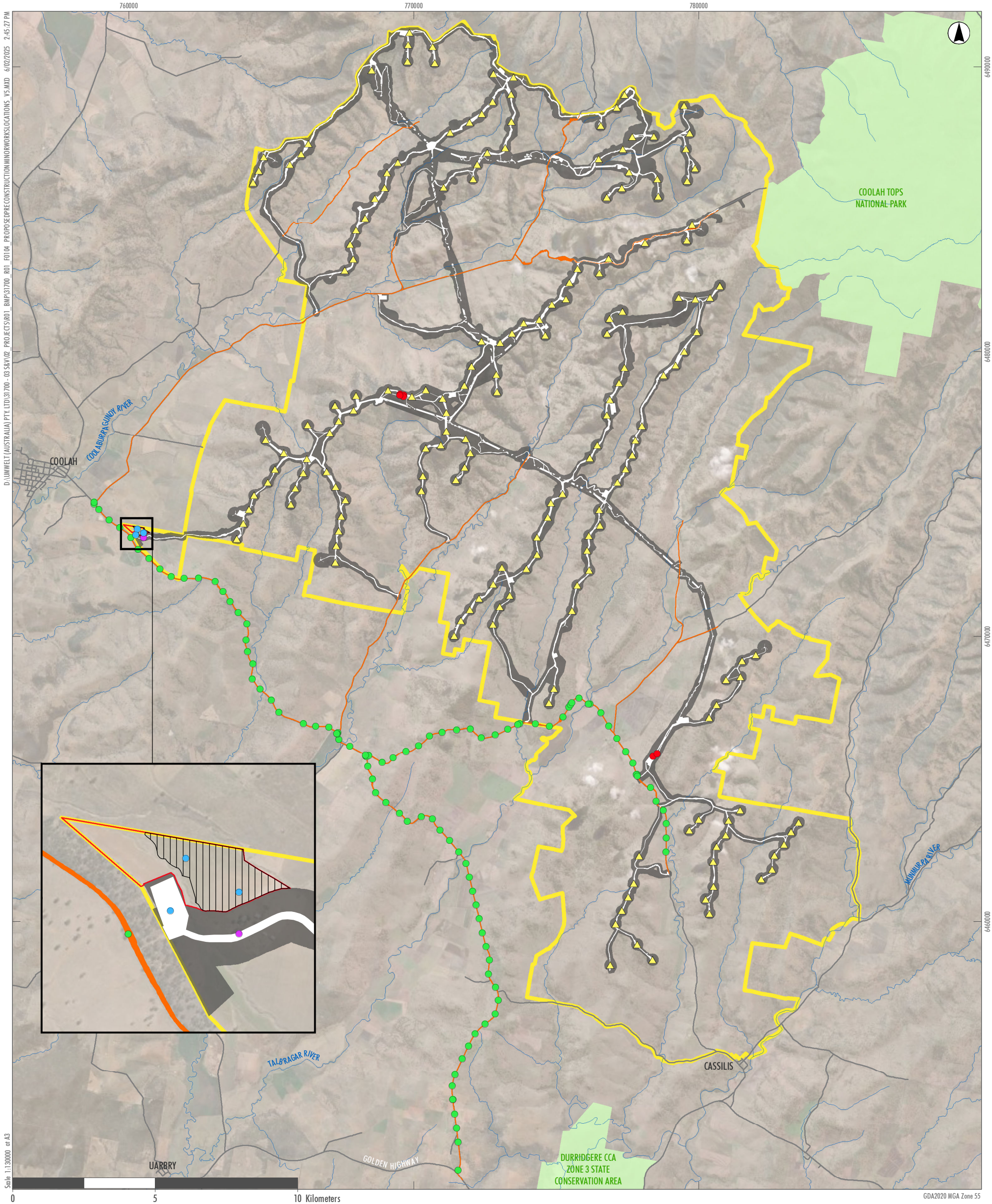
This BMP has been prepared relevant to the pre-construction minor works stage of the Project. Key activities that will be undertaken during this stage of the Project, relevant to Schedule 3, Condition 21, and covered by this BMP, include the following:

- Geotechnical investigative drilling, with specific details of the works illustrated in **Figure 1.4** and being as follows:
 - Boreholes (~15 cm) diameter and ~7 m depth) at a subset of the ancillary infrastructure locations including the Accommodation Camp, O&M facility and substation locations
 - Boreholes (approximately 300 mm) diameter x 5 – 7 m depth) at substation locations
 - Test hole locations (approximately 300 mm diameter x 1.5 m depth along the proposed public road upgrades (primarily on existing pavement or in disturbed/cleared areas within the existing road corridor) and 1 – 3 m x 2 – 3 m at substation locations).

- Additional pre-construction minor works which will not impact biodiversity values (due to being located on disturbed land or not requiring native vegetation removal, refer to **Section 5.0**) and are not discussed further in this BMP, including:
 - Construction of a temporary site office and compound located within the Development Corridor near the proposed accommodation camp location
 - Cadastral surveys along property boundaries for a subset of freehold land and Crown land located within the development corridor and along a subset of public roads including Pandora Road
 - Installation of water bore monitoring equipment at existing water bores as part of the water use licence.

This stage of the Project is critical to allow for the progression of detailed project design and planning activities to finalise the location of the relevant infrastructure components prior to the formal commencement of construction of the Project. These activities will directly input into the development of the Final Layout Plans for the project, which are required to be submitted to the Planning Secretary prior to the commencement of construction in accordance with Schedule 2, Condition 10 of the Development Consent.

This BMP has been prepared to apply to the pre-construction minor works stage of the Project and further revisions to the BMP will be developed in consultation with NSW Biodiversity, Conservation and Science Directorate (BCS) (now Conservation Programs, Heritage and Regulation Group (CPHR)) and approved by DPHI prior to the commencement of any subsequent stages of the Project, including the construction of the Project. No construction activities as part of the Project are proposed under this BMP.



Legend

- | Project | Development Corridor | Pre-construction Minor Work Locations |
|------------------------------|---|--|
| Project Site | Development Corridor – Wind Farm | Indicative Public Road Upgrade Test Hole Locations |
| Wind Turbines | Development Corridor – TWA Facility | Test Locations - Temporary Site Office (TSO) |
| National Parks (NPWS Estate) | Indicative Development Footprints | Test Locations - Temporary Workers Accommodation (TWA) and Operations and Maintenance Facility |
| Road | Indicative Development Footprint – Wind Farm | Test Locations - Substations |
| Drainage Line | Indicative Development Footprint – Public Road Upgrades | |
| | Indicative Development Footprint – TWA Facility | |

Note: The External Transmission Line Development Footprint is not shown on this figure as it does not form part of this Biodiversity Management Plan.

Image Source: ESRI Basemap (2022) Data source: NSW DSFI (2022)

FIGURE 1.4

Proposed Pre-construction
Minor Work Areas

1.3.2.1 Potential Impacts as a Result of Pre-Construction Minor Works

The scope of the pre-construction minor works program has been designed to minimise native vegetation clearing. The proposed works are located outside the habitat polygons for threatened flora and fauna species and identified Threatened Ecological Communities (TECs) mapped as part of Project assessment documents outlined in **Section 1.4** below.

Where disturbance is required, disturbance footprints are likely to be small and will be predominately located within existing cleared environments such as road corridors or agricultural land and therefore native vegetation clearing will be limited. Potential impacts resulting from the completion of the pre-construction minor works stage are summarised in **Section 5.0** and **Appendix B**. Mitigation and management measures to be implemented generally throughout disturbance activities associated with the Project are identified in **Section 6.0**, noting that not all these identified measures may be applicable during the pre-construction minor work stage due to the low intensity nature of these works.

All access will be conducted via existing farm tracks and will avoid any further impacts from vehicles or equipment to native vegetation or biodiversity values.

1.4 Purpose and Aim

This BMP has been prepared to meet the requirements of Schedule 3, Condition 21 of the Development Consent and other relevant statutory requirements (refer to **Section 2.0**). Following approval by the NSW Planning Secretary, Tilt Renewables will implement the BMP.

The aim of this BMP is to avoid, minimise or mitigate Project impacts to biodiversity values during the pre-construction minor works. Project-specific management measures for implementation throughout this stage of the Project are provided in **Section 6.0**.

This BMP has been informed by the following assessment reports:

- Liverpool Range Wind Farm – MOD-1 Submissions Report (Umwelt, 2023).
- Liverpool Range Wind Farm – MOD-1 – Amendment Report – Temporary Project-specific Workers Accommodation Facility (Umwelt, 2024).
- Response to Submissions Biodiversity Development Assessment Report (RTS BDAR) (Umwelt, 2023a).
- Addendum to Biodiversity Development Assessment Report (BDAR Addendum) (Umwelt, 2024a).

Once approved by the Planning Secretary, in accordance with Schedule 3, Condition 21 of the Development Consent, this BMP will be published and made publicly available on the Tilt Renewables website:

<https://www.tiltrenewables.com/assets-and-projects/liverpool-range-wind-farm/>.

2.0 Statutory Context

2.1 NSW Development Consent

The Project has been determined an SSD, and as such, it must comply with the relevant guidelines for SSDs under the NSW EP&A Act. **Table 2.1** lists the relevant conditions of the Development Consent pertaining to biodiversity and provides a reference to the relevant sections of the BMP where the conditions have been addressed in this document.

Table 2.1 Relevant Development Consent Conditions

Condition of Approval	Requirements	Section Addressed
Schedule 3, Condition 17A	The Applicant must not clear any native vegetation or fauna habitat located outside the development corridor.	Section 6.1.3.
Schedule 3, Condition 18	Unless the Planning Secretary agrees otherwise, the Applicant must:	Section 6.1.1.
	a. ensure that the vegetation and habitat clearing limits specified in Tables 8-1 and 8-2 of Appendix 8 are not exceeded; and	
	b. minimise:	Section 6.1.
	i) the clearing of native vegetation and key habitat;	
	ii) the impacts of the development on hollow-bearing trees; and	Not applicable to this stage of the Project (refer to Section 5.2).
	iii) the impacts of the development on threatened bird and bat populations.	Not applicable to this stage of the Project (refer to Section 5.2).
Schedule 3, Condition 18A	Prior to carrying out any development that could directly or indirectly impact the biodiversity values requiring offset, the Applicant must retire biodiversity credits of a number and class specified in Table 8-1 and 8-2 of Appendix 8, unless the Planning Secretary agrees otherwise.	Not applicable to this stage of the Project (refer to Section 6.10).
Schedule 3, Condition 19	The retirement of the credits must be carried out in accordance with the <i>NSW Biodiversity Offsets Scheme</i> , and can be achieved by:	a. and c. not applicable to this stage of the Project (refer to Section 6.10 for b.).
	a. acquiring or retiring 'biodiversity credits' within the meaning of the <i>Biodiversity Conservation Act 2016</i> ;	
	b. making payments into an offset fund that has been established 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.	

Condition of Approval	Requirements	Section Addressed
Schedule 3, Condition 21	Prior to carrying out any development that could impact biodiversity values, unless the Planning Secretary agrees otherwise, the Applicant must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	This plan.
	a. be prepared in consultation with BCS and AG DCCEEW; and	Section 3.0.
	b. be prepared in accordance with the <i>Biodiversity Development Assessment Report</i> (dated 14 August 2023);	Section 1.4.
	c. include a description of the measures that would be implemented to:	Section 6.1.1 Section 6.1.3.
	i) ensure the development does not adversely affect the native vegetation and habitat outside the development corridor and ensure the restrictions on clearing in condition 18 above, are met;	
	ii) minimise the clearing of native vegetation and habitat within the development footprint;	Section 6.1.
	iii) securing land comprising 300.6 ha of Box Gum Woodland (or, with agreement from the Planning Secretary, a lesser area of Box Gum Woodland) for the purpose of restoring, enhancing and protecting, in perpetuity, this vegetation to condition state commensurate with Box Gum Woodland;	Not applicable to this stage of the Project.
	iv) minimise the impacts of the development on threatened flora and fauna species within the development footprint and its surrounds, including the:	Not applicable to this stage of the Project (refer to Section 4.2.3 , Section 4.3.2 and Section 5.2).
	• Ausfeld's wattle • Silky Swainson-pea • Glossy black-cockatoo • Large-eared pied bat • Square-tailed kite • Squirrel glider • Southern greater glider • Eastern cave bat	
	v) rehabilitating and revegetating temporary disturbance areas;	Section 6.9.
	vi) protecting native vegetation and key fauna habitat outside the development footprint;	Section 6.1 Section 6.2.
	vii) monitoring the areas of partial clearance within three months of the clearance occurring and provision of a verification report to confirm if any changes are required to this plan;	Section 8.1.

Condition of Approval	Requirements	Section Addressed
	viii) maximising the salvage of resources within the approved development footprint – including vegetative and soil resources – for beneficial reuse (such as fauna habitat enhancement) during the rehabilitation and revegetation of the site;	Section 6.1.5.
	ix) collecting and propagating seed (where relevant);	Section 6.1.5.
	x) controlling weeds and feral pests;	Section 6.5.
	xi) controlling erosion; and	Section 6.7.
	xii) bushfire management;	Section 6.6.
	d. include a detailed program to monitor and report on the effectiveness of these measures; and	Section 8.0.
	e. include details of who would be responsible for monitoring, reviewing and implementing the plan.	Section 7.0.
	Following the Planning Secretary's approval, the Applicant must implement the Biodiversity Management Plan.	Section 7.1.

2.2 EPBC Act Approval

Tilt Renewables are in active consultation with the Australian Government Department of Climate Change, Energy the Environment and Water (AG DCCEEW) regarding approval of the Project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Commencement of the pre-construction minor works stage of the Project is not subject to the EPBC Act determination and therefore this version of the BMP has not been prepared in consultation with AG DCCEEW.

This BMP will be revised and updated prior to commencing the next stage of the Project, being public road upgrades. This revision will reflect the determination of the EPBC Referral and this version of the BMP will be developed in consultation with AG DCCEEW prior to the commencement of this stage.

2.3 Legislation, Standards and Guidelines

Other relevant legislation, standards and guidelines include:

- Central West Regional Strategic Pest Animal Management Plan (Local Land Services, 2018)
- Hunter Regional Strategic Pest Animal Management Plan (Local Land Services, 2018a)
- Central West Regional Strategic Weed Management Plan (Local Land Services, 2022)
- Hunter Regional Strategic Weed Management Plan (Local Land Services, 2022a)
- *NSW Biodiversity Conservation Act 2016* (BC Act)
- New South Wales Weed Control Handbook (DPI 2018)
- Saving our species - Hygiene guidelines – Protocols to protect priority biodiversity areas in NSW from *Phytophthora cinnamomi*, myrtle rust, amphibian chytrid fungus and invasive plants (NSW DPIE 2020) [Hygiene guidelines \(nsw.gov.au\)](https://www.nsw.gov.au/hygiene-guidelines)
- Tree Protection Zone Australian Standard (AS 4970-2009).

3.0 Stakeholder Consultation

3.1 Agency Consultation

Preparation of this BMP has occurred in consultation with DPHI and NSW BCS (now CPHR) as required by Schedule 3, Condition 21 of the Development Consent. A summary of DPHI and NSW BCS/CPHR consultation completed to date, and where this feedback has been addressed in this BMP, is documented in **Table 3.1**. Records of agency correspondence are included in **Appendix A**.

As discussed in **Section 2.2**, consultation with AG DCCEEW is not required for the pre-construction minor works stage and has therefore not occurred for this BMP. This BMP will be updated to include evidence of consultation with AG DCCEEW in subsequent iterations of this document once this consultation has been completed.

Table 3.1 Agency Consultation during the Development of the BMP

Agency	Consultation Date	Nature/Outcome of Consultation	Section Addressed
NSW BCS	6 January 2025	NSW BCS advised satisfaction that the BMP fulfils the requirements of the Development Consent regarding the work program proposed.	N/A – no changes required.
DPHI	31 January 2025	DPHI requested further information be included within the BMP, including: • Further details regarding the proposed clearing and disturbance register, including when it will be updated. • Clarification of language regarding the Development Corridor. • Specify the frequency of routine inspections. • Update Section 6.10 to include offset staging requirements as per separate correspondence with DPHI. • Provide additional details on bushfire management. • Timing commitment for reviews/revisions of the BMP. • Update of Figure 1.4.	• Section 6.1, • Section 8.1 • Table 2.1 • Table 6.1, • Section 8.2 • Section 6.10 Table 6.1 Summary of Biodiversity Management and Monitoring Measures • Section 6.6 • Section 10.1 • Figure 1.4.
NSW CPHR	5 February 2025	NSW CPHR recommended Tilt Renewables provide evidence that the credits have been retired prior to commencement of the pre-construction minor works.	Section 6.10.

4.0 Existing Environment

This BMP is limited to the pre-construction minor works stage of the Project. This section provides an overview of the existing environment relevant to the entire Development Footprint, which is not expected to be significantly impacted by the pre-construction minor works. Potential biodiversity impacts related to the pre-construction minor works are outlined in **Section 5.2**.

4.1 Land Use

The locality is dominated by primary agricultural land on the valley floor and low rises, with cropping being the dominant activity. While agricultural practices extend onto the steeper slopes and tabletops, cropping is replaced with stock grazing, including cattle, sheep, and goats. Large patches of remnant vegetation are predominantly restricted to public land (including road reserves and conservation areas), upper slopes and gullies. Agricultural land use has dominated the local region historically. These practices have resulted in the extensive clearing of native vegetation, and those patches that do persist have been permanently degraded. It is noted that the proposed pre-construction minor works (refer to **Section 1.3.1**) will primarily occur in previously disturbed areas, including existing road corridors and farm access tracks.

4.2 Flora and Vegetation Communities

4.2.1 Plant Community Types

Approximately 1,629 ha of native vegetation is present within the 1,803.7 ha Development Footprint of the Project. Of the remaining area of the Development Footprint, approximately 96.6 ha is mapped as 'Nil' (including roads, tracks and waterbodies) and 77.5 ha is mapped as Category 1 (i.e. cleared land or water), comprising agricultural land and exotic vegetation. Further information regarding the clearance limits for the Project is included in **Section 5.1**.

Surveys identified several plant community types (PCTs) occurring within the Development Footprint, with condition ranging from moderate good to exotic.

The extent of PCTs (including those conforming with TECs within the Development Footprints for the wind farm development and public road upgrades) are presented in **Table 4.1** and **Figure 4.1** (noting that PCTs within the External Transmission Line Development Footprint have been omitted, refer to **Table 4.1** footnotes). Detailed descriptions of each PCT are provided in the Response to Submissions Biodiversity Development Assessment Report (RTS BDAR) (Umwelt, 2023a).

Table 4.1 presents the PCTs identified within the wind farm and public road upgrade Development Footprints and are not specific to the proposed works to be undertaken as part of pre-construction minor work activities (refer to **Section 1.3.1**).

Table 4.1 Plant Community Types Identified within the Wind Farm and Public Road Upgrades Development Footprints

Vegetation Zone	Current PCT and Condition	Condition Class	BC Act	EPBC Act	Area in Development Footprint – Wind Farm (ha)	Area in Development Footprint – Public Road Upgrades (ha)	Total Area in Development Footprint(ha)
1	PCT 84 – River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Moderate/Good	N/A	N/A	7.9	1.6	9.5
2	PCT 281 – Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	Moderate/Good	CEEC ¹	CEEC ²	0.7	0.7	1.4
4	PCT 479 – Narrow-leaved Ironbark- Black Cypress Pine - stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills in the southern Brigalow Belt South Bioregion and Sydney Basin Bioregion	Moderate/Good	N/A	N/A	0	0.7	0.7
6	PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Moderate/Good	CEEC ¹	CEEC ²	10.5	0	10.5
7	PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Low	CEEC ¹	N/A	205.5	10	215.5
8	PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Low Condition DNG	N/A	N/A	319.5	73	392.5
9	PCT 488 – Silvertop Stringybark - Yellow Box +/- Nortons Box grassy woodland on basalt hills mainly on northern aspects of the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	CEEC ^{1, 3}	CEEC ^{2, 3}	59.5	0	59.5
10	PCT 488 – Silvertop Stringybark - Yellow Box +/- Nortons Box grassy woodland on basalt hills mainly on northern aspects of the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good-Shrubby	N/A	N/A	0.5	0	0.5

Vegetation Zone	Current PCT and Condition	Condition Class	BC Act	EPBC Act	Area in Development Footprint – Wind Farm (ha)	Area in Development Footprint – Public Road Upgrades (ha)	Total Area in Development Footprint (ha)
11	PCT 488 – Silvertop Stringybark - Yellow Box +/- Nortons Box grassy woodland on basalt hills mainly on northern aspects of the Liverpool Range, Brigalow Belt South Bioregion	Low	CEEC ^{1, 3}	N/A	194.8	5.7	200.5
12	PCT 488 – Silvertop Stringybark - Yellow Box +/- Nortons Box grassy woodland on basalt hills mainly on northern aspects of the Liverpool Range, Brigalow Belt South Bioregion	Exotic	N/A	N/A	360.3	13.1	373.4
13	PCT 490 – Silvertop Stringybark - Forest Ribbon Gum very tall moist open forest on basalt plateau on the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	N/A	N/A	15.2	0	15.2
14	PCT 495 – Brittle Gum - Silvertop Stringybark grassy open forest of the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	N/A	N/A	23.7	0	23.7
15	PCT 1661 – Narrow-leaved Ironbark - Black Pine - Sifton Bush heathy open forest on sandstone ranges of the upper Hunter and Sydney Basin	Moderate/Good	N/A	N/A	0	0.3	0.3
16	PCT 1675 – Scribbly Gum - Narrow-leaved Ironbark - <i>Bossiaea rhombifolia</i> heathy open forest on sandstone ranges of the Sydney Basin	Moderate/Good	N/A	N/A	0	0.5	0.5
17	PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	DNG	CEEC ¹	CEEC ²	101.1	0.2	101.3
Mm					1,299.2	105.8	1,405

CEEC = Critically Endangered Ecological Community

¹ White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions CEEC (BC Act).

² White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (EPBC Act).

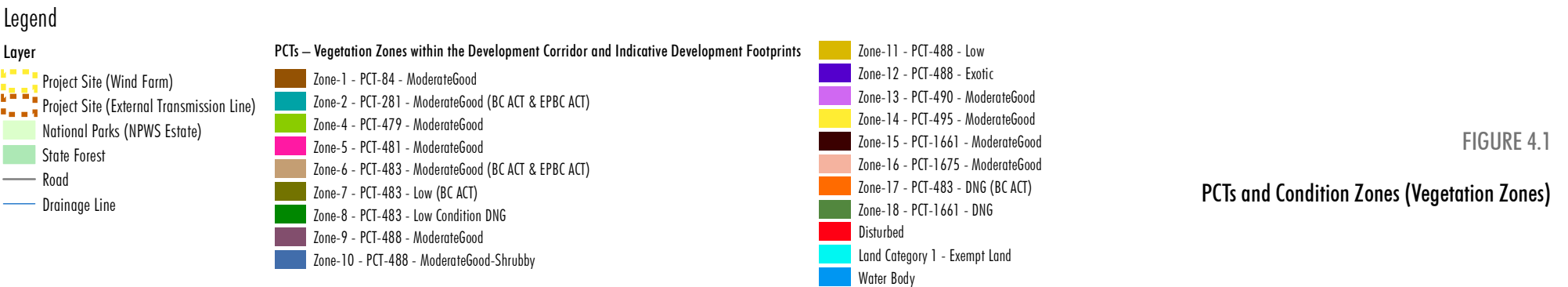
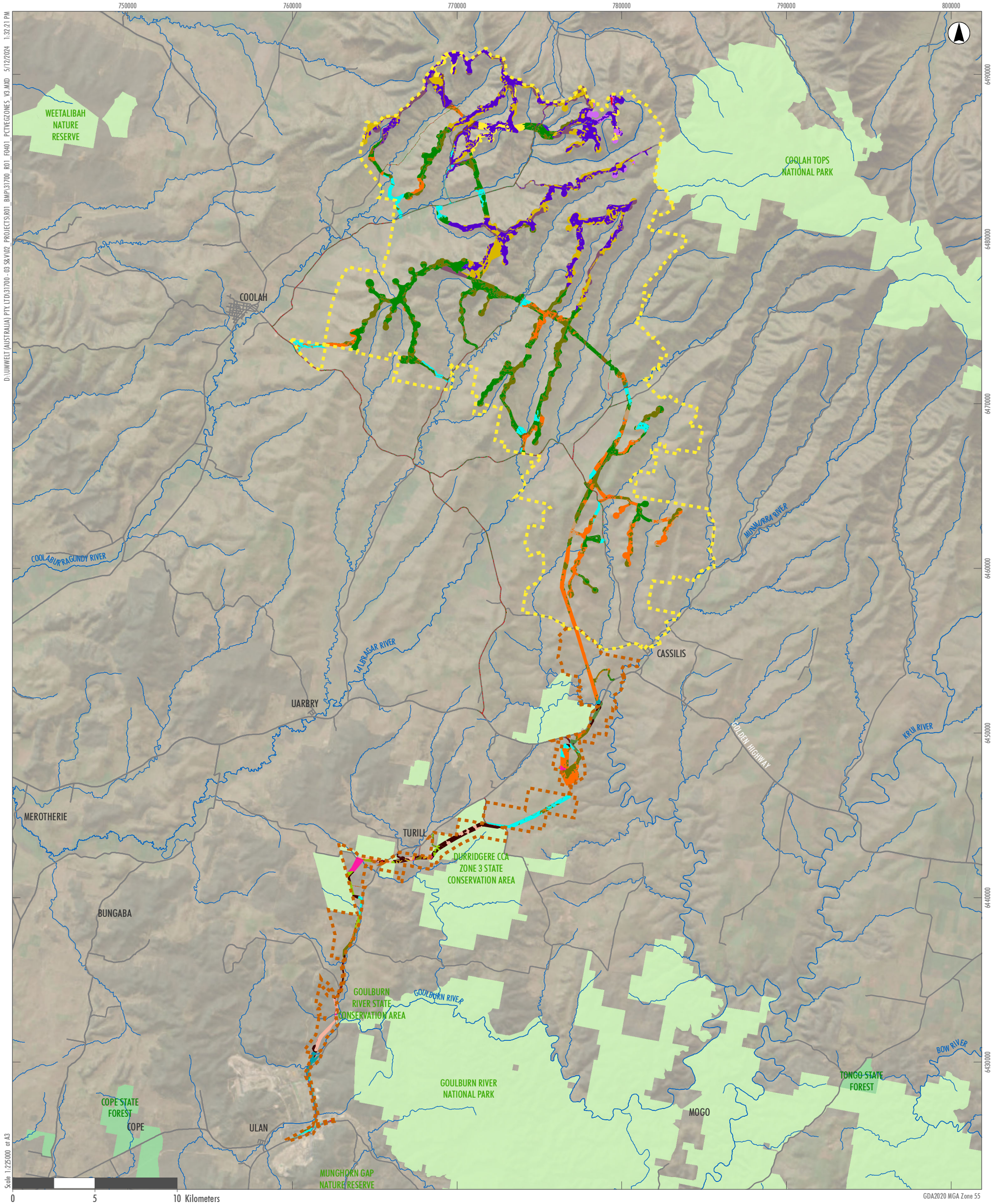
³ Only a portion of this vegetation zone conforms with the TEC.

⁴ Areas and PCTs associated with the External Transmission Line Development Footprint have been excluded from this table as the External Transmission Line will not be constructed by Tilt Renewables as part of the Project, should the approved CWO-REZ Transmission Line Project be constructed.

Note: minor rounding discrepancies associated with area totals.

4.2.2 Threatened Ecological Communities

Analyses documented in the RTS BDAR (Umwelt, 2023a) compared surveyed PCTs with potential BC Act and EPBC Act listed TECs and found that six surveyed PCTs conform with TECs, either wholly or partially. The pre-construction minor works locations do not occur within the TECs assessed as part of the RTS BDAR (Umwelt, 2023a) and therefore specific management measures are not relevant to this BMP (refer to **Section 6.1** for general native vegetation management measures). Mitigation measures related to unexpected or incidental finds are provided in **Section 6.4**.



4.2.3 Threatened Flora

Two threatened flora species-credit species (*Acacia ausfeldii* and *Swainsona sericea*) have been recorded within the Development Footprint (External Transmission Line). The pre-construction minor works locations do not occur within the threatened flora species polygons assessed as part of the RTS BDAR (Umwelt, 2023a) and therefore management of these species is not relevant to this BMP (refer to **Section 6.4** for processes relating to unexpected finds).

4.2.4 High Threat Weeds

Due to the long history of intensive agricultural land use within the Development Footprint, weed species are already widespread in these areas. Therefore, it is unlikely that the Project will inadvertently introduce new weed species. However, Tilt Renewables will implement measures to minimise the risk of introduction of weed species not already present in the landscape (refer to **Section 6.5**).

There is a risk that weed species may be introduced to areas of intact vegetation within the Development Footprint. This risk is considered minor, as the proposed pre-construction minor works (refer to **Section 1.3.1**) will primarily occur in previously disturbed areas including existing road corridors and farm access tracks. Mitigation measures outlined in **Section 6.5** will be implemented to minimise the potential for weed encroachment into surrounding areas.

4.3 Fauna

4.3.1 Fauna Habitat

Much of the Development Footprint occurs where the connectivity of native vegetation and habitat corridors has been previously compromised by historical agricultural land uses. However, there are specific locations within the Development Corridor where substantial areas of intact native vegetation and associated fauna habitat is recognised to occur. Primarily, this occurs to the north (private land) and east (Coolah Tops National Park) of the Project; and north, east (Durrigere State Conservation Areas, State Forest land, National Park Land – The Drip, Goulburn River National Park) and west of the External Transmission Line site.

It is noted that the proposed pre-construction minor works will primarily occur in previously disturbed areas including, existing road corridors and farm access tracks and are not expected to impact fauna species.

4.3.2 Threatened Fauna and Migratory Species

Six threatened fauna and migratory species-credit species (glossy black-cockatoo, large-eared pied bat, square-tailed kite, squirrel glider, southern greater glider and eastern cave bat) have been recorded within the Development Footprint (noting that the glossy black-cockatoo and square-tailed kite species polygons are solely located within the External Transmission Line Development Footprint which will not be constructed by Tilt Renewables as part of the Project, assuming the approved CWO-REZ Transmission Line Project is constructed). The pre-construction minor work locations do not occur within the threatened fauna species polygons mapped as part of the RTS BDAR (Umwelt, 2023a) and therefore management of these species is not relevant to this BMP (refer to **Section 6.4** for processes relating to unexpected finds).

5.0 Project Activities and Biodiversity Impacts

As this stage of the Project is restricted to pre-construction minor works, any clearing required will not exceed the clearing limits presented in **Table 5.1** and **Table 5.2**. The potential biodiversity impacts associated with this stage of the Project are outlined in **Section 5.2**. Project-specific management measures for implementation throughout this stage of the Project are provided in **Section 6.0**.

5.1 Approved Biodiversity Impacts

The approved vegetation clearing limits for the entire Project (i.e. not limited to pre-construction minor works) within the wind farm and public road upgrades Development Footprints (i.e. excluding the External Transmission Line Development Footprint) are presented in **Table 5.1**. It is noted that minimal disturbance areas are required for completion of the pre-construction minor works program.

Table 5.1 PCT Clearing Extents (within the Wind Farm and Public Road Upgrades Development Footprints)

PCT	Condition Class	BC Act	EPBC Act	Wind Farm and Public Road Upgrades
PCT 84 – River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Moderate/Good	-	-	9.5
PCT 281 – Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	Moderate/Good	CEEC	CEEC	1.4
PCT 479 – Narrow-leaved Ironbark- Black Cypress Pine - stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills in the southern Brigalow Belt South Bioregion and Sydney Basin Bioregion	Moderate/Good	-	-	0.7
PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Moderate/Good	CEEC	CEEC	10.5
	Low	CEEC	-	215.5
	Low Condition DNG	-	-	392.5
	DNG	CEEC	-	101.3
PCT 488 – Silvertop Stringybark - Yellow Box +/- Nortons Box grassy woodland on basalt hills mainly on northern aspects of the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	CEEC	CEEC	2.0
	Moderate/Good	-	-	57.5
	Moderate/Good – Shrubby	-	-	0.5
	Low	CEEC	-	2.1
	Low	-	-	202.0
	Exotic	-	-	373.4

PCT	Condition Class	BC Act	EPBC Act	Wind Farm and Public Road Upgrades
PCT 490 – Silvertop Stringybark - Forest Ribbon Gum very tall moist open forest on basalt plateau on the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	-	-	15.2
PCT 495 – Brittle Gum - Silvertop Stringybark grassy open forest of the Liverpool Range, Brigalow Belt South Bioregion	Moderate/Good	-	-	23.7
PCT 1661 – Narrow-leaved Ironbark - Black Pine - Sifton Bush heathy open forest on sandstone ranges of the upper Hunter and Sydney Basin	Moderate/Good	-	-	0.3
PCT 1675 – Scribbly Gum - Narrow-leaved Ironbark - <i>Bossiaea rhombifolia</i> heathy open forest on sandstone ranges of the Sydney Basin	Moderate/Good	-	-	0.5
Total (ha)¹		1,408.6		

¹ Areas and PCTs associated with the External Transmission Line Development Footprint have been excluded from this table as the External Transmission Line will not be constructed by Tilt Renewables as part of the Project, should the approved CWO-REZ Transmission Line Project be constructed.

The approved threatened fauna habitat clearing limits for the entire Project (i.e. not limited to pre-construction minor works) within the wind farm and public road upgrades Development Footprints (i.e. excluding the External Transmission Line Development Footprint) are presented in **Table 5.2**. It is noted that minimal disturbance areas are required for completion of the pre-construction minor works program.

Table 5.2 Identified Threatened Fauna Habitat Clearing Limits within the Wind Farm and Public Road Upgrades Development Footprints

Common Name	Scientific Name	BC Act	EPBC Act	Wind Farm and Public Road Upgrades ¹
Large-eared pied bat	<i>Chalinolobus dwyeri</i>	V	E	92.6
Squirrel glider	<i>Petaurus norfolcensis</i>	V	-	50.9
Southern greater glider	<i>Petauroides volans</i>	E	E	19.3
Eastern cave bat	<i>Vespadelus troughtoni</i>	V	-	94.3

¹ Areas and PCTs associated with the External Transmission Line Development Footprint have been excluded from this table as the External Transmission Line will not be constructed by Tilt Renewables as part of the Project, should the approved CWO-REZ Transmission Line Project be constructed.

5.2 Potential Biodiversity Impacts for this BMP

The scope of the pre-construction minor works program has been designed to minimise native vegetation clearing. Pre-construction minor works are located outside of the threatened flora and fauna species polygons and identified TEC areas mapped as part of the RTS BDAR (Umwelt, 2023a). Where disturbance is required to complete these works, disturbance footprints are likely to be small and will predominately be located within historically cleared environments (e.g. road corridors or agricultural land). Approximately ten (10) work locations are expected to be located in areas mapped as native vegetation (PCT 483 – Low Condition DNG). Where work locations are located within mapped native vegetation zones, minor ground disturbance will occur due to the establishment of test holes and associated movement of vehicles (e.g. drilling vehicles).

The PCTs located within the extent of the pre-construction minor work locations have been mapped and are included in **Appendix B**. There is a total of 117 pre-construction minor works locations. **Table 5.3** below provides a summary of the Land Category/PCTs expected to be disturbed during the proposed works.

The BMP will be revised and updated following completion of pre-construction minor works and prior to transitioning to the public road upgrades stage to detail potential biodiversity impacts related to the public road upgrades stage of the Project, refer to **Section 1.3** for further details.

Table 5.3 Land Category/PCTs within the Pre-construction Minor Work Areas

Vegetation Zone	Land Category/PCT	Condition Class	BC Act	EPBC Act	Pre-construction Minor Work Locations by Land Category
8	PCT 483 – Grey Box White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Low Condition DNG	N/A	N/A	10
-	Land Category 1	Exempt Land	N/A	N/A	5
-	Disturbed Land	Disturbed	N/A	N/A	102

¹ Pre-construction minor work locations PRU-19 and PRU-102 are located within both disturbed land and Zone-8 - PCT-483 - Low Condition DNG. In the above table, these two sites have been captured under Zone-8 - PCT-483 - Low Condition DNG.

6.0 Biodiversity Impact Avoidance, Mitigation and Management

The impact avoidance, mitigation and management measures applicable to this stage of the Project are summarised in **Table 6.1** below. The contents of this table is intended to be a summary of the detail provided throughout **Section 6.0** as it pertains to pre-construction minor works. This table will be updated for subsequent stages of this BMP to reflect the changing biodiversity management requirements associated with each stage.

Implementation of biodiversity impact avoidance, mitigation and management measures are the responsibility of Tilt Renewables and the Construction Contractor engaged for the proposed works. Related roles and responsibilities for implementing these avoidance, mitigation and management measures are described in **Section 7.0**. Associated monitoring requirements are summarised in **Table 6.1** below. Tilt Renewables will work with the Construction Contractor to create a check list of these mitigation measures that will form part of the weekly environmental inspection report. This will be used in conjunction with the Vegetation Disturbance Permit and other forms of evidence such as before and after photos, where applicable. Incident and non-compliance management is described in **Section 9.0**.

Table 6.1 Summary of Biodiversity Management and Monitoring Measures

Topic	Impact Mitigation Measures	Monitoring Method	Timing/Frequency	Reporting Output	Responsibility	Performance Criteria
Minimising native vegetation disturbance (for cases where native vegetation clearance is required)	Identification of clearance boundaries. Section 6.1.1 and Section 6.1.3.	Pre-clearing procedure. GIS mapping.	Prior to commencement of clearing at each new work area.	Completed Vegetation Disturbance Permit. Before and after photographs.	Tilt Renewables (engaged Ecologist). Construction Contractor.	Vegetation clearing remains within the specified limits (refer to Section 6.1.1).
	Vegetation Disturbance Permit. Section 6.1.4.	Vegetation Disturbance Permit	Developed and approved prior to clearing activities in each work area.	Completed Vegetation Disturbance Permit.	Construction Contractor to execute Vegetation Clearing Permit developed by Tilt Renewables.	Permit has been reviewed and approved and actions identified in the Vegetation Disturbance Permit have been completed.
	Pre-clearing procedure. Section 6.1.4.	Pre-clearing procedure.	Prior to commencement of clearing at each new work area.	Pre-clearing inspection.	Tilt Renewables.	Items identified in the pre-clearing survey have appropriate management planning for vegetation clearing and are communicated effectively to relevant personnel.
Protecting remnant vegetation and key fauna habitat outside approved disturbance areas	Refer to ‘Minimising native vegetation disturbance (for cases where native vegetation clearance is required)’ measures above in addition to below.					
	Project vehicles and machinery to remain within the Development Corridor. Section 6.2.	Induction records. Daily inspections.	Ongoing.	Weekly environmental inspection report.	Construction Contractor.	Vegetation and habitat outside of the approved Development Corridor is undisturbed.
	Laydown and temporary disturbance areas in already disturbed areas where practicable and feasible. Section 6.2.	Weekly environmental inspections. Before and after photographs.	Ongoing.	Weekly environmental inspection report.	Construction Contractor.	Vegetation and habitat outside of the approved Development Corridor is undisturbed.

Topic	Impact Mitigation Measures	Monitoring Method	Timing/Frequency	Reporting Output	Responsibility	Performance Criteria
Minimising Impacts on Native Fauna	Fauna habitat identified and non-habitat vegetation to be cleared first. Section 6.3.	Vegetation Disturbance Permit.	Throughout clearing activities.	Completed Vegetation Disturbance Permit.	Construction Contractor.	Non-habitat vegetation cleared prior to identified habitat vegetation.
	Qualified Ecologist or spotter/catcher to supervise habitat vegetation clearing and fauna relocation periods are observed. Section 6.3.	Vegetation Disturbance Permit.	Throughout clearing activities.	Completed Vegetation Disturbance Permit.	Construction Contractor.	Impacts to identified fauna are avoided.
Controlling weeds and feral pests	Implementation of weed management actions where weed incursion or spread is identified. Section 6.5.1.	Visual monitoring of areas subject to any weed management actions to monitor success.	As required.	Weed control records.	Tilt Renewables.	High threat weed spread does not occur as a result of the Project.
	Plant and equipment onboarding inspection. Section 6.5.1.	Visual inspections of active work areas.	Prior to arrival and being released to work on the project.	Plant onboarding inspections. Weekly environmental inspection report.	Construction Contractor.	High threat weed spread does not occur as a result of the Project.
	Inspection of vehicles and machinery for mud, vegetation debris and seeds. Section 6.5.1.	Daily inspections of vehicles/machinery.	Daily.	Weekly environmental inspection report.	Construction Contractor.	High threat weed spread does not occur as a result of the Project.
	Soil disturbance will be managed to minimise the spread of weeds. Section 6.5.1.	Visual inspections of active work areas and soil stockpiles.	Weekly during environmental inspections.	Weekly environmental inspection report.	Construction Contractor.	High threat weed spread does not occur as a result of the Project.
	Waste is managed to reduce opportunities for scavenging pest animals.	Visual monitoring and inspections in accordance with the Construction	Weekly during environmental inspections.	Weekly environmental inspection report.	Construction Contractor.	No signs of feral pest species scavenging around waste disposal areas (i.e. bins).

Topic	Impact Mitigation Measures	Monitoring Method	Timing/Frequency	Reporting Output	Responsibility	Performance Criteria
	Section 6.5.2.	Contractor's internal operating procedures.				
Controlling erosion	Implementation of erosion and sediment controls as per Managing Urban Stormwater – Soils and Construction Volume 2C Unsealed Roads (DECC, 2008). Section 6.7.1.	Visual monitoring of implementation during environmental inspections.	Weekly during environmental inspections.	Weekly environmental inspection report.	Construction Contractor.	Erosion is controlled and does not lead to impacts to biodiversity values.
	Where practicable, backfill trenches, boreholes and pits using the soil removed and compact the soil in accordance with the relevant requirements. Section 6.7.1	Pre- and post-backfilling inspections. Visual inspection of backfilled trench / pit.	Pre- and post-backfilling activities.	Weekly environmental inspection reports.	Construction Contractor.	Ensures soil stabilisation and minimises risk of erosion and run-off.
Rehabilitating and revegetating temporary disturbance areas	Disturbance areas are respread with salvaged topsoil and reseeded with appropriate grass species.	Before and after photographs.	As soon as possible following completion of works at each location.	Confirmation of before and after photographs provided to Tilt Renewables.	Construction Contractor to undertake rehabilitation activities and Tilt Renewables to verify rehabilitation completion.	Where practicable, disturbance areas to be rehabilitated to a land use commensurate with pre-disturbance condition.

6.1 Minimising Native Vegetation Disturbance during Vegetation Clearance

The pre-construction minor works program has been designed to minimise native vegetation clearing where feasible and therefore vegetation disturbance is expected to be minimal during the completion of the pre-construction minor works program. Where disturbance is required to complete these works, disturbance footprints are likely to be small and will predominately be located within existing cleared environments (e.g. gaps in native vegetation cover, road corridors or agricultural land). In the event native vegetation clearing is required during the pre-construction minor works, the below measures would be implemented to minimise associated impacts.

6.1.1 Approved Clearing Limits

To limit impacts to PCTs and potential threatened species habitat, maximum allowable clearing limits for the Project are listed in Appendix 8 of the Development Consent and **Section 5.1**. These have been considered during planning and design of the pre-construction works and will be adhered to through measures such as demarcation of clearance boundaries, pre-clearance survey and implementation of Vegetation Disturbance Permits (VDP's).

Monitoring of the progression of clearing will be undertaken via the establishment of a cumulative vegetation clearing and disturbance register which will be updated by Tilt Renewables on a weekly basis (refer to **Section 8.1**). The register will provide for the tracking and recording of both planned and actual vegetation clearing and disturbance throughout the proposed works, to ensure that both planned and actual clearing is kept to within the approved clearing limits.

6.1.2 Minimising Loss of Hollow-bearing Trees

Clearing of hollow-bearing trees is not expected during the proposed works as the pre-construction minor works sites are predominately located within previously cleared land (refer to **Section 5.2**). The BMP will be revised and updated prior to commencing the public road upgrades stage of the Project to include mitigation measures aimed at minimising impacts to hollow-bearing trees. The absence of hollow-bearing trees in designated work areas will be confirmed through the completion of pre-clearance surveys (refer to **Section 6.1.4.2**).

6.1.3 Demarcation of Clearance Boundaries

The disturbance boundaries required for the proposed pre-construction minor works will be digitally captured and displayed within the Project survey and GIS databases. This data will be provided to the Construction Contractor digitally and in hard copy map format to inform and guide vegetation clearing. The data will include all impact-limited biodiversity features within the pre-construction minor works disturbance areas (that is, those for which impact avoidance is required and / or proximity encroachment is not permitted). Remnant vegetation in proximity to the proposed works will be clearly demarcated prior to works commencing via construction fencing, nightline (reflective bunting), line of sight survey pegs or topsoil windrows (or a combination of these). Tilt Renewables will be responsible for digitally capturing the vegetation clearance boundaries while the Construction Contractor will be responsible for physically demarcating the vegetation clearing boundaries.

6.1.4 Management of Vegetation Clearance

The following sections detail the specific vegetation clearing controls to be implemented during the proposed works.

6.1.4.1 Vegetation Disturbance Permit

Prior to any vegetation clearing or proposed disturbance activity, Tilt Renewables will be responsible for the development of a VDP procedure. The VDP procedure must provide capability for:

- Pre-clearing
 - Identify the proposed work areas and confirm the approved works are within the approved Disturbance Corridor
 - Estimate the area (ha) of vegetation to be cleared and confirm that this is within the approved clearing limits. Remnant vegetation in proximity to the proposed works is to be clearly demarcated using the methodologies described in **Section 6.1.3**.
- Pre-commencement of works
 - Pre-clearing procedure has been completed (see **Section 6.1.4.2**)
 - The vegetation clearing procedure has been communicated to all relevant personnel
 - Implementation of the vegetation clearing procedure
 - Implementation of any active fauna management, including details of capture and release (see **Section 6.3**)
 - Details of any unexpected or incidental finds (see **Section 6.4**)
 - Any relevant information for salvage of resources (see **Section 6.1.5**)
 - Any relevant information for future rehabilitation or revegetation (see **Section 6.9**).

The VDP procedure will be implemented by the Construction Contractor for all areas where clearing or disturbance is proposed.

6.1.4.2 Pre-clearance Survey

A vegetation and habitat pre-clearing survey procedure will be developed by Tilt Renewables prior to commencement of the pre-construction minor works program. The outcomes of pre-clearance surveys will inform the VDP, and relevant management measures that are applicable for identified fauna or habitat. The pre-clearance survey procedure will include:

- A preliminary inspection of the proposed works areas which occur in mapped native vegetation will be undertaken by a suitably qualified and experienced ecologist prior to clearing to determine:
 - The area of native vegetation to be cleared, including mapped BC Act and EPBC Act TECs
 - The location of hollow-bearing trees

- Potential habitat features located within proposed disturbance areas that may require management during clearing
- Habitat features (such as large fallen logs and hollows) that can be salvaged where practicable for reuse in rehabilitation areas or in adjoining non-disturbed native vegetation areas (**Section 6.1.5**)
- Resident fauna, including actively nesting birds, mammals, tree hollows that may contain roosts, nests or dens, or suspected active microbat roosts that may require active management prior to or during disturbance (see **Section 6.3**)
- Visual inspection to identify any farm dams which may be impacted
- The presence of weed species in proposed work areas, including an estimation of number and spread, to determine if weed management actions are required prior to vegetation clearing to prevent further spread (see **Section 6.5**)
- The presence of any previously unrecorded threatened flora or fauna species requiring management under the unexpected finds (see **Section 6.4**).
- Areas of sensitive vegetation identified (that is, vegetation and habitat for which there is a clearing limit specified in Appendix 8 of the Development Consent – refer **Section 5.1**) will be physically demarcated (e.g. bunding, surveyor pegs, tape, spray paint, etc.).

It is noted that the pre-construction minor works program has been designed to minimise native vegetation clearing. Where disturbance is required to complete these works, disturbance footprints are likely to be small and will predominately be located within existing cleared environments (e.g. gaps in native vegetation cover, road corridors or agricultural land) and therefore vegetation clearing is likely to be limited. As a result, the above-listed features are not expected to be identified during pre-clearance surveys during this stage of the Project.

6.1.4.3 Vegetation Clearing

The locations of the pre-construction minor works program are situated in historically cleared environments and therefore clearing of native vegetation is expected to be minimal during the pre-construction minor works program.

For any cases where native vegetation clearance is required, outcomes of the pre-clearance surveys completed by the suitably qualified and experienced ecologist will be communicated to the Construction Contractor prior to the commencement of works at each specific location. In the unlikely event sensitive biodiversity values are identified within the proposed work area during implementation of the VDP procedure, specific mitigation and management measures will be provided by Tilt Renewables to the Construction Contractor for further inclusion in the VDP at each work location.

6.1.5 Salvage of Habitat Features and Vegetative Materials

Salvage of habitat features and vegetative materials is not expected to be applicable or required during the pre-construction minor works stage of the Project due to the location of the proposed works in predominately existing cleared land and the minor disturbance areas required. However, the presence/absence of habitat features for potential salvage will be identified through during implementation of the VDP procedure and completion of the pre-clearance surveys, with any further specific management requirements outlined in the VDP prepared by Tilt Renewables for execution by the Construction Contractor. As outlined in **Section 6.9.1**, topsoil will be salvaged and stockpiled for respreading over the disturbance areas following completion of works, where applicable.

The BMP will be revised and updated prior to commencing the public road upgrades stage of the Project to include mitigation measures aimed at the salvage of materials.

6.2 Protection of Remnant Vegetation

For all works covered by this BMP, the Construction Contractor will be responsible for:

- Ensuring all work areas are located outside of mapped TECs.
- Ensuring all native tree, hollow-bearing tree and shrub removal is minimised by the works.
- Identifying locations for ground disturbance outside of areas with existing native ground cover as far as reasonably practical (e.g. locating bore holes in gaps in existing native vegetation ground cover if present).
- Ensure before and after photographs are taken of the disturbance areas in each location.
- Ensuring vehicles, mobile plant and personnel remain within the approved Development Corridor or existing disturbed areas (e.g. access tracks).
- Locating any laydown areas and other temporary disturbance activities in areas within the approved Development Corridor.
- Minimising further spread of weeds (refer **Section 6.5.1**) into adjacent remnant vegetation.
- For cases where vegetation clearance is required, implementation of the measures described in **Section 6.1** will ensure that vegetation clearing is minimised where practicable.

6.3 Minimising Impacts on Native Fauna

While fauna habitat is not expected to be identified and required to be impacted as part of the pre-construction minor works program, the following process has been identified as a safeguard against unlikely records of such habitat.

If active fauna management is required as a result of implementation of the VDP procedure, a qualified ecologist or spotter/catcher will be present to supervise clearing activities and manage any impacts and /or relocation of fauna. In any area to be cleared, non-habitat vegetation directly surrounding the fauna habitat identified is to be cleared first. A visual inspection of the area to be cleared for fauna species and nests that may have become active since pre-clearing inspections will be completed. Any fauna habitat (or resident fauna including actively nesting birds or suspected active microbat roosts) demarcated during the pre-clearing procedure can be shaken or knocked (for at least 30 seconds), or as appropriate) to encourage fauna to abandon trees. The tree is then to be left standing overnight to encourage the self-relocation of fauna. After the habitat has been retained over night to allow fauna to relocate, the habitat can be removed. Habitat trees will be lowered as gently as possible, noting in some situations manual felling by chainsaw may be appropriate. The tree will then be rolled (if required) to inspect hollows for remaining or injured fauna.

Any displaced or injured fauna will be captured by the qualified ecologist or spotter/catcher, with unharmed fauna to be released into a nearby location which is not subject to future disturbance by the Project, on the same day. Injured fauna are to be triaged immediately, humanely euthanised if required (i.e. if injuries are deemed too substantial, making it inhumane to keep the animal).

Prior to any works, the VDP procedure will be implemented. This will confirm the presence/absence of biodiversity values, however due to the nature and location of the proposed pre-construction minor works program, this is not expected to be relevant. In the unlikely event that fauna management is deemed necessary during implementation of the VDP procedure, the **Section 6.4** actions will be undertaken and further specific mitigation measures will be stipulated by Tilt Renewables in the VDP to be implemented by the Construction Contractor.

6.4 Unexpected or Incidental Flora and Fauna Finds

The pre-construction minor work locations do not occur within the threatened flora and fauna species polygons assessed as part of the RTS BDAR (Umwelt, 2023a). If unexpected threatened flora or threatened/migratory fauna species are observed or suspected to be at risk, Tilt Renewables will proceed to:

- Record details of the find as part of the VDP procedure
- Arrange for a qualified ecologist, wildlife carer or animal handler for further assessment, relocation and/or advice as required
- Notify Construction Contractor staff of the threatened species find via toolbox talks and advise of additional management measures to be adhered to (informed by the qualified ecologist), if required.

6.5 Biosecurity (Weeds, Pathogens and Vertebrate Pests)

The presence of weeds, pathogens and vertebrate pests are generally exacerbated by disturbance, and have the potential to substantially impact biodiversity values. A large portion of the Project Area has been subject to prior clearing and agricultural activity, such that the Project is unlikely to introduce any significant new threats. The Project already supports a large number of weed flora species due to its long history of agricultural land use practices. However, ongoing management of these components, and prevention of further spread remains a priority. The measures outlined in **Section 6.5.1** and **Section 6.5.2** are applicable to all stages of the Project.

It is noted that weeds and pests are not expected to be a significant threat during the pre-construction minor works stage of the Project due to the minor nature of the proposed works. However, weed and pest mitigation measures will be implemented where applicable to the proposed works.

6.5.1 Weeds and Pathogens

The Construction Contractor will be responsible for implementing biosecurity controls during the proposed works as directed and agreed by Tilt Renewables. Weeds are not expected to be a significant threat during the pre-construction minor works stage of the Project due to the minor nature of the proposed works and the general location of these works within previously disturbed environments. However, throughout subsequent stages of the Project, Tilt Renewables will work with relevant landowners to prevent the spread of weeds within the Project and neighbouring properties.

Prevention of weed spread to or across the Project will substantially reduce costs for ongoing treatment, however the spread of weeds is difficult to avoid entirely and active treatment/removal is likely to be required, particularly during the construction stage when disturbance activity and risk of spread is at a peak.

The spread of pathogens can also be exacerbated by disturbance activities, if unmanaged. The Project is considered unlikely to contribute to further spread of pathogens, however active management remains a priority.

Ongoing management of weeds and pathogens is the responsibility of Tilt Renewables and is addressed through Property Management Plans (PMPs) entered into by Tilt Renewables, landowners and contractors, and may include:

- Pre-clearance survey for high threat weeds, as described in **Section 6.1.4.2**.
- Undertaking pre-mobilisation inspection of vehicles, machinery and plant for weeds and weed seeds.
- Ensure that vehicles, equipment, clothing, and shoes are thoroughly clean and free from pests, weed seeds, plant material, and soil before entering the site ('at the gate') at wash-down locations identified by landowners. This will be conducted in line with NSW DPI 'Come Clean, Go Clean' guides.
- Awareness training for all personnel on identification of native flora species, high threat weeds, pathogens and prevention of further spread.
- Prevention of stock access to the Project where practicable and in consultation with host landowners.

- Keeping vehicles and machinery to dry surfaces and formed roads where feasible.
- Daily inspection of vehicles and machinery for mud, weed debris matter and weed seeds and cleaning at designated wash-down areas specified by landowners when required moving between locations. Construction Contractor vehicles will also be required to arrive to each work location free of mud, weed debris and weed seed.
- Minimisation of soil disturbance where practicable.
- Regular inspection of roadsides, laydown areas, buffer zones and stockpiles for presence of weeds (refer **Section 8.2**).
- Chemical and physical removal of invasive weed species in accordance with the New South Wales Control Handbook (DPI, 2018).
- Specific measures to ensure that adjacent agricultural land and native vegetation is not significantly impacted by herbicides (e.g. avoiding strong winds, consideration of waterways, adhering to product instructions etc.).
- Documentation of the above activities, including dates, locations, methods and monitoring outcomes.

6.5.2 Vertebrate Pests

Feral animal species such as foxes and rabbit are known to occur within the Project Area, however populations are not expected to increase as a result of the Project and management of pest fauna is unlikely to be required during the pre-construction minor works stage due to the minor nature of these works. During the construction stage of the Project, Tilt Renewables will work with relevant landowners regarding the management of vertebrate pests. Implementation of control measures is the responsibility of Tilt Renewables, and includes:

- Appropriate waste management, ensuring that waste materials do not attract pests.
- Documentation of vertebrate pests sightings including date, location and description of activity.
- Relative to documented activity and in accordance with the Central West Regional Strategic Pest Animal Management Plan (Local Land Services, 2018) and the Hunter Regional Strategic Pest Animal Management Plan (Local Land Services, 2018a), active control including baiting, trapping, shooting, exclusion fencing and harbour destruction, as approved.

6.6 Bushfire

The Project is identified as bushfire prone land by the NSW Rural Fire Service (RFS). Tilt Renewables is responsible for directing the Construction Contractor to implement bushfire management measures in accordance with the NSW Rural Fire Services (RFS) *Planning for Bush Fire Protection Guide* (RFS 2019), and in consultation with the RFS and NPWS, as required by Schedule 3, Condition 37 of the Development Consent.

Bushfire control measures to be implemented for the Project include:

- Provision of fire response and management training for all relevant personnel.

- Identification of fire related hazards, including accumulated rubbish and flammable substances.
- Establishment of appropriate asset protection zones, or buffers between relevant Project infrastructure and bush fire hazards (e.g. adjacent vegetation) of at least 10 m, comprising a maintainable fuel-reduced physical separation (e.g. cleared firebreak).
- Provision of fire suppression equipment and appropriate storage/maintenance of fuel and flammable liquids.
- Establishment of designated smoking areas that are clearly marked and located away from high-risk zones, such as vegetation or areas with flammable materials.
- Monitoring of daily weather forecasts to assess and manage bushfire risks, escalating to the Tilt Renewables Project Manager if temperatures are forecast to exceed 38 degrees (°C).
- Restrictions on hazardous work activities (e.g. hot works) during total fire bans.
- Established procedures for notification of fire (e.g. call 000) and remaining safe during an emergency.

6.7 Soil and Water

Measures for the protection of soil and water will ensure that impacts to biodiversity are minimised, particularly for riparian ecosystems. These are summarised in **Section 6.7.1** and **Section 6.7.2** below.

It is noted that impacts to soil and water are not expected to be significant during the pre-construction minor works stage of the Project. However, measures outlined in **Section 6.7.1** and **Section 6.7.2** will be implemented where applicable to the proposed works.

6.7.1 Erosion and Sedimentation

Erosion and sedimentation impacts during the pre-construction minor works stage are expected to be low due to the low intensity of the proposed works. Appropriate management of erosion and sedimentation is the responsibility of the Construction Contractor and will be managed through the development and implementation of site-specific Erosion and Sediment Control Plans on an as required basis.

Management measures, where relevant, will have regard for *Managing Urban Stormwater – Soils and Construction Volume 2C Unsealed Roads* (DECC, 2008) and may broadly include:

- Scheduling to avoid works during periods of high rainfall in areas of high erosion risk and allow stabilisation prior to forecast rainfall.
- Where practicable, minimisation of clearing extents and/or disturbance to existing groundcover, including staging of works and progressive rehabilitation.
- Assessing suitability of construction work following heavy rainfall.
- Where practicable, minimal excavation of subsoils.
- Appropriate maintenance of access tracks.
- Appropriate management of stockpiles to avoid potential dispersion and sediment transfer.

- Where practicable, back-fill boreholes and test holes using the soil removed and compact the soil.
- Where practicable, ensure early site stabilisation and rehabilitation of boreholes and test holes. Where the disturbed area occurs within native vegetation, revegetate with local native grasses. Where the disturbed area occurs in exotic vegetation or disturbed lands, use either native grasses, mulch from chipped vegetation or improved pasture grasses (subject to landowner agreement).
- Engineering and establishment of site-specific, suitable erosion and sediment controls, including the use of salvaged logs where applicable.
- Weekly (or more frequently when applicable) inspection, monitoring and maintenance of erosion and sediment controls until site is stabilised (refer **Section 8.0**).

6.7.2 Contamination of Soils and Waterways

Waterway contamination is not considered a substantial risk for the Project, however potential impacts to aquatic fauna are also the responsibility of Tilt Renewables and are managed appropriately. Relevant management measures, where relevant, include:

- Ensure appropriate transport, storage and handling of hazardous materials, including fuels.
- Provision and maintenance of spill kits for management of accidental spills.
- Develop and implement a spill plan to prevent chemical and pollutant run off.
- Avoiding construction within waterways when heavy rainfall is predicted to occur.
- Tilt Renewables will ensure any construction within or adjacent to the major waterways within the Development Corridor, being Gundare Creek, Coolaburragundy River, Turee Creek, Starkeys Creek, Talbragar River and Goulburn River mitigates impacts to fish habitat.
- The DPI-predicted distribution maps for threatened freshwater fish lists the following waterways within the Project as being within the distribution for the respective fish species:
 - Turill Creek, Darling River Hardyhead population of the Hunter River Catchment
 - Coolaburragundy River, Turee Creek, Talbragar River, Gundare Creek, Southern Purple Spotted Gudgeon
 - Coolaburragundy River, Turee Creek, Talbragar River, Eel tailed catfish
 - As per Section 4.2 of DPI's policy and guidelines for fish habitat conservation and management, Tilt Renewables will liaise with DPI to ensure the design and establishment of a bridge, culvert or causeway meets their guidelines to avoid impacts to the threatened fish species (DPI 2013) during construction across any of the abovementioned waterways.

6.8 Noise, Dust and Light

Potential impacts to fauna from excessive noise and dust generation during the pre-construction minor works stage are expected to be negligible due to the low intensity of the proposed works.

The proposed works are restricted to daytime hours where practicable, to minimise required lighting at night and associated light spill to surrounding areas. Relevant management measures include the use of light shields, motion detectors and timers.

6.9 Rehabilitation of Temporary Disturbance Areas

It is noted that disturbance during the pre-construction minor works stage of the Project is expected to be minimal. Since the proposed works are preparatory for the public road upgrades and construction stage of the Project, the disturbed areas are likely to be re-disturbed or utilised for subsequent stages of the Project, limiting opportunity for rehabilitation during the pre-construction minor works stage. Rehabilitation activities during the pre-construction minor works stage will be limited to temporary disturbance areas and include stockpiles, test holes and boreholes and field laydown areas. For these areas, the Construction Contractor will be responsible for landform stabilisation and re-establishment of a land use and vegetation type consistent with that which existed pre-disturbance (in most cases, reseeding with stabilising grass species) under the guidance of Tilt Renewables. This approach will ensure that all areas are safe, stable, non-polluting and commensurate with pre-existing biodiversity values.

Rehabilitation of the pre-construction minor works disturbances will include back-filling boreholes and test holes with salvaged soil. Where disturbed areas were previously native ground cover, they will be stabilised with native grass species or approved sterile cover crop to promote ground stabilisation in anticipation of further disturbance during Project works. Cleared areas such as road surfaces, road verges, etc. will not be reseeded given the existing cleared nature of these areas. For areas outside of native vegetation within Category 1 land or disturbed land, rehabilitation will use native grasses, mulch from chipped vegetation, or improved pasture grasses (subject to landowner agreement on private land). Test holes located directly in the road surface will be backfilled with self-compacting road material³.

6.9.1 Stockpiling of Soils and Vegetative Materials

For temporary disturbance areas, topsoils and subsoils will be removed and stored separately for re-use. Topsoil, subsoil, vegetation and habitat features that are removed, mulched and/or salvaged during the proposed works will be used in adjacent areas, disposed or placed in stockpiles until they can be re-used for rehabilitation activities (if possible).

Appropriate measures for the management of stockpiles include:

- Placement within the same land parcel, reducing movement across landowner boundaries, as far as practical and as close as possible to the intended area of re-use.
- Avoidance of temporary fences or flagging, and exclusion from:
 - Beneath the canopy (dripline) of remnant mature trees
 - Within 50 m of waterways.
- Ensuring that stockpiles are long and low with a height less than 1.5 m to preserve soil structure and biology, avoid compaction and prevent heating and a resulting fire hazard.

³ Or other material requested by relevant Councils.

- If stockpiled for a long period of time, soils should be seeded with pasture grasses, and eventually re-spread in appropriate areas.
- It is noted that stockpiling of soils and vegetative materials will be minimal during the pre-construction stage of the Project due to the minor nature of the proposed works.

6.9.2 Land Preparation

It is noted that significant land preparation is not expected to be required during the pre-construction minor works stage of the Project due to the minor disturbance areas required as part of the proposed works.

Prior to reseedling (either native or non-native species) for areas where topsoil (including seedbank) and/or subsoil have been removed, the following measures shall be considered:

- Soils must be re-spread across the area to re-instate the original profile where practicable (i.e. subsoil underlying topsoil), with a minimum topsoil depth of 100 mm where resources allow. Where practicable, soils are returned to the same areas to ensure that soil type and seedbank are matched to pre-existing vegetation.
- Salvaged logs and/or biodegradable erosion control matting (e.g. jute mesh) may be used for particularly high-risk areas with dispersive topsoils (e.g. steep slopes and areas within 40 m of defined streams).
- To increase water infiltration and optimise establishment and growth of vegetation, topsoiled/subsoiled areas must be lightly ripped in parallel with contours to create a 'key' between the topsoil and the subsoil. Ripping must be undertaken when soil is moist and immediately prior to any seeding for best results.
- Site-specific erosion and sediment control measures described in **Section 6.7** and ESCPs are implemented.

6.9.3 Fauna Habitat Enhancement

Disturbance during the pre-construction minor works stage of the Project is expected to be minimal. As the proposed works are preparatory for the public road upgrades and construction stage of the Project, the disturbed areas will likely be re-disturbed, limiting opportunity for the reuse of salvaged habitat features during the pre-construction minor works stage. Reuse of salvaged habitat features will be considered and implemented in subsequent stages of the Project. Opportunities for the reuse of salvaged habitat features will be explored and utilised where possible during this stage of the Project.

6.9.4 Vegetation Establishment

Areas disturbed as part of the pre-construction minor works program will be subject to temporary rehabilitation (topsoil respreading and reseedling with stabilising grass species), with permanent rehabilitation commensurate with respective pre-disturbance conditions to be completed during the construction stage. Following land preparation works, disturbed areas will be reseeded with an appropriate stabilising grass species. These works will be undertaken by the Construction Contractor under the guidance of Tilt Renewables.

Following reseeding of disturbance areas, inspections of the progression of vegetation cover will be completed (weekly during spring and autumn and monthly during summer and winter) until the area is deemed to be commensurate (or trending towards) with surrounding undisturbed vegetation. These inspections will be completed by the Construction Contractor and completion of rehabilitation will be deemed by Tilt Renewables.

6.10 Biodiversity Offsetting

Prior to the commencement of the pre-construction minor works program, Tilt Renewables will make a payment into an offset fund in accordance with Schedule 3, Condition 19(b) of the Development Consent and the NSW Biodiversity Offset Scheme. As discussed in **Section 5.2**, the pre-construction minor works program has been designed to minimise impacts to biodiversity as far as practicable, with only 10 pre-construction minor work locations occurring within mapped native vegetation, being PCT 483 – Grey Box White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley (low condition DNG).

The impact credits calculated for the scope of works are summarised in **Table 6.2** below. It is noted that a significant round-up has been imposed to these calculations (rounding to one single credit per Interim Biogeographic Regionalisation for Australia (IBRA) region/sub-region).

Table 6.2 Calculated Credit Liability

IBRA Region / Sub-Region	PCT and Vegetation Zone	Impact Area (ha)	Total Impact for the Project (ha) for the IBRA Region / Sub-Region	Total Credit Liability for the Project for the IBRA Region / Sub-Region	Total Credits/ha	Extrapolated Credit Liability for Pre-Construction Minor Works ¹
Brigalow Belt South Region / Liverpool Range Subregion	Zone 8 – PCT 483 – Low Condition DNG	0.001376	270.0	4,155	15.39	1
Brigalow Belt South Region / Pilliga Sub-region	Zone 8 – PCT 483 – Low Condition DNG	0.000256	125.0	1,881	15.05	1

¹ Rounded to the nearest whole number

The BMP will be updated to account for future stages of the Project where greater impacts to native vegetation and species-credit species polygons is expected and therefore offset liabilities will be required to be satisfied prior to the work occurring.

Offset liabilities will be calculated based on a credits per hectare basis as per the information presented in Table 8-1 and Table 8-2 of Appendix 8 of the Development Consent. That is, the Biodiversity Assessment Method (BAM) Credit Calculator will not be manipulated to enter the specific impacts of the future stages.

For completeness and to align with Schedule 3, Condition 18A, the External Transmission Line has been included in **Figure 1.3**. Tilt Renewables acknowledges that any plans, strategies or programs may need to be revised to account for this component should a request be made to the Planning Secretary for the construction of the External Transmission Line. However, until such time, the External Transmission Line is not assessed further in the calculated credit liabilities.

7.0 Roles, Responsibilities and Training

7.1 Roles and Responsibilities

In accordance with Schedule 3 Condition 21 of the Development Consent, following receipt of the NSW Planning Secretary's approval this BMP must be implemented for the Project. The roles and responsibilities applicable to the pre-construction minor works stage of the Project are provided in **Table 7.1**.

Table 7.1 Key Roles and Responsibilities

Role	Responsibility
Tilt Renewables Project Manager	- Oversee the implementation of the BMP. - Ensure appropriate approvals and licences are held. - Provide adequate resources to ensure compliance with the BMP. - Ensure that all personnel undertaking early works are familiar with the BMP and have undertaken the site induction. - Coordinate and manage the Construction Coordinator. - Have a working knowledge of the BMP.
Tilt Renewables Health, Safety and Environment Manager (or delegate, e.g. Environmental Advisor)	- Oversee the implementation of the BMP. - Oversee monitoring and reporting compliance with the BMP. - Arrange or delegate inspection of clearing works that align with the implemented BMP measures. - Undertake incident and non-compliance notification and investigation procedures as required. - Arrange the review and update of the BMP. - Ensure resources are made available to enable works to comply with this BMP. - Responsible for the implementation of this BMP. - Responsible for the induction of pre-construction minor works personnel. - Responsible for appointing an appropriately qualified and experienced ecologist. - Responsible for addressing corrective actions arising from environmental inspections. - Development and management of a cumulative vegetation clearing and disturbance register. - Develop and implement a VDP and pre-clearing survey procedure for the pre-construction minor works. - Implement the biodiversity management monitoring framework. - Ensure pre-clearance surveys are undertaken in accordance with this BMP.
Construction Contractor	- Complete a site induction prior to commencing works. - Follow any instructions provided by Tilt Renewables Site Manager, Tilt Renewables Environmental Advisor, or an appropriately qualified and experienced ecologist. - Work in accordance with the requirements of this BMP. - Installation and maintenance of environmental controls associated with pre-construction works. - Undertake appropriate routine inspections. - Report and raise any issues that arise that may have an environmental impact. - Report environmental incidents (actual/potential) to the Tilt Renewables delegate and assist in investigation and resolutions.

7.2 Training, Competence and Awareness

7.2.1 Site Inductions

A Project-wide online induction is required to be undertaken by all personnel who will be on site prior to arriving.

All personnel will be required to undergo a pre-construction minor works-specific induction, to be developed and administered by Tilt Renewables. The induction will include:

- Site information
- Risk management
- Emergency preparedness
- Driving onsite
- Biosecurity requirements
- Environmental considerations
- Information on how to access the Development Consent and this BMP.

An induction register will be maintained by Tilt Renewables, including the name, date, and confirmation of completion of induction of all personnel.

Additionally, Tilt Renewables will ensure all personnel are briefed on the Development Consent and this BMP, including:

- An overview of the Development Consent requirements and contractor obligations under this BMP.
- Locations of the Development Consent and this BMP.
- Awareness training for sensitive biodiversity issues and relevant impacts.
- An overview of the management measures detailed in this BMP.
- A clear communication of roles and responsibilities under this BMP, including any stop-work situations, incident, non-conformances and notification requirements.

7.2.2 Toolbox Talks

Targeted training in the form of toolbox talks will also be provided to personnel with a key role in biodiversity management, particularly in regard to the relevant management measures required to be implemented in accordance with this BMP.

8.0 Monitoring, Reporting and Corrective Actions

8.1 Cumulative Vegetation Clearing and Disturbance Register

Tilt Renewables will be responsible for the development of a suitable cumulative vegetation clearing and disturbance register. This must provide for the progressive tracking and recording of both planned and actual vegetation clearing and disturbance throughout the proposed works, to ensure that both planned and actual clearing is kept to within the approved clearing limits, and calculated offsetting requirements for each PCT and threatened fauna species polygon (refer **Section 6.10**). The cumulative vegetation clearing and disturbance register will be updated weekly to reflect the cumulative progress of clearing activities.

The cumulative vegetation clearing and disturbance register must be provided to DPHI within 3 months of concluding vegetation/ground disturbance of each stage of the Project's development (refer **Section 1.3**) for validation of the pre-construction disturbance assumptions and confirmation that the clearing undertaken as part of each stage is within the approved clearing limits.

8.2 Inspections

During the proposed works, routine inspections of work areas will be undertaken on a weekly basis by the Construction Contractor and will include the following components, as applicable during active works:

- Protection of remnant vegetation.
- Open pits and trenches for fauna.
- Hygiene procedures and documented weed and seed inspections.
- Material and vehicle movement.
- Erosion and sediment control measures.
- Implementation of progressive rehabilitation/revegetation activities for temporarily disturbed areas.
- Bushfire and other hazards.
- Dust generation.

8.3 Auditing

Auditing of the implementation of this BMP will be carried out in accordance with Schedule 4, Condition 6 of the Development Consent.

8.4 Management Triggers and Corrective Actions

The biodiversity management monitoring framework applicable to the pre-construction minor works stage is presented in **Table 6.1** and will be implemented by Tilt Renewables. For each biodiversity component and relevant management measures, monitoring methods include an indication of frequency, relevant documents, duration, relevant parameters and relevance to the pre-construction minor works stage of the Project.

The BMP will be revised and updated following completion of pre-construction minor works to include monitoring/reporting requirements relevant to the public road upgrade stage of the Project.

In the event that the performance measures as detailed in **Table 6.1** are not met, corrective actions will be developed by Tilt Renewables.

9.0 Incident and Non-Compliance Management

9.1 Incident Notification and Reporting

Under the Development Consent, an ‘incident’ will be defined as an occurrence or set of circumstances that causes or threatens to cause material harm to the environment, and as a consequence of that harm, may cause harm to the health and safety of human beings and which may or may not be or cause a non-compliance. ‘Material harm’ is harm that:

“involves actual harm to the environment that may include (but not be limited to) a leak, spill, emission other escape or deposit of a substance, and as a consequence of that environmental harm (pollution), may cause harm to the health or safety of people; or

results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).”

Within 24 hours of becoming aware of an incident, Tilt Renewables will provide a detailed written notification via the Major Project website. This notification will include:

- Date, time and location.
- A brief description of what occurred and why it has been classified as an incident.
- A description of what immediate steps were taken in relation to the incident.
- Identifying a contact person for further communication regarding the incident.

Within 7 days of the date on which the incident occurred, or as otherwise agreed by the Planning Secretary, Tilt Renewables will provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident including the following information, as well as any further reports which may be requested by the Planning Secretary:

- Identifies how the incident was detected.
- Identifies when Tilt Renewables became aware of the incident.
- Identifies any actual or potential non-compliance with conditions of consent.
- Identifies further action(s) that will be taken in relation to the incident.
- A summary of the incident.
- Outcomes of an incident investigation, including identification of the cause of the incident.

- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, including the period for implementing any corrective and/or preventative actions.
- Details of any communication with other stakeholders regarding the incident.

9.2 Non-Compliance Notification and Reporting

Tilt Renewables will notify DPHI in writing via the Major Projects website within seven days of becoming aware of any non-compliance with the conditions of the Development Consent. Any non-compliance notification will identify the development and the application number and name, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known). The notification will also identify what actions have been taken, or will be undertaken, to address the non-compliance.

Under the Development Consent, a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

10.0 Review and Revision

10.1 Triggers for Review and Revision

As described in **Section 1.3**, this BMP has been prepared to apply to the pre-construction minor works stage of the Project and further revisions to the BMP will be developed prior to the commencement of any subsequent stages of the Project, including the construction of the Project.

In accordance with Schedule 4, Condition 2 of the Development Consent, Tilt Renewables will review and revise (if necessary) the BMP to the satisfaction of the Planning Secretary within 3 months of the submission of:

- An incident report under Schedule 4, Condition 4 of the Development Consent (see **Section 9.1**).
- An independent environmental audit report under Schedule 4, Condition 4 of the Development Consent.
- Any modification to the conditions of the Development Consent.

Additional triggers for review and revision of this BMP include:

- Substantial changes in Project scope and design.
- At completion of the pre-construction minor works stage / prior to commencement of the public road upgrades stage.
- Addressing the consequences of significant environmental incidents or findings of an audit of the performance of meeting relevant performance criteria.
- As directed by relevant agencies.

Where revisions to the BMP are required, Tilt Renewables must submit the revised BMP to the Planning Secretary for approval, within 4 weeks of the review.

10.2 Matters to be Considered During BMP Review

Review and revision of this BMP will consider:

- Environmental monitoring reports.
- Any reported non-compliances or incidents.
- Opportunities for improvement of:
 - Mitigation/management measures
 - Monitoring methods and appropriate triggers
 - Initial response and corrective actions
 - Relevant roles, responsibilities and training.

10.3 Distribution and Publication of Revised BMP

In accordance with Schedule 3, Condition 21(b) and Schedule 4, Condition 2 of the Development Consent, a copy of the updated BMP and changes will be distributed to all relevant stakeholders. Changes will also be communicated to relevant site personnel via relevant stakeholder consultation structures, site inductions and toolbox talks.

Once the revised BMP has been approved, and in accordance with Schedule 4, Condition 7 of the Development Consent, the revised BMP will be published and made publicly available on the Tilt Renewables website: <https://www.tiltrenewables.com/assets-and-projects/liverpool-range-wind-farm/>

11.0 References

Committee EV-018. (2009). Protection of trees on development sites (AS 4970-2009). *Standards Australia*. <https://www.tcaa.com.au/wp-content/uploads/2018/11/AS-4970-2009-Protection-of-trees-on-development-sites.pdf>

Department of Environment and Climate Change (DECC). (2008). Managing Urban Stormwater: Soils and Construction: Volume 2C – Unsealed Roads. *Stormwater Trust*. <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Water/Water-quality/managing-urban-stormwater-soils-construction-volume-2c-unsealed-roads-0802.pdf>

Department of Planning, Industry and Environment (DPIE). (2020). Saving our species: Hygiene Guidelines. *NSW Government*. <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/saving-our-species-hygiene-guidelines-200164.pdf>

Department of Planning, Industry and Environment (DPIE) (2021). Threatened Biodiversity Data Collection (TBDC).

Department of Primary Industries (DPI). (2013). Policy and guidelines for fish habitat conservation and management. *NSW Government*. https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0009/468927/Policy-and-guidelines-for-fish-habitat.pdf

Department of Primary Industries (DPI). (2018). New South Wales Weed Control Handbook. *NSW Government*. https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0017/123317/weed-control-handbook.pdf

Local Land Services. (2018). Central West Regional Strategic Pest Animal Management Plan: 2018-2023. *NSW Government*. https://www.lls.nsw.gov.au/_data/assets/pdf_file/0006/820788/CW-RSPAMP-web-final.pdf

Local Land Services. (2018a). Hunter Regional Strategic Pest Animal Management Plan: 2018-2023. *NSW Government*. https://www.lls.nsw.gov.au/_data/assets/pdf_file/0004/820795/Hunter-Pest-Plan.pdf

Local Land Services. (2022). Central West Regional Strategic Weed Management Plan: 2023-2027. *NSW Government*. https://www.lls.nsw.gov.au/_data/assets/pdf_file/0011/722873/Central-West-Regional-Strategic-Weed-Management-Plan-2023-2027.pdf

Local Land Services. (2022a). Hunter Regional Strategic Weed Management Plan: 2023-2027. *NSW Government*. https://www.lls.nsw.gov.au/_data/assets/pdf_file/0010/806509/Hunter-Regional-Strategic-Weed-Management-Plan-2023-2027.pdf

Landcom. (2004). Soils and Construction: Managing Urban Stormwater. *NSW Government*. <https://landcom.nsw.gov.au/assets/Landcom-design-guidelines-and-fact-sheets-2008-2011/managing-urban-stormwater-soils-construction-volume-1-fourth-edition-compressed.pdf>

NGH Environmental (2013a). Biodiversity Assessment, Liverpool Range Wind Farm – Wind Farm Study Area.

NGH Environmental (2013b). Biodiversity Assessment, Liverpool Range Wind Farm – Transmission Line Study Area.

NGH Environmental (2017). Biodiversity Addendum Report: Liverpool Range Wind Farm and Transmission Line Project.

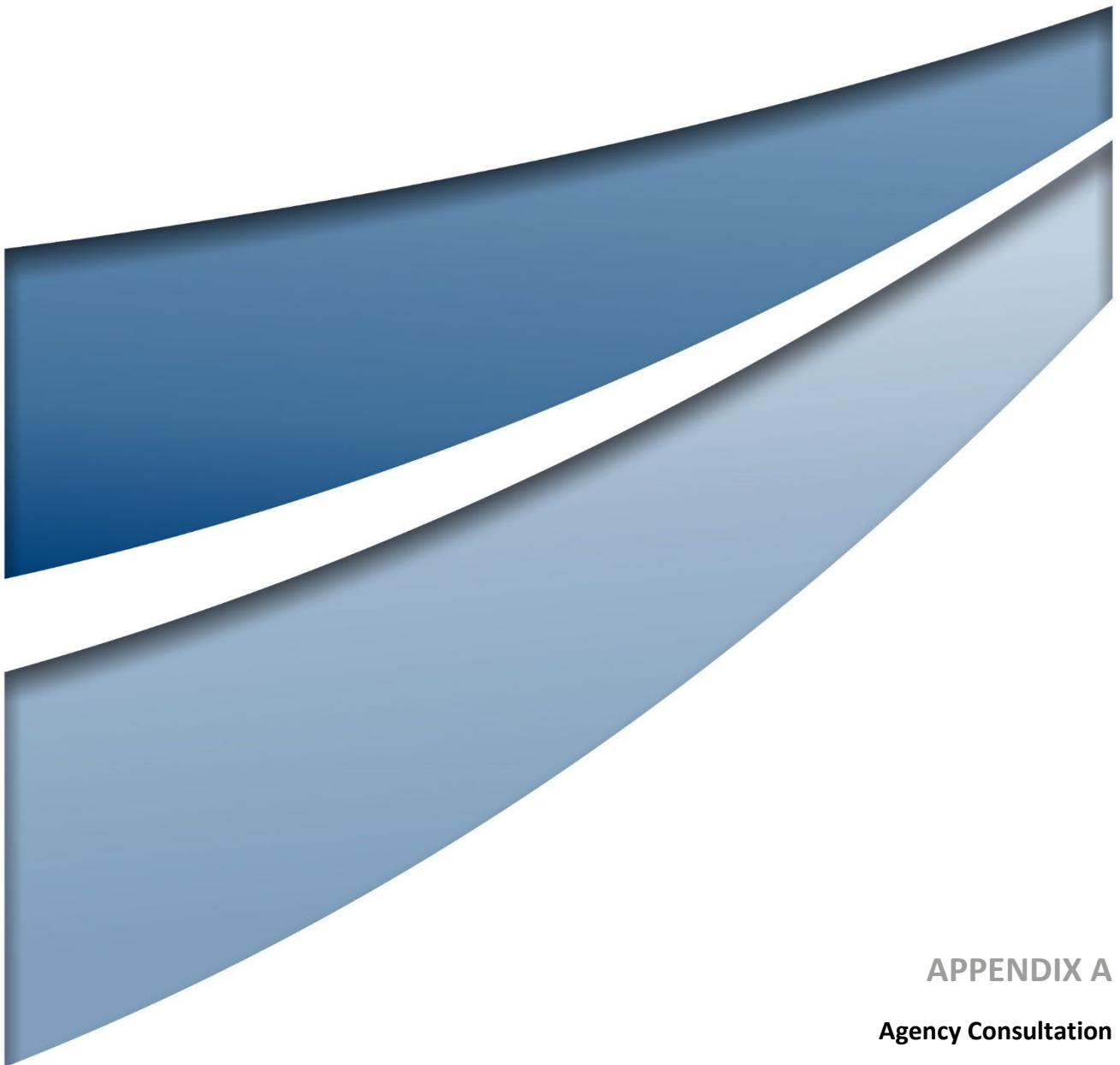
NSW Rural Fire Service (RFS). (2019). Planning for Bush Fire Protection Guide. *NSW Government*.
https://www.rfs.nsw.gov.au/_data/assets/pdf_file/0005/174272/Planning-for-Bush-Fire-Protection-2019.pdf

Umwelt. (2023). MOD-1 Submissions Report. *Prepared for Liverpool Range Wind Farm*.
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-48360214%2120230914T022443.746%20GMT>

Umwelt. (2023a). Response to Submissions Biodiversity Development Assessment Report. *Prepared for Liverpool Range Wind Farm*. https://www.tiltrenewables.com/documents/1623/2022-09416_LRWF_PER_Appendix_D_BDAR_Part1.pdf

Umwelt. (2024). MOD-1 Amendment Report: Temporary Project-specific Workers Accommodation Facility. *Prepared for Liverpool Range Wind Farm*.
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6696-MOD-1%2120240118T235822.672%20GMT>

Umwelt. (2024a). Addendum to Biodiversity Development Assessment Report. *Prepared for Liverpool Range Wind Farm*.
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-67001459%2120240410T091640.266%20GMT> .



APPENDIX A

Agency Consultation



Lisa Simonsen
Environment & Development Planner
Tilt Renewables
Lisa.Simonsen@tiltrenewables.com

Dear Lisa

Liverpool Range Wind Farm – Biodiversity Management Plan

Thank you for your request via the NSW Planning Portal dated 20 December 2024 to the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) inviting comments on the Biodiversity Management Plan (BMP) for the Liverpool Range Wind Farm (the project).

BCS note that this BMP has been prepared to apply to the pre-construction minor works stage of the project and further revisions to the BMP will be developed in consultation with BCS prior to the commencement of any subsequent stages. No construction activities are proposed under this version of the BMP.

Condition 21, Schedule 3, of the Development Consent states that *“Prior to the commencement of construction, the Applicant must prepare a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:*

(a) be prepared in consultation with OEH ”.

We note that Condition 9, Schedule 2 states that *“The Applicant may construct, operate and decommission the development in stages. Where staging of the development is proposed, the conditions of this consent are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).”*. We note that the proponent interprets that as applying to management plans.

Provided that the Department of Planning, Housing and Infrastructure approve the preparation of the BMP for stages of the project under Condition 9, Schedule 2, BCS is satisfied that the BMP fulfils the requirements of the Development Consent regarding the work program proposed.

We note that Appendix A of the BMP will be updated after agency consultation is completed.

If you have any questions about this advice, please do not hesitate to contact David Geering, Senior Conservation Planning Officer, via david.geering@environment.nsw.gov.au or (02) 6885 0335.

Yours sincerely,

Samantha Wynn
Senior Team Leader Planning, North West
Biodiversity, Conservation and Science Group

6 January 2025

Our ref: SSD-6696-PA-4

Lisa Simonsen
Environment and Development Planner
Liverpool Range Wind Farm Pty Ltd
600 Bourke Street
Melbourne Victoria 3000
31/01/2025

Subject: Liverpool Range Wind Farm - Biodiversity Management Plan

Dear Miss Simonsen,

I refer to the Biodiversity Management Plan for Pre-construction Minor Works (Revision 0.5 Final dated 20 December 2024), submitted to the NSW Department of Planning, Housing and Infrastructure (the Department) as required by Schedule 3, Condition 21 of SSD-6696 as modified (the approval).

After careful consideration, the Department is requesting that you provide additional information.

Please submit a revised Biodiversity Management Plan that addresses the requirements detailed in the attached management plan review table.

You are requested to provide the information to the Department by Friday 28th February 2025. If you are unable to provide the information within this timeframe or wish to discuss the matter further, please contact Vince Di Bono on (02) 8217 2089.

Yours sincerely



Katie Weekes
Senior Assessment Officer - Post Approval
Energy Assessments

As nominee of the Planning Secretary

Katie Weekes
Senior Assessment Officer – Post Approvals
Energy, Resources and Industry | Planning and Assessment
Department of Planning, Housing and Infrastructure
katie.weekes@dpie.nsw.gov.au

Dear Katie

Liverpool Range Wind Farm – Biodiversity Management Plan

We refer to the request via the NSW Planning Portal dated 5 February 2025 to the Conservation Programs, Heritage and Regulation Group (CPHR), formerly the Biodiversity, Conservation and Science Group (BCS), of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) for comments on the Biodiversity Management Plan (BMP) for the Liverpool Range Wind Farm (the project) which includes the proposed staging of the corresponding biodiversity credits for the pre-construction minor works.

CPHR note that this BMP has been prepared to apply to the pre-construction minor works stage of the project, and that further revisions to the BMP will be developed in consultation with BCS prior to the commencement of any subsequent stages.

The key activities that will be undertaken during this stage of the Project, relevant to Schedule 3, Condition 21, and covered by this BMP, include the following:

- geotechnical investigative drilling, being:
 - boreholes (~15-centimetre (cm) diameter and ~7 m depth) at a subset of the ancillary infrastructure locations including the Accommodation Camp, O&M facility and substations
 - test hole locations (approximately 300-millimetre (mm) diameter x 1.5 m depth) along the proposed public road upgrades (primarily on existing pavement or in disturbed/cleared area within the existing road corridor).

CPHR are satisfied that the BMP sufficiently addressed the requirements of condition 21 of the project consent when considering the nature of the activities being conducted above.

The BMP does not discuss the other pre-construction minor works activities as defined in the project consent being:

- establishing a temporary site office
- establishment of environmental impact mitigation measures, fencing and enabling works
- construction of minor access roads and minor adjustments to services/utilities

We note that these activities will not impact biodiversity values (due to being located on disturbed land or not requiring native vegetation removal).

It is noted that the proponent has made a commitment to retire two (2) ecosystem credits, being one credit for PCT 483 in both the Brigalow Belt South Region / Liverpool Range Subregion and Brigalow Belt South Region / Pilliga Subregion, prior to the commencement of pre-construction minor works.

The credit requirement has been calculated based on figures provided in Table 6.2 of the BMP and has been rounded up to a single credit liability for each of the IBRA subregions.

While the proposed credit requirement is very small, it is not possible for CPHR to validate the number of credits to be retired without supporting information. However, given the very small area to be impacted by the pre-construction minor works, CPHR is confident that the calculated credits requirement is sufficient to cover the biodiversity impacts.

Should you agree to stage the corresponding biodiversity credits obligation, we recommend that the proponent be required to provide evidence that the credits have been retired prior to commencement of the pre-construction minor works.

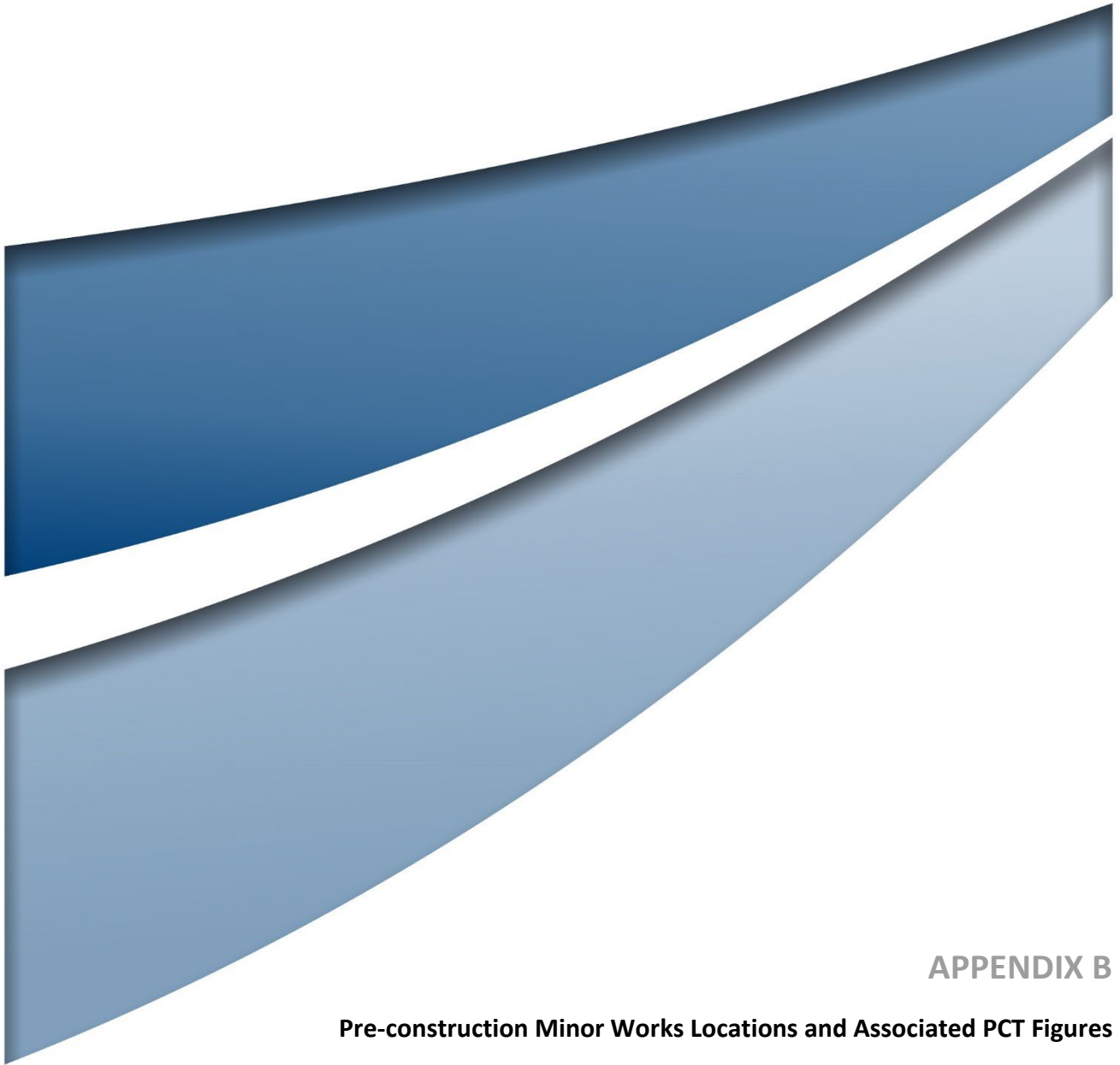
Please note that if there is a request to further stage the biodiversity credits obligations for this project in the future that we will require revised spatial files, methodology, and supporting calculations to enable CPHR to validate the corresponding credits requirement of each stage.

Yours sincerely,

A handwritten signature in black ink, reading "Samantha Wynn". The signature is written in a cursive, flowing style.

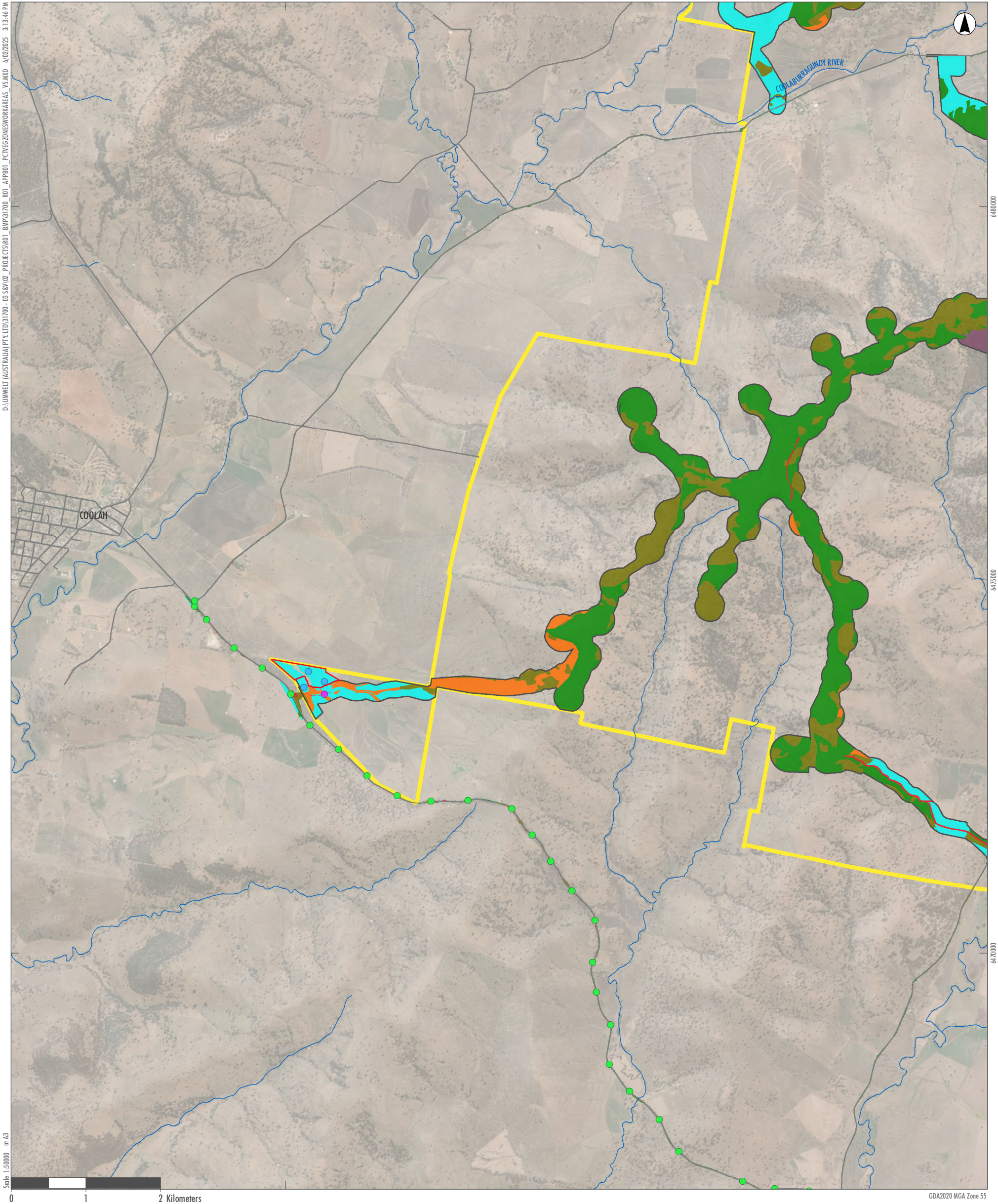
Samantha Wynn
Senior Team Leader Planning, North West
Conservation Programs, Heritage and Regulation

5 February 2025



APPENDIX B

Pre-construction Minor Works Locations and Associated PCT Figures



Legend

Project

- Project Site
- Development Corridor – Wind Farm
- Development Corridor – TWA Facility
- Drainage Line

Pre-construction Minor Work Locations

- Indicative Public Road Upgrade Test Hole Locations
- Test Locations - Temporary Site Office (TSO)
- Test Locations - Temporary Workers Accommodation (TWA) and Operations and Maintenance Facility

PCTs – Vegetation Zones within the Development Corridor and Indicative Development Footprints

- Zone-1 - PCT-84 - ModerateGood
- Zone-7 - PCT-483 - Low (BC ACT)
- Zone-8 - PCT-483 - Low Condition DNG

- Zone-9 - PCT-488 - ModerateGood
- Zone-17 - PCT-483 - DNG (BC ACT)
- Disturbed
- Land Category 1 - Exempt Land
- Water Body

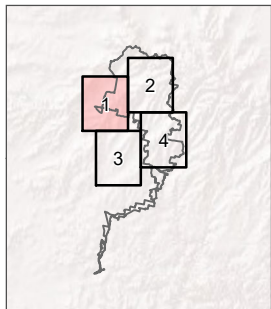
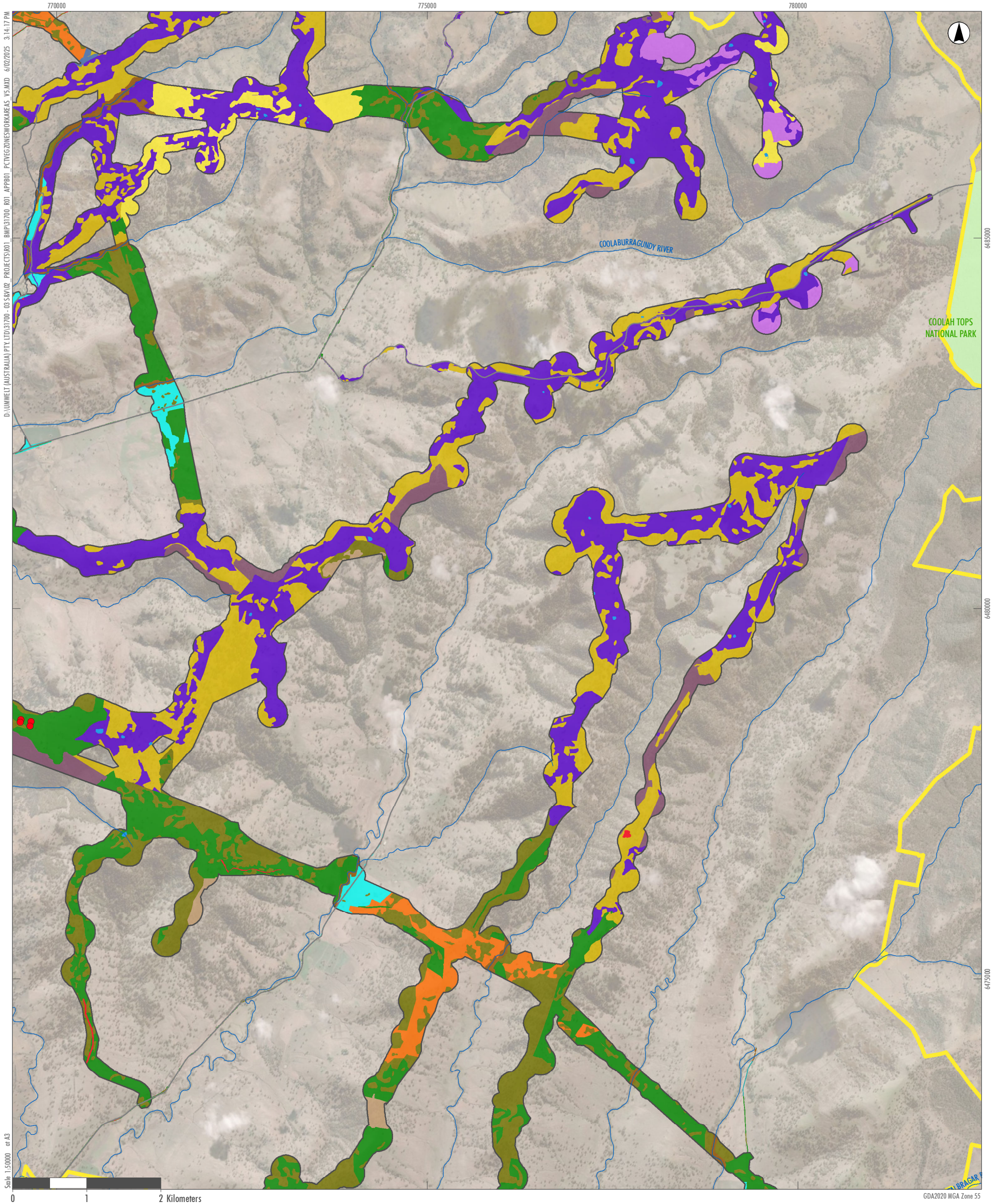


FIGURE B1

Plant Community Types and Vegetation Zones within Pre-construction Minor Work Areas





Legend

Project

- Project Site
- Road
- Drainage Line

Pre-construction Minor Work Locations

- Indicative Public Road Upgrade Test Hole Locations

PCTs – Vegetation Zones within the Development Corridor and Indicative Development Footprints

- Zone-1 - PCT-84 - ModerateGood
- Zone-7 - PCT-483 - Low (BC ACT)

- Zone-8 - PCT-483 - Low Condition DNG
- Disturbed
- Land Category 1 - Exempt Land
- Water Body

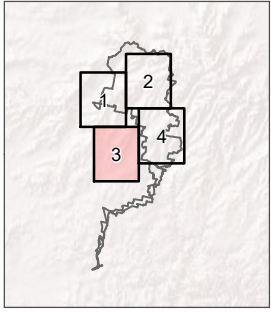
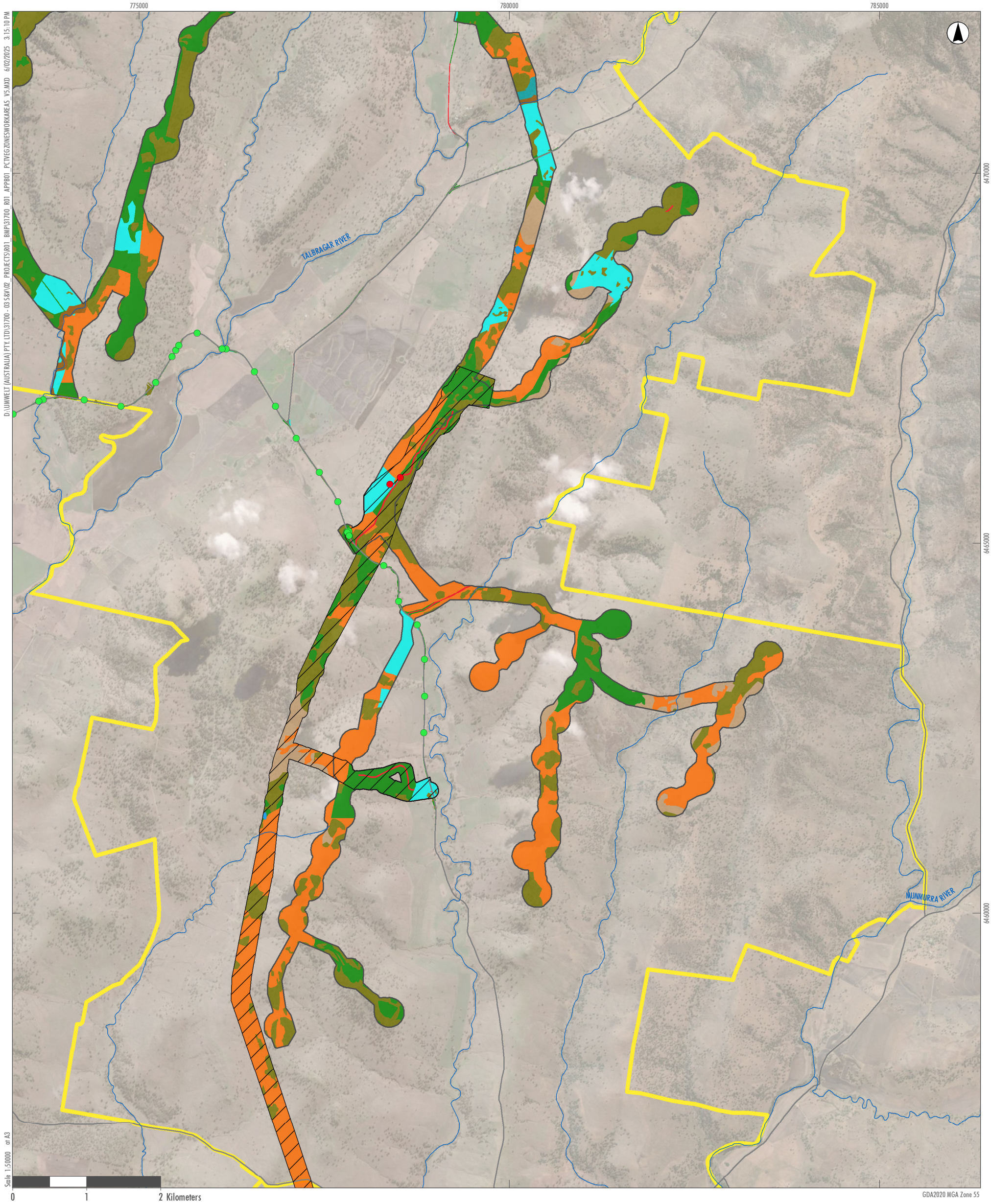


FIGURE B3

Plant Community Types and Vegetation Zones within Pre-construction Minor Work Areas



Legend

Project

- Project Site
- Development Corridor – Wind Farm
- Development Corridor – External Transmission Line
- Drainage Line

Pre-construction Minor Work Locations

- Indicative Public Road Upgrade Test Hole Locations
- Test Locations - Substations

PCTs – Vegetation Zones within the Development Corridor and Indicative Development Footprints

- Zone-1 - PCT-84 - ModerateGood
- Zone-2 - PCT-281 - ModerateGood (BC ACT & EPBC ACT)
- Zone-6 - PCT-483 - ModerateGood (BC ACT & EPBC ACT)
- Zone-7 - PCT-483 - Low (BC ACT)
- Zone-8 - PCT-483 - Low Condition DNG
- Zone-17 - PCT-483 - DNG (BC ACT)
- Disturbed
- Land Category 1 - Exempt Land
- Water Body

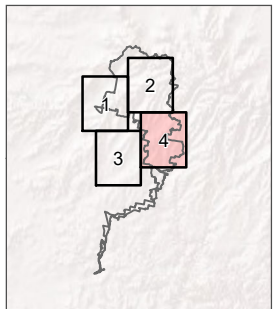


FIGURE B4

Plant Community Types and Vegetation Zones within Pre-construction Minor Work Areas

