ACJV
design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE

MID-WESTERN REGIONAL LGA TRANSPORT STRATEGY – PRIORITY 3A

CWO-PRO-050-ENV-STR-000028 REV 02

Table of Contents

List of Figures ..... **iii**
List of Tables ..... **iii**
Document Control ..... **iv**
Project Authorisation iv
Document Status iv
Control and Records iv
Uncontrolled Copies v
Review v
Distribution v
Governance and Authorisation v
Related Documents v
Terms and Abbreviations ..... **vi**
1 Introduction **8**
1.1 Background 8
1.2 Purpose 8
1.3 Staging 10
1.4 Scope of this Strategy 10
1.5 Consultation 11
2 Typical Design, Assessment and Upgrades **12**
2.1 Design Criteria 12
2.2 Turn Warrant Assessment 12
2.3 Safe Intersection Sight Distance 15
2.4 Access Types 15
2.5 Construction Traffic Demands 18
2.6 Cumulative Traffic 19
3 Road Upgrades **20**
4 Environmental Assessment and Mitigation **21**
Appendix A Road Upgrades within this Strategy **22**
Appendix B Specific Items in Appendix 4, Table 5 ..... **30**
Appendix B1 Access to Magpie Hill Microwave Repeater – Not Yet Included 31
Appendix B2 Intersection of Laheys Creek Road and Castlereagh Highway – Not Yet Included 32
Appendix B3 Intersection of Whistons Lane and Castlereagh Highway – Not Yet Included 33
Appendix B4 Intersection of Tucklan Road and Castlereagh Highway – Not Yet Included 34
Appendix B5 Intersection of Puggoon Road and Castlereagh Highway – Not Yet Included 35

Appendix B6 Castlereagh Highway Access Gates – Not Yet Included....36
Appendix B7 Wollar Road Access Gates – Not Yet Included....37
Appendix B8 Cope Road Access Gate (North) – Not Yet Included....38
Appendix B9 Cope Road Access Gate (South) – Not Yet Included....39
Appendix C Local Roads....40
Appendix C1 Birkalla Road (North and South) – Included....41
Appendix C2 Blue Springs Road (North and South) – Included....60
Appendix C3 Cliffdale Road – Not Yet Included....81
Appendix C4 Puggoon Road – Not Yet Included....82
Appendix C5 Whistons Lane – Not Yet Included....83
Appendix D Minor Access Points and Crossing Points....84
Appendix D1 SP1-A1/A2 Crossing Points (Merotherie Road) – Refer Priority 1....86
Appendix D2 SP1-B1/B2 Crossing Points (Birkalla Road) – Refer Priority 1....87
Appendix D3 SP1-E1/E2 Access Points (Blue Springs Road South)....88
Appendix D4 SP1-F1/F2 Crossing Points (Highett Road) – Refer Priority 1....96
Appendix D5 SP1-J2 Access Point (Ulan Road)....97
Appendix D6 SP1-L1/L2 Access Points (Ulan Road/Ulan-Wollar Road)....112
Appendix D7 SP1-U Access Point (Ulan-Wollar Road) – Refer Priority 2....130
Appendix D8 SP1-N Access Point (Ulan-Wollar Road) – Refer Priority 2....131
Appendix D9 SP1-P Access Point (Ulan-Wollar Road) – Refer Priority 2....132
Appendix D10 SP1-T Access Point (Ulan-Wollar Road) – Refer Priority 2....133
Appendix D11 SP2-K1/K2 (Barneys Reef Road) – Not Yet Included....134
Appendix D12 SP5-C1/C2 (Turill Bus Route) – Not Yet Included....135
Appendix D13 SP0-A3/SP6-A2 Access Points (Merotherie Road) – Refer Priority 2....136
Appendix D14 SP6-B1/B2 Access Points (Birkalla Road) – Refer Priority 2....137
Appendix D15 SP6-D1/D2 Access Points (Blue Springs Road North) – Refer Priority 2....138
Appendix D16 SP7-A (Birriwa Bus Route South) – Not Yet Included....139
Appendix D17 SP6-E1 Access Point (Blue Springs Road North) – Refer Priority 2....140
Appendix D18 SP2-H1/H2 (Castlereagh Highway) – Not Yet Included....141
Appendix D19 SP5-B1/B2 (Cliffdale Road) – Not Yet Included....142
Appendix D20 SP1-H1/H2 Access Points (Cope Road) – Refer Priority 2....143
Appendix D21 SP3-D1/D2 (Puggoon Road) – Not Yet Included....144
Appendix D22 SP3-E (Puggoon Road) – Not Yet Included....145
Appendix D23 SP3-X1/X2 (Puggoon Road) – Not Yet Included....146
Appendix D24 SP1-Q Access Point (Ulan-Wollar Road) – Refer Priority 2....147
Appendix D25 SP1-Wilp Access Point (Ulan-Wollar Road)....148
Appendix D26 SP1-X1/X2 Crossing Points (Upper Cumbo Road)....165

Appendix D27 SP3-A (Whistons Lane) – Not Yet Included 173
Appendix D28 SP1-V1/V2 Access Points (Wilpinjong Road)....174
Appendix D29 SP1-W Access Points (Wollar Road) 184
Appendix D30 SP2-G1/G2 (Tuckland Road) - Not Yet Included....196
Appendix E Additional Environmental Assessment Figures 197
Appendix F Supplementary Environmental Assessments 214

List of Figures

Figure 2-1 Single carriageway rural road widths (Table 4.5 of AGRD03-16 Guide to Road Design Part 3 Geometric Design Ed3.4) 12
Figure 2-2 Warrants for Turn Upgrades on major roads at unsignalised intersections (Source: Austroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management Figure 3.25) 14
Figure 2-3 BAR and BAL (Access Points)....16
Figure 2-4 Rural access for articulated vehicles (Austroads Guide to Road Design Part 4: Intersections and Crossings) 17
Figure 2-5 Light vehicle access (Austroads Guide to Road Design Part 4: Intersections and Crossings) 17
Figure A-4-1 Indicative Locations of Access Points, Crossing Points and Construction Routes Already Approved in This LGA (Priority 1) 27
Figure A-4-2 Indicative Locations of Access Points, Crossing Points and Construction Routes Already Approved in This LGA (Priority 2) 28

List of Tables

Table 1-1 Compliance Matrix 8
Table 1-2 Transport Strategies....10
Table 2-1 Access Points Options Matrix 18
Table 2-2 Construction Traffic Demands Per Site (EIS)....19

Document Control

This Mid-Western Regional LGA Transport Strategy (this Strategy) is a controlled document, approved by the ACJV D&C Project Director. The Project Wide Lead is responsible for ensuring this plan is kept up to date for the Project, Project risks, activities and legislative requirements.

PROJECT AUTHORISATION

Authorisation				
Document Title	CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE – MID-WESTERN REGIONAL LGA TRANSPORT STRATEGY – PRIORITY 3A			
Revision Number	REV 01			
Document Number	CWO-PRO-050-ENV-STR-000028			
Discipline/Department	Project Wide Construction			
Originator	Acciona Construction Australia			
Review	**Name**	**Position**	**Date**	**Signature**
	Quoc Phuong	Traffic Manager	05/12/2025	Quoc Phuong
Review	Erran Woodward	Approvals Manager	05/12/2025	Erran Woodward
Approval	Tung Pham	Project Wide Director	05/12/2025	Tung Pham

DOCUMENT STATUS

Revision	Date	Pages	Revised by	Description
Rev A	03/02/2026	All	Katie Baxter	Drafted for review
Rev B	27/03/2026	All	Katie Baxter	Drafted in response to comments For consultation
Rev C	09/04/2026	All	Martin Lee / Amy Wilkinson	For ER endorsement
Rev 00	14/04/2026	All	Katie Baxter	For DPHI review
Rev 01	24/04/2026	All	Katie Baxter	To respond to DPHI comments
Rev 02	12/05/2026	All	Katie Baxter	For DPHI approval

CONTROL AND RECORDS

The approved Transport Strategy will be signed, and a PDF version will be uploaded and stored on the Project's document management system in accordance with CWO-PRO-050-DOC-PLN-000001 the Central-West Orana Document and Records Management Plan.

UNCONTROLLED COPIES

Any uncontrolled hard copy documents are up to date at issue and are only issued to outside organisations, customers, etc., upon request and approval by a Workplace Manager. Such uncontrolled documents will be clearly marked “Uncontrolled Copy When Printed or Downloaded” and will not be subject to an update.

REVIEW

This document is a dynamic document that will be reviewed, amended, and updated throughout the duration of the Project, to support continuous improvement, emerging opportunities and new elements of the Project’s works.

DISTRIBUTION

The distribution of this document is overseen by the Traffic Manager. The official version of this document will be securely stored on the Project's document management system.

The Integrated Management System – Systems Representative on the Project is responsible for the controlled internal distribution of this document and changes. Personnel have access to the latest revision of the Plan through RIBCX.

The execution of the Mid-Western Regional LGA Transport Strategy falls under the purview of ACJV D&C Project Director. All personnel engaged in the Project will perform their responsibilities in accordance with the requirements of this document, as well as in alignment with supporting management plans and associated procedures.

GOVERNANCE AND AUTHORISATION

The Mid-Western Regional LGA Transport Strategy intends to provide the framework and guidelines, to operate within the Central-West Orana (CWO) REZ, to ensure integrity, coherence, and effective stakeholder interface management and required reporting as defined in the ACJV D&C Polices and Code of Conduct.

The Traffic Manager together with the Project Wide Director is responsible for implementing this Strategy and ensures that the processes and associated documentation is applicable to the Project works undertaken and that it complies with the D&C Deed, Polices, code of conduct and legislative requirements. The Mid-Western Regional LGA Transport Strategy is approved by the Project Director, who has overall accountability for the Project control function.

RELATED DOCUMENTS

Traffic and Transport Management Plan (TTMP).

Mid-Western Regional LGA Transport Strategy Priority 1 (CWO-PRO-050-ENV-STR-000026).

Mid-Western Regional LGA Transport Strategy Priority 2 (CWO-PRO-050-ENV-STR-000027).

Terms and Abbreviations

Acronym/Term	Definition
AADT	Average Annual Daily Traffic
ACJV D&C	ACCIONA Cobra Joint Venture
Approved Projects	Renewable Energy Zone (REZ) Projects with Infrastructure Approval under Section 5.19 of the *Environmental Planning and Assessment Act 1979*
AUL	Auxiliary Left Turn
BAL	Basic Left Turn
BAR	Basic Right Turn
BDAR	Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
CHR	Channelised Right Turn
CWO	Central-West Orana
DPHI	Department of Housing and Infrastructure
EIS	The Environmental Impact Statement titled Environmental Impact Statement – Central-West Orana REZ Transmission Project, prepared by WSP, dated February 2023, including the Proponent's: • Amendment Report, dated March 2024 • Submissions Report, dated March 2024 • Biodiversity Development Assessment Report • Additional information dated 14 June 2024 • Central-West Orana REZ Transmission Project Modification 1 - Request for minor modifications to the condition of approvals, dated September 2024 • Additional information dated 11 October 2024 • Central-West Orana REZ Transmission Project Modification 2 – Mudgee maintenance facility, dated October 2025 • Central-West Orana REZ Transmission Project Modification 3 – Strategic offset delivery agreement, dated August 2025 • Central-West Orana REZ Transmission Project Modification 4 – Minor change to clearing limits, dated 2 December 2025
HV	Heavy vehicles, as defined by as defined by the Heavy Vehicle National Regulator under the Heavy Vehicle National Law
LV	Light vehicles
MCoA (NSW)	Minister's Conditions of Approval, which form part of the Project Approval (refer to definition herein)
NSW	New South Wales
OSOM	Oversize and/or Overmass
Project	Program of works including pre-construction minor works, road upgrades, construction, operation, upgrading, and decommissioning the high-voltage electricity transmission infrastructure required to connect energy generation and storage projects within the Central-West Orana REZ to the existing electricity network

Acronym/Term	Definition
Project Approval	The Infrastructure Approval under Section 5.19 of the *Environmental Planning and Assessment Act 1979* by the Minister for Planning and Public Spaces in June 2024
REZ(s)	Renewable Energy Zone(s)
RNI	REZ Network Infrastructure
Roadmap	NSW Government's Electricity Strategy
SISD	Safe Intersection Site Distance
TCAWS	Traffic Control at Work Sites Technical Manual
TfNSW	Transport for New South Wales
TWA	Turn Warrant Assessment
TTMP	Traffic and Transport Management Plan
Vehicle Movement	A vehicle movement is defined as a vehicle on a single inbound or outbound journey (definition taken from Section 17.4.1 of the EIS, paragraph 1)
WAD	Works Authorisation Deed

1 Introduction

1.1 BACKGROUND

The New South Wales (NSW) Government's Electricity Strategy (the Roadmap) is designed to deliver a reliable, affordable and sustainable electricity future that supports a growing economy. Key to this vision is a series of Renewable Energy Zones (REZs) that will effectively replace coal-fired power stations with low-cost, low-carbon energy sources like wind and solar supported by storage solutions such as batteries and pumped hydro.

The Central-West Orana (CWO) Renewable Energy Zone (REZ) is the first Project in this Strategy and will be operational by 2028. It will unlock at least 4.5 gigawatts of new network capacity by late 2020s, enough to power 1.4 million homes. Centred on the Mid-Western Regional, Dubbo Regional, Upper Hunter Shire and Warrumbungle Shire local government areas, the Project will connect energy hubs at Merotherie and Elong Elong to a new 500kV substation at Wollar and the broader NSW electricity network.

1.2 PURPOSE

This Mid-Western Regional Local Government Area (LGA) Transport Strategy (the Strategy) has been developed specifically for the CWO REZ as part of scheduled documents required by the Minister's Conditions of Approval (MCoA (NSW)) B31.

This Strategy assess construction activities within the Mid-Western Regional LGA. The full list of MCoA (NSW) requirements and how and where these are addressed within the Strategy is outlined in Table 1-1.

In addition, this Transport Strategy should be read in conjunction with the Traffic and Transport Management Plan (TTMP). The TTMP describes how ACJV D&C proposes to manage potential traffic impacts during the construction of the Project and methods for traffic management.

TABLE 1-1 COMPLIANCE MATRIX

MCoA (NSW)	Requirement	How Addressed	Where
B31	Prior to commencing road upgrades specified in Appendix 4 as requiring inclusion in the Transport Strategy, the Proponent must prepare a Transport Strategy in consultation with Transport for NSW (TfNSW) and relevant Councils, to the satisfaction of the Planning Secretary, which:		
	a) Identifies the location and type of any necessary road upgrades (including roads, intersections, crossing points, bridges and access points), including consideration of relevant amenity impacts	A description is provided in Appendix A as a regional overview, and specifically in the appendices for each individual item.	Appendix A (overview) Appendix B Appendix C Appendix DD

MCoA (NSW)	Requirement	How Addressed	Where
	b) Ensures the road upgrades comply with the Austroads Guide to Road Design (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise	Design criteria for the various upgrades is referenced in Section 2.1 and will be used unless agreed with relevant road authority, in which case it will be described in the appendices for each individual upgrade. Where are road upgrade is not proposed, a strategic concept design is not provided.	Section 2.1 Appendix B Appendix C Appendix DD
	c) Includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)	Concept plans are included in the appendices for each individual upgrade. Where are road upgrade is not proposed, a strategic concept design is not provided.	Appendix B Appendix C Appendix DD
	d) Includes a detailed assessment of potential impacts of any necessary road upgrades (such as heritage and biodiversity impacts) and appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects	A summary of the identified biodiversity and heritage impacts is included in the appendices for each individual upgrade.	Appendix B Appendix C Appendix DD
	e) Include a schedule for the commencement and completion of all necessary road upgrades	The appendices for each individual road upgrade includes an expected program for that road upgrade.	Appendix B Appendix C Appendix DD
	f) Includes strategic concept designs for transmission lines crossing state roads and any structures required to facilitate stringing	To be addressed in the Stringing Transport Strategy	
	g) Details the methods for installing transmission lines across State roads, ensuring the number and length of delays is minimised and avoids peak traffic hours for Golden and Castlereagh Highways		
	h) Identifies whether intersections, crossing points and access points would be permanent or temporary	The appendices for each individual road upgrade include if this is proposed to be permanent or temporary.	Appendix B Appendix C Appendix DD

1.3 STAGING

Due to the extensive scope of the Project works, the design development and program and other constraints, the submission and approval of the Transport Strategy is being staged. These stages, as shown in Table 1-2, were described in a staging strategy letter, approved 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3.

This Strategy addresses the local roads and access points within Mid-Western Regional LGA, as indicated in bold text in Table 1-2.

TABLE 1-2 TRANSPORT STRATEGIES

Stage	Content
Merotherie Transport Strategy	Road upgrades associated with the construction of the Merotherie Energy hub, Merotherie construction compound and Merotherie accommodation camp.
Wollar Transport Strategy	Road upgrades required for commencement of site establishment at the Barigan Creek Switching Station (referred to as the New Wollar Switching Station in the Central-West Orana REZ Environmental Impact Statement (EIS)), which are within the Mid-Western Regional local government area.
Elong Elong Transport Strategy	Road upgrades required for commencement of site establishment at the Elong Elong Energy Hub, which are within the Warrumbungle Shire local government area
Mid-Western Regional LGA Transport Strategy (this Strategy)	**All remaining road upgrades and usage necessary for construction within the Mid-Western Regional LGA**
Warrumbungle Shire LGA Transport Strategy	All remaining road upgrades and usage necessary for construction within the Warrumbungle Shire LGA
Upper Hunter Shire LGA Transport Strategy	All remaining road upgrades and usage necessary for construction within the Upper Hunter Shire LGA
Stringing Transport Strategy	Details and assessment of methods for installation transmission lines (stringing) over State roads.

1.4 SCOPE OF THIS STRATEGY

This Strategy identifies the road upgrades that will be used to support construction of the Project across the Mid-Western Regional LGA (refer to Appendix A) for Priority 3A.

The specific roads, intersections and access points that are required to be addressed in a Transport Strategy are defined by the Project Approval Appendix 4, Table 5 which has been included within Appendix B with a cross reference to where each item is address in this Strategy.

The full scope of proposed road upgrades in each LGA is being progressively developed due to planning to support the staggered construction program, extensive concurrent design and review processes, consideration of consultation outcomes, and environmental and physical constraints. As a result, the full detail of all required and proposed road upgrades and usage is subject to ongoing development. This document has been structured to allows for regular, progressive updates as additional scope is confirmed. The details and assessment of each road upgrade is provided in:

- Appendix B: Road upgrades which are specifically prescribed in Appendix 4, Table 5 of the Project Approval
- Appendix C: Local roads which are identified in Figure 4.1 to Figure 4.4 of the Project Approval (or otherwise approved by the planning secretary under MCoA (NSW) B30) and will be used for construction site access
- Appendix D: Project constructed or modified minor access points which are used for construction site access.

Within each Appendix are separate item-specific reports for each road upgrade. As additional upgrades are identified they would be added to Appendix B, Appendix C or Appendix D with limited proposed changes made to the main document to keep ongoing assessment efficient. The new item-specific reports would be provided to stakeholders, reviewers and approvers, allowing them to focus only on the new or revised content (refer to Section 1.5 for further detail on consultation).

The content required to be addressed in a Transport Strategy is defined by the Planning Approval Appendix 4, Table 5. In noting the staging of Transport Strategies (as described in Section 1.3), and to provide clarity on the scope and content of this document, the applicable items for this Strategy from Planning Approval Appendix 4, Table 5 have been replicated in Appendix A.

This Strategy applies to the Priority 3A group.

1.5 CONSULTATION

In accordance with MCoA (NSW) B31, consultation on this Strategy and each Appendix has been undertaken with the applicable asset owner, being Transport for NSW and/or Mid-Western Regional Council.

In accordance with MCoA (NSW) A7, a record of consultation has been prepared and issued to the Planning Secretary along with this document, and a summary included in each item specific Appendix, which includes details of the consultation undertaken including the outcome of that consultation, matters resolved and unresolved, and details of any disagreement remaining, and how these have been addressed.

2 Typical Design, Assessment and Upgrades

2.1 DESIGN CRITERIA

MCoA (NSW) B31 requires the Project's road upgrades comply with the *Austroads Guide to Road Design* (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise; and that this Strategy includes strategic concept designs prepared in accordance with *Austroads Guide to Road Design* (as amended by TfNSW supplements). An example of which is in the case of road widening, which will be in accordance with the Rural Road Widths road widths (AGRD03-16 Guide to Road Design Part 3 Geometric Design Ed3.4) as provided in Figure 2-1.

Table 4.5: Single carriageway rural road widths (m)

Element	Design AADT				
	1–150	150–500	500–1000	1000–3000	> 3000
Traffic lanes(1)	3.7 (1 x 3.7)	6.2 (2 x 3.1)	6.2–7.0 (2 x 3.1/3.5)	7.0 (2 x 3.5)	7.0 (2 x 3.5)
Total shoulder	2.5	1.5	1.5	2.0	2.5
Minimum shoulder seal (2),(3),(4),(5),(6)	0	0.5	0.5	1.0	1.5
Total carriageway	8.7	9.2	9.2–10.0	11.0	12.0

1 *Traffic lane widths include centrelines but are exclusive of edge-lines.*
2 *Where significant numbers of cyclists use the roadway, consideration should be given to fully sealing the shoulders. Suggest use of a maximum size 10 mm seal within a 20 km radius of towns.*
3 *Wider shoulder seals may be appropriate depending on requirements for maintenance costs, soil and climatic conditions or to accommodate the tracked width requirements for Large Combination Vehicles.*
4 *Short lengths of wider shoulder seal or lay-bys to be provided at suitable locations to provide for discretionary stops.*
5 *Full width shoulder seals may be appropriate adjacent to safety barriers and on the high side of superelevation.*
6 *A minimum 7.0 m seal should be provided on designated heavy vehicle routes (or where the AADT contains more than 15% heavy vehicles).*

FIGURE 2-1 SINGLE CARRIAGEWAY RURAL ROAD WIDTHS (TABLE 4.5 OF AGRD03-16 GUIDE TO ROAD DESIGN PART 3 GEOMETRIC DESIGN ED3.4)

Transport for NSW has prepared a *Supplement to Austroads Guide to Road Design* (20 December 2023) (the TfNSW Supplement), which has been used in the preparation of the strategic concept designs (as required under MCoA (NSW) B32(c)).

In some instances, Council specifications may be adopted for council access point arrangements, as agreed with the Mid-Western Regional Council, acting as the road authority.

2.2 TURN WARRANT ASSESSMENT

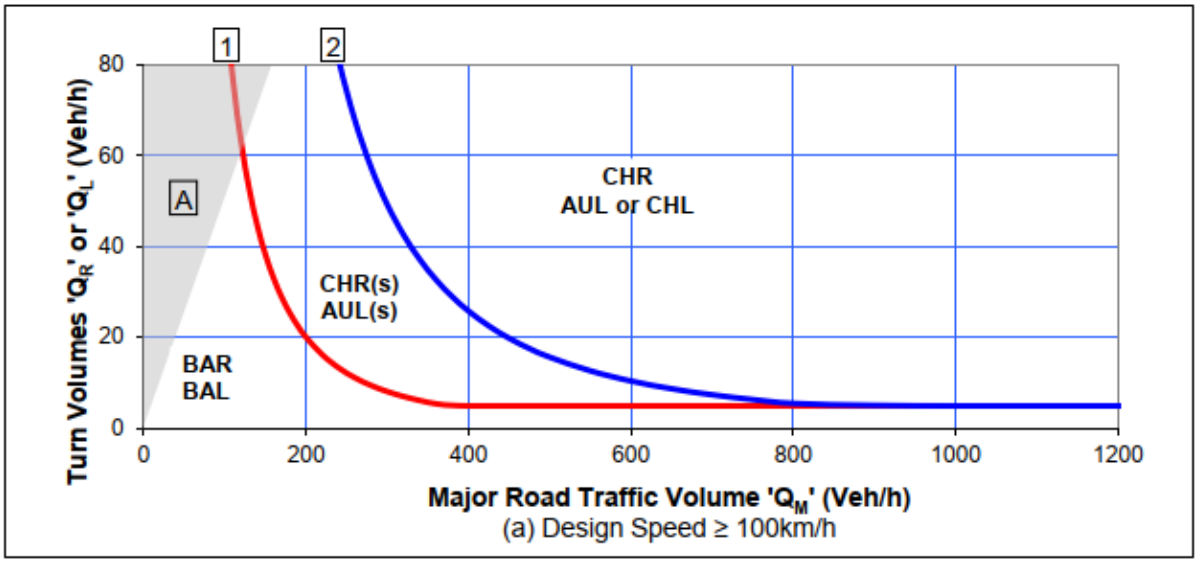
Where an intersection access or driveway has been identified for use for construction-related purposes, it may be assessed for adequacy based on the Turn Warrant Assessment (TWA) process, which is outlined in *Austroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management*.

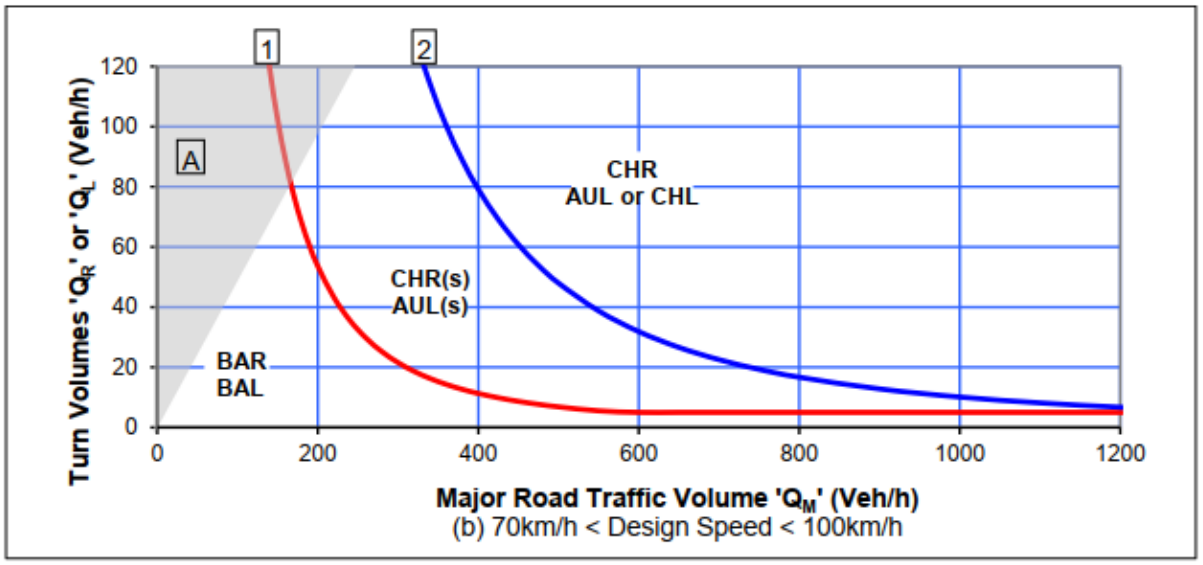
A TWA will be conducted when considering implementing or modifying turn upgrades at an intersection, particularly when traffic flow patterns indicate a need for improved safety and efficiency,

such as in the case of major or state road intersections, or intersections with recurring accidents or near misses. This assessment helps determine if a dedicated turn lane or other road alterations are justified based on traffic volumes, turning movements, and other relevant factors.

The *Austroads Guide to Traffic Management* provides the process for assessing an intersection for the appropriate configuration to ensure safe operation. It considers the volume of through traffic, turning traffic, cumulative traffic impacts from approved projects, design speed and identifies if/what further upgrades are required, including Basic Right Turn (BAR) and Basic Left Turn (BAL) (localised widening of shoulders to improve safety of turning), or channelised turn lanes dedicated for turning traffic.

Figure 2-2 provides the assessment graphs of calculated turning movements, the result of which determines the appropriate road alterations for the anticipated turning and through traffic of the intersection.





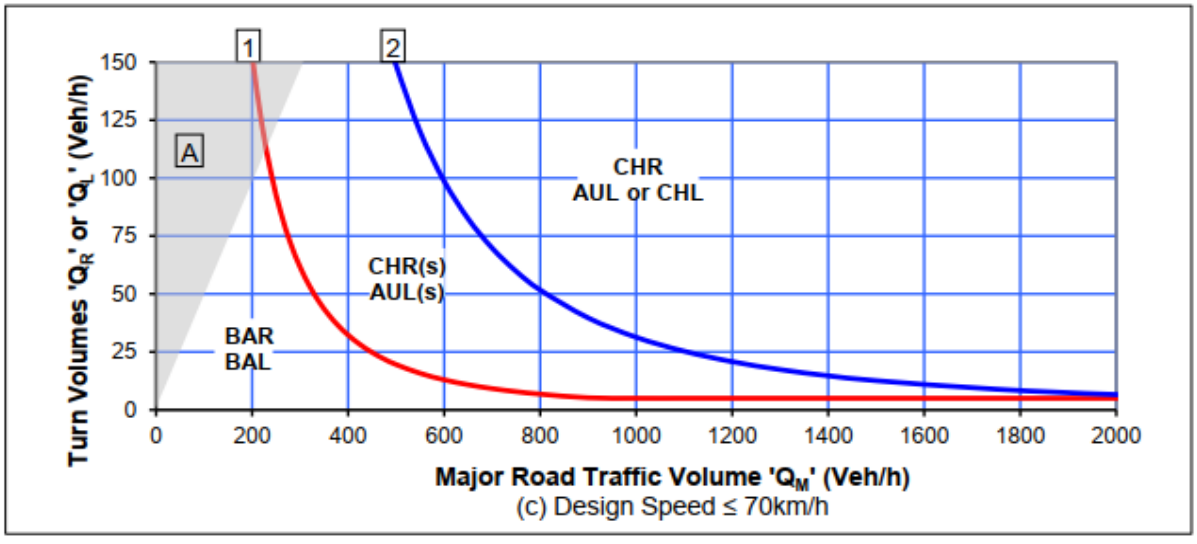


FIGURE 2-2 WARRANTS FOR TURN UPGRADES ON MAJOR ROADS AT UNSIGNALISED INTERSECTIONS (SOURCE: AUSTROADS GUIDE TO TRAFFIC MANAGEMENT PART 6: INTERSECTIONS INTERCHANGES AND CROSSINGS MANAGEMENT FIGURE 3.25)

Where the TWA identifies a certain intersection standard is required, the existing intersection configuration will be reviewed to identify if the existing road configuration is sufficient. If not, and where no road upgrade is prescribed by Project Approval Appendix 4 Table 5, the outcome of the TWA can be used in the considering the most appropriate road alterations that can reasonably be adopted to ensure no worsening of existing road capacity and safety standards, while considering other Project and environmental impacts, such as those on biodiversity and heritage values.

2.3 SAFE INTERSECTION SIGHT DISTANCE

Safe Intersection Site Distance (SISD) checks will be undertaken for existing intersections, along the construction route based on a combination of aerial imagery, street view or site assessments, in accordance with the *Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections*.

The SISD check will be checked against the posted speed of the through road +10km/h, but otherwise where this is not achieved the intersection will be checked against the posted speed itself. This will determine if there is sufficient visibility for traffic turning out of the side road, onto the public roadway.

In some instances, a deficiency in sight distance may occur as a result of vegetation, and as such will be notified to the relevant road authority for appropriate management noting that ACJV D&C has no planning approval authority to remove vegetation outside the approved construction boundary.

If the SISD check identifies a deficiency for another reason, appropriate road alterations will be investigated in consultation with the relevant roads authority, for approval under MCoA (NSW) B31. Additionally, where required, the proposed road alterations will be incorporated into the appropriate permit application for either a Road Occupancy Licence or Section 138 Application, for the purpose of implementation and to support the use of the intersection for construction-related use.

2.4 ACCESS TYPES

Planning Approval Appendix 4 Table 5 lists requires that “Minor Access Points intersections (any Access Point associated with minor access tracks off public road network)” require an “upgrade as necessary as per the Transport Strategy under condition B31”.

In accordance with MCoA (NSW) B31, the design of access points and/or crossing points will comply with the *Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections* (2023), which may include non-physical controls such as reduced speeds, warning signage or improved SISD. Where access point/crossing point road upgrades are required these will typically be in accordance with one of the options details below, as determined by the assessment matrix outlined in Section 2.4.1.

Figure 2-3 presents the standard BAR and BAL road design for rural roads when turning off a major road into a minor road (or in this instance, a construction access point) under the *Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections* (2023).

These designs are typically applied to a public road junction or intersection and not necessarily required for private access points.

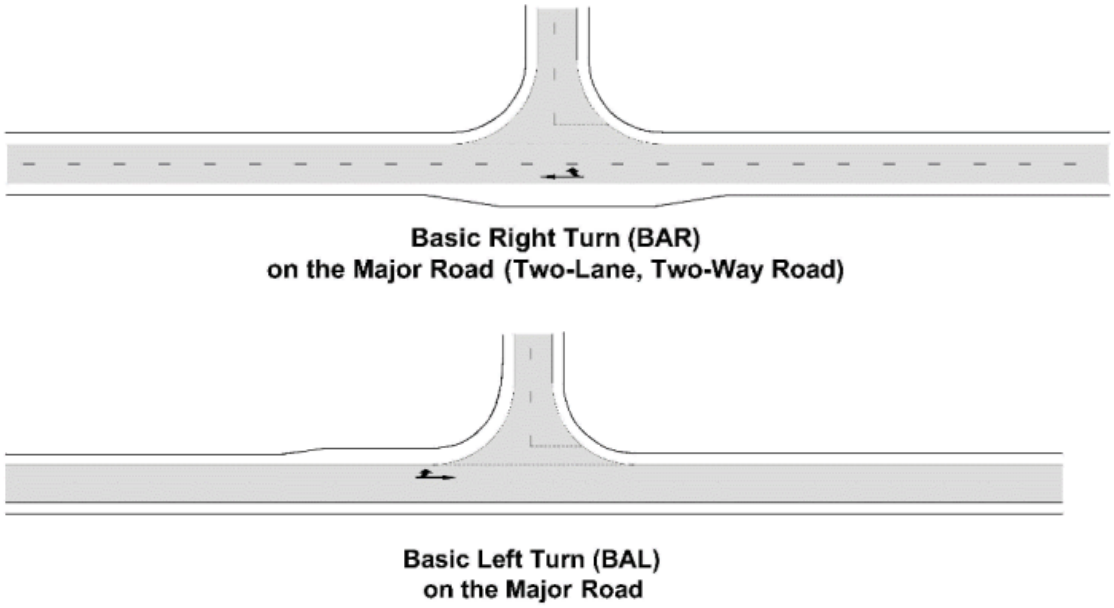
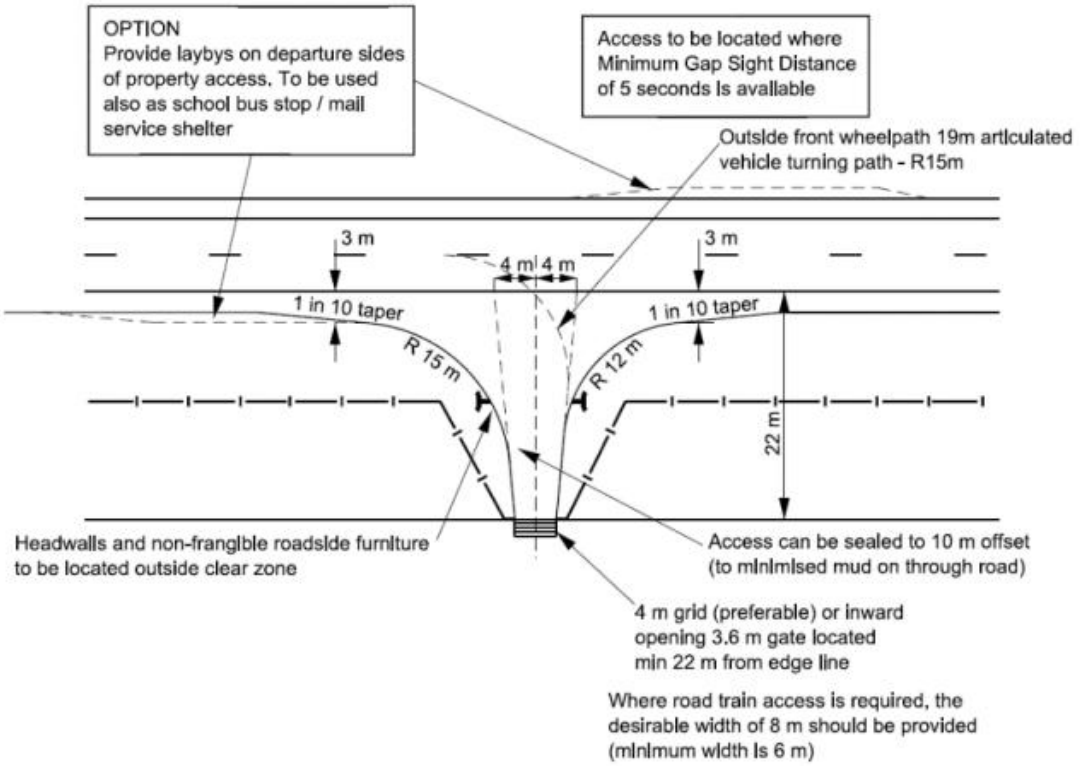


FIGURE 2-3 BAR AND BAL (ACCESS POINTS)

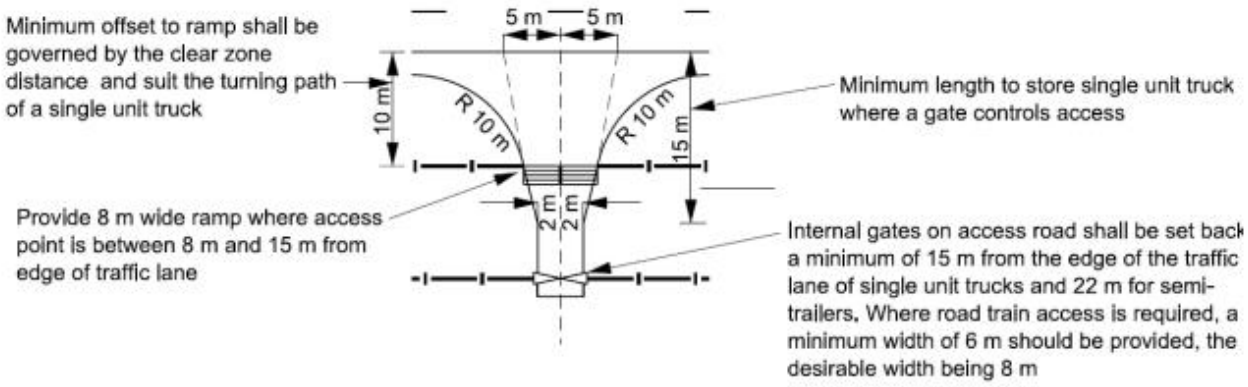
The *Austroads Guide to Road Design Part 4: Intersections and Crossings* outlines road designs for light and heavy vehicle movements for rural access points. Figure 2-4 illustrates the recommended road design for rural property access where entry is required for semi-trailers or articulated vehicles. These designs will be adopted in accordance with the assessment matrix (refer to Section 2.4.1) and are expected on lower volume local roads.



Note: Minimum requirement for a single carriageway with design AADT < 2000 or minimum requirement for dual carriageway left-in–left-out access for single unit truck. Where AADT > 1000 and access is required for a semi-trailer then use the layout.

FIGURE 2-4 RURAL ACCESS FOR ARTICULATED VEHICLES (AUSTROADS GUIDE TO ROAD DESIGN PART 4: INTERSECTIONS AND CROSSINGS)

The alternative design in Figure 2-5 would be reserved for light vehicle access only and is appropriate on lower volume Local Roads where Average Annual Daily Traffic (AADT) is below 2000. This design can apply to both access points and crossing points.



Option without indented access

Note: This rural property access treatment may be used where articulated vehicles:

- *do not use the driveway on single and dual carriageway roads*
- *infrequently use the driveway on two-lane two-way roads that have an AADT < 2000.*

FIGURE 2-5 LIGHT VEHICLE ACCESS (AUSTROADS GUIDE TO ROAD DESIGN PART 4: INTERSECTIONS AND CROSSINGS)

2.4.1 Access Upgrades Assessment Matrix

The appropriate option for access points and crossing points required for construction use will need to be determined in consideration of design criteria, adjacent environment (including sensitivities such as heritage and biodiversity impacts), existing configurations, existing (public) use and proposed construction use (including number of movements and duration of the use of the access point).

In order to guide decision making in consideration of these factors, an Access Point Options Matrix has been established, as shown in Table 2-1.

TABLE 2-1 ACCESS POINTS OPTIONS MATRIX

Scenario	Option
Access/crossing points with prescribed upgrades in the Project Approval	Road alterations will be implemented as prescribed in the Minister's Conditions of Approval, unless otherwise approved by a Transport Strategy or agreed by the Planning Secretary
Access/crossing points without prescribed upgrades in the Project Approval	Road alterations will be assessed using TWA as outlined in Section 2.2, in consideration of construction delivery and access requirements
State Road / Highway	Road alterations will include BAR/BAL unless assessment and agreement for alternative options can be reached with TfNSW
(Regional Road or Local Road) and >2000 AADT and >20 average daily HV movements	Rural access for articulated vehicles (minimum), however may warrant BAR/BAL (subject to consultation with TfNSW or relevant roads authority)
(Regional Road or Local Road) and >2000 AADT but <21 average daily HV movements	Rural access for articulated vehicles (minimum)
Local Road and < 2000 AADT and requires >20 average daily HV movements	Rural access for articulated vehicles
Local Road with limited HV	Light vehicle access
Permanent driveway locations	Light vehicle access

2.5 CONSTRUCTION TRAFFIC DEMANDS

The EIS included indicative construction-related traffic volumes for the purpose of assessing the impacts of the construction of the Project (refer to Table 2-2 – identified as the maximum movements per day).

The current projected construction-related vehicle movements remain consistent with those assessed in the EIS, and as such the outcomes of this assessment can be reliably referenced in consideration of Project related vehicle and traffic impacts. Unless explicitly stated otherwise, the road upgrades provided in the Appendices to this document are based on the maximum vehicle movements as described in the EIS.

ACJV D&C is not proposing to exceed the Project-related vehicle volumes contemplated and assessed in the EIS.

TABLE 2-2 CONSTRUCTION TRAFFIC DEMANDS PER SITE (EIS)

Site	Maximum Movements Per Hour			Maximum Movement Per Day		
	Light Vehicle	Heavy Vehicle	Total	Light Vehicle	Heavy Vehicle	Total
Barigan Creek Switching Station*	4	20	24	44	198	242
Merotherie Energy Hub* and workforce accommodation camp	44	33	77	376	431	808
Neeleys Lane workforce accommodation camp	32	24	56	296	70	366
Elong Elong Energy Hub*	4	20	24	44	198	242
330kV Switching Station (typical)	12	1	13	34	38	72
Access gate (typical) (along transmission line)	12	20	32	148	194	342

Note: * Denotes locations that would include main construction compounds

2.6 CUMULATIVE TRAFFIC

A review of approved projects with the Project has been undertaken, including the minor additional traffic movements that have are associated with each project. The projects listed below are taken from Section 3.9 of Appendix L of the Amendment Report and are LGA specific.

2.6.1 Birriwa Solar Farm

Birriwa Solar Farm identifies movements primarily to the north and south for light vehicle movements associated with the Project, with heavy vehicles and deliveries to and from the east (from Newcastle or Sydney) via the Golden Highway. These movements (14 east and 14 west in peak hour) have been added to the background traffic as part of the revised TWA.

2.6.2 Liverpool Range Wind Farm

Liverpool Range Wind Farm identifies routes to and from the site from locations primarily north and east of the scope of this Strategy. The movements originating for the Project to the west, along the Golden Highway are proposed to only make up approximately 5% of vehicle movements for the Project and would result in a daily movement of around 10 vehicles. The EIS Response to Submissions report for Liverpool Range reflects the assessment undertaken for the Project and does not propose or identify any additional road upgrades required to accommodate their works.

2.6.3 Bellambi Heights Battery Energy Storage System

Bellambi Heights Battery Energy Storage System project identifies a peak workforce of between 80 and 100 workers of which majority will be residing in the nearby towns of Mudgee, Gulgong,

Wellington, Dunedoo or Dubbo. As such, the utilisation of the intersection of Ulan Road and Golden Highway is expected to be limited.

3 Road Upgrades

This Strategy addresses the items specified in Appendix 4, Table 5 of the Project Approval as requiring inclusion in a Transport Strategy. These items are divided into three categories, which are addressed in separate Appendices as follows:

- Appendix B: Road upgrades which are specifically prescribed in Appendix 4, Table 5 of the Project Approval
- Appendix C: Local roads which are identified in Figure 4.1 to Figure 4.4 of the Project Approval (or otherwise approved by the Planning Secretary under MCoA (NSW) B30) for construction site access and have been identified as being necessary for upgrade
- Appendix D: Project constructed or modified minor access points which are used for construction site access

Each of the above categories will have a separate item-specific report in the applicable appendix, with a summary of all items relevant to this Strategy provided in Appendix A.

As noted in Section 1.4, the full scope of proposed road upgrades in each LGA is being progressively developed due to planning to support the staggered construction program, extensive concurrent design and review processes, consideration of consultation outcomes, and environmental and physical constraints. As a result, the full detail of all required and proposed road upgrades and usage is subject to ongoing development. This document has been structured to allow for regular, progressive updates as additional scope is confirmed.

4 Environmental Assessment and Mitigation

The road upgrades in this Strategy were included within the EIS. The EIS was prepared to address the requirements of both the State and Commonwealth as set out in the Secretary's Environmental Assessment Requirements issued by DPHI, including with regard to the *State significant infrastructure guidelines* (DPE, 2022a) (in particular *State significant infrastructure guidelines – preparing an environmental impact statement*).

The assessments that were undertaken and documented in the EIS and technical papers were prepared in accordance with accepted scientific and assessment methodologies and considered relevant statutory and agency requirements and guidelines. These assessments were also prepared, reviewed, and validated by specialists in their field and, where relevant, were based on data gathered from field investigations during the EIS preparation. Locally based specialists (such as an agricultural specialist) and those with local knowledge were also engaged where available.

As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS, the area required to construct some road upgrades extends beyond the EIS construction area and assessment areas. Where this occurs, these road upgrades are required to be assessed in accordance with MCoA (NSW) B31(d). The outcomes of this additional assessment are included in detail for each item within Appendix B, Appendix C and Appendix D.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

This Strategy references and summarises the existing assessment and outcomes in accordance with this requirement.

Appendix A Road Upgrades within this Strategy

This Strategy identifies and details road upgrades which will be implemented by the Project within the Mid-Western Regional LGA. These road upgrades are summarised in Table A-1, along with a cross reference to where further detail is provided within Appendix B, Appendix C and Appendix D and a status.

Table A-1 below shows the location of each road upgrade which has been approved by the Planning Secretary. It also shows where further environmental assessment is required as discussed in Section 4.

The figures below show the locations of each upgrade proposed under this particular revision of this Strategy and which ones have been approved under a previous revision of this Strategy (Priority 1 or Priority 2).

Refer to Section 1.3 for details on how the Project has staged the traffic strategies required by MCoA (NSW) B31.

TABLE A-1 ROAD UPGRADES RELEVANT TO THIS STRATEGY

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Commencement	Indicative Completion	Assessed in the EIS	Extent Assessed
Specific Items in Appendix 4, Table 5								
Access to Magpie Hill microwave repeater	Prior to commencing work on the Magpie Hill repeater	Not yet assigned	Appendix B1	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Intersection of Laheys Creek Road and Castlereagh Highway	Commencement of the upgrade with commencement of development related construction traffic	Not yet assigned	Appendix B2	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Intersection of Whistons Lane and Castlereagh Highway		Not yet assigned	Appendix B3	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Intersection of Tucklan Road and Castlereagh Highway		Not yet assigned	Appendix B4	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Intersection of Puggoon Road and Castlereagh Highway		Not yet assigned	Appendix B5	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Castlereagh Highway access gates	Prior to construction of the relevant minor access track off the public road network	Not yet assigned	Appendix B6	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Wollar Road access gates		Not yet assigned	Appendix B7	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Cope Road access gate (North)		Not yet assigned	Appendix B8	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Cope Road access gate (South)		Not yet assigned	Appendix B9	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Local Roads								
Birkalla Road (North and South)	Prior to commencing the use of the local road for any heavy vehicle traffic associated with construction	Priority 3A	Appendix C1	Included – For approval	Q2 2026	Q3 2026	Road use – yes Road upgrade - No	Outside of approved Project construction area and study areas
Blue Springs Road (North and South)		Priority 3A	Appendix C2	Included – For approval	Q2 2026	Q3 2026	Road use – yes Road upgrade - No	Outside of approved Project construction area and study areas
Cliffdale Road		Not yet assigned	Appendix C3	Not yet included	Q3 2026	Q3 2026	To be confirmed	To be confirmed
Puggoon Road		Not yet assigned	Appendix C4	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Whistons Lane		Not yet assigned	Appendix C5	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Minor Access Points and Crossing Points								
SP1-A1/A2 (Merotherie Road) Crossing only	Prior to construction of the relevant minor access track off the public road network	Priority 1	Appendix D1	Approved	Q2 2026	Q3 2026	Yes	Within the approved Project construction area Within the Heritage assessment area Within the Biodiversity Study Area
SP1-B1/B2 (Birkalla Road) Crossing only		Priority 1	Appendix D2	Approved	Q3 2026	Q4 2026		
SP1-E1/E2 (Blue Springs Road South)		Priority 1 (Crossing Point)	Appendix D3	Approved	Q1 2026	Q2 2026		
		Priority 3A (Access Point)		Included – for approval	Q2 2026	Q3 2026		
SP1-F1/F2 (Highett Road) Crossing only		Priority 1	Appendix D4	Approved	Q1 2026	Q2 2026		

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Commencement	Indicative Completion	Assessed in the EIS	Extent Assessed
SP1-J2 (Ulan Road)	Prior to construction of the relevant minor access track off the public road network	Priority 3A	Appendix D5	Included – For approval	Q2 2026	Q3 2026	Yes	Partially within the approved construction area Partially within Heritage study area Partially within Biodiversity study area
SP1-L1/L2 (Ulan Road / Ulan-Wollar Road)		Priority 3A	Appendix D6	Included – For approval	Q2 2026	Q3 2026	Yes	Partially within the approved construction area Within the Aboriginal Heritage survey area Within the Biodiversity study area
SP1-U (Ulan-Wollar Road)		Priority 2	Appendix D7	Approved	Q2 2026	Q3 2026	Yes	Partially within the Project construction area Partially within the Heritage assessment area Partially within the Biodiversity study area
SP1-N (Ulan-Wollar Road)		Priority 2	Appendix D8	Approved	Q2 2026	Q3 2026	Yes	Outside the Project construction area Outside the Aboriginal Heritage survey area Outside the Biodiversity study area
Note: Cope Road, Ulan Road, Mackay Street, Robison Road, and Main Street are classified as regional roads under Transport for NSW's Road Network Classification and are not required to be included in a Transport Strategy.								
SP1-P (Ulan-Wollar Road)		Priority 2	Appendix D9	Approved	Q2 2026	Q3 2026	Yes	Partially within the Project construction area Partially within the Heritage assessment area Partially within the Biodiversity study area
SP1-T (Ulan-Wollar Road)		Priority 2	Appendix D10	Approved	Q1 2026	Q2 2026	Yes	Partially within the Project construction area Partially within Heritage study area Partially within Biodiversity study area
SP2-K1/K2 (Barneys Reef Road)		Not yet assigned	Appendix D11	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP5-C1/C2 (Turill Bus Route)		Not yet assigned	Appendix D12	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP0-A3/SP6-A2 (Merotherie Road)		Priority 2	Appendix D13	Approved	Q1 2026	Q1 2026	Yes	Within the Project construction area Within the heritage assessment area Within the biodiversity study area
SP6-B1/B2 (Birkalla Road)		Priority 2	Appendix D14	Approved	Q3 2026	Q4 2026	Yes	Partially within the Project construction area (SP6-B1) Partially within Heritage study area (SP6-B1) Wholly within Biodiversity study area (SP6-B1 and SP6-B2)
SP6-D1/D2 (Blue Springs Road South)		Priority 2	Appendix D15	Approved	Q3 2026	Q4 2026	Yes	Within the Project construction area Within the heritage assessment area Within the biodiversity study area
SP7-A (Birriwa Bus Route South)		Not yet assigned	Appendix D16	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP6-E1 (Blue Springs Road South)	Prior to construction of the relevant minor	Priority 2	Appendix D17	Approved	Q3 2026	Q4 2026	Yes	Partially within the Project construction area Partially within the Heritage assessment area

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Commencement	Indicative Completion	Assessed in the EIS	Extent Assessed
	access track off the public road network							Partially within the Biodiversity study area
SP2-H1/H2 (Castlereagh Highway)		Not yet assigned	Appendix D18	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP5-B1/B2 (Cliffdale Road)		Not yet assigned	Appendix D19	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP1-H1/H2 (Cope Road)		Priority 2	Appendix D20	Approved	Q2 2026	Q3 2026	Yes	Partially within the Project construction area Partially within the Heritage assessment area, although within an area classified as 'unsurveyed' per the Addendum ACHAR Partially within the Biodiversity study area
SP3-D1/D2 (Puggoon Road)		Not yet assigned	Appendix D21	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP3-E (Puggoon Road)		Not yet assigned	Appendix D22	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP3-X1/X2 (Puggoon Road)		Not yet assigned	Appendix D23	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP1-Q (Ulan-Wollar Road)		Priority 2	Appendix D24	Approved	Q2 2026	Q3 2026	Yes	Partially within the Project construction area Partially within the Heritage assessment area Partially within the Biodiversity study area
SP1-Wilp (Ulan-Wollar Road)		Priority 3A	Appendix D25	Included – for approval	Q3 2026	Q4 2026	No	Outside the approved construction area Outside the Aboriginal Heritage survey area Partially within the Biodiversity study area
SP1-X1/X2 (Upper Cumbo Road)		Priority 3A	Appendix D26	Included – for approval	Q2 2026	Q3 2026	Yes	Within the approved construction area Within the Heritage assessment area Within the Biodiversity study area
SP3-A (Whistons Lane)		Not yet assigned	Appendix D27	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
SP1-V1/V2 (Wilpinjong Road)		Priority 3A	Appendix D28	Included – for approval	Q2 2026	Q3 2026	Yes	Within the approved construction area Within the Heritage assessment area Within the Biodiversity study area
SP1-W (Wollar Road)		Priority 3A	Appendix D28	Included – for approval	Q1 2026	Q2 2026	Yes	Partially within the approved construction area Within the heritage assessment area Within the biodiversity study area
SP2-G1/G2 (Tucklan Road)		Not yet assigned	Appendix D30	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed

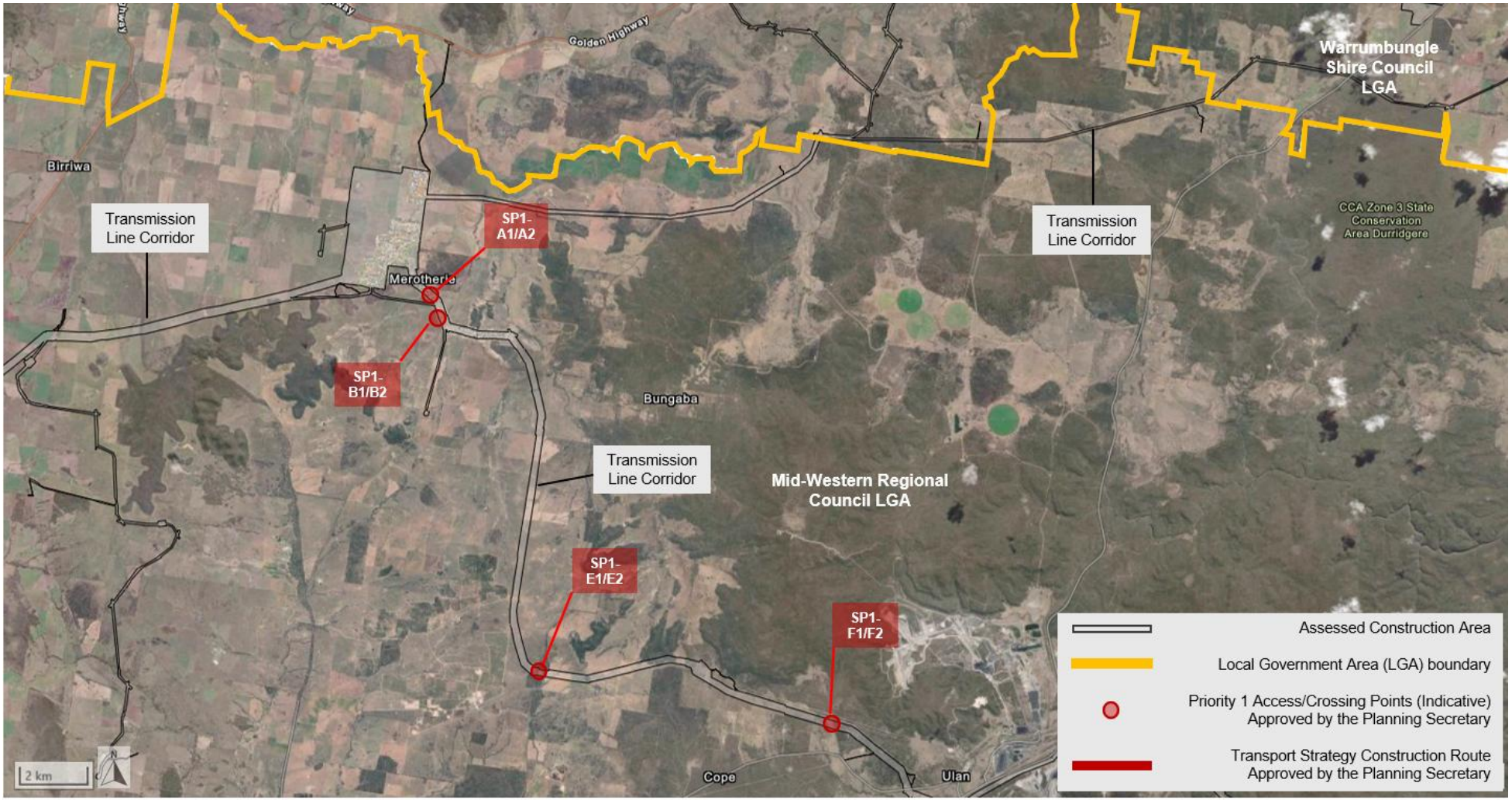


FIGURE A-4-1 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES ALREADY APPROVED IN THIS LGA (PRIORITY 1)

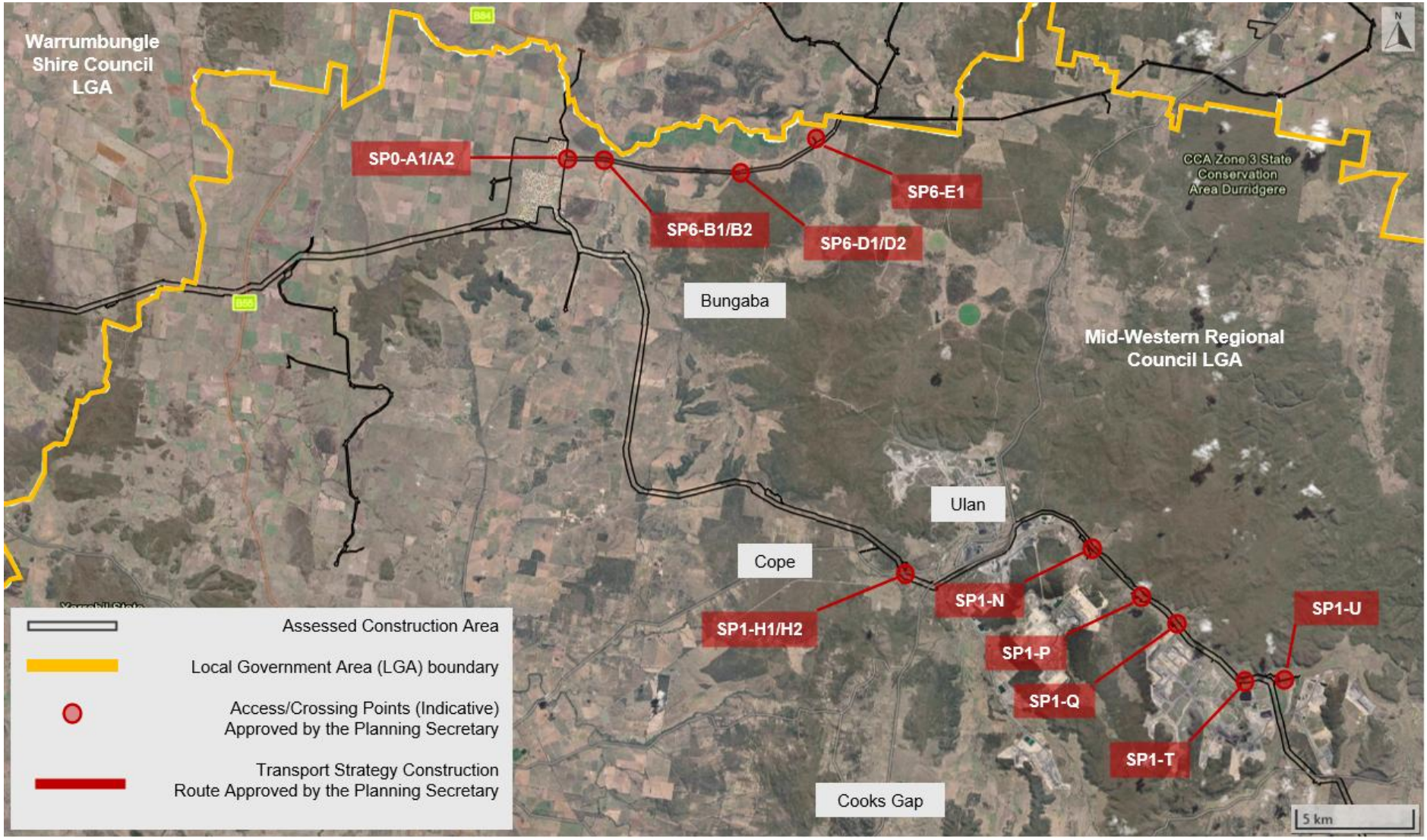


FIGURE A-4-2 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES ALREADY APPROVED IN THIS LGA (PRIORITY 2)

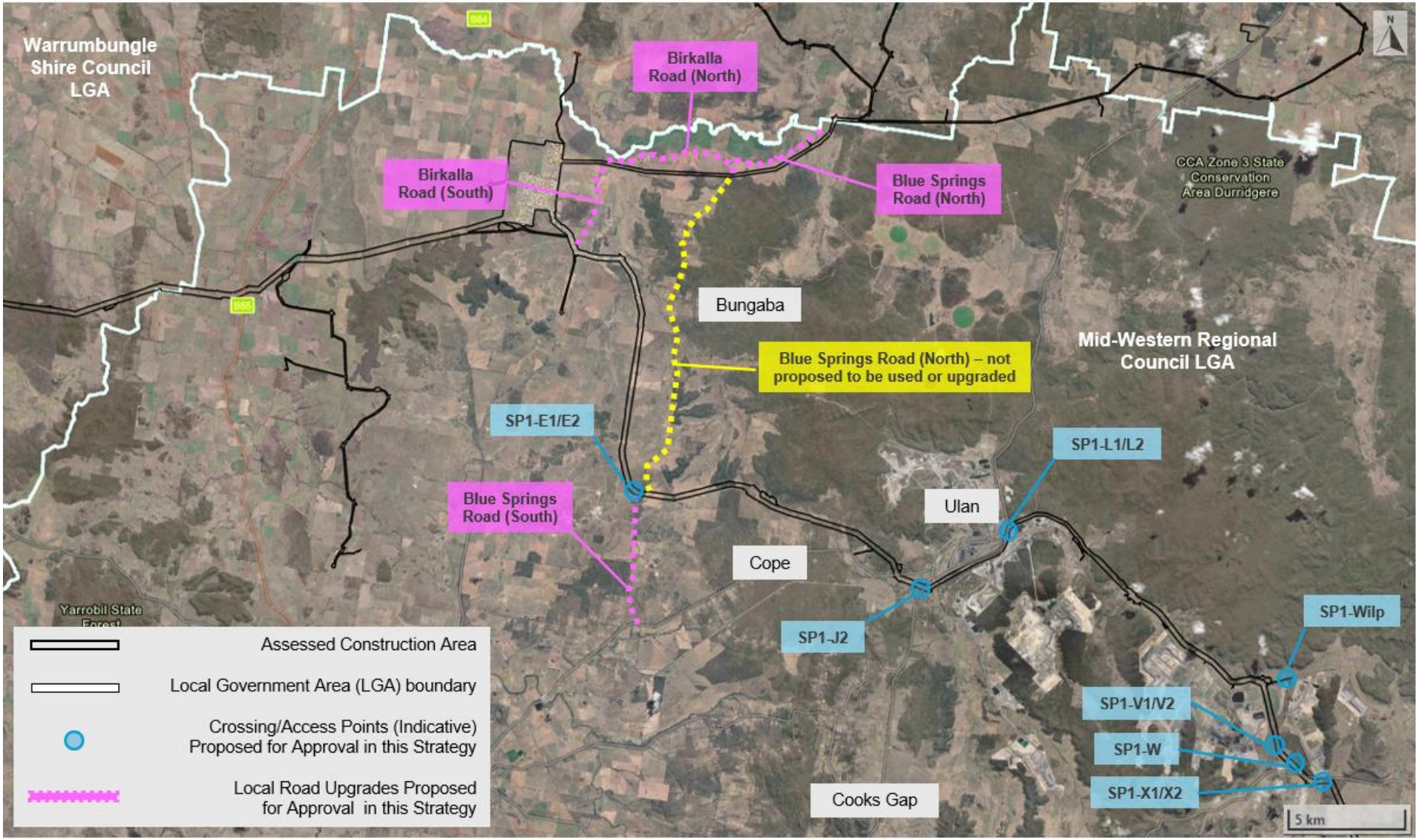


FIGURE A-4-3 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES PROPOSED FOR APPROVAL IN THIS STRATEGY (PRIORITY 3A)

Appendix B Specific Items in Appendix 4, Table 5

The specific roads, intersections and access points that are required to be addressed in a Transport Strategy are defined by the Project Approval Appendix 4, Table 5.

MCoA (NSW) B31 specifies several intersections within the Mid-Western Regional LGA which are to be upgraded with the commencement of development related to construction traffic:

- Access to Magpie Hill microwave repeater – Appendix B1 - Not yet included
- Intersection of Laheys Creek Road and Castlereagh Highway - Appendix B2 – Not yet included
- Intersection of Whistons Lane and Castlereagh Highway – Appendix B3 - Not yet included
- Intersection of Tucklan Road and Castlereagh Highway – Appendix B4 - Not yet included
- Intersection of Puggoon Road and Castlereagh Highway – Appendix B5 - Not yet included
- Castlereagh Highway Access Gates – Appendix B6 - Not yet included
- Wollar Road Access Gates – Appendix B7 - Not yet included
- Cope Road Access Gate (north) – Appendix B8 - Not yet included
- Cope Road Access Gate (south) – Appendix B9 - Not yet included

APPENDIX B1 ACCESS TO MAGPIE HILL MICROWAVE REPEATER – NOT YET INCLUDED

APPENDIX B2 INTERSECTION OF LAHEYS CREEK ROAD AND CASTLEREAGH HIGHWAY – NOT YET INCLUDED

APPENDIX B3 INTERSECTION OF WHISTONS LANE AND CASTLEREAGH HIGHWAY – NOT YET INCLUDED

APPENDIX B4 INTERSECTION OF TUCKLAN ROAD AND CASTLEREAGH HIGHWAY – NOT YET INCLUDED

APPENDIX B5 INTERSECTION OF PUGGOON ROAD AND CASTLEREAGH HIGHWAY – NOT YET INCLUDED

APPENDIX B6 CASTLEREAGH HIGHWAY ACCESS GATES – NOT YET INCLUDED

APPENDIX B7 WOLLAR ROAD ACCESS GATES – NOT YET INCLUDED

APPENDIX B8 COPE ROAD ACCESS GATE (NORTH) – NOT YET INCLUDED

APPENDIX B9 COPE ROAD ACCESS GATE (SOUTH) – NOT YET INCLUDED

Appendix C Local Roads

Appendix 4, Table 5 of the Project Approval states that 'other Local Roads' as identified in Figure 4-1 to Figure 4-4 of Appendix 4 must be upgraded as necessary as per the Transport Strategy under MCoA (NSW) B31. This must occur prior to commencing the use of that Local Road for any HV traffic associated with construction. For clarity, 'other local roads' are taken to mean:

- Those that are not already addressed as specific items listed in Planning Approval Appendix 4 Table 5, and
- Are identified in Figure 4-1 to Figure 4-4 of the Project Approval or otherwise approved by DPHI in accordance with MCoA (NSW) B29 or 30, and
- Are not specifically described as being excluded from Project use, as mentioned in the TTMP or below

The 'other local roads' applicable to the Mid-Western Regional LGA that are required to be upgraded prior to use for HV construction access include:

- Birkalla Road (North and South) - Appendix C1 – Included for approval
- Blue Springs Road (North and South) – Appendix C2 - Included for approval
- Cliffdale Road – Appendix C3 - Not yet included
- Puggoon Road – Appendix C4 - Not yet included
- Whistons Lane – Appendix C5 - Not yet included

Where an upgrade is required prior to the use of a local road for HVs associated with construction, Mid-Western Regional Council requires that the road upgrades will be, at a minimum, substantially underway and sufficiently progressed, to provide a safe and suitable road environment prior to significant use by construction-related HVs.

HVs required to construct the road upgrades will be permitted to access the subject local roads for the purposes of upgrading the local road. ACJV D&C will implement this approach for all local road upgrades subject to this Strategy, unless otherwise agreed to by the Planning Secretary in accordance with MCoA (NSW) B32.

APPENDIX C1 BIRKALLA ROAD (NORTH AND SOUTH) – INCLUDED

Existing Condition

Birkalla Road is classified as a local road and serves as an access route connecting Merotherie Road and Blue Springs Road. It is an unsealed, two-way carriageway without a posted speed limit, and has a default speed limit of 100 km/h in accordance with the New South Wales guidelines for local rural roads. Refer to the figures below for recent photographs of Birkalla Road at the time of authoring this Strategy.

The section of Birkalla Road between the transmission line corridor and Blue Springs Road (North), is herein referred to as 'Birkalla Road (North)'. The section of Birkalla Road between Merotherie Road and the transmission line corridor is herein referred to as 'Birkalla Road (South)'.

FIGURE C1- 1 BIRKALLA ROAD (SITE PHOTOS DATED APRIL 2025)

Location

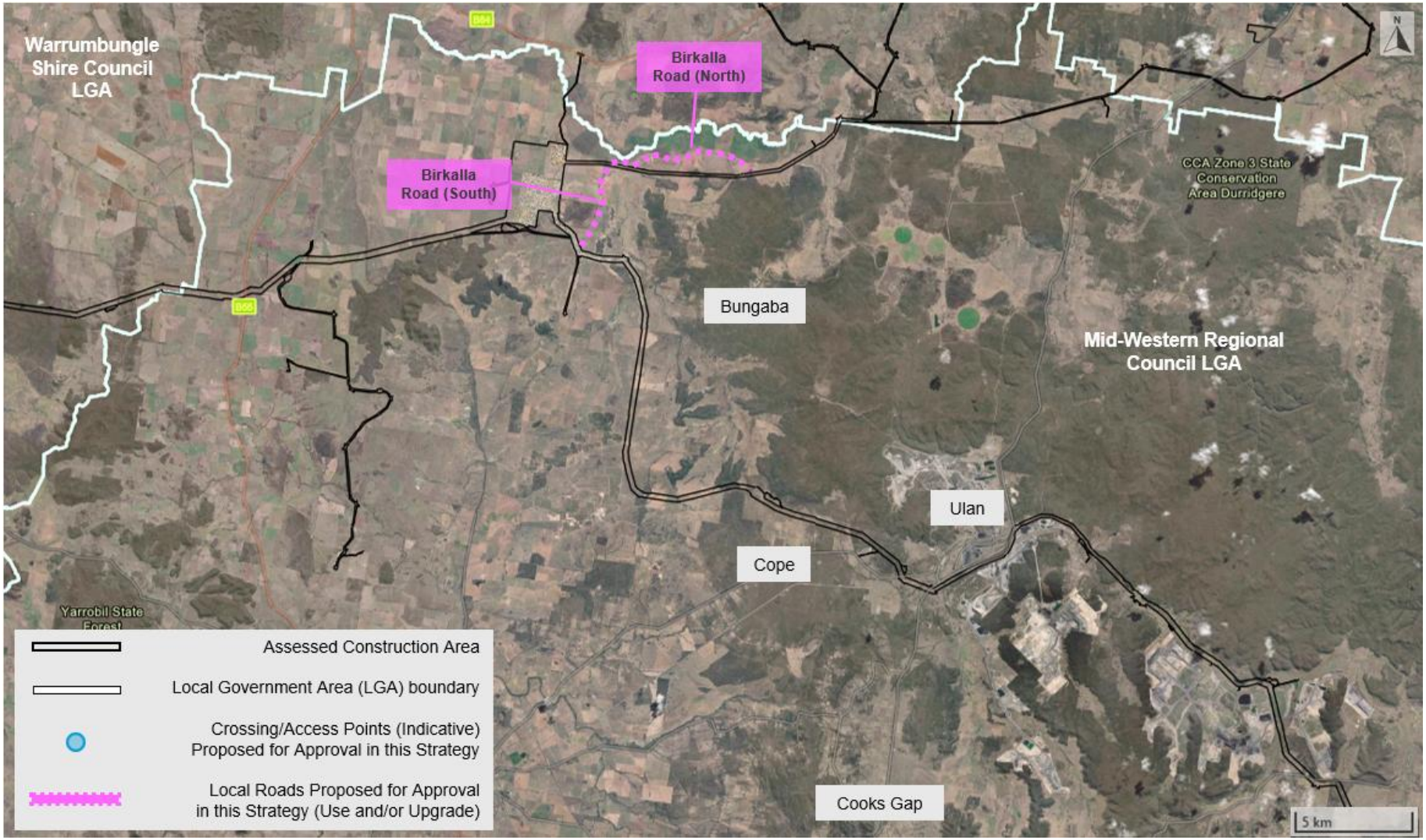
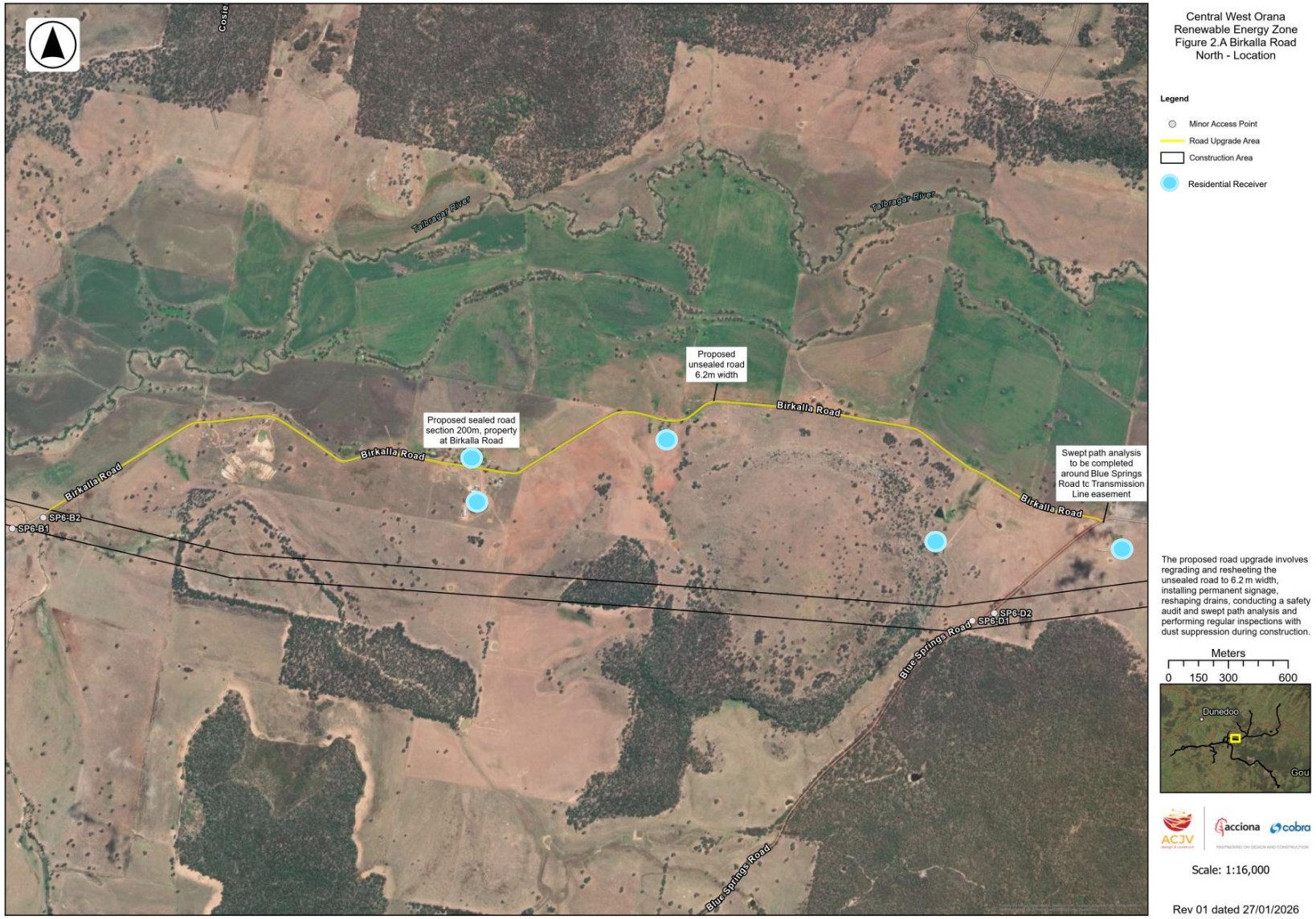


FIGURE C1- 2 LOCATION OF THE TRANSPORT STRATEGY CONSTRUCTION ROUTE ON BIRKALLA ROAD (NORTH AND SOUTH)

FIGURE C1- 3 LOATION OF BIRKALLA ROAD (SOUTH)



Central West Orana Renewable Energy Zone
Figure 2.A Birkalla Road North - Location

Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area
- Residential Receiver

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters
0 150 300 600

Scale: 1:16,000

Rev 01 dated 27/01/2026

FIGURE C1- 4 LOCATION OF BIRKALLA ROAD (NORTH)

Description

Further detail regarding the upgrade and use of Birkalla Road (North and South) by construction-related heavy vehicles is provided in the table below.

TABLE C1- 1 BIRKALLA ROAD UPGRADE AND USE

Road	Birkalla Road (North and South) (refer figures above)
Treatment MCoA B31(a)	The following treatments are proposed to improve safety outcomes for the use of Birkalla Road (North): • Regrade / re-sheet unsealed road to 9.2m width (2 x 3.1m lane plus 2 x 1.5m shoulder widths) • Culverts widened to suit formation width • Causeway condition to be assessed and replaced / widened as required in agreement with MWRC • Proposed sealed road section – 100m on each side of driveway at property at 275 Birkalla Road, Bungaba • Road safety audit to be undertaken by a third-party auditor following completion of the upgrade • Permanent traffic signage to be installed (speed signs, crest, narrow road for causeways, bend arrow, driveways) • Reshape table drains as required to suit regrade / re-sheet unsealed road • No tree clearing • Cattle grids to be assessed and may be removed, relocated or widened as required in consultation with landowners. • Weekly road inspection and road maintenance as required during construction • Water cart to be utilised for dust suppression during construction The following upgrade is proposed to improve safety outcomes for the use of Birkalla Road (South): • Regrade / re-sheet unsealed road to 9.2m width (2 x 3.1m lane plus 2 x 1.5m shoulder widths) • Culverts widened to suit formation width • Causeway condition to be assessed and replaced / widened as required in agreement with MWRC • Proposed sealed road section – 100m on each side of driveway at 135 Birkalla Road, Merotherie • Road safety audit to be undertaken by a third-party auditor • Permanent traffic signage to be installed (speed signs, crest, narrow road for causeways, bend arrow, driveways) • Reshape table drains as required to suit regrade / re-sheet unsealed road • No tree clearing • Cattle grids to be assessed and removed, relocated or widened as required in consultation with landowners. Relocation of a cattle grid location within the existing road. On each side of cattle grid, the location will act as a passing bay when vehicles are travelling across cattle grid. Cattle grid will be requested to be removed in consultation with the property owner, and any fencing will be adjusted. Council will be notified if the property owner does not agree to the cattle grid removal • Weekly road inspection and road maintenance as required during construction • Water cart to be utilised for dust suppression during construction

Amenity impacts **MCoA B31(a)**	The proposed treatment is consistent with standard Council maintenance in infrastructure works. Potential amenity impacts during installation of these treatments, such as noise, vibration and air quality, are expected to be minor and of short duration. Moreover, the outcome of these treatments is a substantial road safety improvement for the local community during, and after, construction related use of these roads, leaving a high residual positive amenity impact for the community. Refer to the section below (Assessment of Potential Impacts Outside of the EIS Construction Area) for further assessment of potential impacts to amenity. Refer to the 'Schedule MCoA B31(e)' section of this table for anticipated duration of these impacts.
Design criteria **MCoA B31(b)**	There are no applicable Austroads design criteria for these works, however the design will be reviewed by the future asset owner (either Council or TfNSW) and be completed in accordance with these standards as applicable. This notwithstanding, providing a road width of two lanes of 3.1m each with shoulders is consistent with Austroads Guide to Road Design (as amended by TfNSW supplements), for single carriageway rural road widths.
Strategic concept design **MCoA B31(c)**	Refer standard design drawings below. Further design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA B31 (d)	Refer to the section below.
Schedule **MCoA B31(e)**	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary **MCoA B31(h)**	Permanent.

Summary of Existing EIS Assessment and Outcomes

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the proposed road treatments.

TABLE C1- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
Study Area and Existing Environment The land use study area the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the Project). This study area is also consistent with the agriculture study area.	Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.2.1 of the EIS (Chapter 8 (Agriculture) Figure 7-1 of the EIS (Chapter 7 (Land Use and Property) Figure 7-2 of the EIS (Chapter 7 (Land Use and Property) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))
Relevant Environmental Risks • Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities • Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that the Project would require the use of land (including land currently used for agricultural purposes) temporarily for construction and permanently for operation (where permanent infrastructure is to be located). The residual risk rating for this impact was noted as 'low' for effects on access to properties in the EIS. For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of the proposed road treatment, it can be reasonably concluded that their actual impacts would be much lower.	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.4 of the EIS (Chapter 8 (Agriculture))
Landscape Character and Visual Amenity	
Study Area and Existing Environment The EIS study area comprised a four-kilometre-wide corridor centred on the construction area. This study area extent was selected on the basis it included all areas where there is the potential for landscape character and visual impacts from the Project to be experienced. Birkalla Road is mostly located within the rural valley landscape character type (Talbragar River rural valley – RV-03). RV-03 is located in the centre of the study	Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)

EIS Assessment and Outcomes Summary	EIS Assessment References
area, following the Talbragar River and associated tributaries such as Cockabutta, Mona and Salty creeks. The zone contains large areas of flat grazing pastures and dryland crops, with occasional rocky outcrops and small hills such as Cockabutta Hill and Uarbry Pinnacle. This zone contains few built features other than roads, rural dwellings and farm related structures and is considered to have a low daytime landscape sensitivity.	
Relevant Environmental Risks • Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), [and] construction traffic...	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that construction of the Project would result in temporary changes to the landscape character and visual amenity of the study area, which would impact residents, tourists, and road users. It also noted that construction of the Project would potentially result in landscape character and visual impacts as a result of ground disturbance, vegetation clearance, the use of large-scale equipment and supporting infrastructure, the establishment and use of workforce accommodation camps and night-time lighting. The landscape character zone RV-03 is considered to have a low landscape sensitivity. The EIS assessed that the magnitude of the Project's change to FH-03 during construction would result in an overall moderate landscape impact and a residual risk rating of 'medium'. Given the minor and temporal nature of proposed road treatment works, it can be reasonably concluded that their actual impacts would be much lower.	Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project. • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)). • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations. • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based. Birkalla Road (North) and Birkalla Road (South) were partially assessed within the EIS. Where Birkalla Road (North) traversed the EIS boundary, native vegetation was identified as PCT 281 Rough-barked Apple - Red Gum - Yellow Box woodland and PCT 0 miscellaneous ecosytem. No candidate fauna or flora species were identified in the EIS. Where Birkalla Road (South) traversed the EIS boundary, native vegetation was identified as PCT 281 Rough-barked Apple - Red Gum - Yellow Box woodland and PCT 0 miscellaneous ecosystem. One candidate fauna species, Squirrel Glider (*Petaurus norfolcensis*), was assumed present at this location. Three candidate flora	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

EIS Assessment and Outcomes Summary	EIS Assessment References
species were assumed present, Silky Swainson-pea (*Swainsona sericea*), Tarengo Leek Orchid (*Prasophyllum petilum*) and Euphrasia arguta (Euphrasia arguta).	
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The table below summarises the PCT's that have been mapped by the BDAR as being impacted by the proposed road treatment.	Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

PCT	Act	Listed Status	Threat Status	Associated TEC
PCT 281 Rough-barked Apple - Red Gum - Yellow Box woodland	BC Act (NSW)	Listed	Critically Endangered	Yes - White Box-Yellow-Box-Blakely's Red Gum Grassy Woodland and Derived Native Grasslar (BC Act and EPBC Act)
	EPBC Act (Cth)	Listed	Critically Endangered	
PCT 0 Miscellaneous Ecosystem	N/A	Not listed	N/A	No

PCT 281 is part of the critically endangered threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity.

There would be no tree removal and no planned vegetation clearing as works will be entirely within the previously disturbed road corridor.

Should any threatened species or threatened ecological communities be unexpectedly encountered during upgrade works, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented.

Aboriginal Heritage and Non-Aboriginal Heritage	
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The area of proposed road treatment is partially located within the study area.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)

EIS Assessment and Outcomes Summary	EIS Assessment References
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary There are two heritage items, SNI-AS99 and SNI-IF80, located within close proximity to Birkalla Road (North) at 5m east and 35 west, respectively. There are no heritage items within close proximity to where Birkalla Road (South) traverses the EIS footprint, with the closest heritage item located 260m west. Any potential heritage items or sites that are encountered during upgrade works, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Noise and Vibration	
Study Area and Existing Environment The noise and vibration study area in the EIS consisted of the construction area of the Project and areas within three kilometres of the construction area. The nearest sensitive receiver to the section of Birkalla Road assessed in the EIS/ Amendment Report is residential receiver 941 located more than 2 kilometres away.	Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration)) Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration)) Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
Relevant Environmental Risks • Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Given the distance from the area of road upgrade to the nearest sensitive receiver (more than 2 kilometres away) the proposed road treatments are unlikely to cause any noise and vibration impacts.	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Birkalla Road is an unsealed two-lane local road in the Mid-Western Regional Council LGA with a speed limit of 100km per hour. It extends for around 10 kilometres between Merotherie Road and Blue Springs Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))

EIS Assessment and Outcomes Summary	EIS Assessment References
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B: • The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road • All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B While there is no traffic data or assessment in the EIS or the Amendment Report specifically for Birkalla Road, the EIS does however note that all residual risk ratings for traffic and transport in the EIS are 'low'. Due to the minor nature of the proposed road treatment, it is anticipated that the actual impact would be much lower. Additionally, the purpose of the road upgrades is to facilitate safe and efficient access and egress for Project related construction traffic required to access the transmission line easement whilst minimising impacts to public motorists. The proposed road treatments are necessary for the road upgrade designs to meet AustRoads Guide to Road Design requirements and would not alter the traffic impacts substantially compared to the Project described and assessed in the EIS.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Waste Management	
Study Area and Existing Environment Existing waste sources in the Mid-Western Regional LGA primarily includes waste from agricultural, mining and forestry operations and domestic waste. A number of waste management and waste transfer facilities operated by local councils are located near the Project and accept a wide range of wastes, including construction and demolition waste, domestic waste and recyclable materials.	Section 18.3 of Chapter 18 of the EIS (Waste Management)
Relevant Environmental Risks • Impacts on local and regional waste management facilities due to increased demand from overall Project generated construction wastes	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Like most other environmental aspects, there is no singular assessment for road upgrades. The most relevant construction waste stream volumes for the Project are included below. It is considered that the proposed road treatment would represent a very minor portion of these indicative volumes. Possible impacts during construction as a result of the improper management of construction waste includes those on local and regional waste management facilities. The EIS identified that this could be due to increased demand from overall project generated construction wastes. Other impacts, if not managed appropriately, could include dust, odour, erosion and sedimentation, human health risks, and mud tracking. The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the proposed road treatment, it is anticipated that the actual impact would be much lower.	Chapter 18 of the EIS (Waste Management) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Hydrology, Flooding and Water Quality	
Study Area and Existing Environment The hydrology, flooding and water quality study area consists of the Macquarie River and Hunter River catchments, and sub-catchments. A catchment is the area that drains directly to a stream or body of water and includes areas upstream and downstream of the project. The Project is located across the Macquarie River and Hunter River catchments. Numerous natural watercourses intersect the study area, including perennial and ephemeral watercourses and unnamed drainage lines. A number of constructed dams are also located within the study area, including Burrendong Dam and Windamere Dam, to provide water supply for towns, industry, irrigators, stock and domestic users, as well as flood mitigation and recreation.	Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)
Relevant Environmental Risks • Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills • Impact to regional or local water supply due to construction water demands	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The proposed road treatment is anticipated to cause only minor disturbance to the local soil profile during road regrading and reshaping of table drains. The road treatment is not proposed to interact with any watercourses and the risk to water quality impacts is considered very low. The potential for the proposed treatment to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project. All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of proposed road treatments, it is anticipated that the actual impact would be negligible.	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Climate Change and Greenhouse Gas	
Relevant Environmental Risks Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during construction of the Project are estimated to be a total of 611,607 tCO2-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the Project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2 emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the proposed road treatments, it is anticipated that the actual impact would be negligible.	Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Cumulative Impacts	
Relevant Environmental Risks	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
• Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the proposed road treatments, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the EIS Construction Area

Where the section of road proposed to be upgraded has extended beyond the approved construction area it is required to be assessed in accordance with MCoA (NSW) B31(d). Birkalla Road (North) and Birkalla Road (south) were partially assessed in the EIS where the road traversed the construction boundary. The tables below have been prepared to provide the outcomes of these additional assessments for Birkalla Road (North) and Birkalla Road (South), respectively.

TABLE C1- 3 LOCAL ROAD ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION BOUNDARY (BIRKALLA ROAD NORTH)

Impacts
Biodiversity
A supplementary assessment was conducted for Birkalla Road (North) (ECE, 2026) - refer to Appendix F. The proposed footprint of the Birkalla Road (North) road verge (the subject land) and a 1,500m buffer zone comprise the Assessment Area for the BAM Report (ECE, 2025) prepared to assess biodiversity values associated with the road verge that falls outside of the approved Project disturbance footprint. This is the road design footprint which is subject to the treatment outlined in Table C1-1. The proposed road upgrade for Birkalla Road (North) area is approximately 13.9ha and is located primarily within road reserve. The supplementary assessment identified one PCT to the subject land (refer to maps in Appendix E): • 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. PCT 281 is associated with the following threatened ecological communities: • 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 (WBYB) - critically endangered ecological community (BC Act), and • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB) - critically endangered ecological community (EPBC Act) White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) is at risk of serious and irreversible impact (SAII).The supplementary assessment determined vegetation within the proposed road upgrade for Birkalla Road (North) area has been confirmed as aligning with the PCT 's and vegetation zones identified within the approved BDAR. The area of PCT 281 within the proposed footprint of Birkalla Road (North) is 1.04ha. This area is the maximum predicted impact, and impacts will be reduced following further design development as well as on-site micro siting. The supplementary assessment prepared by East Coast Ecology in January 2026 (refer to Appendix F) determined no unexpected finds or species/ entities outside of what was identified in the approved BDAR were identified in the proposed road upgrade for Birkalla Road (North) area. The outcomes of this assessment do not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP). A total of 26 threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The supplementary assessment of Birkalla Road (North) assumed the presence of

Impacts
the following six candidate species credit species were assumed present within the proposed road upgrade for Birkalla Road (North) area: • Tarengo Leek Orchid (Prasophyllum petilum) (0.16ha) • Pink-tailed Legless Lizard (*Aprasia parapulchella*) (1.04ha) • Glossy Black-Cockatoo (breeding) (*Calyptorhynchus lathami*) (0.06ha) • Eastern Pygmy-possum (*Cercartetus nanus*) (0.16ha) • Squirrel Glider (*Petaurus norfolcensis*) (0.17ha) • Koala (*Phascolarctos cinereus*) (0.16ha) The following entities at risk of a serious and irreversible impact were identified at Birkalla Road (North): • White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded The above mentioned maximum predicted impact to the habitat for these threatened species was calculated by overlaying the geospatial mapping of the supplementary assessment Assessment Area with the proposed disturbance footprint. The additional impact to the habitat for these threatened species will be accommodated within the approved clearing limits for the Project for these species and no increase to clearing limits will be required as a result of the proposed refinement. No tree clearing is required to facilitate the road upgrade.
Aboriginal Heritage and Non-Aboriginal Heritage
A Code of Due Diligence Assessment (KNC, 2026) was conducted to assess impacts to Aboriginal and non-Aboriginal heritage, refer to Appendix F. Two previously recorded Aboriginal heritage sites, SNI-IF80 and SNI-AS99, are located adjacent to Birkalla Road within the approved construction boundary. SNI-IF80 was identified as an isolated find while SNI-AS99 was assessed as an artefact scatter. SNI-AS99 was recorded as part of the background scatter SNI BS1. One recorded AHIMS sites, SNI-AS99, is located within the Construction Area approved under the Project Planning Approval. This artefact was recorded as part of the background scatter SNI BS1 which is permitted for direct impact within the Construction Area under the Project Planning Approval. The supplementary assessment (KNC, 2025) identified Aboriginal sites SNI-AS200 and SNI-PAD200 located adjacent to the road upgrade area (refer to Figure 2B in Appendix E). SNI-AS200 is an open context artefact site located on the northern side of the road. SNI-PAD200 is located on the southern side of the road. Proposed treatment works will be managed in accordance with the management measures detailed in the approved Construction Heritage Management Plan including no ground disturbance to occur within the identified site locations and an exclusion buffer to be established during the works to ensure no impact. Provided that SNI-AS200 and SNI-PAD200 are avoided, the proposed works will not impact on significant Aboriginal or historical heritage and are considered to be consistent with the approved project documentation.
Noise and Vibration
There are several sensitive residential receivers along Birkalla Road. Construction noise would likely exceed the identified Noise Management Level (NML) during standard work hours and out of hours. The construction noise assessment considers a scenario where all plant and equipment would be operating concurrently, due to the nature of the works this is considered highly unlikely to occur and that actual noise levels would be much lower. Vibration impacts on both the construction and use of this location are considered negligible. Noise and vibration impacts are expected to be temporary and of short duration. Noise and vibration associated with the proposed treatment works will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002).
Soil and Water
The proposed treatment works will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.
Air Quality
The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. While the location of the road upgrade area (of which only minimal dust of a temporary duration would be generated during construction) is located less than 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible due to the temporary and short duration of the proposed treatment works. Air quality impacts associated with the proposed treatment works will be managed in accordance with the mitigation

measures outlined in the EIS.

TABLE C1-3 LOCAL ROAD ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION BOUNDARY (BIRKALLA ROAD SOUTH)

Impacts
Biodiversity

A Supplementary Assessment was conducted for Birkalla Road (South) (ECE, 2026), refer to Appendix F. The proposed footprint of the Birkalla Road, south road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for the BAM Report prepared to assess biodiversity values associated with the road verge that falls outside of the approved Project disturbance footprint. The proposed road upgrade area for Birkalla Road (South) is approximately 7.72ha The Supplementary Assessment identified one PCT nearby to the subject land (refer to maps in Appendix E):

- 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.

PCT 281 is associated with the following threatened ecological communities:

- 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 (WBYB) - critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB) - critically endangered ecological community (EPBC Act)

White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) is at risk of serious and irreversible impact (SAII).

The Supplementary Assessment determined vegetation within the proposed road upgrade for Birkalla Road (South) area has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR. The area of PCT281 within the proposed footprint of Birkalla Road (South) is 1.32ha. This area is the maximum predicted impact and impacts will be reduced following further design development as well as on-site micrositing.

The supplementary assessment prepared by East Coast Ecology in January 2026 (refer to Appendix F) determined no unexpected finds or species/ entities outside of what was identified in the approved BDAR (WSP, 2024) were identified in the proposed road upgrade for Birkalla Road (South) area. The outcomes of this assessment do not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

A total of 30 threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The supplementary assessment of Birkalla Road (South) assumed the presence of the following twelve candidate species credit species were assumed present within the proposed road upgrade for Birkalla Road (South) area:

- Ausfeld's Wattle (*Acacia ausfeldii*) (1.32ha)
- Eastern Pygmy-possum (*Cercartetus nanus*) (1.32ha)
- Southern Myotis (*Myotis macrpus*) (1.32ha)
- Squirrel Glider (*Petaurus norfolcensis*) (1.32ha)
- Koala (*Phascolarctos cinereus*) (0.83ha)
- Cotoneaster Pomaderris (*Pomaderris queenslandica*) (0.83ha)
- Tarengo Leek Orchid (*Prasophyllum petilum*) (1.32ha)
- Silky Swainson-pea (*Swainsona sericea*) (1.32ha)
- Euphrasia arguta (0.034ha)
- Glossy Black-Cockatoo *(Calyptorhynchus lathami)* (0.034ha)
- Eastern Cave Bat (0.004ha)
- Squirrel Glider (0.004ha)

The following entities at risk of a serious and irreversible impact were identified at Birkalla Road (South):

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded
- Euphrasia arguta – assumed
- Eastern Cave Bat – assumed

The above mentioned maximum predicted impact to the habitat for these threatened species was calculated by overlaying the geospatial mapping of the supplementary assessment Assessment Area with the proposed disturbance footprint.

The additional impact to the habitat for these threatened species will be accommodated within the approved clearing limits for the Project for these species and no increase to clearing limits will be required as a result of the proposed refinement.

Impacts
No tree clearing is required to facilitate the road upgrade.
Aboriginal Heritage and Non-Aboriginal Heritage
A Code of Due Diligence Assessment (KNC, 2026) was conducted to assess impacts to Aboriginal and non-Aboriginal heritage, refer to Appendix F. There are no Aboriginal or Non-Aboriginal Heritage sites located within the footprint of the access road subject to treatment (refer to Figures 3A and 3B in Appendix E) as identified in the supplementary assessment (KNC, 2025). The extent of the additional survey area assessed is shown on the figures within Appendix E.
Noise and Vibration
The nearest sensitive receiver (residential ID193) is located approximately 133 metres to the west of Birkalla Road. At this distance, construction noise would likely exceed the identified Noise Management Level (NML) during standard work hours and out of hours. The construction noise assessment considers a scenario where all plant and equipment would be operating concurrently, due to the nature of the works this is considered highly unlikely to occur and that actual noise levels would be much lower. Vibration impacts on both the construction and use of this location are considered negligible. Noise and vibration impacts are expected to be temporary and of short duration. Noise and vibration associated with the proposed treatment works will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan.
Soil and Water
The proposed upgrade works will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.
Air Quality
The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the location of the road upgrade area (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Planning Approval are considered appropriate for the management of all upgrades described in this Strategy. Where specific mitigations are identified, they have been detailed in the relevant sections below.

TABLE C1- 4 LOCAL ROAD MITIGATION MEASURES (BIRKALLA ROAD)

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all local road upgrades described in this document. The following specific mitigation measures will be implemented to manage biodiversity impacts associated with the local road upgrades: • Local road upgrades will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • The extent of clearing of native vegetation within the upgrade disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a)

Mitigation Measures
• The maximum clearing of 1.04ha of PCT 281 will be tracked in the Project's clearing register for Birkalla Road (North) • The maximum clearing of 1.32ha of PCT 281 will be tracked in the Project's clearing register for Birkalla Road (South) • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during upgrade works, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage
Whilst no heritage items or sites have been identified within the construction area, the following mitigation measures will be adopted throughout upgrade works: • If any potential heritage items or sites are encountered during upgrade works, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Noise and Vibration
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Surface Water and Hydrology
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Erosion and Sedimentation
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site road upgrades anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades: • Where safe to do so, exposed and disturbed surfaces at the works location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

Strategic Concept Design

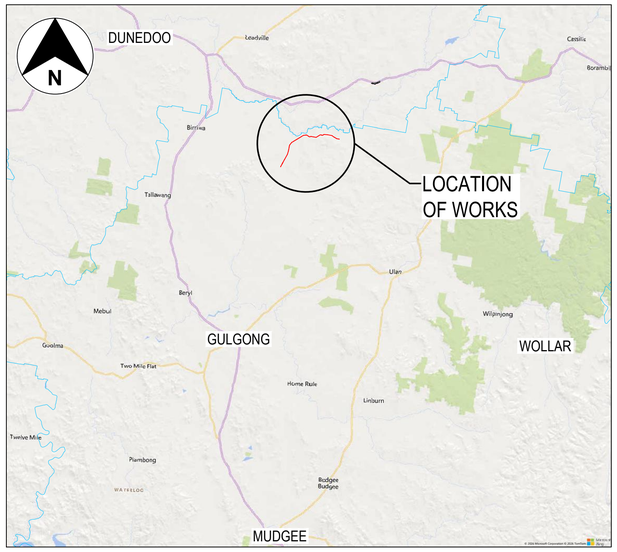
MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format has been included below and is supported by the figure depicting the location of the crossing points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following design drawings.

CENTRAL WEST ORANA
RENEWABLE ENERGY ZONE
ROAD IMPROVEMENTS - BIRKALLA ROAD
STRATEGIC DESIGN DOCUMENTATION



LOCALITY PLAN
NOT TO SCALE

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 (GDA2020)
HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	N. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
COVER SHEET

DRAWING SET No:	PART:	SHEET: 1 OF 1	A1		
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:				©
DRG No. CWO-xxx-001-CIV-DRG-000001	REV A	VER	EDMS No.	AMD No.	

FILE NAME: CWO-xxx-001-CIV-DRG-000001.dwg
PLOT DATE & TIME: 31/03/2026 4:06:56 PM

DRAWING INDEX

DRAWING No.	SHEET DETAILS	No. OF SHEETS
CWO-XXX-001-CIV-DRG-000001	COVER SHEET	1 OF 1
CWO-XXX-001-CIV-DRG-000002	DRAWING INDEX	1 OF 1
CWO-XXX-001-CIV-DRG-000005	GENERAL NOTES	1 OF 1
CWO-XXX-001-CIV-DRG-000011	TYPICAL DETAILS	1 OF 1
CWO-XXX-001-CIV-DRG-000101	GENERAL ARRANGEMENT	1 OF 17
CWO-XXX-001-CIV-DRG-000102	GENERAL ARRANGEMENT	2 OF 17
CWO-XXX-001-CIV-DRG-000103	GENERAL ARRANGEMENT	3 OF 17
CWO-XXX-001-CIV-DRG-000104	GENERAL ARRANGEMENT	4 OF 17
CWO-XXX-001-CIV-DRG-000105	GENERAL ARRANGEMENT	5 OF 17
CWO-XXX-001-CIV-DRG-000106	GENERAL ARRANGEMENT	6 OF 17
CWO-XXX-001-CIV-DRG-000107	GENERAL ARRANGEMENT	7 OF 17
CWO-XXX-001-CIV-DRG-000108	GENERAL ARRANGEMENT	8 OF 17
CWO-XXX-001-CIV-DRG-000109	GENERAL ARRANGEMENT	9 OF 17
CWO-XXX-001-CIV-DRG-000110	GENERAL ARRANGEMENT	10 OF 17
CWO-XXX-001-CIV-DRG-000111	GENERAL ARRANGEMENT	11 OF 17
CWO-XXX-001-CIV-DRG-000112	GENERAL ARRANGEMENT	12 OF 17
CWO-XXX-001-CIV-DRG-000113	GENERAL ARRANGEMENT	13 OF 17
CWO-XXX-001-CIV-DRG-000114	GENERAL ARRANGEMENT	14 OF 17
CWO-XXX-001-CIV-DRG-000115	GENERAL ARRANGEMENT	15 OF 17
CWO-XXX-001-CIV-DRG-000116	GENERAL ARRANGEMENT	16 OF 17
CWO-XXX-001-CIV-DRG-000117	GENERAL ARRANGEMENT	17 OF 17
CWO-XXX-001-CIV-DRG-000201	LONGITUDINAL SECTION	1 OF 17
CWO-XXX-001-CIV-DRG-000202	LONGITUDINAL SECTION	2 OF 17
CWO-XXX-001-CIV-DRG-000203	LONGITUDINAL SECTION	3 OF 17
CWO-XXX-001-CIV-DRG-000204	LONGITUDINAL SECTION	4 OF 17
CWO-XXX-001-CIV-DRG-000205	LONGITUDINAL SECTION	5 OF 17
CWO-XXX-001-CIV-DRG-000206	LONGITUDINAL SECTION	6 OF 17
CWO-XXX-001-CIV-DRG-000207	LONGITUDINAL SECTION	7 OF 17
CWO-XXX-001-CIV-DRG-000208	LONGITUDINAL SECTION	8 OF 17
CWO-XXX-001-CIV-DRG-000209	LONGITUDINAL SECTION	9 OF 17
CWO-XXX-001-CIV-DRG-000210	LONGITUDINAL SECTION	10 OF 17
CWO-XXX-001-CIV-DRG-000211	LONGITUDINAL SECTION	11 OF 17
CWO-XXX-001-CIV-DRG-000212	LONGITUDINAL SECTION	12 OF 17
CWO-XXX-001-CIV-DRG-000213	LONGITUDINAL SECTION	13 OF 17
CWO-XXX-001-CIV-DRG-000214	LONGITUDINAL SECTION	14 OF 17
CWO-XXX-001-CIV-DRG-000215	LONGITUDINAL SECTION	15 OF 17
CWO-XXX-001-CIV-DRG-000216	LONGITUDINAL SECTION	16 OF 17
CWO-XXX-001-CIV-DRG-000217	LONGITUDINAL SECTION	17 OF 17
CWO-XXX-001-CIV-DRG-000301	CROSS SECTIONS	1 OF ??
CWO-XXX-001-CIV-DRG-000401	CATCHMENT AREA PLAN	1 OF 17
CWO-XXX-001-CIV-DRG-000402	CATCHMENT AREA PLAN	2 OF 17
CWO-XXX-001-CIV-DRG-000403	CATCHMENT AREA PLAN	3 OF 17
CWO-XXX-001-CIV-DRG-000404	CATCHMENT AREA PLAN	4 OF 17
CWO-XXX-001-CIV-DRG-000405	CATCHMENT AREA PLAN	5 OF 17
CWO-XXX-001-CIV-DRG-000406	CATCHMENT AREA PLAN	6 OF 17
CWO-XXX-001-CIV-DRG-000407	CATCHMENT AREA PLAN	7 OF 17
CWO-XXX-001-CIV-DRG-000408	CATCHMENT AREA PLAN	8 OF 17
CWO-XXX-001-CIV-DRG-000409	CATCHMENT AREA PLAN	9 OF 17
CWO-XXX-001-CIV-DRG-000410	CATCHMENT AREA PLAN	10 OF 17
CWO-XXX-001-CIV-DRG-000411	CATCHMENT AREA PLAN	11 OF 17
CWO-XXX-001-CIV-DRG-000412	CATCHMENT AREA PLAN	12 OF 17
CWO-XXX-001-CIV-DRG-000413	CATCHMENT AREA PLAN	13 OF 17
CWO-XXX-001-CIV-DRG-000414	CATCHMENT AREA PLAN	14 OF 17
CWO-XXX-001-CIV-DRG-000415	CATCHMENT AREA PLAN	15 OF 17
CWO-XXX-001-CIV-DRG-000416	CATCHMENT AREA PLAN	16 OF 17
CWO-XXX-001-CIV-DRG-000417	CATCHMENT AREA PLAN	17 OF 17

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-001-CIV-DRG-000002.dwg

PLOT DATE & TIME: 31/03/2026 12:59:47 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ INITIAL DATE — FINAL ☐ INITIAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
DRAWING INDEX

DRAWING SET No:	PART:	SHEET: 1 OF 1	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000002	A			

GENERAL

1. COORDINATES CONTROL IS ON GDA2020.
2. DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND WRITTEN INSTRUCTIONS ISSUED.
3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
4. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUTHORITY STANDARDS AND SPECIFICATIONS.
5. THE DRAWINGS SHALL NOT BE SCALED.
6. DRAWINGS ARE TO BE PRINTED IN COLOUR.
7. ALL PAVEMENT DETAILS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
8. ALL DISTURBED SURFACES SHALL BE REINSTATED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SEEDING AND FERTILISER SHALL BE APPLIED TO ALL GROUND IN THE VICINITY OF THE ACCESS TRACK WHERE THE SURFACE GRASSES HAVE BEEN REMOVED OR BARE PATCHES OF SOIL ARE EVIDENT.
10. SHOULD ANY ABORIGINAL ARTEFACTS BE DISCOVERED THEN THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY.
11. CONTRACTOR TO VERIFY ALL DIMENSIONS, EXISTING LEVELS AND DESIGN SETOUT INFORMATION ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS. WHERE A CONFLICT OR INCONSISTENCY BECOMES APPARENT, THE CONTRACTOR SHALL NOTIFY THE DESIGNER IMMEDIATELY.
12. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE PROJECT TECHNICAL; SPECIFICATIONS FOR THE WORKS AND THE REQUIREMENTS OF ALL RELEVANT CODES OF PRACTICE AND THE REQUIREMENTS OF STATUTORY AUTHORITIES WHERE APPLICABLE.

EARTHWORKS

1. BATTERS TO BE LOCALLY ADJUSTED/FLATTENED AS REQUIRED TO SUIT EXISTING TERRAIN FOR WATER TO DRAIN AWAY FROM ROAD.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-001-CIV-DRG-000005.dwg

PLOT DATE & TIME: 31/03/2026 12:59:52 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

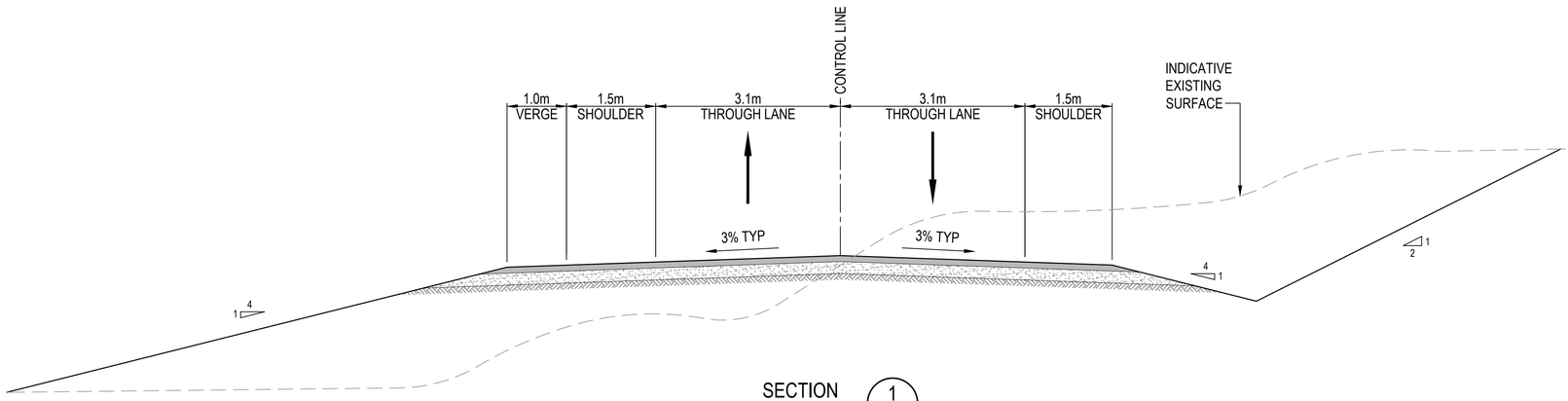
turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

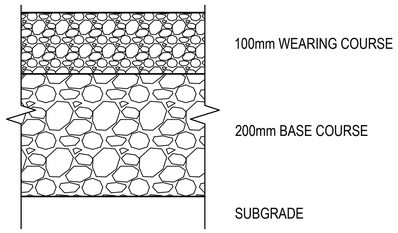
MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL NOTES

DRAWING SET No:		PART:	SHEET: 1 OF 1	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:		©
DRG No. CWO-xxx-001-CIV-DRG-000005	REV A	VER	EDMS No.	AMD No.



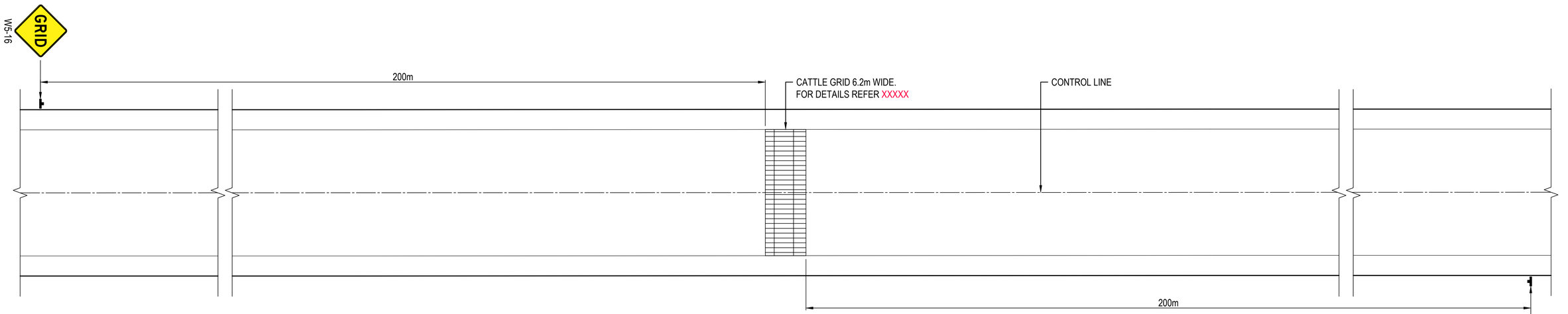
SECTION 1 / SCALE 1:50

TYPICAL SECTION WITH NO NARROWING



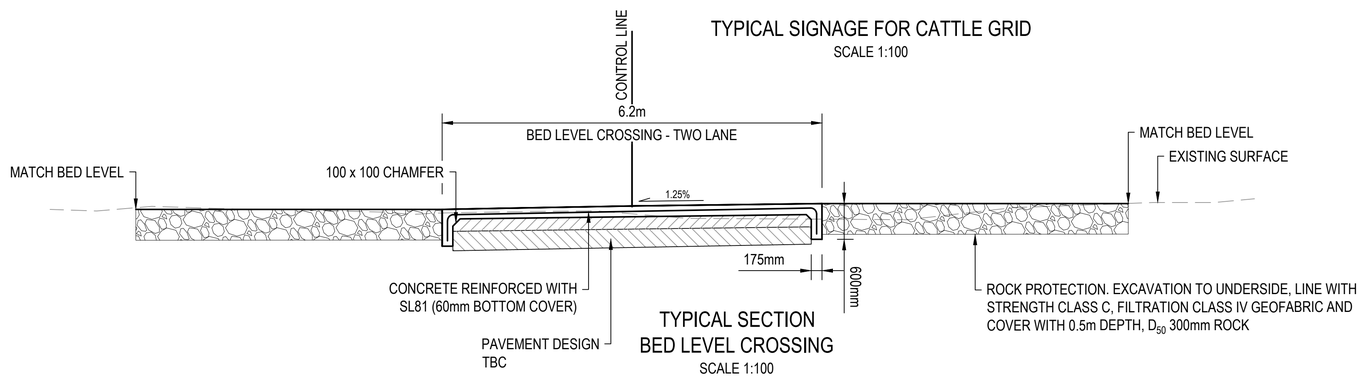
UNSEALED ROAD AS DISCUSSED

SCALE 1:5



TYPICAL SIGNAGE FOR CATTLE GRID

SCALE 1:100



TYPICAL SECTION BED LEVEL CROSSING

SCALE 1:100

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:5, 1:50, 1:100

0 0.1 0.2m
0.05 0.025 (1:5 AT A1 ; 1:10 AT A3)
0 1 2m
0.5 0.25 (1:50 AT A1 ; 1:100 AT A3)
0 1 2 3 4 5m
1 0.5 (1:100 AT A1 ; 1:200 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

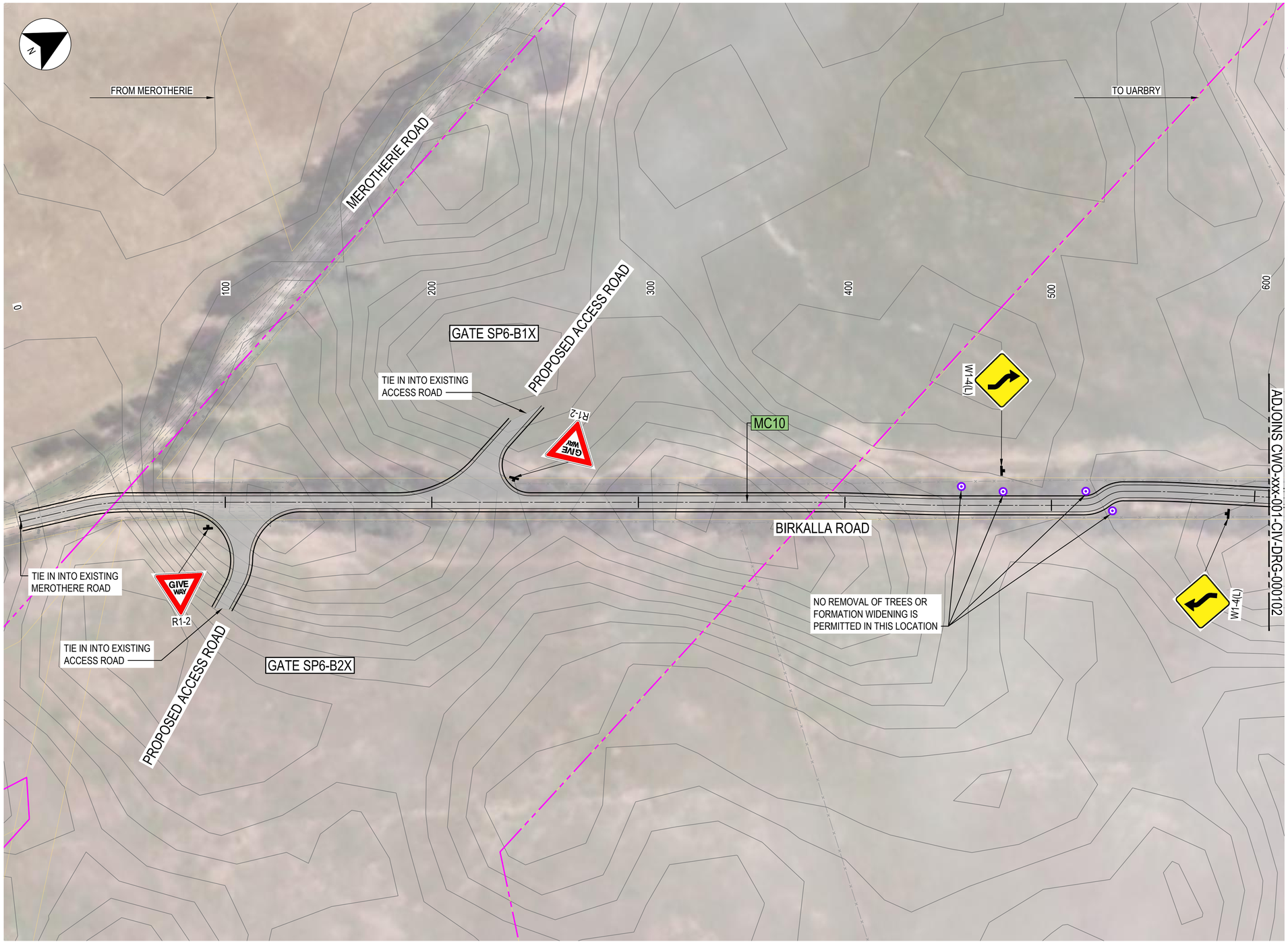
WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
TYPICAL DETAILS

DRAWING SET No:	PART:	SHEET: 1 OF 1	A1	
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000011	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000011.dwg

PLOT DATE & TIME: 1/04/2026 4:27:56 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 1 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000101	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-00017.dwg
PLOT DATE & TIME: 1/04/2026 4:23:18 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:		PART:	SHEET: 2 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:		©
DRG No. CWO-xxx-001-CIV-DRG-000102	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:23:32 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 3 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000103	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:23:46 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 (GDA2020) | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

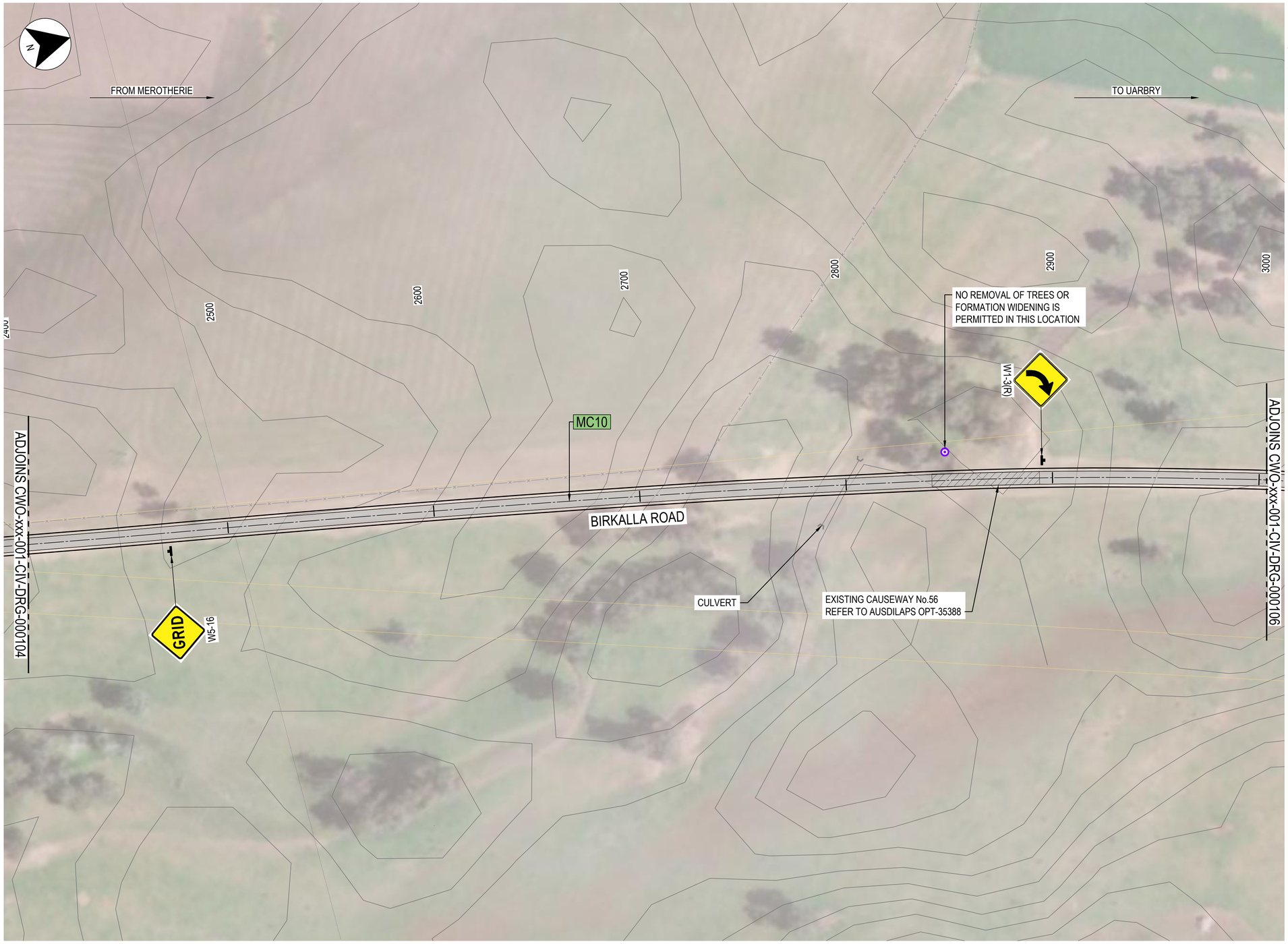
DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	A.DOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:		PART:	SHEET: 4 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000104	REV A	VER	EDMS No.	AMD No.	

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:23:59 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:		PART:	SHEET: 5 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000105	REV A	VER	EDMS No.	AMD No.	

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:24:12 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 (GDA2020) | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

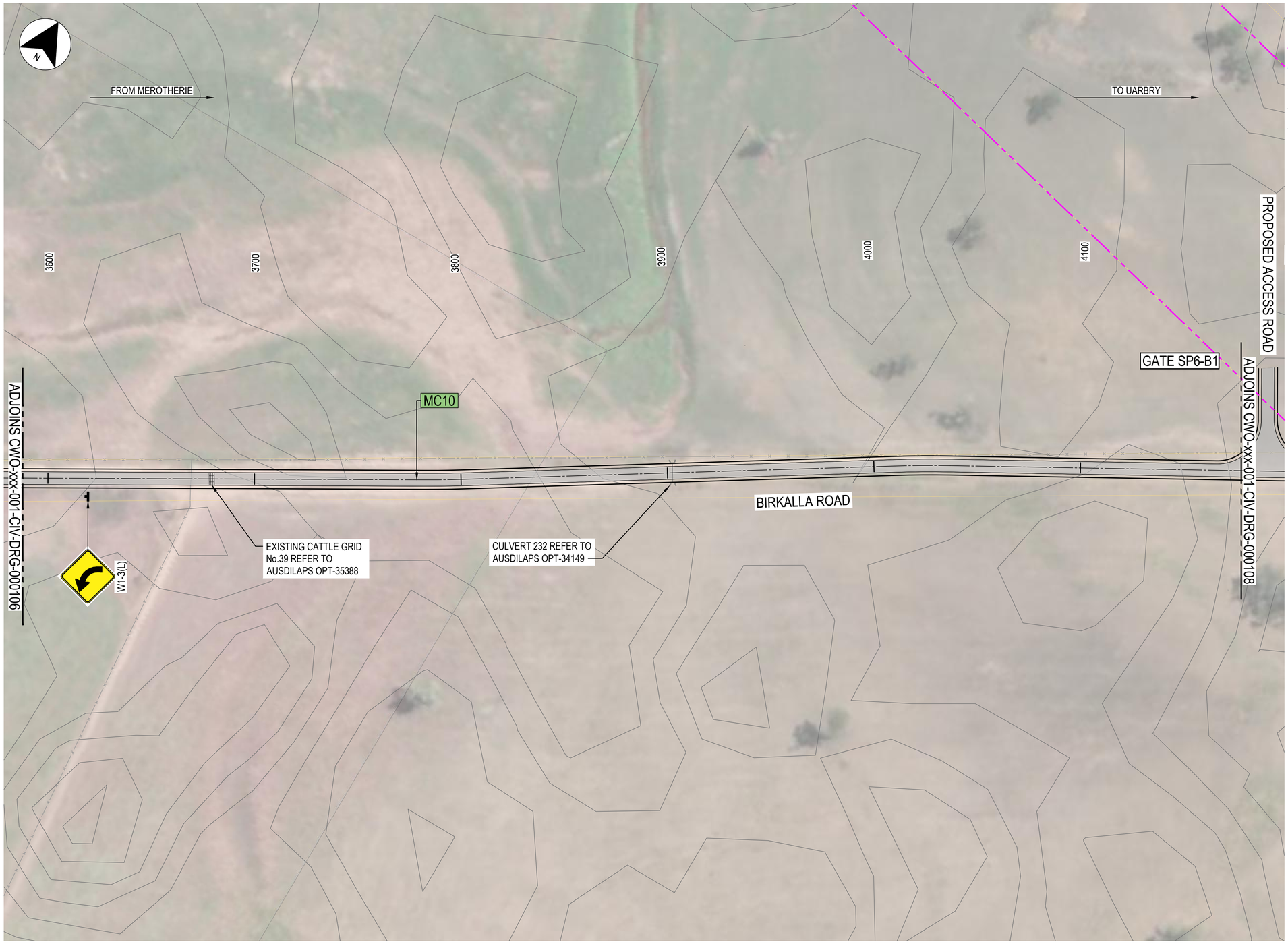
DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 6 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000106	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:24:25 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

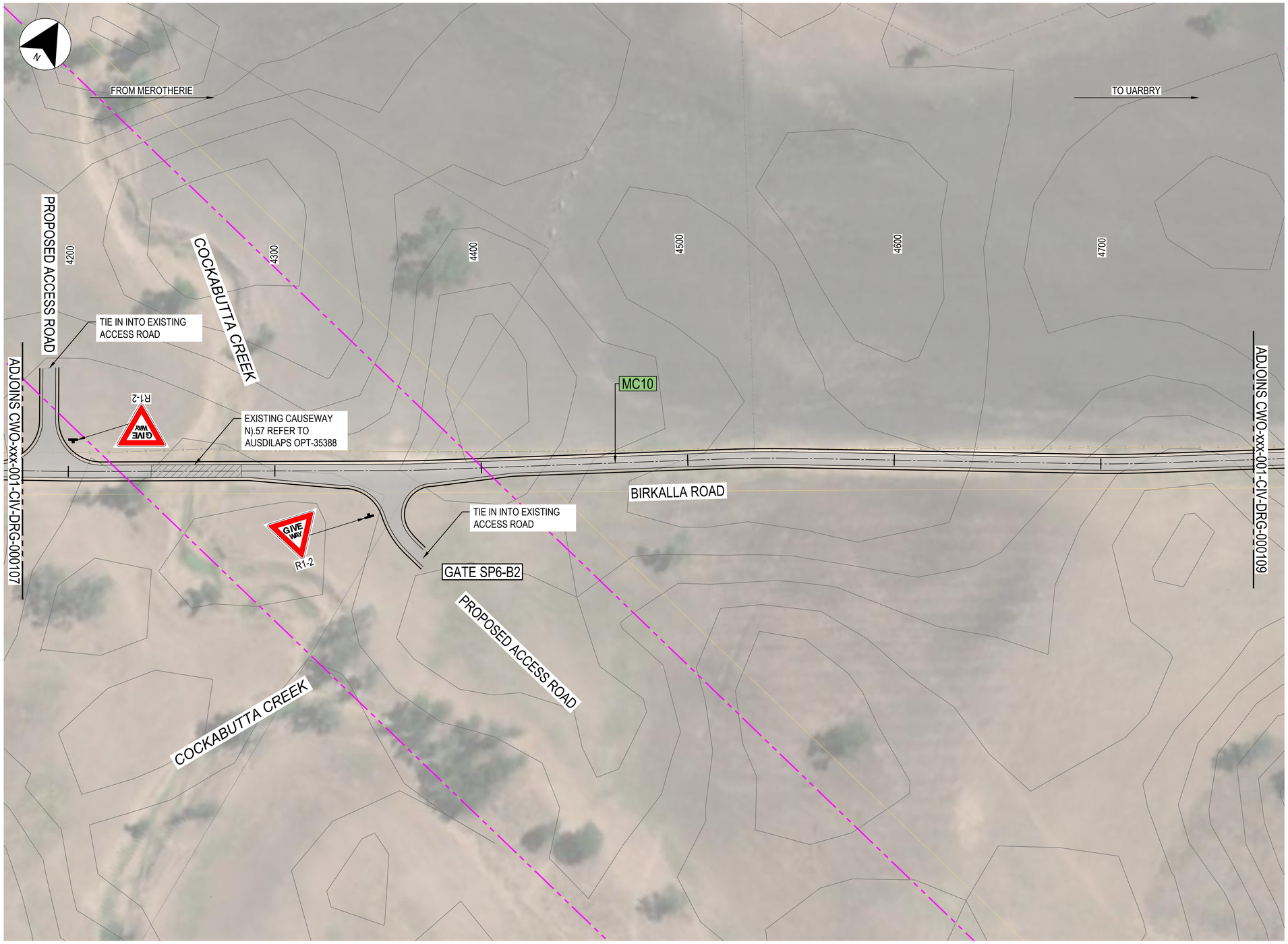
BIRKALLA ROAD

GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 7 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000107	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg

PLOT DATE & TIME: 1/04/2026 4:24:39 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-001-CIV-DRG-000101-0001[F].dwg

PLOT DATE & TIME: 1/04/2026 4:24:52 PM

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 8 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000108	REV A	VER	EDMS No.	AMD No.

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 9 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000109	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-00011[illegible].dwg
PLOT DATE & TIME: 1/04/2026 4:25:07 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

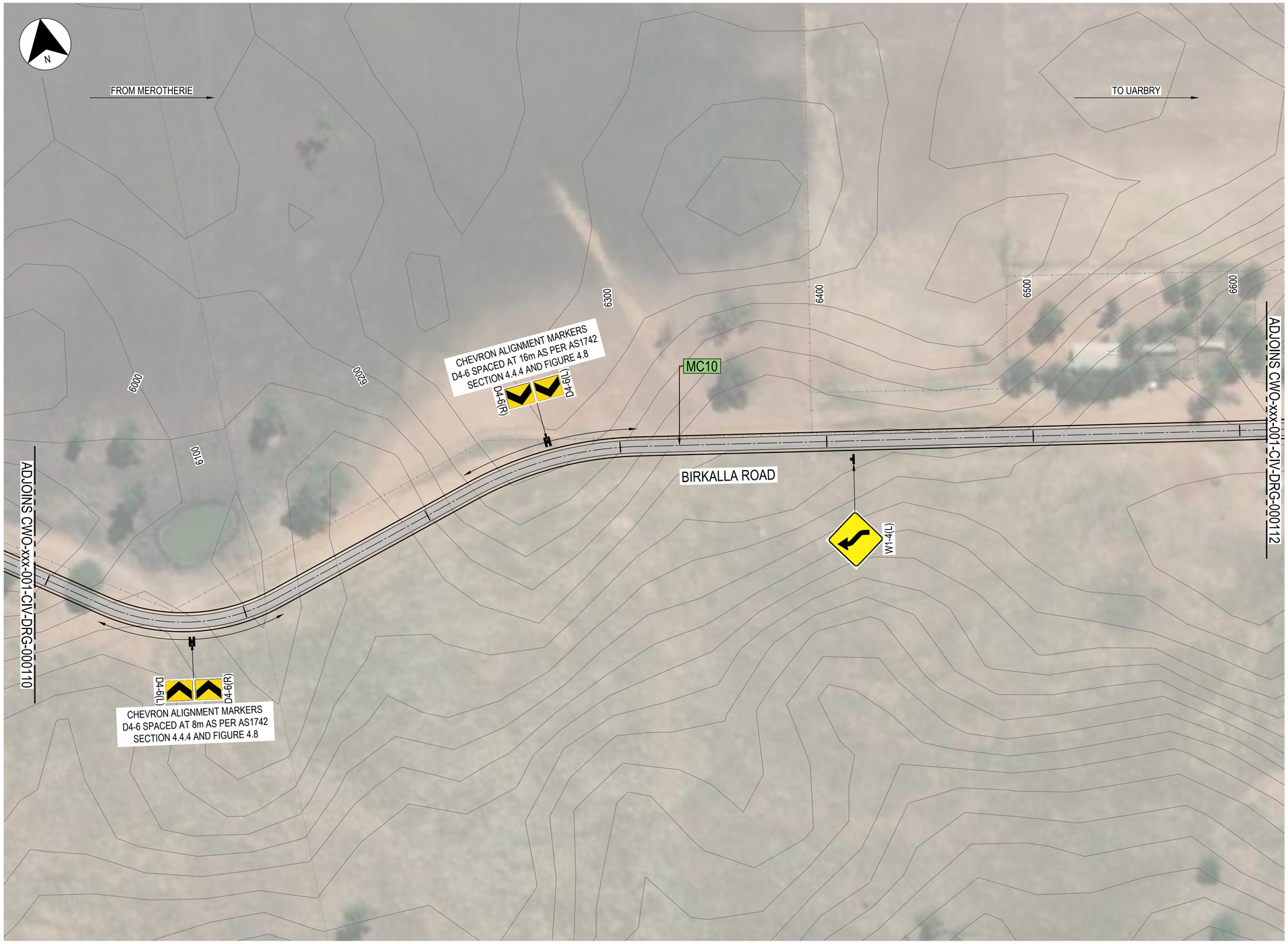
DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 10 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000110	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000117.dwg
PLOT DATE & TIME: 1/04/2026 4:25:23 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

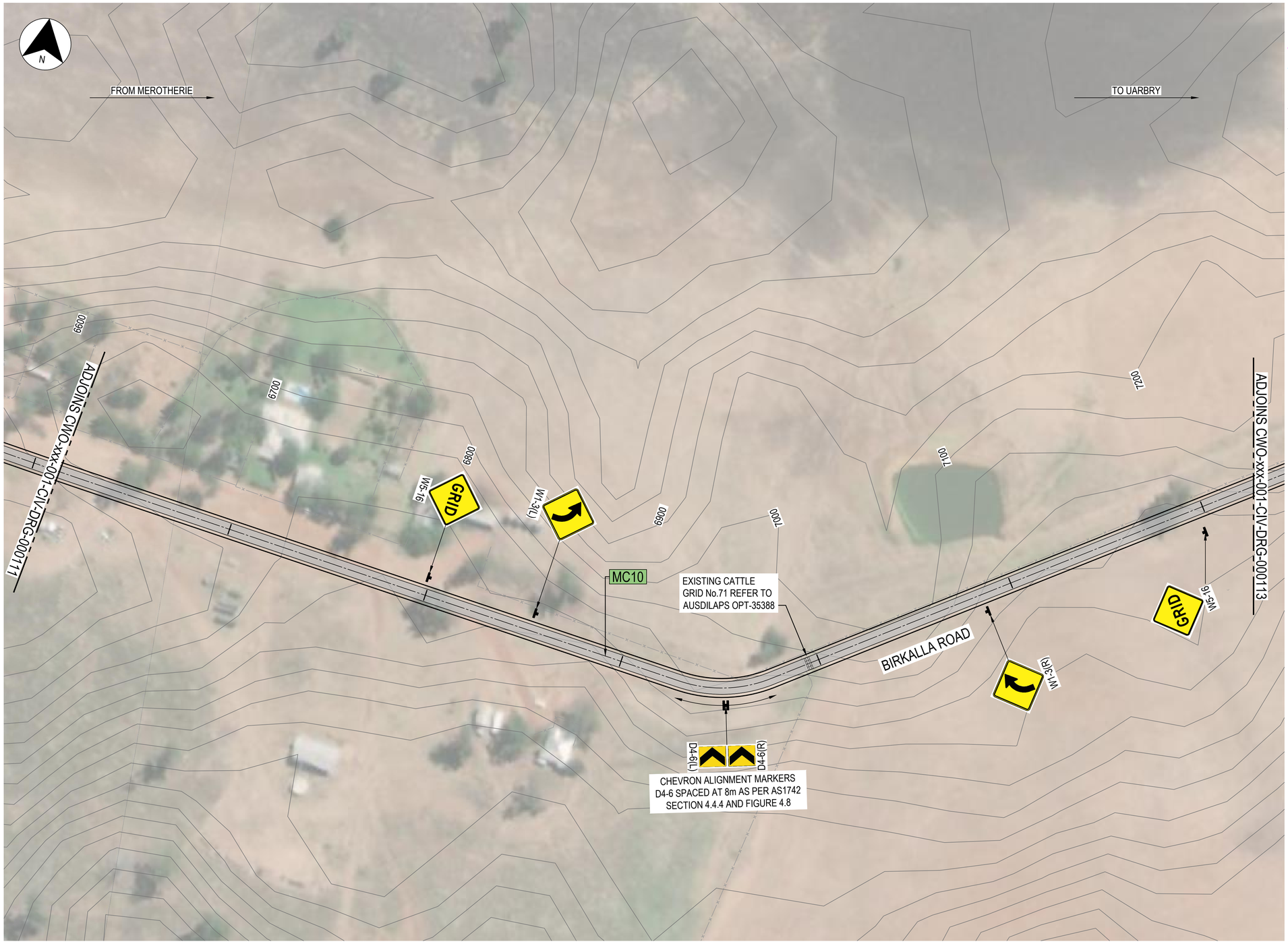
DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 11 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000111	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-0001[P].dwg
PLOT DATE & TIME: 1/04/2026 4:25:36 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL

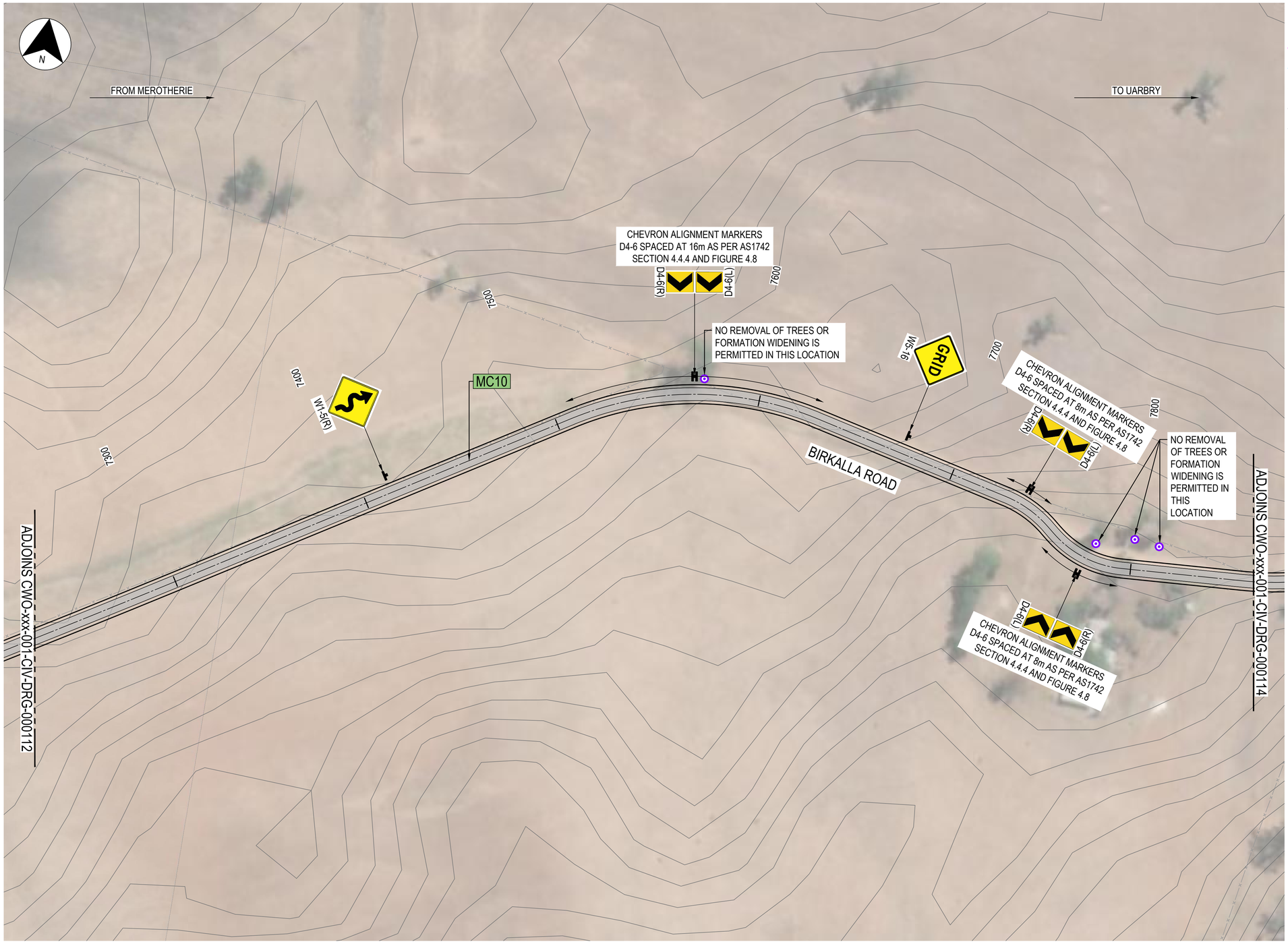
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 12 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000112	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000117.dwg

PLOT DATE & TIME: 1/04/2026 4:25:50 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

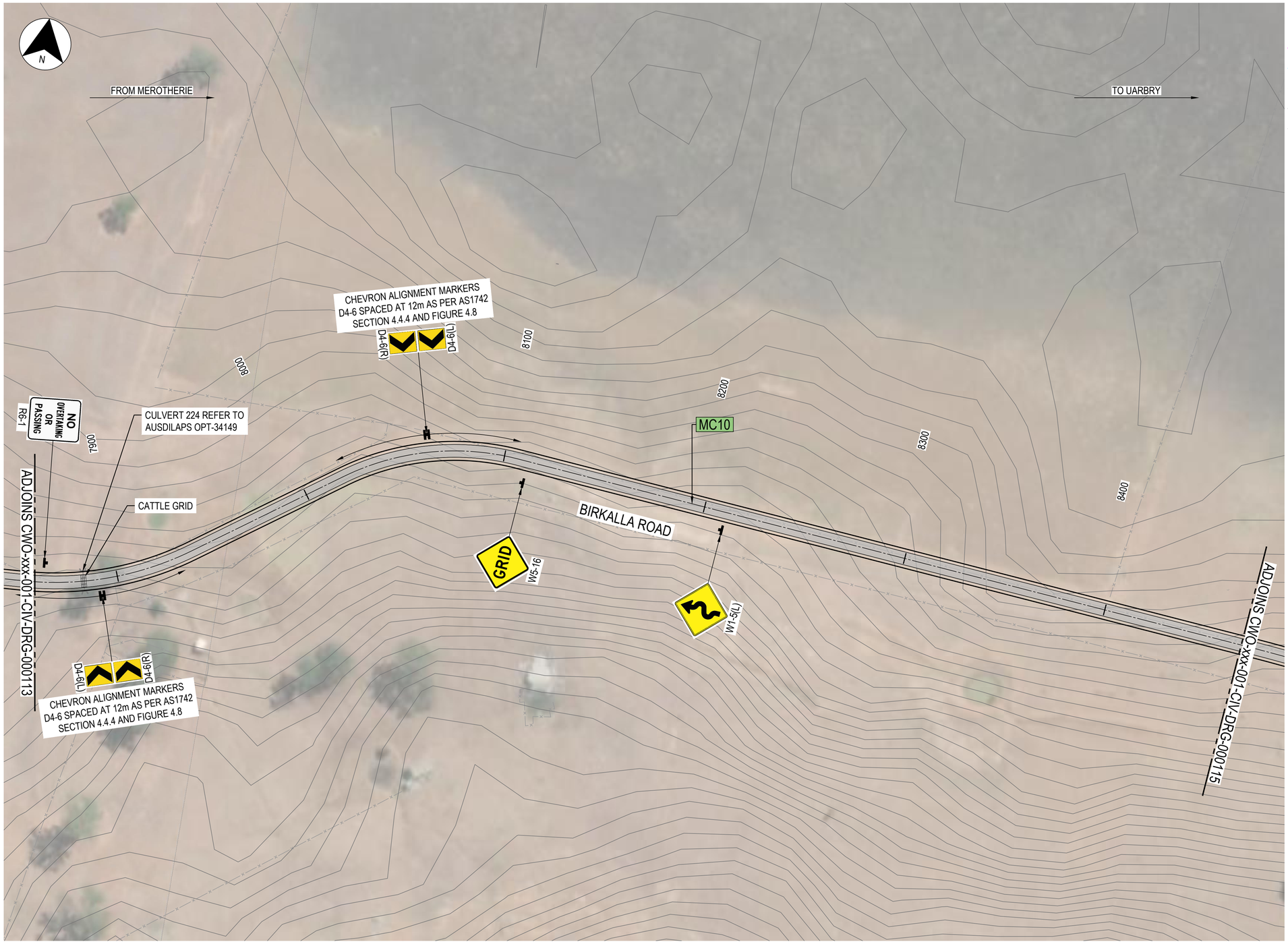
DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.DOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 13 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000113	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000117.dwg
PLOT DATE & TIME: 10/4/2026 4:26:03 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 14 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000114	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000117.dwg
PLOT DATE & TIME: 1/04/2026 4:26:16 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	M.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

BIRKALLA ROAD

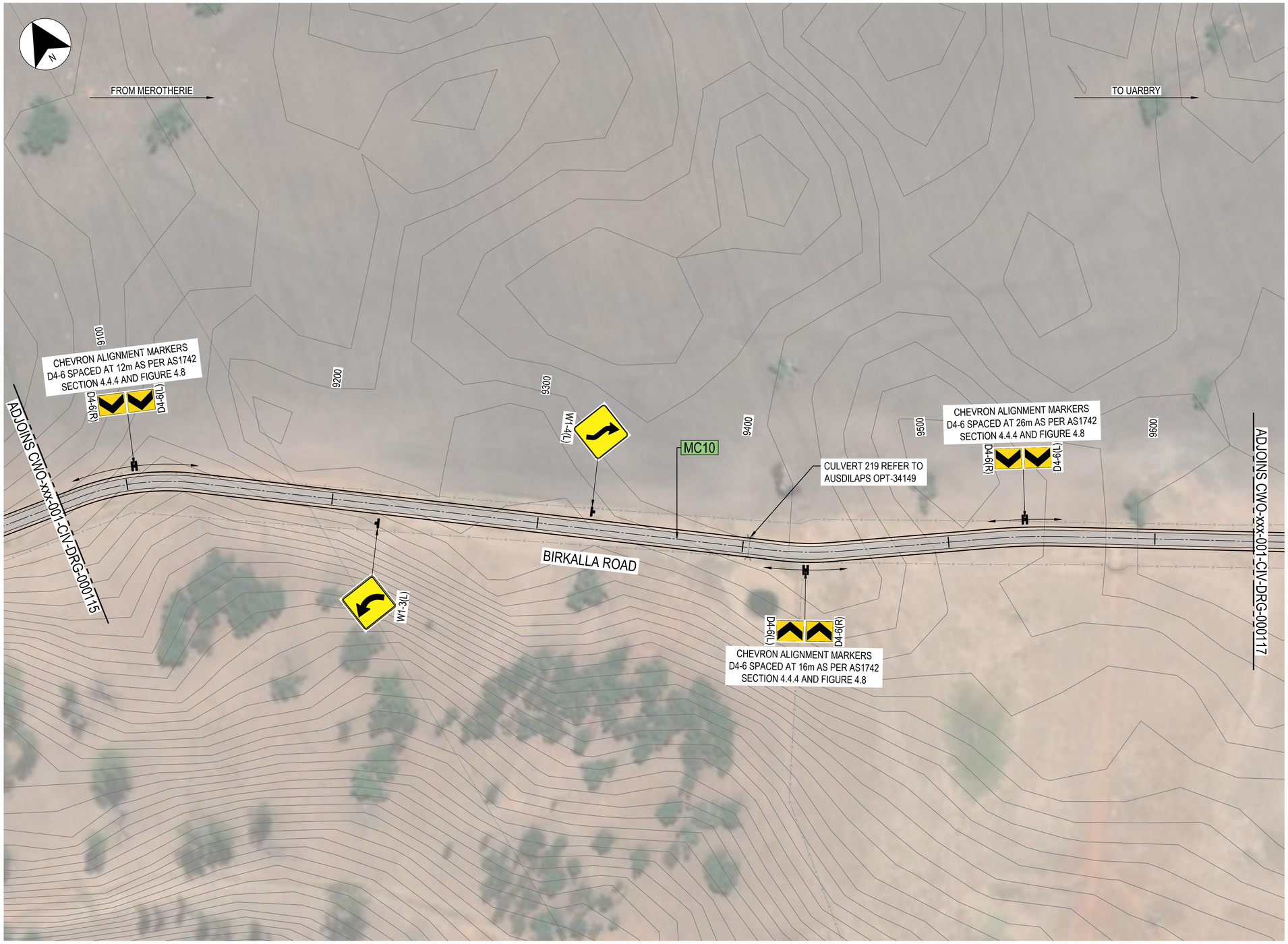
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 15 OF 17	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000115	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-00011F.dwg

PLOT DATE & TIME: 1/04/2026 4:26:29 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT PRELIM ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

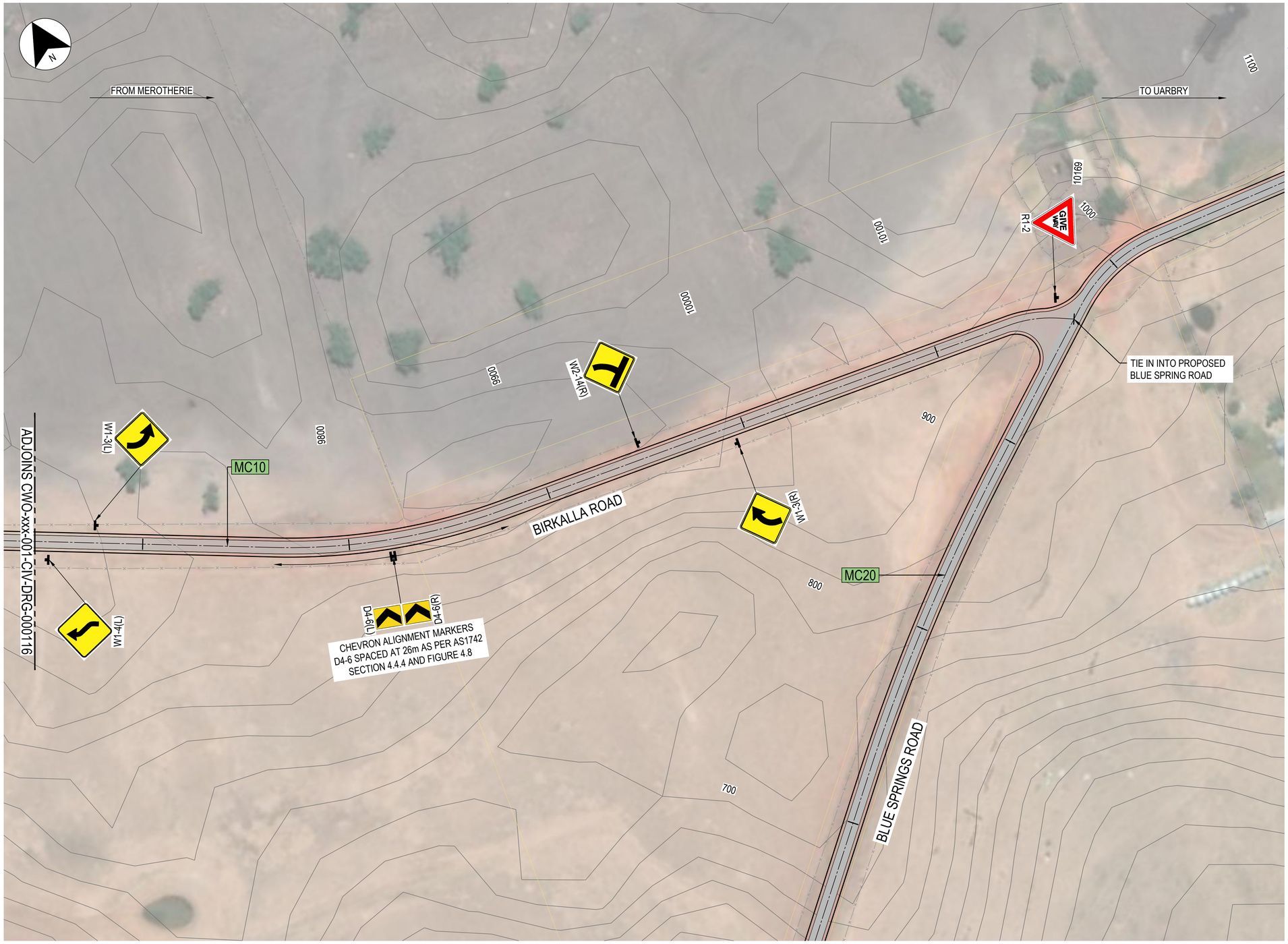
MID-WESTERN REGIONAL COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 16 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-001-CIV-DRG-000116	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000107.dwg
PLOT DATE & TIME: 1/04/2026 4:26:44 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- NEW SIGN FACE (R1-2)
- EXISTING SIGN FACE (R1-2)
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- GATE & GATE NUMBER (XX-XX)
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:
1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	S.THORNE	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BIRKALLA ROAD
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 17 OF 17		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-001-CIV-DRG-000117	A			

FILE NAME: CWO-xxx-001-CIV-DRG-000101-000117.dwg
PLOT DATE & TIME: 1/04/2026 4:26:55 PM

APPENDIX C2 BLUE SPRINGS ROAD (NORTH AND SOUTH) – INCLUDED

Existing Condition

Blue Springs Road is classified as a local road and serves as an access route connecting Golden Highway to Cope Road. It is a bi-directional two-lane road (one lane in each direction) approximately 30km in length (split across Mid-Western Regional Council LGA and the Warrumbungle Shire Council LGA), with a 15km sealed southern section and an 11km unsealed northern section in the Mid-Western Regional Council LGA. It has a default speed limit of 100 km/h in accordance with the New South Wales guidelines for local rural roads.

FIGURE C2- 1 BLUE SPRINGS ROAD (NORTH) (SOURCE: GOOGLE MAPS – MAY 2024

The 5.7km section of Blue Springs Road from Cope Road heading north to the transmission line alignment is referred herein as ‘Blue Springs Road (South)’. The 4km of Blue Springs Road within the Mid-Western Regional Council LGA from the transmission line alignment to the LGA boundary with Warrumbungle Shire Council LGA, is herein referred to as ‘Blue Springs Road (North)’.

The condition of Blue Springs Road (South) is of a high standard for 4.7km of its extent, because of recent road upgrades between Cope Road to Stubbo Solar Farm. The remaining 1km is also sealed asphalt, however the existing road width ranges from 5.9m to 6.3m in total (i.e., including both lanes). A typical section of the non-upgraded and upgraded sections of Blue Springs Road (South) is shown in the figure below.

FIGURE C2- 2 TYPICAL SECTION OF BLUE SPRINGS ROAD (SOUTH) NON-UPGRADED (LEFT) AND UPGRADED SECTIONS (RIGHT) (SOURCE: GOOGLE MAPS – MAY 2024)

Location

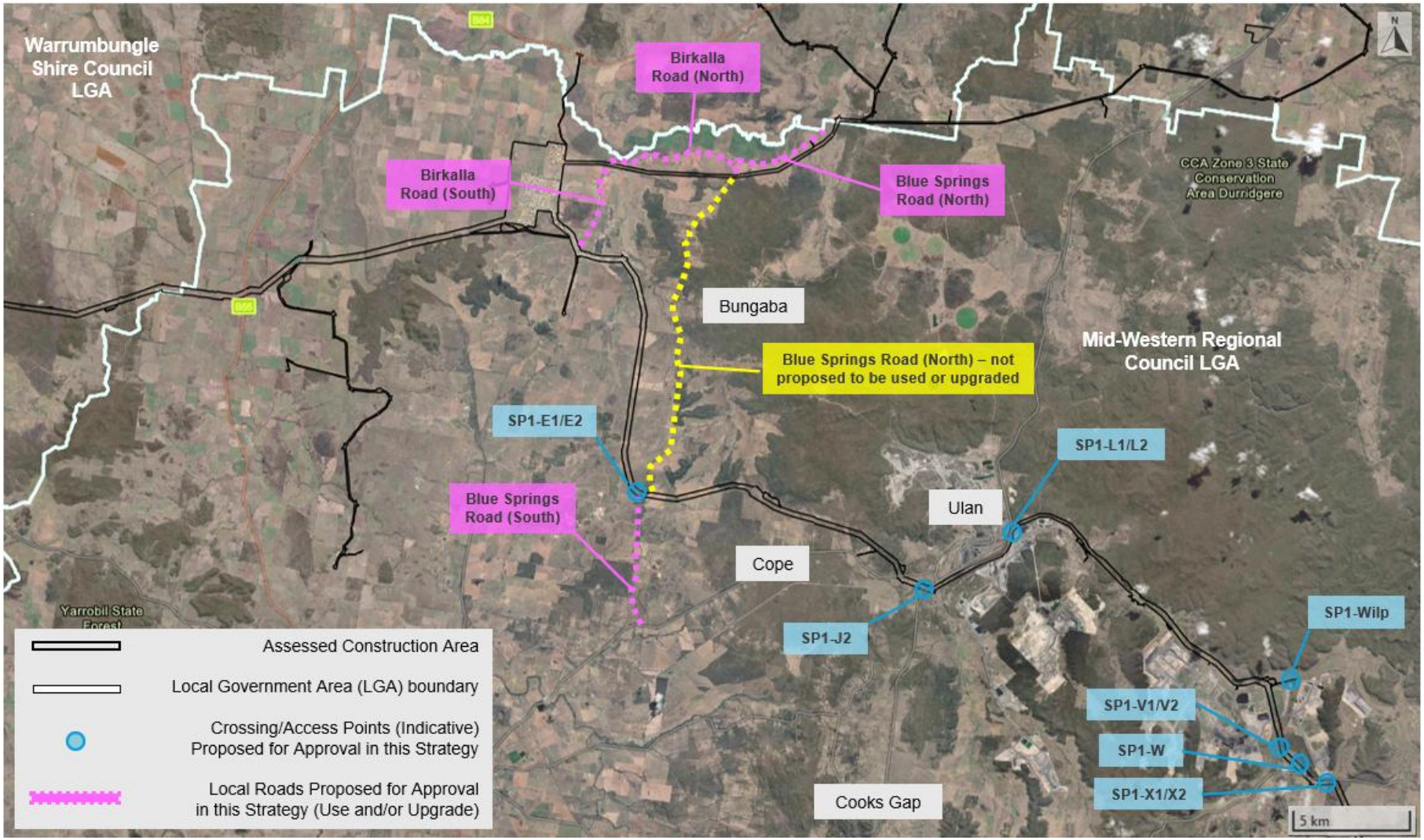


FIGURE C2- 3 LOCATION OF THE TRANSPORT STRATEGY CONSTRUCTION ROUTE ON BLUE SPRINGS ROAD (NORTH AND SOUTH)

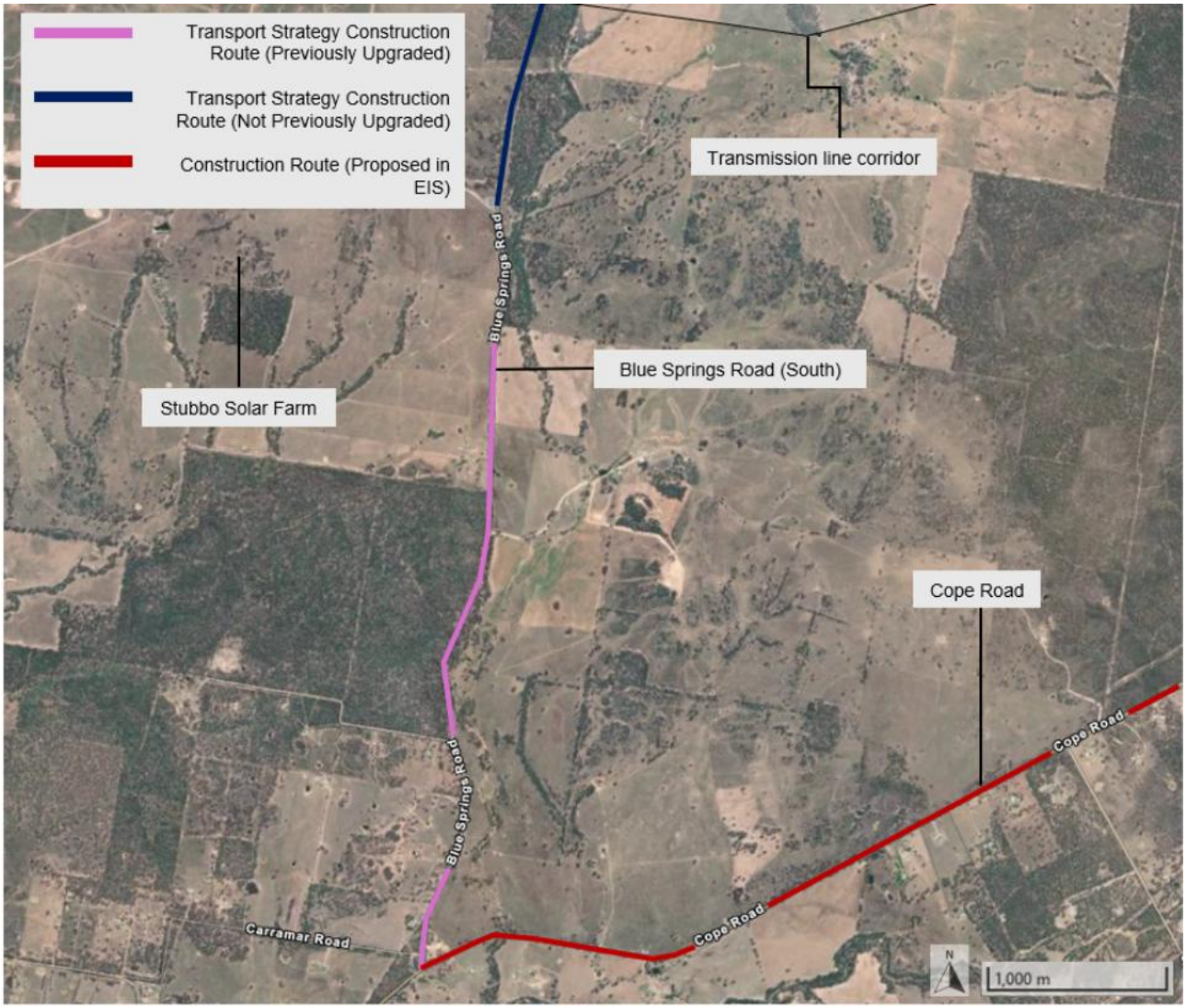


FIGURE C2- 4 UPGRADED AND NON-UPGRADED SECTIONS OF BLUE SPRINGS ROAD (SOUTH)

FIGURE C2- 5 LOCATION OF BLUE SPRINGS ROAD (SOUTH)

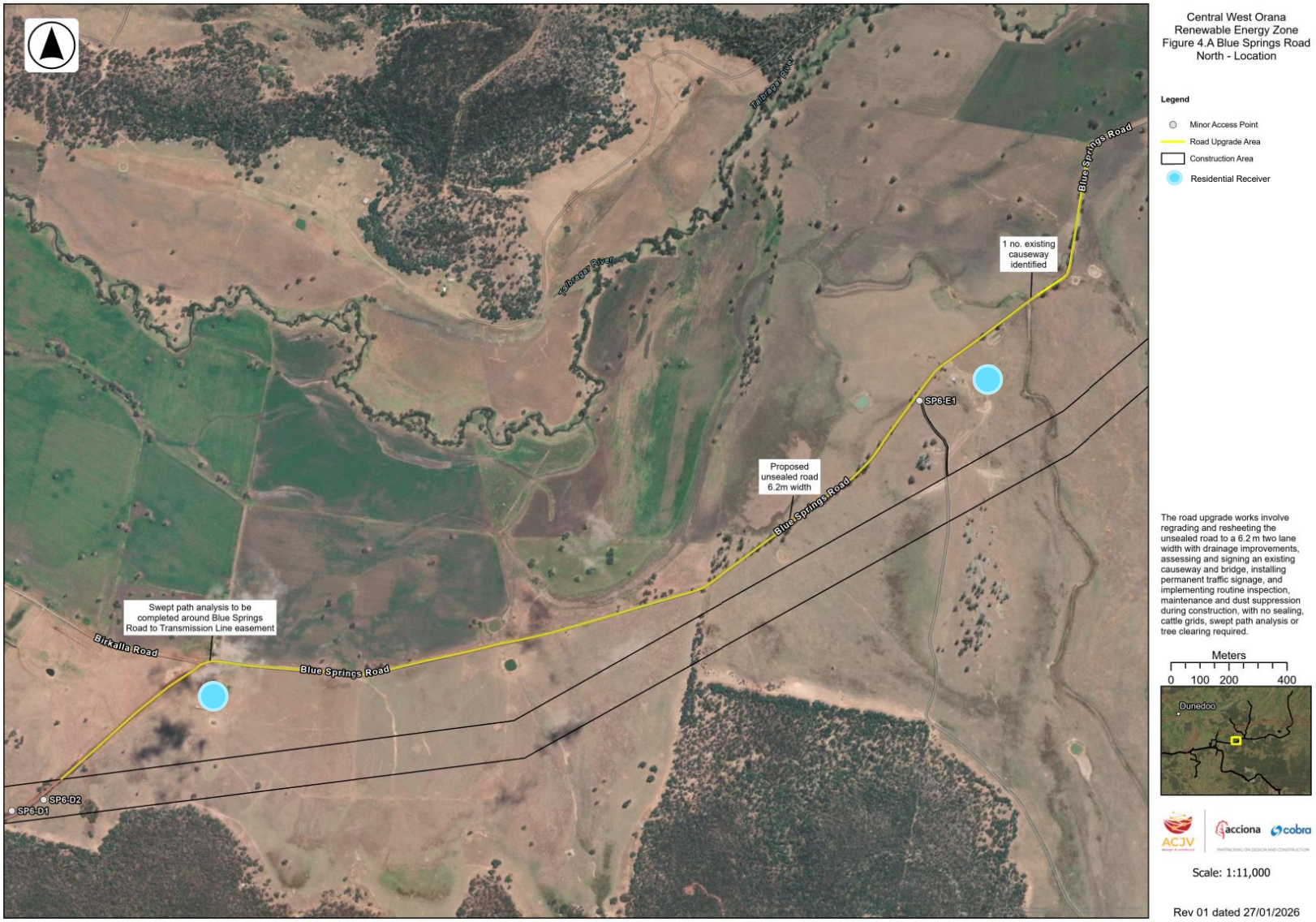


FIGURE C2- 6 LOCATION OF BLUE SPRINGS ROAD (NORTH)

Description

Further detail regarding the upgrade and use of Blue Springs Road by construction-related HVs is provided in the table below.

TABLE C2- 1 BLUE SPRINGS ROAD UPGRADE AND USE

Road	Blue Springs Road (North and South)
Treatment **MCoA B31(a)**	The Project proposes to upgrade the non-upgraded section of Blue Springs Road (South) (approximately 1km), as well as the 4.5km of Blue Springs Road (North) within the Mid-Western Regional Council LGA. The following upgrades are proposed to improve safety outcomes for the use of Blue Springs Road (North and South, unless noted otherwise): Blue Springs Road North: • Regrade / re-sheet unsealed road to 7.2m width (2 x 3.1m lane plus 2 x 0.5m shoulder) • No proposed seal of road on Blue Springs Road North • Culverts widened to suit formation width • Causeway condition to be assessed and replaced / widened as required in agreement with Council • Road safety audit to be undertaken by a third-party auditor after the upgrade is completed • Permanent traffic signage to be installed (speed signs, crest, narrow road for causeways, bend arrow, driveways) • Reshape table drains as required to suit regrade / re-sheet unsealed road • Weekly road inspection and road maintenance as required during construction • Water cart to be utilised for dust suppression during construction Blue Springs Road South: • Pavement widening, shoulders and drainage to match the profile of the section previously upgraded, 9.2m wide pavement formation and 7.2m seal width. • Culverts widened to suit formation width • Delineation (line marking and guideposts) and signage • Road safety audit to be undertaken by a third-party auditor after the upgrade is completed • Weekly road inspection and road maintenance as required during construction All works will occur in previously disturbed areas.
Amenity impacts **MCoA B31(a)**	The proposed treatment is consistent with standard Council maintenance in infrastructure works. Potential amenity impacts during installation of these treatments, such as noise, vibration and air quality, are expected to be minor and of short duration. Moreover, the outcome of these treatments is a substantial road safety improvement for the local community during, and after, construction related use of these roads, leaving a high residual positive amenity impact for the community. Refer to the section below (Assessment of Potential Impacts Outside of the EIS Construction Area) for further assessment of potential impacts to amenity. Refer to the 'Schedule MCoA B31(e)' section of this table for anticipated duration of these impacts.
Design criteria **MCoA B31(b)**	There are no applicable Austroads design criteria for the unsealed sections, however the design will be reviewed by the future asset owner (either Council or TfNSW) and be completed in accordance with these standards as applicable. This notwithstanding, providing a road width of two lanes of 3.1m each with shoulders is consistent with Austroads Guide to Road Design (as amended by TfNSW supplements), for single carriageway rural road widths.
Strategic concept design **MCoA B31(c)**	Refer standard design drawings below. Further design will continue outside the scope of this Strategy through a separate process for review and approval with Council.

Assessment of potential impacts MCoA B31 (d)	Refer section below.
Schedule MCoA B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA B31(h)	Permanent.

Summary of Existing EIS Assessment and Outcomes

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the proposed road treatments.

TABLE C2- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
Study Area and Existing Environment The land use study area the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the Project). This study area is also consistent with the agriculture study area.	Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.2.1 of the EIS (Chapter 8 (Agriculture) Figure 7-1 of the EIS (Chapter 7 (Land Use and Property) Figure 7-2 of the EIS (Chapter 7 (Land Use and Property) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))
Relevant Environmental Risks • Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements	
Assessment and Outcomes Summary The EIS assessed that the Project would require the use of land (including land currently used for agricultural purposes) temporarily for construction and permanently for operation (where permanent infrastructure is to be located). The residual risk rating for this impact was noted as 'low' for effects on access to properties in the EIS. For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of the proposed road treatment, it can be reasonably concluded that their actual impacts would be much lower.	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.4 of the EIS (Chapter 8 (Agriculture))
Landscape Character and Visual Amenity	
Study Area and Existing Environment The EIS study area comprised a four-kilometre-wide corridor centred on the construction area. This study area extent was selected on the basis it included all areas where there is the potential for landscape character and visual impacts from the Project to be experienced. Blue Springs Road North traverses the following landscape character zones: • URH-01 Narragamba to Blue Springs undulating rural hills • FH-04 Barneys Reef forested hills • RV-03 Talbragar River rural valley FH-04 and RV-04 both have low landscape sensitivities and URH-01 has a moderate landscape sensitivity. FH-04 has a moderate landscape sensitivity and comprises historical mining activities, existing transmission lines and forested areas.	Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Relevant Environmental Risks • Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), [and] construction traffic...	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that construction of the Project would result in temporary changes to the landscape character and visual amenity of the study area, which would impact residents, tourists, and road users. It also noted that construction of the Project would potentially result in landscape character and visual impacts as a result of ground disturbance, vegetation clearance, the use of large-scale equipment	Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)

EIS Assessment and Outcomes Summary	EIS Assessment References
and supporting infrastructure, the establishment and use of workforce accommodation camps and night-time lighting. The EIS assessed that the magnitude of the Project's change to these landscape characters FH-04 ranges between moderate to high during daytime construction. Given the minor and temporal nature of proposed road treatment works, it can be reasonably concluded that their actual impacts would be much lower.	
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project. • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)). • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations. • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based. Blue Springs Road (North) and Blue Springs Road (South) were partially assessed within the EIS. Where Blue Springs Road (North) traversed the EIS boundary, native vegetation was identified as PCT281 Rough-barked Apple - Red Gum - Yellow Box woodland and PCT 0 miscellaneous ecosytem. The BDAR maps habitat (assumed presence) for one threatened fauna species – Squirrel Glider - within and adjacent to the road reserve at the transmission line crossing point. One threatened flora species was assumed present, Tarengo Leek Orchid (*Prasophyllum petilum*). Where Blue Springs Road (South) traversed the EIS boundary, native vegetation was identified as PCT 277 Blakely's Red Gum – Yellow Box grassy tall woodland and PCT 0 miscellaneous ecosystem. Three candidate fauna species, Striped Legless Lizard (*Delma impar*), Squirrel Glider (*Petaurus norfolcensis*) and Eastern Pygmy-possum *(Cercartetus nanus)* were assumed present at this location. No candidate flora species were identified in the EIS.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The table below summarises the PCT's that have been identified by the BDAR as being impacted by the proposed road treatment.	Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity))

PCT	Act	Listed Status	Threat Status	Associated TEC
PCT 281 Rough-barked Apple - Red Gum - Yellow Box woodland	BC Act (NSW)	Listed	Critically Endangered	Yes - White Box-Yellow-Box-Blakely's Red Gum Grassy Woodland and

EIS Assessment and Outcomes Summary					EIS Assessment References
				Derived Native Grasslar (BC Act and EPBC Act)	Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
	EPBC Act (Cth)	Listed	Critically Endangered		
PCT 0 Miscellaneous Ecosystem	N/A	Not listed	N/A	No	
PCT 277 Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	BC Act (NSW)	Listed	Critically Endangered	Yes - White Box-Yellow-Box-Blakely's Red Gum Grassy Woodland and Derived Native Grasslar (BC Act and EPBC Act)	
	EPBC Act (Cth)	Listed	Critically Endangered		

PCT 281 and PCT 277 are part of the critically endangered threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed under both the BC Act and EPBC Act. Both TEC's are also identified as a Serious and Irreversible Impact (SAII) entity.

There would be no tree removal and no planned vegetation clearing as works will be entirely within the previously disturbed road corridor. Any threatened species or threatened ecological communities that are unexpectedly encountered during upgrade works, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented.

Aboriginal Heritage and Non-Aboriginal Heritage

Study Area and Existing Environment

The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The area of proposed road treatment is partially located within the study area.

Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))

Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)

Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)

Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)

Relevant Environmental Risks

- Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value
- Impacts on unknown/unlisted heritage items and areas of archaeological potential

Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary There are no heritage items within close proximity to where Blue Springs Road (North) traverses the EIS footprint, with the closest heritage item located 530m east. Blue Springs Road (South) traverses the Copes Creek high density zone. There are a number of other heritage items including SNI-AS13 and SNI-AS12, located 150m and 215m east, respectively. Any potential heritage items or sites are encountered during upgrade works, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Noise and Vibration	
Study Area and Existing Environment The noise and vibration study area in the EIS consisted of the construction area of the Project and areas within three kilometres of the construction area. The nearest sensitive receiver to the section of Blue Springs Road assessed in the EIS/ Amendment Report is located approximately 50 metres away (residential receiver 929).	Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration)) Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration)) Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
Relevant Environmental Risks • Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary While distance from the nearest residential receiver to Blue Springs Road is approximately 50 metres, the results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Blue Springs Road is a partially sealed and partially unsealed two-lane local road in the Mid-Western Regional Council LGA with a speed limit of 100km per hour. It extends for around 30 kilometres connecting the Golden Highway to Cope Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B: • The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road • All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B The EIS notes that all residual risk ratings for traffic and transport are 'low'. Due to the minor nature of the proposed road treatment, it is anticipated that the actual impact would be much lower. Additionally, the purpose of the road upgrades is to facilitate safe and efficient access and egress for Project related construction traffic required to access the transmission line easement whilst minimising impacts to public motorists. The proposed road treatments are necessary for the road upgrade designs to meet AustRoads Guide to Road Design requirements and would not alter the traffic impacts substantially compared to the Project described and assessed in the EIS.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Waste Management	
Study Area and Existing Environment Existing waste sources in the Mid-Western Regional LGA primarily includes waste from agricultural, mining and forestry operations and domestic waste. A number of waste management and waste transfer facilities operated by local councils are located near the Project and accept a wide range of wastes, including construction and demolition waste, domestic waste and recyclable materials.	Section 18.3 of Chapter 18 of the EIS (Waste Management)
Relevant Environmental Risks • Impacts on local and regional waste management facilities due to increased demand from overall Project generated construction wastes	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Like most other environmental aspects, there is no singular assessment for road upgrades. The most relevant construction waste stream volumes for the Project are included below. It is considered that the proposed road treatment would represent a very minor portion of these indicative volumes. Possible impacts during construction as a result of the improper management of construction waste includes those on local and regional waste management facilities. The EIS identified that this could be due to increased demand from overall project generated construction wastes. Other impacts, if not managed appropriately, could include dust, odour, erosion and sedimentation, human health risks, and mud tracking. The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the proposed road treatment, it is anticipated that the actual impact would be much lower.	Chapter 18 of the EIS (Waste Management) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Hydrology, Flooding and Water Quality	

EIS Assessment and Outcomes Summary	EIS Assessment References
Study Area and Existing Environment The hydrology, flooding and water quality study area consists of the Macquarie River and Hunter River catchments, and sub-catchments. A catchment is the area that drains directly to a stream or body of water and includes areas upstream and downstream of the project. The Project is located across the Macquarie River and Hunter River catchments. Numerous natural watercourses intersect the study area, including perennial and ephemeral watercourses and unnamed drainage lines. A number of constructed dams are also located within the study area, including Burrendong Dam and Windamere Dam, to provide water supply for towns, industry, irrigators, stock and domestic users, as well as flood mitigation and recreation.	Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)
Relevant Environmental Risks • Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills • Impact to regional or local water supply due to construction water demands	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The proposed road treatment is anticipated to cause only minor disturbance to the local soil profile during road regrading and reshaping of table drains. The road treatment is not proposed to interact with any watercourses and the risk to water quality impacts is considered very low. The potential for the proposed treatment to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project. All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of proposed road treatments, it is anticipated that the actual impact would be negligible.	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Climate Change and Greenhouse Gas	
Relevant Environmental Risks Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during construction of the Project are estimated to be a total of 611,607 tCO2-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the Project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2 emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the proposed road treatments, it is anticipated that the actual impact would be negligible.	Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the proposed road treatments, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the EIS Construction Area

Where the access point has extended beyond the approved construction area, it is required to be assessed in accordance with MCoA (NSW) B31(d). The tables below have been prepared to provide the outcomes of these additional assessments for Blue Springs (North) and Blue Springs (South), respectively.

TABLE C2- 3 LOCAL ROAD ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION BOUNDARY (BLUE SPRINGS ROAD NORTH)

Impacts
Biodiversity
A supplementary assessment was conducted for Blue Springs Road (North) (ECE, 2026), refer to Appendix F. The proposed footprint of the Blue Springs Road, north road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for the BAM Report (ECE, 2026) prepared to assess biodiversity values and impacts associated with the road verge that falls outside of the approved Project disturbance footprint. This is the road design footprint which is subject to the treatment outlined in Table C2-1. The proposed road upgrade area for Blue Springs Road (North) is approximately 10.25ha and is located primarily within road reserve. The supplementary assessment identified one PCT within the Blue Springs Road (North) proposed upgrade area: • 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. PCT 281 is associated with the following threatened ecological communities (TEC): • 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 (WBYB) - critically endangered ecological community (BC Act), and • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB) - critically endangered ecological community (EPBC Act). White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) is at risk of serious and irreversible impact. Vegetation within the Subject Land has been confirmed as aligning with the PCT 's and vegetation zones identified within the approved BDAR (refer to biodiversity figures in Appendix E). The area of PCT 281 within the proposed footprint of Blue Springs Road (North) is 1.28ha. This area is the maximum predicted impact and impacts will be reduced following further design development as well as on-site micro siting. The supplementary assessment determined no unexpected finds or species/ entities outside of what was identified in the approved BDAR were identified in the Subject Land. The outcomes of this assessment do not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP). A total of 26 threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The supplementary assessment of Blue Springs Road (North) assumed the presence of the following ten candidate species and identified the potential impacts associated with the design footprint: • Ausfeld's Wattle (*Acacia ausfeldii*) (0.51ha) • Cotoneaster Pomaderris (*Pomaderris cotoneaster*) (0.51ha) • Tarengo Leek Orchid (Prasophyllum petilum) (0.51ha) • Pink tailed legless lizard (*Aprasia parapulchella*) (1.28ha) • Glossy Black - Cockatoo (breeding) (*Calyptorhynchus lathami*) (0.13ha) • Little Eagle (Breeding) – (*Hieraaetus morphnoides*) (0.49ha) • Eastern Pygmy -possum (*Cercartetus nanus*) (0.51ha) • Large-eared Pied Bat (Breeding) (*Chalinolobus dwyeri*) (0.51ha) • Squirrel Glider (*Petaurus norfolcensis*) (0.16ha) • Eastern Cave Bat (*Vespadelus troughtoni*) (0.51ha) The following entities at risk of a serious and irreversible impact were identified at Blue Springs Road (North): • Large-eared Pied Bat – assumed present • Eastern Cave Bat – assumed present • White Box Yellow Box Blakely's Red Gum Woodland (PCT 281)

Impacts
The above mentioned maximum predicted impact to the habitat for these threatened species was calculated by overlaying the geospatial mapping of the supplementary assessment Assessment Area with the proposed disturbance footprint. The additional impact to the habitat for these threatened species will be accommodated within the approved clearing limits for the Project for these species and no increase to clearing limits will be required as a result of the proposed refinement. Clearing at the proposed refinement location will be minimised to the extent practicable in accordance with the SAII obligations of MCoA B26(d)(xi). No tree clearing is required to facilitate the road upgrade.
Aboriginal Heritage and Non-Aboriginal Heritage
A Code of Due Diligence Assessment (KNC, 2026) was conducted to assess impacts to Aboriginal and non-Aboriginal heritage, refer to Appendix F. A previously recorded Aboriginal site SNI-AS45 (Artefact scatter) is located adjacent to the road upgrade area and outside of the project construction boundary assessed within the EIS (refer to Figure 4B in Appendix E). The site was revisited and confirmed in a supplementary assessment (KNC, 2025) not to be an Aboriginal archaeological site. SNI-AS45 is therefore not considered a constraint to the proposed treatment works. No avoidance or mitigation is required.
Noise and Vibration
The nearest sensitive receiver (residential – ID 979) is located approximately 50 metres away from Blue Springs Road. At this distance, construction noise would likely exceed the identified Noise Management Level (NML) during standard work hours and out of hours. The construction noise assessment considers a scenario where all plant and equipment would be operating concurrently, due to the nature of the works this is considered highly unlikely to occur and that actual noise levels would be much lower. Vibration impacts on both the construction and use of this location are considered negligible. Noise and vibration impacts are expected to be temporary and of short duration. Noise and vibration associated with the proposed treatment works will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002).
Soil and Water
The proposed treatment works will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.
Air Quality
The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. While the location of the road upgrade area (of which only minimal dust of a temporary duration would be generated during construction) is located less than 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible due to the temporary and short duration of the proposed treatment works. Air quality impacts associated with the proposed treatment works will be managed in accordance with the mitigation measures outlined in the EIS.

TABLE C2- 3 LOCAL ROAD ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION BOUNDARY (BLUE SPRINGS ROAD SOUTH)

Impacts
Biodiversity
A Supplementary Assessment was conducted for Blue Springs Road (South) (ECE, 2025), refer to Appendix F. The proposed footprint of the Blue Springs Road, south road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for the BAM Report prepared to assess biodiversity values associated with the road verge that falls outside of the approved Project disturbance footprint. The Subject Land for Blue Springs Road (South) is approximately 2.95ha and is located across Lot 79/ DP750765, Lot 5/ DP502956, Lot 74/ DP750765, Lot 24/ DP502960 and road reserve. The Supplementary Assessment identified one PCT immediately adjacent to the Subject Land: • PCT 277: Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion PCT 277 is associated with the following threatened ecological communities: • 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

Impacts
South Western Slopes, South East Corner and Riverina Bioregions (WBYB) - critically endangered ecological community (BC Act), and • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB) - critically endangered ecological community (EPBC Act) White Box Yellow Box Blakely's Red Gum Woodland (PCT 277) is at risk of serious and irreversible impact (SAII). Vegetation within the Subject Land has been confirmed as aligning with the PCT 's and vegetation zones identified within the approved BDAR (refer to biodiversity figures in Appendix E). The area of PCT277 within the proposed footprint of Blue Springs Road (South) is 0.12ha. This area is the maximum predicted impact and impacts will be reduced following further design development as well as on-site micrositing. The supplementary assessment determined no unexpected finds or species/ entities outside of what was identified in the approved BDAR were identified in the Subject Land. The outcomes of this assessment do not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP). A total of 28 threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The supplementary assessment of Blue Springs Road (South) assumed the presence of the following 12 candidate species: • Ausfeld's Wattle (*Acacia ausfeldii*) (0.12ha) • *Euphrasia arguta* (0.12ha) • Tarengo Leek Orchid (*Prasophyllum petilum*) (0.12ha) • Small Purple Pea (*Swainsona recta*) (0.12ha) • Silky Swainson-pea (*Swainsona sericea*) (0.12ha) • Pink tailed legless lizard (*Aprasia parapulchella*) (0.12ha) • Striped Legless Lizard (*Delma impar*) (0.12ha) • Key's Matchstick Grasshopper (*Keyacris scurra*) (0.12ha) • Eastern Pygmy -possum (*Cercartetus nanus*) (0.12ha) • Large-eared Pied Bat (Breeding) (*Chalinolobus dwyeri*) (0.12ha) • Squirrel Glider (*Petaurus norfolcensis*) (0.12ha) • Koala (*Phascolarctos cinereus*) (0.12ha) The following entities at risk of a serious and irreversible impact were identified at Blue Springs Road (South): • Large-eared Pied Bat – assumed present • *Euphrasia arguta* – assumed present • White Box Yellow Box Blakely's Red Gum Woodland (PCT 277) - recorded The above mentioned maximum predicted impact to the habitat for these threatened species was calculated by overlaying the geospatial mapping of the supplementary assessment Assessment Area with the proposed disturbance footprint. The additional impact to the habitat for these threatened species will be accommodated within the approved clearing limits for the Project for these species and no increase to clearing limits will be required as a result of the proposed refinement. Clearing at the proposed refinement location will be minimised to the extent practicable in accordance with the SAII obligations of MCoA B26(d)(xi). No tree clearing is required to facilitate the road upgrade.
Aboriginal Heritage and Non-Aboriginal Heritage
A Code of Due Diligence Assessment (KNC, 2026) was conducted to assess impacts to Aboriginal and non-Aboriginal heritage, refer to Appendix F. There are no Aboriginal or Non-Aboriginal Heritage sites nearby to the proposed road upgrade area (refer to Figure 1B in Appendix E). The nearest AHIMS site is located more than 200 metres away (ID 36-3-0670).
Noise and Vibration
The nearest sensitive receiver (residential – ID 373) is located approximately 670 metres east of Blue Springs Road (South). At this distance, construction noise would not exceed the identified Noise Management Level (NML) and vibration impacts on both the construction and use of this location are considered negligible. Noise and vibration impacts are expected to be temporary and of short duration.

Impacts
Noise and vibration associated with the proposed treatment works will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002).
Soil and Water
The proposed treatment works will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.
Air Quality
The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the location of the road upgrade area (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Planning Approval are considered appropriate for the management of all access points described in this Strategy. Where specific mitigations are identified, they have been detailed in the relevant sections below.

TABLE C2- 4 LOCAL ROAD MITIGATION MEASURES (BLUE SPRINGS ROAD NORTH AND SOUTH)

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all local road upgrades described in this document. The following specific mitigation measures will be implemented to manage biodiversity impacts associated with the local road upgrades: • Local road upgrades will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • The extent of clearing of native vegetation within the upgrade disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a) • The maximum clearing of 1.28ha of PCT 281 will be tracked in the Project's clearing register for Blue Springs Road (North) • The maximum clearing of 0.12ha of PCT 277 will be tracked in the Project's clearing register for Blue Springs Road (South) • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during upgrade works, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage
Whilst no heritage items or sites have been identified within the construction area, the following mitigation measures will be adopted throughout upgrade works:

Mitigation Measures
• If any potential heritage items or sites are encountered during upgrade works, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Noise and Vibration
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Surface Water and Hydrology
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Erosion and Sedimentation
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site road upgrades anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades: • Where safe to do so, exposed and disturbed surfaces at the works location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

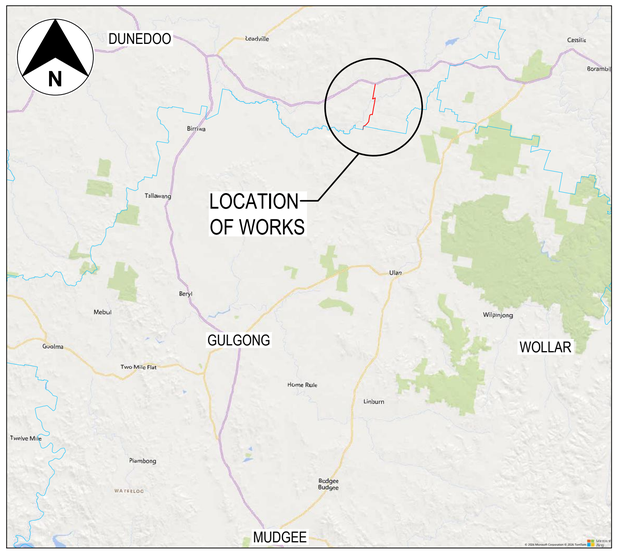
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format has been included below and is supported by the figure depicting the location of the crossing points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy. Refer to the following design drawings.

CENTRAL WEST ORANA
RENEWABLE ENERGY ZONE
ROAD IMPROVEMENTS - BLUE SPRINGS ROAD NORTH
STRATEGIC DESIGN DOCUMENTATION



LOCALITY PLAN
NOT TO SCALE

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 (GDA2020) | HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
COVER SHEET

DRAWING SET No:	PART:	SHEET: 1 OF 1	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-006-CIV-DRG-000001	A			

FILE NAME: CWO-xxx-006-CIV-DRG-000001.dwg
PLOT DATE & TIME: 31/03/2026 4:30:37 PM

DRAWING INDEX

DRAWING No.	SHEET DETAILS	No. OF SHEETS
CWO-XXX-006-CIV-DRG-000001	COVER SHEET	1 OF 1
CWO-XXX-006-CIV-DRG-000002	DRAWING INDEX	1 OF 1
CWO-XXX-006-CIV-DRG-000005	GENERAL NOTES	1 OF 1
CWO-XXX-006-CIV-DRG-000011	TYPICAL DETAILS	1 OF 1
CWO-XXX-006-CIV-DRG-000101	GENERAL ARRANGEMENT	1 OF 12
CWO-XXX-006-CIV-DRG-000102	GENERAL ARRANGEMENT	2 OF 12
CWO-XXX-006-CIV-DRG-000103	GENERAL ARRANGEMENT	3 OF 12
CWO-XXX-006-CIV-DRG-000104	GENERAL ARRANGEMENT	4 OF 12
CWO-XXX-006-CIV-DRG-000105	GENERAL ARRANGEMENT	5 OF 12
CWO-XXX-006-CIV-DRG-000106	GENERAL ARRANGEMENT	6 OF 12
CWO-XXX-006-CIV-DRG-000107	GENERAL ARRANGEMENT	7 OF 12
CWO-XXX-006-CIV-DRG-000108	GENERAL ARRANGEMENT	8 OF 12
CWO-XXX-006-CIV-DRG-000109	GENERAL ARRANGEMENT	9 OF 12
CWO-XXX-006-CIV-DRG-000110	GENERAL ARRANGEMENT	10 OF 12
CWO-XXX-006-CIV-DRG-000111	GENERAL ARRANGEMENT	11 OF 12
CWO-XXX-006-CIV-DRG-000112	GENERAL ARRANGEMENT	12 OF 12
CWO-XXX-006-CIV-DRG-000201	LONGITUDINAL SECTION	1 OF 12
CWO-XXX-006-CIV-DRG-000202	LONGITUDINAL SECTION	2 OF 12
CWO-XXX-006-CIV-DRG-000203	LONGITUDINAL SECTION	3 OF 12
CWO-XXX-006-CIV-DRG-000204	LONGITUDINAL SECTION	4 OF 12
CWO-XXX-006-CIV-DRG-000205	LONGITUDINAL SECTION	5 OF 12
CWO-XXX-006-CIV-DRG-000206	LONGITUDINAL SECTION	6 OF 12
CWO-XXX-006-CIV-DRG-000207	LONGITUDINAL SECTION	7 OF 12
CWO-XXX-006-CIV-DRG-000208	LONGITUDINAL SECTION	8 OF 12
CWO-XXX-006-CIV-DRG-000209	LONGITUDINAL SECTION	9 OF 12
CWO-XXX-006-CIV-DRG-000210	LONGITUDINAL SECTION	10 OF 12
CWO-XXX-006-CIV-DRG-000211	LONGITUDINAL SECTION	11 OF 12
CWO-XXX-006-CIV-DRG-000212	LONGITUDINAL SECTION	12 OF 12
CWO-XXX-006-CIV-DRG-000301	CROSS SECTIONS	1 OF ??
CWO-XXX-006-CIV-DRG-000401	CATCHMENT AREA PLAN	1 OF 12
CWO-XXX-006-CIV-DRG-000402	CATCHMENT AREA PLAN	2 OF 12
CWO-XXX-006-CIV-DRG-000403	CATCHMENT AREA PLAN	3 OF 12
CWO-XXX-006-CIV-DRG-000404	CATCHMENT AREA PLAN	4 OF 12
CWO-XXX-006-CIV-DRG-000405	CATCHMENT AREA PLAN	5 OF 12
CWO-XXX-006-CIV-DRG-000406	CATCHMENT AREA PLAN	6 OF 12
CWO-XXX-006-CIV-DRG-000407	CATCHMENT AREA PLAN	7 OF 12
CWO-XXX-006-CIV-DRG-000408	CATCHMENT AREA PLAN	8 OF 12
CWO-XXX-006-CIV-DRG-000409	CATCHMENT AREA PLAN	9 OF 12
CWO-XXX-006-CIV-DRG-000410	CATCHMENT AREA PLAN	10 OF 12
CWO-XXX-006-CIV-DRG-000411	CATCHMENT AREA PLAN	11 OF 12
CWO-XXX-006-CIV-DRG-000412	CATCHMENT AREA PLAN	12 OF 12

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-006-CIV-DRG-000002.dwg

PLOT DATE & TIME: 31/03/2026 4:30:42 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
DRAWING INDEX

DRAWING SET No:	PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000002	REV A	VER	EDMS No.	AMD No.

GENERAL

1. COORDINATES CONTROL IS ON GDA2020.
2. DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND WRITTEN INSTRUCTIONS ISSUED.
3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
4. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUTHORITY STANDARDS AND SPECIFICATIONS.
5. THE DRAWINGS SHALL NOT BE SCALED.
6. DRAWINGS ARE TO BE PRINTED IN COLOUR.
7. ALL PAVEMENT DETAILS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
8. ALL DISTURBED SURFACES SHALL BE REINSTATED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SEEDING AND FERTILISER SHALL BE APPLIED TO ALL GROUND IN THE VICINITY OF THE ACCESS TRACK WHERE THE SURFACE GRASSES HAVE BEEN REMOVED OR BARE PATCHES OF SOIL ARE EVIDENT.
10. SHOULD ANY ABORIGINAL ARTEFACTS BE DISCOVERED THEN THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY.
11. CONTRACTOR TO VERIFY ALL DIMENSIONS, EXISTING LEVELS AND DESIGN SETOUT INFORMATION ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS. WHERE A CONFLICT OR INCONSISTENCY BECOMES APPARENT, THE CONTRACTOR SHALL NOTIFY THE DESIGNER IMMEDIATELY.
12. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE PROJECT TECHNICAL; SPECIFICATIONS FOR THE WORKS AND THE REQUIREMENTS OF ALL RELEVANT CODES OF PRACTICE AND THE REQUIREMENTS OF STATUTORY AUTHORITIES WHERE APPLICABLE.

EARTHWORKS

1. BATTERS TO BE LOCALLY ADJUSTED/FLATTENED AS REQUIRED TO SUIT EXISTING TERRAIN FOR WATER TO DRAIN AWAY FROM ROAD.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-006-CIV-DRG-000005.dwg

PLOT DATE & TIME: 31/03/2026 4:30:47 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

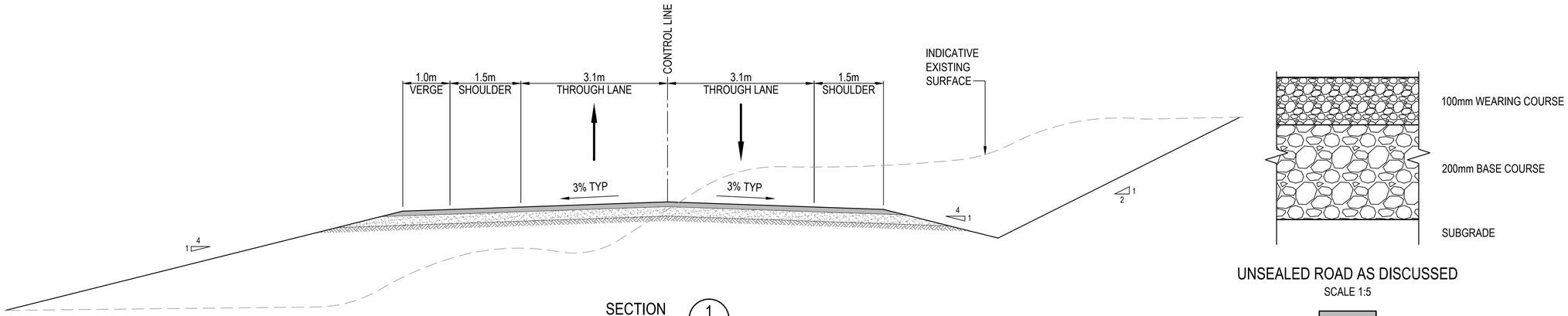
WARRUMBUNGLE SHIRE COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

BLUE SPRINGS ROAD NORTH

GENERAL NOTES

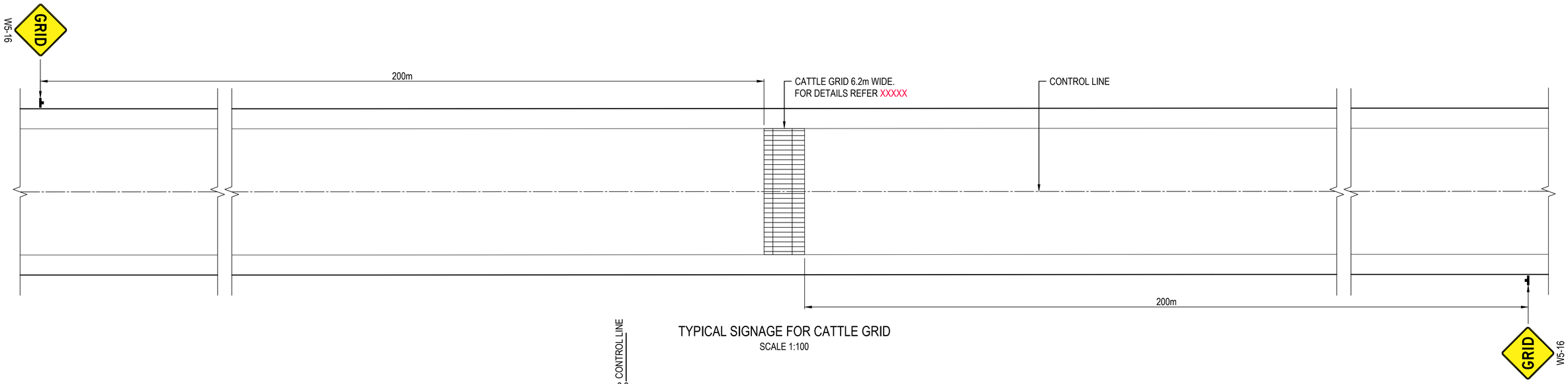
DRAWING SET No:	PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000005	REV A	VER	EDMS No.	AMD No.



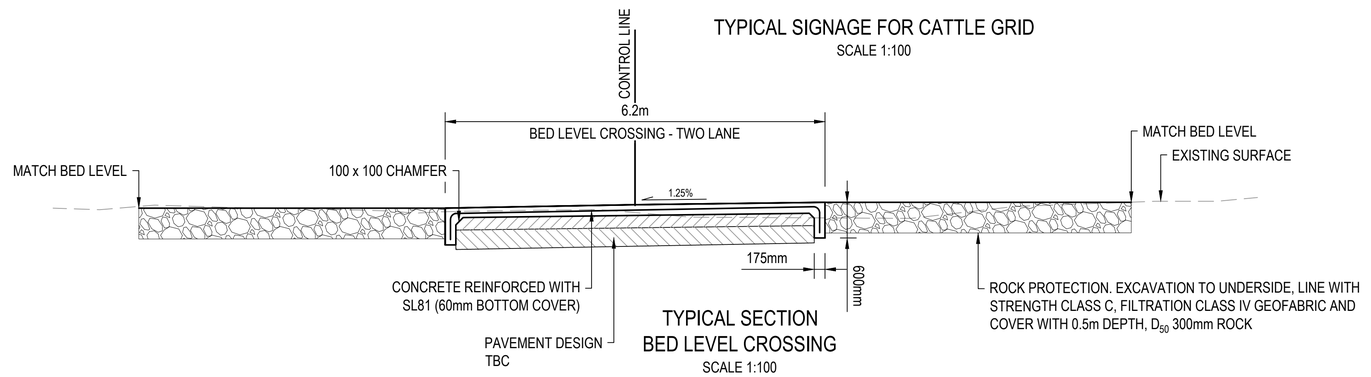
SECTION 1
SCALE 1:50

TYPICAL SECTION WITH NO NARROWING

UNSEALED ROAD AS DISCUSSED
SCALE 1:5



TYPICAL SIGNAGE FOR CATTLE GRID
SCALE 1:100



TYPICAL SECTION
BED LEVEL CROSSING
SCALE 1:100

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: 1:5, 1:50, 1:100

0 0.1 0.2m
0.05 0.025 (1:5 AT A1 ; 1:10 AT A3)
0 1 2m
0.5 0.25 (1:50 AT A1 ; 1:100 AT A3)
0 1 2 3 4 5m
1 0.5 (1:100 AT A1 ; 1:200 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

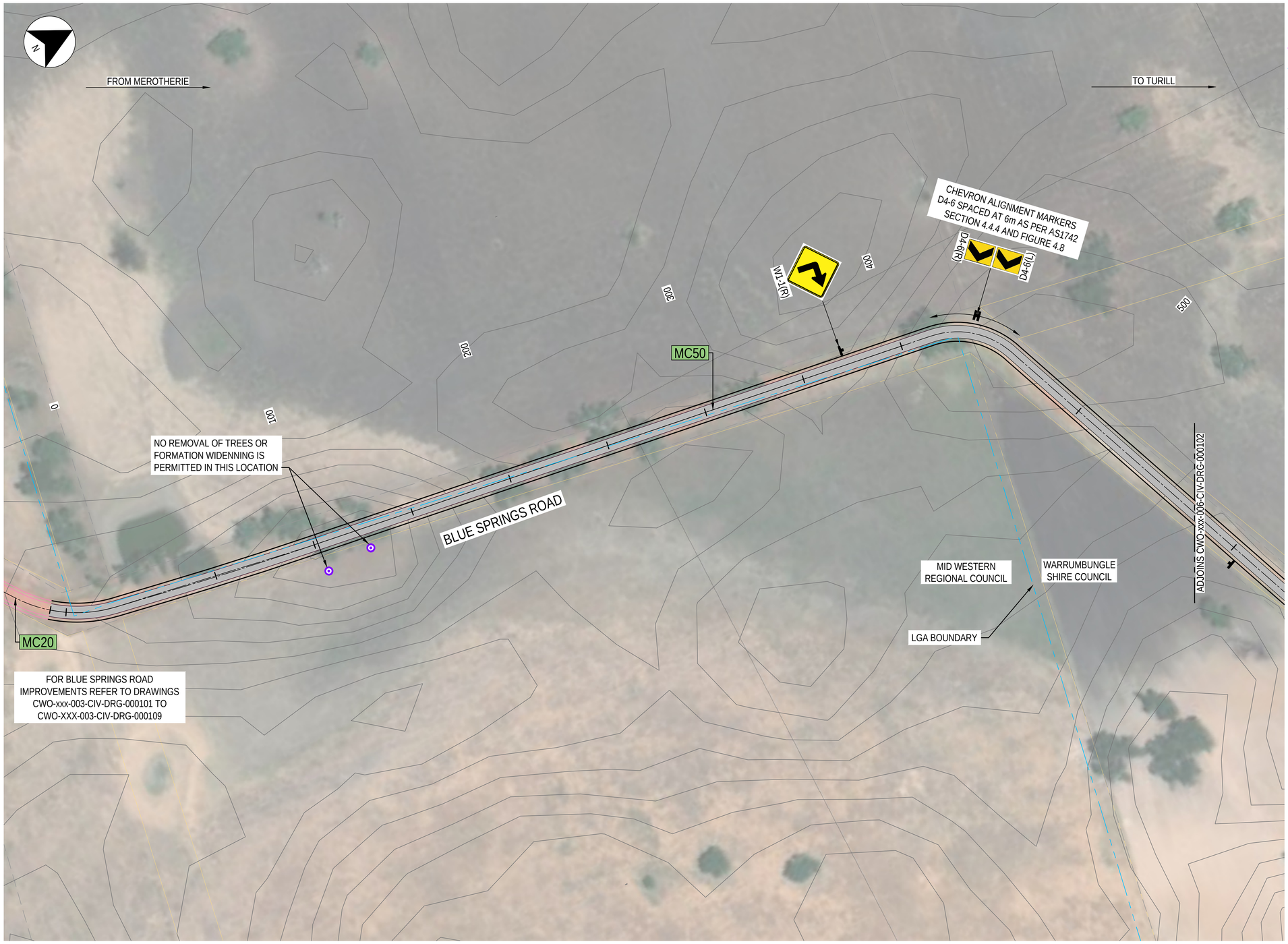
DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
TYPICAL DETAILS

DRAWING SET No:	PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000011	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000011.dwg
PLOT DATE & TIME: 31/03/2026 4:30:52 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

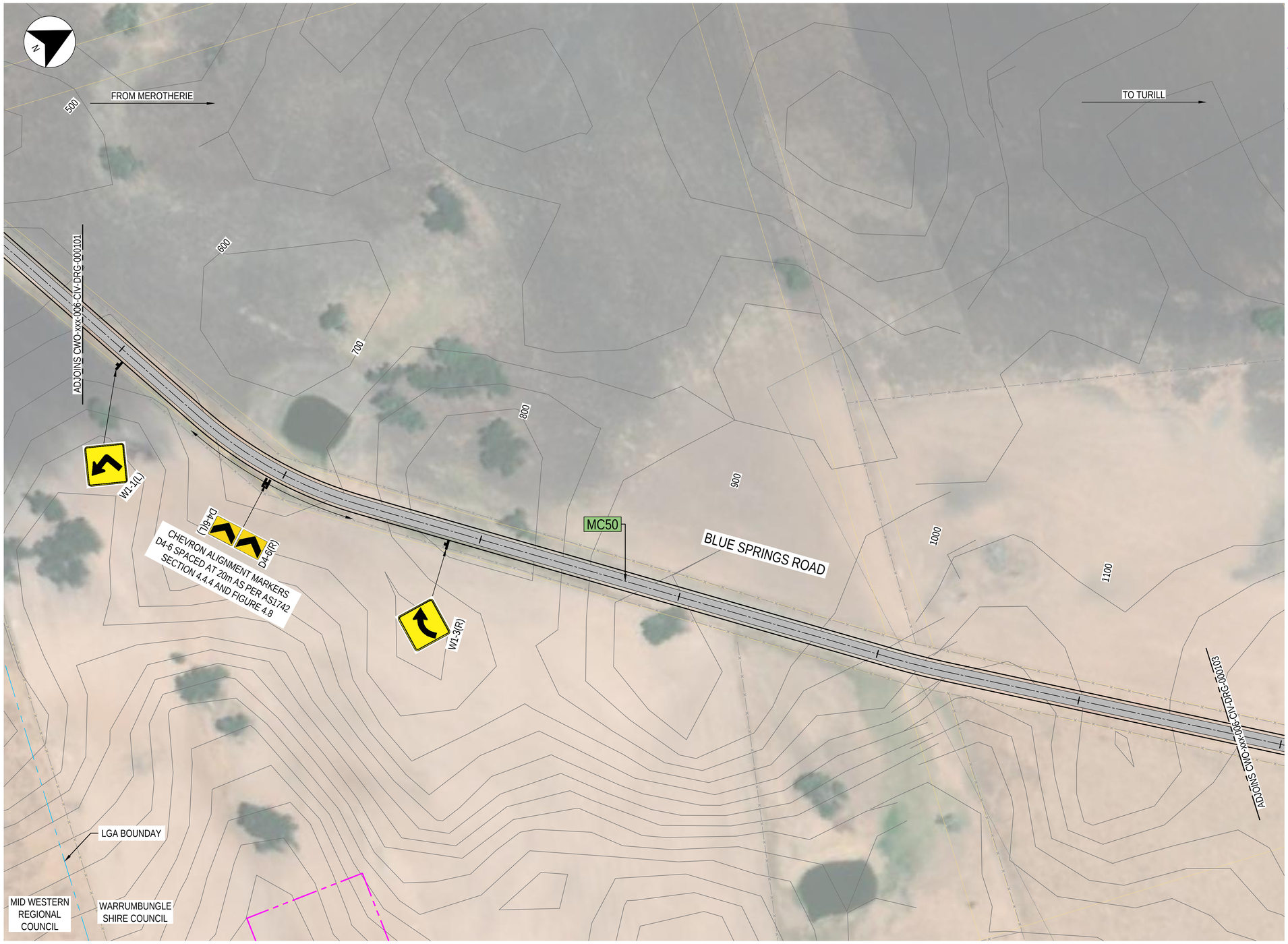
DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 1 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000101	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000102.dwg
PLOT DATE & TIME: 28/04/2026 11:14:56 AM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 (GDA2020) | HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

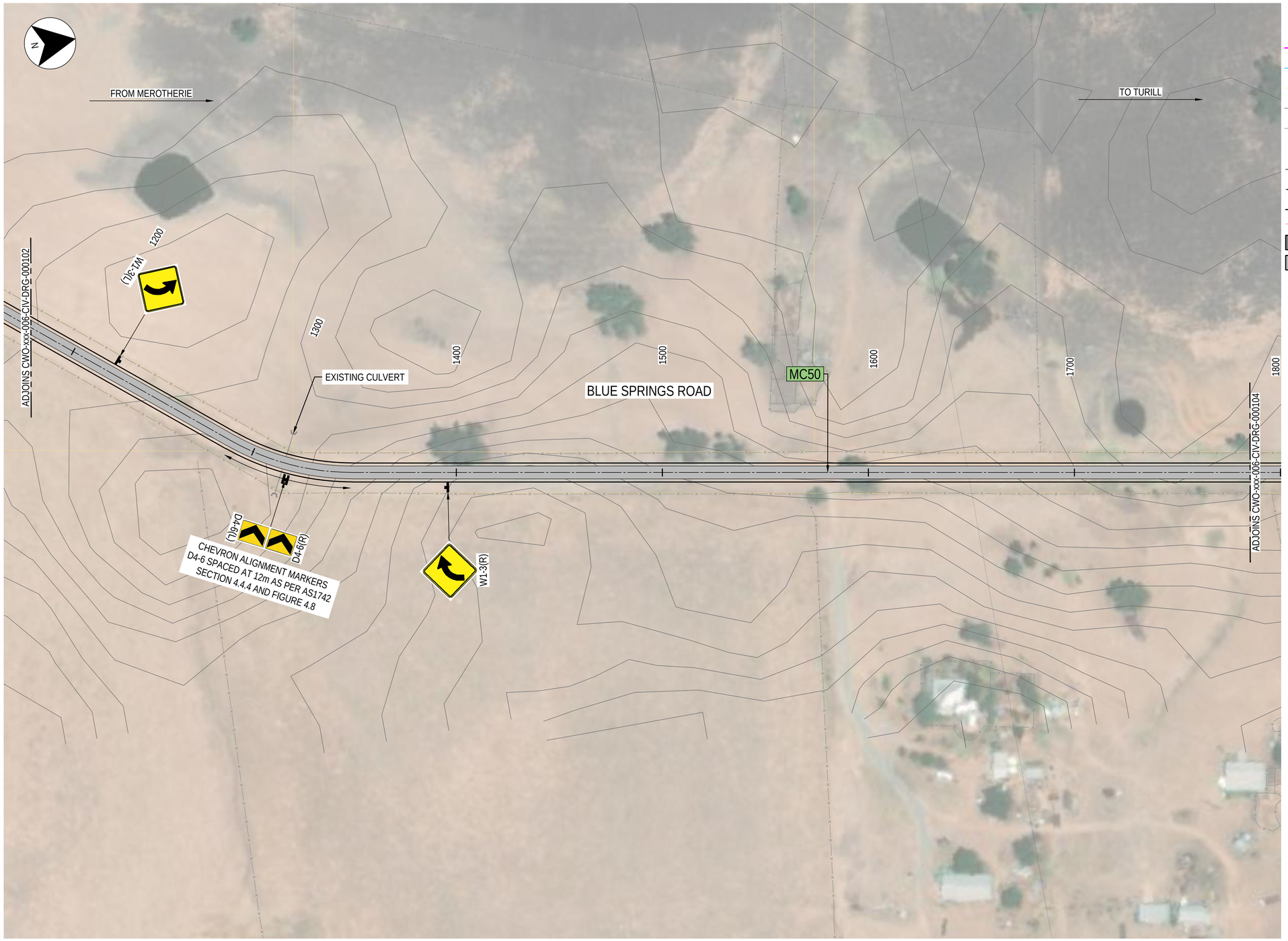
DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	R.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 2 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000102	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:31:19 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 3 OF 12	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-006-CIV-DRG-000103	A			

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000102.dwg
PLOT DATE & TIME: 31/03/2026 4:31:28 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

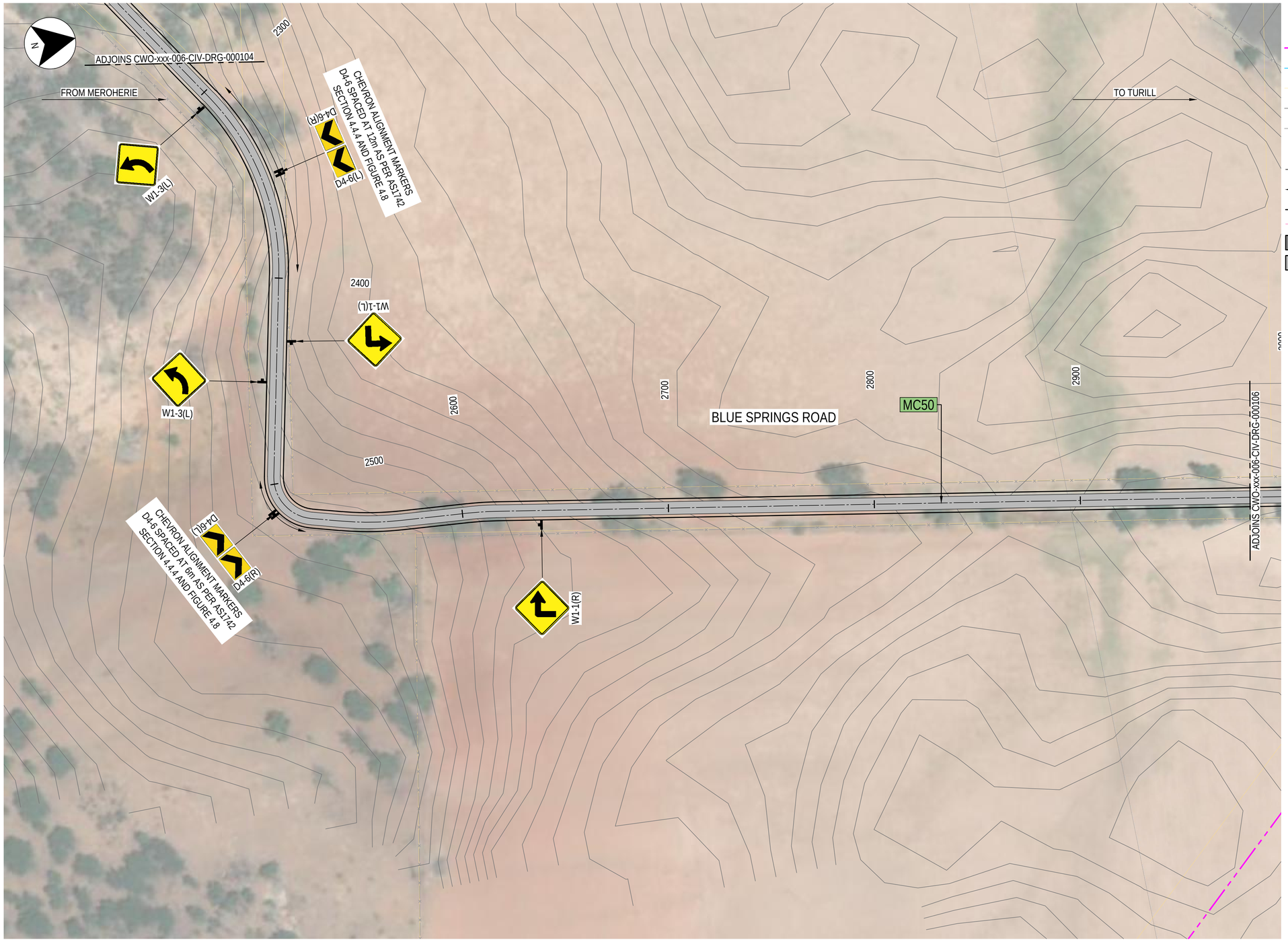
WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 4 OF 12	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-006-CIV-DRG-000104	A			

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:31:40 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg

PLOT DATE & TIME: 31/03/2026 4:31:48 PM

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

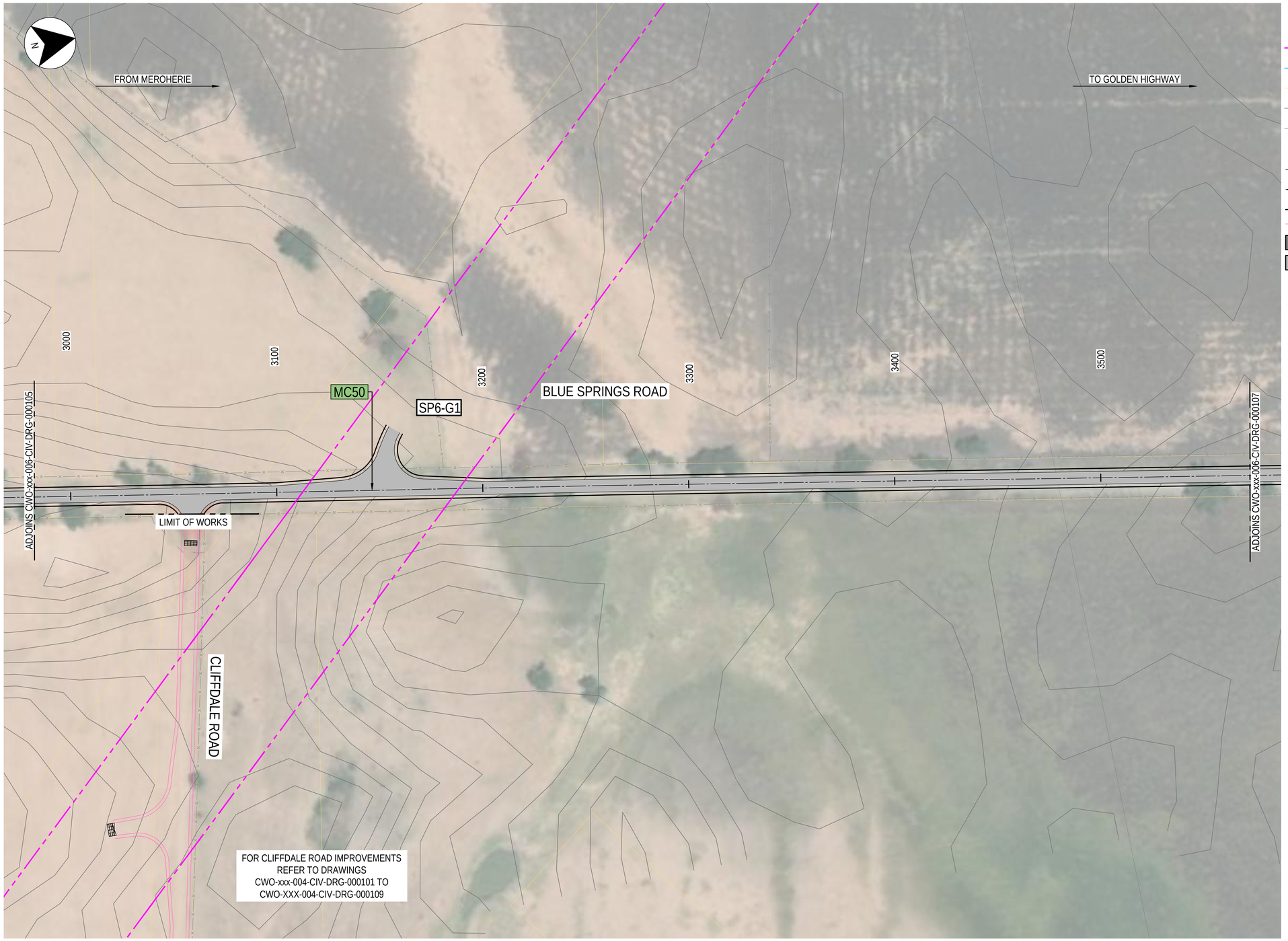
WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS ROAD IMPROVEMENTS

BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 5 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000105	REV A	VER	EDMS No.	AMD No.



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

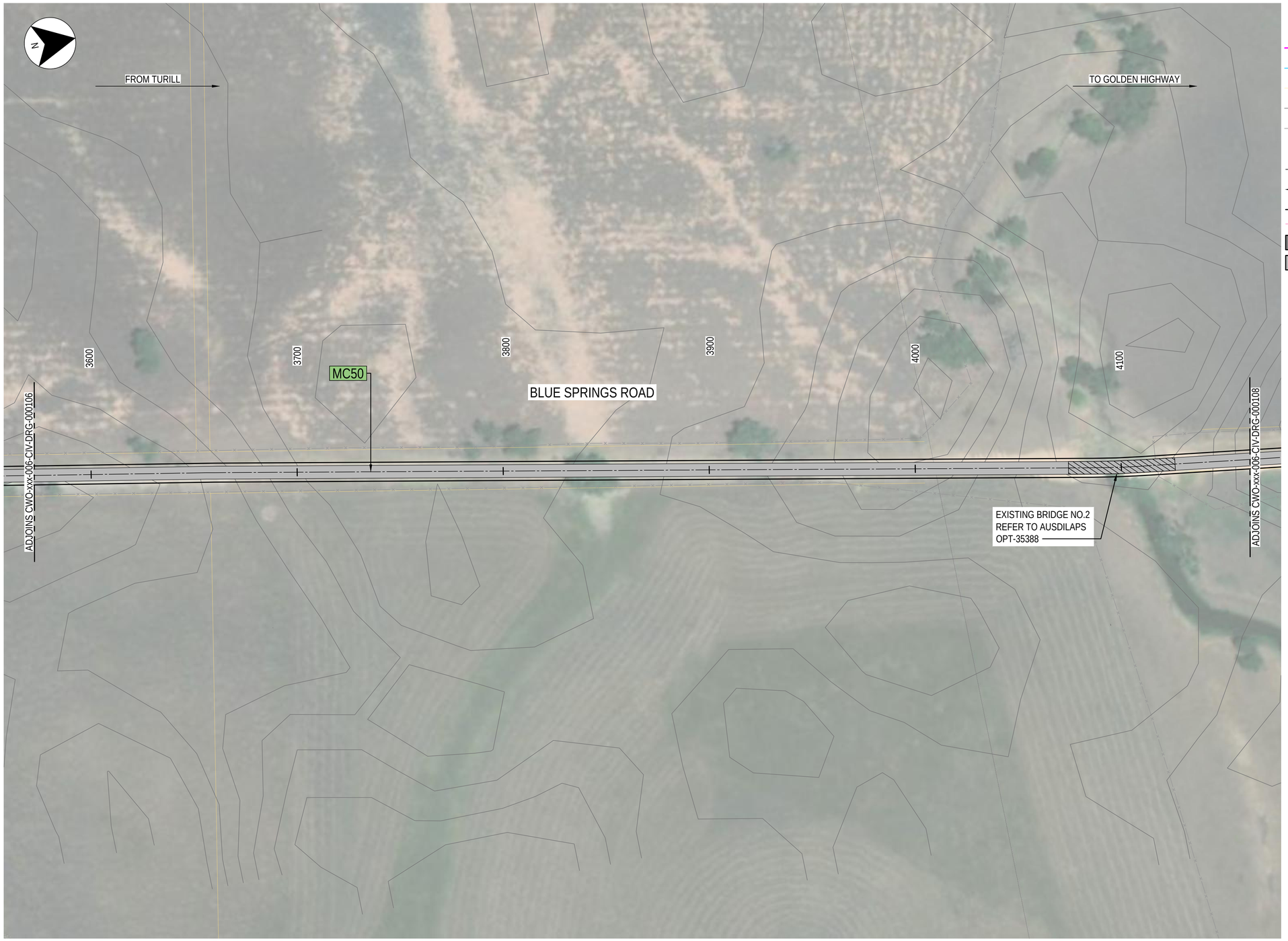
DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 6 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000106	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000102.dwg
PLOT DATE & TIME: 31/03/2026 4:31:57 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg

PLOT DATE & TIME: 31/03/2026 4:32:07 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 7 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000107	REV A	VER	EDMS No.	AMD No.

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 8 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000108	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:32:16 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 9 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000109	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:32:24 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. INITIAL / FINAL DATE

DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT — EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

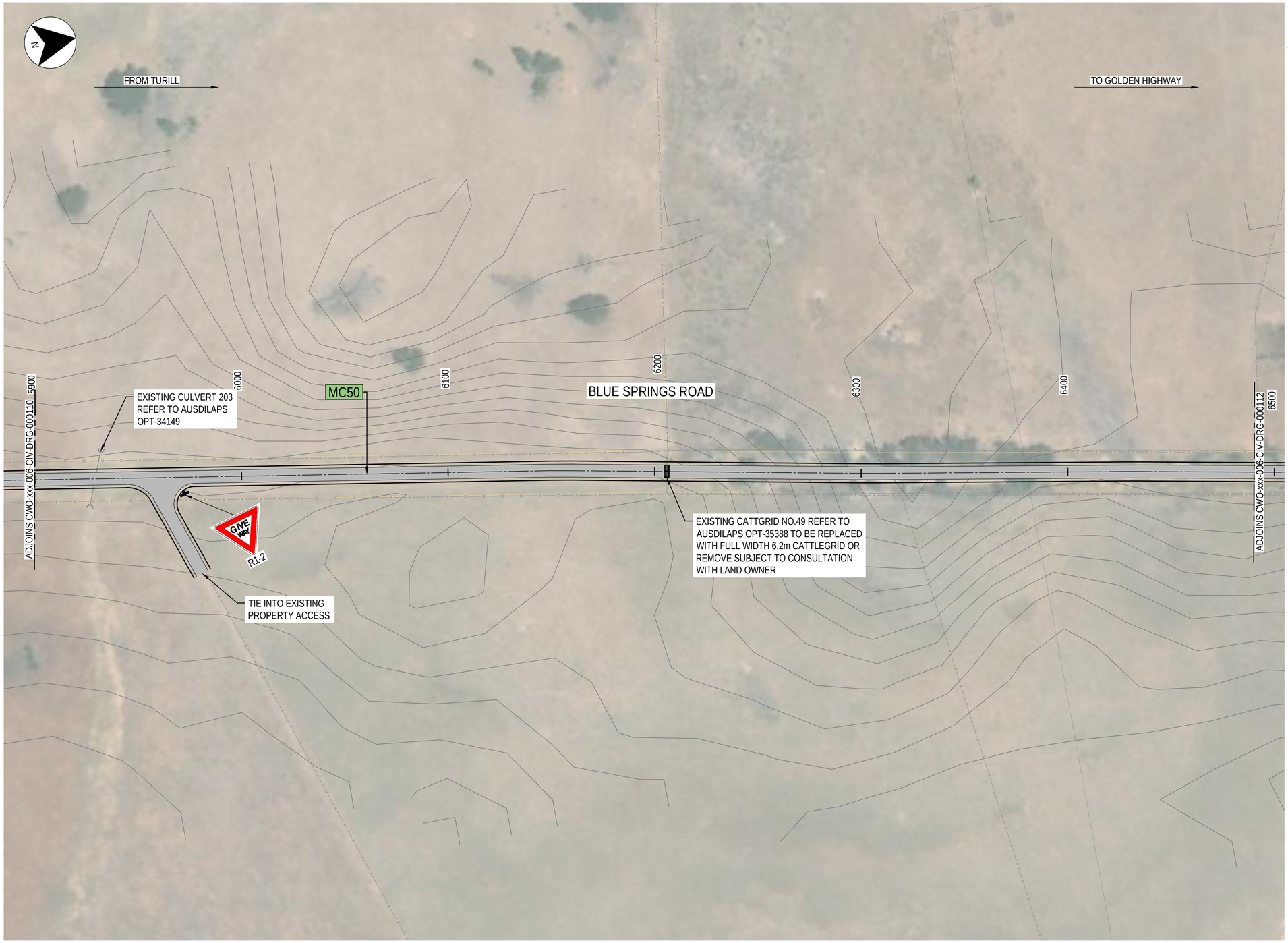
DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 10 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000110	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:32:35 PM



LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW. Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS ROAD IMPROVEMENTS

BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 11 OF 12	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-006-CIV-DRG-000111	A			

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg

PLOT DATE & TIME: 31/03/2026 4:32:45 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

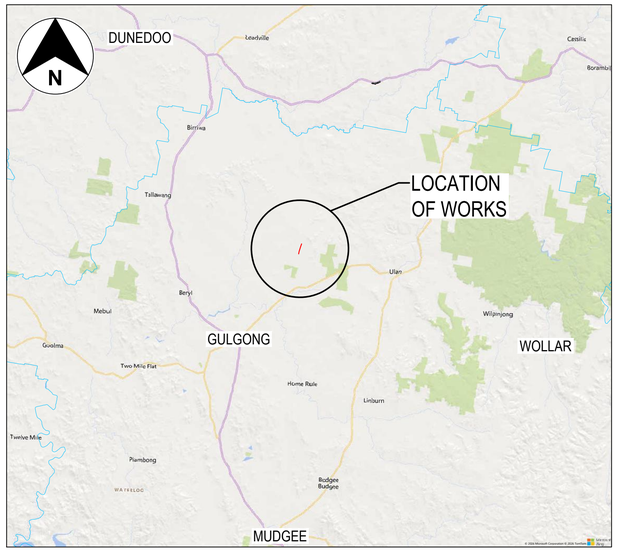
WORK IN PROGRESS

WARRUMBUNGLE SHIRE COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
WARRUMBUNGLE SHIRE COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD NORTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 12 OF 12		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-006-CIV-DRG-000112	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-006-CIV-DRG-000101-000112.dwg
PLOT DATE & TIME: 31/03/2026 4:32:54 PM

CENTRAL WEST ORANA
RENEWABLE ENERGY ZONE
ROAD IMPROVEMENTS - BLUE SPRINGS ROAD SOUTH
STRATEGIC DESIGN DOCUMENTATION



LOCALITY PLAN
NOT TO SCALE

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT	PRELIM. INITIAL	FINAL DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD SOUTH
COVER SHEET & DRAWING INDEX

DRAWING SET No:	PART:	SHEET: 1 OF 1	A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:		©

DRG No.	REV	VER	EDMS No.	AMD No.
CWO-xxx-009-CIV-DRG-000001	A			

FILE NAME: CWO-xxx-009-CIV-DRG-000001.dwg
PLOT DATE & TIME: 31/03/2026 4:07:48 PM

DRAWING INDEX

DRAWING No.	SHEET DETAILS	No. OF SHEETS
CWO-XXX-009-CIV-DRG-000001	COVER SHEET	1 OF 1
CWO-XXX-009-CIV-DRG-000002	DRAWING INDEX	1 OF 1
CWO-XXX-009-CIV-DRG-000005	GENERAL NOTES	1 OF 1
CWO-XXX-009-CIV-DRG-000011	TYPICAL DETAILS	1 OF 1
CWO-XXX-009-CIV-DRG-000101	GENERAL ARRANGEMENT	1 OF 3
CWO-XXX-009-CIV-DRG-000102	GENERAL ARRANGEMENT	2 OF 3
CWO-XXX-009-CIV-DRG-000103	GENERAL ARRANGEMENT	3 OF 3
CWO-XXX-009-CIV-DRG-000201	LONGITUDINAL SECTION	1 OF 3
CWO-XXX-009-CIV-DRG-000202	LONGITUDINAL SECTION	2 OF 3
CWO-XXX-009-CIV-DRG-000203	LONGITUDINAL SECTION	3 OF 3
CWO-XXX-009-CIV-DRG-000301	CROSS SECTIONS	1 OF ??
CWO-XXX-009-CIV-DRG-000401	CATCHMENT AREA PLAN	1 OF 3
CWO-XXX-009-CIV-DRG-000402	CATCHMENT AREA PLAN	2 OF 3
CWO-XXX-009-CIV-DRG-000403	CATCHMENT AREA PLAN	3 OF 3

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-009-CIV-DRG-000002.dwg

PLOT DATE & TIME: 31/03/2026 1:17:22 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD

SCALE: NTS

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
WHISTONS LANE
DRAWING INDEX

DRAWING SET No:		PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000001	REV A	VER	EDMS No.	AMD No.	

GENERAL

1. COORDINATES CONTROL IS ON GDA2020.
2. DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND WRITTEN INSTRUCTIONS ISSUED.
3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
4. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUTHORITY STANDARDS AND SPECIFICATIONS.
5. THE DRAWINGS SHALL NOT BE SCALED.
6. DRAWINGS ARE TO BE PRINTED IN COLOUR.
7. ALL PAVEMENT DETAILS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
8. ALL DISTURBED SURFACES SHALL BE REINSTATED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SEEDING AND FERTILISER SHALL BE APPLIED TO ALL GROUND IN THE VICINITY OF THE ACCESS TRACK WHERE THE SURFACE GRASSES HAVE BEEN REMOVED OR BARE PATCHES OF SOIL ARE EVIDENT.
10. SHOULD ANY ABORIGINAL ARTEFACTS BE DISCOVERED THEN THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IMMEDIATELY.
11. CONTRACTOR TO VERIFY ALL DIMENSIONS, EXISTING LEVELS AND DESIGN SETOUT INFORMATION ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS. WHERE A CONFLICT OR INCONSISTENCY BECOMES APPARENT, THE CONTRACTOR SHALL NOTIFY THE DESIGNER IMMEDIATELY.
12. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE PROJECT TECHNICAL; SPECIFICATIONS FOR THE WORKS AND THE REQUIREMENTS OF ALL RELEVANT CODES OF PRACTICE AND THE REQUIREMENTS OF STATUTORY AUTHORITIES WHERE APPLICABLE.

EARTHWORKS

1. BATTERS TO BE LOCALLY ADJUSTED/FLATTENED AS REQUIRED TO SUIT EXISTING TERRAIN FOR WATER TO DRAIN AWAY FROM ROAD.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

FILE NAME: CWO-xxx-009-CIV-DRG-000005.dwg

PLOT DATE & TIME: 31/03/2026 1:17:26 PM

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020 | HEIGHT DATUM: AHD | DESIGN LOT CODE: CWO-xxx-000-xxx-000

SCALE: NTS

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

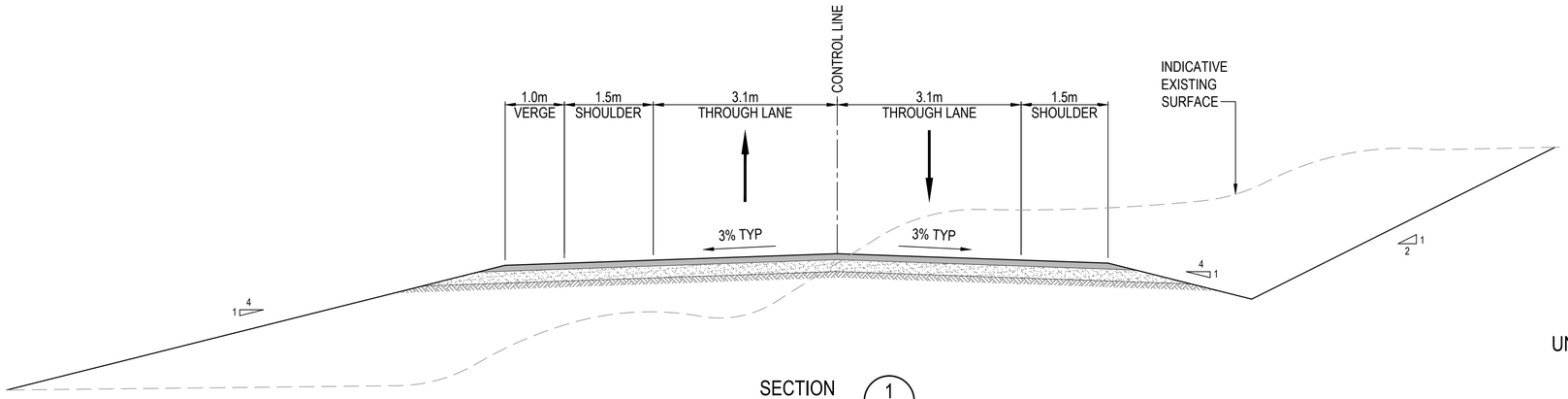
turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

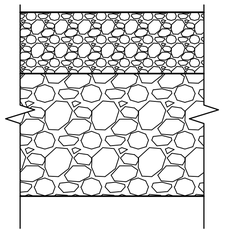
MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD SOUTH
GENERAL NOTES

DRAWING SET No:		PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000005	REV A	VER	EDMS No.	AMD No.	

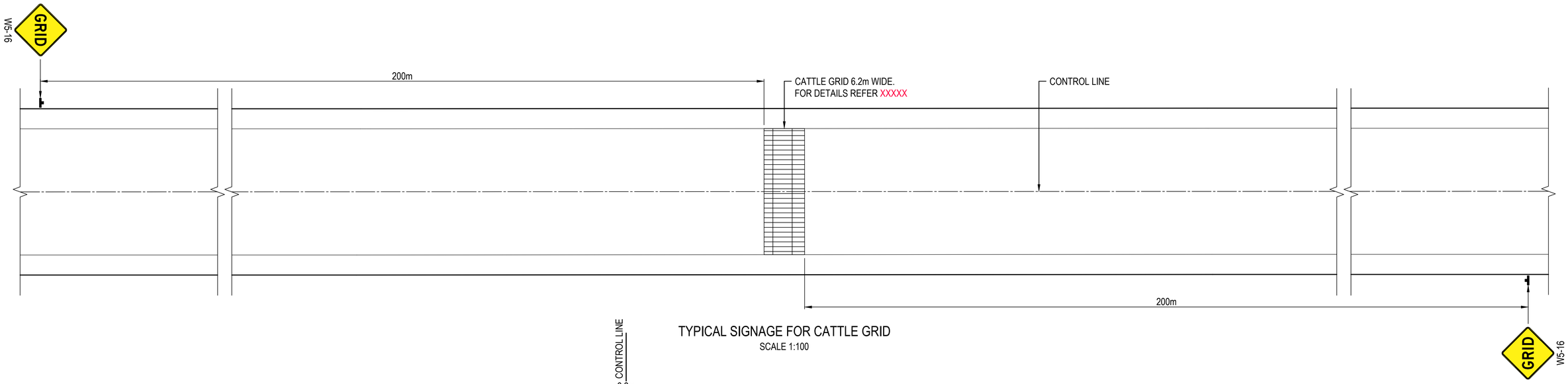


SECTION 1
SCALE 1:50

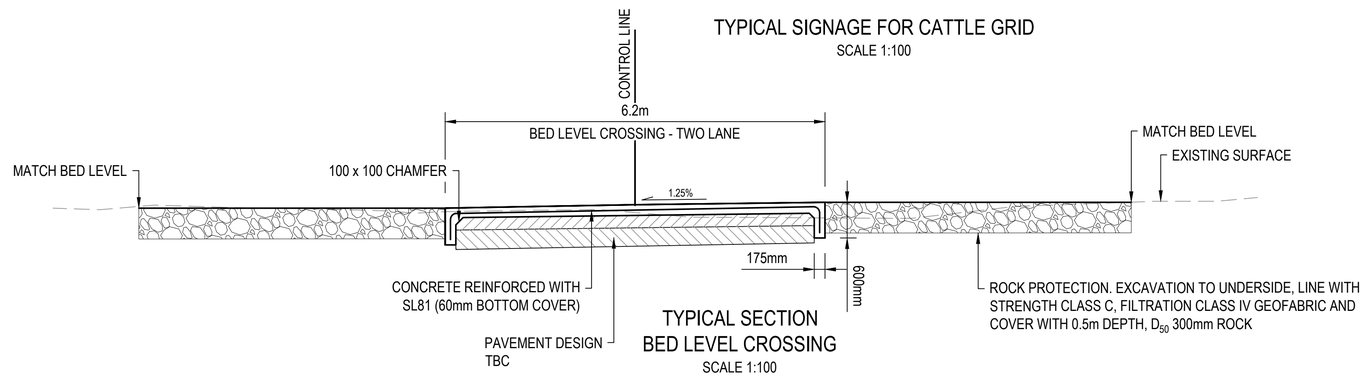
TYPICAL SECTION WITH NO NARROWING



UNSEALED ROAD AS DISCUSSED
SCALE 1:5



TYPICAL SIGNAGE FOR CATTLE GRID
SCALE 1:100



TYPICAL SECTION
BED LEVEL CROSSING
SCALE 1:100

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT

	PRELIM INITIAL	PRELIM DATE	FINAL INITIAL	FINAL DATE
DISCIPLINE				
DISCIPLINE				
DISCIPLINE				
BACKDRAFTED/CORRECTED				
CONFIRMED				

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	PBG xx/01/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:5, 1:50, 1:100

0 0.1 0.2m
0.05 0.025 (1:5 AT A1 ; 1:10 AT A3)

0 1 2m
0.5 0.25 (1:50 AT A1 ; 1:100 AT A3)

0 1 2 3 4 5m
1 0.5 (1:100 AT A1 ; 1:200 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT:
NSW GOVERNMENT
EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	P. BREHCIST GARCIA	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D. LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD SOUTH
TYPICAL DETAILS

DRAWING SET No:		PART:	SHEET: 1 OF 1		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION		BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000011	REV A	VER	EDMS No.	AMD No.	

FILE NAME: CWO-xxx-009-CIV-DRG-000011.dwg

PLOT DATE & TIME: 1/04/2026 3:03:24 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 GDA2020

HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL

CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS

BLUE SPRINGS ROAD SOUTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 1 OF 3		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000101	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-009-CIV-DRG-000101-000103.dwg
PLOT DATE & TIME: 1/04/2026 3:01:39 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 CONTROL LINE AND CHAINAGE
- MCXX CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 NEW SIGN FACE
- GIVE WAY R1-2 EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD SOUTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 2 OF 3		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000102	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-009-CIV-DRG-000101-000103.dwg
PLOT DATE & TIME: 1/04/2026 3:01:46 PM

LEGEND

- SITE BOUNDARY
- LGA BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- CONTOUR (1.0m INCREMENT)
- EXISTING SURVEY
- 100 — CONTROL LINE AND CHAINAGE
- MCXX — CONTROL LINE LABEL
- ROAD DESIGN
- ROAD DESIGN PREVIOUS PACKAGE
- NEW SEALED PAVEMENT
- NEW UNSEALED PAVEMENT
- GIVE WAY R1-2 — NEW SIGN FACE
- GIVE WAY R1-2 — EXISTING SIGN FACE
- NEW SIGN FACE INSTALLED ON NEW POST
- EXISTING SIGN TO REMAIN
- RURAL CATTLE GRID
- XX-XX — GATE & GATE NUMBER
- EXISTING CULVERT

BIO DIVERSITY AND HERITAGE LOCATIONS

- GANG GANG COCKATOO POTENTIAL BREEDING HOLLOWS
- PRE-WORKS HERITAGE ASSESSMENT
- POTENTIAL RAPTOR NESTING TREES
- BARKING OWL TREE LOCATION

NOTES:

1. GUIDE POSTS TO BE ADDED AS PER AS1742 SECTION 4.2.

APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

OFFICIAL

FOR REVIEW AND COMMENT

REFERENCES:

CHECK PRINT — PRELIM. ☐ FINAL ☐

	INITIAL	DATE
DISCIPLINE		
DISCIPLINE		
DISCIPLINE		
BACKDRAFTED/CORRECTED		
CONFIRMED		

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR xxxx	MJ xx/02/26	DL xx/01/26	DL xx/01/26

COORDINATE SYSTEM: GDA2020/MGA55 — HEIGHT DATUM: AHD

SCALE: 1:1000

0 10 20 30 40 50m
10 5 (1:1000 AT A1 ; 1:2000 AT A3)

DESIGN LOT CODE: CWO-xxx-000-xxx-000

CLIENT: NSW GOVERNMENT EnergyCo

PREPARED FOR:
RENEWABLE ENERGY ZONES
NETWORK INFRASTRUCTURE
PROJECTS

This drawing and the related information have been prepared by, or at the request of, Transport for NSW for a specific purpose and may not be used for any purpose other than the purpose intended by Transport for NSW.
Transport for NSW does not provide any warranties and accepts no liability arising out of the use of this drawing or any of the related information for any purpose other than the intended purpose. This drawing is protected by copyright and no part of this drawing may be reproduced in any form without the express written permission of Transport for NSW.

turnbull

DRAWN	K.MERCER	xx/01/26
DESIGNED	M.JAROUR	xx/01/26
DRG CHECK	B. EVANS	xx/01/26
DESIGN CHECK	D.LOWE	xx/01/26
PROJ/DES MNGR	D. LOWE	xx/01/26
APPROVED	D. LOWE	xx/01/26

WORK IN PROGRESS

MID-WESTERN REGIONAL COUNCIL
CENTRAL WEST ORANA - RENEWABLE ENERGY ZONE
MID-WESTERN REGIONAL COUNCIL - MINOR ACCESS POINTS
ROAD IMPROVEMENTS
BLUE SPRINGS ROAD SOUTH
GENERAL ARRANGEMENT

DRAWING SET No:	PART:	SHEET: 3 OF 3		A1
STATUS: STRATEGIC DESIGN DOCUMENTATION	BRIDGE No:			©
DRG No. CWO-xxx-009-CIV-DRG-000103	REV A	VER	EDMS No.	AMD No.

FILE NAME: CWO-xxx-009-CIV-DRG-000101-000103.dwg
PLOT DATE & TIME: 1/04/2026 3:01:53 PM

APPENDIX C3 CLIFFDALE ROAD – NOT YET INCLUDED

APPENDIX C4 PUGGOON ROAD – NOT YET INCLUDED

APPENDIX C5 WHISTONS LANE – NOT YET INCLUDED

Appendix D Minor Access Points and Crossing Points

Planning Approval Appendix 4 Table 5 lists requires items for upgrade and includes that “Minor Access Points intersections (any Access Point associated with minor access tracks off public road network)” require an “upgrade as necessary as per the Transport Strategy under condition B31”.

The minor access points and crossing points applicable to the Mid-Western Regional LGA are listed below. It is noted whether the minor access points and crossing points are yet to be included, and if they are included, which priority they were proposed under (refer to Section 1.4) for further information.

- SP1-A1/A2 (Merotherie Road) Crossing only - Appendix D1 - Included (Priority 1 - approved)
- SP1-B1/B2 (Birkalla Road) Crossing only - Appendix D2 - Included (Priority 1 - approved)
- SP1-E1/E2 (Blue Springs Road South) - Appendix D3 – Included for approval (Priority 3A) (Crossing approved in Priority 1)
- SP1-F1/F2 (Highett Road) Crossing only - Appendix D4 - Included (Priority 1 - approved)
- SP1-J2 (Ulan Road) - Appendix D5 – Included for approval (Priority 3A)
- SP1-L1/L2 (Ulan Road / Ulan-Wollar Road) - Appendix D6 - Included for approval (Priority 3A)
- SP1-U (Ulan-Wollar Road) - Appendix D7 - Included (Priority 2)
- SP1-N (Ulan-Wollar Road) - Appendix D8 - Included (Priority 2)
- SP1-P (Ulan-Wollar Road) - Appendix D9 - Included (Priority 2)
- SP1-T (Ulan-Wollar Road) - Appendix D10 - Included (Priority 2)
- SP2-K1/K2 (Barneys Reef Road) - Appendix D11 - Not yet included
- SP5-C1/C2 (Turill Bus Route) - Appendix D12 - Not yet included
- SP0-A3/SP6-A2 (Merotherie Road) - Appendix D13 - Included (Priority 2)
- SP6-B1/B2 (Birkalla Road) - Appendix D14 - Included (Priority 2)
- SP6-D1/D2 (Blue Springs Road South) - Appendix D15 - Included (Priority 2)
- SP7-A (Birriwa Bus Route South) - Appendix D16 - Not yet included
- SP6-E1 (Blue Springs Road North) - Appendix D17 - Included (Priority 2)
- SP2-H1/H2 (Castlereagh Highway) - Appendix D18 - Not yet included
- SP5-B1/B2 (Cliffdale Road) - Appendix D19 - Not yet included
- SP1-H1/H2 (Cope Road) - Appendix D20 - Included (Priority 2)

- SP3-D1/D2 (Puggoon Road) - Appendix D21 - Not yet included
- SP3-E (Puggoon Road) - Appendix D22 - Not yet included
- SP3-X1/X2 (Puggoon Road) - Appendix D23 - Not yet included
- SP1-Q (Ulan-Wollar Road) - Appendix D24 - Included (Priority 2)
- SP1-Wilp (Ulan-Wollar Road) - Appendix D25 - Included for approval (Priority 3A)
- SP1-X1/X2 (Upper Cumbo Road) - Appendix D26 - Included for approval (Priority 3A)
- SP3-A (Whistons Lane) - Appendix D27 - Not yet included
- SP1-V1/V2 (Wilpinjong Road) - Appendix D28 - Included for approval (Priority 3A)
- SP1-W (Wollar Road) - Appendix D28 - Included for approval (Priority 3A)
- SP2-G1/G2 (Tuckland Road) - Appendix D30 - Not yet included

APPENDIX D1 SP1-A1/A2 CROSSING POINTS (MEROTHERIE ROAD) – REFER PRIORITY 1

APPENDIX D2 SP1-B1/B2 CROSSING POINTS (BIRKALLA ROAD) – REFER PRIORITY 1

APPENDIX D3 SP1-E1/E2 ACCESS POINTS (BLUE SPRINGS ROAD SOUTH)

Location

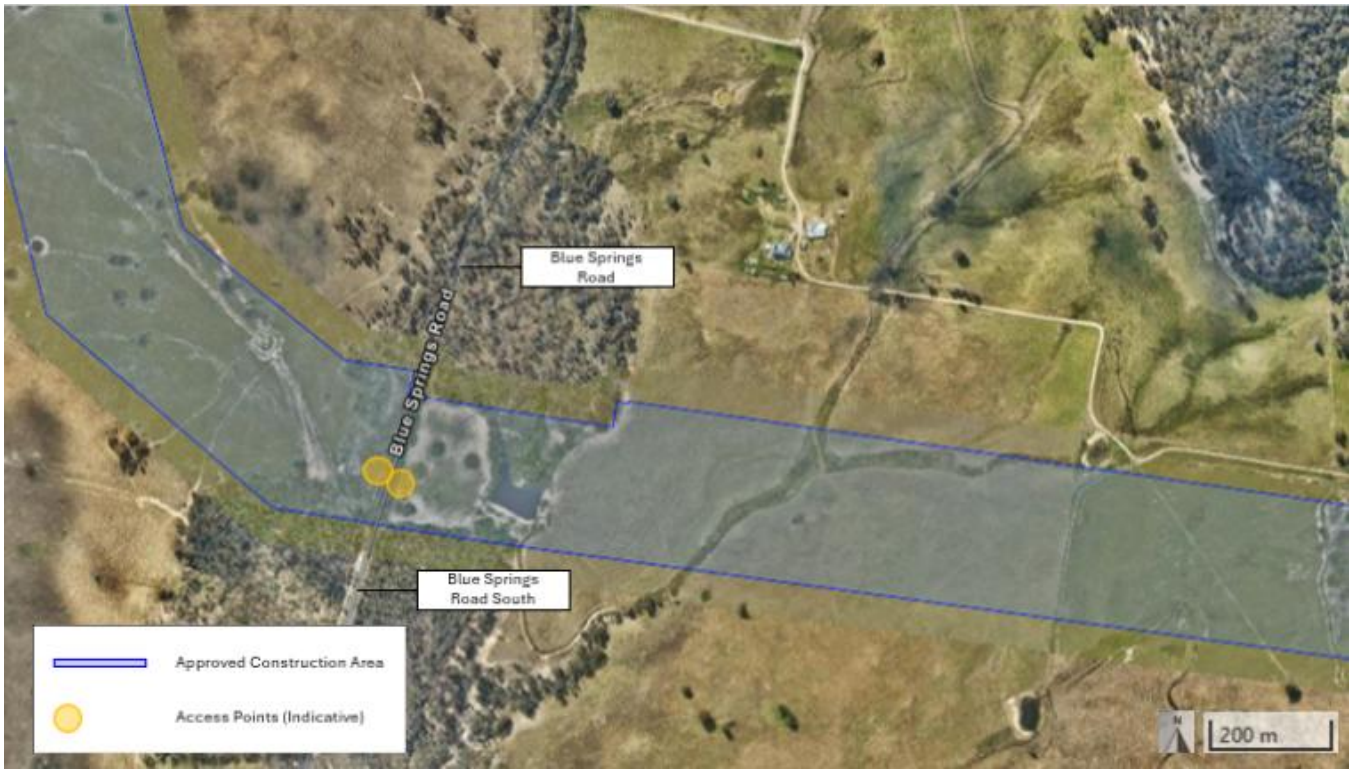


FIGURE D3- 1 LOCATION OF ACCESS POINTS SP1-E1/E2 (BLUE SPRINGS ROAD)

Description

The Access Point will be used to access the construction area from Blue Springs Road. Further details are provided within the table below.

TABLE D31- 1 ACCESS POINT SP1-E1/E2 TREATMENT AND USE

Entry Point ID	SP1-E1/E2
EIS Access Point (if applicable)	L1.17 / L1.16
Road	Blue Springs Road
Location	https://maps.app.goo.gl/T9WRYZPj7FtJHNK78
Type	Access Point (this has been converted from a crossing point as approved under Transport Strategy Priority 2)
Scope of Work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access point. Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.

Amenity Impacts **MCoA (NSW) B31(a)**	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access points.
Design Criteria **MCoA (NSW) B31(b)**	The access points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic Concept Design **MCoA (NSW) B31(c)**	The Strategic Concept Design are included in the section below.
Assessment of potential impacts **MCoA (NSW) B31 (d)**	Refer to section below.
Schedule **MCoA (NSW) B31(e)**	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary **MCoA (NSW) B31(h)**	The access point will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

Access points SP1-E1/E2 were included within the EIS. The location of the access points and their construction area is:

- Within the approved construction area (the disturbance footprint)
- Within the Heritage assessment area
- Within the Biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible, during construction). All works, including this construction buffer, are within the EIS assessed areas.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below in

TABLE D31- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-E1/E2)

<table>
<tr><th>EIS Assessment and Outcomes Summary</th><th>EIS Assessment References</th></tr>
<tr><td colspan="2">Biodiversity</td></tr>
<tr><td>Study Area and Existing Environment
The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to:
The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project
The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA))
The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations
The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based
The access points are located within the biodiversity study area of the EIS/ Amendment Report.
The BDAR identified vegetation within the footprint of the proposed access point SP1-E1 and SP1-E2 as consisting of Plant Community Type (PCT) 277 Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.</td><td>Section 10.2.1 of the EIS (Chapter 10 (Biodiversity))
Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</td></tr>
<tr><td>Relevant Environmental Risks
Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity
Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities</td><td>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</td></tr>
<tr><td>Assessment and Outcomes Summary
Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen.

The table below summarises the PCT’s that have been identified by the BDAR as being impacted by the access points.

<table><tr><th>PCT</th><th>Act</th><th>Listed Status</th><th>Threat Status</th><th>Associated TEC</th></tr><tr><td>PCT 277</td><td>BC Act (NSW)</td><td>Listed</td><td>Critically Endangered</td><td>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</td></tr></table></td><td>Section 10.4 of the EIS (Chapter 10 (Biodiversity))
Table 10-3 of the EIS (Chapter 10 (Biodiversity))
Table 10-4 of the EIS (Chapter 10 (Biodiversity))
Table 10-5 of the EIS (Chapter 10 (Biodiversity))
Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Revised Biodiversity Development Assessment Report of</td></tr>
</table>

EIS Assessment and Outcomes Summary				EIS Assessment References
EPBC Act (Cth)	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	the EIS (Technical Paper 4)

Notes:

PCT 277 - Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion

The BDAR identified these sections of vegetation along Blue Springs Road as threatened ecological community (TEC) listed under the *Biodiversity Conservation Act 2016 and the Environment Protection and Biodiversity Conservation Act 1999.*

The location of the access point SP1-E1/E2 at Blue Springs Road was identified in the BDAR, and therefore the BDAR generally considered the access points and the associated impacts at this location.

The BDAR also identifies that the following threatened fauna species have habitat that will be impacted by the crossing points:

- Eastern Pygmy-possum (*Cercartetus nanus*)
- Striped legless lizard (*Delma impar*)
- Squirrel Glider (*Petaurus norfolcensis*)

Aboriginal Heritage and Non-Aboriginal Heritage

Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The Aboriginal and historical heritage assessments carried out as part of the EIS and Amendment Report identified the High Density Zone of Copes Creek which is mapped on a small portion of the SP1-E2 crossing point footprint. In accordance with REMM AH10, where ground disturbance activities are unable to avoid areas within 150m of Copes Creek (excluding areas already disturbed during construction of existing access tracks and access roads), archaeological excavations will be undertaken. Where sub-surface artefacts or cultural materials are uncovered, archaeological excavations will be followed immediately by salvage mitigation requirements in locations where ground disturbance activities would	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
occur, following the methods outlined in Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report and described in the ACHMP. Although two Aboriginal heritage finds were identified in the vicinity of Blue Springs Road (isolate find SNI-IF17 approximately 280m west of SP1-E1 and artefact scatter SNI-AS13 approximately 170m northeast of SP1-E2), no areas, sites, items or places of Aboriginal Cultural Heritage significance were identified within the footprint the SP1-E1/E2 access points. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.	Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Blue Springs Road is a main road in the study area. It is noted in the EIS as being approximately 30 kilometres long road providing a north-south connection between Golden Highway and Cope Road. It is a sealed pavement with unsealed shoulders and line marking in the southern section and unsealed in the northern direction. It is a bidirectional two-lane road (one lane in each direction) with a posted rural speed limit of 100 km/h.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area that are relevant to these access points perform at Level of Service A. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Air Quality	
Study Area and Existing Environment The nearest sensitive air quality receiver (residential – ID 399) is located approximately 580 metres to the northeast of the access points.	Figure 19-3 of the EIS (Chapter (Air Quality))
Relevant Environmental Risks Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the access point (of which only	Section 19.4 of the EIS (Chapter 19 (Air Quality))

EIS Assessment and Outcomes Summary	EIS Assessment References
minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access points and crossing points described in this Strategy. Some additional mitigation measures have been identified in the table below.

TABLE C2- 5 MITIGATION MEASURES (SP1-E1/E2)

Mitigation Measures
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported • Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified • Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion

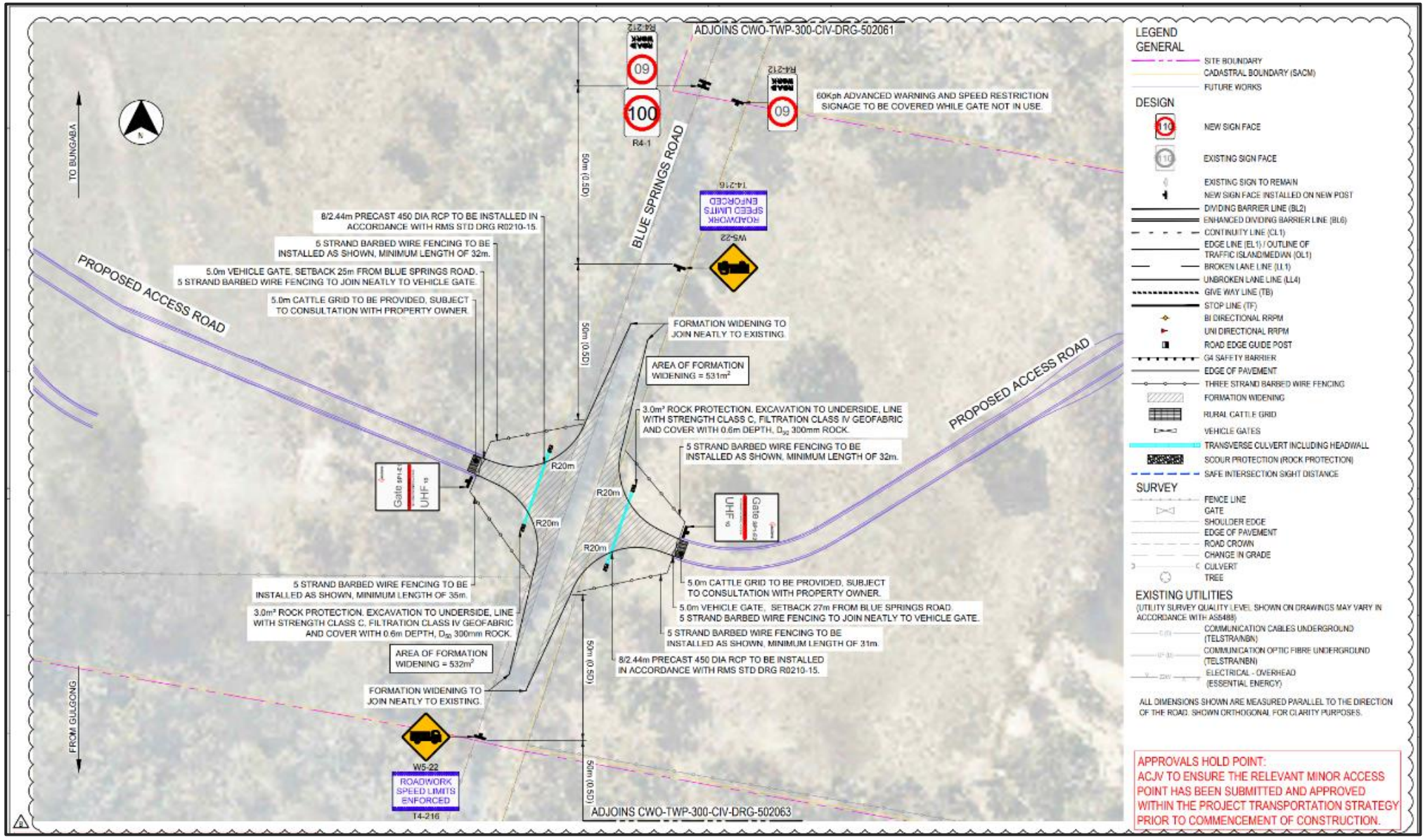
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format has been included below and is supported by the figure depicting the location of the crossing points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following design drawings.


ADJOINS CWO-TWP-300-CIV-DRG-502061
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
R4-1
100
09
R4-212
BLUE SPRINGS ROAD
50m (0.5D)
TO BUNGABA
FROM GULGONG
PROPOSED ACCESS ROAD
8/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 32m.
5.0m VEHICLE GATE, SETBACK 25m FROM BLUE SPRINGS ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
AREA OF FORMATION WIDENING = 531m²
3.0m³ ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 32m.
R20m
UHF
Gate
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 35m.
3.0m³ ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
AREA OF FORMATION WIDENING = 532m²
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
5.0m VEHICLE GATE, SETBACK 27m FROM BLUE SPRINGS ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 31m.
8/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
W5-22
ROADWORK SPEED LIMITS ENFORCED
14-216
ADJOINS CWO-TWP-300-CIV-DRG-502063
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (OL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
THREE STRAND BARBED WIRE FENCING
FORMATION WIDENING
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
CHANGE IN GRADE
CULVERT
TREE
EXISTING UTILITIES
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
COMMUNICATION CABLES UNDERGROUND (TELSTRA/NBN)
COMMUNICATION OPTIC FIBRE UNDERGROUND (TELSTRA/NBN)
ELECTRICAL - OVERHEAD (ESSENTIAL ENERGY)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD, SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D4 PRIORITY 1 SP1-F1/F2 CROSSING POINTS (HIGHETT ROAD) – REFER

APPENDIX D5 SP1-J2 ACCESS POINT (ULAN ROAD)

Location

FIGURE D5- 1 LOCATION OF ACCESS POINT SP1-J2 (ULAN ROAD)

FIGURE D5- 2 COMPARISON OF DISTURBANCE FOOTPRINT (SP1-J2)

Description

The Access Point SP1-J2 will be used to access the construction area from Ulan Road. Further details are provided within the table below.

TABLE D5- 1 ACCESS POINT SP1-J2 TREATMENT AND USE

Entry Point ID	SP1-J2
EIS Access Point (if applicable)	L1.10
Road	Ulan Road
Location	https://maps.app.goo.gl/tdAcc1oJvK2AfXT5A (refer to Figure D5- 1)
Type	BAR/BAL
Scope of work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access point. Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity impacts MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access points.
Design criteria MCoA B31(b)	The access point will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA B31 (d)	Refer to section below
Schedule MCoA B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA B31(h)	The access point will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

The Access Point SP1-J2 was included within the EIS. As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access point and its construction area have been refined and is now:

- Partially within the approved construction area (the disturbance footprint)
- Partially within Heritage study area
- Partially within Biodiversity study area

This location has been considered generally with the provision of an approximately 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction).

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the establishment and use of access points. It is noted that the access point in the EIS is assessed as part of a wider construction impact (i.e. it is not assessed as a standalone activity). In addition, given the minor nature of this access point, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D5-2 identifies the proposed disturbance footprint of the access points in comparison to what was assessed within the EIS.

TABLE D5- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-J2)

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
Study Area and Existing Environment The land use study area the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the project). This study area is also consistent with the agriculture study area. The existing environment around the access points is characterised by primary production land zoning (RU1). The land use is nominated in the EIS as grazing modified pastures.	Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.2.1 of the EIS (Chapter 8 (Agriculture) Figure 7-1 of the EIS (Chapter 7 (Land Use and Property) Figure 7-2 of the EIS (Chapter 7 (Land Use and Property) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))
Relevant Environmental Risks • Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements	
Assessment and Outcomes Summary The EIS assessed that the Project would require the use of land (including land currently used for agricultural purposes) temporarily for construction and permanently for operation (where permanent infrastructure is to be located). The residual risk rating for this impact was noted as 'low' for effects on access to properties in the EIS. For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production. The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.4 of the EIS (Chapter 8 (Agriculture))
Landscape Character and Visual Amenity	
Study Area and Existing Environment The EIS study area comprised a four-kilometre-wide corridor centred on the construction area. This study area extent was selected on the basis it included all areas where there is the potential for landscape character and visual impacts from the Project to be experienced. The access point is located within the rural valley landscape character type (Cumbo rural valley - RV-02). The rural valley landscape character type is defined by the creek and river valleys within the study area, and adjacent land which generally consists of wide flat areas of agricultural uses, including arable farmland and some areas of grazing pastures. Although the landform varies between each character zone, it is generally low-lying and flat to gently undulating, including rural plains, which have been cleared for agriculture. The Cumbo rural valley landscape character type is located to the west of Wollar township, including the Cumbo Creek valley, this zone includes a mixture of rural land uses and areas of revegetation as part of the enhancement and conservation areas of nearby Wilpinjong Coal Mine. Existing built features in this zone include the Wellington to Wollar 330 kV transmission lines.	Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Table 9-4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Relevant Environmental Risks • Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), construction traffic, ancillary infrastructure and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary The EIS assessed that construction of the Project would result in temporary changes to the landscape character and visual amenity of the study area, which would impact residents, tourists, and road users. It also noted that construction of the Project would potentially result in landscape character and visual impacts as a result of ground disturbance, vegetation clearance, the use of large-scale equipment and supporting infrastructure, the establishment and use of workforce accommodation camps and night-time lighting. The EIS assessed that the magnitude of the Project's change to the landscape character would be moderate-low or moderate as construction works would result in a low to moderate magnitude of change. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.	Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)) • The study area as the assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based The access point is partially located partially within the biodiversity study area. The proposed disturbance footprint for access point SP1-J2 was partially included within the biodiversity survey area of the EIS, and partially within the approved construction area. The BDAR identified vegetation along the existing access as consisting of Plant Community Type (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 and PCT 0 miscellaneous ecosystem. PCT 281 is part of the critically endangered threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The BDAR partially assessed the footprint for the proposed access point, SP1-J2, located along Ulan Road.	Section 10.4 of the EIS (Chapter 10 (Biodiversity))

EIS Assessment and Outcomes Summary	EIS Assessment References
A summary of the native vegetation PCT's that have been identified within the EIS associated with the access point location is provided below:	Table 10-3 of the EIS (Chapter 10 (Biodiversity))
	Table 10-4 of the EIS (Chapter 10 (Biodiversity))
	Table 10-5 of the EIS (Chapter 10 (Biodiversity))
	Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
	Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

PCT	Act	Listed Status	Threat Status	Associated TEC
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	EPBC Act (Cth)	Listed	Critically Endangered	Yes - White Box-Yellow-Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (BC Act and EPBC Act)
	BC Act (NSW)	Listed	Critically Endangered	

Habitat for Threatened Species

Vegetation within the assessed area was identified as PCT 281 within the proposed access points footprint. Two threatened fauna species habitat were mapped in the BDAR as being associated with PCT 281:

- Regent Honeyeater (Important Habitat)
- Squirrel Glider (assumed)

The BDAR assessed that there was no habitat for threatened flora at the access point.

Aboriginal Heritage and Non-Aboriginal Heritage

Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area. The Historical Heritage and Aboriginal Cultural Heritage Assessment Report partially included the construction area required to establish the access point SP1-J2. The nearest recorded site (SNI-IF98) is located approximately 235m to the east of SP1-J2 and was recorded as part of the EIS / Amendment Report. The portion of the access point SP1-J2 which was not surveyed as part of the EIS, is covered by EnergyCo's Aboriginal Cultural Heritage Assessment Report. No items or areas of Aboriginal Cultural, Archaeological, or historical heritage value were identified.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place. No items or areas of Aboriginal Cultural, Archaeological, or historical heritage value were identified.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Noise and Vibration	
Study Area and Existing Environment The noise and vibration study area in the EIS consisted of the construction area of the Project and areas within three kilometres of the construction area. The nearest receiver is residential receiver 198 and is located approximately 159m to the northeast.	Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration)) Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration)) Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
Relevant Environmental Risks • Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Ulan Road is a main road in the study area. It is noted in the EIS as being approximately 72 kilometres long road providing a north-south connection between Golden Highway in the north and Mudgee town centre. It is a sealed pavement and is a bidirectional two-lane road (one lane in each direction). The posted speed limit is 100 km/h. The relevant section of Ulan Road to the access points is the portion south of Ulan-Wollar Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. Roads that also experience higher traffic volumes include Ulan Road (approximately 9,000 vehicles per day) on weekdays. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B: • The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)

EIS Assessment and Outcomes Summary	EIS Assessment References
• All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B Ulan-Wollar Road has been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	
Waste Management	
Study Area and Existing Environment Existing waste sources in the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs primarily includes waste from agricultural, mining and forestry operations and domestic waste. A number of waste management and waste transfer facilities operated by local councils are located near the Project and accept a wide range of wastes, including construction and demolition waste, domestic waste and recyclable materials.	Section 18.3 of Chapter 18 of the EIS (Waste Management)
Relevant Environmental Risks • Impacts on local and regional waste management facilities due to increased demand from overall project generated construction wastes	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes. Possible impacts during construction as a result of the improper management of construction waste includes those on local and regional waste management facilities. The EIS identified that this could be due to increased demand from overall project generated construction wastes. Other impacts, if not managed appropriately, could include dust, odour, erosion and sedimentation, human health risks, and mud tracking. The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Chapter 18 of the EIS (Waste Management) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Hydrology, Flooding and Water Quality	
Study Area and Existing Environment The hydrology, flooding and water quality study area consists of the Macquarie River and Hunter River catchments, and sub-catchments. A catchment is the area that drains directly to a stream or body of water and includes areas upstream and downstream of the project. The Project is located across the Macquarie River and Hunter River catchments. Numerous natural watercourses intersect the study area, including perennial and ephemeral watercourses and unnamed drainage lines. A number of constructed dams are also located within the study area, including Burrendong Dam and Windamere Dam, to provide water supply for towns, industry, irrigators, stock and domestic users, as well as flood mitigation and recreation.	Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)
Relevant Environmental Risks • Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
• Impact to regional or local water supply due to construction water demands	
Assessment and Outcomes Summary The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project. All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Climate Change and Greenhouse Gas	
Relevant Environmental Risks • Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during construction of the Project are estimated to be a total of 611,607 tCO2-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2 emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.	Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the Approved Construction Area

Where the Access Point has extended beyond the approved construction area it is required to be assessed in accordance with MCoA (NSW) B31(d). The table below has been prepared to provide the outcomes of these additional assessments.

TABLE D5- 3 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP1-J2)

Impacts
Biodiversity
PCT 0, miscellaneous ecosystem, was identified by the supplementary assessment BA02 (refer to Appendix F) as being located within the disturbance footprint of the access point, however, the BDAR identified a small area of PCT 281 within the Biodiversity Study Area, but outside the approved construction area. A summary of the additional native vegetated areas outside the approved construction area is provided in the table below and mapped in Appendix E:

PCT Identified	PCT 281
TEC?	Yes
Habitat for Threatened Species?	Yes
SAII?	Yes
Extent (Ha)	0.041

Notes:

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.

The supplementary assessment (BA02 – ECE, 2026) (refer to Appendix F) determined that vegetation within the footprint of the access point subject to the supplementary assessment could not be assigned to a PCT as it contained no native canopy or understorey species and was dominated by exotic species. Minor areas of PCT 281 were mapped outside of the proposed access point footprint disturbance footprint.

The majority of the access point has been mapped as PCT 0 miscellaneous ecosystem as it was dominated by exotic species. The BDAR mapped 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 outside the construction boundary but within the Access Point footprint.

PCT 281 is part of the critically endangered Threatened Ecological Community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act. The additional footprint of works would result in 0.041 Ha of clearing for this PCT outside of the construction footprint. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct.

Clearing limits for PCT281 is defined within the Project Planning Approval, with a revised clearing limit of 336.01 Ha (per DPHI correspondence ref SSI-48323210-PA-57) of PCT 281 applicable for the Project. The clearing of PCT 281 associated with the proposed refinement will be accommodated within the clearing limits defined by the Project Planning Approval and no increase to clearing limits will be required as a result of the proposed refinement.

Threatened fauna

No threatened fauna species were identified in the supplementary assessment. The disturbance footprint only contains PCT 0.

Threatened flora

No threatened flora species were identified in the supplementary assessment. The disturbance footprint only contains PCT 0.

Aboriginal and Non-Aboriginal Heritage

Impacts
The Historical Heritage and Aboriginal Cultural Heritage Assessment Report partially included the disturbance footprint required to establish the access point SP1-J2. The portion of the access point SP1-J2 which was not surveyed as part of the EIS, is covered the Code of Due Diligence Assessment (KNC, 2026), refer to Appendix F. The assessment did not identify any items or areas of Aboriginal Cultural, Archaeological, or historical heritage value. The proposed refinement will be managed in accordance with the management measures detailed in the approved Construction Heritage Management Plan.
Noise and Vibration
The use of the access point SP1-J2 was assessed within the EIS, however the establishment of the access point partially extends beyond the project construction area. For these establishment activities a construction noise assessment was undertaken. The assessment considered the equipment and plant that would be required to construct the access point and the offset distance from the access point to the nearest sensitive noise receiver identified in the EIS. The nearest sensitive receiver to the access point SP1-J2 is 159m away. The construction noise assessment determined that this receiver would likely be exposed to noise levels up to 55 dBA (LAeq(15mins)), which would be approximately 8 dBA above the daytime Noise Management Level (NML). It is worth noting that this estimated construction noise level is conservative and models all items of plant operating concurrently on site for a full fifteen-minute period (which is unlikely to be the case). Although this receiver would likely experience clearly audible construction noise from the establishment of the access point, the impact would be temporary, of a short duration and managed in accordance with the noise and vibration conditions of the Project Approval, the applicable REMMs and the requirements of the approved Construction Noise and Vibration Management Plan.
Surface Water and Hydrology
The access point SP1-J2 was assessed in the Amendment Report flooding assessment and therefore is not discussed further.
Soil and Water
The access point is anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed access point will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor. The construction of the access point is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed access point is considered very low.
Air Quality
The main air quality impact associated with the establishment of the access point is the potential for dust to be generated throughout road upgrade works. One residential sensitive receiver is located approximately 159m to the north of the proposed access point SP1-J2. The potential for dust impacts at any nearby sensitive receivers due to installation and use of these access points will depend on the separation distances and the atmospheric conditions (for example wind direction and speed) at the time. Any dust generation during establishment of the access point would be temporary and for a relatively short duration (i.e. while the works are occurring).

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access

points described in this Strategy. Where specific mitigations are identified, they have been detailed in the table below.

TABLE D5- 4 SP1-J2 ACCESS POINT MITIGATION MEASURES

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all access points described in this document. The following specific mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access points: • Access points will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy) • The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a) • The maximum clearing of 0.041ha of PCT 281 will be tracked in the Project's clearing register • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access points, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage
Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access points: • If any potential heritage items or sites are encountered during installation of the access points, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported • Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified • Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion
Noise and Vibration

Mitigation Measures
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Surface Water and Hydrology
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Erosion and Sedimentation
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades (including the access points): • Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

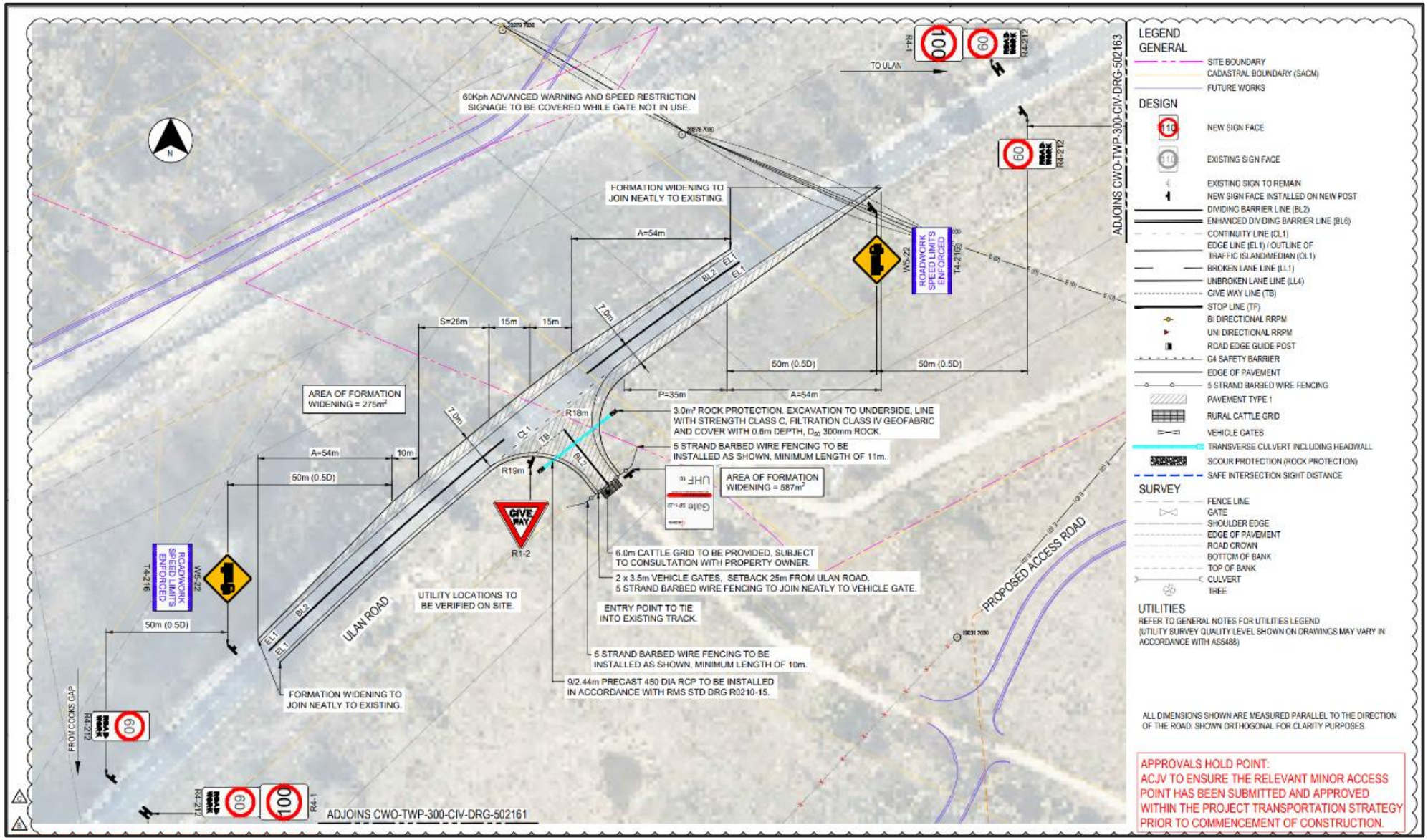
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following Strategic Concept Design drawings.


60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
TO ULAN
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
A=54m
S=28m
15m
15m
7.0m
50m (0.5D)
50m (0.5D)
P=35m
A=54m
AREA OF FORMATION WIDENING = 275m²
R18m
3.0m³ ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 11m.
AREA OF FORMATION WIDENING = 587m²
R19m
GIVE WAY
R1-2
6.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
2 x 3.5m VEHICLE GATES, SETBACK 25m FROM ULAN ROAD.
5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
ENTRY POINT TO TIE INTO EXISTING TRACK.
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
ULAN ROAD
PROPOSED ACCESS ROAD
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 10m.
9/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
ROADWORK SPEED LIMITS ENFORCED
W5-22
T4-216
FROM COOKS GAP
ADJOINS CWO-TWP-300-CIV-DRG-502161
ADJOINS CWO-TWP-300-CIV-DRG-502163
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (OL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D6 SP1-L1/L2 ACCESS POINTS (ULAN ROAD/ULAN-WOLLAR ROAD)

Location

FIGURE D6- 1 LOCATION OF ACCESS POINTS SP1-L1/L2 ON ULAN ROAD AND ULAN-WOLLAR ROAD

FIGURE D6- 2 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP1-L1)

FIGURE D6- 3 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP1-L2)

Description

The Access Points SP1-L1/L2 will be used to access the construction area from Ulan Road and Ulan-Wollar Road. Further details are provided within the table below.

TABLE D6- 1 ACCESS POINTS SP1-L1/L2 TREATMENT AND USE

Entry Point ID	SP1-L1/L2
EIS Access Point (if applicable)	None applicable
Road	Ulan Road and Ulan-Wollar Road
Location	https://maps.app.goo.gl/NPMgkp8mVnYwyBy78 (refer to FIGURE D6- 1) https://maps.app.goo.gl/oFvjSGLubew7bN6i8 (refer to FIGURE D6- 1)
Type	Access Point
Scope of work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access points. Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity impacts MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access points.
Design criteria MCoA B31(b)	The access points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA B31(c)	The Strategic Concept Design is included in the section below.
Assessment of potential impacts MCoA B31 (d)	Refer to section below
Schedule MCoA B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA B31(h)	The access points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

The Access Points SP1-L1/L2 were not included within the EIS. As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access points and their construction area have been refined and are :

- Partially within the approved construction area (the disturbance footprint)
- Within the Aboriginal Heritage survey area

- Within the Biodiversity study area

This location has been generally considered with the provision of an approximately 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction).

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the establishment and use of access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

TABLE D6- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-L1/L2)

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
Study Area and Existing Environment The land use study area in the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the project). This study area is also consistent with the agriculture study area. The existing environment around the access points is characterised by primary production land zoning (RU1). The land use is nominated in the EIS as grazing modified pastures.	Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.2.1 of the EIS (Chapter 8 (Agriculture) Figure 7-1 of the EIS (Chapter 7 (Land Use and Property) Figure 7-2 of the EIS (Chapter 7 (Land Use and Property) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))
Relevant Environmental Risks • Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities • Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary The EIS assessed that the Project would require the use of land (including land currently used for agricultural purposes) temporarily for construction and permanently for operation (where permanent infrastructure is to be located). The residual risk rating for this impact was noted as 'low' for effects on access to properties in the EIS. For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production. The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.4 of the EIS (Chapter 8 (Agriculture))
Landscape Character and Visual Amenity	
Study Area and Existing Environment The EIS study area comprised a four-kilometre-wide corridor centred on the construction area. This study area extent was selected on the basis it included all areas where there is the potential for landscape character and visual impacts from the Project to be experienced. The access point is located within the rural valley landscape character type (Cumbo rural valley - RV-02). The rural valley landscape character type is defined by the creek and river valleys within the study area, and adjacent land which generally consists of wide flat areas of agricultural uses, including arable farmland and some areas of grazing pastures. Although the landform varies between each character zone, it is generally low-lying and flat to gently undulating, including rural plains, which have been cleared for agriculture. The Cumbo rural valley landscape character type is located to the west of Wollar township, including the Cumbo Creek valley, this zone includes a mixture of rural land uses and areas of revegetation as part of the enhancement and conservation areas of nearby Wilpinjong Coal Mine. Existing built features in this zone include the Wellington to Wollar 330 kV transmission lines.	Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Table 9-4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Relevant Environmental Risks • Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), construction traffic, ancillary infrastructure and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that construction of the Project would result in temporary changes to the landscape character and visual amenity of the study area, which would impact residents, tourists, and road users. It also noted that construction of the Project would potentially result in landscape character and visual impacts as a	Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)

EIS Assessment and Outcomes Summary	EIS Assessment References
result of ground disturbance, vegetation clearance, the use of large-scale equipment and supporting infrastructure, the establishment and use of workforce accommodation camps and night-time lighting. The EIS assessed that the magnitude of the Project's change to the landscape character would be moderate-low or moderate as construction works would result in a low to moderate magnitude of change. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.	
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)) • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based The access points are located within the biodiversity study area. The BDAR identified vegetation along the existing access as consisting of the following Plant Community Type (PCT): • PCT 0 miscellaneous ecosystem • PCT 468 Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum • PCT 481 Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark. The location of access point SP1-L1 on Ulan Road and SP1-L2 on Ulan-Wollar Road was identified in the BDAR, and therefore the BDAR generally considered the access points and the associated impacts at this location.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen. The table below summaries the PCT's that have been identified by the BDAR as being impacted at the access points.	Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity))

PCT	Act	Listed Status	Threat Status	Associated TEC
PCT 468 Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum	N/A	Not listed	N/A	No
PCT 481 Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark	N/A	Not listed	N/A	No
PCT 0 miscellaneous ecosystem	N/A	Not listed	N/A	No

None of the PCT's are associated with any threatened ecological communities under either the BC Act or the EPBC Act and therefore there are no clearing limits associated with these PCTs listed in the Project Planning Approval.

The location of access point SP1-L1/L2 at Ulan-Wollar Road was identified in the BDAR, and therefore the BDAR generally considered the access point and the associated impacts at this location.

Habitat for Threatened Species

Vegetation within the assessed area was identified as PCT 468 and PCT 481 within the proposed access point footprints. Four threatened fauna species associated with PCT 468 were mapped within the BDAR at this location (SP1-L1 only):

- Pink-tailed legless lizard
- Squirrel Glider (assumed)
- Pale-headed snake (within the vicinity of the access point only and not with the actual disturbance footprint)
- Eastern Pygmy-possum (assumed)

The BDAR did not map any habitat for threatened flora species at the access point.

Aboriginal Heritage and Non-Aboriginal Heritage	
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area. The Aboriginal and historic heritage assessments carried out as part of the EIS and Amendment Report identified four AHIMS sites (unidentified artefact scatter) west of the access point SP1-L1 within the construction area: • 36-3-0820	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)

EIS Assessment and Outcomes Summary	EIS Assessment References
• 36-3-0819 • 36-2-0818 • 36-3-0821 One isolated find AHIMS site is located to the north of access point SP1-L2 (36-3-0691), within the approved construction area.	Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The extended footprint of the access point was included in the assessment area of the Aboriginal and historical heritage assessments carried out as part of the EIS and Amendment Report. The supplementary assessment identified Aboriginal site SNI-IF99 (isolated find) approximately 260m to the east of access point SP1-L1 and approximately 315m to the south-west of access point SP1-L2. SNI-IF99 was recorded as part of the background scatter SNI BS1 which is permitted for direct impact within the Construction Area under the Project Planning Approval, however the site will not be impacted as a result of the proposed refinement.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Noise and Vibration	
Study Area and Existing Environment The noise and vibration study area in the EIS consisted of the construction area of the Project and areas within three kilometres of the construction area. The nearest sensitive receiver to the access points is residential receiver 274 which is located approximately 2.16km west of SP1-L1 and 2.66km west of SP1-L2.	Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration)) Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration)) Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
Relevant Environmental Risks • Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration and managed in accordance with the mitigation measures associated with the Project Planning Approval.	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport))

EIS Assessment and Outcomes Summary	EIS Assessment References
stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Ulan Road and Ulan-Wollar Road are the main roads in the study area. It is noted in the EIS that Ulan Road is approximately 72 kilometres long road which provides a north-south connection between Golden Highway in the north and Mudgee town centre. It is a sealed pavement and is a bidirectional two-lane road (one lane in each direction). The posted speed limit is 100 km/h. The relevant section of Ulan Road to the access points is the portion south of Ulan-Wollar Road.	Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. Roads that also experience higher traffic volumes include Ulan Road (approximately 9,000 vehicles per day) on weekdays. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B: • The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road • All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B Ulan-Wollar Road has been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Waste Management	
Study Area and Existing Environment Existing waste sources in the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs primarily includes waste from agricultural, mining and forestry operations and domestic waste. A number of waste management and waste transfer facilities operated by local councils are located near the Project and accept a wide range of wastes, including construction and demolition waste, domestic waste and recyclable materials.	Section 18.3 of Chapter 18 of the EIS (Waste Management)
Relevant Environmental Risks • Impacts on local and regional waste management facilities due to increased demand from overall project generated construction wastes	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes.	Chapter 18 of the EIS (Waste Management) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Possible impacts during construction as a result of the improper management of construction waste includes those on local and regional waste management facilities. The EIS identified that this could be due to increased demand from overall project generated construction wastes. Other impacts, if not managed appropriately, could include dust, odour, erosion and sedimentation, human health risks, and mud tracking. The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	
Hydrology, Flooding and Water Quality	
Study Area and Existing Environment The hydrology, flooding and water quality study area consists of the Macquarie River and Hunter River catchments, and sub-catchments. A catchment is the area that drains directly to a stream or body of water and includes areas upstream and downstream of the project. The Project is located across the Macquarie River and Hunter River catchments. Numerous natural watercourses intersect the study area, including perennial and ephemeral watercourses and unnamed drainage lines. A number of constructed dams are also located within the study area, including Burrendong Dam and Windamere Dam, to provide water supply for towns, industry, irrigators, stock and domestic users, as well as flood mitigation and recreation.	Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)
Relevant Environmental Risks • Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills • Impact to regional or local water supply due to construction water demands	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project. All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Climate Change and Greenhouse Gas	
Relevant Environmental Risks • Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during construction of the Project are estimated to be a total of 611,607 tCO2-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2	Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.	
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the Approved Construction Area

Where the Access Point has extended beyond the approved construction area they are required to be assessed in accordance with MCoA (NSW) B31(d). The table below has been prepared to provide the outcomes of these additional assessments.

TABLE D6- 3 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP1-L1/L2)

Impacts

Biodiversity

Although the access points were included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint).

A summary of the additional vegetated areas outside the Project construction area is provided in the table below and mapped in Appendix E:

Access Point	PCT Identified	TEC?	Habitat for Threatened Species?	Extent (Ha)
SP1-L1	PCT 0	No	No	0.1
	PCT 468	No	Yes	0.099
SP1-L2	PCT 0	No	No	0
	PCT 481	No	Yes	0.072

Notes:

PCT 0 – Miscellaneous ecosystem
PCT 468 - Narrow-leaved Ironbark - Black Cypress Pine +/- Blakely's Red Gum
PCT 481 – Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum

Impacts
The additional footprint of works would result in 0.099ha of clearing of PCT 468 and 0.072 ha of clearing of PCT 481. These PCT types are not listed as a threatened ecological community under either the BC or EPBC Acts and there are no clearing limits for these PCT's defined within the Project Planning Approval. PCT 479 will not be impacted by the access point works. The following threatened fauna species were assumed present at SP1-L1: • Squirrel Glider • Pale-headed snake • Eastern Pygmy-possum Pink-tailed legless lizard was confirmed as present at SP1-L1 within the road corridor where it intersects with the access point disturbance footprint at the eastern extent. This area mostly is mapped as PCT 0, with a small area within the road verge mapped as PCT 486. The BDAR did not map any habitat for threatened flora species at SP1-L1. The BDAR did not map any habitat for threatened flora or fauna species at SP1-L2. No additional impact to the habitat for threatened species compared to what was assessed in the EIS / Amendment report will result from the proposed refinement and no increase to clearing limits will be required as a result of the proposed refinement.
Aboriginal Heritage and Non-Aboriginal Heritage
The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SP1-L1/L2.
Traffic and Transport
SP1-L1 and SP1 L-2 is a new access point located along Ulan Road that was relocated off Ulan Wollar Road to facilitate safe access to the transmission line easement for Project related construction traffic. SP1-L2 is a new access point, located along Ulan Wollar Road, that was relocated further North along Ulan Wollar Road for the same purpose. The proposed refinement is for the extent of the access point footprint that sits outside of the approved Construction Area. Ulan Road and Ulan Wollar Road are sealed local roads within Mid-Western Regional Council with a speed limit of 100km per hour. Technical Paper 13 of the EIS provides traffic volume data for Ulan Road and Ulan-Wollar Road. There is the potential for minor disruption to traffic on Ulan Road and Ulan Wollar Road during construction of the access points, including the proposed refinement. The traffic impacts due to the proposed refinements at each of the locations are the same or substantially the same as what was assessed in the EIS for these road upgrades (access points) and the impacts are considered to be minor in nature and duration.
Noise and Vibration
The use of the access points SP1-L1/L2 was assessed within the EIS, however the establishment of the access points partially extends beyond the project construction area. For these establishment activities a construction noise assessment was undertaken. The assessment considered the equipment and plant that would be required to construct the access points and the offset distance from the access points to the nearest sensitive noise receiver identified in the EIS. The proposed refinement is not expected to alter the outcomes of the noise and vibration assessment undertaken as part of the EIS and Amendment Report as the proposed refinement does not decrease the distance between the Construction Area and the nearest sensitive receiver. The nearest sensitive receiver to the access points SP1-L1/L2 is more than 2km away (receiver ID 274). At this distance construction noise would not exceed the identified Nosie Management Level (NML) and vibration impacts on both the construction and use of this location are considered negligible. Noise and vibration associated with the proposed refinement will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002).
Surface Water and Hydrology
An additional review has been undertaken for the access points SP1-L1/L2 in consideration of the flood mapping for the EIS. Both access points SP1-L1/L2 are within the existing one in 20-year flooding depth. The Project Approval (specifically, MCoA B20) requires the development not materially alter the flood storage capacity, flows or characteristics in the development area or off-site. As the access points are restricted by the existing infrastructure (i.e. the existing location of the roads and intersections which must be upgraded/accessed from) it is considered that the commitments in the EIS for the management of and impact to flooding characteristics are appropriate for the proposed works.

Impacts
Further, noting that the disturbance footprints for the access points are generally aligned with and not substantially greater than the areas of ground disturbance considered in the EIS, the mitigations described therein are also appropriate for the management of surface water and soil impacts in the below locations.
Soil and Water
The access point is anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed access point will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor. The construction of the access point is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed access point is considered very low.
Air Quality
The main air quality impact associated with the establishment of the access points is the potential for dust to be generated throughout road upgrade works. As the nearest sensitive receiver to the access points SP1-L1/L2 is greater than 500m away the potential for dust impacts is considered to be very low to negligible.

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Planning Approval are considered appropriate for the management of all access points described in this Strategy. Where specific mitigations are identified, they have been detailed in the relevant sections below.

TABLE D6- 4 ACCESS POINT MITIGATION MEASURES (SP1-L1/L2)

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all access points described in this document. The following specific mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access points: • Access points will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy) • The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a) • The clearing of 0.099ha of PCT 468 and 0.072ha of PCT 481 will be tracked on the Project's clearing register • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access points, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage

Mitigation Measures
Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access points: • If any potential heritage items or sites are encountered during installation of the access points, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported • Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion
Noise and Vibration
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Surface Water and Hydrology
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Erosion and Sedimentation
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades: • Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any

Mitigation Measures
application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

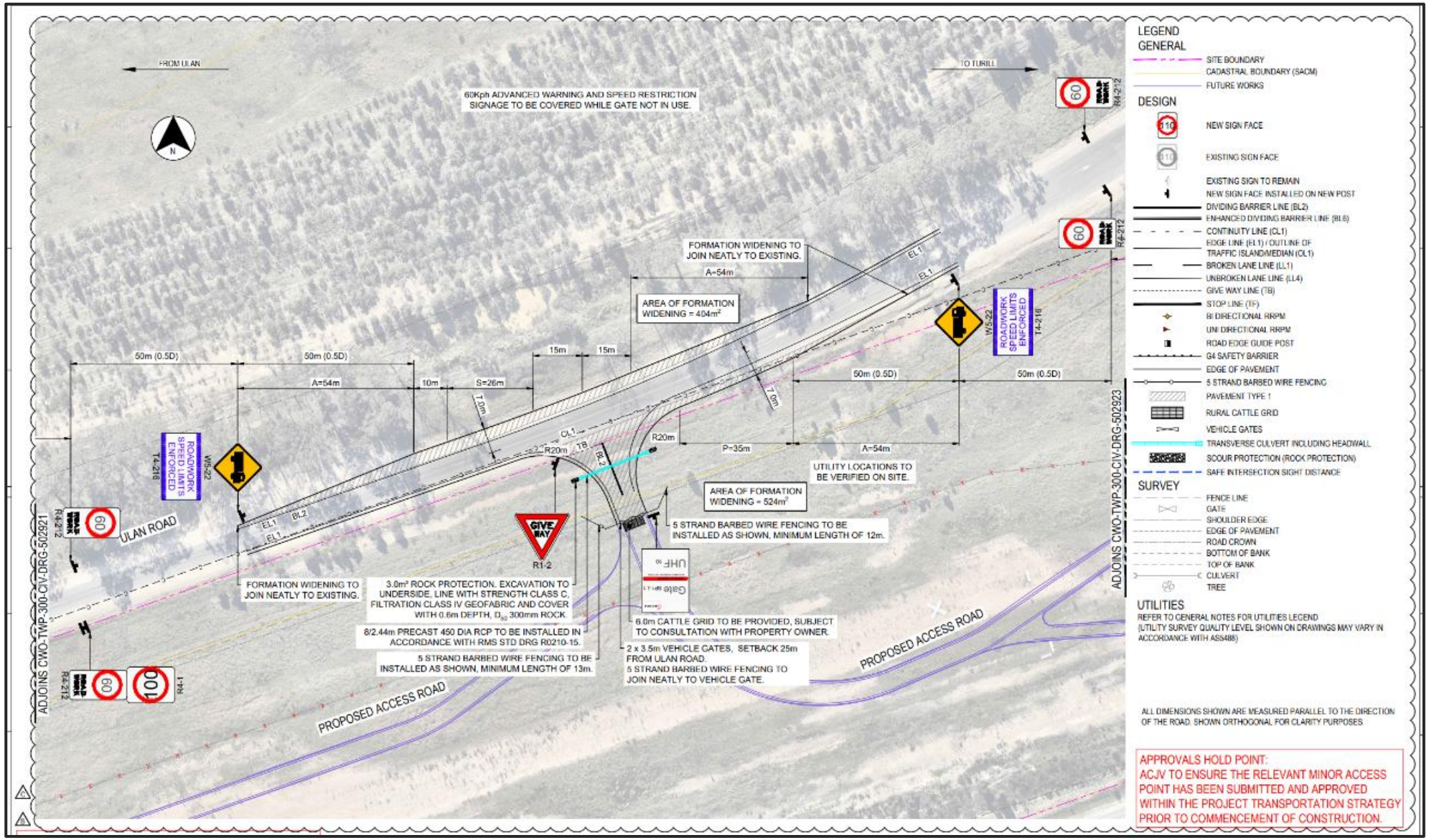
Strategic Concept Design

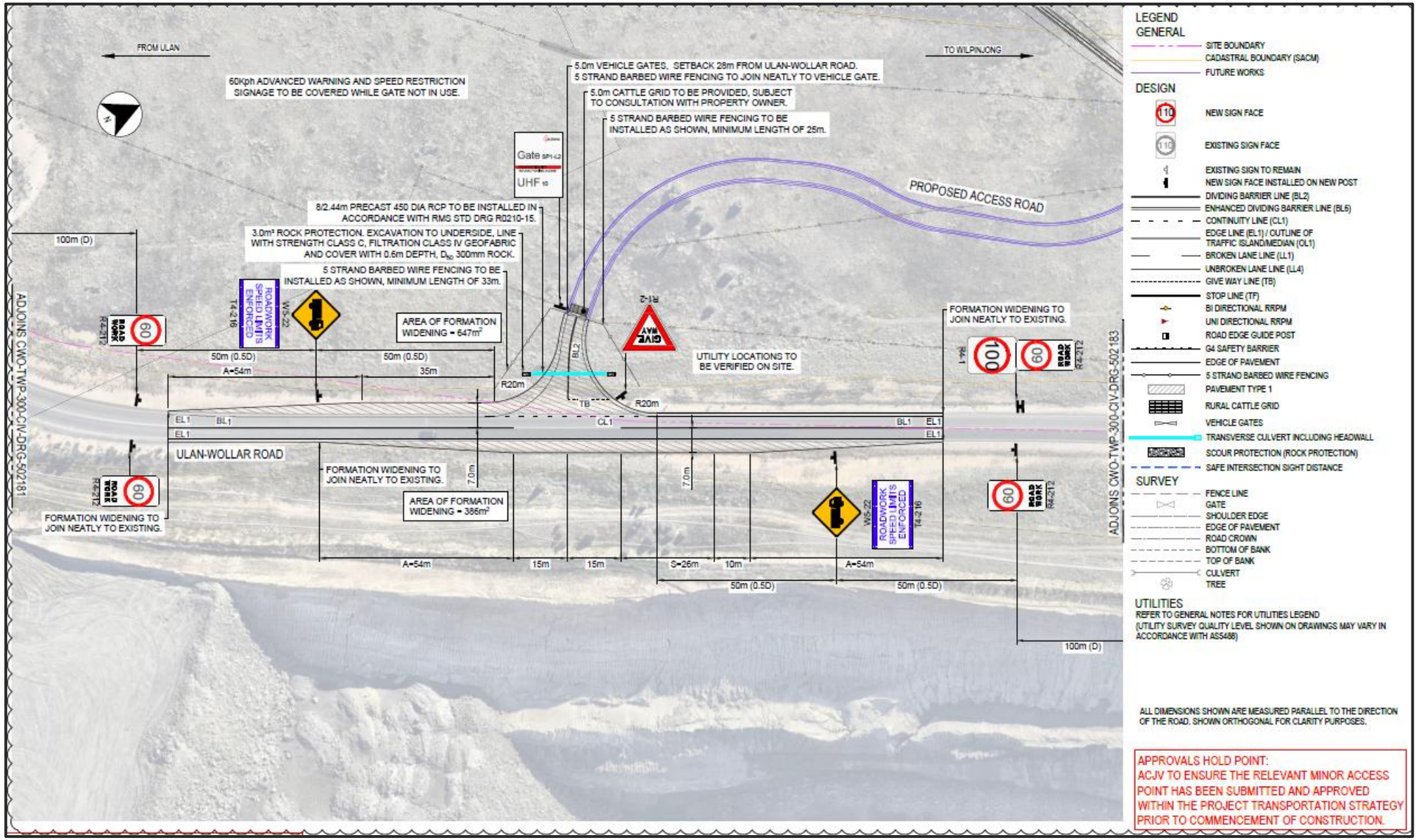
MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following Strategic Concept Design drawings.


FROM ULAN
TO TURILL
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
A=54m
AREA OF FORMATION WIDENING = 404m²
50m (0.5D)
50m (0.5D)
A=54m
10m
S=26m
15m
15m
7.0m
7.0m
50m (0.5D)
50m (0.5D)
ROADWORK SPEED LIMITS ENFORCED
W5-22
T4-216
R20m
P=35m
A=54m
AREA OF FORMATION WIDENING = 524m²
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 12m.
GIVE WAY
R1-2
ULAN ROAD
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
3.0m² ROCK PROTECTION. EXCAVATION TO UNDERSIDE. LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
8/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 13m.
6.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
2 x 3.5m VEHICLE GATES, SETBACK 25m FROM ULAN ROAD.
5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
PROPOSED ACCESS ROAD
PROPOSED ACCESS ROAD
ADJOINS CWO-TWP-300-CIV-DRG-502921
ADJOINS CWO-TWP-300-CIV-DRG-502923
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (CL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.


FROM ULAN
TO WILPINJONG
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
5.0m VEHICLE GATES, SETBACK 28m FROM ULAN-WOLLAR ROAD.
5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 25m.
PROPOSED ACCESS ROAD
8/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
3.0m³ ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 33m.
AREA OF FORMATION WIDENING = 647m²
AREA OF FORMATION WIDENING = 386m²
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
ULAN-WOLLAR ROAD
ADJOINS CWO-TWP-300-CIV-DRG-502181
ADJOINS CWO-TWP-300-CIV-DRG-502183
100m (D)
50m (0.5D)
35m
A=54m
R20m
TB
BL2
CL1
EL1
BL1
7.0m
15m
S=26m
10m
ROADWORK SPEED LIMITS ENFORCED
W5-22
T4-216
GIVE WAY
R1-2
ROAD WORK
R4-212
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (OL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D7 SP1-U ACCESS POINT (ULAN-WOLLAR ROAD) – REFER PRIORITY 2

APPENDIX D8 SP1-N ACCESS POINT (ULAN-WOLLAR ROAD) – REFER PRIORITY 2

APPENDIX D9 SP1-P ACCESS POINT (ULAN-WOLLAR ROAD) – REFER PRIORITY 2

APPENDIX D10 SP1-T ACCESS POINT (ULAN-WOLLAR ROAD) – REFER PRIORITY 2

APPENDIX D11 SP2-K1/K2 (BARNEYS REEF ROAD) – NOT YET INCLUDED

APPENDIX D12 SP5-C1/C2 (TURILL BUS ROUTE) – NOT YET INCLUDED

APPENDIX D13 PRIORITY 2 SP0-A3/SP6-A2 ACCESS POINTS (MEROTHERIE ROAD) – REFER

APPENDIX D14 PRIORITY 2 SP6-B1/B2 ACCESS POINTS (BIRKALLA ROAD) – REFER

APPENDIX D15 SP6-D1/D2 ACCESS POINTS (BLUE SPRINGS ROAD NORTH) – REFER PRIORITY 2

APPENDIX D16 SP7-A (BIRRIWA BUS ROUTE SOUTH) – NOT YET INCLUDED

APPENDIX D17 SP6-E1 ACCESS POINT (BLUE SPRINGS ROAD NORTH) – REFER PRIORITY 2

APPENDIX D18 SP2-H1/H2 (CASTLEREAGH HIGHWAY) – NOT YET INCLUDED

APPENDIX D19 SP5-B1/B2 (CLIFFDALE ROAD) – NOT YET INCLUDED

APPENDIX D20 SP1-H1/H2 ACCESS POINTS (COPE ROAD) – REFER PRIORITY 2

APPENDIX D21 SP3-D1/D2 (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D22 SP3-E (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D23 SP3-X1/X2 (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D24 SP1-Q ACCESS POINT (ULAN-WOLLAR ROAD) – REFER PRIORITY 2

APPENDIX D25 SP1-WILP ACCESS POINT (ULAN-WOLLAR ROAD)

Location

FIGURE D25- 1 LOCATION OF ACCESS POINT (SP1-WILP ON ULAN-WOLLAR ROAD)

FIGURE D25- 2 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP1-WILP)

Description

The Access Point SP1-Wilp will be used to access the construction area from Ulan-Wollar Road. Further details are provided within the table below.

TABLE D25- 1 ACCESS POINT SP1-WILP TREATMENT AND USE

Entry Point ID	SP1-Wilp
EIS Access Point (if applicable)	None applicable
Road	Ulan-Wollar Road
Location	https://maps.app.goo.gl/wzRQNEkPcSV2hSgr8
Type	BAR/BAL
Scope of work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access point Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity impacts MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access point.
Design criteria MCoA B31(b)	The access point will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA B31 (d)	Refer to section below
Schedule MCoA B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA B31(h)	The access point will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

The access point is a new access point not assessed in the EIS/ Amedment Report. However, the EIS / Amendment Report did consider an access track adjoining Ulan-Wollar Road. As a result of design refinements, and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access point and the associated construction area has been refined and is:

- Outside the approved construction area (the disturbance footprint)

- Outside the Aboriginal Heritage survey area
- Partially within the Biodiversity study area

This location has been considered with the provision of an approximately 5m construction buffer on the design footprint, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible, during construction).

Where access points have extended beyond the approved construction area, biodiversity study area or heritage assessment area, they are required to be assessed in accordance with MCoA (NSW) B31(d). As this access point is outside the approved construction area, biodiversity study area and heritage assessment area, further assessment is required.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the establishment and use of access points. It is noted that the access points in the EIS were assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D25-1 identifies the proposed disturbance footprint of the access points in comparison to what was assessed within the EIS. Other supporting figures are contained in Appendix E.

TABLE D25- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-WILP)

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
Study Area and Existing Environment The land use study area the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the	Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.2.1 of the EIS (Chapter 8 (Agriculture)

EIS Assessment and Outcomes Summary	EIS Assessment References
assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the Project). This study area is also consistent with the agriculture study area.	Figure 7-1 of the EIS (Chapter 7 (Land Use and Property) Figure 7-2 of the EIS (Chapter 7 (Land Use and Property) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))
Relevant Environmental Risks • Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities • Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that the Project would require the use of land (including land currently used for agricultural purposes) temporarily for construction and permanently for operation (where permanent infrastructure is to be located). The residual risk rating for this impact was noted as 'low' for effects on access to properties in the EIS. For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production. The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property) Section 8.4 of the EIS (Chapter 8 (Agriculture))
Landscape Character and Visual Amenity	
Study Area and Existing Environment The EIS study area comprised a four-kilometre-wide corridor centred on the construction area. This study area extent was selected on the basis it included all areas where there is the potential for landscape character and visual impacts from the Project to be experienced. Although the landform varies between each character zone, it is generally low-lying and flat to gently undulating, including rural plains, which have been cleared for agriculture. The access point is located within the rural valley landscape character type (Wollar rural valley – RV-01). The rural valley landscape character type is defined by the creek and river valleys within the study area, and adjacent land which generally consists of wide flat areas of agricultural uses, including arable farmland and some areas of grazing pastures. The Wollar rural valley landscape character type is visually contained by the surrounding north south aligned forested ridges and hills including the Razorback Ridge to the east, and Munghorn Gap Nature Reserve to the west. The approved Wollar solar farm, located immediately to the south of the	Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)

EIS Assessment and Outcomes Summary	EIS Assessment References
project will influence the future character of this zone, joining the existing built features which include the existing Wollar substation and Wellington to Wollar 330 kV transmission lines.	
Relevant Environmental Risks • Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), [and] construction traffic...	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS assessed that construction of the Project would result in temporary changes to the landscape character and visual amenity of the study area, which would impact residents, tourists, and road users. It also noted that construction of the Project would potentially result in landscape character and visual impacts as a result of ground disturbance, vegetation clearance, the use of large-scale equipment and supporting infrastructure, the establishment and use of workforce accommodation camps and night-time lighting. The EIS assessed that the magnitude of the Project's change to the landscape character during construction would result in an overall low-moderate landscape impact. Given the minor and temporal nature of this access point, it can be reasonably concluded that their actual impacts would be much lower.	Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project. • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)). • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations. • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based. The access point is partially located within the biodiversity study area (associated with the adjoining minor access track). The BDAR partially assessed the footprint for the proposed access point, SP1-Wilp, located along Ulan-Wollar Road. The BDAR mapped vegetation within the footprint of the proposed access point as consisting of PCT 0 Miscellaneous Ecosystem.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Refer to the next section (Assessment of Potential Impacts Outside the EIS Construction Area) for consideration of impacts.	

EIS Assessment and Outcomes Summary	EIS Assessment References
Aboriginal Heritage and Non-Aboriginal Heritage	
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area. Access point SP1-Wilp was not specifically considered in the EIS, however, Cumbo Creek, located approximately 95m east of SP1-Wilp, has been identified to have numerous Aboriginal sites, places and/or deposits along it. The EIS identified that a zone of 150m encompassing the bank of Cumbo Creek was noted to have higher densities of stone artefacts and/or other areas of past foci. The nearest recorded sites (36-3-2596) as recorded as part of the EIS/Amendment Report are located approximately 25m east. No other areas, sites, items or places of non-Aboriginal or Aboriginal Cultural Heritage significance are recorded within 100m of SP1-Wilp.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place. Refer to the next section (Assessment of Potential Impacts Outside the EIS Construction Area) for an assessment of the potential impacts to Aboriginal heritage and non-Aboriginal heritage.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Noise and Vibration	
Study Area and Existing Environment The noise and vibration study area in the EIS consisted of the construction area of the Project and areas within three kilometres of the construction area. The use of the access point SP1-Wilp was not specifically assessed within the EIS, however the construction and use of an access point was assessed in the EIS in this general area, evident by the access track that adjoins Ulan-Wollar Road. The nearest sensitive receiver to the access point SP1-WILP is 4.8km away (residential receiver 82).	Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration)) Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration)) Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
Relevant Environmental Risks Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))

EIS Assessment and Outcomes Summary	EIS Assessment References
Refer to the next section (Assessment of Potential Impacts Outside the EIS Construction Area) for an assessment of the potential noise and vibration impacts.	
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. SP1-Wilp is a new access point, located along Ulan-Wollar Road. Ulan Wollar Road is a sealed local road within Mid-Western Regional Council with a speed limit of 100km per hour. Technical Paper 13 of the EIS provides traffic volume data for Ulan Wollar Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B: • The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road • All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B Ulan-Wollar Road has been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Waste Management	
Study Area and Existing Environment Existing waste sources in the Mid-Western Regional LGA primarily includes waste from agricultural, mining and forestry operations and domestic waste. A number of waste management and waste transfer facilities operated by local councils are located near the Project and accept a wide range of wastes, including construction and demolition waste, domestic waste and recyclable materials.	Section 18.3 of Chapter 18 of the EIS (Waste Management)
Relevant Environmental Risks • Impacts on local and regional waste management facilities due to increased demand from overall Project generated construction wastes	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Like most other environmental aspects, there is no singular assessment for access points in relation to waste management. The most relevant construction waste stream volumes for the Project are included below. It is considered that the	Chapter 18 of the EIS (Waste Management)

EIS Assessment and Outcomes Summary	EIS Assessment References
establishment and use of access points would represent a very minor portion of these indicative volumes. Possible impacts during construction as a result of the improper management of construction waste includes those on local and regional waste management facilities. The EIS identified that this could be due to increased demand from overall project generated construction wastes. Other impacts, if not managed appropriately, could include dust, odour, erosion and sedimentation, human health risks, and mud tracking. The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Hydrology, Flooding and Water Quality	
Study Area and Existing Environment The hydrology, flooding and water quality study area consists of the Macquarie River and Hunter River catchments, and sub-catchments. A catchment is the area that drains directly to a stream or body of water and includes areas upstream and downstream of the project. The Project is located across the Macquarie River and Hunter River catchments. Numerous natural watercourses intersect the study area, including perennial and ephemeral watercourses and unnamed drainage lines. A number of constructed dams are also located within the study area, including Burrendong Dam and Windamere Dam, to provide water supply for towns, industry, irrigators, stock and domestic users, as well as flood mitigation and recreation.	Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)
Relevant Environmental Risks • Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills • Impact to regional or local water supply due to construction water demands	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The access point is anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed access point is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project. All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible. Flood mapping for the EIS indicates that access point SP1-Wilp is within the existing one in 20-year flooding depth. The Project Approval (specifically, MCoA (NSW) B20) requires the development not materially alter the flood storage capacity, flows or characteristics in the development area or off-site. As the access point are restricted by the existing infrastructure (i.e. the existing location of the roads and intersections which must be upgraded/accessed from) it is considered that the commitments in the EIS for the management of and impact to flooding characteristics are appropriate for the proposed works. Further, noting that the disturbance footprints for the access point is not substantially greater than the areas of ground disturbance considered in the EIS,	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
the mitigations described therein are also appropriate for the management of surface water and soil impacts at SP1-Wilp.	
Climate Change and Greenhouse Gas	
Relevant Environmental Risks • Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during construction of the Project are estimated to be a total of 611,607 tCO2-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the Project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2 emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.	Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the Approved Construction Area

Where the access point has extended beyond the approved construction area, biodiversity study area or Aboriginal heritage survey area it is required to be assessed in accordance with MCoA (NSW) B31(d). The table below has been prepared to provide the outcomes of these additional assessments.

TABLE D25- 3 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP1-WILP)

Impacts
Biodiversity
The access point SP1-Wilp is mostly outside the biodiversity survey area of the EIS and the Project construction area (the disturbance footprint); therefore, an additional targeted biodiversity survey was completed, refer to the supplementary assessment attached (Appendix G).

Impacts

A summary of the vegetated areas outside the biodiversity survey area and project construction area is below and mapped in Appendix E:

PCT Identified	PCT 0	PCT 281
TEC?	No	Yes
Habitat for Threatened Species?	No	Yes
SAII?	No	Yes
Extent (Ha)	NA	0.06

Notes:

PCT 0 – Miscellaneous ecosystem
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

The majority of the access point has been mapped as and PCT 0 miscellaneous ecosystem as it was dominated by exotic species. 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 was also determined to occur within the Access Point footprint.

PCT 281 is part of the critically endangered Threatened Ecological Community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act. The additional footprint of works would result in 0.06ha of clearing for this PCT outside of the construction footprint. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct.

Clearing limits for this PCT are defined within the Project Planning Approval, with a revised clearing limit of 336.01 Ha (per DPHI correspondence ref SSI-48323210-PA-57) of PCT 281 applicable for the Project. The clearing of PCT 281 associated with the proposed refinement will be accommodated within the clearing limits defined by the Project Planning Approval and no increase to clearing limits will be required as a result of the proposed refinement.

Habitat for Threatened Fauna

The supplementary assessment (refer ECE report BA02, attached as Appendix F) determined the presence of the following, mapped in Appendix E:

- Eastern Pygmy -possum (*Cercartetus nanus*)
- Large-eared Pied Bat (*Chalinolobus dwyeri*)
- Squirrel Glider (*Petaurus norfolcensis*)
- Eastern Cave Bat (*Vespadelus troughtoni*)

Based on the above, ACJV D&C considers PCT 281 to be associated with habitat for all threatened fauna species listed above. The Large-eared Pied Bat and Eastern Cave Bat are also identified as a Serious and Irreversible Impact (SAII) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct.

The additional impact to the habitat for these threatened species will be accommodated within the approved clearing limits for the Project for these species and no increase to clearing limits will be required.

Threatened Flora

Six threatened flora species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. Targeted surveys were completed for the five threatened flora species, three of the five species were not identified within the access point assessment area, including the extent that sits outside the approved construction. The remaining two threatened flora species, *Acacia ausfeldii* (Ausfeld's Wattle) and *Prasophyllum petilum* (Tarengo Leek Orchid), were assumed present after the supplementary assessment conducted targeted surveys.

Impacts
The additional impact to the habitat for this threatened species will be accommodated within the approved clearing limits for the Project for this species and no increase to clearing limits will be required.
Aboriginal Heritage and Non-Aboriginal Heritage
The Code of Due Diligence assessment (KNC, 2026) concluded that no additional Aboriginal or Non-Aboriginal cultural heritage values were identified within the additional area assessed, refer to Appendix F. A low density artefact scatter (36-3-2596) was recorded approximately 25m east of the access point footprint. The supplementary assessment concluded that the site would not be impacted by the access point. No other areas, sites, items or places of non-Aboriginal or Aboriginal Cultural Heritage significance are recorded within 100m of the access point. An Area of Sensitivity associated with Cumbo Creek intersects the access point footprint and an area of sensitivity along Wilpinjong Creek. A previously recorded AHIMS site 36-3-3347 was identified within the vicinity of the access point footprint. The supplementary heritage assessment determined that the AHIMS site status was confirmed as “Destroyed” and is no longer extant and do not pose a constraint to the proposed access point works. No Aboriginal heritage constraints associated with the Areas of Sensitivity were identified and the field assessment confirmed that the Areas of Sensitivity do not extend into the proposed work areas. Therefore, further investigation (archaeological excavation under REMM AH10) is not required at these areas. The supplementary assessment further concluded that no Aboriginal heritage objects/sites or historic heritage items have been identified within or near the proposed work areas listed above outside the approved Construction Area. The proposed works would not cause harm to any identified Aboriginal heritage objects/sites or historic heritage items outside the approved Construction Area. The proposed works are therefore consistent with the requirements of CoA B27a. The extent of the additional survey area assessed and the locations of identified items of Aboriginal or Non-Aboriginal cultural heritage values are shown on the figures within Appendix E.
Noise and Vibration
The results of the noise and vibration assessment show construction noise impacts at residential receiver 82 would be minor with no exceedances of the Noise Management Level (NML) predicted during standard working hours. Vibration impacts on both the construction and use of this location are considered negligible. Construction noise and vibration impacts will be temporary, and of short duration.
Soil and Water
The access point is anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period. The construction of the proposed access point will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor. The construction of the access point is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed access point is considered very low.
Air Quality
The EIS included an air quality assessment that provided an overview of the existing environment as it relates to air quality, an assessment of potential air quality impacts resulting from construction and operation of the project and identified mitigation measures to minimise related impacts. The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the nearest sensitive receiver to the access point SP1-Wilp is greater than 500m away, the potential for dust impacts is considered to be very low to negligible

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access

point described in this Strategy. Where additional mitigations are identified, they have been detailed in the table below.

TABLE D25- 4 ACCESS POINT MITIGATION MEASURES (SP1-WILP)

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all access point described in this document. The following additional mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access point: • Access point will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy) • The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a) • The clearing of 0.06ha of PCT 281 will be tracked in the Project's clearing register • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access point, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage
Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access point: • If any potential heritage items or sites are encountered during installation of the access point, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported • Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion

Mitigation Measures
Noise and Vibration
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Surface Water and Hydrology
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.
Erosion and Sedimentation
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access point and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades: • Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

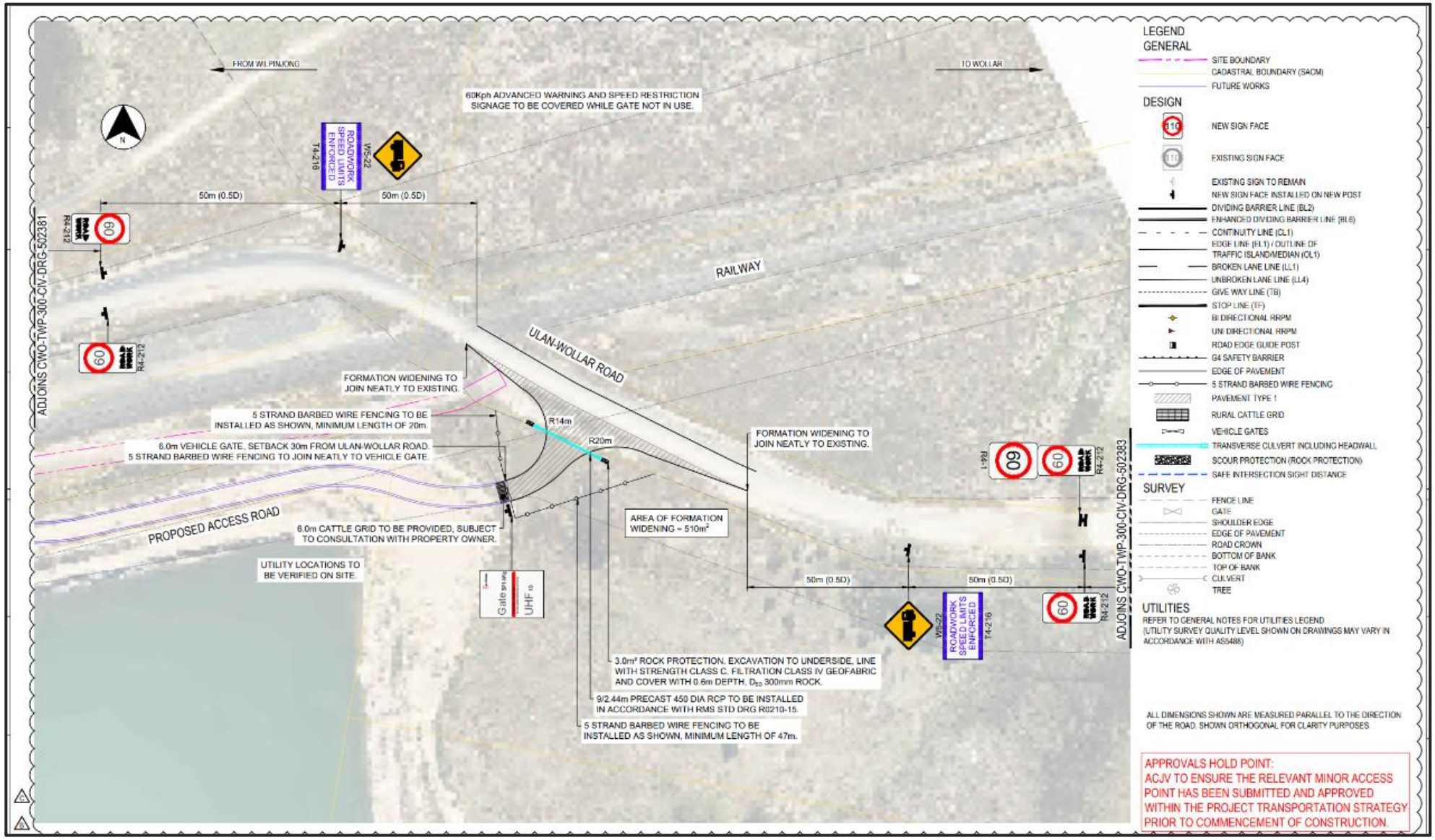
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following design drawings.


FROM WILPINJONG
TO WOLLAR
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
ROADWORKS SPEED LIMITS ENFORCED
T4-216
WS-22
50m (0.5D)
50m (0.5D)
R4-212
RAILWAY
ULAN-WOLLAR ROAD
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 20m.
8.0m VEHICLE GATE, SETBACK 30m FROM ULAN-WOLLAR ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
R14m
R20m
PROPOSED ACCESS ROAD
6.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
AREA OF FORMATION WIDENING = 510m²
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
3.0m² ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D_{50} 300mm ROCK.
9/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 47m.
ADJOINS CWO-TWP-300-CIV-DRG-502381
ADJOINS CWO-TWP-300-CIV-DRG-502383
Gate
UHF
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (CL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D26 SP1-X1/X2 CROSSING POINTS (UPPER CUMBO ROAD)

Location

FIGURE D26- 1 LOCATION OF CROSSING POINT SP1- X1/X2 ON UPPER CUMBO ROAD

Description

The Crossing Points will be used to access the construction area from Upper Cumbo Road. Further details are provided within the table below.

These Crossing Points were approved by the Planning Secretary on 30 January 2026 in accordance with MCoA (NSW) B32 (reference: SSI-48323210-PA-89) and are included in this Strategy for completeness.

It is noted that there is a locked gate approximately twenty metres into Upper Cumbo Road from Wollar Road prevents public access from the north, and there is no public access from the south.

TABLE D26- 1 ACCESS POINT SP1-X1/X2 TREATMENT AND USE

Entry Point ID	SP1-X1/X2
EIS Access Point (if applicable)	N/A
Road	Upper Cumbo Road
Location	https://maps.app.goo.gl/HejhouewooKuDFHz6
Type	Crossing

Scope of Work	• Ongoing use of existing crossing, but with vehicle movement restrictions removed
	• Maintenance of existing structures and controls, or installation of additional structures and controls, including:
	  ○ Fence, gate and signage
	  ○ Drainage pipe and headwalls (if required)
	  ○ Livestock grid (if required)
	  ○ Advanced warning signs on approach to the crossing points
	  ○ Signage referencing 'give way' on the internal access tracks, clearly indicating that the public road has right of way
	• Public vehicle traffic management measures will be implemented as deemed necessary to enhance safety and traffic efficiency, in consultation with Council. These measures may include traffic signal/traffic control adjustments to manage traffic flow and the installation temporary traffic control devices such as signs warning of construction vehicles ahead
	• Maintenance of localised road stabilisation and re-sheeting across the public road where the crossing is located, as determined in consultation with Council and in accordance with MCoA B34 and associated agreements with Council.
	Independent dilapidation surveys along the applicable local roads have been undertaken in accordance with MCoA (NSW) B34. Regular inspections will be conducted throughout the proposed use described herein, for signs of wear, damage, or deterioration, to identify any repair actions (for example re-sheeting or pothole repair) to maintain the current road surface and condition, in accordance with MCoA (NSW) B34.

Amenity Impacts MCoA (NSW) B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the crossing points' location and small physical footprint when compared to the overall Project.
Design Criteria MCoA (NSW) B31(b)	The crossing points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic Concept Design MCoA (NSW) B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to section below.
Schedule MCoA (NSW) B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA (NSW) B31(h)	The crossing points will be temporary but may be replaced in time with a permanent crossing point (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

Access points SP1-X1/X2 were included within the EIS. The location of the access points and their construction area is:

- Within the approved construction area (the disturbance footprint)
- Within the Heritage assessment area
- Within the Biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible, during construction). All works, including this construction buffer, are within the EIS assessed areas.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below Table D26- 2.

TABLE D26- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-X1/X2)

EIS Assessment and Outcomes Summary	EIS Assessment References
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)) • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

<table>
<tr><th>EIS Assessment and Outcomes Summary</th><th>EIS Assessment References</th></tr>
<tr><td>The access points are located within the biodiversity study area of the EIS/ Amendment Report.
The BDAR identified vegetation within the footprint of the proposed access point SP1-X1 and SP1-X2 as consisting of PCT 618 White Box x Grey Box – red gum–Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley.</td><td></td></tr>
<tr><td>Relevant Environmental Risks
• Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity
• Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities</td><td>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</td></tr>
<tr><td>Assessment and Outcomes Summary
Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen.

The table below summarises the PCT’s that have been identified at the access points that would be impacted.
<table>
<tr><th>PCT</th><th>Act</th><th>Listed Status</th><th>Threat Status</th><th>Associated TEC</th></tr>
<tr><td>618</td><td>BC Act (NSW)</td><td>Listed</td><td>Critically Endangered</td><td>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</td></tr>
<tr><td></td><td>EPBC Act (Cth)</td><td>Listed</td><td>Critically Endangered</td><td>White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</td></tr>
</table>
The BDAR identified these sections of vegetation along Upper Cumbo Road as threatened ecological community (TEC) listed under the Biodiversity Conservation Act 2016 and the Environment Protection and Biodiversity Conservation Act 1999.
The location of access points SP1-X1 and SP1-X2 at Upper Cumbo Road were identified in the BDAR, and therefore the BDAR generally considered the access points and the associated impacts at this location.
The BDAR also mapped Important Habitat’ for Regent honeyeater (Anthochaera Phrygia) within the footprint of the access points which would be impacted by the Project.</td><td>Section 10.4 of the EIS (Chapter 10 (Biodiversity))
Table 10-3 of the EIS (Chapter 10 (Biodiversity))
Table 10-4 of the EIS (Chapter 10 (Biodiversity))
Table 10-5 of the EIS (Chapter 10 (Biodiversity))
Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</td></tr>
<tr><td>Aboriginal Heritage and Non-Aboriginal Heritage</td><td></td></tr>
</table>

EIS Assessment and Outcomes Summary	EIS Assessment References
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place. The Aboriginal and historical heritage assessments carried out as part of the EIS and Amendment Report identified the Historic Heritage Area of Interest zone of the local heritage listed Homestead (Wandoona) under the Mid-Western Regional Local Environmental Plan 2012 (LEP #I996) which is mapped on a small portion of SP1-X2. It has moderate cultural heritage sensitivity. The EIS indicated that although the project would be partially located in the westernmost portion of the curtilage of this heritage item, direct impacts to the structures that form the homestead group are not anticipated. There are no known heritage items (including potential relics) in the area of impact. One recorded AHIMS site, 36-3-0638 (Culturally Modified Tree (Carved or Scarred)), is located approximately 90 metres west of access point SP1-X1. No other areas, sites, items or places of non-Aboriginal or Aboriginal Cultural Heritage significance are recorded within 100m of SP1-X1/X2.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Upper Cumbo Road is a gated unsealed local road in the study area. It is noted in the EIS as being restricted to the public during construction to be used only for access to the transmission line with an upper threshold traffic movement of 32 vehicles per hour.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))

EIS Assessment and Outcomes Summary	EIS Assessment References
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Air Quality	
Study Area and Existing Environment The nearest sensitive air quality receiver (residential – ID 19) is located more than 6km south-east of access points SP1-X1 and SP1-X2.	Figure 19-3 of the EIS (Chapter (Air Quality))
Relevant Environmental Risks Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the access point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access points described in this Strategy. No additional mitigation measures have been identified as required

to facilitate the construction and use of these access points, with the exception of traffic and transport specific measures which have been included in the table below.

TABLE D26- 3 ACCESS POINTS MITIGATION MEASURES (SP1-X1/X2)

Mitigation Measures
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported • Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion

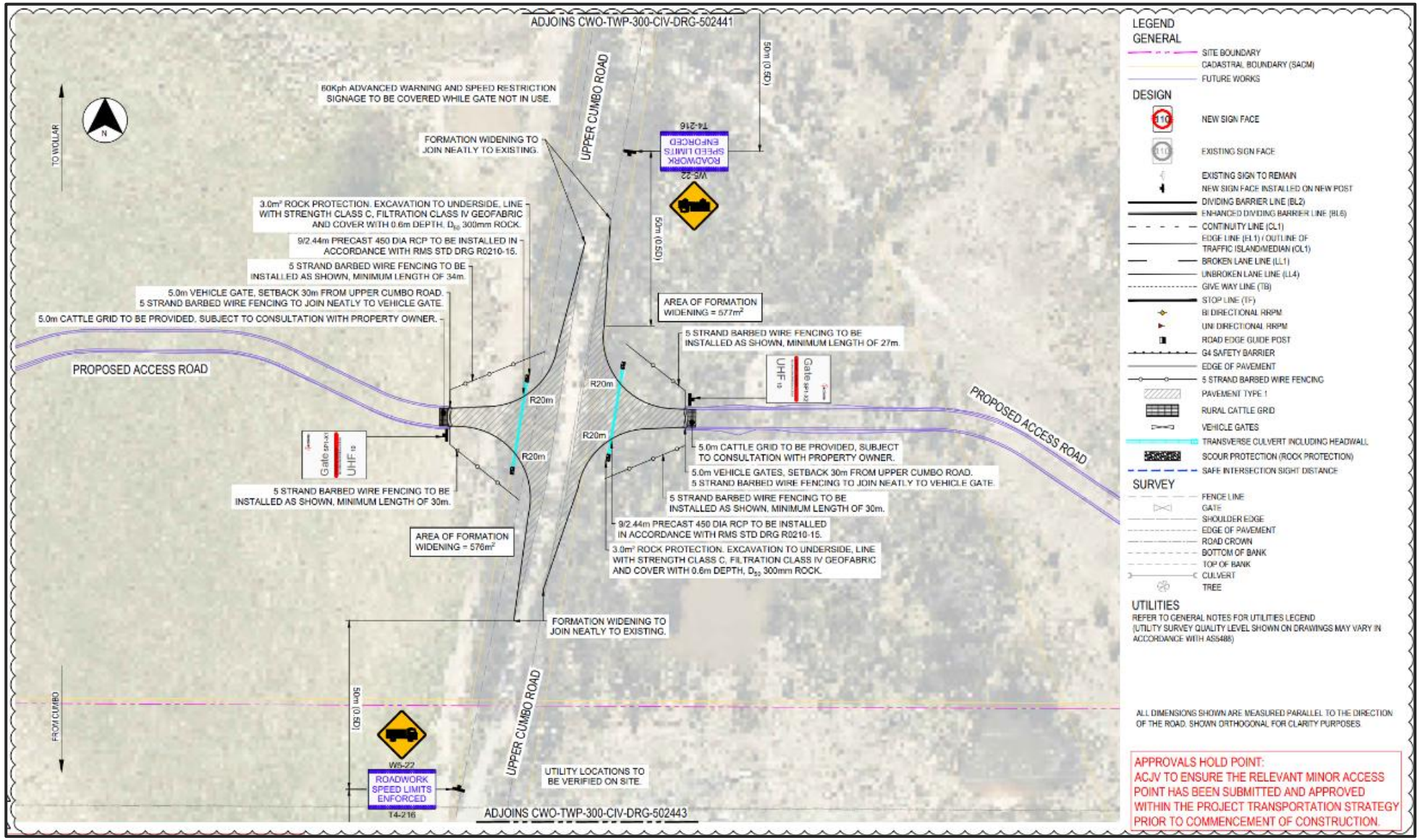
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following Strategic Concept Design drawings.


ADJOINS CWO-TWP-300-CIV-DRG-502441
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
UPPER CUMBO ROAD
50m (0.5D)
3.0m² ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
9/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 34m.
5.0m VEHICLE GATE, SETBACK 30m FROM UPPER CUMBO ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
PROPOSED ACCESS ROAD
AREA OF FORMATION WIDENING = 577m²
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 27m.
R20m
PROPOSED ACCESS ROAD
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
5.0m VEHICLE GATES, SETBACK 30m FROM UPPER CUMBO ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 30m.
9/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
3.0m² ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
AREA OF FORMATION WIDENING = 576m²
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 30m.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
UPPER CUMBO ROAD
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
ROADWORK SPEED LIMITS ENFORCED
T4-216
W5-22
ADJOINS CWO-TWP-300-CIV-DRG-502443
TO WOLLAR
FROM CUMBO
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SCIM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (CL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D27 SP3-A (WHISTONS LANE) – NOT YET INCLUDED

APPENDIX D28 SP1-V1/V2 ACCESS POINTS (WILPINJONG ROAD)

Location

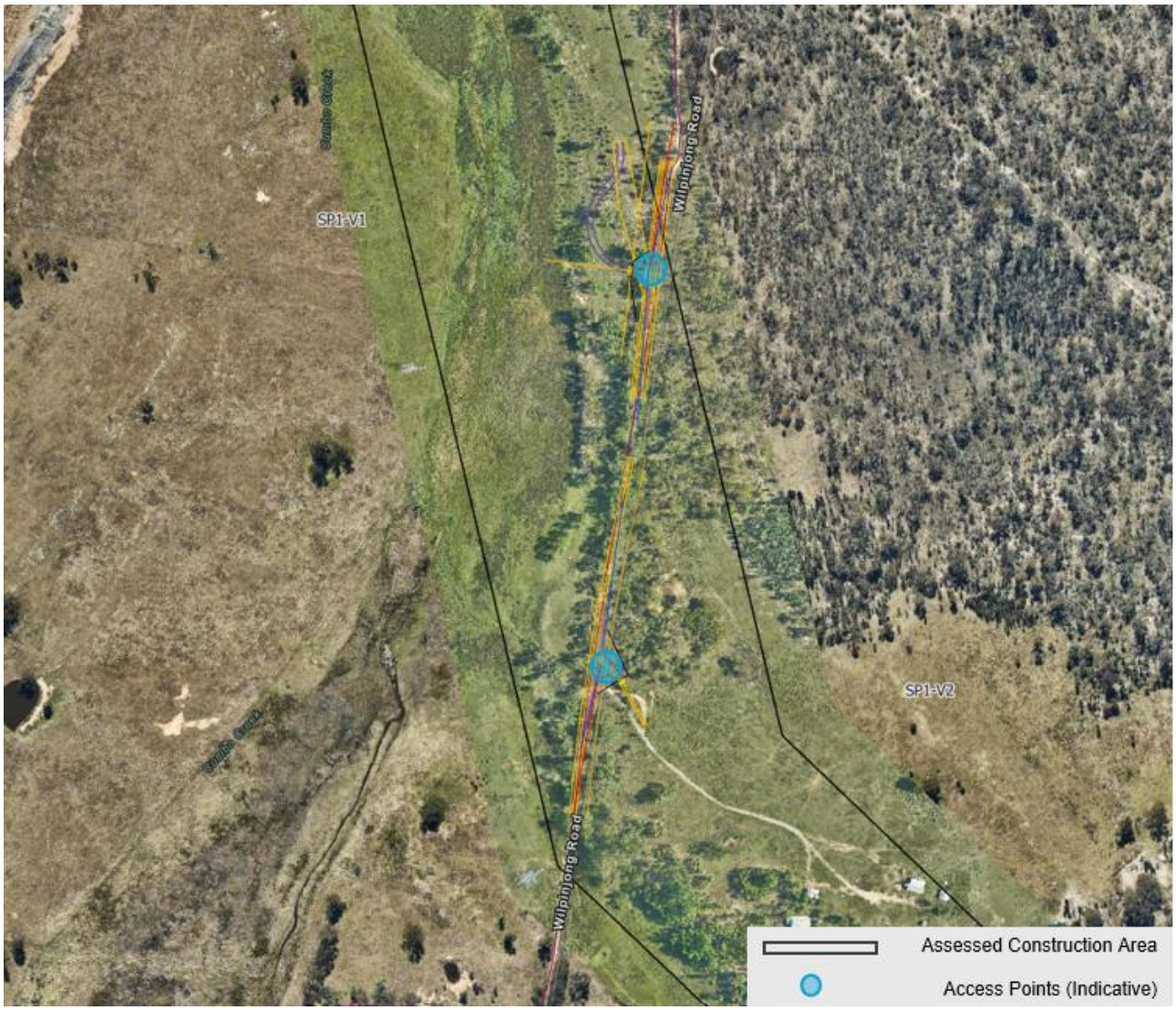


FIGURE D28- 1 LOCATION OF ACCESS POINTS SP1- V1/V2 ON WILPINJONG ROAD

Description

The Access Points will be used to access the construction area from Wilpinjong Road. Further details are provided within the table below.

SP1-V1/V2 were approved as Crossing Points by the Planning Secretary on 30 January 2026 in accordance with MCoA (NSW) B32 (reference: SSI-48323210-PA-89) and are included in this Strategy for approval as Access Points.

It is noted that Wilpinjong Road at the transmission line crossing location is on land associated with the Wilpinjong Coal Mine. Locked gates to the north and south prevent public access to the relevant section of Wilpinjong Road.

TABLE D28- 1 CROSSING POINT SP1-V1/V2 TREATMENT AND USE

Entry Point ID	SP1-V1/V2
EIS Access Point (if applicable)	N/A
Road	Wilpinjong Road

Location	https://maps.app.goo.gl/mvkMmxvZwq7JWEK3A
Type	Access
Scope of Work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access point Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity Impacts **MCoA (NSW) B31(a)**	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access point.
Design Criteria **MCoA (NSW) B31(b)**	The access point will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic Concept Design **MCoA (NSW) B31(c)**	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts **MCoA (NSW) B31 (d)**	Refer to section below.
Schedule **MCoA (NSW) B31(e)**	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary **MCoA (NSW) B31(h)**	The access point will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

The design and construction footprint of SP1-V1/V2 were wholly included within the approved EIS construction area. Specifically, the location of the access points is:

- Within the approved construction area (the disturbance footprint)
- Within the Heritage assessment area
- Within the Biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible, during construction). All works, including this construction buffer, are within the EIS assessed areas.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the access points has been extracted from the EIS and provided in the table below.

TABLE D28- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-V1/V2)

EIS Assessment and Outcomes Summary	EIS Assessment References
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)) • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based The access points are located within the biodiversity study area of the EIS/ Amendment Report. The BDAR identified vegetation within the footprint of the proposed access point SP1-V1 and SP1-V2 as consisting of PCT 618 White Box x Grey Box – red gum– Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS Assessment References
Assessment and Outcomes Summary Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen. The table below summarises the PCT's that have been identified at the access points that would be impacted.	Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

PCT	Act	Listed Status	Threat Status	Associated TEC
618	BC Act (NSW)	Listed	Critically Endangered	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
	EPBC Act (Cth)	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The BDAR identified these sections of vegetation along Wilpinjong Road as threatened ecological community (TEC) listed under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999.*

The location of access points SP1-V1 and SP1-V2 at Wilpinjong Road were identified in the BDAR, and therefore the BDAR generally considered the access points and the associated impacts at this location.

The BDAR also identifies that the following threatened fauna species have habitat that would potentially be impacted by the access points:

- Regent Honey Eater (*Anthochaera Phrygia)*

Aboriginal Heritage and Non-Aboriginal Heritage	
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage)) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report

EIS Assessment and Outcomes Summary	EIS Assessment References
	(Appendix H of the Amendment Report)
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The Aboriginal and historical heritage assessments carried out as part of the EIS and Amendment Report identified a High Density Zone parallel to Cumbo Creek as having numerous Aboriginal sites, places and/or deposits along it. Two Historic Heritage Areas of Interest are located near to the proposed access points: • CWO-22-HH18 stone road embankment – located on Wilpinjong Road, the site is of local heritage importance. The site is located directly adjacent to Access Point SP1-V2 although the access point is outside of the required 20 metre buffer. The EIS identified that there would be a slight/ moderate level of impact to the site from the project • CWO-22-HH19 Pine Park Woolshed – located about 344 metres south east of SP1-V2 and would not be impacted by the project. AHIMS site 36-3-0496 (medium density artefact scatter) is located within the approved construction area about 115 metres north west of SP1-V2. The EIS identified the site has having low significance. AHIMS site 36-3-0565 (Culturally Modified Tree (Carved or Scarred)) is located within the approved construction area about 63 metres north west of SP1-V1. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Wilpinjong Road is an unsealed road that provides access to an unoccupied property owned by Peabody Wilpinjong Coal Mine. It connects to Wollar Road to the south and to the Wilpinjong coal mine in the north.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)

EIS Assessment and Outcomes Summary	EIS Assessment References
All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	
Air Quality	
Study Area and Existing Environment The nearest sensitive air quality receiver (residential – ID 19) is located more than eight kilometres 330 metres south-east of access points SP1-V2.	Figure 19-3 of the EIS (Chapter (Air Quality))
Relevant Environmental Risks Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the access points (of which only minimal dust of a temporary duration would be generated during construction) are located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
Relevant Environmental Risks • Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity, visual, noise and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). There may be additional cumulative impacts on resources including water and local waste management capacity. The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access points described in this Strategy. No additional mitigation measures have been identified as required to facilitate the construction and use of these access points, with the exception of traffic and transport specific measures which have been included in the table below.

TABLE D28- 3 ACCESS POINTS MITIGATION MEASURES (SP1-V1/V2)

Mitigation Measures
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts:

Mitigation Measures

- Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required
- Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control
- Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes
- Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported
- Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified
- Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion

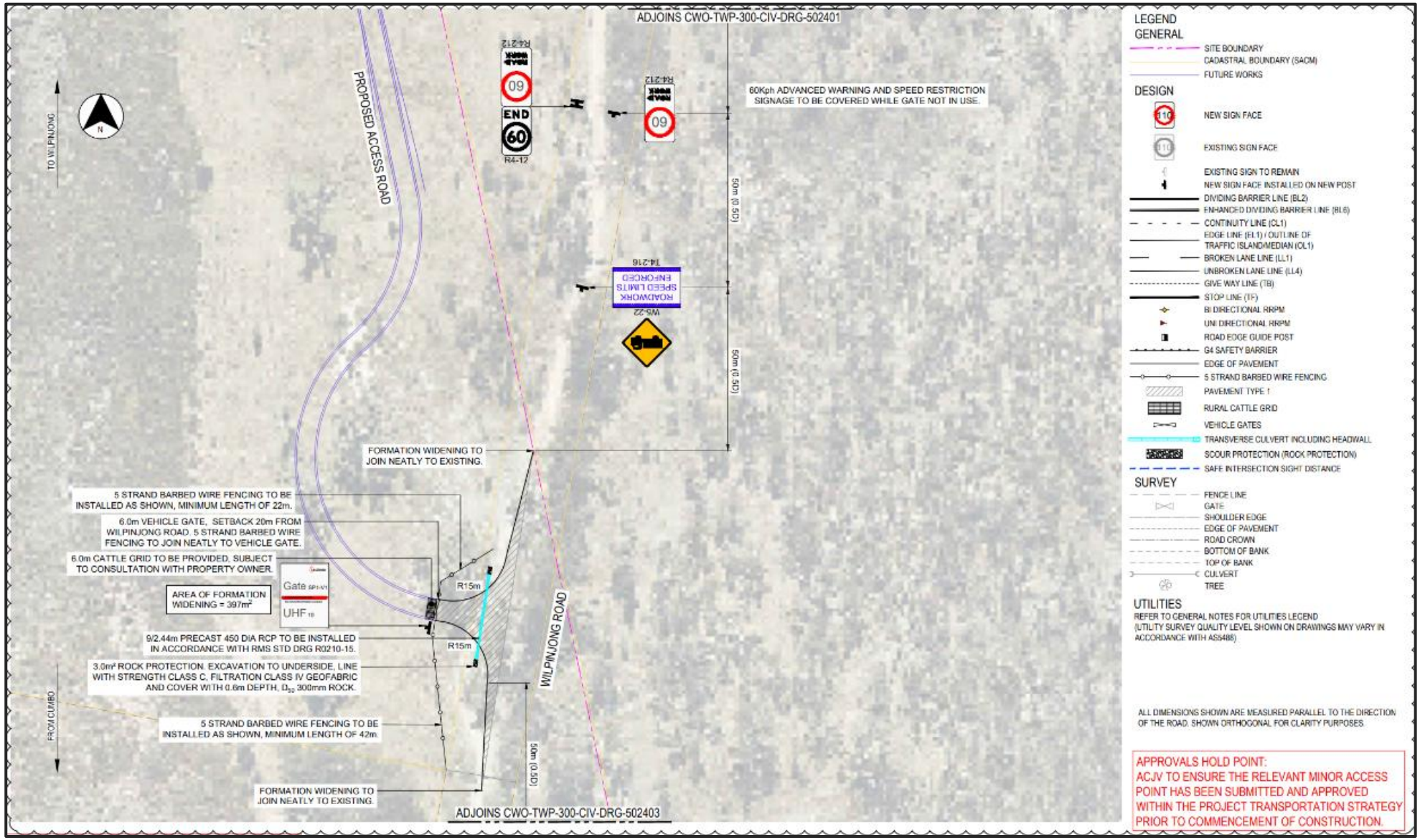
Strategic Concept Design

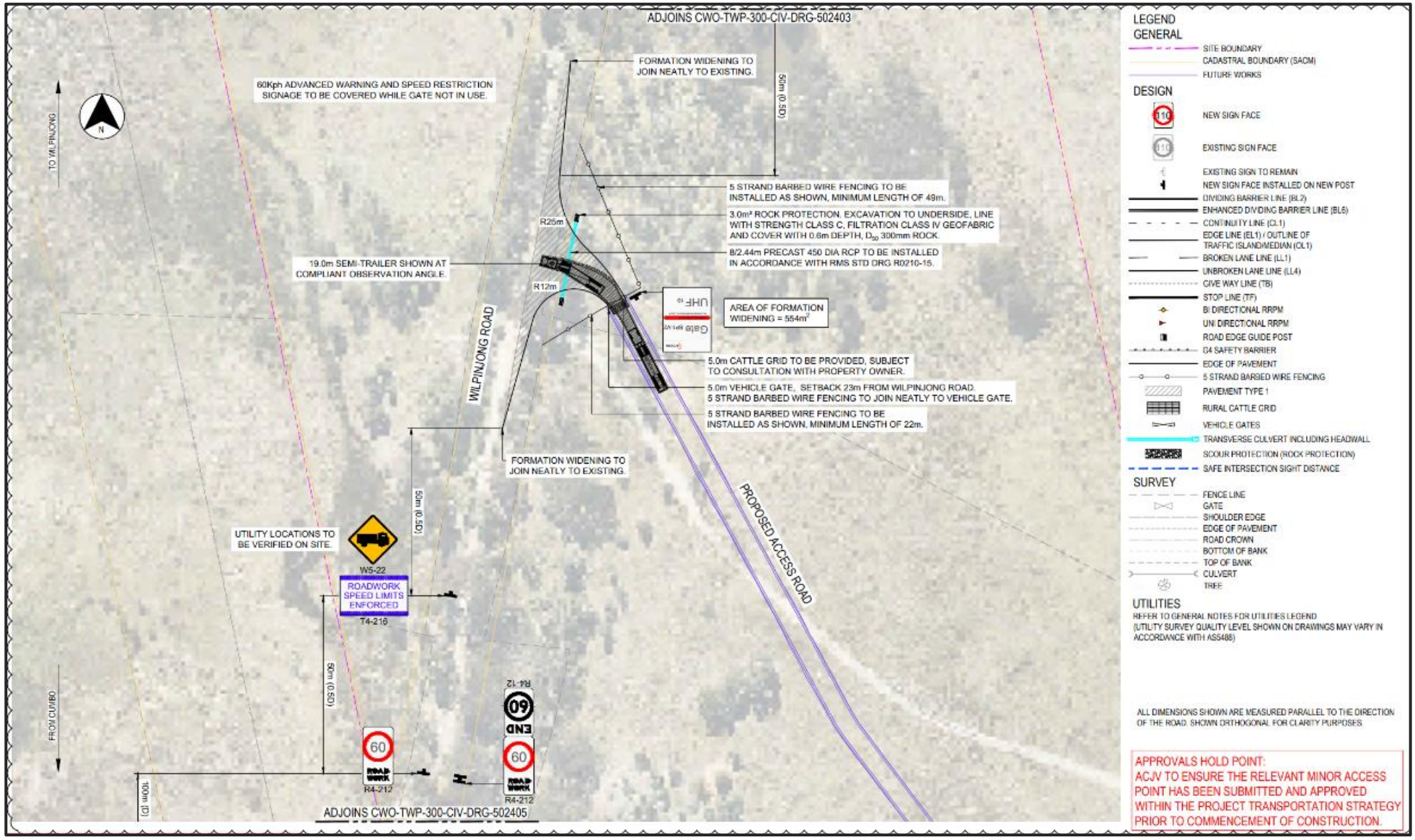
MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following design drawings.


ADJOINS CWO-TWP-300-CIV-DRG-502401
PROPOSED ACCESS ROAD
TO WILPINJONG
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
50m (0.5D)
50m (0.5D)
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 22m.
6.0m VEHICLE GATE, SETBACK 20m FROM WILPINJONG ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
6.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
AREA OF FORMATION WIDENING = 397m²
R15m
R15m
9/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
3.0m² ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D_{50} 300mm ROCK.
WILPINJONG ROAD
FROM CUMBO
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 42m.
50m (0.5D)
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
ADJOINS CWO-TWP-300-CIV-DRG-502403
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (CL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.


ADJOINS CWO-TWP-300-CIV-DRG-502403
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
50m (0.5D)
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 49m.
3.0m³ ROCK PROTECTION. EXCAVATION TO UNDERSIDE, LINE WITH STRENGTH CLASS C, FILTRATION CLASS IV GEOFABRIC AND COVER WITH 0.6m DEPTH, D50 300mm ROCK.
R25m
8/2.44m PRECAST 450 DIA RCP TO BE INSTALLED IN ACCORDANCE WITH RMS STD DRG R0210-15.
19.0m SEMI-TRAILER SHOWN AT COMPLIANT OBSERVATION ANGLE.
R12m
AREA OF FORMATION WIDENING = 554m²
WILPINJONG ROAD
5.0m CATTLE GRID TO BE PROVIDED, SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
5.0m VEHICLE GATE, SETBACK 23m FROM WILPINJONG ROAD. 5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 22m.
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
PROPOSED ACCESS ROAD
50m (0.5D)
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
W5-22
ROADWORK SPEED LIMITS ENFORCED
T4-216
90m (0.9D)
100m (1D)
R4-12
END
R4-212
ADJOINS CWO-TWP-300-CIV-DRG-502405
TO WILPINJONG
FROM CUMBO
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (OL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D29 SP1-W ACCESS POINTS (WOLLAR ROAD)

Location

FIGURE D29- 1 LOCATION OF ACCESS POINT SP1-W ON WOLLAR ROAD

FIGURE D29- 2 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP1-W)

Description

The Access Point SP1-W will be used to access the construction area from Wollar Road. Further details are provided within the table below.

TABLE A-2 ACCESS POINT SP1-W TREATMENT AND USE

Entry Point ID	SP1-W
EIS Access Point (if applicable)	L1.3
Road	Wollar Road
Location	https://maps.app.goo.gl/bahfkNx7HToBUihC7
Type	Access Point
Scope of work	• Construction of new access driveway • Installation of fence, gate and signage • Installation of drainage pipe and headwalls (if required) • Installation of livestock grid (if required) • Installation of advanced warning signs on approach to the access point Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with landowner and/or the relevant Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity impacts MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access point.
Design criteria MCoA B31(b)	The access point will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA B31 (d)	Refer to section below.
Schedule MCoA B31(e)	Proposed commencement in Q2 2026 and completion in Q3 2026.
Permanent or Temporary MCoA B31(h)	The access point will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Summary of Existing EIS Assessment and Outcomes

SP1-W was included within the EIS. As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access point and its construction area have been refined and is now:

- Partially within the approved construction area (the disturbance footprint)
- Within the heritage assessment area
- Within the biodiversity study area

This location has been considered generally with the provision of an approximate 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction). All works, including this construction buffer, are within the EIS assessed areas for heritage and biodiversity.

The staging strategy letter, approved on 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3 was conditional and required the following to be addressed within each strategy:

> In relation to Condition B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the establishment and use of access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D29-2 identifies the proposed disturbance footprint of the access point in comparison to what was assessed within the EIS.

TABLE D29- 1 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP1-W ACCESS POINT)

EIS Assessment and Outcomes Summary	EIS References
Biodiversity	
Study Area and Existing Environment The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA)) • The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations • The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based. The access point is located within the biodiversity study area of the EIS/ Amendment Report. The BDAR assessed the footprint for the proposed access point, SP1-W, located along Wollar Road. The BDAR identified vegetation within the footprint of the proposed access point as consisting of PCT 618 White Box x Grey Box – red gum – Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley, PCT 1610 White Box-Black Cypress Pine	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

EIS Assessment and Outcomes Summary	EIS References
shrubby woodland of the Western Slopes and PCT 0 miscellaneous ecosystem (Category 1 land). PCT 618 is associated with the critically endangered threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity.	
Relevant Environmental Risks • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen. The table below summaries the PCT's that have been identified at the crossing points that would be impacted.	Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

PCT	Act	Listed Status	Threat Status	Associated TEC
618	BC Act (NSW)	Listed	Critically Endangered	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
	EPBC Act (Cth)	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

The BDAR identified these sections of vegetation along Wollar Road as threatened ecological community (TEC) listed under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999*. The location of access point SP1-W at Wollar Road was identified in the BDAR, and therefore the BDAR generally considered the crossing points and the associated impacts at this location.

The BDAR also identifies that the following threatened fauna species have habitat that will be impacted by the crossing points:

- Regent Honey Eater (*Anthochaera phrygia)*

Aboriginal Heritage and Non-Aboriginal heritage

EIS Assessment and Outcomes Summary	EIS References
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.	Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The Aboriginal and historical heritage assessments carried out as part of the EIS and Amendment Report did not identify any items or areas of historic heritage significance that would be impacted by the proposed SP1-W access point.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
Study Area and Existing Environment The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. Wollar Road is the only regional road within the study area. It is approximately 39 kilometres long travelling north-east to south-west connecting the township of Wollar to Ulan Road–Wollar Road intersection, and towards Mudgee further south. It is a sealed bi-directional (one lane in each direction) road with a 100 km/h posted speed limit.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport)) Table A-1 of EIS Technical Paper 13 (Traffic and Transport)
Relevant Environmental Risks • Impacts to condition of roads due to increased vehicular traffic • Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)

EIS Assessment and Outcomes Summary	EIS References
All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.	
Air Quality	
Study Area and Existing Environment The nearest sensitive air quality receiver (residential – ID 19) is located more than 7 kilometres to the southeast of the access point.	Figure 19-3 of the EIS (Chapter (Air Quality))
Relevant Environmental Risks Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS noted that for sensitive receivers located over 200m from Project components, the potential air quality impacts are predicted to remain low. As the crossing point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
Relevant Environmental Risks Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity and traffic.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of crossing points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

Assessment of Potential Impacts Outside the Approved Construction Area

Where the Access Point has extended beyond the approved construction area, it is required to be assessed in accordance with MCoA (NSW) B31(d). The table below has been prepared to provide the outcomes of these additional assessments.

TABLE D29- 2 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP1-W)

Impacts
Biodiversity
Although the access points were included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint). A summary of the additional vegetated areas outside the Project construction area is below and mapped in Appendix E.

Impacts

Access Point	PCT Identified	TEC?	Habitat for Threatened Species?	Extent (Ha)
SP1-W	PCT 0	No	No	0.049
	PCT 618	Yes	Yes	0.0052
	PCT 1610	No	No	0.0055

Notes:

PCT 0 – Miscellaneous ecosystem
PCT 618 - White Box x Grey Box – red gum – Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley
PCT 1610 – White Box – Black Cypress Pine shrubby woodland of the Western Slopes

The additional footprint of works would result in 0.0052 ha of clearing of PCT 618 and 0.0055 ha of clearing of PCT 1610. PCT 618 is associated with critically endangered threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAII) entity. There is a clearing limit of 143.26ha of PCT 618. There is no clearing limit for PCT 1610.One threatened fauna species (Regent Honeyeater) is identified as being associated with PCT 1610.

No threatened flora species were assumed present in the BDAR.

Aboriginal Heritage and Non-Aboriginal Heritage

The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SPW.

Noise and Vibration

The use of access point SP1-W was assessed within the EIS, however the establishment of the access point partially extends beyond the project construction area. For these establishment activities, a construction noise assessment was undertaken. The assessment considered the equipment and plant that would be required to construct the access points and the offset distance from the access points to the nearest sensitive noise receiver identified in the EIS.

The proposed refinement is not expected to alter the outcomes of the noise and vibration assessment undertaken as part of the EIS and Amendment Report as the proposed refinement does not decrease the distance between the Construction Area and the nearest sensitive receiver.

The nearest sensitive receiver to the access points SP1-W is more than 2km away (residential - ID 82). At this distance construction noise would not exceed the identified Nosie Management Level (NML) and vibration impacts on both the construction and use of this location are considered negligible.

Noise and vibration associated with the proposed refinement will be managed in accordance with the requirements of the approved Construction Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002).

Surface Water and Hydrology

The access point SP1-W was assessed in the Amendment Report flooding assessment and therefore is not discussed further.

Erosion and Sedimentation

The construction of the proposed access points will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.

Air Quality

The EIS included an air quality assessment that provided an overview of the existing environment as it relates to air quality, an assessment of potential air quality impacts resulting from construction and operation of the project and identified mitigation measures to minimise related impacts.

The main air quality impact associated with the establishment of the access point is the potential for dust to be generated throughout road upgrade works. As the nearest sensitive receiver to the access points SP1-W is greater than 500m away the potential for dust impacts is considered to be very low to negligible.

Mitigation Measures

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all access point described in this Strategy. Where additional mitigations are identified, they have been detailed in the table below.

TABLE D29- 3 ACCESS POINT MITIGATION MEASURES (SP1-W)

Mitigation Measures
Biodiversity
The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all access point described in this document. The following additional mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access point: • Access point will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b) • Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy) • The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements • Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable • Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a) • The clearing of 0.049ha of PCT 0, 0.0052ha of PCT 618 and 0.0055ha of PCT 1610 will be tracked on the Project's clearing register • Vegetation clearing or land disturbance outside of the assessed area will not be permitted • If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access point, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented
Aboriginal Heritage and Non-Aboriginal Heritage
Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access point: • If any potential heritage items or sites are encountered during installation of the access point, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented • No ground disturbance will be permitted outside of the assessed disturbance footprint
Traffic and Transport
The following specific mitigation measures will be implemented to manage traffic impacts: • Speed management at the subject Minor Access Points is to be undertaken in accordance with Traffic Control at Work Sites Technical Manual (TfNSW, Issue 6.1, February 2022) (TCAWS) where required • Where speed reductions are proposed due to design limitations (such as restricted sight distance), an appropriate Traffic Guidance Scheme (TGS) should be developed and implemented in accordance with TCAWS. In these circumstances, the access should be treated as an active work site for the purposes of traffic control • Access arrangements are to ensure that turning vehicles can safely enter and exit the site while remaining within their respective lane, without encroaching into opposing traffic lanes • Treatments that rely on vehicles crossing the centreline are not supported. While speed reductions may be appropriate where justified, the use of stop/slow traffic control for routine access movements is not supported

Mitigation Measures
• Speed environments should be considered in the context of the broader road corridor, with a preference for maintaining a consistent speed environment where multiple access points are located in close proximity. For more isolated access locations, site-specific speed management may be appropriate where justified • Any temporary traffic control measures are to be applied only when the work site is active, with all speed restrictions and signage removed or covered when not in use, to minimise driver confusion
Soil and Water
Erosion and sedimentation related management measures to address impacts associated with the road upgrades include: • Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access point and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters • Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)
Air Quality
Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work. If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction. The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades: • Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority • Regularly conducting visual inspections of dust emissions and applying additional controls as required

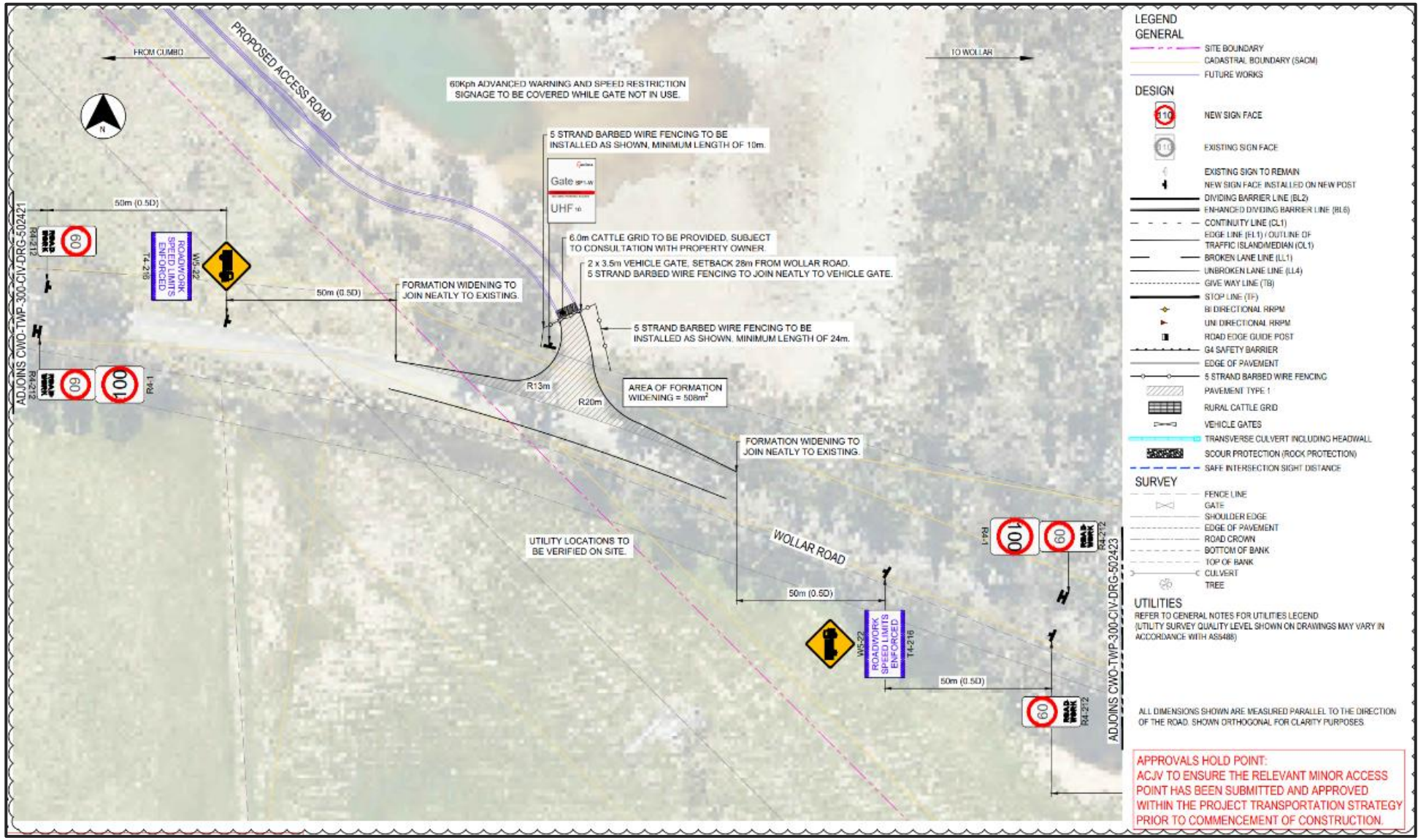
Strategic Concept Design

MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide a description of what is required to be in a Strategic Concept Design, and TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

As such, a Strategic Concept Design in typical detail format that reflects the current design phase has been included below and is supported by the figure depicting the location of the access points. This design will progress through further review and consultation with the applicable asset owner, outside the scope of this Transport Strategy.

Refer to the following Strategic Concept Design drawings.


FROM CUMBO
TO WOLLAR
PROPOSED ACCESS ROAD
60Kph ADVANCED WARNING AND SPEED RESTRICTION SIGNAGE TO BE COVERED WHILE GATE NOT IN USE.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 10m.
Gate
UHF
6.0m CATTLE GRID TO BE PROVIDED. SUBJECT TO CONSULTATION WITH PROPERTY OWNER.
2 x 3.5m VEHICLE GATE. SETBACK 28m FROM WOLLAR ROAD.
5 STRAND BARBED WIRE FENCING TO JOIN NEATLY TO VEHICLE GATE.
50m (0.5D)
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
5 STRAND BARBED WIRE FENCING TO BE INSTALLED AS SHOWN, MINIMUM LENGTH OF 24m.
R13m
R20m
AREA OF FORMATION WIDENING = 508m²
FORMATION WIDENING TO JOIN NEATLY TO EXISTING.
UTILITY LOCATIONS TO BE VERIFIED ON SITE.
WOLLAR ROAD
50m (0.5D)
ROADWORK SPEED LIMITS ENFORCED
W5-22
T4-216
ADJOINS CWO-TWP-300-CIV-DRG-502421
ADJOINS CWO-TWP-300-CIV-DRG-502423
R4-212
R4-1
LEGEND
GENERAL
SITE BOUNDARY
CADASTRAL BOUNDARY (SACM)
FUTURE WORKS
DESIGN
NEW SIGN FACE
EXISTING SIGN FACE
EXISTING SIGN TO REMAIN
NEW SIGN FACE INSTALLED ON NEW POST
DIVIDING BARRIER LINE (BL2)
ENHANCED DIVIDING BARRIER LINE (BL6)
CONTINUITY LINE (CL1)
EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (CL1)
BROKEN LANE LINE (LL1)
UNBROKEN LANE LINE (LL4)
GIVE WAY LINE (TB)
STOP LINE (TF)
BI DIRECTIONAL RRPM
UNI DIRECTIONAL RRPM
ROAD EDGE GUIDE POST
G4 SAFETY BARRIER
EDGE OF PAVEMENT
5 STRAND BARBED WIRE FENCING
PAVEMENT TYPE 1
RURAL CATTLE GRID
VEHICLE GATES
TRANSVERSE CULVERT INCLUDING HEADWALL
SCOUR PROTECTION (ROCK PROTECTION)
SAFE INTERSECTION SIGHT DISTANCE
SURVEY
FENCE LINE
GATE
SHOULDER EDGE
EDGE OF PAVEMENT
ROAD CROWN
BOTTOM OF BANK
TOP OF BANK
CULVERT
TREE
UTILITIES
REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)
ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.
APPROVALS HOLD POINT:
ACJV TO ENSURE THE RELEVANT MINOR ACCESS POINT HAS BEEN SUBMITTED AND APPROVED WITHIN THE PROJECT TRANSPORTATION STRATEGY PRIOR TO COMMENCEMENT OF CONSTRUCTION.

APPENDIX D30 SP2-G1/G2 (TUCKLAND ROAD) - NOT YET INCLUDED

UNCONTROLLED COPY WHEN PRINTED OR DOWNLOADED

Appendix E Additional Environmental Assessment Figures

Blue Springs Road (North and South) Local Road Upgrade

SP1-J2 Access Points

Central West Orana Renewable Energy Zone
Figure A2.3-SP1-J2-Biodiversity
Legend
Proposed Construction Footprint
Minor Access Point
Construction Area
BA02 - Field Verified Vegetation
PCT ID
0
281
Fauna Species Polygon
Regent Honey Eater
Squirrel Glider
Native Vegetation
PCT_ID
0
281
Ulan Road
Lagoons Road
Meters
0 5 10 20
Scale: 1:750
Rev 01 dated 30/01/2026

SP1-L1/L2 Access Points

Central West Orana Renewable Energy Zone
Figure A.9 Access Gate SP1-L1 Biodiversity

Legend

- Construction Area
- Proposed Construction Footprint
- Minor Access Points

PCT Vegetation Layer (EIS/ Amendment Report)

- PCT 0
- PCT 468

Fauna Species Polygon

Fauna Species (EIS/Amendment Report)

- Eastern Pygmy-possum
- Eastern Cave Bat - foraging habitat
- Large-eared Pied Bat - foraging habitat
- Pale-headed Snake - potential habitat
- Squirrel Glider
- Pink-tailed Legless Lizard

Note: Where grey shading is shown within the proposed refinement, it is mapped as PCT0 within the BDAR

Meters
0 5 10 20

Scale: 1:700

Rev 01 dated 26/09/2025

Ulan Road
Ulan Wollar Road
Ulan Wollar Road
Ulan Wollar Road
Central West Orana
Renewable Energy Zone
Figure A.12 Access Gate
SP1-L2 Biodiversity
Legend
Construction Area
Proposed Construction Footprint
Minor Access Points
ECE Habitat Features
BA04 Field-validated Vegetation Mapping
0, Miscellaneous ecosystem
PCT Vegetation Layer
PCT 0
PCT 479
PCT 481
Note: Where grey shading is shown within the proposed refinement, it is mapped as PCT0 within the BDAR
Meters
0 5 10 20
Scale: 1:800
Rev 01 dated 26/09/2025

Ulan Road
Ulan Road
Ulan Road
Ulan Road
Central West Orana Renewable Energy Zone
Figure A.8 Access Gate SP1-L1 Heritage
Legend
Construction Area
Proposed Construction Footprint
Minor Access Points
Total Field Survey Coverage (EIS/ Amendment Report)
Survey completed
Meters
0 5 10 20
Scale: 1:700
Rev 01 dated 26/09/2025

Ulan Road
Ulan-Wollar Road
Ulan-Wollar Road
Ulan-Wollar Road
Central West Orana
Renewable Energy Zone
Figure A.11 Access Gate
SP1-L2 Heritage
Legend
Construction Area
Proposed Construction Footprint
Minor Access Points
Total Field Survey Coverage (EIS/ Amendment Report)
Survey completed
Meters
0 5 10 20
Scale: 1:800
Rev 01 dated 26/09/2025

SP1-Wilp Access Point

Ulan-Wollar Road
Ulan-Wollar Road
Ulan-Wollar Road
Ulan-Wollar Road
Central West Orana Renewable Energy Zone Figure A1.3a-SP1-Wilp-Biodiversity
Legend
Proposed Construction Footprint
Minor Access Point
Construction Area
Flora
Acacia ausfeldii
Prasophyllum petilum
PVVM
0
281
Meters
0 5 10 20
Scale: 1:750
Rev 01 dated 26/02/2026

Central West Orana Renewable Energy Zone
Figure A1.3b-SP1-Wilp-Biodiversity

Legend

- Proposed Construction Footprint
- Minor Access Point
- Construction Area

FVVM

- 0
- 281

Fauna

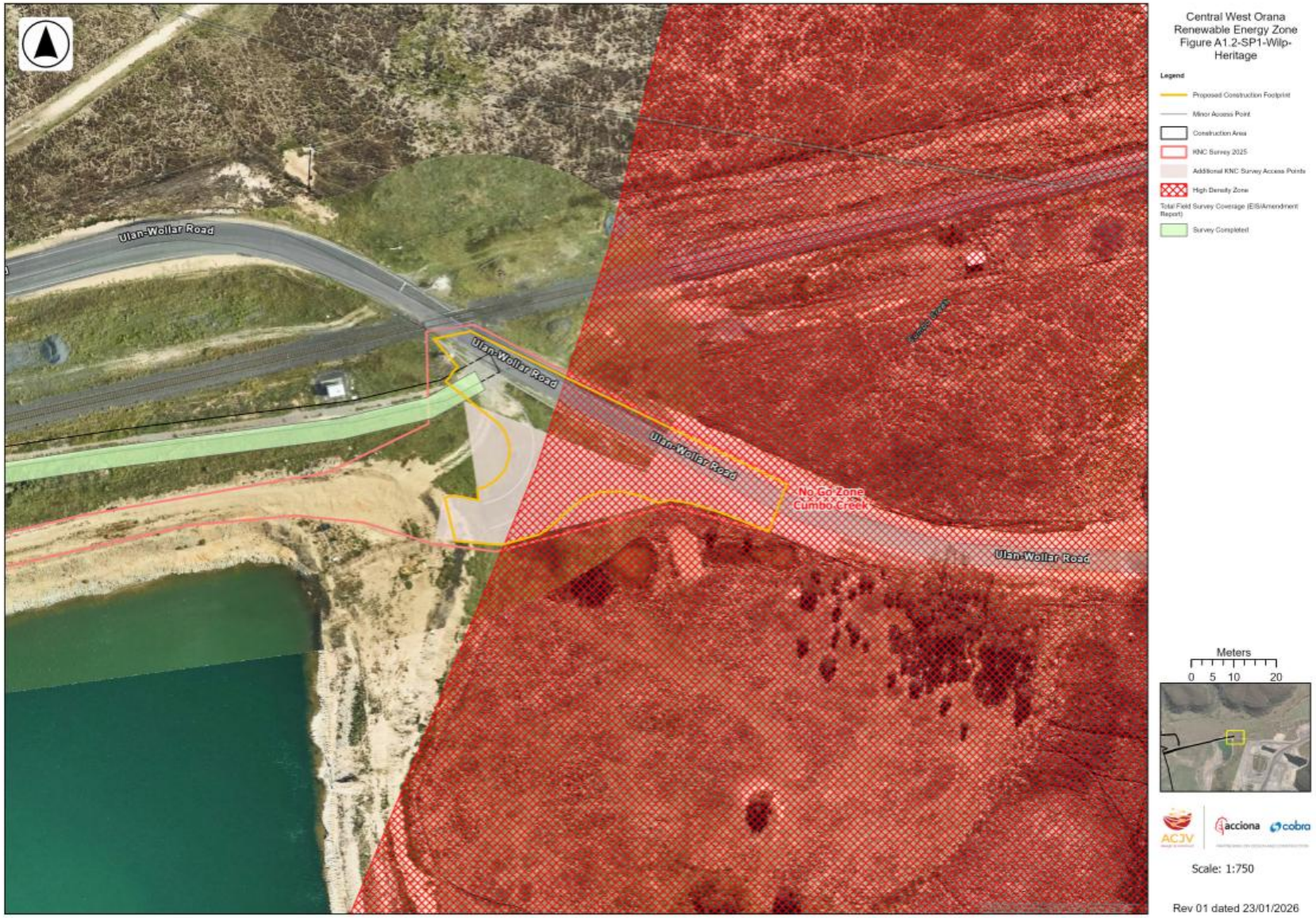
Species

- Eastern Cave Bat
- Eastern Pygmy-possum
- Large-eared Pied Bat
- Squirrel Glider

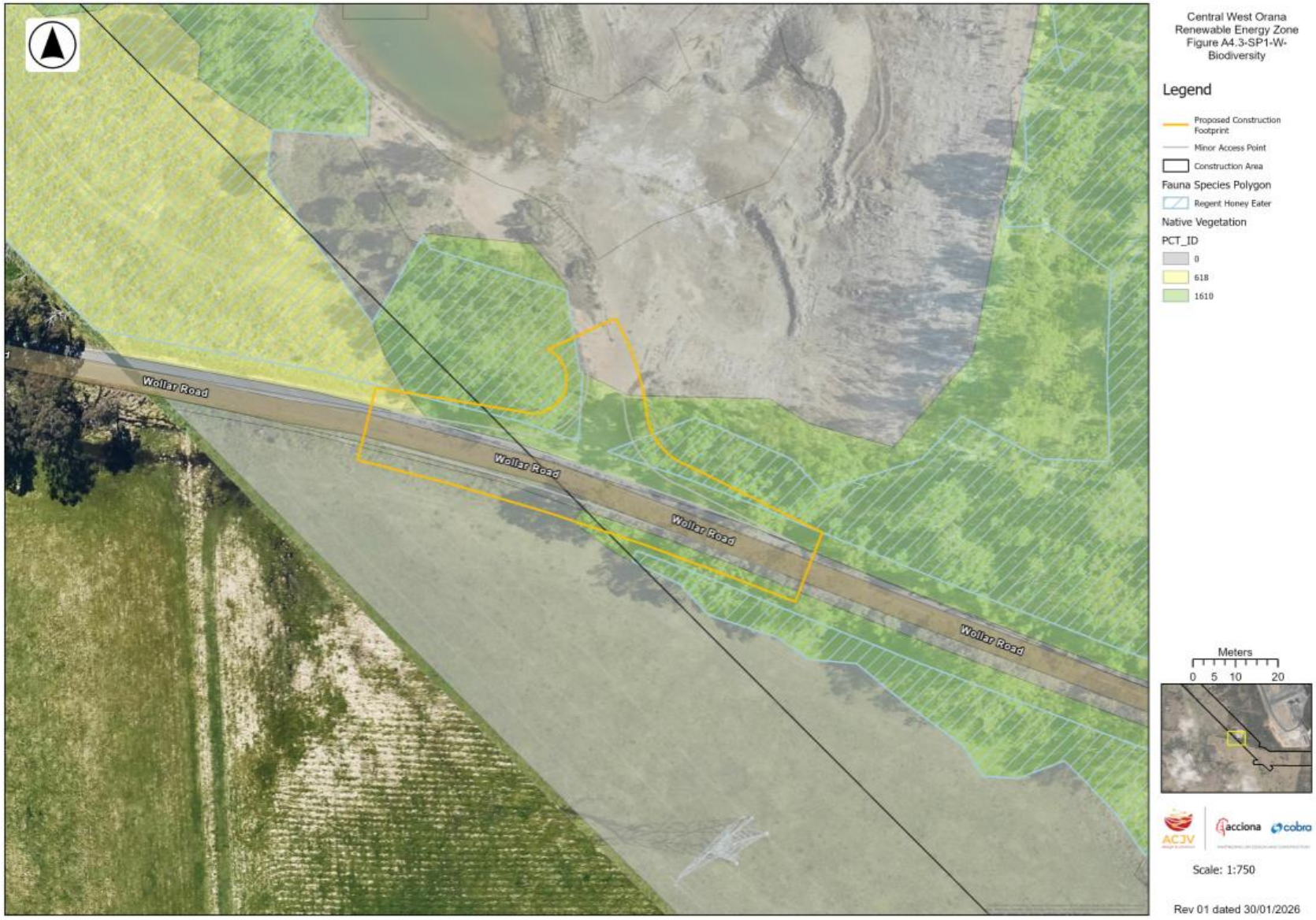
Meters
0 5 10 20

Scale: 1:750

Rev 01 dated 26/02/2026


Ulan-Wollar Road
Ulan-Wollar Road
Ulan-Wollar Road
No Go Zone
Cumbo Creek
Ulan-Wollar Road
Central West Orana
Renewable Energy Zone
Figure A1.2-SP1-Wilp-
Heritage
Legend
Proposed Construction Footprint
Minor Access Point
Construction Area
KNC Survey 2025
Additional KNC Survey Access Points
High Density Zone
Total Field Survey Coverage (EIS/Amendment Report)
Survey Completed
Meters
0 5 10 20
Scale: 1:750
Rev 01 dated 23/01/2026

SP1-W Access Point



Central West Orana Renewable Energy Zone
Figure A4.3-SP1-W-Biodiversity

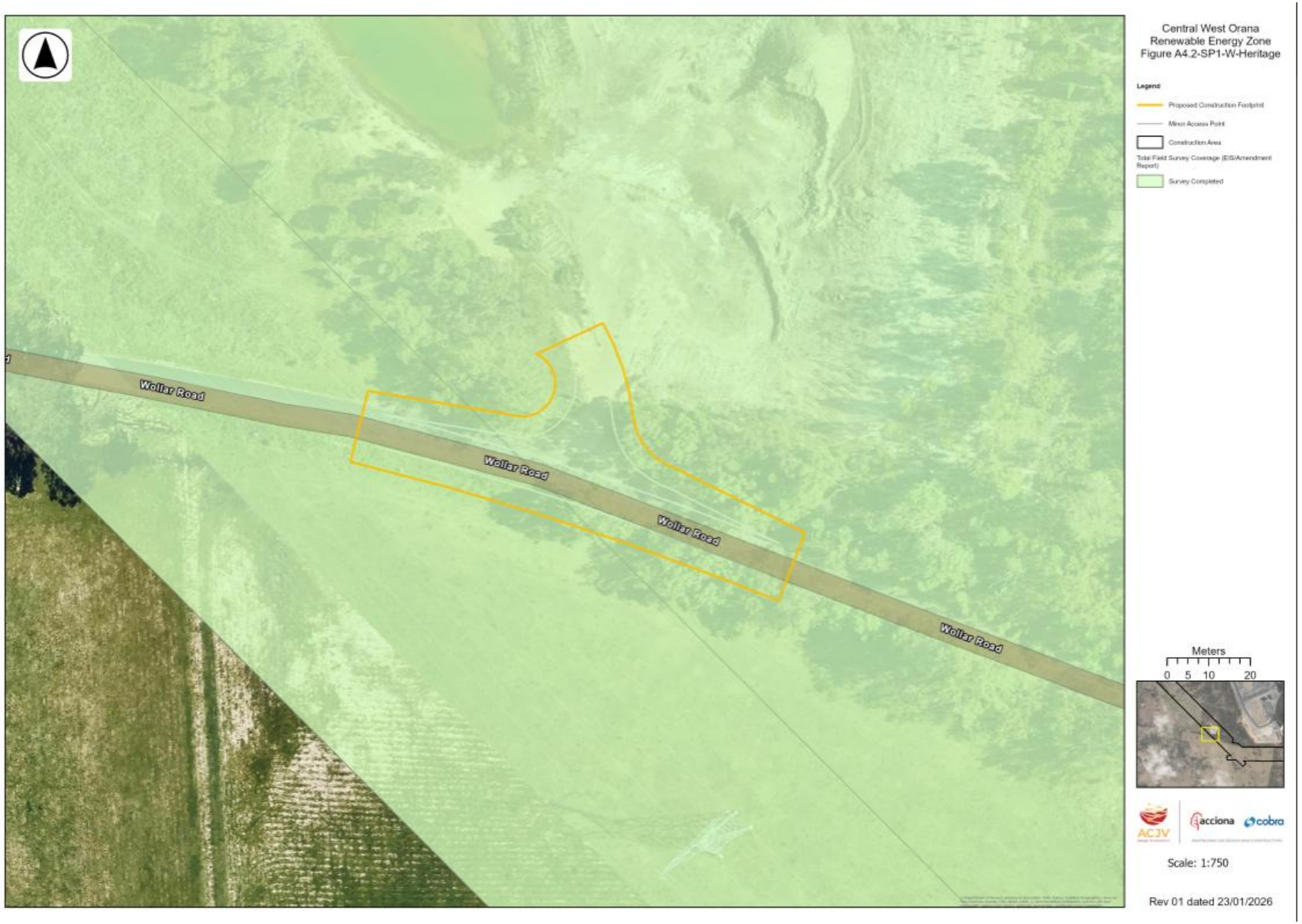
Legend

Proposed Construction Footprint
Minor Access Point
Construction Area
Fauna Species Polygon
Regent Honey Eater
Native Vegetation
PCT_ID
0
618
1610

Meters
0 5 10 20

Scale: 1:750

Rev 01 dated 30/01/2026


Central West Orana
Renewable Energy Zone
Figure A4.2-SP1-W-Heritage
Legend
Proposed Construction Footprint
Minor Access Point
Construction Area
Total Field Survey Coverage (EIS/Amendment Report)
Survey Completed
Wollar Road
Wollar Road
Wollar Road
Wollar Road
Meters
0 5 10 20
Scale: 1:750
Rev 01 dated 23/01/2026

Central West Orana Renewable Energy Zone
Figure 2.B Birkalla Road North - Heritage

Legend

- Minor Access Point
- AHIMS
- SNI-AS200
- Surveyed Aboriginal Sites
- Road Upgrade Area
- SNI-PAD200
- Construction Area
- KNC Survey, 2025

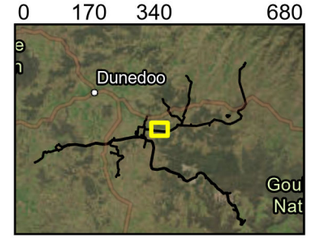
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters

0 170 340 680



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:16,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 2.B Birkalla Road North - Inset A - Heritage

Legend

- Minor Access Point
- SNI-AS200
- Surveyed Aboriginal Sites
- Road Upgrade Area
- SNI-PAD200
- Construction Area
- KNC Survey, 2025

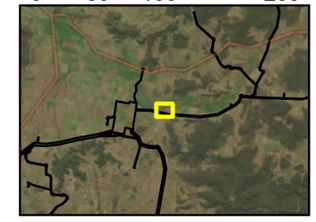
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Survey completed

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters

0 50 100 200



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:5,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 2.B Birkalla Road North - Inset B - Heritage

Legend

- Minor Access Point
- Surveyed Aboriginal Sites
- Road Upgrade Area
- Construction Area
- KNC Survey, 2025

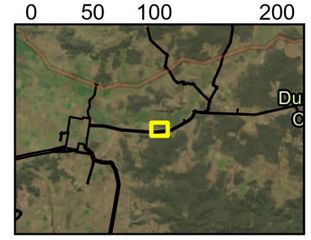
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters

0 50 100 200



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:5,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 2.B Birkalla Road North - Inset C - Heritage

Legend

- SNI-AS200
- Road Upgrade Area
- SNI-PAD200
- KNC Survey, 2025

SNI-AS200

Birkalla Road

Birkalla Road

Birkalla Road

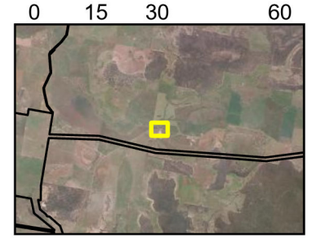
Birkalla Road

SNI-PAD200

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters

0 15 30 60



ACJV design & construct

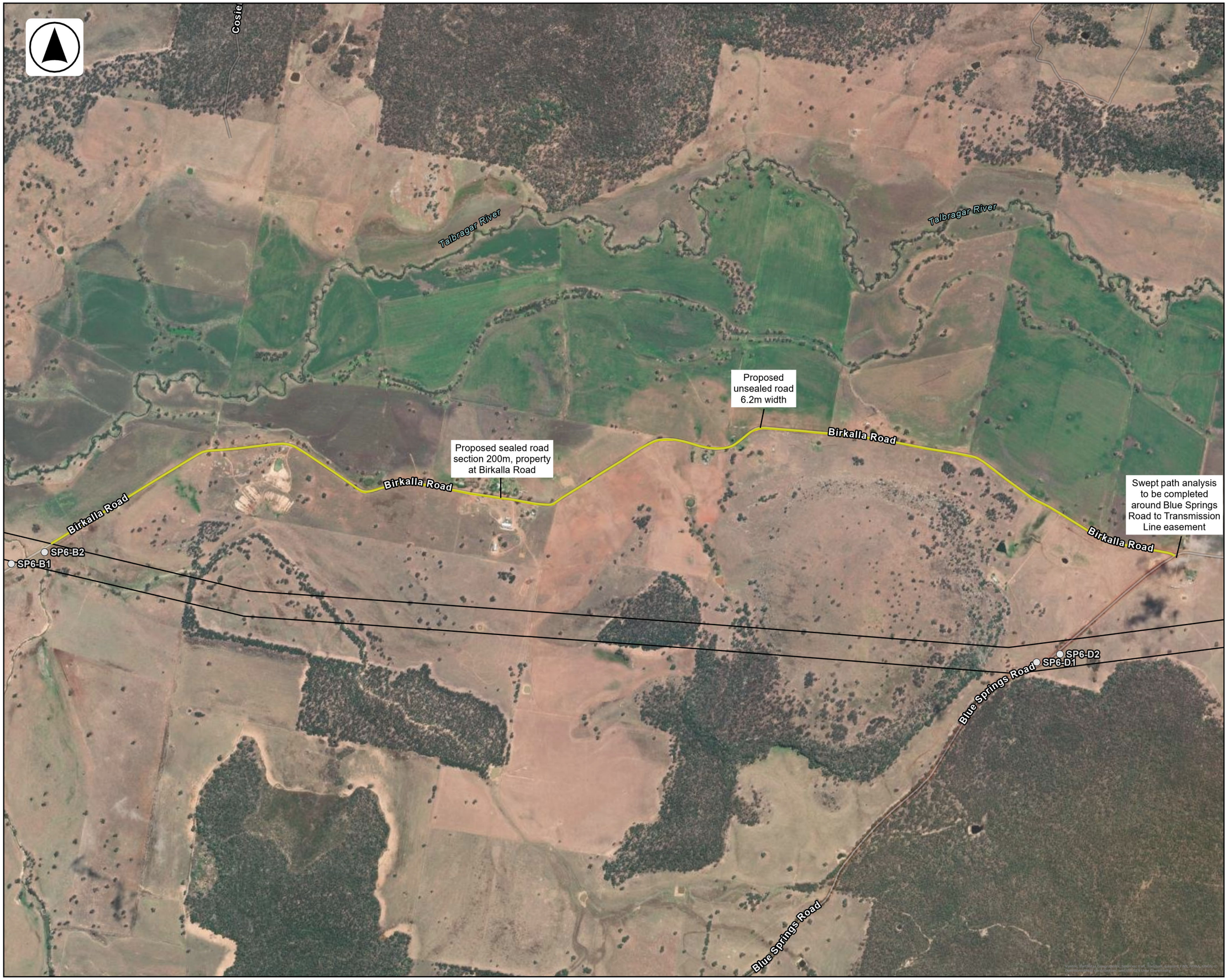
acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:1,500

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 2.A Birkalla Road North - Location



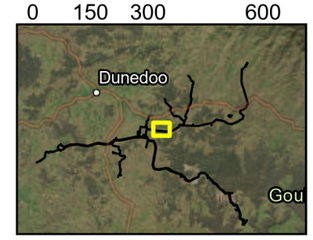
Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

The proposed road upgrade involves regrading and resheeting the unsealed road to 6.2 m width, installing permanent signage, reshaping drains, conducting a safety audit and swept path analysis and performing regular inspections with dust suppression during construction.

Meters

0 150 300 600



ACJV design & construct

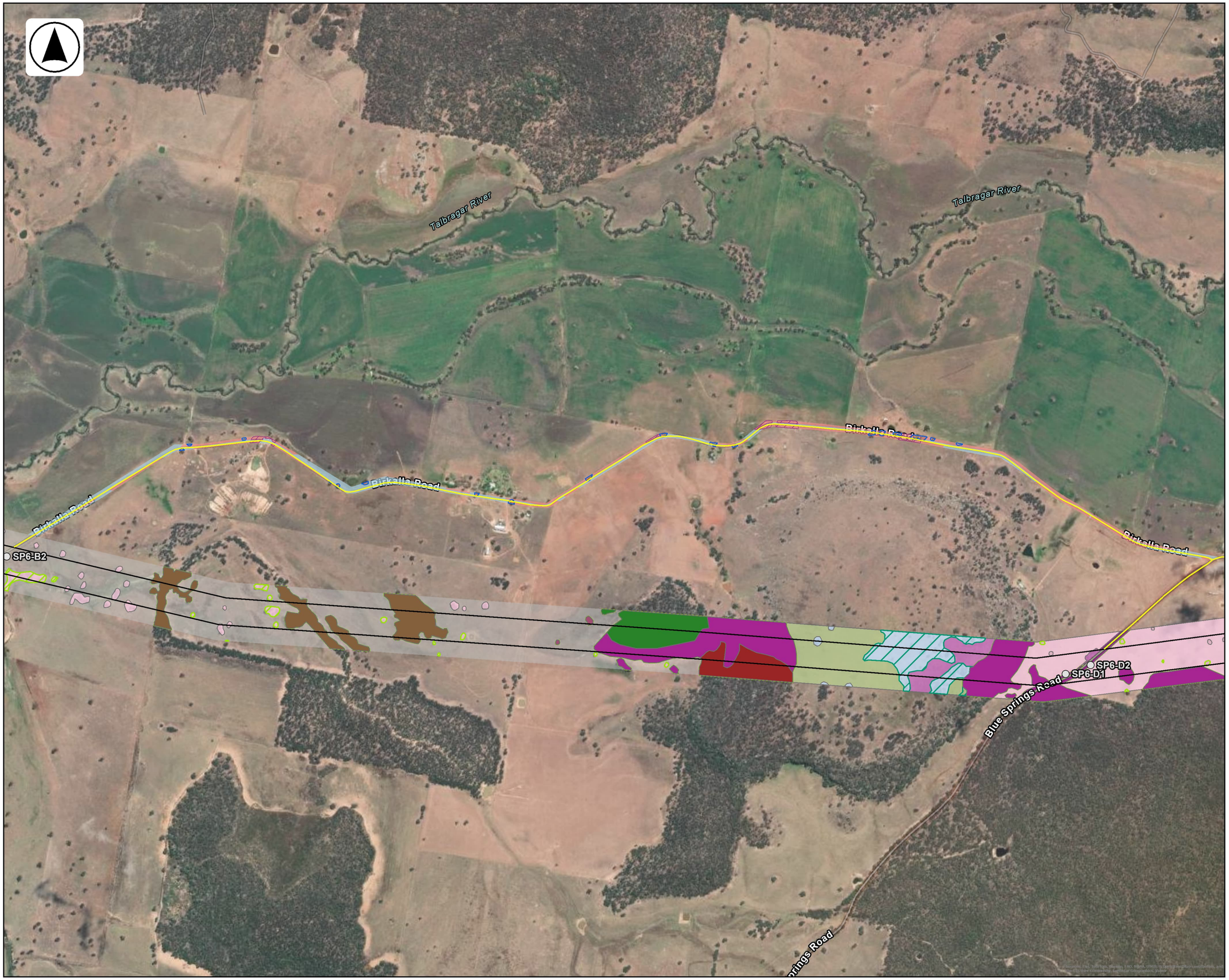
acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:16,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 2.C Birkalla Road North - Biodiversity



Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

BA22 FVVM
- PCT 0
- PCT 281

BA22 Flora species polygons
- Prasophyllum petilum

BA22 Fauna species polygons
- Eastern Pygmy-possum
- Glossy Black-Cockatoo
- Koala
- Masked Owl
- Pink-tailed Legless Lizard
- Squirrel Glider

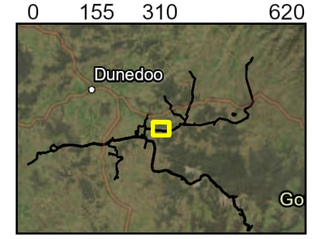
Flora Species (EIS/Amendment Report)
- Acacia ausfeldii
- Diuris tricolor
- Homoranthus darwinioides
- Pomaderris cotoneaste
- Pomaderris queenslandica
- Prasophyllum petilum
- Tylophora linearis
- Zieria ingramii

Fauna Species Polygon
- Eastern Pygmy-possum
- Pale-headed Snake - potential habitat
- Squirrel Glider
- Striped Legless Lizard

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 281
- PCT 440
- PCT 461
- PCT 478
- PCT 483
- PCT 618

Meters

0 155 310 620



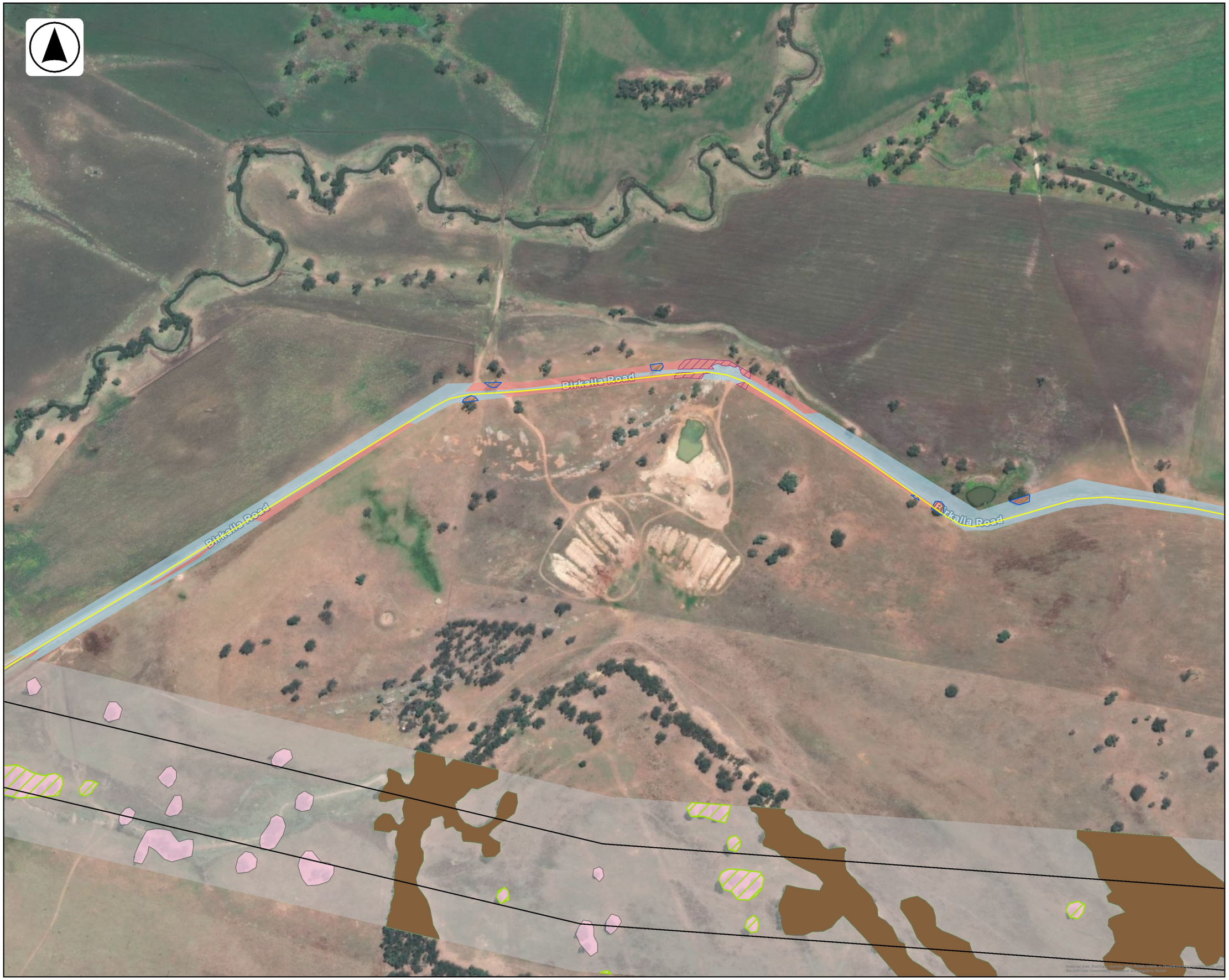
ACJV design & construct

acciona cobra PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:15,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 2.C Birkalla Road North - Inset A - Biodiversity



Legend

- Road Upgrade Area
- Construction Area

BA22 FVVM

- PCT 0
- PCT 281

BA22 Flora species polygons

- Prasophyllum petilum

BA22 Fauna species polygons

- Eastern Pygmy-possum
- Glossy Black-Cockatoo
- Koala
- Masked Owl
- Pink-tailed Legless Lizard
- Squirrel Glider

Flora Species (EIS/Amendment Report)

- Acacia ausfeldii
- Pomaderris cotoneaste

Fauna Species Polygon

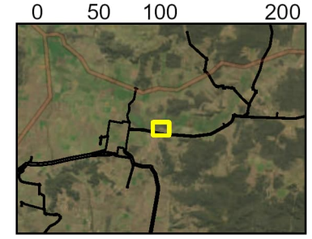
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)

- PCT 0
- PCT 281

Meters

0 50 100 200



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:5,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 2.C Birkalla Road North - Inset B - Biodiversity

Legend

- Road Upgrade Area
- Construction Area

BA22 FVVM
- PCT 0
- PCT 281

BA22 Flora species polygons
- Prasophyllum petilum

BA22 Fauna species polygons
- Eastern Pygmy-possum
- Glossy Black-Cockatoo
- Koala
- Masked Owl
- Pink-tailed Legless Lizard
- Squirrel Glider

Flora Species (EIS/Amendment Report)
- Acacia ausfeldii
- Homoranthus darwinioides
- Pomaderris cotoneaste
- Pomaderris queenslandica
- Tylophora linearis
- Zieria ingramii

Fauna Species Polygon
- Eastern Pygmy-possum
- Pale-headed Snake - potential habitat
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 281
- PCT 440

Meters
0 50 100 200

Scale: 1:5,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 2.C Birkalla Road North - Inset C - Biodiversity

Legend

- Road Upgrade Area
- Construction Area

BA22 FVVM

- PCT 0
- PCT 281

BA22 Flora species polygons

- Prasophyllum petilum

BA22 Fauna species polygons

- Eastern Pygmy-possum
- Glossy Black-Cockatoo
- Koala
- Masked Owl
- Pink-tailed Legless Lizard
- Squirrel Glider

Flora Species (EIS/Amendment Report)

- Prasophyllum petilum

Fauna Species Polygon

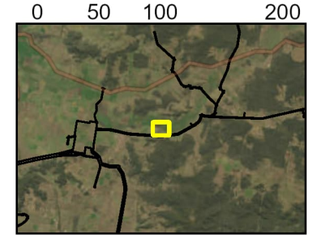
- Squirrel Glider
- Striped Legless Lizard

PCT Vegetation Layer (EIS/Amendment Report)

- PCT 0
- PCT 281
- PCT 478
- PCT 483
- PCT 618

Meters

0 50 100 200



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:5,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 3.A Birkalla Road South - Location

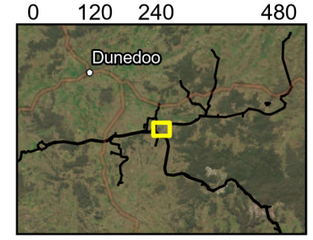
Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

The proposed road upgrade involves regrading and resheeting the unsealed road to a 6.2 m two lane cross section, installing permanent traffic signage, managing cattle grid locations and implementing routine inspection, drainage reshaping, and dust suppression during construction, with no tree clearing required.

Meters

0 120 240 480



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:12,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 3.B Birkalla Road South - Heritage

SP6-B1
SNI-IF73
SNI-IF72
Birriwa Bus Route S
Birkalla Road
SP0-A4
SNI-CMT13
Sandy Lane
Coppers Lane
Birkalla Road
Merotherie Road
Merotherie
SNI-GG15
SP1-A1
Birkalla Road
SNI-IF33
SNI-IF32
SNI-AS27
Birkalla Road
SP1-B1
SP1-B2

Legend

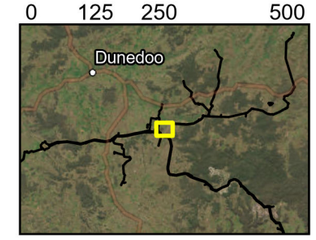
- Minor Access Point
- Surveyed Aboriginal Sites
- Aboriginal Site Impacted
- Road Upgrade Area
- Construction Area
- Aboriginal Site Extent
- Aboriginal Site Extent 20m Buffer
- Aboriginal Site Impacted 20m Buffer
- KNC Survey, 2025

Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The proposed road upgrade involves regrading and resheeting the unsealed road to a 6.2 m two lane cross section, installing permanent traffic signage, managing cattle grid locations and implementing routine inspection, drainage reshaping, and dust suppression during construction, with no tree clearing required.

Meters
0 125 250 500



ACJV design & construct
acciona cobra
PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:12,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone Figure 3.B Birkalla Road South - Inset A - Heritage

SP1-A1
Merotherie Road
SNI-IF33
SNI-IF32
SNI-AS27
Merotherie Road
Birkalla Road
Birkalla Road
Merotherie Road
Birkalla Road
SP1-B1
Birkalla Road

Legend

- Surveyed Aboriginal Sites
- Road Upgrade Area
- Construction Area
- Aboriginal Site Extent
- Aboriginal Site Extent 20m Buffer
- KNC Survey, 2025

Total Field Survey Coverage (EIS/ Amendment Report)

- Survey completed

The proposed road upgrade involves regrading and resheeting the unsealed road to a 6.2 m two lane cross section, installing permanent traffic signage, managing cattle grid locations and implementing routine inspection, drainage reshaping, and dust suppression during construction, with no tree clearing required.

Meters
0 35 70 140

ACJV design & construct
acciona cobra
PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:3,500

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 3.C Birkalla Road South - Inset B - Biodiversity

Legend

- Minor Access Point
- Construction Area

BA18 FVVM
- PCT 281

BA18 Flora species polygons
- Ausfeld's Acacia
- Cotoneaster Pomaderris; Silky Swainson-pea
- Tarengo Leek Orchid

BA18 Fauna species polygons
- Squirrel Glider; Barking Owl; Eastern Pygmy-possum; Glossy Black-Cockatoo; Koala; Masked Owl; Southern Myotis

BA23 Fauna species polygon
- Glossy Black-Cockatoo

BA23 Flora species polygon
- Euphrasia arguta

BA23 FVVM
- PCT 0
- PCT 281

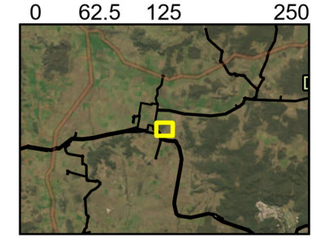
Flora Species (EIS/Amendment Report)
- Euphrasia arguta
- Pomaderris cotoneaste
- Prasophyllum petilum
- Swainsona recta
- Swainsona sericea

Fauna Species Polygon
- Eastern Pygmy-possum
- Key's Matchstick Grasshopper
- Pale-headed Snake - potential habitat
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 277
- PCT 281
- PCT 440
- PCT 478

Meters

0 62.5 125 250



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:6,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 3.C Birkalla Road South - Inset A - Biodiversity

Legend

- Construction Area

BA18 FVVM

- PCT 0
- PCT 281

BA18 Flora species polygons

- Ausfeld's Acacia
- Cotoneaster Pomaderris; Silky Swainson-pea
- Tarengo Leek Orchid

BA18 Fauna species polygons

- Squirrel Glider; Barking Owl; Eastern Pygmy-possum; Glossy Black-Cockatoo; Koala; Masked Owl; Southern Myotis

BA45 Fauna species polygon

- Chalinolobus dwyeri
- Petaurus norfolcensis
- Vespadelus troughtoni

Flora Species (EIS/Amendment Report)

- Acacia ausfeldii

Fauna Species Polygon

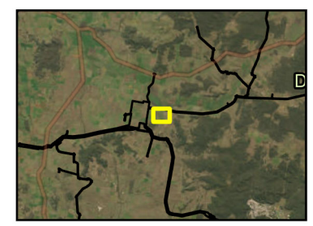
- Squirrel Glider

PCT Vegetation Layer (EIS/ Amendment Report)

- PCT 0
- PCT 281

Meters

0 62.5 125 250



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:6,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 3.C Birkalla Road South - Biodiversity

Legend

- Minor Access Point
- Construction Area

BA18 FVVM
- PCT 0
- PCT 281

BA18 Flora species polygons
- Ausfeld's Acacia
- Cotoneaster Pomaderris; Silky Swainson-pea
- Tarengo Leek Orchid

BA18 Fauna species polygons
- Squirrel Glider; Barking Owl; Eastern Pygmy-possum; Glossy Black-Cockatoo; Koala; Masked Owl; Southern Myotis

BA45 Fauna species polygon
- Chalinolobus dwyeri
- Petaurus norfolcensis
- Vespadelus troughtoni

BA23 Fauna species polygon
- Glossy Black-Cockatoo

BA23 Flora species polygon
- Euphrasia arguta

BA23 FVVM
- PCT 0
- PCT 281

Flora Species (EIS/Amendment Report)
- Acacia ausfeldii
- Euphrasia arguta
- Pomaderris cotoneaste
- Prasophyllum petilum
- Swainsona recta
- Swainsona sericea

Fauna Species Polygon
- Eastern Pygmy-possum
- Key's Matchstick Grasshopper
- Pale-headed Snake - potential habitat
- Pink-tailed Legless Lizard
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 277
- PCT 281
- PCT 440
- PCT 478

Meters

0 125 250 500

ACJV design & construct

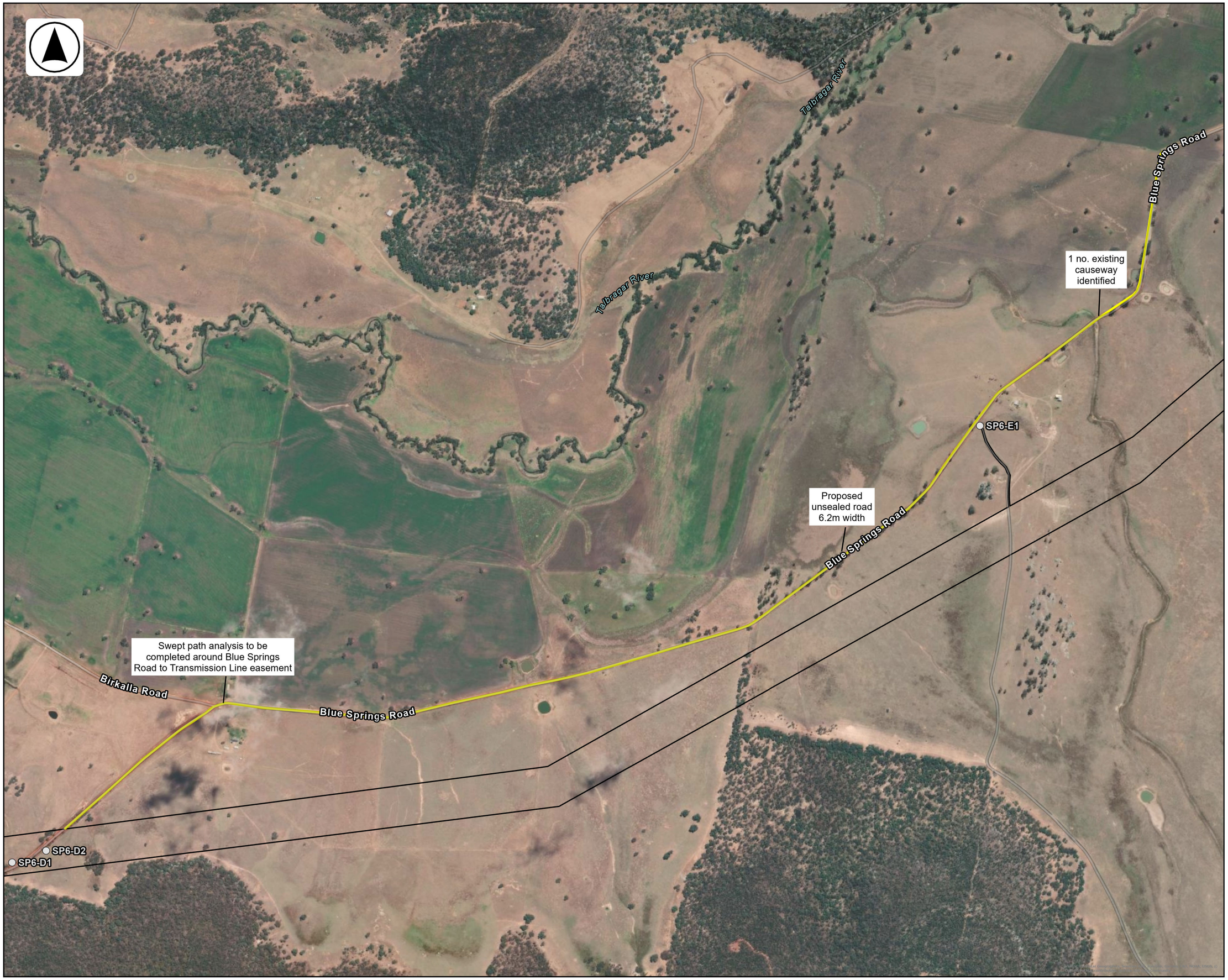
acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:12,000

Rev 02 dated 23/02/2026

Central West Orana Renewable Energy Zone
Figure 4.A Blue Springs Road North - Location



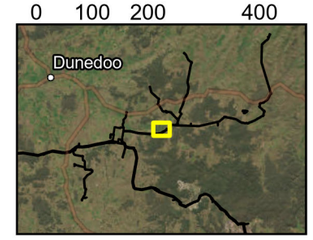
Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

The road upgrade works involve regrading and resheeting the unsealed road to a 6.2 m two lane width with drainage improvements, assessing and signing an existing causeway and bridge, installing permanent traffic signage, and implementing routine inspection, maintenance and dust suppression during construction, with no sealing, cattle grids, swept path analysis or tree clearing required.

Meters

0 100 200 400



ACJV design & construct

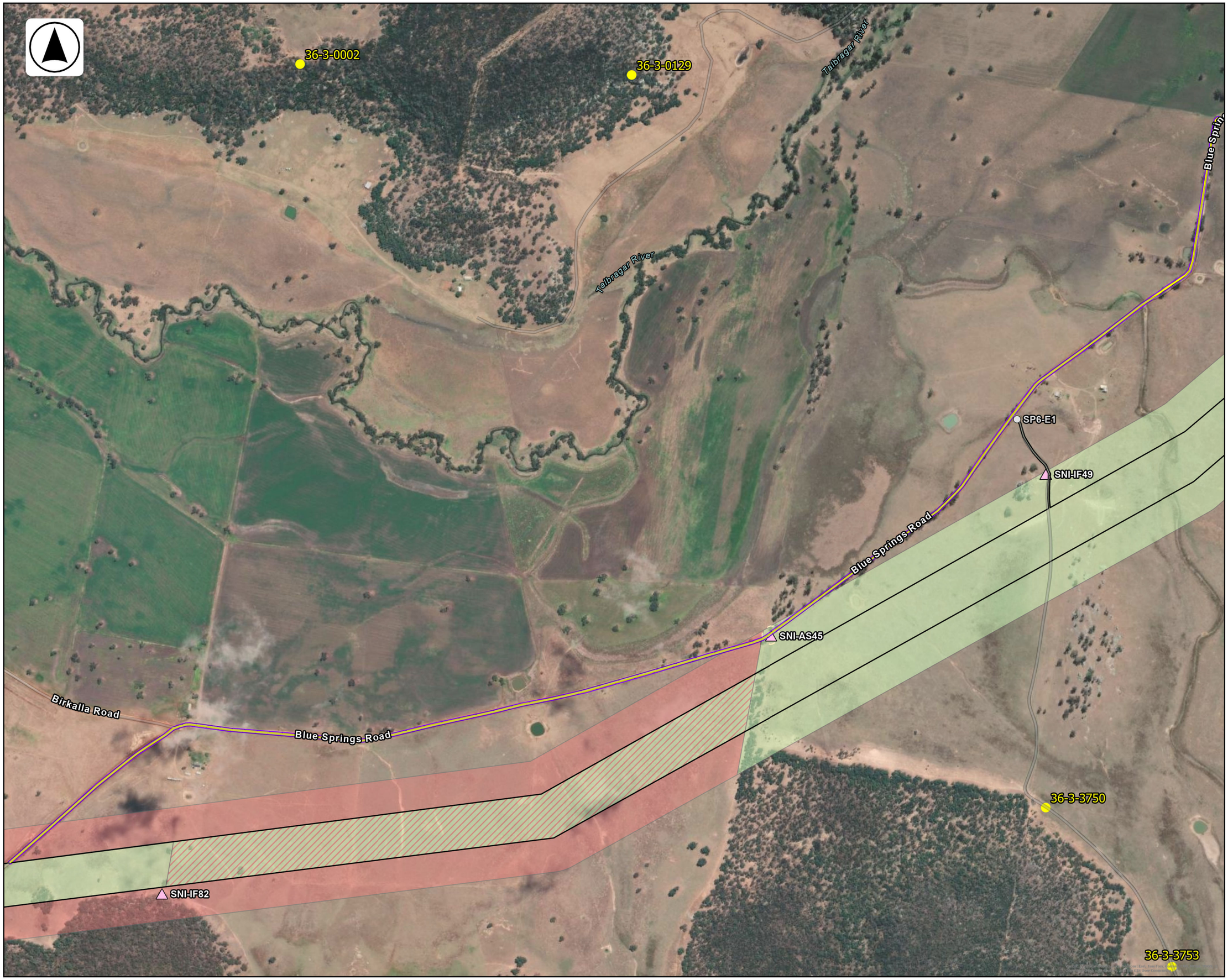
acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:11,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.B Blue Springs Road North - Heritage



Legend

- AHIMS
- Minor Access Point
- Surveyed Aboriginal Sites
- Road Upgrade Area
- Construction Area
- Aboriginal Site Extent
- Aboriginal Site Extent 20m Buffer
- KNC Survey, 2025

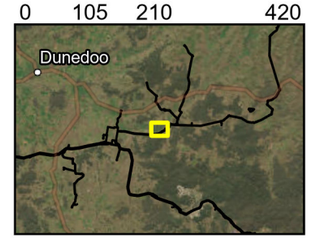
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The road upgrade works involve regrading and resheeting the unsealed road to a 6.2 m two lane width with drainage improvements, assessing and signing an existing causeway and bridge, installing permanent traffic signage, and implementing routine inspection, maintenance and dust suppression during construction, with no sealing, cattle grids, swept path analysis or tree clearing required.

Meters

0 105 210 420



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:10,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.B Blue Springs Road North - Inset A - Heritage

Birkalla Road

Blue Springs Road

Blue Springs Road

Blue Springs Road

Blue Springs Road

SP6-D2

SNI-IF82

Legend

- Minor Access Point
- Surveyed Aboriginal Sites
- Road Upgrade Area
- Construction Area
- KNC Survey, 2025

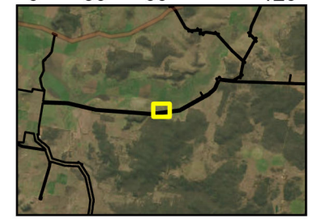
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The road upgrade works involve regrading and resheeting the unsealed road to a 6.2 m two lane width with drainage improvements, assessing and signing an existing causeway and bridge, installing permanent traffic signage, and implementing routine inspection, maintenance and dust suppression during construction, with no sealing, cattle grids, swept path analysis or tree clearing required.

Meters

0 30 60 120



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:3,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.B Blue Springs Road North - Inset B - Heritage

Legend

- Minor Access Point
- Surveyed Aboriginal Sites
- Road Upgrade Area
- Construction Area
- Aboriginal Site Extent
- Aboriginal Site Extent 20m Buffer
- KNC Survey, 2025

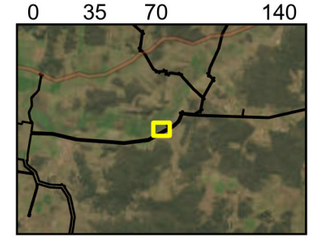
Total Field Survey Coverage (EIS/ Amendment Report)

- Not surveyed - Outside construction boundary
- Not surveyed - Within construction boundary
- Survey completed

The road upgrade works involve regrading and resheeting the unsealed road to a 6.2 m two lane width with drainage improvements, assessing and signing an existing causeway and bridge, installing permanent traffic signage, and implementing routine inspection, maintenance and dust suppression during construction, with no sealing, cattle grids, swept path analysis or tree clearing required.

Meters

0 35 70 140



ACJV design & construct

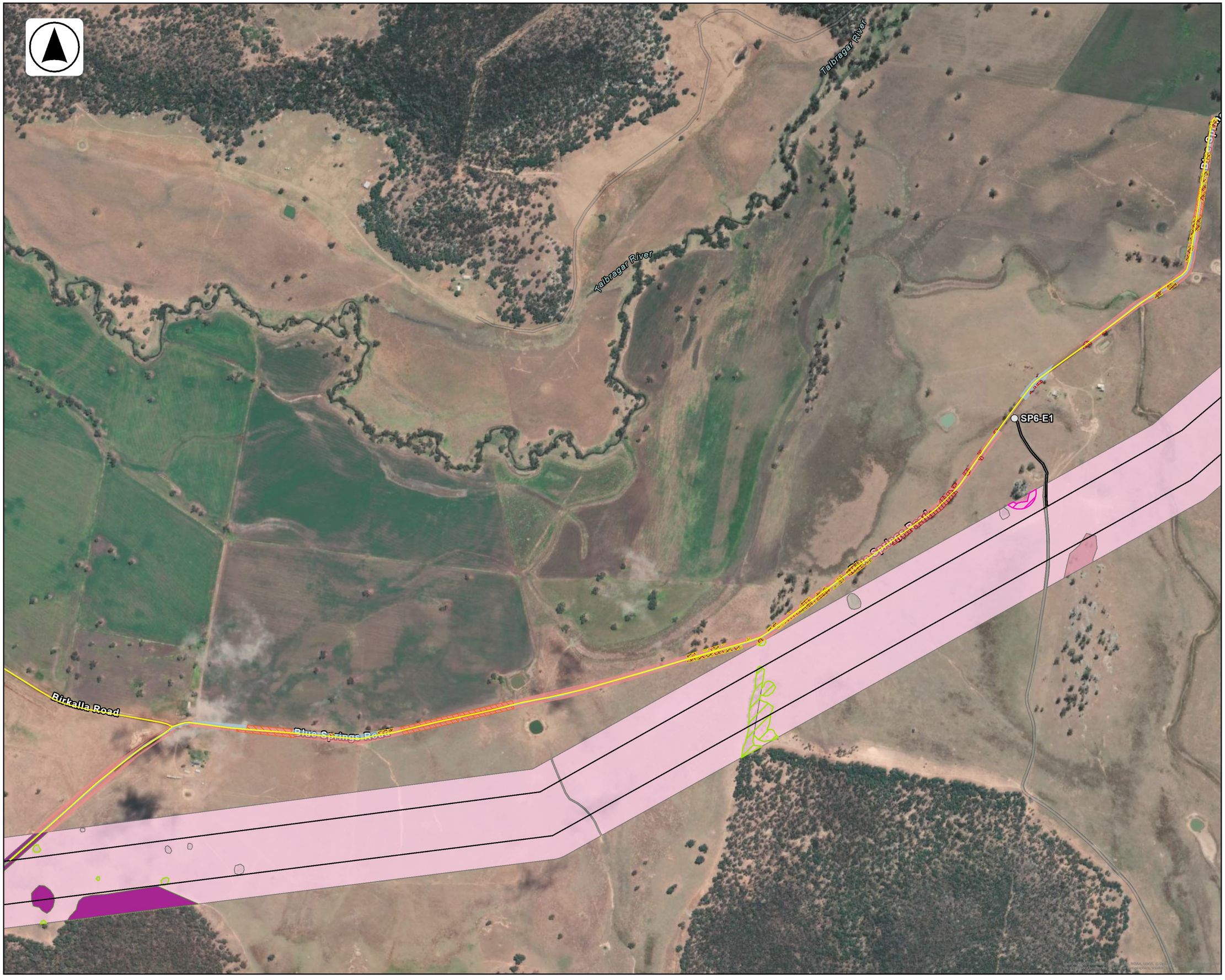
acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:3,500

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.C Blue Springs Road North - Biodiversity



Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

BA19 Flora species polygon
- Acacia ausfeldii
- Pomaderris cotoneaster
- Prasophyllum petilum

BA19 Fauna species polygon
- Pink-tailed Legless Lizard
- Squirrel Glider
- Glossy Black-Cockatoo, Eastern Pygmy-possum, Large-eared Pied Bat, Little Eagle, Masked Owl, Eastern Cave Bat

BA19 FVVM
- PCT 0
- PCT 281

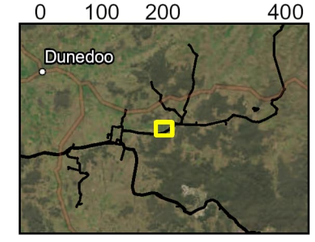
Flora Species (EIS/Amendment Report)
- Prasophyllum petilum

Fauna Species Polygon
- Pink-tailed Legless Lizard
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 277
- PCT 281
- PCT 478
- PCT 479

Meters

0 100 200 400



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:10,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.C Blue Springs Road North - Inset A - Biodiversity

Legend

- Road Upgrade Area
- Construction Area

BA19 Flora species polygon

- Acacia ausfeldii
- Pomaderris cotoneaster
- Prasophyllum petilum

BA19 Fauna species polygon

- Pink-tailed Legless Lizard
- Glossy Black-Cockatoo, Eastern Pygmy-possum, Large-eared Pied Bat, Little Eagle, Masked Owl, Eastern Cave Bat

BA19 FVVM

- PCT 0
- PCT 281

Flora Species (EIS/Amendment Report)

- Prasophyllum petilum

Fauna Species Polygon

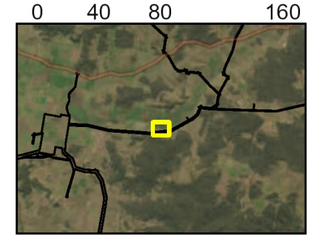
- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)

- PCT 0
- PCT 281
- PCT 478

Meters

0 40 80 160



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 4.C Blue Springs Road North - Inset B - Biodiversity

Legend

- Construction Area

BA19 Flora species polygon

- Acacia ausfeldii
- Pomaderris cotoneaster
- Prasophyllum petilum

BA19 Fauna species polygon

- Pink-tailed Legless Lizard
- Squirrel Glider
- Glossy Black-Cockatoo, Eastern Pygmy-possum, Large-eared Pied Bat, Little Eagle, Masked Owl, Eastern Cave Bat

BA19 FVVM

- PCT 0
- PCT 281

Fauna Species Polygon

- Squirrel Glider

PCT Vegetation Layer (EIS/Amendment Report)

- PCT 0
- PCT 281

Meters

0 40 80 160

ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone Figure 4.C Blue Springs Road North - Inset C - Biodiversity

Legend

- Minor Access Point
- Construction Area

BA19 Flora species polygon

- Acacia ausfeldii
- Pomaderris cotoneaster
- Prasophyllum petilum

BA19 Fauna species polygon

- Pink-tailed Legless Lizard
- Glossy Black-Cockatoo, Eastern Pygmy-possum, Large-eared Pied Bat, Little Eagle, Masked Owl, Eastern Cave Bat

BA19 FVVM

- PCT 0
- PCT 281

PCT Vegetation Layer (EIS/Amendment Report)

- PCT 0
- PCT 277
- PCT 281

Blue Springs Road

SP6-E1

Meters

0 40 80 160

ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 1.A Blue Springs Road South - Location

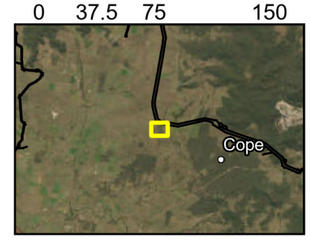
Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

The road upgrade involves widening and resealing the existing road to two 3.1 m lanes with appropriate shoulders in accordance with Austroads standards, supported by pavement maintenance, line marking, drainage and access improvements, permanent signage, and ongoing inspection and maintenance and no tree removal.

Meters

0 37.5 75 150



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 1.B Blue Springs Road South - Heritage

Legend

- AHIMS
- Minor Access Point
- Road Upgrade Area
- Construction Area
- Aboriginal Site Extent
- Aboriginal Site Extent 20m Buffer
- KNC Survey, 2025

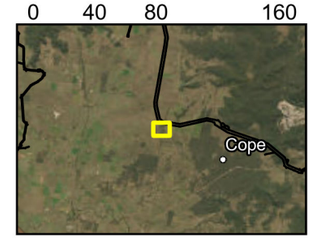
Total Field Survey Coverage (EIS/ Amendment Report)

- Survey completed

The road upgrade involves widening and resealing the existing road to two 3.1 m lanes with appropriate shoulders in accordance with Austroads standards, supported by pavement maintenance, line marking, drainage and access improvements, permanent signage, and ongoing inspection and maintenance and no tree removal.

Meters

0 40 80 160



ACJV design & construct

acciona cobra

PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Central West Orana Renewable Energy Zone
Figure 1.C Blue Springs Road South - Biodiversity

SP1-E1
SP1-E2
Blue Springs Road

Legend

- Minor Access Point
- Road Upgrade Area
- Construction Area

BA16 FVVM
- PCT 0
- PCT 277

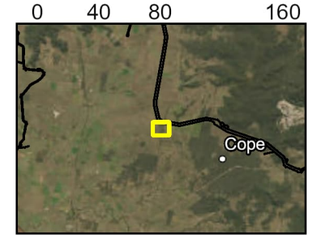
BA16 Flora species polygon
- Euphrasia arguta
- Prasophyllum petilum; Swainsona recta; Swainsona sericea; Acacia ausfeldii

BA16 Fauna species polygon
- Pink-tailed Legless Lizard
- Squirrel Glider; Eastern Pygmy-possum; Glossy Black-Cockatoo; Koala; Masked Owl; Southern Myotis

Fauna Species Polygon
- Eastern Pygmy-possum
- Squirrel Glider
- Striped Legless Lizard

PCT Vegetation Layer (EIS/Amendment Report)
- PCT 0
- PCT 277

Meters
0 40 80 160



ACJV design & construct
acciona cobra
PARTNERING ON DESIGN AND CONSTRUCTION

Scale: 1:4,000

Rev 01 dated 27/01/2026

Appendix F Supplementary Environmental Assessments

A supplementary biodiversity survey of the access points and local road upgrades in this Strategy that were not fully covered within the BDAR assessment area was undertaken by East Coast Ecology (ECE) in:

- June 2025
- January 2026
- February 2026

The supplementary biodiversity surveys focussed on areas of the road corridor where the ACJV D&C design extends beyond the area surveyed for the BDAR.

The supplementary biodiversity survey was undertaken by a suitably qualified person(s) in accordance with the relevant industry standards and guidelines.

A supplementary heritage survey of the access points and local road upgrades in this Strategy that were not fully covered within the BDAR assessment area was undertaken by Kelleher Nightingale Consulting Pty Ltd (KNC) in January 2025.

The supplementary heritage surveys focussed on areas of the road corridor where the ACJV D&C design extends beyond the area surveyed for the EIS and Amendment Report.

The supplementary heritage survey was undertaken by a suitably qualified person(s) in accordance with the relevant industry standards and guidelines.

Activity:	Aboriginal and historical heritage assessment of proposed road upgrade works along Blue Springs and Birkalla Roads outside the approved Construction Area.
Heritage Site ID:	• Previously identified Aboriginal site SNI-AS45 (AHIMS 36-3-4068), Blue Springs Road North (Figure 2) • Newly identified Aboriginal site SNI-AS200, Birkalla Road North (Figure 4) • Newly identified Aboriginal Potential Archaeological Deposit (PAD) SNI-PAD200, Birkalla Road North (Figure 4) • No historical heritage items, sites or areas of archaeological potential identified.
Describe activity/works statement/expected impact (attach any additional information):	Activities associated with potential road upgrades along sections of Birkalla Road and Blue Springs Road outside the approved Construction Area. The proposed works will disturb the ground surface up to two meres from the existing roadways.
Describe where this activity will take place (attach aerial or plans):	Four sections of existing roads which extend on either side of the approved Construction Area (refer Figure 1), referred to as: • Blue Springs Road North (Figure 2) • Blue Springs Road South (Figure 3) • Birkalla Road North (Figure 4) • Birkalla Road South (Figure 5) The heritage assessment area and proposed work area extends two metres on either side of the existing road corridor at these four locations
Area of proposed works surveyed and clearly identified (e.g. survey pegs, fencing)?	
☐ Yes ☒ No	Proposed work areas were identified using aerial maps, handheld GPS, physical landmarks, property/road boundaries and existing fencelines.
Site inspection undertaken with Archaeologist?	
☒ Yes ☐ No	Proposed work areas were inspected by Matthew Kelleher (Director/Archaeologist, KNC) on 27 November 2025 and Mark Rawson (Senior Archaeologist, KNC) on 10 December 2025. At Blue Springs Road North, previously recorded site SNI-AS45 was revisited and confirmed not to be an Aboriginal archaeological site. SNI-AS45 is not a constraint to the proposed upgrade works and site records including the AHIMS database will be updated accordingly. At Birkalla Road North, one previously unidentified open context artefact site was recorded on the northern side of the road: SNI-AS200 (Figure 4). One previously unidentified PAD was recorded on the southern side of the road: SNI-PAD200 (Figure 4). The site and PAD are in close proximity to the proposed upgrade works. No Aboriginal or historical objects, archaeological sites or areas of archaeological potential were identified during the inspections of Blue Springs Road South and Birkalla Road South.
Are additional mitigation measures required to protect heritage sites? (If yes what are they and when will they be in place?)	
☒ Yes ☐ No	Identified site locations for newly recorded SNI-AS200 and SNI-PAD200 on Birkalla Road North are shown in Figure 4. No ground disturbance is to occur within the identified site locations. GIS files of the site locations will be provided and site locations should be included in the EWMS. An exclusion (no-go) buffer will be established during the works to ensure no impact. Avoidance or mitigation for former site SNI-AS45 on Blue Springs Road North is not required as it has been determined not to be an Aboriginal site.

Are proposed works ok to proceed?	
☒ Yes ☐ No	Provided that newly identified sites SNI-AS200 and SNI-PAD200 are avoided, no identified heritage sites are within, or in close proximity to the proposed work areas such that there would be risk of impact as a result of the proposed works. Previously recorded site SNI-AS45 was revisited and confirmed not to be an Aboriginal archaeological site. SNI-AS45 is not a constraint to the proposed upgrade works and site records including the AHIMS database will be updated accordingly. No avoidance or mitigation is required. No other Aboriginal objects, historical heritage items or areas of Aboriginal or historical archaeological potential were identified during desktop research or the site inspection of the areas as shown in Figures 1-5. Provided that SNI-AS200 and SNI-PAD200 are avoided, the proposed works will not impact on significant Aboriginal or historical heritage and are considered to be consistent with the approved project documentation, including the EIS, AR, NHA, ACHAR and ACHAR Addendum. No other heritage constraints have been identified and the proposed works are clear to proceed from a heritage perspective. In accordance with the requirements of the Project Approval and the Heritage Management Plan, the Unexpected Finds Protocol in Appendix C of the Heritage Management Plan should be employed in the event that previously unidentified heritage items or potential human remains are encountered.

Project Archaeologist Approval

Name: Dr Matthew Kelleher **Signature:** **Date:** 17/12/2025

Document Reference: No 8 Rev A

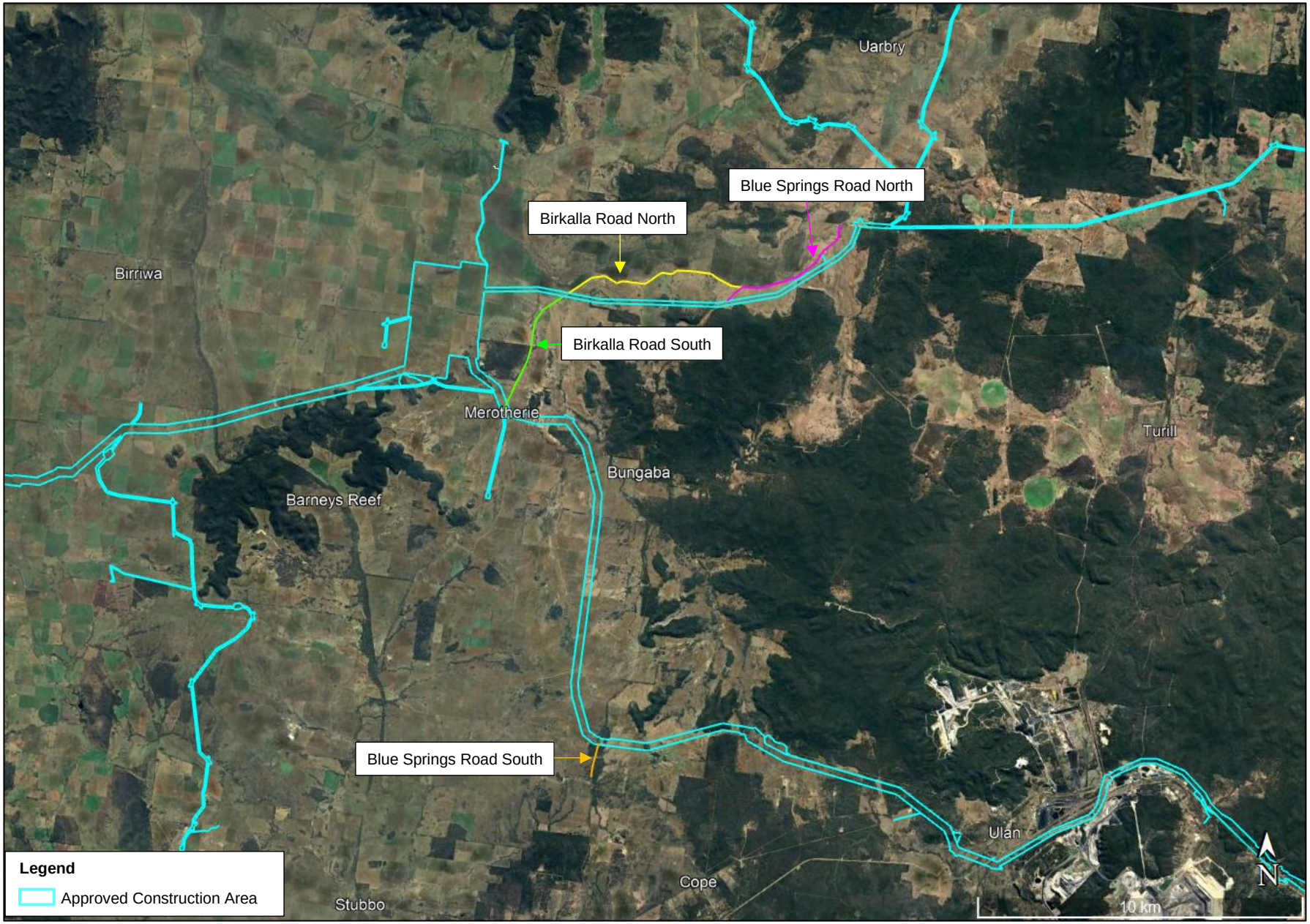


Figure 1. Overview of proposed road upgrade sections in relation to approved Construction Area

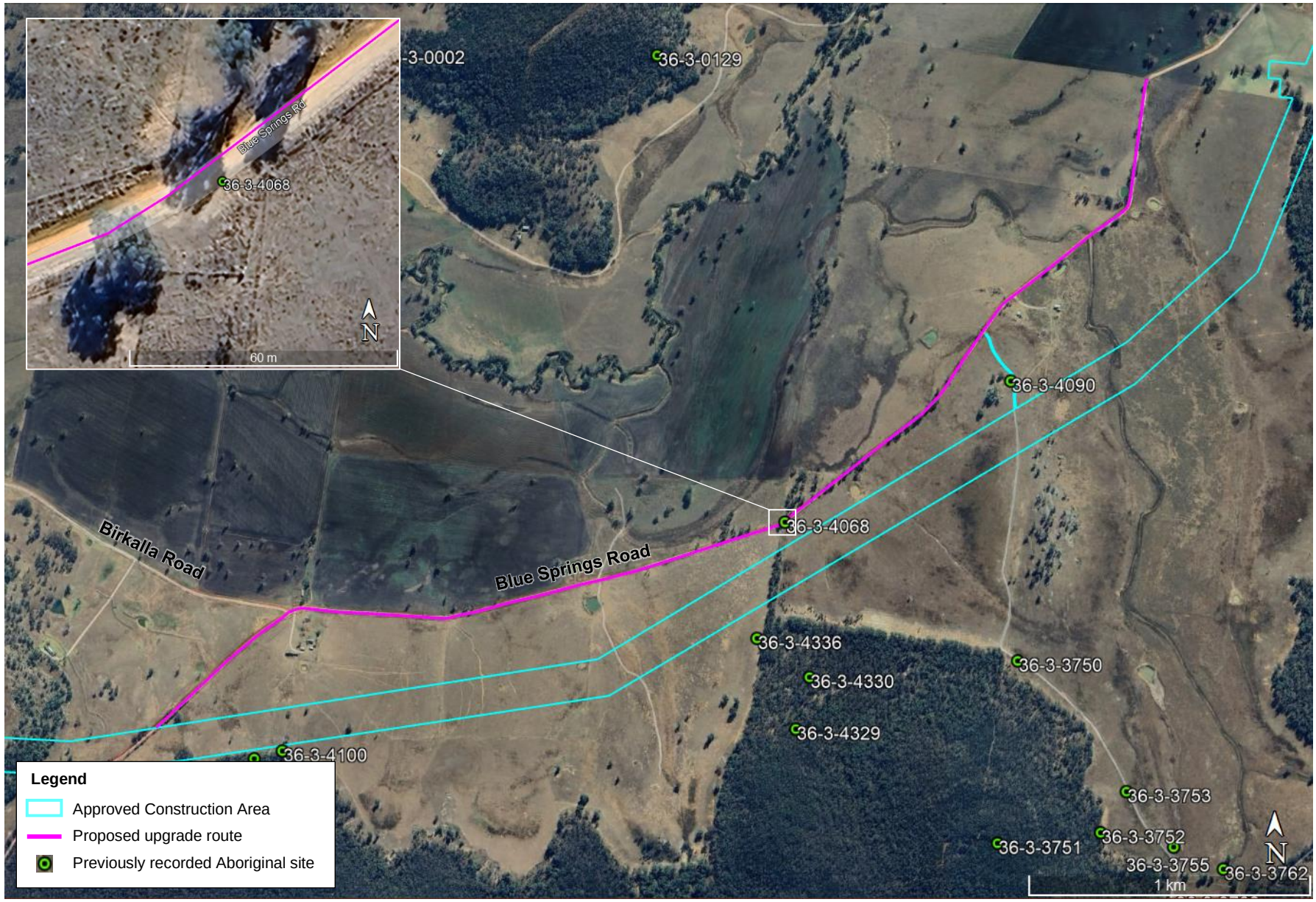


Figure 2. Blue Springs Road North upgrade area (4.5km) – Transmission Line Easement to Warrumbungle Shire Council LGA Boundary. Previously recorded Aboriginal sites shown. AHIMS 36-3-4068 determined to be "Not a Site" as a result of pre-works heritage assessment.

Figure 3. Blue Springs Road south (1km) – from previously upgraded road to Transmission Line Easement. No previously recorded Aboriginal sites in proximity and no heritage constraints identified.

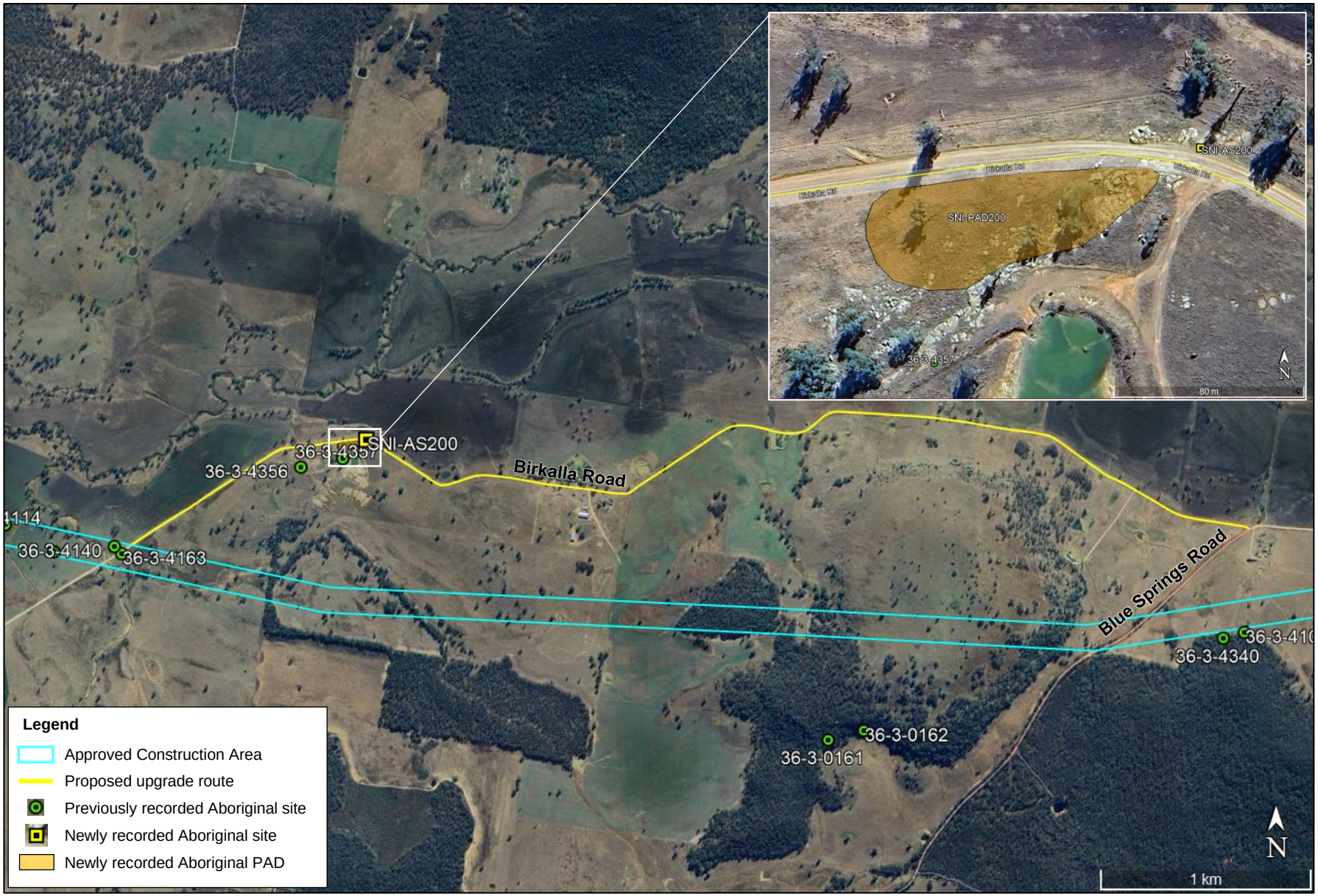


Figure 4. Birkalla Road North (5.8km) – Transmission Line easement to Blue Springs Road north junction. Newly recorded Aboriginal sites SNI-AS200 and SNI-PAD200 must be avoided by the proposed works. No other heritage constraints identified.

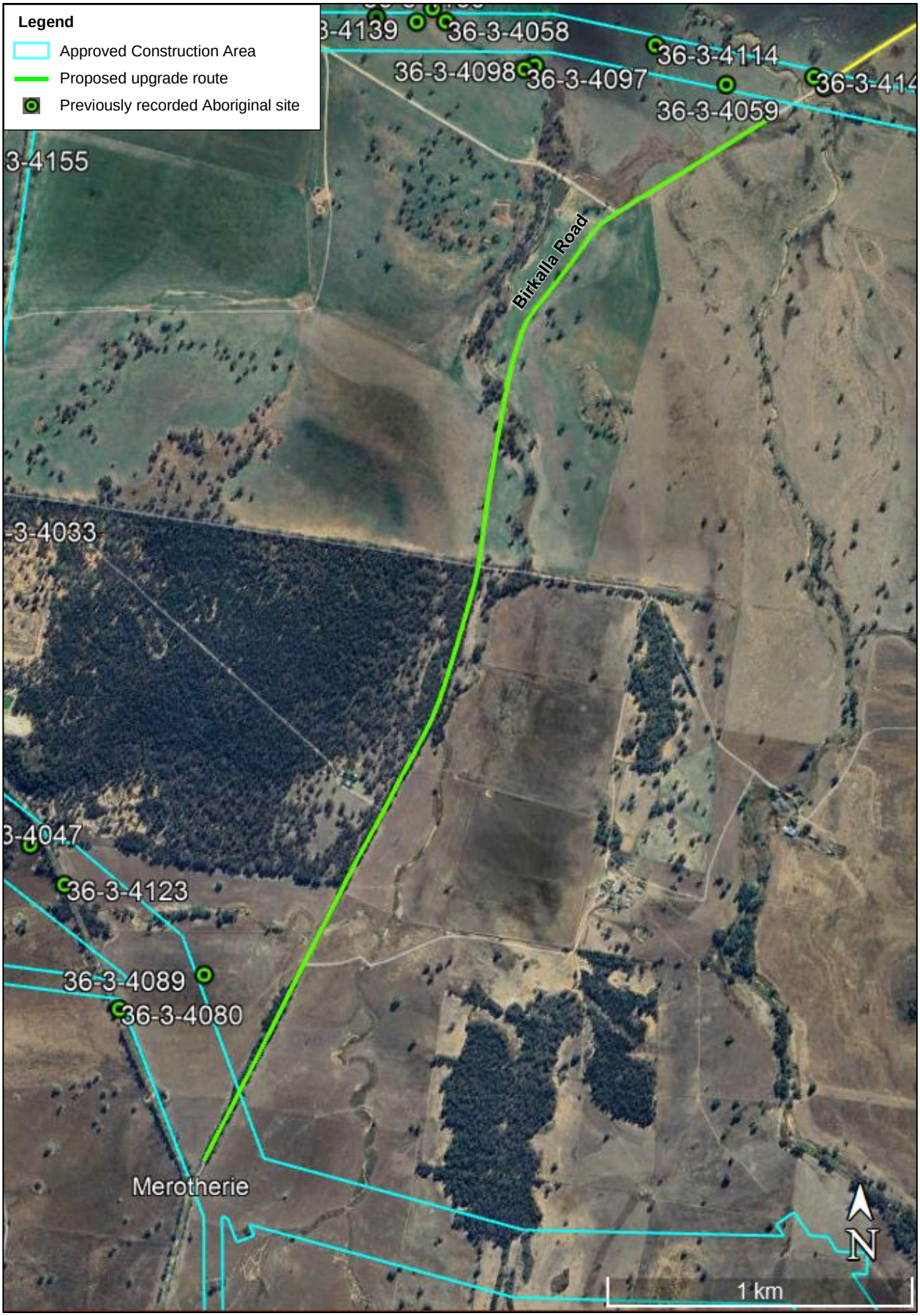


Figure 5. Birkalla Road South (4km) – Merotherie Birkalla Road junction to Transmission Line Easement. No previously recorded Aboriginal sites in proximity and no heritage constraints identified.

Central-West Orana Renewable Energy Zone Transmission Project (SSI-48323210) Pre-Works Heritage Clearance Memo

Date	23 January 2026	Memorandum ID	2402_1 Rev C
Areas Assessed	• 75 individual locations across 37 areas for proposed road or access works • Refer Figure 1 showing 37 areas assessed		

1 Project Background

Acciona Construction Australia Pty Ltd and Cobra Asia Pacific Pty Ltd (together referred to as ACJV D&C) are undertaking works related to the construction of an electric power transmission network in the Central-West Orana Renewable Energy Zone (CWO REZ) in central western NSW (the Project). The Project comprises the construction and operation of new electricity transmission infrastructure, new energy hubs and switching stations and ancillary works required to connect new renewable energy generation and storage projects within the CWO REZ to the NSW transmission network.

The Project was declared Critical State Significant Infrastructure (CSSI) by the NSW Minister for Planning and Public Spaces (the Minister) on 23 November 2020 (amended in February 2023) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Section 23 in Schedule 5 of the *State Environmental Planning Policy (Planning Systems) 2021*. The Project was also deemed a Controlled Action and required a separate approval from the Commonwealth Minister (or its delegate) for the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project Environmental Impact Statement (EIS) was prepared to assess the impacts of construction and operation of the Project. As part of the EIS development, an Aboriginal Cultural Heritage Assessment Report (ACHAR) (Technical Paper 5 – Aboriginal Cultural Heritage Assessment Report) was prepared to assess and address matters concerning Aboriginal heritage. A Non-Aboriginal Heritage Assessment (NHA) (Technical Paper 6 - Non-Aboriginal Heritage) was also prepared to assess and address matters concerning non-Aboriginal heritage. The findings of the heritage assessments were summarised in Chapter 11 (Aboriginal Heritage) and Chapter 12 (Non-Aboriginal Heritage), respectively, of the EIS.

A Response to Submissions (RtS) was prepared in response to submissions received on the EIS. The RtS included clarifications as well as further detail relating to Aboriginal and non-Aboriginal (hereafter historical) heritage management issues of the Project. An Amendment Report (AR) and an Aboriginal Cultural Heritage Assessment Report Addendum (ACHAR-A) were subsequently prepared to address Project changes resulting from the submissions and design progress. The AR was accepted on 11 March 2024.

The Project was approved by the Minister on 26 June 2024. This approval was updated to accommodate Modification 1 (MOD 1) on 14 October 2024. Approval for the Project under the EPBC Act was granted by the Branch Head of Environmental Assessments NSW and ACT of the DCCEEW on 8 August 2024 (EPBC 2022/09353).

ACJV D&C engaged Kelleher Nightingale Consulting Pty Ltd (KNC) to provide professional services related to Aboriginal and historical heritage for the construction phase of the Project, including preparation of a Heritage Management Plan (HMP) in accordance with the recommendations of the EIS, AR and the Project's Conditions of Approval.

ACJV D&C must carry out construction activities for the CSSI in accordance with the conditions of approval and the following environmental assessment documentation:

- Central-West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement
- Central-West Orana Renewable Energy Zone Transmission Project: Submissions Report
- Central-West Orana Renewable Energy Zone Transmission Project: Amendment Report

Project documentation specific to Aboriginal and historical cultural heritage includes:

- EMM Consulting Pty Ltd ('EMM'), 2023a. Central West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement Technical Paper 5 - Aboriginal cultural heritage assessment. Report to WSP on behalf of EnergyCo.
- EMM, 2023b. Central West Orana Renewable Energy Zone transmission project: Environmental Impact Statement Technical Paper 6 - Non- Aboriginal heritage assessment. Report to WSP on behalf of EnergyCo.

- EMM, 2024. Central West Orana Renewable Energy Zone Transmission Project: Amendment Report Appendix H - Aboriginal cultural heritage assessment addendum. Report to WSP on behalf of EnergyCo.
- KNC, 2025. Central-West Orana Renewable Energy Zone Transmission Project: Heritage Management Plan. Prepared for Acciona Construction Australia.

2 Current Assessment

Since the development of the Project environmental assessment documentation described above, additional minor amendments to the approved Construction Area have been identified. These are required to enable required road upgrades and access points for construction. These additional areas required for access works are located outside the approved Construction Area across 37 areas and comprise 75 individual locations. Figure 1 shows the 37 general areas where the access works are proposed (referred to as the 'proposed work areas' for this memo).

KNC were engaged to review the proposed changes in terms of impacts to historical and Aboriginal heritage matters and identify if they are consistent with the Approved Project or if additional or reduced impacts are predicted.

3 Proposed Activities

Within the 37 identified areas, proposed activities include the use or construction of or adjustments to access points and/or access routes which will be required to undertake construction of the Project. This includes road upgrades at certain intersections on the Golden Highway. Proposed activities will disturb the ground surface and have the potential to disturb any historical heritage items or Aboriginal objects which may be present.

4 Assessment Process

4.1 Aboriginal Heritage

Existing Project Documentation
Aboriginal heritage was assessed for the EIS and AR in the *Central West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement Technical Paper 5 - Aboriginal cultural heritage assessment* and *Central West Orana Renewable Energy Zone Transmission Project: Amendment Report Appendix H - Aboriginal cultural heritage assessment addendum.*

The proposed work areas all fall within the wider 'study area' previously assessed for Aboriginal cultural heritage during preparation of the EIS and AR. The wider 'study area' is defined in the ACHAR-A as "a general region extending beyond the construction area, […] but in general captures an area from Dubbo and Gilgandra in the west, Mudgee in the south, Bylong in the east, and Coolah in the north" (EMM 2024:5). The majority of the proposed work areas directly adjoin the approved Construction Area. The ACHAR and ACHAR-A were reviewed to assess the presence of previously recorded Aboriginal archaeological sites or potential Aboriginal heritage constraints to the proposed works.

Review of existing project documentation indicated the presence of potential Aboriginal heritage constraints at the following areas:

- SP1-N (Area of sensitivity along Wilpinjong Creek)
- SP1-O (Area of sensitivity along Wilpinjong Creek)
- SP1-P (Area of sensitivity along Wilpinjong Creek)
- SP1-Q (Area of sensitivity along Wilpinjong Creek, previously recorded sites 36-3-0686 and 36-3-0687)
- SP1-R (Area of sensitivity along Wilpinjong Creek, previously recorded sites 36-3-0681 and 36-3-3188)
- SP1-S (Previously recorded site 36-3-3157)
- SP1-T (Area of sensitivity along Wilpinjong Creek)
- SP1-U (Previously recorded site 36-3-2664)
- SP1-Wilp (Area of sensitivity along Wilpinjong Creek, Area of sensitivity along Cumbo Creek, previously recorded site 36-3-3347)
- SP1-C (Previously recorded site 36-3-4088)

The 'Areas of sensitivity' referred to above are defined in the ACHAR-A (EMM 2024:157) as a zone extending c.150 metres either side of certain creeks intersected by the project, including Wilpinjong Creek and Cumbo Creek, within which higher densities of stone artefacts and/or other areas of past foci may be expected to be present. REMM AH10 requires archaeological excavation where ground disturbance activities cannot be avoided within Areas of Sensitivity. The ACHAR and ACHAR-A assessments did not identify any previously unrecorded Aboriginal objects, archaeological sites, or any specific constraints associated with the Areas of Sensitivity near the proposed work areas.

AHIMS Searches
The current assessment undertook updated searches of the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) database to confirm the location and status of Aboriginal archaeological sites.

The search areas encompassed the proposed work areas. Results are attached as Appendix A. The AHIMS search results were generally consistent with the existing findings of the EIS and AR.

The AHIMS search results confirmed the location of the eight previously recorded sites listed above and identified in the existing project documentation, with the addition of one site (36-3-4279) within SP1-Q; this site was registered subsequent to preparation of the EIS. AHIMS site status was confirmed as "Destroyed" for three sites: 36-3-4279 at SP1-Q, 36-3-3188 at SP1-R, and 36-3-3347 at SP1-Wilp. These three sites are no longer extant and do not pose a constraint to the proposed access works at the indicated locations.

The remaining previously recorded sites at the proposed work areas were confirmed as "Valid" extant site recordings:

- SP1-Q (36-3-0686 and 36-3-0687)
- SP1-R (36-3-0681)
- SP1-S (36-3-3157)
- SP1-U (36-3-2664)
- SP1-C (36-3-4088)

Relevant AHIMS site locations are included on Figures 2-6.

4.2 Historical Heritage

Existing Project Documentation

Historical heritage was assessed for the EIS in the *Central West Orana Renewable Energy Zone transmission project: Environmental Impact Statement Technical Paper 6 - Non- Aboriginal heritage assessment* and in an updated assessment contained within Section 5.7 of the AR.

The proposed work areas fall within the 'study area' previously assessed for historical heritage during preparation of the EIS and AR. The 'study area' is defined in the NHA as the construction area plus a one kilometre buffer (EMM 2023b:11) and in the AR as the amended construction area of the Project with a one kilometre buffer.

The majority of the proposed work areas directly adjoin the approved Construction Area. The NHA and AR were reviewed to assess the presence of previously recorded historical heritage items or potential historical heritage constraints to the proposed works.

Review of existing project documentation indicated the presence of a potential historical heritage constraint at the following area:

- SP1-Q (CWO-22-HH017: Mittaville Archaeological Site)

The NHA describes CWO-22-HH017 as a potential heritage item, identified from review of historical (1960s) aerial photography. The item description is as follows (EMM 2023b:A.62):

> *The Mittaville Archaeological Site is thought to have been built in the early 20th century but is known to have been historically heavily modified by later work. A more modern house was built in 1981. Demolished prior to construction of current electrical transmission line easement.*

CWO-22-HH017 was assessed as displaying a low cultural heritage sensitivity (if archaeological deposits were present) at a local level of significance. Impact assessment for the Project identified potential partial disturbance of the item. It was noted that the assessed area of CWO-22-HH017 had likely already been significantly impacted through past demolition and construction of the existing electrical transmission line easement. No mitigation was recommended for potential impacts from the Project.

The relevant item location is included on Figure 6.

Heritage Register Searches

The current assessment undertook updated searches of heritage registers and databases to confirm the findings of the NHA and AR for the proposed work areas. Consistent with the NHA and AR, these included:

- Mid-Western Regional Local Environmental Plan 2012
- Warrumbungle Local Environmental Plan 2013
- Upper Hunter Local Environmental Plan 2013
- State Heritage Register
- State Heritage Inventory
- NSW Government Agency Section 170 Heritage and Conservation Registers
- Commonwealth Heritage List
- National Heritage List
- Register of the National Estate (non-statutory archive).
- Australian Heritage Places Database and Australian Heritage Places Inventory.

- The updated register search results confirmed that CWO-22-HH017 is unlisted, as identified in the existing Project documentation.
- No items of historical heritage were listed or registered on these databases within or near the proposed work areas, consistent with the existing findings of the NHA and AR.

4.3 Field Inspection

Field inspection was undertaken for the 37 areas required for access works outside the Construction Area. Inspections were undertaken by KNC in November-December 2024, February 2025 and September 2025. Field inspection included pedestrian survey/visual inspection of the proposed work areas, assessment of disturbance and Aboriginal or historical archaeological potential, and identification and recording of potential heritage constraints to the proposed works. The field inspection identified potential heritage constraints at four areas: SP1-N, SP1-O, SP1-Q and SP1-T.

SP1-Q
An Aboriginal archaeological site (surface artefact scatter) was recorded within SP1-Q (refer Figure 6). The site was located on a raised gently sloping spur positioned on the south-western side of Wilpinjong Creek and overlooking the confluence with Planters Creek. The site extended from near the railway crossing in the south-west down the spur towards the overhead powerlines in the north-east. Artefacts recorded included one quartz flake, one chert flake and one chert proximal flake fragment.

All artefacts were found in a disturbed context within track exposures cut and eroded down to a gravelly A2 horizon. Other parts of the site extent may display more limited disturbance. The site identified during the field inspection is considered to form part of existing (valid) AHIMS site recording 36-3-0687.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-Q. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site location may require further investigation under REMM AH10 if impact cannot be avoided.

One historical heritage item was previously recorded at SP1-Q, comprising item CWO-22-HH017 (Mittaville Archaeological Site) identified during the NHA prepared as part of the EIS (refer Figure 6). The item comprised a potential archaeological site, based on review of a mid-1960s aerial photograph. The NHA noted that the assessed extent of the item had been subject to high levels of existing disturbance.

The current field inspection confirmed that the area of CWO-22-HH017 which overlaps SP1-Q is positioned along the existing access track and transmission corridor. The area was confirmed as highly disturbed and was considered to display low to no historical archaeological potential in this area. No historical heritage materials or indications of subsurface archaeological material were identified.

SP1-N
An Aboriginal archaeological site (surface artefact scatter) was recorded within SP1-N on the western side of Wilpinjong Creek (refer Figure 7). Landform comprised a moderately-raised terrace situated directly alongside the western bank. The Redhills Trail followed the western side of the terrace while side tracks crossed at the northern and southern ends. The ground surface along the terrace had extensive areas of exposed ground which appeared loose and disturbed by machinery.

Previous disturbance has included vegetation clearance, use as pasture, ripping/ploughing, trail/access construction and tree planting. Recorded artefacts included a chert flake, two quartz flakes and a chert core. The site is not associated with any existing AHIMS site recordings.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-N. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site location may require further investigation under REMM AH10 if impact cannot be avoided.

SP1-O
Three Aboriginal archaeological sites were recorded within SP1-O (refer Figures 8-9). The first comprised an isolated find of a quartz flake south of Wilpinjong Creek, on the southern side of the Wilpinjong Creek trail crossing and on the opposite bank to a second site recorded in this area. The second site comprised a low density surface artefact scatter on a moderately prominent rise on the northern bank of the creek, including the up- and down-slope of a side gully. Artefacts recorded included a chert core and a mudstone flake. The third recorded site was approximately 935 metres to the south east. This comprised a surface artefact scatter on a rise along the south-western side of Wilpinjong Creek and on the upstream side of a gully confluence. Artefacts recorded included a silcrete proximal flake fragment and a quartz flake.

All artefacts appeared in a disturbed context due to the impacts of machinery at the north-western sites and cattle grazing and/or trail construction at the south-eastern site. Apart from the track and machinery scraped areas the north-western site appeared relatively intact. None of these sites are not associated with any existing AHIMS site recordings.

Outside of the identified site locations, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-O. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site locations may require further investigation under REMM AH10 if impact cannot be avoided.

SP1-T

An Aboriginal archaeological site (surface artefact scatter) was recorded across a well-defined and moderately raised landform located on the southern bank of Bens Creek, approximately 800 metres upstream from the confluence with Wilpinjong Creek (refer Figure 10). The site extended from the railway crossing in the south up to the edge of the creek bank in the north and west. The channel of Bens Creek formed a moderately deep gully below the site.

Artefacts recorded included one silcrete flake, one chert flake and one quartz flake, with numerous (>10) other artefacts noted at this location along the edge of the landscaped (cut) gully. The archaeological material was disturbed at the artefact findspots, with the remainder of the site area displaying variable but generally lower levels of disturbance. The site is not associated with any existing AHIMS site recordings.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-T. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site locations may require further investigation under REMM AH10 if impact cannot be avoided.

SP1-P, SP1-R and SP1-Wilp

Background information review indicated that these proposed access work areas fell within Areas of Sensitivity associated with Wilpinjong and/or Cumbo Creeks. No Aboriginal objects, archaeological sites or areas of Aboriginal archaeological potential were identified at these locations. No Aboriginal heritage constraints associated with the Areas of Sensitivity were identified and the field assessment confirmed that the Areas of Sensitivity do not extend into the proposed work areas. Therefore further investigation (archaeological excavation under REMM AH10) is not required at these areas.

5 Impact & Consistency Assessment

Review of background Aboriginal heritage information including updated AHIMS database searches identified six valid (extant) AHIMS site recordings within the proposed work areas at SP1-Q, SP1-R, SP1-S, SP1-U and SP1-C. Field inspection identified Aboriginal archaeological sites within the proposed work areas at SP1-N, SP1-O, SP1-Q and SP1-T. Outside of the identified site locations, no specific constraints associated with the Aboriginal Areas of sensitivity along Wilpinjong Creek and Cumbo Creek were identified for work areas which overlap these zones. Therefore further investigation (archaeological excavation under REMM AH10) of these areas is not required.

Review of background historical heritage information including updated historical heritage register searches identified one unlisted historical heritage item within the proposed work area at SP1-Q (CWO-22-HH017). Field inspection confirmed the portion of this item which overlaps the proposed work area is highly disturbed with low to no historical archaeological potential.

There are therefore heritage considerations for the proposed works within the following eight areas:

- SP1-Q (36-3-0686 and 36-3-0687, CWO-22-HH017, Wilpinjong Creek Area of Sensitivity)
- SP1-R (36-3-0681)
- SP1-S (36-3-3157)
- SP1-U (36-3-2664)
- SP1-C (36-3-4088)
- SP1-N (Aboriginal site identified during field inspection, Wilpinjong Creek Area of Sensitivity)
- SP1-O (Aboriginal sites identified during field inspection, Wilpinjong Creek Area of Sensitivity)
- SP1-T (Aboriginal site identified during field inspection, Wilpinjong Creek Area of Sensitivity)

Aboriginal heritage impacts

The sites listed above are located outside of the approved Construction Area and were not considered for impact in the EIS/AR. Impact to these sites is not included under the Project Approval or existing project documentation. Any impact to these sites would not be considered consistent with the Project Approval. Management measures should be employed for access works in proximity to the identified sites to ensure no impact (discussed in Section 6 below).

If impact to the Wilpinjong Creek Area of Sensitivity within the identified site locations at SP1-Q, SP1-N, SP1-O and SP1-T cannot be avoided, further investigation (archaeological test excavation under REMM AH10) may be required.

Historical heritage impacts

CWO-22-HH017 is partially located within the approved Construction Area and was assessed for partial impact in the EIS/AR. The item exhibits low cultural heritage sensitivity (if archaeological deposits are present) at a local level of significance. No mitigation activities were required for partial impact to the item as a result of the Project, beyond the implementation of the Project's Unexpected Finds Protocol if required. Partial impact to the item as a result of the current proposed works at SP1-Q is therefore not inconsistent with the findings of the EIS/AR or the Project Approval. Management measures should be employed for access works in proximity to the item to ensure consistency (discussed in Section 6 below).

No identified heritage impacts

No Aboriginal or historical heritage constraints or impacts were identified within the following 29 proposed work areas:

- SP1-H1 and H2
- SP1-I
- SP1-J1 and J2
- SP1-G
- SP1-P
- SP1-Wilp
- SP6-E1
- SP6-C
- SP6-F1
- SP5-A
- SP6-B1
- SP6-X1 and X2
- SP5-D
- SP3-E
- SP6-Y1 (WAD 3)
- SP6-H (WAD 3)
- SP5-F1
- SP3-A
- SP2-I
- ARMSTRONG
- SP5-G
- SP2-F
- SP2-D
- SP5-I1
- Blue Springs Road (WAD 2A)
- Ulan Road (WAD 2B)
- SP6-Z1 and Z2 (WAD 3)
- SP2-H1 and H2 (WAD 4)
- SP5-E1

The proposed works at these 29 locations would be consistent with the Project Approval (resulting in no change to Aboriginal or historical archaeological heritage impacts).

Specifically, CoA B27(a) states that

The proponent must:

> *ensure the development does not cause any harm to any Aboriginal heritage objects/sites or historic heritage items located outside the approved construction area (see Table 3-1 and Table 3-3 of Appendix 3)*

No Aboriginal heritage objects/sites or historic heritage items have been identified within or near the proposed work areas listed above outside the approved Construction Area. The proposed works would not cause harm to any identified Aboriginal heritage objects/sites or historic heritage items outside the approved Construction Area, including those listed in Table 3-1 and Table 3-3 of CoA Appendix 3. The proposed works are therefore consistent with the requirements of CoA B27a.

6 Result and Recommendations

The proposed access works outside the project boundary may proceed with caution at the 29 areas listed above where no Aboriginal or historical heritage constraints were identified. At the eight areas with identified constraints, the following management measures should be implemented.

Aboriginal heritage
Impacts must be avoided to the AHIMS site recordings and Aboriginal archaeological sites identified during the field inspection. No ground disturbance or impacts are to occur at the Aboriginal site locations or areas as shown on Figures 2-10. Sites must be avoided and should be identified within the relevant activities' Construction Environmental Management Plan (CEMP) and workers/contractors inducted regarding the protection of Aboriginal heritage. Temporary fencing may be appropriate along the site boundaries in proximity to the proposed work areas.

If ground disturbance within the Aboriginal archaeological site locations and areas indicated in Figures 2-10 is avoided, the proposed access works at these locations would be consistent with the Project Approval (resulting in no change to Aboriginal heritage impacts) and may proceed with caution. If site impacts cannot be avoided, this would be inconsistent with the Project Approval and further assessment or approvals may be required. The Wilpinjong Creek Area of Sensitivity associated with the identified site locations at SP1-Q, SP1-N, SP1-O and SP1-T may require further investigation under REMM AH10 if impact cannot be avoided.

Historical heritage
Proposed access works at SP1-Q partially overlap the extent of historical heritage item CWO-22-HH017 (Figure 6). Field inspection confirmed the portion of this item which overlaps the proposed work area is highly disturbed with low to no historical archaeological potential, consistent with the findings of the EIS/AR. Partial impact to the item was included in the EIS/AR.

Partial impact to the item as a result of the current proposed works at SP1-Q is therefore not inconsistent with the findings of the EIS/AR or the Project Approval (resulting in no change to existing historical heritage impacts) and can proceed with caution. The Project's Unexpected Finds Protocol must be implemented in the event of a potential heritage find within CWO-22-HH017 during the proposed works, consistent with the recommendations of the EIS/AR.

If you have any questions, please do not hesitate to contact me on 9232 5373 or at matthew.kelleher@knconsult.com.au

Yours sincerely,

Dr Matthew Kelleher
Director/Archaeologist
Kelleher Nightingale Consulting Pty Ltd

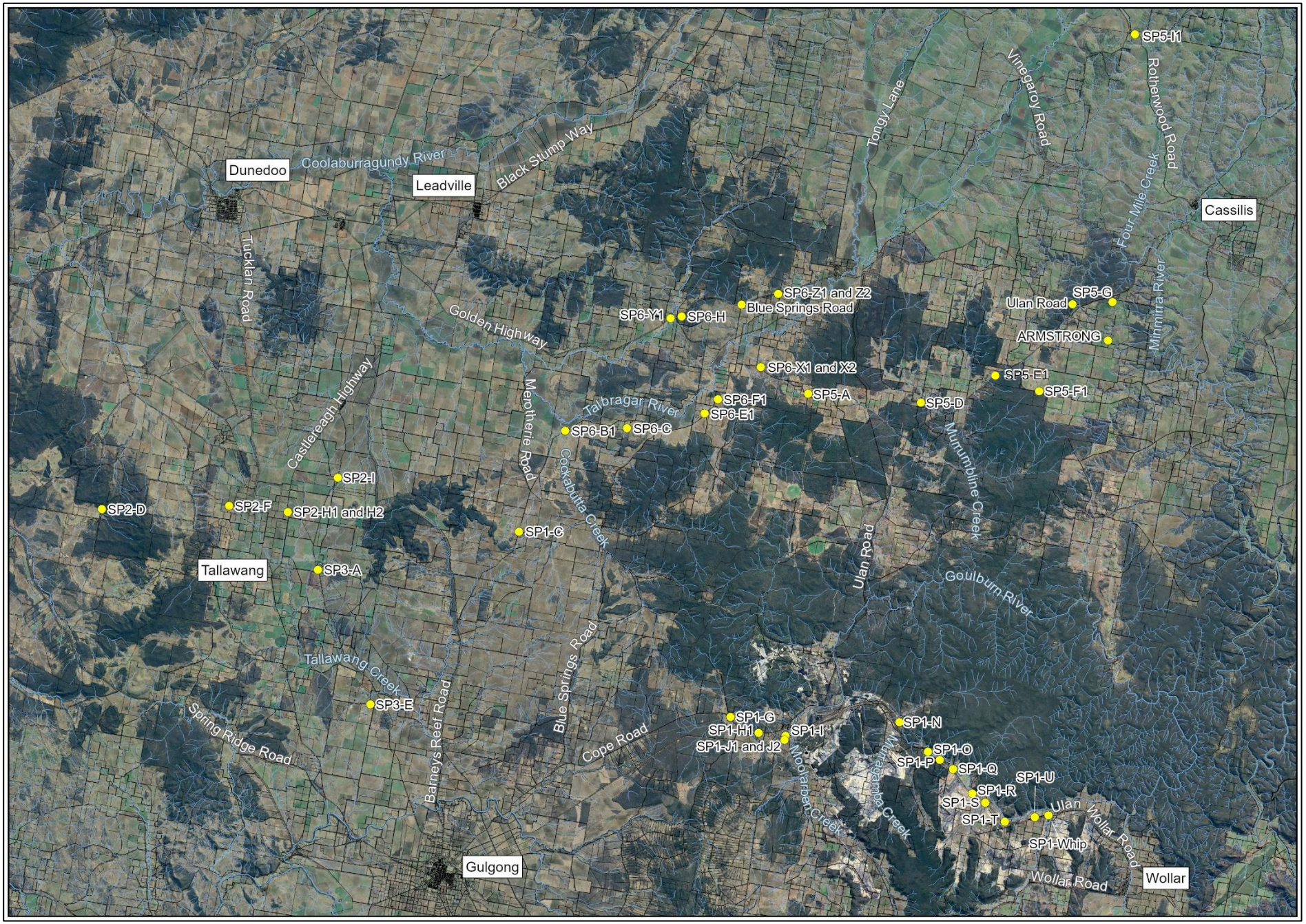


Figure 1. Overview map showing general location of proposed work areas

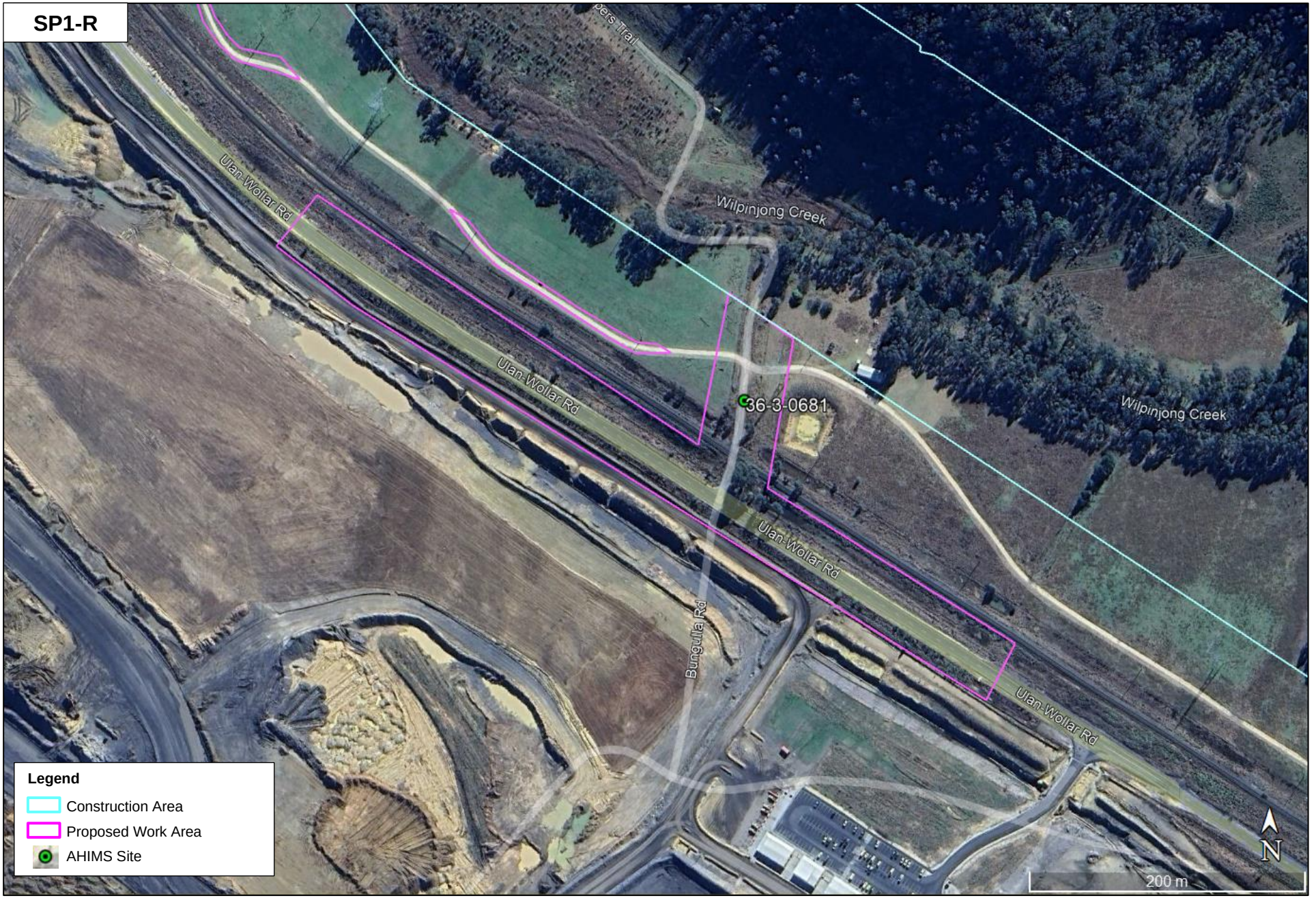


Figure 2. Recorded AHIMS site at SP1-R. Base image Google Earth.

Figure 3. Recorded AHIMS site at SP1-S. Base image Google Earth.

Figure 4. Recorded AHIMS site at SP1-U. Base image Google Earth.

Figure 5. Recorded AHIMS site at SP1-C. Base image Google Earth.

Figure 6. CWO-22-HH017, recorded AHIMS sites and archaeological site location at SP1-Q

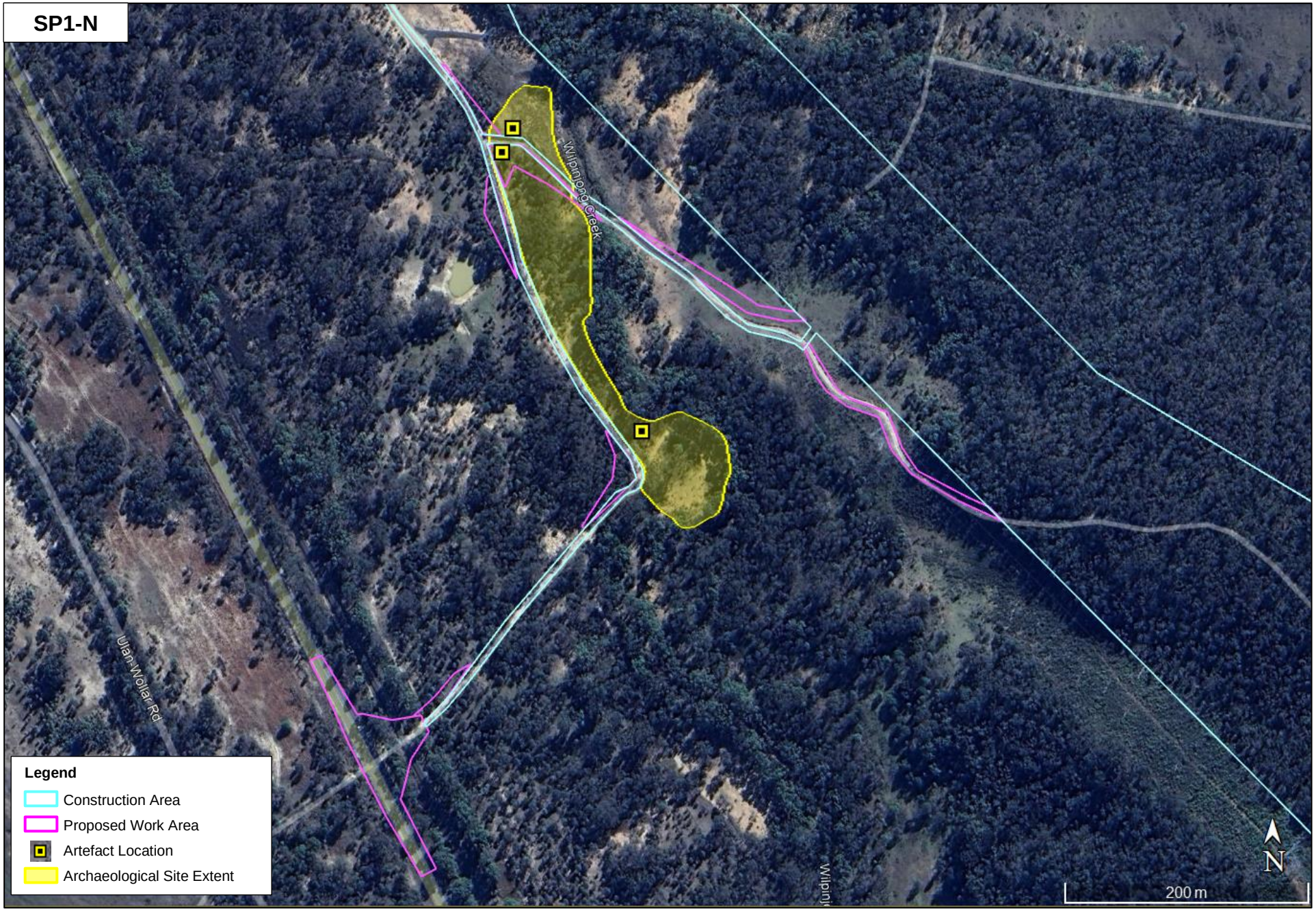


Figure 7. Archaeological site location at SP1-N. Base image Google Earth.

Figure 8. Archaeological site locations at SP1-O (north western)

Figure 9. Archaeological site location at SP1-O (south eastern)

Figure 10. Archaeological site location at SP1-T

Appendix A – AHIMS Search Results

BAM Report

Central West Orana:
Cliffdale Road

Prepared by: Jade Minto
Prepared for: ACCIONA Cobra Joint Venture
Report date: February 2026

DOCUMENT CONTROL

Document no. BA24

Project Title: BAM Report – Central West Orana: Cliffdale Road

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Jade Minto	Angus McClelland (ECE) Jack Tatler (BAAS21006)	04/02/2026
Draft v2.0	Angus McClelland	Jack Tatler (BAAS21006)	17/02/2026
Draft v3.0	Jade Minto	Jack Tatler (BAAS21006)	24/02/2026

DRAFT

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7

1.1 Scope of Assessment 7

1.2 Assessment Area 7

1.3 Information Sources 7

1.3.1 Other Documentation 8

2. METHODS 9

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9

2.1.1 Existing Information 9

2.1.2 Mapping Native Vegetation Extent 9

2.1.1 Vegetation Integrity Survey 9

2.2 Threatened Flora Survey 9

2.2.1 Review of Existing Information 9

2.2.2 Field Surveys 9

2.3 Threatened Fauna Survey 9

2.3.1 Review of Existing Information 9

2.3.2 Habitat Constraints 10

2.3.3 Field Surveys 10

2.4 Presence/ Absence of Threatened Species 10

2.5 Weather Conditions 10

2.6 Permits and Licences 11

2.7 Limitations 11

3. LANDSCAPE CONTEXT 12

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 16

4.1 Historically Mapped Vegetation 16

4.2 Field-validated Vegetation 16

5. STAGE 2 – BAM ASSESSMENT (KERRABEE) 22

5.1 Threatened Species 22

5.1.1 Species Credit Species 22

5.2 Assessment Summary 28

5.3 Serious And Irreversible Impacts 30

6. STAGE 2 – BAM ASSESSMENT (PILLIGA) 31

6.1 Threatened Species 31

6.1.1 Species Credit Species 31

6.2 Assessment Summary 38

6.3 Serious And Irreversible Impacts 41

7. REFERENCES 42

DRAFT

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.....14
Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 15
Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 4). 18
Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 4). 19
Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 4). 20
Figure 6. Field-validated vegetation mapping within the Subject Land (4 of 4). 21

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025 and 2026).....10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....16
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 23
Table 5. Survey periods for assumed present species credit species.....28
Table 6. Native vegetation.....28
Table 7. Assumed present Species Credit species.....29
Table 8. Candidate Species Credit Species predicted to occur within the Subject Land. 32
Table 9. Survey periods for assumed present species credit species.....38
Table 10. Native vegetation.....38
Table 11. Assumed present Species Credit species.....39

DRAFT

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	The road verge of Cliffdale Road, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

DRAFT

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for Cliffdale Road, as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). Cliffdale Road overlaps with some areas that have already been assessed in other BAM Reports, these areas have been excluded from this assessment. This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Jade Minto and Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of the Cliffdale road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 16.21ha and is located primarily within road reserve. The Subject Land includes SP5-B1, SP5-B2, SP6-X1 and SP6-X2.

The Assessment Area is located within the Mid-Western Regional and Warrumbungle Local Government Areas.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2026)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)

- NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
- NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)
- NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
- BAM Important Habitat Maps (NSW DCCEEW, 2026d).

- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2026f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2026e)

- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

DRAFT

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2026f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

DRAFT

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2026e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is 'counts of individuals', the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Field surveys were undertaken by ECE on the 28th of October 2025, 4th of November 2025 and the 19th and 22nd of January 2026. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025 and 2026).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	28/10/2025	Tuesday	10.4	12.3	0
	04/11/2025	Tuesday	10.5	19.7	2.0

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
	19/01/2026	Monday	16.7	27.4	0
	22/01/2026	Thursday	14.4	33.8	0

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

DRAFT

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2026f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	Sydney Basin and Brigalow Belt South
IBRA Subregion	Kerrabee and Pilliga
Mitchell Landscape	Cassilis Slopes, Liverpool Range Valleys and Footslopes and Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	Two unnamed 1st order watercourses and one unnamed 2nd order watercourse intersect the Subject Land. Salty Creek occurs approximately 170m south of the Subject Land and runs parallel to the Subject Land. Several 1st, 2nd, 3rd and 6th order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	Some rocky areas were identified within the Subject Land. The Subject Land does not contain any other areas of geological significance, such as karsts, caves, cliffs or crevices. No areas of geological significance have been mapped within the 1,500m buffer area.
Topography, Geology and Soils	Turill rule soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. Crowee soil landscape: undulating low rises. Shale, carbonaceous shale, ferruginous and lithic sandstone. Gonoo soil landscape: Undulating rises and low hills with isolated sandstone. Pilliga sandstone. Approximately 444-530 above sea level (asl).
Habitat Connectivity	The Subject Land consists of roadside vegetation including scattered trees which provides connectivity to the surrounding landscape (**Figure 2**). It is unlikely that threatened species would be reliant on the Subject Land as a movement corridor, given it occurs within a disturbed landscape and larger patches of vegetation occur within the locality.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	1228.99

Feature	Subject Land
Percentage of Native Vegetation Cover (%) (1,500m buffer)	47
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

DRAFT

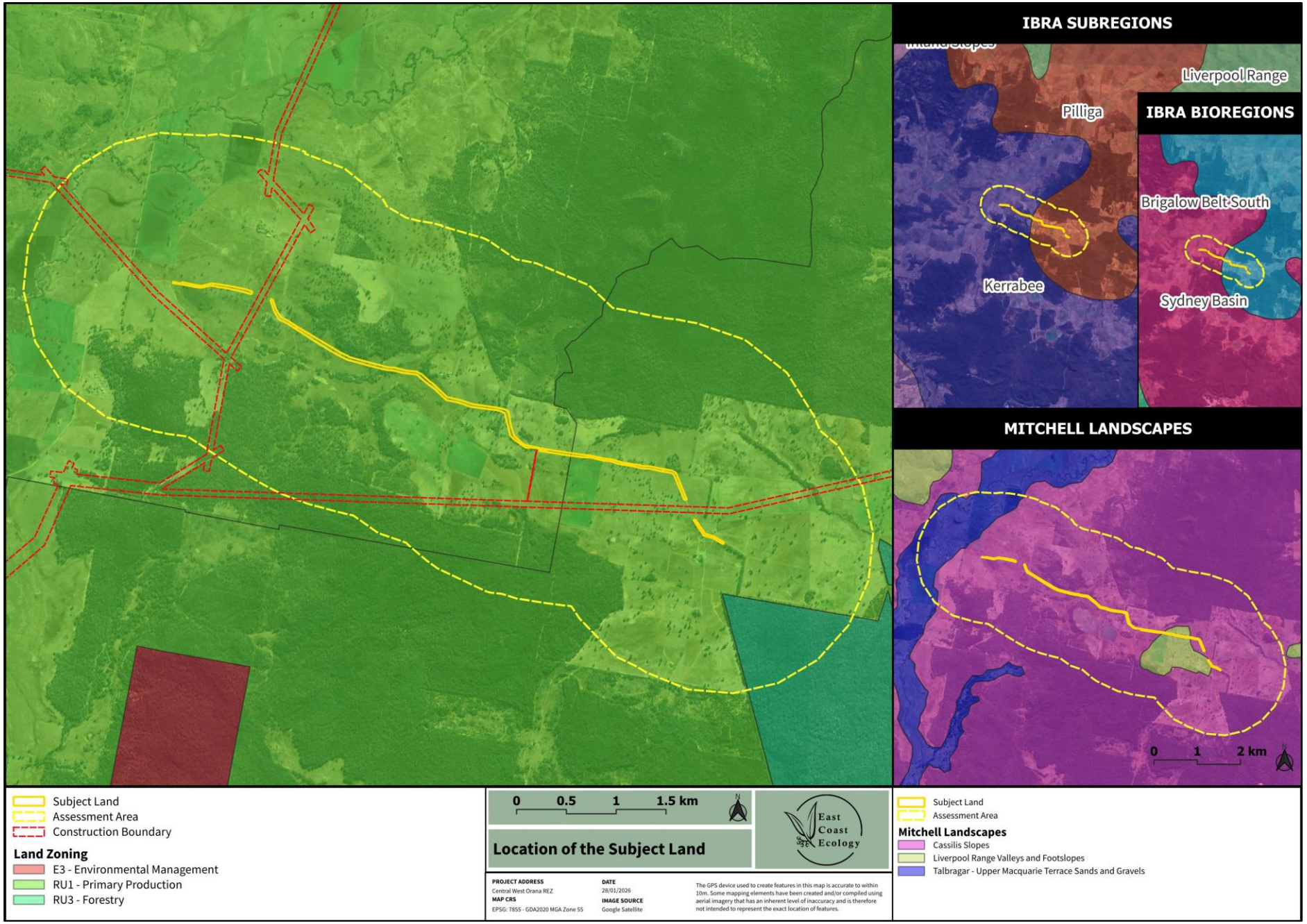


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

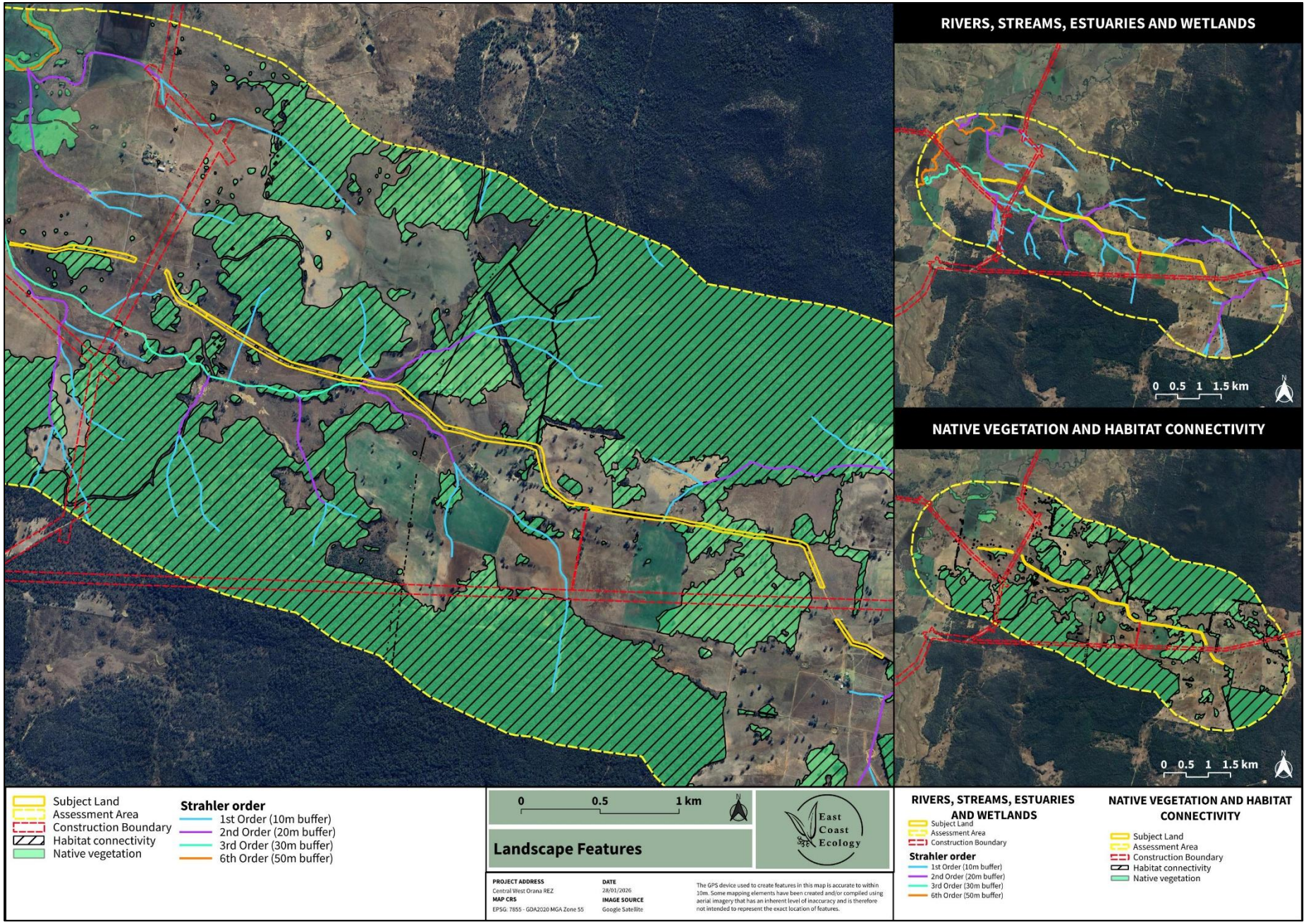


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified three PCTs nearby to the Subject Land:

- 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
- 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, and
- PCT 618: White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley.

PCT 281 and PCT 618 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3, Figure 4, Figure 5, Figure 6**). The extent of PCT 281 (Derived Native Grassland) within the Subject Land has been mapped as 'Offset not required' due to a VI score <15 and requires no ecosystem credit offsets. The area within the Design Footprint is the maximum predicted impact and these impacts will be reduced following further design development as well as onsite micro siting.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
281	Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South	0.38	0.04	Moderate/ Good	(WBYB BC and EPBC Act)	Yes
		0.91	0.24	Thinned	(WBYB BC and EPBC Act)	Yes

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
	western slopes Bioregion and Brigalow Belt South Bioregion	0.32	0.01	Regrowth Shrubland	(WBYB BC and EPBC Act)	Yes
		6.52	0.69	Derived Native Grassland (DNG)/ Offset not required	(WBYB BC Act)	Yes
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	0.73	0.21	Moderate/ Good	-	-
		0.78	0.18	Thinned	-	-
		0.06	0.02	Poor	-	-
		0.25	0.04	Regrowth Shrubland	-	-
		2.78	0.38	Derived Native Grassland	-	-
0	Pre-existing Infrastructure	3.48	2.95	-	-	-
	Total Area	**16.21**	**4.76**			

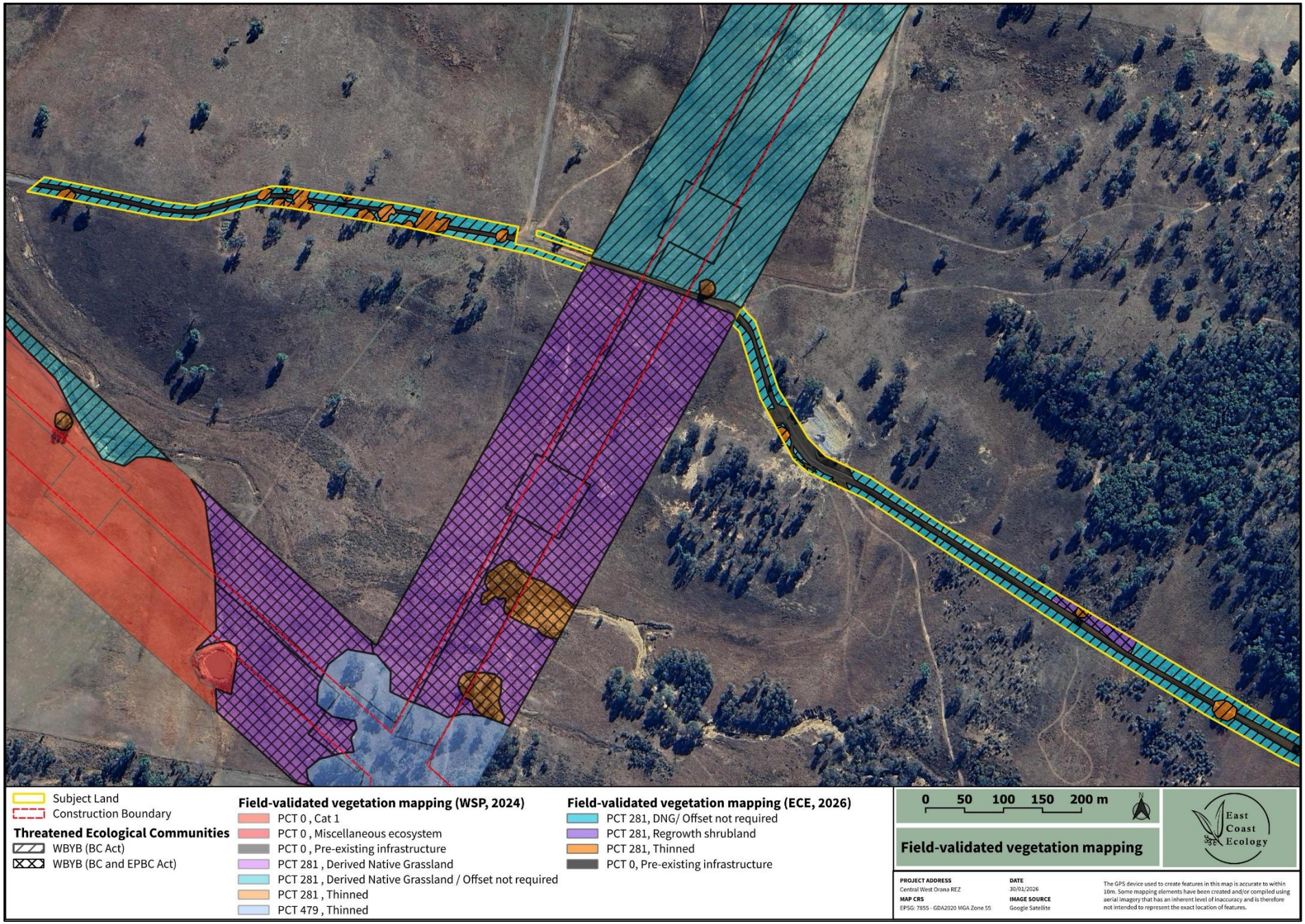


Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 4).

Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 4).

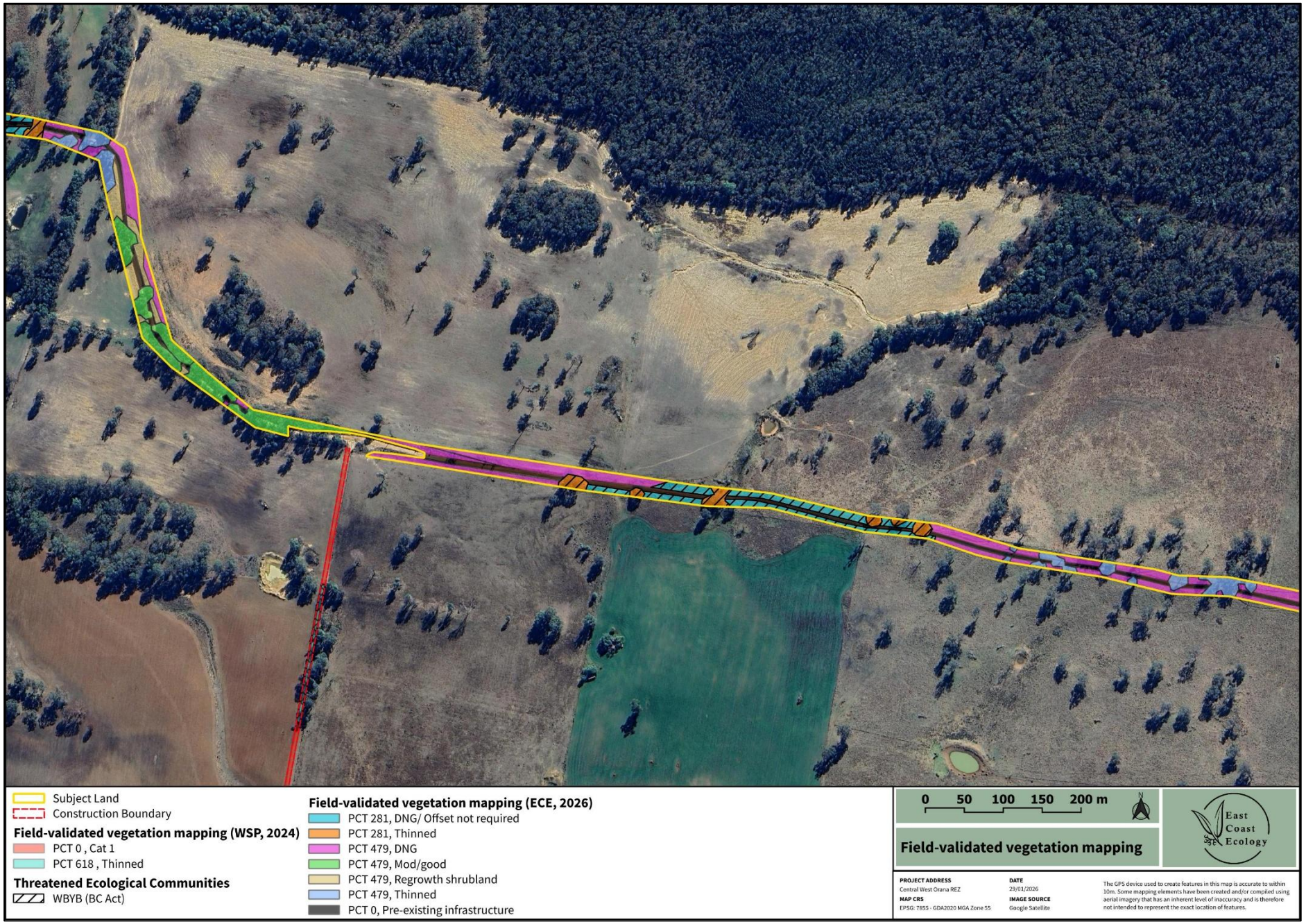


Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 4).

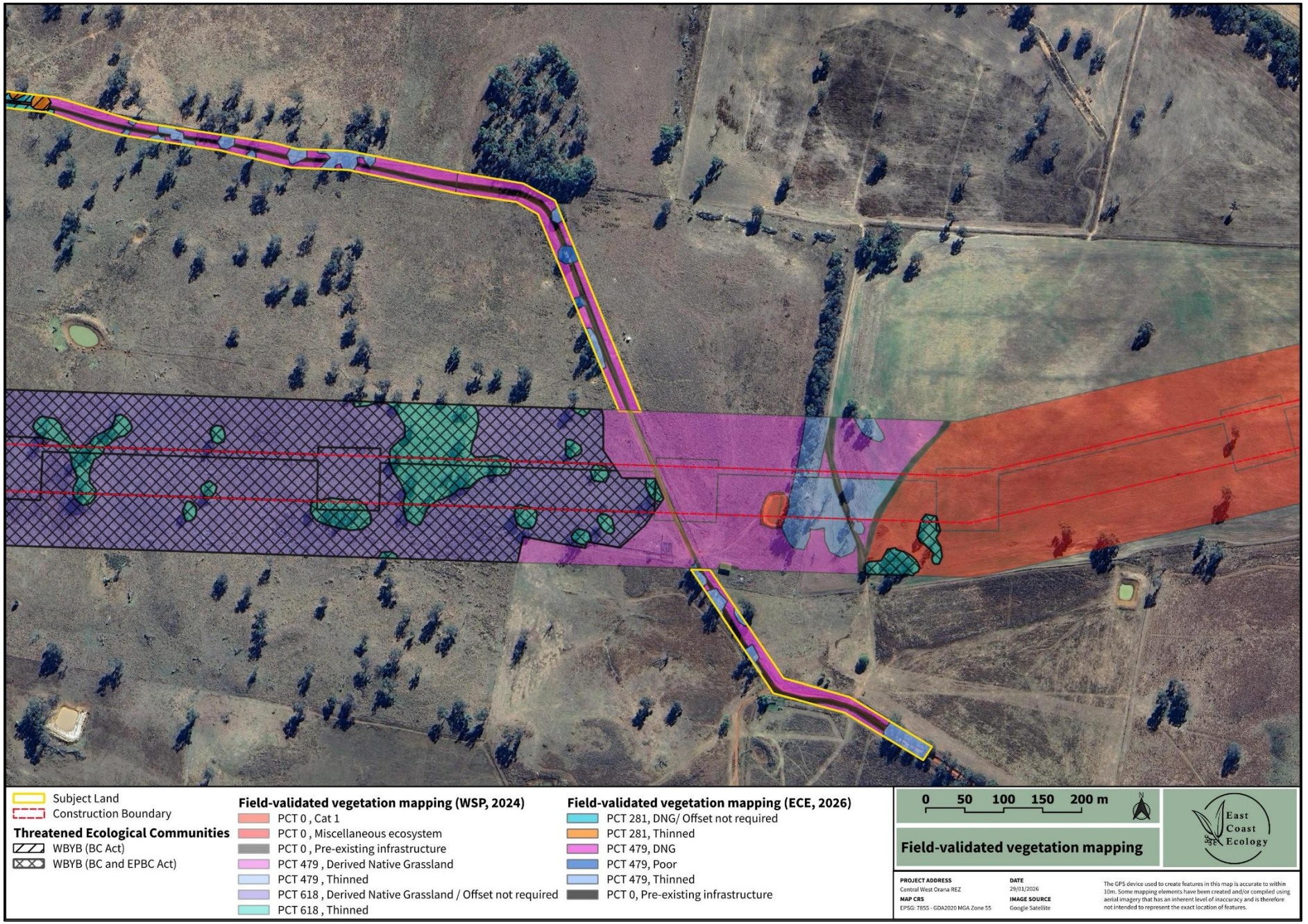


Figure 6. Field-validated vegetation mapping within the Subject Land (4 of 4).

5. STAGE 2 – BAM ASSESSMENT (KERRABEE)

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Kerrabee IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Seventeen (17) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining nine species were assumed present within the Subject Land.

DRAFT

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	No (WSP). No (ECE)	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis	Eucalyptus camaldulensis population in the Hunter catchment	-	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster	Cotoneaster Pomaderris	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Aprasia parapulchella	Pink-tailed Legless Lizard	-	Yes. Habitat constraints present. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
					the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	-	No. Habitat constraints present, however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Yes. Habitat constraints present. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides	Little Eagle (Breeding)	-	Yes. Habitat constraints present.	No (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).		the approved BDAR (WSP, 2024).
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). Yes (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl (Breeding)	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl (Breeding)	-	No. Habitat constraints present however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl (Breeding)	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV	Yes (WSP). No (ECE).	Excluded– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			have confirmed that these trees will not be impacted. Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.		the approved BDAR (WSP, 2024).
Cercartetus nanus	Eastern Pygmy-possum	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis	Squirrel Glider	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where	No (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			the VI of that vegetation zone is low enough to not warrant an offset.		the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). In accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset. Habitat Constraint: Suitable habitat and Koala Use Trees.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni	Eastern Cave Bat	Yes	No. Habitat constraints absent. Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle								■	■	■		
Cotoneaster Pomaderris										■	■	
Pink-tailed Legless Lizard	Assessed via species expert											
Glossy Black-Cockatoo				■	■	■	■	■				
Little Eagle								■	■	■		
Eastern Pygmy-possum	■	■	■							■	■	■
Squirrel Glider	■	■	■	■	■	■	■	■	■	■	■	■
Koala	■	■	■	■	■	■	■	■	■	■	■	■
Tarengo Leek Orchid									■	■		
Key	■ = NSW DCCEEW endorsed survey period											

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
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	0.38	0.04
		Thinned	0.57	0.15
		Regrowth Shrubland	0.32	0.01
		DNG/ Offset not required	4.61	0.45

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
Pomaderris cotoneaster Cotoneaster Pomaderris	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
Prasophyllum petilum Tarengo Leek Orchid	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
Aprasia parapulchella Pink-tailed Legless Lizard	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
	281_DNG/ Offset not required	4.61	0.45
Calyptorhynchus lathami Glossy Black-Cockatoo (Breeding)	281_Thinned	0.27	0.08
Hieraaetus morphnoides Little Eagle (Breeding)	Moderate/ Good	0.38	0.04

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	Thinned	0.57	0.15
Cercartetus nanus Eastern Pygmy-possum	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
Petaurus norfolcensis Squirrel Glider	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01
Phascolarctos cinereus Koala	281_Moderate/ Good	0.38	0.04
	281_Thinned	0.57	0.15
	281_Regrowth Shrubland	0.32	0.01

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

6. STAGE 2 – BAM ASSESSMENT (PILLIGA)

6.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 and 479 within the Pilliga IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

6.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 8**). A summary of the targeted survey effort applied to each species is provided in **Table 8** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 28 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty (20) of the 28 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining eight species were assumed present within the Subject Land.

DRAFT

Table 8. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Androcalva procumbens (syn. Commersonia procumbens)	-	-	Yes. Habitat constraints present. Habitat Constraint: Pilliga Sandstone. The survey was undertaken under favourable environmental conditions for growth. This species was not recorded within disturbed roadside edges. In accordance with the approved BDAR (WSP, 2024), no species polygons were created.	No (WSP) Yes (ECE).	No.
Dichanthium setosum	Bluegrass	-	No. Habitat constraints absent. Habitat Constraint: Areas of Basalt geology.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Swainsona sericea	Silky Swainson-pea	-	Yes.	No (WSP) No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
*Tylophora linearis (*syn. *Vincetoxicum forsteri)*	-	-	Yes.	No (WSP). No (ECE)	**Assumed present**– consistent with the

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
					approved BDAR (WSP, 2024).
Aprasia parapulchella	Pink-tailed Legless Lizard	-	No. Habitat constraints absent. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Yes. Habitat constraints present. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides	Little Eagle (Breeding)	-	Yes. Habitat constraints present.	No (WSP). No (ECE).	**Assumed present**–

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).		consistent with the approved BDAR (WSP, 2024).
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). Yes (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl (Breeding)	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl (Breeding)	-	No. Habitat constraints present however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Polytelis swainsonii	Superb Parrot (Breeding)	Yes	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey	Yes (WSP). No (ECE).	Excluded– consistent with the

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			during preparation of the approved BDAR (WSP, 2024).		approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl (Breeding)	-	No. Habitat constraints absent. The only potential habitat occurs within PCT 479 with which the species is not associated. Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus	Eastern Pygmy-possum	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.		
Petaurus norfolcensis	Squirrel Glider	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). In accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset. Habitat Constraint: Suitable habitat and Koala Use Trees.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni	Eastern Cave Bat	Yes	No. Habitat constraints absent.	No (WSP). No (ECE).	Excluded– consistent with the

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.		approved BDAR (WSP, 2024).

DRAFT

Table 9. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle												
Silky Swainson-pea												
Tylophora linearis												
Glossy Black-Cockatoo												
Little Eagle												
Eastern Pygmy-possum												
Squirrel Glider												
Koala												
Key							= NSW DCCEEW endorsed survey period					

6.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 10** and **Table 11**.

Table 10. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
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	Thinned	0.35	0.09
		DNG/ Offset not required	1.91	0.24
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	0.73	0.21
		Thinned	0.78	0.18
		Poor	0.06	0.02
		Regrowth Shrubland	0.25	0.04
		Derived Native Grassland	2.78	0.38

Table 11. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Thinned	0.35	0.09
	479_Moderate/ Good	0.73	0.21
	479_Thinned	0.78	0.18
	479_Poor	0.06	0.02
	479_Regrowth Shrubland	0.25	0.04
	479_Derived Native Grassland	2.78	0.38
Tylophora linearis	479_Moderate/ Good	0.73	0.21
	479_Thinned	0.78	0.18
	479_Poor	0.06	0.02
	479_Regrowth Shrubland	0.25	0.04
Swainsona sericea Silky Swainson-pea	281_Thinned	0.35	0.09
Calyptorhynchus lathami Glossy Black-Cockatoo (Breeding)	479_Thinned	0.36	0.12
	479_DNG	0.99	0.13
Hieraaetus morphnoides Little Eagle (Breeding)	281_Thinned	0.35	0.09
Cercartetus nanus Eastern Pygmy-possum	281_Thinned	0.35	0.09

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	479_Moderate/ Good	0.73	0.21
	479_Thinned	0.78	0.18
	479_Poor	0.06	0.02
	479_Regrowth Shrubland	0.25	0.04
	479_Derived Native Grassland	2.78	0.38
Petaurus norfolcensis Squirrel Glider	281_Thinned	0.35	0.09
	479_Moderate/ Good	0.73	0.21
	479_Thinned	0.78	0.18
	479_Poor	0.06	0.02
	479_Regrowth Shrubland	0.25	0.04
	479_Derived Native Grassland	2.78	0.38
Phascolarctos cinereus Koala	281_Thinned	0.35	0.09
	479_Moderate/ Good	0.73	0.21
	479_Thinned	0.78	0.18
	479_Poor	0.06	0.02
	479_Regrowth Shrubland	0.25	0.04

6.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

DRAFT

7. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. December 2025 Daily Weather Observations http://www.bom.gov.au/

Bureau of Meteorology (BOM) (2026) Mudgee, New South Wales. January 2026 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2026) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2026) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

DRAFT

DRAFT

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report

Central West Orana:
SP1-B1 & SP1-B2

Prepared by: Jack Tatler
Prepared for: ACCIONA Cobra Joint Venture
Report date: March 2026

DOCUMENT CONTROL

Document no. BA23

Project Title: BAM Report – Central West Orana: SP1-B1 & SP1-B2

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Jack Tatler (BAAS21006)	Angus McClelland	23/01/2026
Final v1.0	Angus McClelland	Jack Tatler (BAAS21006)	11/03/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7
1.1 Scope of Assessment 7
1.2 Assessment Area 7
1.3 Information Sources 7
1.3.1 Other Documentation 8
2. METHODS 9
2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9
2.1.1 Existing Information 9
2.1.2 Mapping Native Vegetation Extent 9
2.1.1 Vegetation Integrity Survey 9
2.2 Threatened Flora Survey 9
2.2.1 Review of Existing Information 9
2.2.2 Field Surveys 9
2.3 Threatened Fauna Survey 9
2.3.1 Review of Existing Information 9
2.3.2 Habitat Constraints 10
2.3.3 Field Surveys 10
2.4 Presence/ Absence of Threatened Species 10
2.5 Weather Conditions 10
2.6 Permits and Licences 11
2.7 Limitations 11
3. LANDSCAPE CONTEXT 12
4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 15
4.1 Historically Mapped Vegetation 15
4.2 Field-validated Vegetation 15
5. STAGE 2 – BAM ASSESSMENT 17
5.1 Threatened Species 17
5.1.1 Species Credit Species 17
5.2 Assessment Summary 24
5.3 Serious And Irreversible Impacts 25
6. REFERENCES 26

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer 13
Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 14

Figure 3. Field-validated vegetation mapping within the Subject Land. 16

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).....10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....15
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 18
Table 5. Survey periods for assumed present species credit species.....24
Table 6. Native vegetation.....24
Table 7. Assumed present Species Credit species.....24

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	SP1-B1 & SP1-B2, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for SP1-B1 & SP1-B2, as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of SP1-B1 & SP1-B2 (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 1.62ha and is located primarily within road reserve.

The Assessment Area is located within the Mid-Western Regional Local Government Area.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2026)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)

- NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
- BAM Important Habitat Maps (NSW DCCEEW, 2026d).

- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2026f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2026e)
- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2026f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2026e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is ‘counts of individuals’, the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Field surveys were undertaken by ECE on the 20th of October 2025. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	20/10/2025	Monday	11.0	33.3	0

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2026f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	NSW South Western Slopes
IBRA Subregion	Inland Slopes
Mitchell Landscape	Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	No watercourses bifurcate the Subject Land. Several 1st to 5th order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Some rocky areas occur within the 1,500m buffer area.
Topography, Geology and Soils	Home rule soil landscape: Undulating low hills. Sediment derived from the Gulgong and Rouse Granites. Approximately 435-440m above sea level (asl).
Habitat Connectivity	The Subject Land has moderate connectivity with the surrounding locality via narrow strips of trees located along the road (**Figure 2**). However, it is unlikely that threatened species would be reliant on the Subject Land as a movement corridor, given it exists along a road.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	217.70
Percentage of Native Vegetation Cover (%) (1,500m buffer)	21
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

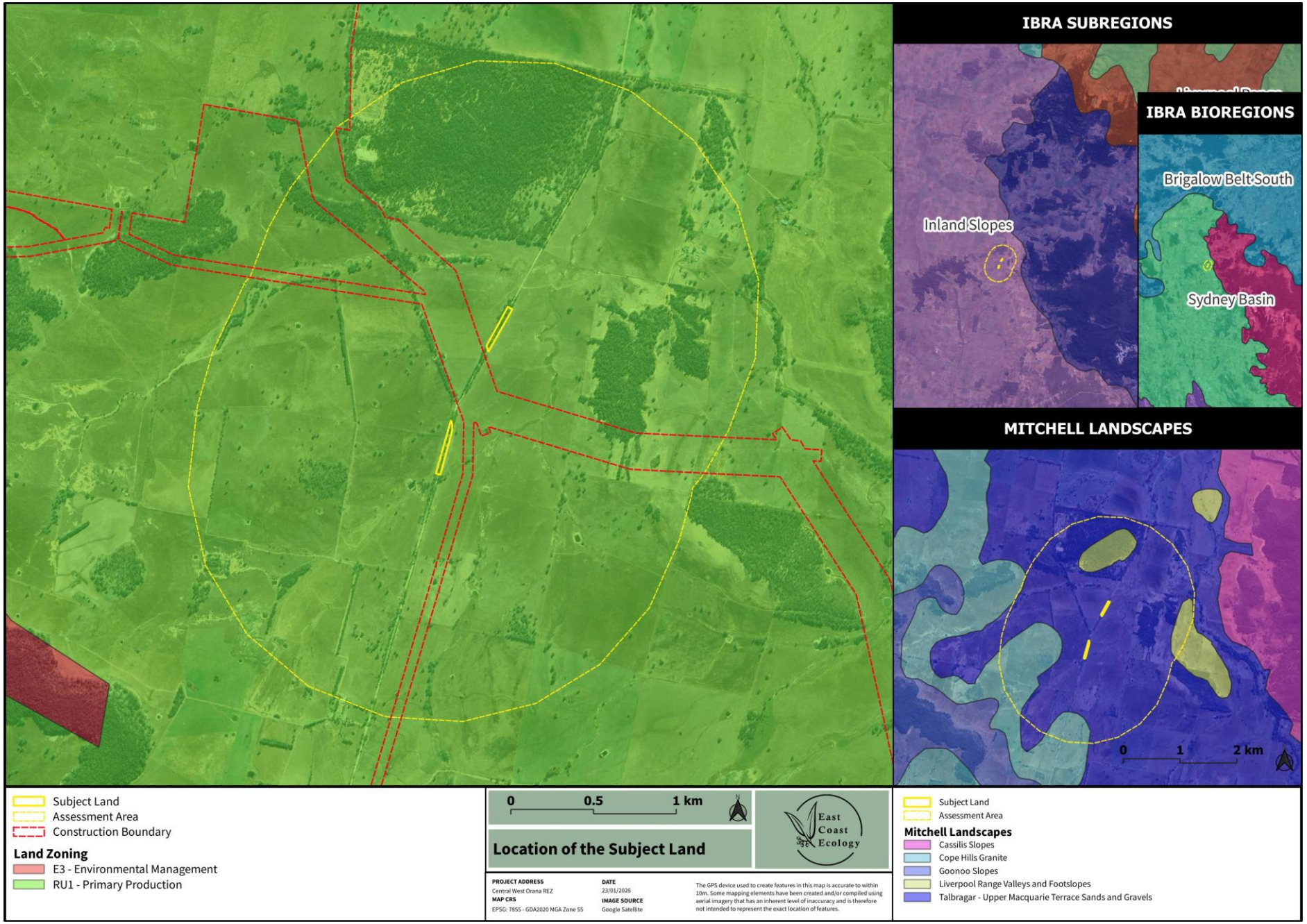


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

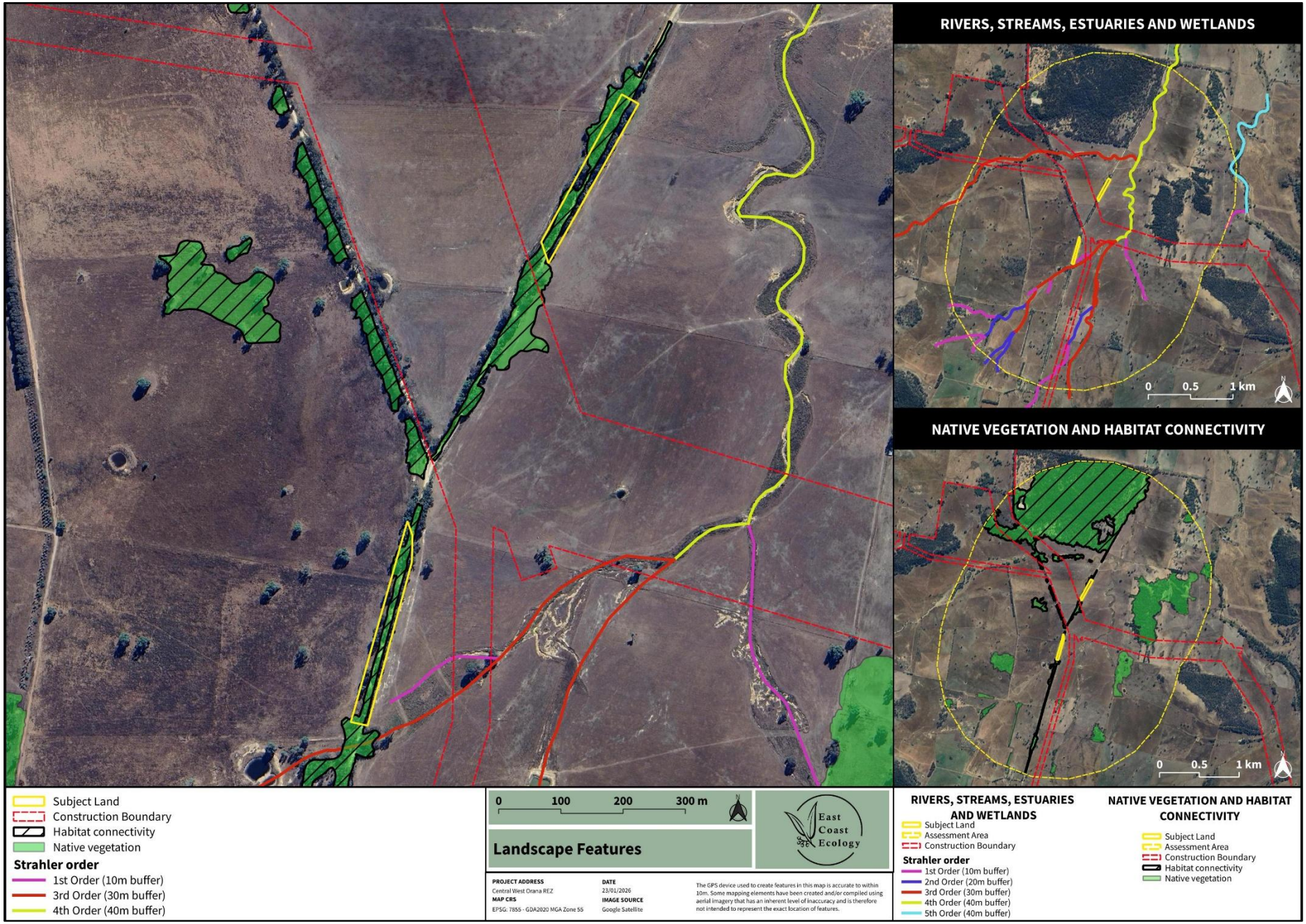


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified one PCT nearby to the Subject Land:

- 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.

PCT 281 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3**).

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	SAII
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	1.22	Thinned	WBYB (BC Act and EPBC Act)	Yes
		0.03	Derived Native Grassland (DNG)	WBYB (BC Act)	Yes
0	Miscellaneous ecosystem	0.13	-	-	-
0	Pre-existing Infrastructure	0.24	-	-	-
	Total Area	**1.62**			

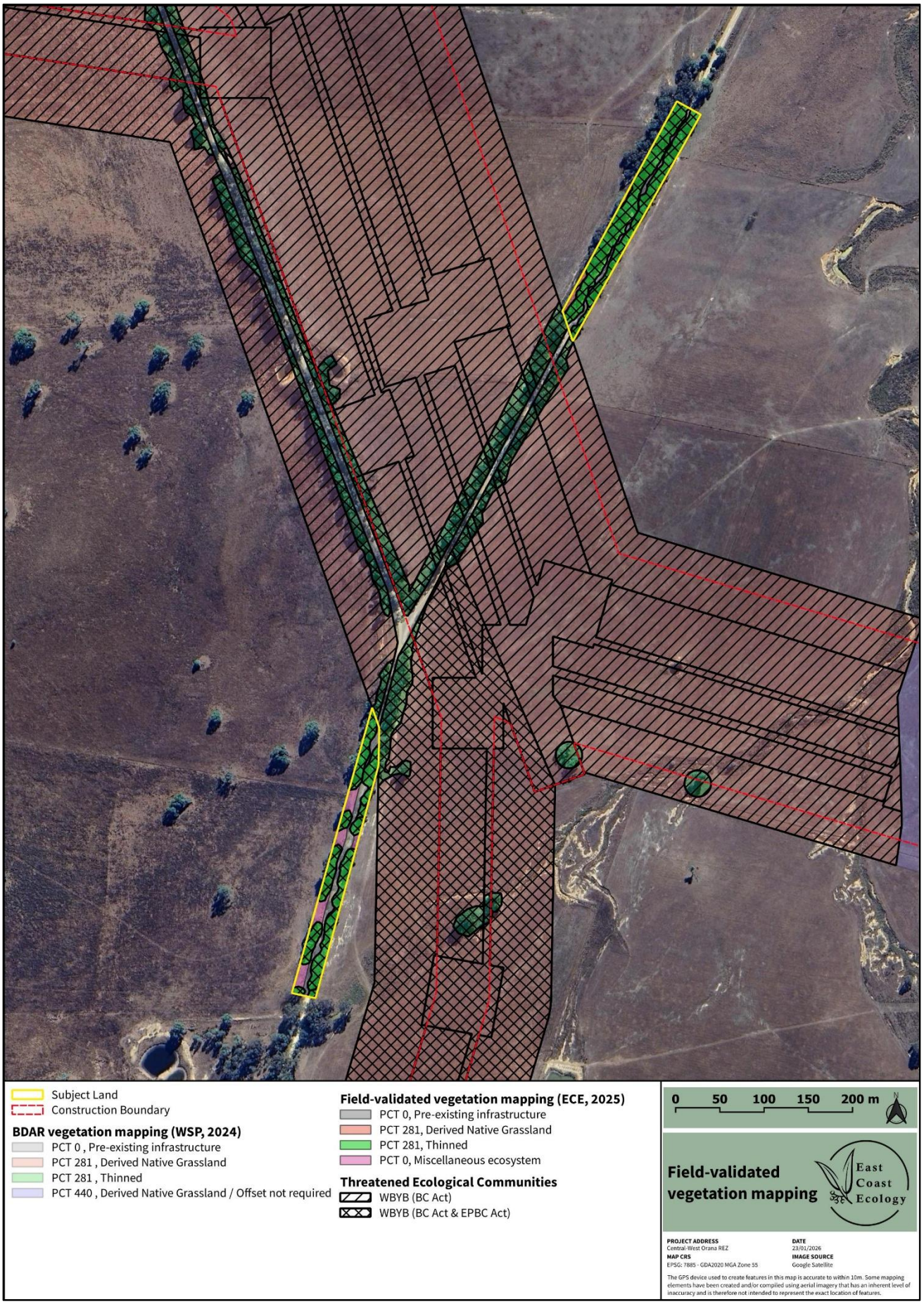


Figure 3. Field-validated vegetation mapping within the Subject Land.

5. STAGE 2 – BAM ASSESSMENT

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Inland Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-six (26) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining four species were assumed present within the Subject Land.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	Yes (ECE).	No.
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella	Pink-tailed Legless Lizard	-	No. Habitat constraints absent. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	-	Yes. Habitat constraints present however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Yes. Habitat constraints present. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Species recorded within the Inland Slopes during surveys for the approved BDAR.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Cercartetus nanus	Eastern Pygmy-possum	-	Yes.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat	Yes.	No. Habitat constraints absent. No areas of potential habitat mapped within 2km in the approved BDAR. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Dichanthium setosum	Bluegrass	-	No. Habitat constraints absent. Habitat constraints: Areas of basalt geology. Assumed species polygons have been restricted to areas of basalt geology within the approved BDAR.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Euphrasia arguta	-	Yes.	Yes.	No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers,	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			lakes, large dams or creeks, wetlands and coastlines.		
Hieraaetus morphnoides	Little Eagle (Breeding)	-	Yes. Large old trees present. Habitat constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). Yes (ECE).	No.
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	Yes. Potential nest trees present however, extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). Yes (ECE).	No.
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Myotis macropus	Southern Myotis	-	No. Habitat constraints absent.	No (WSP). No (ECE).	Excluded– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat Constraints: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.		the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl	-	Yes. Habitat constraints present. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis	Squirrel Glider	-	Yes.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Habitat constraints absent. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat constraints: Land within 1km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.		
Phascogale tapoatafa	Brush-tailed Phascogale	-	No. Suitable habitat deemed not to be present (WSP, 2024).	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	No. Extensive and exhaustive targeted surveys undertaken nearby during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster	Cotoneaster Pomaderris	-	Yes.	Yes (ECE).	No.
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	Yes (ECE).	No.
Polytelis swainsonii	Superb Parrot (Breeding)	-	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey undertaken as part of the approved BDAR.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes.	Yes (ECE).	No.
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat Constraint: Breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Swainsona sericea	Silky Swainson-pea	-	Yes.	Yes (ECE).	No.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Tyto novaehollandiae	Masked Owl	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Glossy Black-Cockatoo												
Eastern Pygmy-possum												
Euphrasia arguta												
Squirrel Glider												
Key				= NSW DCCEEW endorsed survey period								

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)
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	281_Thinned	1.22
		281_DNG	0.03

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)
Calyptorhynchus lathami Glossy Black-Cockatoo	281_Thinned	1.22
	281_DNG	0.03
Cercartetus nanus Eastern Pygmy-possum	281_Thinned	1.22
	281_DNG	0.03
Euphrasia arguta	281_Thinned	1.22
	281_DNG	0.03
Petaurus norfolcensis Squirrel Glider	281_Thinned	1.22

Species	Vegetation Zone	Area (ha)
	281_DNG	0.03

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded, and
- *Euphrasia arguta* - assumed.

6. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. October 2025 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2026) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2026) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report

Central West Orana:
Birkalla Road, North

Prepared by: Jade Minto
Prepared for: ACCIONA Cobra Joint Venture
Report date: February 2026

East Coast Ecology

DOCUMENT CONTROL

Document no. BA22

Project Title: BAM Report – Central West Orana: Birkalla Road, North

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Jade Minto	Angus McClelland (ECE) Jack Tatler (BAAS21006)	21/01/2026
Final v1.0	Jade Minto	Jack Tatler (BAAS21006)	22/01/2026
Final v2.0	Jade Minto	Jack Tatler (BAAS21006)	30/01/2026
Final v3.0	Jade Minto	Jack Tatler (BAAS21006)	24/02/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7

1.1 Scope of Assessment 7

1.2 Assessment Area 7

1.3 Information Sources 7

1.3.1 Other Documentation 8

2. METHODS 9

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9

2.1.1 Existing Information 9

2.1.2 Mapping Native Vegetation Extent 9

2.1.1 Vegetation Integrity Survey 9

2.2 Threatened Flora Survey 9

2.2.1 Review of Existing Information 9

2.2.2 Field Surveys 9

2.3 Threatened Fauna Survey 9

2.3.1 Review of Existing Information 9

2.3.2 Habitat Constraints 10

2.3.3 Field Surveys 10

2.4 Presence/ Absence of Threatened Species 10

2.5 Weather Conditions 10

2.6 Permits and Licences 11

2.7 Limitations 11

3. LANDSCAPE CONTEXT 12

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 15

4.1 Historically Mapped Vegetation 15

4.2 Field-validated Vegetation 15

5. STAGE 2 – BAM ASSESSMENT 20

5.1 Threatened Species 20

5.1.1 Species Credit Species 20

5.2 Assessment Summary 27

5.3 Serious And Irreversible Impacts 28

6. REFERENCES 29

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer 13

Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 14

Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3). 17
Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3). 18
Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3). 19

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025 and 2026). 10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....15
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 21
Table 5. Survey periods for assumed present species credit species.....27
Table 6. Native vegetation.....27
Table 7. Assumed present Species Credit species.....27

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	The road verge of Birkalla Road, north, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for the Birkalla Road, north, as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Jade Minto and Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of the Birkalla Road, north road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 14.56ha and is located primarily within road reserve.

The Assessment Area is located within the Mid-Western Regional Local Government Area.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2026)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)

- NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
- BAM Important Habitat Maps (NSW DCCEEW, 2026d).

- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2026f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2026e)
- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2026f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2026e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is ‘counts of individuals’, the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Field surveys were undertaken by ECE on the 2nd and 4th of December 2025 and the 20th of January 2026. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025 and 2026).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	02/12/2025	Tuesday	6.5	22.3	0.4
	04/12/2025	Thursday	6.2	32.5	0

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
	20/01/2026	Tuesday	14.3	28.3	0

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2026f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	Sydney Basin
IBRA Subregion	Kerrabee
Mitchell Landscape	Cassilis Slopes and Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	Two tributaries of the Talbragar River intersect the Subject Land. Several 1st to 6th order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	Some rocky areas were identified within the Subject Land. The Subject Land does not contain any other areas of geological significance, such as karsts, caves, cliffs or crevices. Some rocky areas occur within the 1,500m buffer area.
Topography, Geology and Soils	Turill rule soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. Approximately 420-430m above sea level (asl).
Habitat Connectivity	The Subject Land consists of roadside vegetation including scattered trees which provides connectivity to the surrounding landscape (**Figure 2**). It is unlikely that threatened species would be reliant on the Subject Land as a movement corridor, given it occurs within a disturbed landscape.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	440.61
Percentage of Native Vegetation Cover (%) (1,500m buffer)	23
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

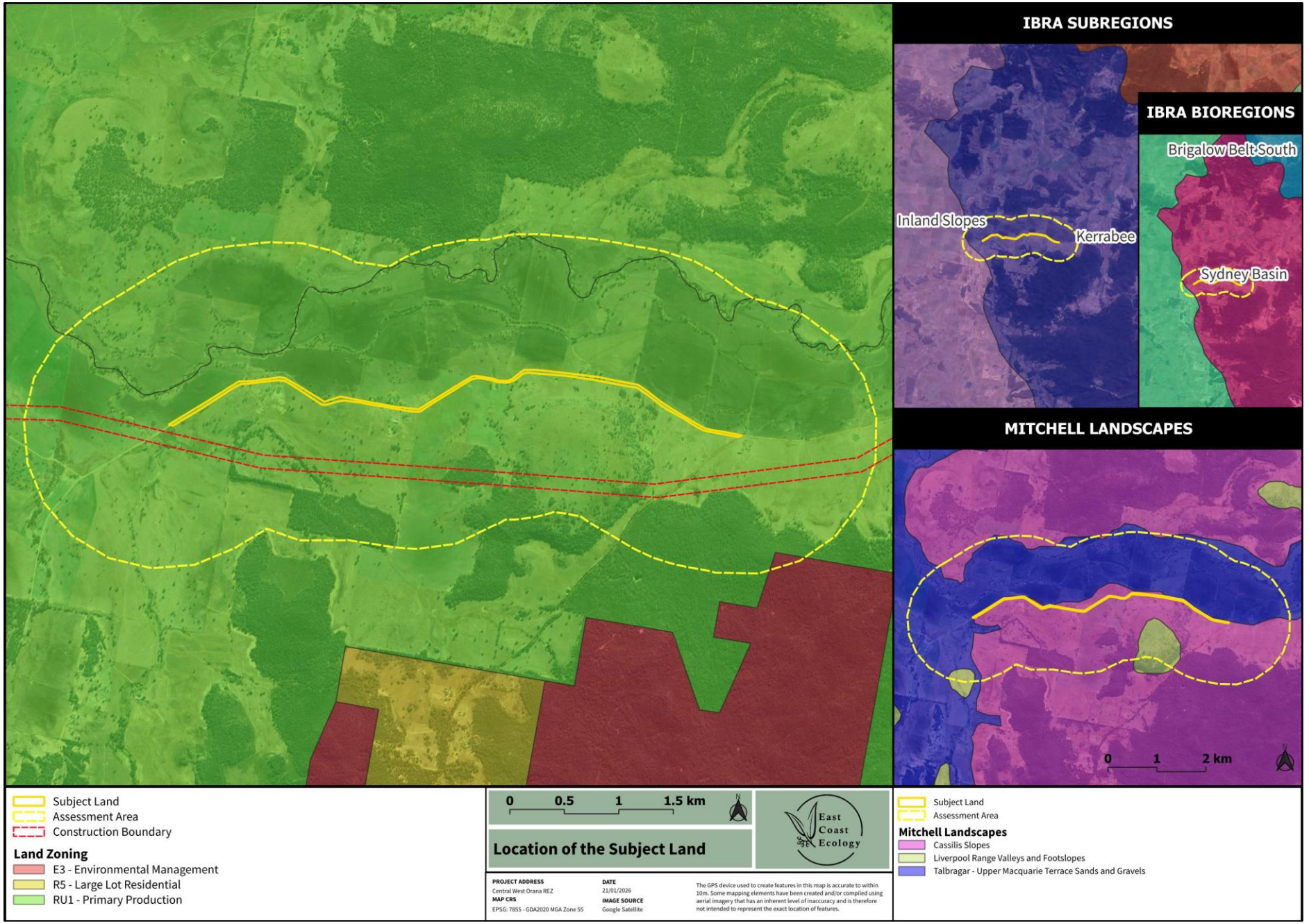


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

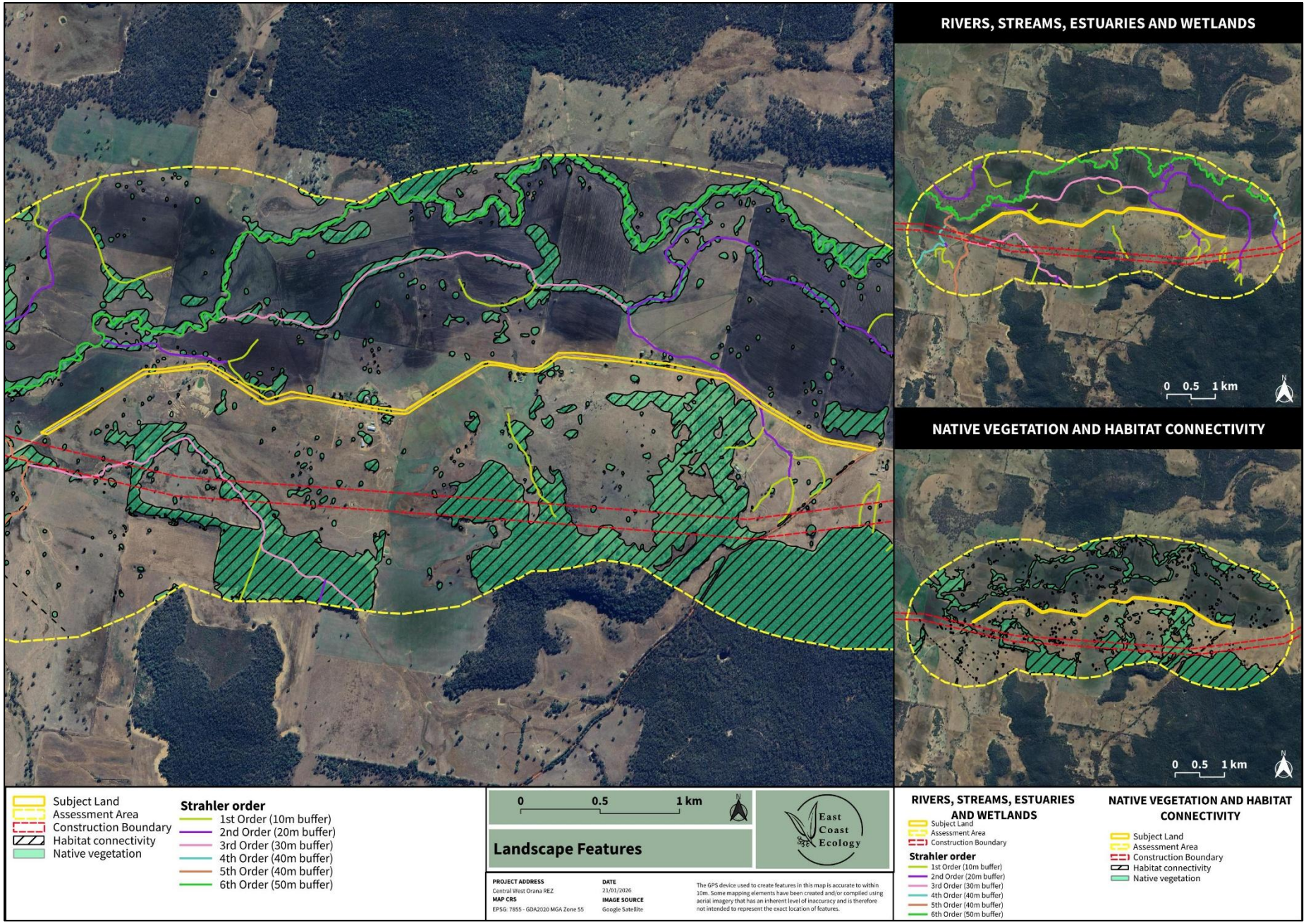


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified one PCT nearby to the Subject Land:

- 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.

PCT 281 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3, Figure 4, Figure 5**). The extent of PCT 281 (Derived Native Grassland) within the Subject Land has been mapped as 'Offset not required' due to a VI score <15 and requires no ecosystem credit offsets. The area within the Design Footprint is the maximum predicted impact and these impacts will be reduced following further design development as well as onsite micro siting.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
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	0.56	0.16	Thinned	WBYB (BC Act)	Yes
		5.72	0.88	Derived Native Grassland (DNG)/ Offset not required	WBYB (BC Act)	Yes
0	Miscellaneous ecosystem	4.84	0.47	-	-	-

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
0	Pre-existing Infrastructure	3.14	3.13	-	-	-
	Total Area	**13.9**	**4.64**			

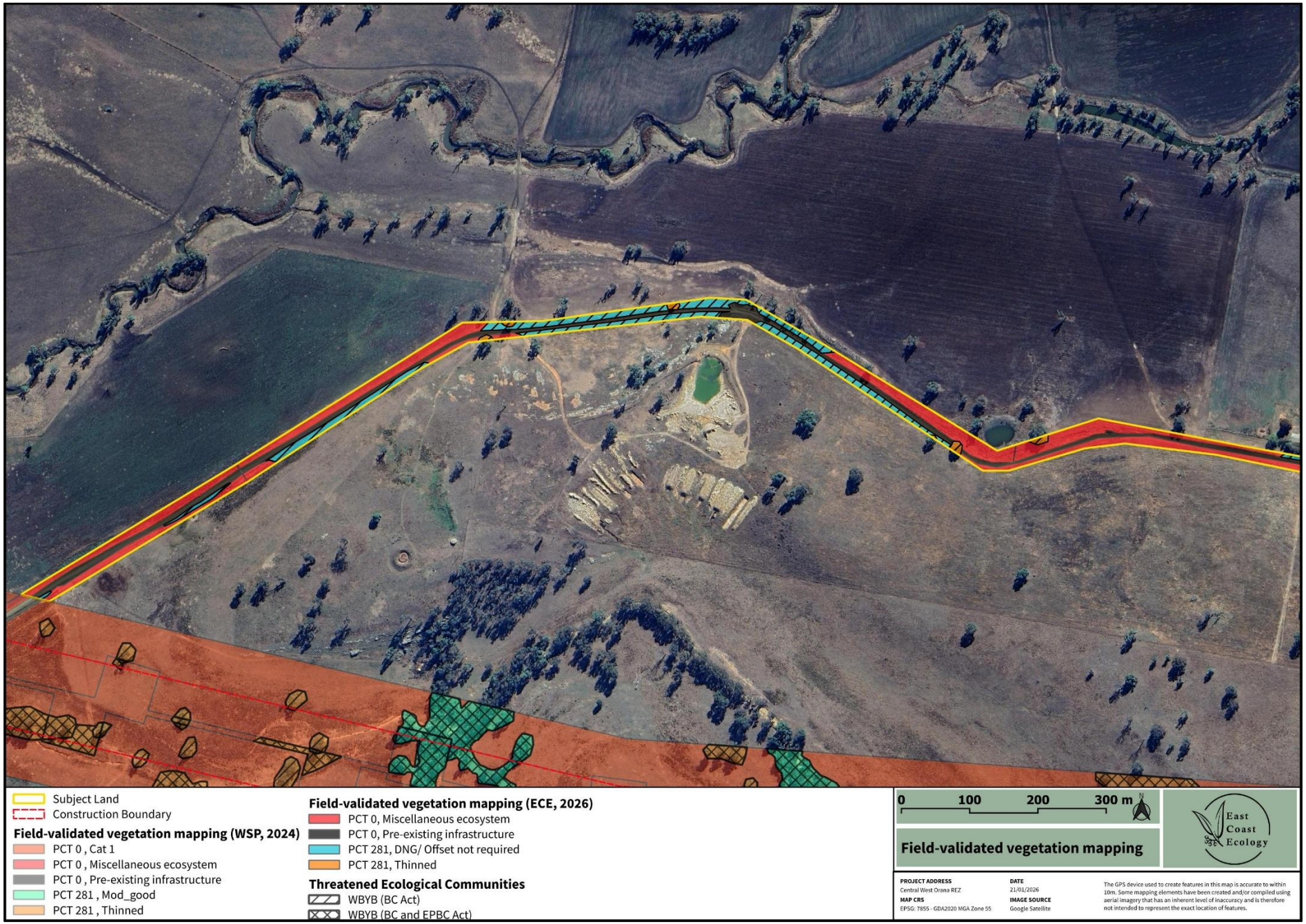


Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3).

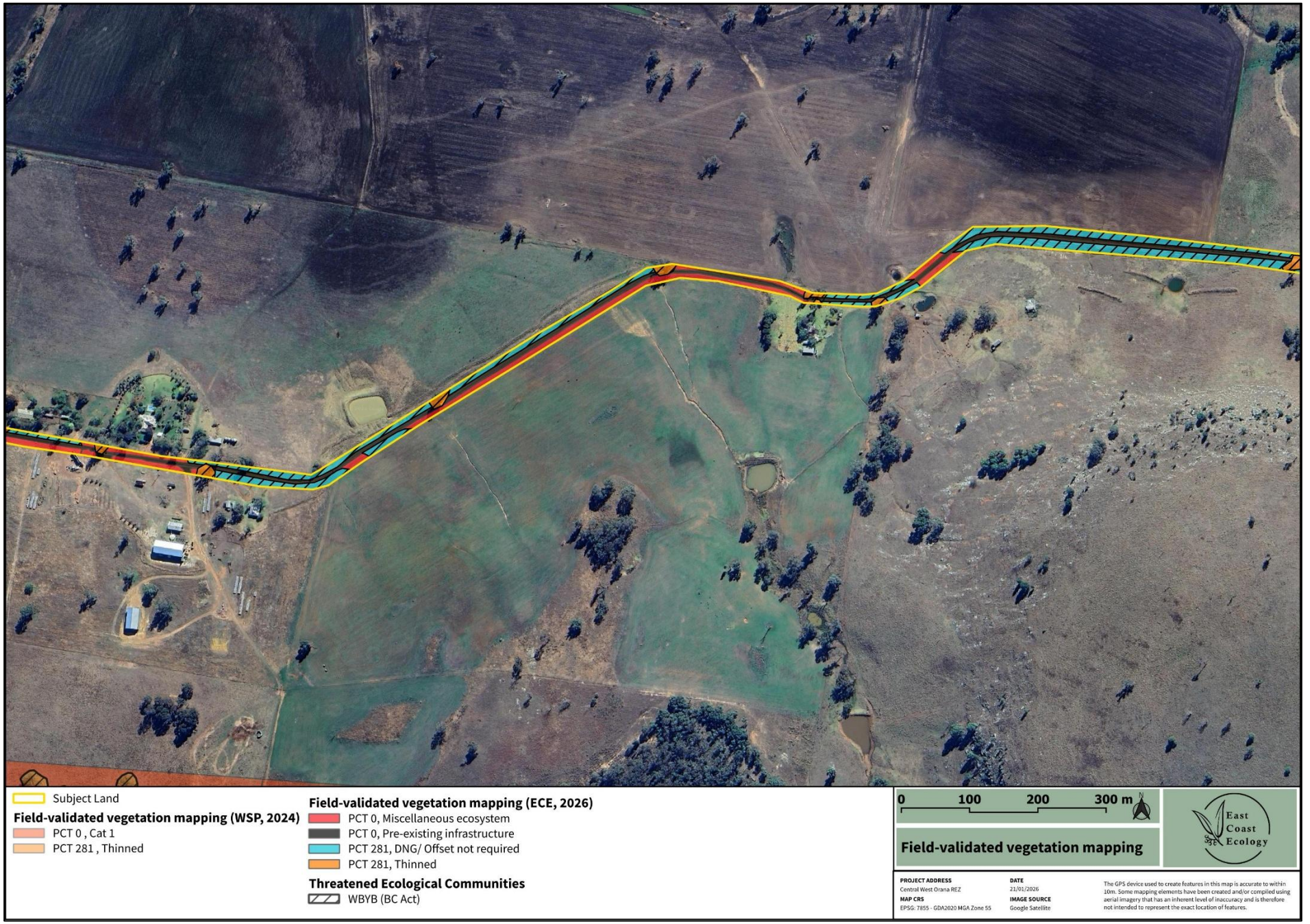


Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3).

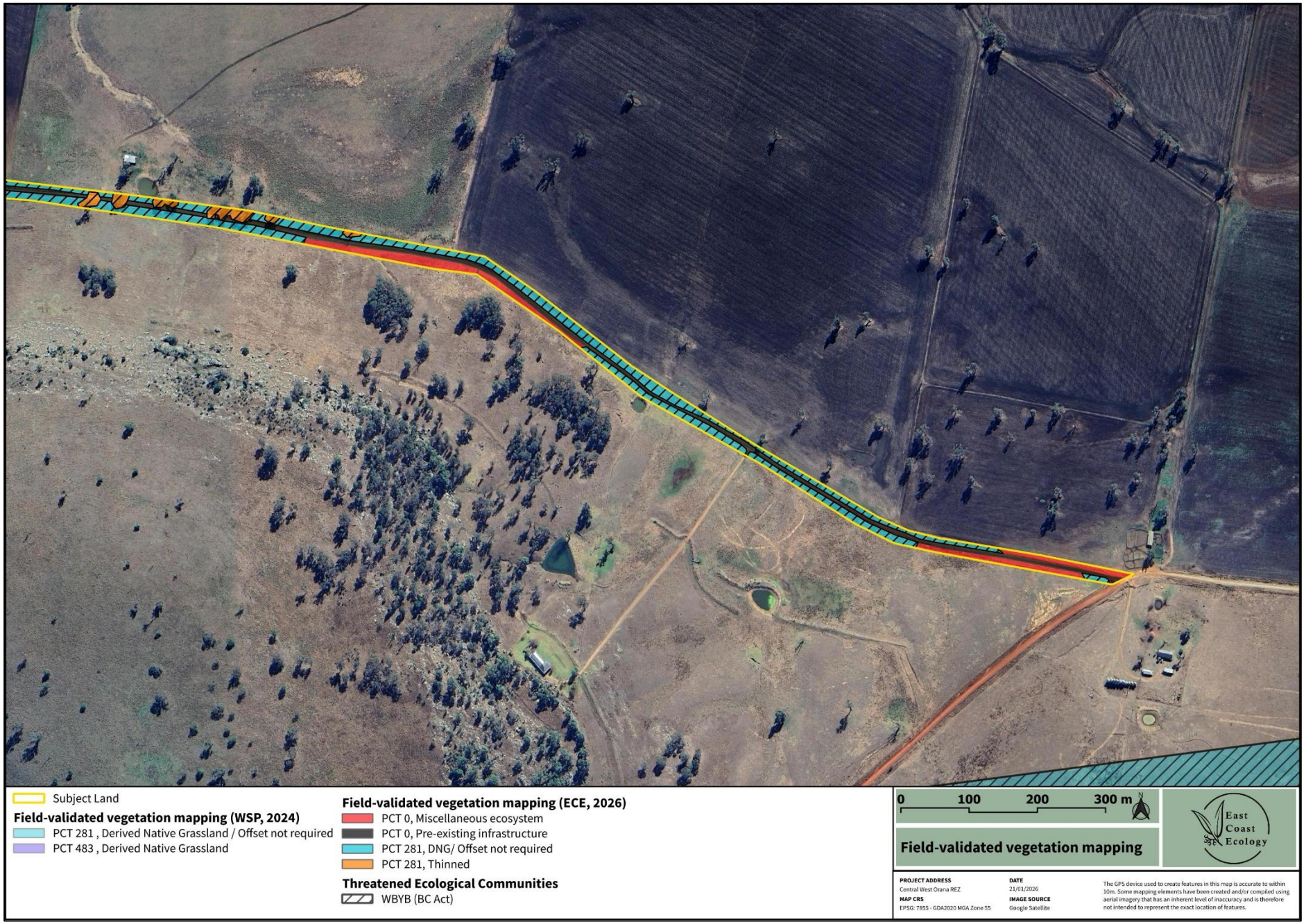


Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3).

5. STAGE 2 – BAM ASSESSMENT

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Kerrabee IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty (20) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining six species were assumed present within the Subject Land.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	No (WSP). Yes (ECE), although conducted outside of the NSW DCCEEW survey period, no Acacia species were identified.	No.
Eucalyptus camaldulensis	Eucalyptus camaldulensis population in the Hunter catchment	-	No. The Subject Land is not in the Hunter catchment.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster	Cotoneaster Pomaderris	-	Yes.	No (WSP). Yes (ECE), although conducted outside of the NSW DCCEEW survey period, no Pomaderris species were identified.	No.
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Aprasia parapulchella	Pink-tailed Legless Lizard	-	Yes. Habitat constraints present. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	-	No. Habitat constraints present, however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Yes. Habitat constraints present. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers,	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			lakes, large dams or creeks, wetlands and coastlines. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
Hieraaetus morphnoides	Little Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation). Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	No. Habitat constraints absent. Habitat constraint: Nest trees. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl (Breeding)	-	No. Potential habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Ninox strenua	Powerful Owl (Breeding)	-	No. Habitat constraints present however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl (Breeding)	-	No. Potential habitat was identified adjacent to the Subject Land but will be retained. Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus	Eastern Pygmy-possum	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.		
Petaurus norfolcensis	Squirrel Glider	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). In accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat constraint: Breeding camps.		
Vespadelus troughtoni	Eastern Cave Bat	Yes	No. Habitat constraints absent. Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pink-tailed Legless Lizard	Assessed via species expert											
Glossy Black-Cockatoo												
Eastern Pygmy-possum												
Squirrel Glider												
Koala												
Tarengo Leek Orchid												
Key							= NSW DCCEEW endorsed survey period					

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
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	281_Thinned	0.56	0.16
		281_DNG/ Offset not required	5.72	0.88

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Prasophyllum petilum Tarengo Leek Orchid	281_Thinned	0.56	0.16
Aprasia parapulchella Pink-tailed Legless Lizard	281_Thinned	0.56	0.16
	281_DNG/ Offset not required	5.72	0.88

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Calyptorhynchus lathami Glossy Black-Cockatoo	281_Thinned	0.24	0.06
Cercartetus nanus Eastern Pygmy-possum	281_Thinned	0.56	0.16
Petaurus norfolcensis Squirrel Glider	281_Thinned	0.56	0.16
Phascolarctos cinereus Koala	281_Thinned	0.56	0.16

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

6. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. December 2025 Daily Weather Observations http://www.bom.gov.au/

Bureau of Meteorology (BOM) (2026) Mudgee, New South Wales. January 2026 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2026) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2026) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report

Central West Orana:
Blue Springs Rd, North

Prepared by: Angus McClelland and Jack Tatler (BAAS21006)
Prepared for: ACCIONA Cobra Joint Venture
Report date: February 2026

East Coast Ecology

DOCUMENT CONTROL

Document no. BA19

Project Title: BAM Report – Central West Orana: Blue Springs Rd, North

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Angus McClelland	Jack Tatler (BAAS21006)	22/01/2026
Final v1.0	Angus McClelland	Jack Tatler (BAAS21006)	23/01/2026
Final v2.0	Angus McClelland	Jack Tatler (BAAS21006)	30/01/2026
Final v3.0	Angus McClelland	Jack Tatler (BAAS21006)	12/02/2026
Final v4.0	Angus McClelland Jade Minto	Jack Tatler (BAAS21006)	24/02/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7

1.1 Scope of Assessment 7

1.2 Assessment Area 7

1.3 Information Sources 7

1.3.1 Other Documentation 8

2. METHODS 9

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9

2.1.1 Existing Information 9

2.1.2 Mapping Native Vegetation Extent 9

2.1.1 Vegetation Integrity Survey 9

2.2 Threatened Flora Survey 9

2.2.1 Review of Existing Information 9

2.2.2 Field Surveys 9

2.3 Threatened Fauna Survey 9

2.3.1 Review of Existing Information 9

2.3.2 Habitat Constraints 10

2.3.3 Field Surveys 10

2.4 Presence/ Absence of Threatened Species 10

2.5 Weather Conditions 10

2.6 Permits and Licences 11

2.7 Limitations 11

3. LANDSCAPE CONTEXT 12

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 15

4.1 Historically Mapped Vegetation 15

4.2 Field-validated Vegetation 15

5. STAGE 2 – BAM ASSESSMENT 20

5.1 Threatened Species 20

5.1.1 Species Credit Species 20

5.2 Assessment Summary 27

5.3 Serious And Irreversible Impacts 29

6. REFERENCES 30

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer 13

Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 14

Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3). 17
Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3). 18
Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3). 19

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2026).....10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....15
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 21
Table 5. Survey periods for assumed present species credit species.....27
Table 6. Native vegetation.....27
Table 7. Assumed present Species Credit species.....27

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	The road verge of Blue Springs Rd, North, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for Blue Springs Rd, North, as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Angus McClelland and Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of the Blue Springs Rd, North road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 10.25ha, located primarily within road reserve.

The Assessment Area is located within the Mid-Western Regional Local Government Area.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2026)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)

- NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
- BAM Important Habitat Maps (NSW DCCEEW, 2026d).

- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2026f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2026e)
- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2026f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2026e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is 'counts of individuals', the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

The field surveys were undertaken by ECE on 4th August, 21st and 22nd of October 2025 and 21st January 2026. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2026).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	04/08/2026	Monday	6.5	18.6	0
	21/10/2025	Tuesday	13.1	34.6	0
	21/10/2025	Wednesday	15.3	34.3	0
	21/01/2026	Tuesday	14.3	28.3	0

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2026f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	Sydney Basin
IBRA Subregion	Kerrabee
Mitchell Landscape	Cassilis Slopes and Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	Mona Creek, a 4th order watercourse as well as three unnamed 2nd order watercourses and two unnamed 1st order watercourses intersect the Subject Land. 1st, 2nd, 4th and 6th order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Some rocky areas occur within the 1,500m buffer area.
Topography, Geology and Soils	The Subject Land is primarily located within the Turill soil landscape, however, a portion of the east of the Subject Land occurs within the Ulan soil landscape. Elevations range 429 – 453m above sea level (asl). Turill soil landscape: undulating low hills with some sandstone outcrops. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams.
Habitat Connectivity	The Subject Land is not very well connected to the surrounding locality (**Figure 2**). It is unlikely that threatened species would be reliant on the Subject Land as a movement corridor.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	766.83
Percentage of Native Vegetation Cover (%) (1,500m buffer)	38
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

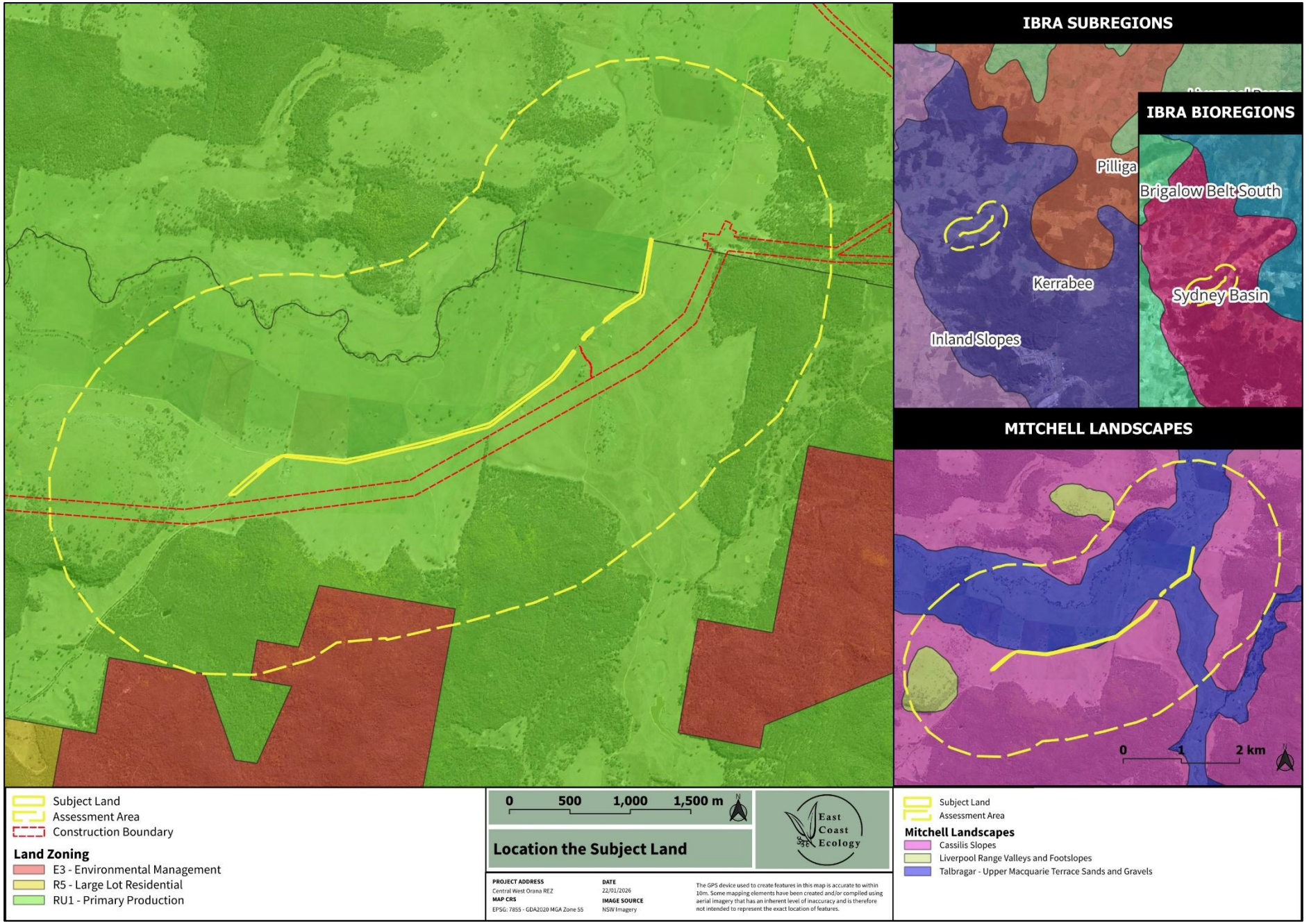


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

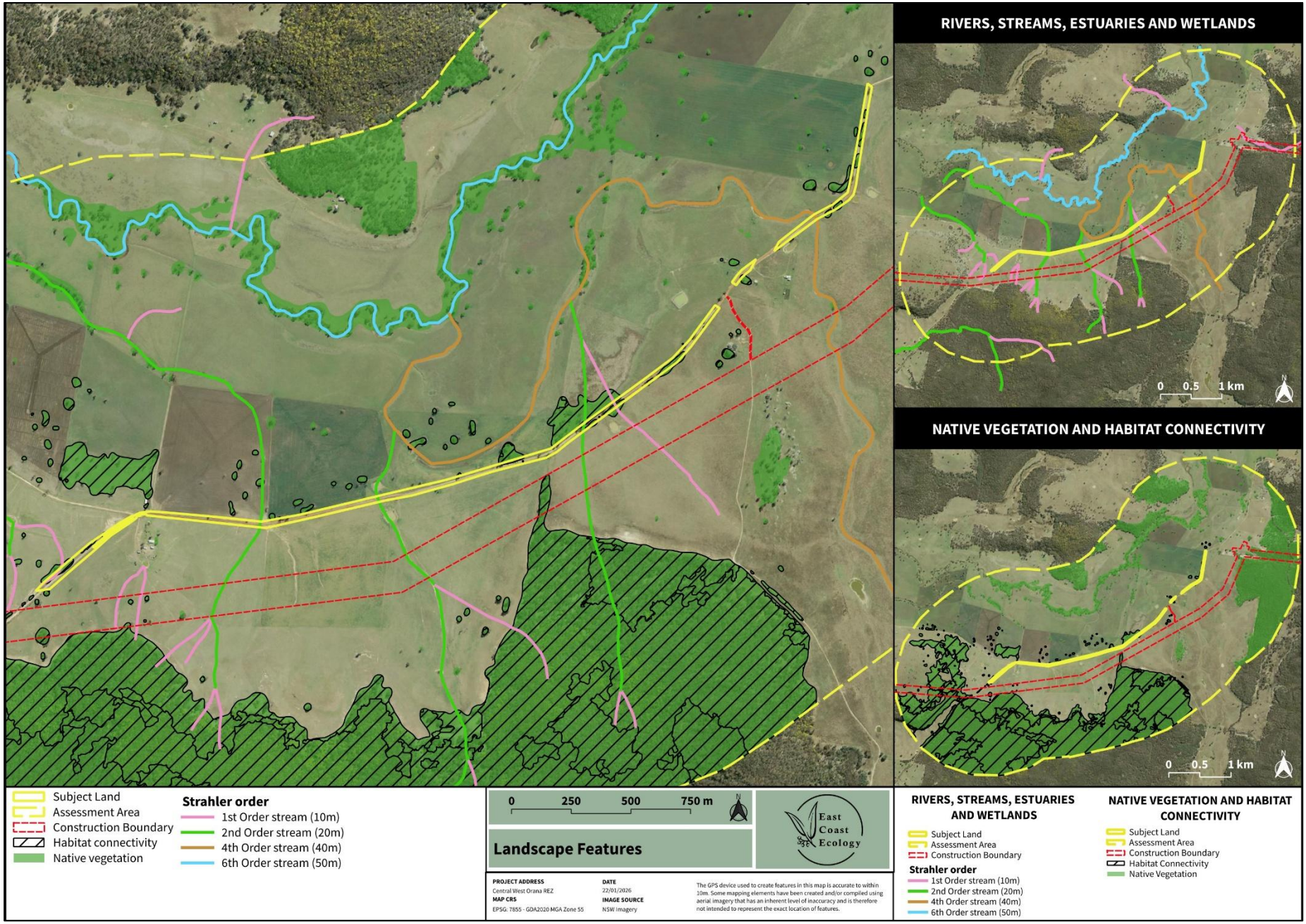


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified one PCT nearby to the Subject Land:

- 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.

PCT 281 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3**, **Figure 4**, **Figure 5**). The extent of PCT 281: Derived Native Grassland within the Subject Land has been mapped as 'Offset not required' due to a VI score <15 and requires no ecosystem credit offsets. The area within the Design Footprint is the maximum predicted impact and these impacts will be reduced following further design development as well as onsite micro siting.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
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	0.39	0.14	Thinned	WBYB (BC Act)	Yes
		1.14	0.35	Thinned	WBYB (BC Act and EPBC Act)	Yes
		5.81	0.77	Derived Native Grassland/ No offset required	WBYB (BC Act)	Yes

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
		0.28	0.02	Regrowth Shrubland	WBYB (BC Act and EPBC Act)	Yes
0	Miscellaneous ecosystem	0.53	0.17	-	-	-
0	Pre-existing Infrastructure	2.11	1.94	-	-	-
	Total Area	**10.24**	**3.39**			

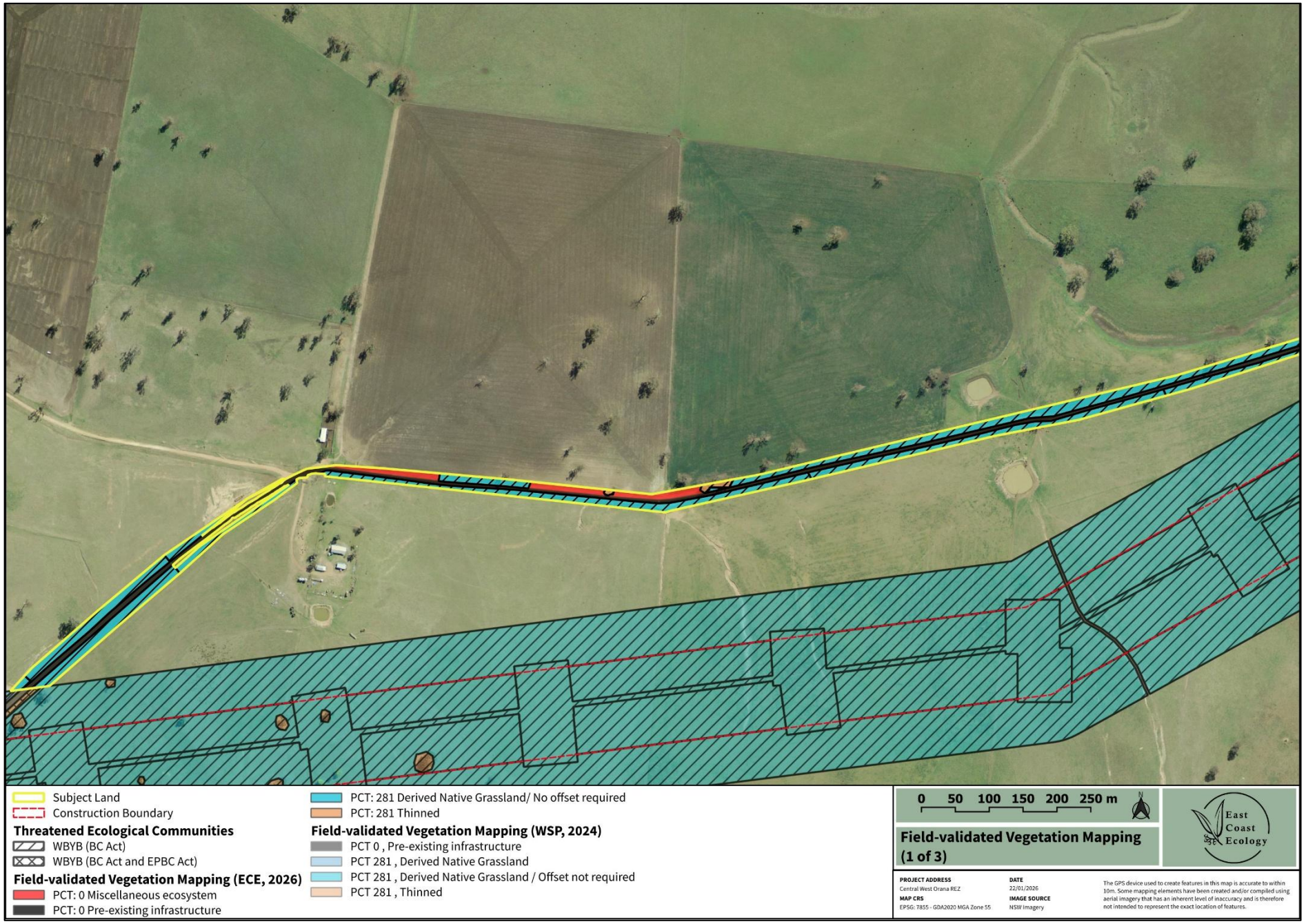


Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3).

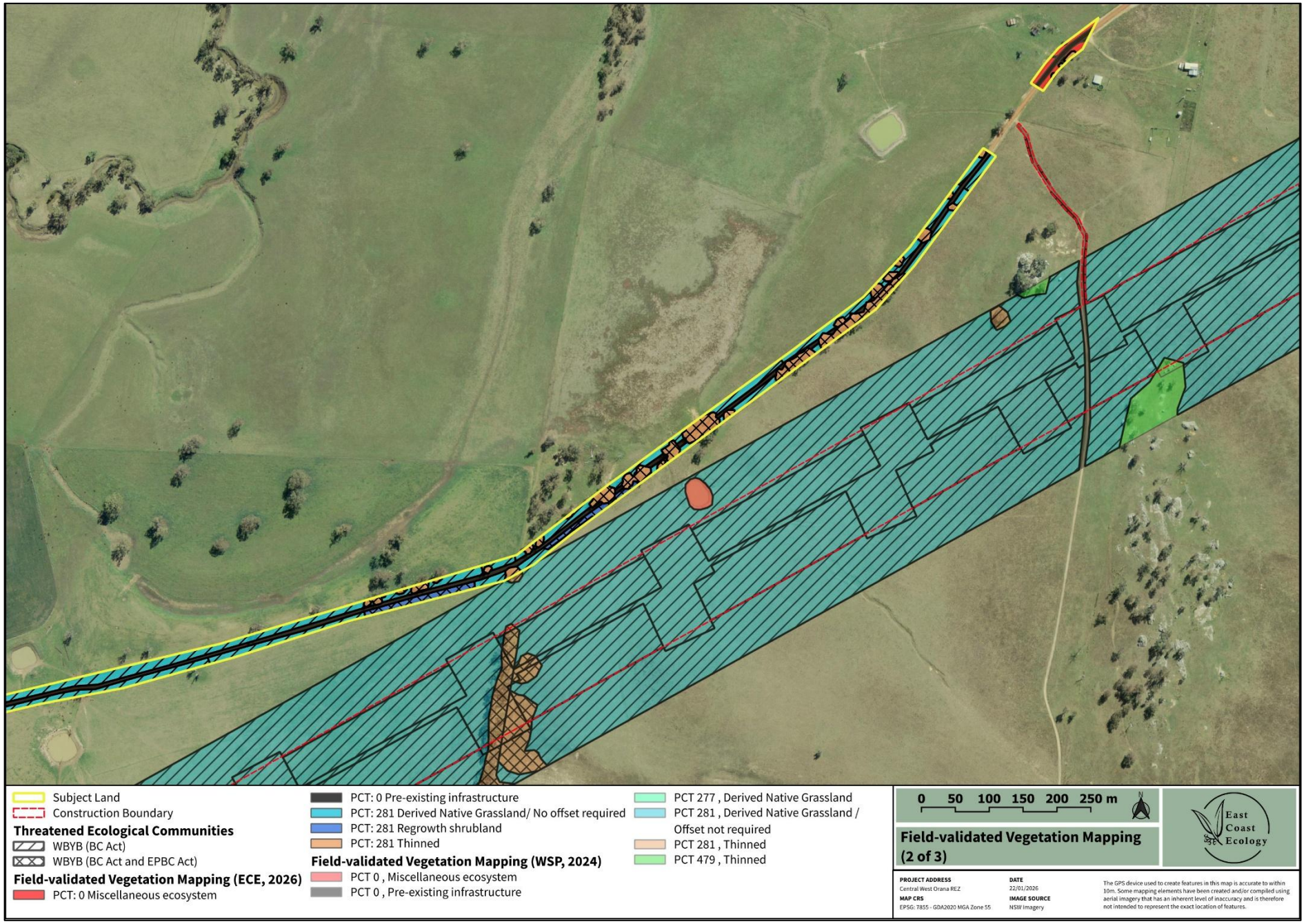


Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3).

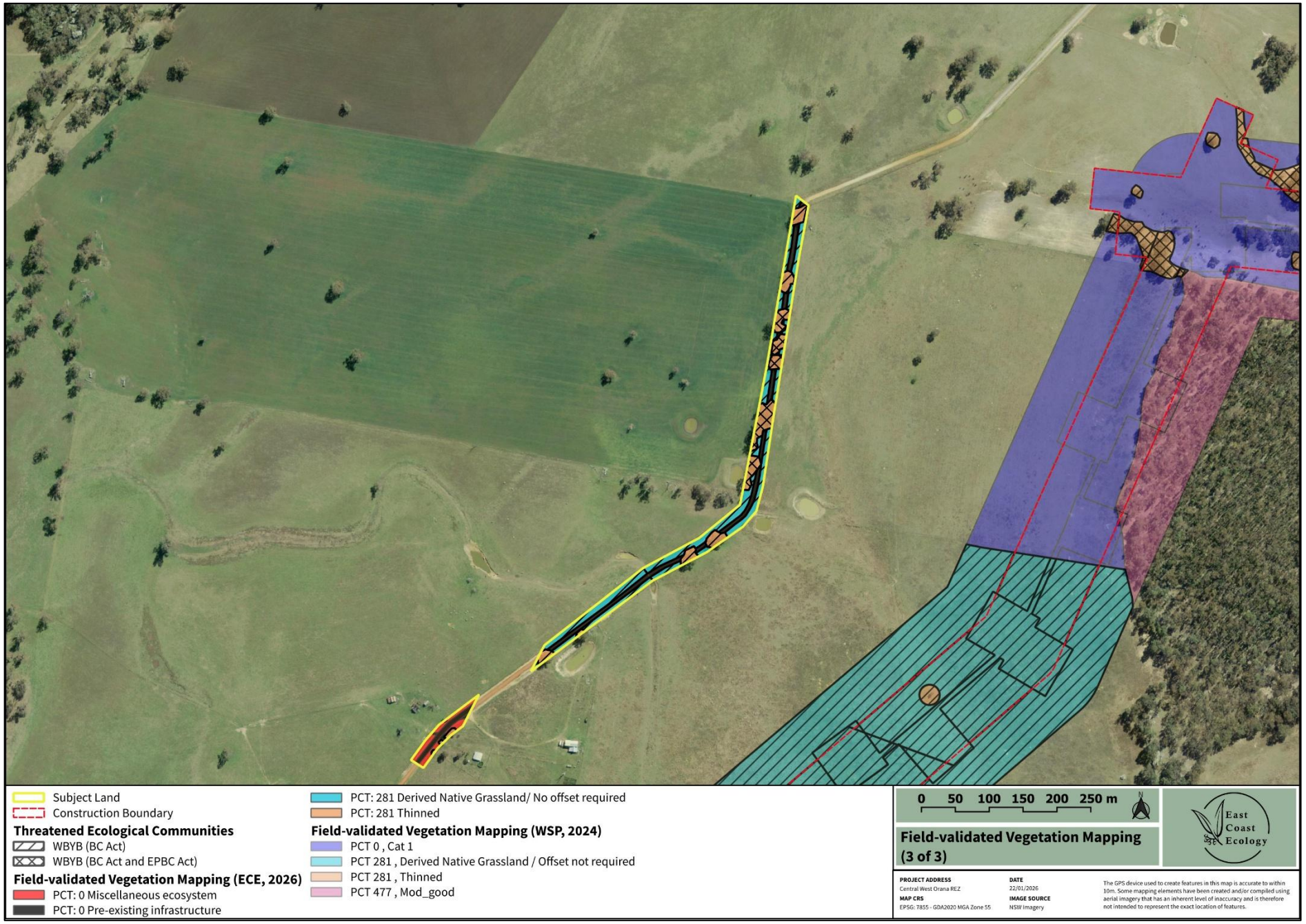


Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3).

5. STAGE 2 – BAM ASSESSMENT

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Kerrabee Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Sixteen (16) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining 10 species were assumed present within the Subject Land.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). Yes (ECE), however, only part of the Subject Land was subject to a targeted survey during the NSW DCCEEW endorsed survey period (August and October).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis	*Eucalyptus camaldulensis* population in the Hunter catchment	-	No. The Subject Land is not in the Hunter catchment.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster	Cotoneaster Pomaderris	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). Yes (ECE), however, only part of the Subject Land was subject to a targeted survey during the NSW DCCEEW	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
				endorsed survey period (October).	
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Aprasia parapulchella	Pink-tailed Legless Lizard	-	Yes. Habitat constraints present. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	-	No. Habitat constraints present, however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Yes. Habitat constraints present. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.		
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides	Little Eagle (Breeding)	-	Yes. Habitat constraints present. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	No. Habitat constraints absent. Habitat constraint: Nest trees. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Ninox connivens	Barking Owl (Breeding)	-	No. Habitat constraints absent. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl (Breeding)	-	No. Habitat constraints present, however, extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl (Breeding)	-	No. Habitat constraints absent. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus	Eastern Pygmy-possum	-	Yes. However, in accordance with the approved BDAR (WSP, 2024), assumed species polygons have not been applied for degraded vegetation where the VI of that vegetation zone is low enough to not warrant an offset.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat (Breeding)	Yes	Yes. Habitat constraints may be present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs,	No (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels. However, in accordance with the approved BDAR (WSP, 2024), species polygons have not been created for this species in PCT 281_Derived Native Grassland within the area of the Subject Land.		the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis	Squirrel Glider	-	Yes. However, species polygons were excluded from patches of derived native grassland and isolated patches of habitat with >70m separation from larger remnants where habitat utilisation is considered unlikely (WSP, 2024).	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	No. Species polygon not created within PCT 281 immediately adjacent to the Subject Land within the biodiversity study area (WSP, 2024). Survey	Yes (WSP). No (ECE).	Excluded– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			effort within the BDAR for PCT 281 assumed to be adequate.		the approved BDAR (WSP, 2024).
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni	Eastern Cave Bat	Yes	Yes. Habitat constraints may be present. Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds." However, in accordance with the approved BDAR (WSP, 2024), species polygons have not been created for this species in PCT 281_Derived Native Grassland within the area of the Subject Land.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle												
Cotoneaster Pomaderris												
Glossy Black-Cockatoo												
Eastern Cave Bat												
Eastern Pygmy-possum												
Large-eared Pied Bat												
Little Eagle												
Pink-tailed Legless Lizard	Assessed via expert report											
Squirrel Glider												
Tarengo Leek Orchid												
Key	= NSW DCCEEW endorsed survey period											

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
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	Thinned	1.53	0.49
		Derived Native Grassland/ No offset required	5.81	0.77
		Regrowth Shrubland	0.28	0.02

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Acacia ausfeldii Ausfeld's Acacia	281_Thinned	1.05	0.49

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	281_Regrowth Shrubland	0.28	0.02
Pomaderris cotoneaster Cotoneaster Pomaderris	281_Thinned	1.05	0.49
	281_Regrowth Shrubland	0.28	0.02
Prasophyllum petilum Tarengo Leek Orchid	281_Thinned	1.05	0.49
	281_Regrowth Shrubland	0.28	0.02
Aprasia parapulchella Pink-tailed Legless Lizard	Thinned	1.53	0.49
	Derived Native Grassland/ No offset required	5.81	0.77
	Regrowth Shrubland	0.28	0.02
Calyptorhynchus lathami Glossy Black-Cockatoo	281_Thinned	0.37	0.13
Cercartetus nanus Eastern Pygmy-possum	281_Thinned	1.53	0.49
	281_Regrowth Shrubland	0.28	0.02
Chalinolobus dwyeri Large-eared Pied Bat	281_Thinned	1.53	0.49
	281_Regrowth Shrubland	0.28	0.02
Hieraaetus morphnoides Little Eagle (Breeding)	281_Thinned	1.53	0.49
Petaurus norfolcensis Squirrel Glider	281_Thinned	0.49	0.14
	281_Regrowth Shrubland	0.28	0.02

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Vespadelus troughtoni Eastern Cave Bat	281_Thinned	1.53	0.49
	281_Regrowth Shrubland	0.28	0.02

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- Large-eared Pied Bat – assumed present
- Eastern Cave Bat– assumed present
- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

6. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. December 2025 and January 2026 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2026) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2026) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report

Central West Orana:
Birkalla Road, South

Prepared by: Jack Tatler
Prepared for: ACCIONA Cobra Joint Venture
Report date: February 2026

East Coast Ecology

DOCUMENT CONTROL

Document no. BA18

Project Title: BAM Report – Central West Orana: Birkalla Road, South

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Jack Tatler (BAAS21006)	Angus McClelland	20/01/2026
Final v1.0	Jack Tatler (BAAS21006)	Angus McClelland	22/01/2026
Final v2.0	Jade Minto Jack Tatler (BAAS21006)	Angus McClelland	30/01/2026
Final v3.0	Jade Minto	Jack Tatler (BAAS21006)	24/02/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7

1.1 Scope of Assessment 7

1.2 Assessment Area 7

1.3 Information Sources 7

1.3.1 Other Documentation 8

2. METHODS 9

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9

2.1.1 Existing Information 9

2.1.2 Mapping Native Vegetation Extent 9

2.1.1 Vegetation Integrity Survey 9

2.2 Threatened Flora Survey 9

2.2.1 Review of Existing Information 9

2.2.2 Field Surveys 9

2.3 Threatened Fauna Survey 9

2.3.1 Review of Existing Information 9

2.3.2 Habitat Constraints 10

2.3.3 Field Surveys 10

2.4 Presence/ Absence of Threatened Species 10

2.5 Weather Conditions 10

2.6 Permits and Licences 11

2.7 Limitations 11

3. LANDSCAPE CONTEXT 12

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 15

4.1 Historically Mapped Vegetation 15

4.2 Field-validated Vegetation 15

5. STAGE 2 – BAM ASSESSMENT 20

5.1 Threatened Species 20

5.1.1 Species Credit Species 20

5.2 Assessment Summary 27

5.3 Serious And Irreversible Impacts 29

6. REFERENCES 30

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer 13

Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 14

Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3). 17
Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3). 18
Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3). 19

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).....10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....15
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 21
Table 5. Survey periods for assumed present species credit species.....27
Table 6. Native vegetation.....27
Table 7. Assumed present Species Credit species.....27

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	The road verge of Birkalla Road, south, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for the Birkalla Road, south, as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of the Birkalla Road, south road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 7.70ha and is located primarily within road reserve.

The Assessment Area is located within the Mid-Western Regional Local Government Area.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2026)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2026a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2026b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2026c)

- NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
- BAM Important Habitat Maps (NSW DCCEEW, 2026d).

- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2026f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2026e)
- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2026f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2026e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2026e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is 'counts of individuals', the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Field surveys were undertaken by ECE on the 2nd of December 2025. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	02/12/2025	Tuesday	6.5	22.3	0.4

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2026f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	NSW South Western Slopes
IBRA Subregion	Inland Slopes
Mitchell Landscape	Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	Three tributaries of Cockabutta Creek bifurcate the Subject Land. Several 1st to 6th order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Some rocky areas occur within the 1,500m buffer area.
Topography, Geology and Soils	Home rule soil landscape: Undulating low hills. Sediment derived from the Gulgong and Rouse Granites. Approximately 420-430m above sea level (asl).
Habitat Connectivity	The Subject Land has moderate connectivity with the surrounding locality (**Figure 2**). However, it is unlikely that threatened species would be reliant on the Subject Land as a movement corridor, given it exists on the outer edge of a large patch of native vegetation.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	339.63
Percentage of Native Vegetation Cover (%) (1,500m buffer)	21
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

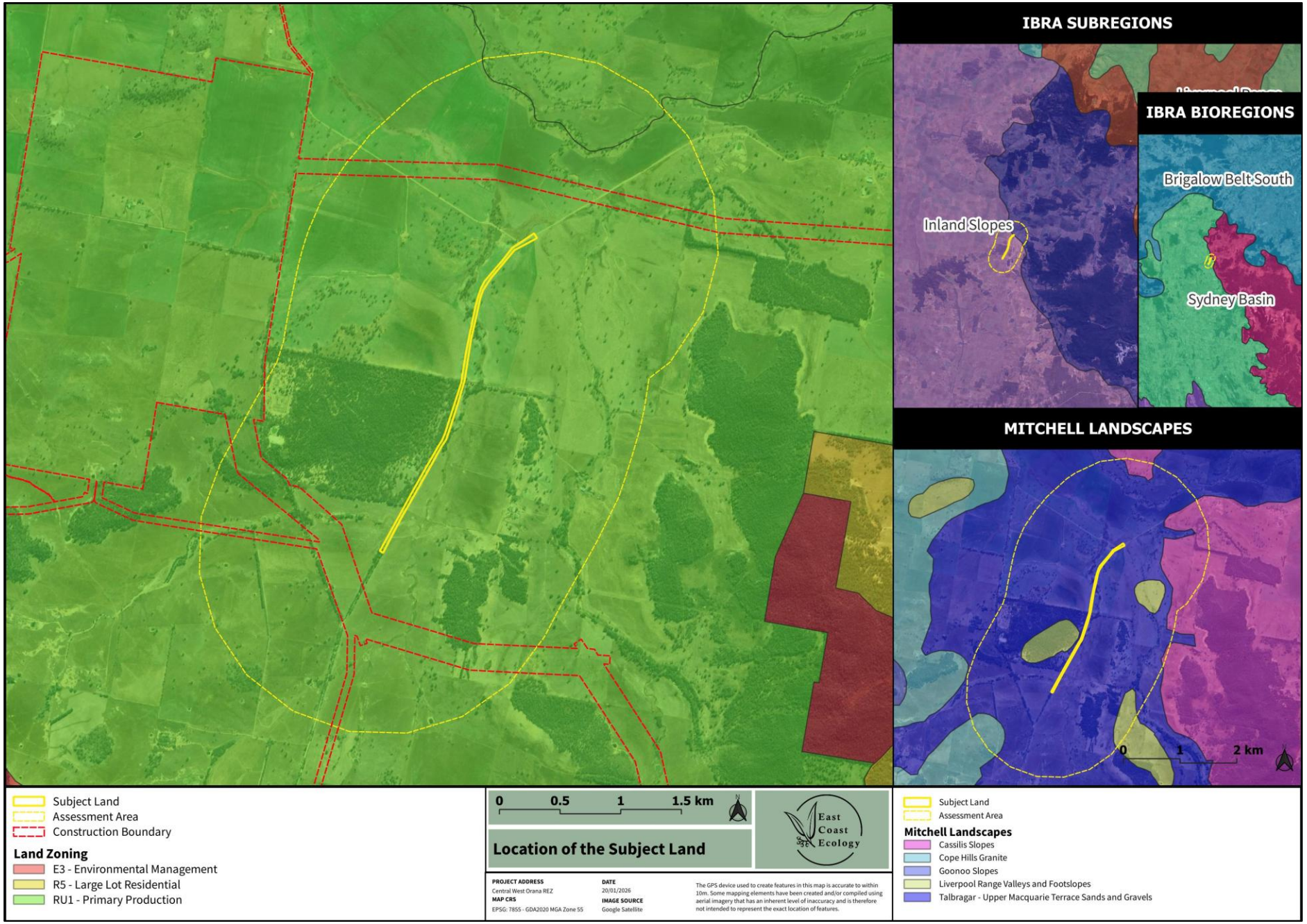


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

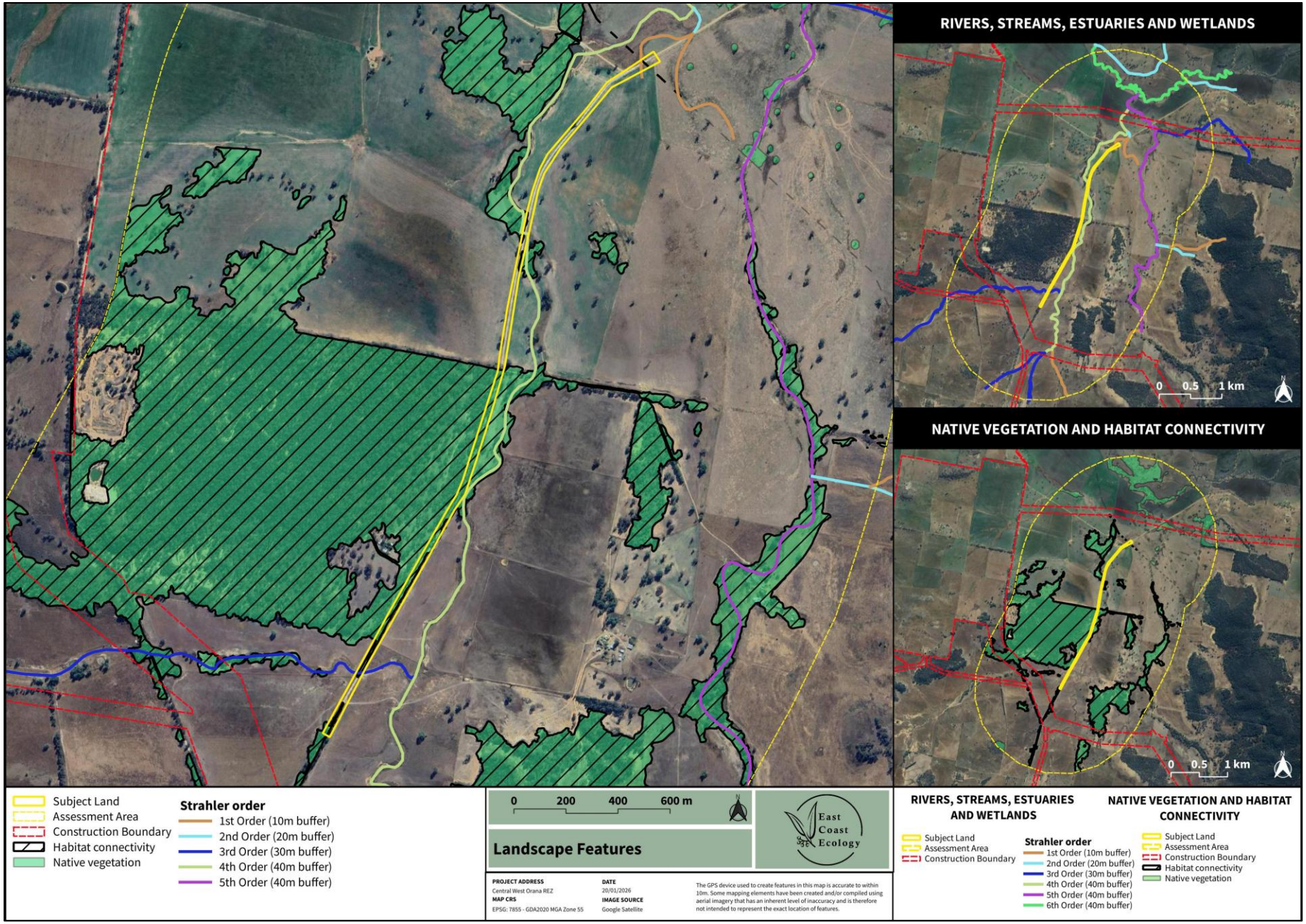


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified one PCT nearby to the Subject Land:

- 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.

PCT 281 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3, Figure 4, Figure 5**). The area within the Design Footprint is the maximum predicted impact and these impacts will be reduced following further design development as well as onsite micro siting.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
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	2.27	0.55	Moderate/ good	WBYB (BC Act and EPBC Act)	Yes
		0.80	0.25	Thinned	WBYB (BC Act and EPBC Act)	Yes
		0.28	0.03	Regrowth Shrubland	WBYB (BC Act and EPBC Act)	Yes
		2.75	0.49	Derived Native Grassland (DNG)	WBYB (BC Act)	Yes

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
0	Miscellaneous ecosystem	0.14	0	-	-	-
0	Pre-existing Infrastructure	1.48	1.11	-	-	-
	Total Area	**7.72**	**2.43**			

Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 3).

Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 3).

Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 3).

5. STAGE 2 – BAM ASSESSMENT

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Inland Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-two (22) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining eight species were assumed present within the Subject Land.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella	Pink-tailed Legless Lizard	-	No. Habitat constraints absent. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (Breeding)	-	Yes. Habitat constraints present however, extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami	Glossy Black-Cockatoo (breeding)	-	Potential breeding habitat was identified adjacent to the Subject Land but will be retained.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.		
Cercartetus nanus	Eastern Pygmy-possum	-	Yes.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat	Yes.	No. Habitat constraints absent. No areas of potential habitat mapped within 2km in the approved BDAR. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Dichanthium setosum	Bluegrass	-	No. Habitat constraints absent. Habitat constraints: Areas of basalt geology. Assumed species polygons have been restricted to areas of basalt geology within the approved BDAR.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Euphrasia arguta	-	Yes.	Yes.	Yes (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.		
Hieraaetus morphnoides	Little Eagle (Breeding)	-	Yes. Large old trees present. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. No further assessment required. Habitat constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). Yes (ECE), although conducted outside of NSW DCCEEW endorsed survey period. No large stick nests were recorded.	Excluded– consistent with the approved BDAR (WSP, 2024).
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	Yes. Potential nest trees present however, extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). Yes (ECE), although conducted outside of NSW DCCEEW endorsed survey period. No large stick nests were recorded.	Excluded– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.		
Myotis macropus	Southern Myotis	-	Yes. Habitat constraints present. Habitat Constraints: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl	-	No. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl	-	Yes. Habitat constraints present. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis	Squirrel Glider	-	Yes.	Yes (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
					the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	Yes	No. Habitat constraints absent. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat constraints: Land within 1km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascogale tapoatafa	Brush-tailed Phascogale	-	No. Suitable habitat deemed not to be present (WSP, 2024).	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	Yes.	Yes (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster	Cotoneaster Pomaderris	-	Yes.	No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Pomaderris queenslandica	Scant Pomaderris	-	Yes.	Yes (ECE).	No.
Polytelis swainsonii	Superb Parrot (Breeding)	-	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey undertaken as part of the approved BDAR.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes.	No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	-	-	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	N/A
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat Constraint: Breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Swainsona sericea	Silky Swainson-pea	-	Yes.	No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl	-	No. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle								■	■	■		
Eastern Pygmy-possum	■	■	■							■	■	■
Southern Myotis	■	■	■							■	■	■
Squirrel Glider	■	■	■	■	■	■	■	■	■	■	■	■
Koala	■	■	■	■	■	■	■	■	■	■	■	■
Cotoneaster Pomaderris										■	■	
Tarengo Leek Orchid									■	■		
Silky Swainson-pea									■	■	■	
Key	■ = NSW DCCEEW endorsed survey period											

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
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	281_Mod/Good	2.27	0.55
		281_Thinned	0.80	0.25
		281_Regrowth Shrubland	0.28	0.03
		281_DNG	2.75	0.49

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Acacia ausfeldii Ausfeld's Acacia	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49
Cercartetus nanus Eastern Pygmy-possum	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49
Myotis macropus Southern Myotis	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49
Petaurus norfolcensis Squirrel Glider	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49
Phascolarctos cinereus Koala	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	281_Regrowth Shrubland	0.28	0.03
Pomaderris cotoneaster Cotoneaster Pomaderris	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
Prasophyllum petilum Tarengo Leek Orchid	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49
Swainsona sericea Silky Swainson-pea	281_Mod/Good	2.27	0.55
	281_Thinned	0.80	0.25
	281_Regrowth Shrubland	0.28	0.03
	281_DNG	2.75	0.49

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

6. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. October and December 2025 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2026) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2026g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2026) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report

Central West Orana:
Blue Springs Road, South

Prepared by: Angus McCelland
Prepared for: ACCIONA Cobra Joint Venture
Report date: February 2026

East Coast Ecology

DOCUMENT CONTROL

Document no. BA16

Project Title: BAM Report – Central West Orana: Blue Springs Road, South

Project Manager: Jack Tatler *BSc (Hons), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Angus McClelland	Jack Tatler (BAAS21006)	19/12/2025
Final v1.0	Angus McClelland	Jack Tatler (BAAS21006)	22/01/2026
Final v2.0	Angus McClelland	Jack Tatler (BAAS21006)	30/01/2026
Final v3.0	Angus McClelland Jade Minto	Jack Tatler (BAAS21006)	26/02/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

TABLE OF CONTENTS

1. INTRODUCTION 7

1.1 Scope of Assessment 7

1.2 Assessment Area 7

1.3 Information Sources 7

1.3.1 Other Documentation 8

2. METHODS 9

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 9

2.1.1 Existing Information 9

2.1.2 Mapping Native Vegetation Extent 9

2.1.1 Vegetation Integrity Survey 9

2.2 Threatened Flora Survey 9

2.2.1 Review of Existing Information 9

2.2.2 Field Surveys 9

2.3 Threatened Fauna Survey 9

2.3.1 Review of Existing Information 9

2.3.2 Habitat Constraints 10

2.3.3 Field Surveys 10

2.4 Presence/ Absence of Threatened Species 10

2.5 Weather Conditions 10

2.6 Permits and Licences 11

2.7 Limitations 11

3. LANDSCAPE CONTEXT 12

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION 15

4.1 Historically Mapped Vegetation 15

4.2 Field-validated Vegetation 15

5. STAGE 2 – BAM ASSESSMENT 18

5.1 Threatened Species 18

5.1.1 Species Credit Species 18

5.2 Assessment Summary 24

5.3 Serious And Irreversible Impacts 27

6. REFERENCES 28

FIGURES

Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer 13

Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity. 14

Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 2). 16
Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 2). 17

TABLES

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).....10
Table 2. Landscape Context for the Assessment Area.....12
Table 3. PCTs identified within the Subject Land.....15
Table 4. Candidate Species Credit Species predicted to occur within the Subject Land. 19
Table 5. Survey periods for assumed present species credit species.....24
Table 6. Native vegetation.....24
Table 7. Assumed present Species Credit species.....25

GLOSSARY

Acronym/ Term	Definition
Accredited Biodiversity Assessor	Individuals accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method
ACJV	ACCIONA Cobra Joint Venture
Approved Construction Boundary	The area of land that is currently approved to be directly impacted by the Project
asl	Above Sea Level
BAM	New South Wales Biodiversity Assessment Method
BAM-C	New South Wales Biodiversity Assessment Method Calculator
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Reg	*Biodiversity Conservation Regulation 2017* (NSW)
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats
BOS	New South Wales Biodiversity Offset Scheme
CA	Consistency Assessment
CEEC	Critically Endangered Ecological Community
CSSI	Critical State Significant Infrastructure
DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
DPE	New South Wales Department of Planning and Environment
DPHI	New South Wales Department of Planning, Housing and Infrastructure
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
ha	Hectares
km	Kilometres
LGA	Local Government Area

Acronym/ Term	Definition
m	metres
MNES	Matters of National Environmental Significance
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland
PCT	New South Wales Plant Community Type
Project	Central West Orana REZ Transmission
Property	The piece of land within which the Proposed Change will occur
Proposed Change	The road verge of Blue Springs Road, south, falling outside of the approved disturbance footprint
SAII	Serious and Irreversible Impacts
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to 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
SSI	State Significant Infrastructure
Subject Land	The areas encompassing the Proposed Change, and any indirect and prescribed impacts, to which the BAM has been applied
TBDC	Threatened Biodiversity Database Collection
TEC	Threatened Ecological Communities
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016
VI	Vegetation Integrity
VIS Plot	Vegetation Integrity Survey Plot

1. INTRODUCTION

1.1 Scope of Assessment

East Coast Ecology Pty Ltd (ECE) was engaged by ACCIONA Cobra Joint Venture (ACJV) to undertake a biodiversity assessment with reference to the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020a) and prepare a BAM Report to accompany a Consistency Assessment (CA) for the Blue Springs Road, south, road verge as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA will assess the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Angus McClelland and Dr. Jack Tatler (BAAS21006).

1.2 Assessment Area

The proposed footprint of the Blue Springs Road, South road verge (the Subject Land) and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The Subject Land is approximately 3.02ha and is located across Lot 79/ DP750765, Lot 5/ DP502956, Lot 74/ DP750765, Lot 24/ DP502960 and road reserve.

The Assessment Area is located within the Mid-Western Regional Local Government Area.

1.3 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2025)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2025a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2025c)

    - NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
    - BAM Important Habitat Maps (NSW DCCEEW, 2025d).
- Vegetation and Soil Mapping:
    - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2025f)
    - eSPADE v2.2.0 (NSW DCCEEW, 2025e)
- NSW State Guidelines:
    - Biodiversity Assessment Method (DPIE, 2020a)
    - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2025f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

2.1.1 Vegetation Integrity Survey

At least one, 1,000m^2 BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2025e) as well as habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is ‘counts of individuals’, the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Field surveys were undertaken by ECE on the 22nd of October and 15th of December 2025. Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather station (Mudgee Airport AWS (station number 062101)) (BOM, 2025).

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	22/10/2025	Wednesday	15.3	34.3	0
Lead up to survey	14/12/2025	Sunday	16.6	31.6	9.8

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	15/12/2025	Monday	11.8	31.3	0.2

2.6 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

2.7 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints, historical records and information provided in the BDAR (WSP, 2024).

3. LANDSCAPE CONTEXT

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2025f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

Table 2. Landscape Context for the Assessment Area.

Feature	Subject Land
IBRA Bioregion	NSW South Western Slopes
IBRA Subregion	Inland Slopes
Mitchell Landscape	Cope Hills Granite and Talbragar - Upper Macquarie Terrace Sands and Gravels.
Rivers, streams, estuaries and wetlands	One watercourse intersects the Subject Land, a 3rd order unnamed watercourse. 1st, 2nd and 3rd order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Cliff lines (WSP, 2024) and other potential areas of geological significance (i.e. rocky areas) occur within the 1,500m buffer area.
Topography, Geology and Soils	Rouse soil landscape: Undulating hills and low hills with granite outcropping as tors and sloping pavements. Gulgong Granite, biotite granite, adamellite, granodiorite. Approximately 525m above sea level (asl).
Habitat Connectivity	The Subject Land and surrounds have good connectivity with the surrounding locality (**Figure 2**). However, it is likely that threatened species would be reliant on the Subject Land as a movement corridor, considering the habitat present either side of Blue Springs Road.
Areas of Outstanding Biodiversity Value	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
Total Area of Native Vegetation Cover (ha) (1,500m buffer)	239.31
Percentage of Native Vegetation Cover (%) (1,500m buffer)	24
Patch Size Class (<5 ha, 5-<25 ha, 25-<100 ha, and ≥100 ha)	≥100

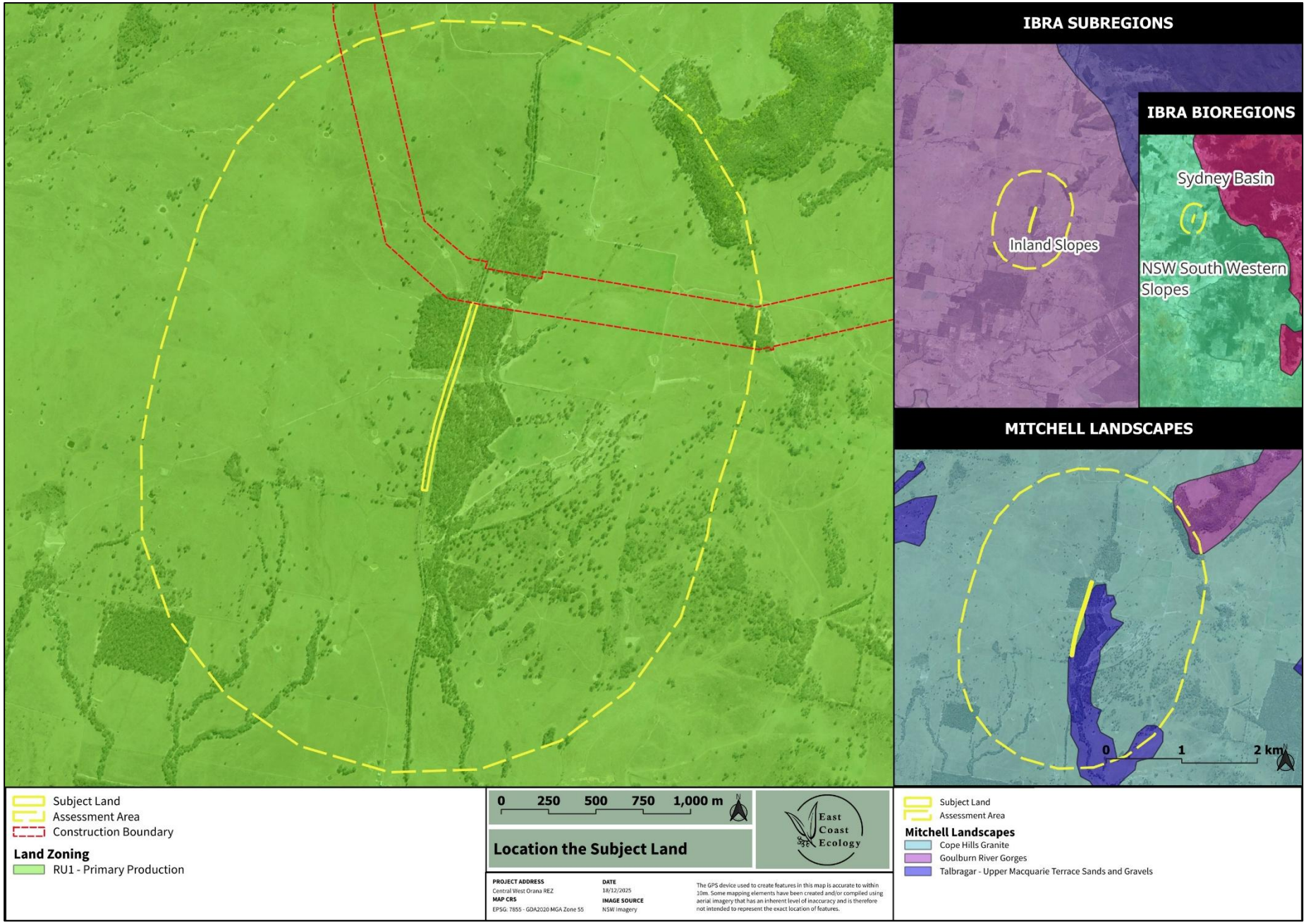


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

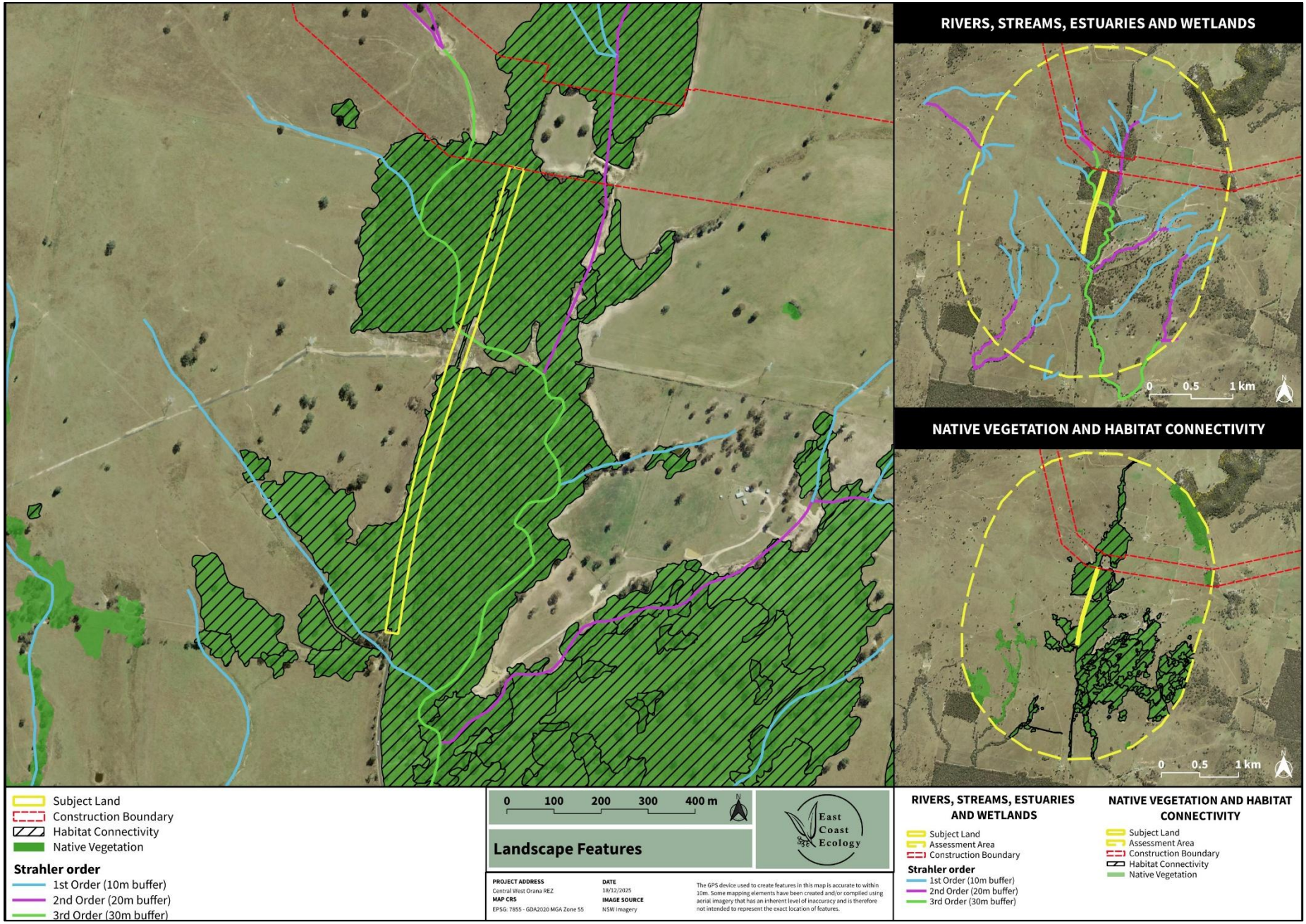


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

4. STAGE 1 – NATIVE VEGETATION IDENTIFICATION

4.1 Historically Mapped Vegetation

The approved BDAR identified one PCT immediately adjacent to the Subject Land:

- PCT 277: Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.

PCT 277 is associated with the following threatened ecological communities:

- 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 (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBYB)- critically endangered ecological community (EPBC Act).

4.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3, Figure 4**). The area within the Design Footprint is the maximum predicted impact and these impacts will be reduced following further design development as well as onsite micro siting.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Area within Design Footprint (ha)	Condition	TEC present	SAII
277	Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	0.74	0.07	Moderate/ good	WBYB (BC Act and EPBC Act)	Yes
		1.14	0.05	Thinned	WBYB (BC Act and EPBC Act)	Yes
		0.18	0	Regrowth Shrubland	WBYB (BC Act)	Yes
0	Pre-existing Infrastructure	0.89	0.69	-	-	-
	Total Area	**2.95**	**0.81**			

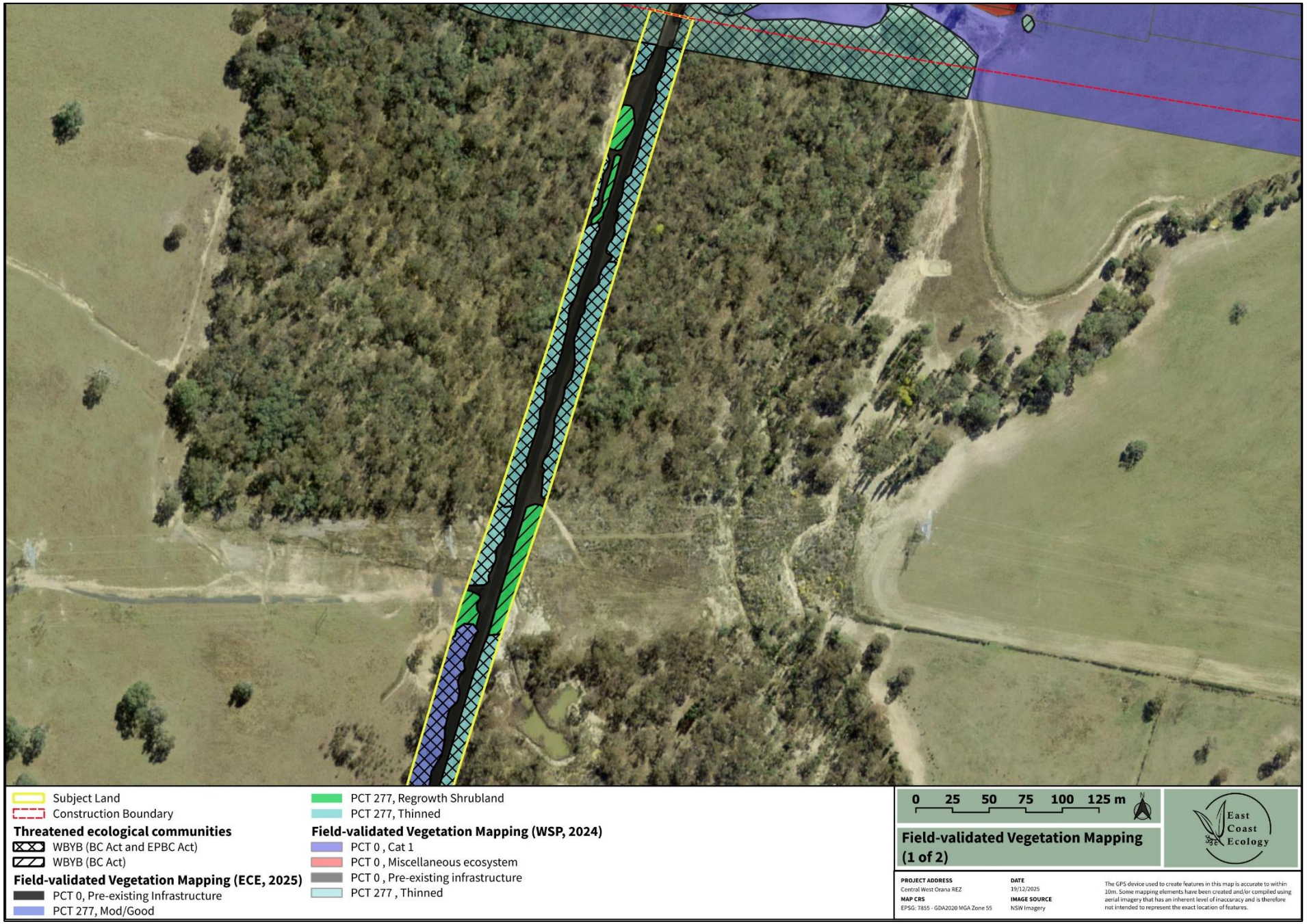


Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 2).

Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 2).

5. STAGE 2 – BAM ASSESSMENT

5.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 277 within the Inland Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

5.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 28 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Sixteen (16) of the 28 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining twelve species were assumed present within the Subject Land.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Acacia ausfeldii	Ausfeld's Wattle	-	Yes.	Yes (ECE), north half of the site during the NSW DCCEEW survey period (October).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Euphrasia arguta	-	Yes	Yes.	Yes (ECE), south half of the site during the NSW DCCEEW survey period (December, after rain).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Prasophyllum petilum	Tarengo Leek Orchid	-	Yes.	Yes (ECE), north half of the site during the NSW DCCEEW survey period (October).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Swainsona recta	Small Purple-pea	-	Yes.	Yes (ECE), north half of the site during the NSW DCCEEW survey period (October).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Swainsona sericea	Silky Swainson-pea	-	Yes.	Yes (ECE), north half of the site during the NSW DCCEEW survey period (October).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella	Pink-tailed Legless Lizard	-	Yes. One area of embedded rocky habitat present within 50m of the Subject Land.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Delma impar	Striped Legless Lizard	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Litoria booroolongensis	Booroolong Frog	-	No. Suitable habitat deemed not present (WSP, 2024)	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Anthochaera phrygia	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius	Bush Stone-curlew	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum	Gang-gang Cockatoo (breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster	White-bellied Sea-eagle (breeding)	-	No. Habitat constraints absent. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation). Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides	Little Eagle (Breeding)	-	No. Habitat constraints absent. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
Lathamus discolor	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura	Square-tailed Kite (Breeding)	-	No. Habitat constraints absent. Habitat constraint: Nest trees. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox connivens	Barking Owl	-	No. Habitat constraints absent. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraint: a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua	Powerful Owl	-	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Polytelis swainsonii	Superb Parrot (Breeding)	-	No. Species has been excluded from Inland Slopes Subregions through adequate survey undertaken as part of the approved BDAR.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae	Masked Owl	-	No. Habitat constraints absent. Potential breeding habitat was identified adjacent to the Subject Land but will be retained. Habitat Constraint: a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Keyacris scurra	Key's Matchstick Grasshopper	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
					the approved BDAR (WSP, 2024).
Cercartetus nanus	Eastern Pygmy-possum	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri	Large-eared Pied Bat	Yes.	Yes. Cliff lines present within 2km of the Subject Land, likely containing caves, overhangs, escarpments, outcrops, or crevices.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis	Large Bent-winged Bat (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis	Squirrel Glider	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata	Brush-tailed Rock-wallaby	-	No. Species considered locally extinct. Species was not found in suitable habitat during targeted surveys.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascogale tapoatafa	Brush-tailed Phascogale	-	No. Suitable habitat deemed not to be present (WSP, 2024)	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus	Koala	-	Yes.	No (WSP). No (ECE).	**Assumed present**– consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
					the approved BDAR (WSP, 2024).
Pteropus poliocephalus	Grey-headed Flying-fox (Breeding)	-	No. Habitat constraints not present. Habitat Constraint: Breeding camps. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 5. Survey periods for assumed present species credit species.

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Acacia												
Euphrasia arguta												
Tarengo Leek Orchid												
Small Purple-pea												
Silky Swainson-pea												
Pink-tailed Legless Lizard	Assessed via expert report.											
Striped Legless Lizard												
Key's Matchstick Grasshopper												
Eastern Pygmy-possum												
Large-eared Pied Bat												
Squirrel Glider												
Koala												
Key							= NSW DCCEEW endorsed survey period					

5.2 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 6** and **Table 7**.

Table 6. Native vegetation.

PCT ID	PCT Scientific Name	Condition	Area (ha)	Area within Design Footprint (ha)
277	Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	277_Mod/Good	0.74	0.07
		277_Thinned	1.14	0.05
		277_Regrowth Shrubland	0.18	0

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
Acacia ausfeldii Ausfeld's Acacia	277_Mod/Good	0.74	0.07
	277_Thinned	0.52	0.05
	277_Regrowth Shrubland	0.03	0
Euphrasia arguta	277_Thinned	0.61	0.07
	277_Regrowth Shrubland	0.18	0.05
Prasophyllum petilum Tarengo Leek Orchid	277_Mod/Good	0.74	0.07
	277_Thinned	0.52	0.05
	277_Regrowth Shrubland	0.03	0
Swainsona recta Small Purple-pea	277_Mod/Good	0.74	0.07
	277_Thinned	0.52	0.05
	277_Regrowth Shrubland	0.03	0
Swainsona sericea Silky Swainson-pea	277_Mod/Good	0.74	0.07
	277_Thinned	0.52	0.05
	277_Regrowth Shrubland	0.03	0
Aprasia parapulchella Pink-tailed Legless Lizard	277_Mod/Good	0.74	0.07

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Delma impar Striped Legless Lizard	277_Mod/Good	0.74	0.07
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Keyacris scurra Key's Matchstick Grasshopper	277_Mod/Good	0.74	0.07
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Cercartetus nanus Eastern Pygmy-possum	277_Mod/Good	0.74	0.07
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Chalinolobus dwyeri Large-eared Pied Bat	277_Mod/Good	0.74	0.07
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Petaurus norfolcensis Squirrel Glider	277_Mod/Good	0.74	0.07

Species	Vegetation Zone	Area (ha)	Area within Design Footprint (ha)
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0
Phascolarctos cinereus Koala	277_Mod/Good	0.74	0.07
	277_Thinned	1.14	0.05
	277_Regrowth Shrubland	0.18	0

5.3 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified, or assumed present, within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 277) – recorded
- *Chalinolobus dwyeri* – assumed present, and
- *Euphrasia arguta* – assumed present.

6. REFERENCES

ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017)
https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2025) Mudgee, New South Wales. October and December 2025 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2025) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=143

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2025) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast | Central West

BAM Report – Priority Areas 1

Central West Orana Renewable Energy Zone
Transmission Project

Report date: January 2026

East Coast Ecology

DOCUMENT CONTROL

Document no. BA02

Project Title: BAM Report – Priority Areas 1 - Central-West Orana Renewable Energy Zone Transmission Project

Project Manager: Jack Tatler *BSc (Zoology & Entomology), Hons (Zoology), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006
Alex Graham *BSc (Biology), Grad. Dip. (Bushfire Protection)*
Principal Ecologist & Accredited Assessor BAAS19040

Version	Author	Reviewer	Date
Draft v1.0	Jade Minto Jack Tatler (BAAS21006)	Alex Graham (BAAS19040)	04/04/2025
Draft v2.0	Jade Minto	Jack Tatler (BAAS21006)	11/08/2025
Final v1.0	Jade Minto	Jack Tatler (BAAS21006)	15/12/2025
Final v2.0	Jade Minto	-	07/01/2026
Final v3.0	Jade Minto	Jack Tatler (BAAS21006)	28/01/2026

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

Table of Contents

1. INTRODUCTION 11

1.1 Project Overview 11

1.1.1 Location 11

1.2 Purpose of this Assessment 11

1.3 Permits and Licences 11

2. METHODS 13

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods 13

2.1.1 Existing Information 13

2.1.2 Mapping Native Vegetation Extent 13

2.1.3 Vegetation Integrity Survey 13

2.2 Threatened Flora Survey 13

2.2.1 Review of Existing Information 13

2.2.2 Field Surveys 14

2.3 Threatened Fauna Survey 14

2.3.1 Review of Existing Information 14

2.3.2 Habitat Constraints 14

2.3.3 Field Surveys 14

2.4 Presence/ Absence of Threatened Species 14

2.5 Weather Conditions 15

2.6 Limitations 15

3. SP1-G 16

3.1 Landscape Features 16

3.2 Field-validated Vegetation 16

3.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region 17

3.3 Candidate Species Credit Species Summary 19

3.4 Serious and Irreversible Impacts 21

3.5 Impact Summary 21

4. SP1-H1/H2 22

4.1 Landscape Features 22

4.2 Field-validated Vegetation 22

4.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region 23

4.3 Candidate Species Credit Species Summary 25

4.4 Serious and Irreversible Impacts 27

4.5 Impact Summary 27
5. SP1-J2 28
5.1 Landscape Features 28
5.2 Field-validated Vegetation 28
6. SP1-N 30
6.1 Landscape Features 30
6.2 Field-validated Vegetation 30
6.2.1 PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region 31
6.2.2 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 32
6.2.3 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 32
6.3 Candidate Species Credit Species Summary 36
6.4 Serious and Irreversible Impacts 42
6.5 Impact Summary 42
7. SP1-O 45
7.1 Landscape Features 45
7.2 Field-validated Vegetation 45
7.2.1 PCT 401: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region 46
7.2.2 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 47
7.2.3 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 47
7.3 Candidate Species Credit Species Summary 52
7.4 Serious and Irreversible Impacts 58
7.5 Impact Summary 58
8. SP1-P 61
8.1 Landscape Features 61
8.2 Field-validated Vegetation 61
8.2.1 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 62
8.2.2 PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region 63

8.3 Candidate Species Credit Species Summary 65
8.4 Serious and Irreversible Impacts 71
8.5 Impact Summary 71
9. SP1-Q 73
9.1 Landscape Features 73
9.2 Field-validated Vegetation 73
9.2.1 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 74
9.3 Candidate Species Credit Species Summary 79
9.4 Serious and Irreversible Impacts 84
9.5 Impact Summary 84
10. SP1-T 86
10.1 Landscape Features 86
10.2 Field-validated Vegetation 86
10.2.1 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 87
10.3 Candidate Species Credit Species Summary 90
10.4 Serious and Irreversible Impacts 95
10.5 Impact Summary 95
11. SP1-U 97
11.1 Landscape Features 97
11.2 Field-validated Vegetation 97
11.2.1 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 98
11.3 Candidate Species Credit Species Summary 100
11.4 Serious and Irreversible Impacts 105
11.5 Impact Summary 105
12. SP1-Wilp 106
12.1 Landscape Features 106
12.2 Field-validated Vegetation 106
12.2.1 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 107
12.3 Candidate Species Credit Species Summary 109
12.4 Serious and Irreversible Impacts 114
12.5 Impact Summary 114
13. SP6-C 116
13.1 Landscape Features 116

13.2 Field-validated Vegetation....116
13.2.1 PCT 618: White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley....117
13.2.2 PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley....117
13.3 Candidate Species Credit Species Summary....120
13.4 Serious and Irreversible Impacts....122
13.5 Impact Summary....122
14. SP6-E1....124
14.1 Landscape Features....124
14.2 Field-validated Vegetation....124
14.2.1 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....125
14.3 Candidate Species Credit Species Summary....127
14.4 Serious and Irreversible Impacts....132
14.5 Impact Summary....132
15. SP6-F1....134
15.1 Landscape Features....134
15.2 Field-validated Vegetation....134
15.2.1 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....135
15.3 Candidate Species Credit Species Summary....137
15.4 Serious and Irreversible Impacts....142
15.5 Impact Summary....142
16. SP5-A....144
16.1 Landscape Features....144
16.2 Field-validated Vegetation....144
16.2.1 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....145
16.3 Candidate Species Credit Species Summary....147
16.4 Serious and Irreversible Impacts....150
16.5 Impact Summary....150
17. SP5-E1/E2....151
17.1 Landscape Features....151
17.2 Field-validated Vegetation....151
17.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region....152

17.3 Candidate Species Credit Species Summary 154
17.4 Serious and Irreversible Impacts 156
17.5 Impact Summary 156
18. SP1-C 157
18.1 Landscape Features 157
18.2 Field-validated Vegetation 157
18.2.1 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 158
18.3 Candidate Species Credit Species Summary 160
18.4 Serious and Irreversible Impacts 166
18.5 Impact Summary 166
19. REFERENCES 168

FIGURES

Figure 1. Location of the Access Points in relation to the Construction Boundary 12
Figure 2. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-G. 18
Figure 3. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-H1/H2. 24
Figure 4. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-J1 and J2. 29
Figure 5. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-N (Map 1 of 2) 34
Figure 6. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-N (Map 2 of 2) 35
Figure 7. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 1 of 3) 49
Figure 8. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 2 of 3) 50
Figure 9. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 3 of 3) 51
Figure 10. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-P. 64
Figure 11. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 1 of 4). 75
Figure 12. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 2 of 4). 76
Figure 13. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 3 of 4). 77
Figure 14. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 4 of 4). 78
Figure 15. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-T 89
Figure 16. Figure 17. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-U 99
Figure 18. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Wilp. 108
Figure 19. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-C. 119
Figure 20. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-E1 126
Figure 21. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-F1 136
Figure 22. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-A 146

Figure 23. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-E1/E2. 153
Figure 24. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-C. 159

TABLES

Table 1. Weather conditions taken from the nearest weather stations (Station number 067113) in the lead up and during the field survey (BOM, 2024).....15
Table 2. PCTs identified within SP1-G.....17
Table 3. PCT 481.....17
Table 4. Candidate Fauna Credit Species predicted to occur within the Access Point.....19
Table 5. Candidate Flora Credit Species predicted to occur within the Access Point. 20
Table 6. Impacts to native vegetation.....21
Table 7. Impacts to threatened species.....21
Table 8. PCTs identified within SP1-H1/H2.....23
Table 9. PCT 481.....23
Table 10. Candidate Fauna Credit Species predicted to occur within the Access Point.....25
Table 11. Candidate Flora Credit Species predicted to occur within the Access Point. 26
Table 12. Impacts to native vegetation.....27
Table 13. Impacts to threatened species.....27
Table 14. PCTs identified within SP1-N.....30
Table 15. PCT 481.....31
Table 16. PCT 281.....32
Table 17. PCT 479.....33
Table 18. Candidate Fauna Credit Species predicted to occur within the Access Point.....36
Table 19. Candidate Flora Credit Species predicted to occur within the Access Point. 39
Table 20. Impacts to native vegetation.....42
Table 21. Impacts to threatened species.....43
Table 22. PCTs identified within SP1-O.....46
Table 23. PCT 401.....46
Table 24. PCT 479.....47
Table 25. PCT 281.....48
Table 26. Candidate Fauna Credit Species predicted to occur within the Access Point.....52
Table 27. Candidate Flora Credit Species predicted to occur within the Access Point. 56
Table 28. Impacts to native vegetation.....58
Table 29. Impacts to species credit species.....59
Table 30. PCTs identified within SP1-P. 61
Table 31. PCT 281.....62
Table 32. PCT 401.....63
Table 33. Candidate Fauna Credit Species predicted to occur within the Access Point.....65
Table 34. Candidate Flora Credit Species predicted to occur within the Access Point. 68
Table 35. Impacts to native vegetation.....71
Table 36. Impacts to species credit species.....71
Table 37. PCTs identified within SP1-Q.....73
Table 38. PCT 281.....74
Table 39. Candidate Fauna Credit Species predicted to occur within the Access Point.....79
Table 40. Candidate Flora Credit Species predicted to occur within the Access Point. 82
Table 41. Impacts to native vegetation.....84
Table 42. Impacts to species credit species.....84
Table 43. PCTs identified within SP1-T. 87
Table 44. PCT 281.....87
Table 45. Candidate Fauna Credit Species predicted to occur within the Access Point.....90

Table 46. Candidate Flora Credit Species predicted to occur within the Access Point. 93
Table 47. Impacts to native vegetation....95
Table 48. Impacts to species credit species....95
Table 49. PCTs identified within SP1-U....98
Table 50. PCT 281....98
Table 51. Candidate Fauna Credit Species predicted to occur within the Access Point....100
Table 52. Candidate Flora Credit Species predicted to occur within the Access Point. 103
Table 53. Impacts to native vegetation....105
Table 54. Impacts to species credit species....105
Table 55. PCTs identified within SP1-Q....107
Table 56. PCT 281....107
Table 57. Candidate Fauna Credit Species predicted to occur within the Access Point....109
Table 58. Candidate Flora Credit Species predicted to occur within the Access Point. 112
Table 59. Impacts to native vegetation....114
Table 60. Impacts to species credit species....114
Table 61. PCTs identified within SP6-C. 116
Table 62. PCT 618....117
Table 63. PCT 483....118
Table 64. Candidate Fauna Credit Species predicted to occur within the Access Point....120
Table 65. Candidate Flora Credit Species predicted to occur within the Access Point. 121
Table 66. Impacts to native vegetation....122
Table 67. Impacts to species credit species....122
Table 68. PCTs identified within SP6-E1. 125
Table 69. PCT 281....125
Table 70. Candidate Fauna Credit Species predicted to occur within the Access Point....127
Table 71. Candidate Flora Credit Species predicted to occur within the Access Point. 130
Table 72. Impacts to native vegetation....132
Table 73. Impacts to species credit species....132
Table 74. PCTs identified within SP6-F1. 135
Table 75. PCT 281....135
Table 76. Candidate Fauna Credit Species predicted to occur within the Access Point....137
Table 77. Candidate Flora Credit Species predicted to occur within the Access Point. 140
Table 78. Impacts to native vegetation....142
Table 79. Impacts to species credit species....142
Table 80. PCTs identified within SP5-A. 144
Table 81. PCT 479....145
Table 82. Candidate Fauna Credit Species predicted to occur within the Access Point....147
Table 83. Candidate Flora Credit Species predicted to occur within the Access Point. 148
Table 84. Impacts to native vegetation....150
Table 85. Impacts to species credit species....150
Table 86. PCTs identified within SP5-E1/E2....151
Table 87. PCT 481....152
Table 88. Candidate Fauna Credit Species predicted to occur within the Access Point....154
Table 89. Candidate Flora Credit Species predicted to occur within the Access Point. 155
Table 90. Impacts to native vegetation....156
Table 91. Impacts to threatened species....156
Table 92. PCTs identified within SP1-C. 157
Table 93. PCT 281....158
Table 94. Candidate Fauna Credit Species predicted to occur within the Access Point....160
Table 95. Candidate Flora Credit Species predicted to occur within the Access Point. 164
Table 96. Impacts to native vegetation....166
Table 97. Impacts to species credit species....166

1. INTRODUCTION

1.1 Project Overview

Energy Corporation of NSW (EnergyCo) is proposing the construction and operation of new electricity transmission infrastructure, new energy hubs and switching stations and ancillary works required to connect new renewable energy generation and storage projects within the Central-West Orana Renewable Energy Zone (REZ) to the existing electricity network (the Project).

ACEREZ propose to modify the Project by incorporating an additional 35 areas outside of the approved Construction Boundary (hereafter referred to as Access Points). The Access Points will involve the widening of existing roads and access tracks to allow the movement of vehicles in and out of the Project alignment.

1.1.1 Location

The Access Points are dispersed across the entire Project. The Project extends north to south from Cassilis to Wollar and east to west from Cassilis to Goolma and is located within four local government areas (LGAs); Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter (**Figure 1**). This report assesses 16 out of the 35 Access Points, including:

- SP1-G
- SP1-H1/H2
- SP1-J2
- SP1-N
- SP1-O
- SP1-P
- SP1-Q
- SP1-T
- SP1-U
- SP1-Wilp
- SP6-C
- SP6-E1
- SP6-F1
- SP5-A
- SP5-E1/E2
- SP1-C.

1.2 Purpose of this Assessment

The objective of this biodiversity assessment is to outline the assessment methods carried out by East Coast Ecology (ECE) and aims to:

- Describe the biodiversity values present within each Access Point, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the Access Points for candidate threatened species
- Identify which candidate species credit species require further assessment for each Access Point, and
- Consider and assess the proposed works in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

All biodiversity assessments have been carried out with reference to the BAM (DPIE, 2020a), and this BAM Report has been prepared by Jade Minto and Dr. Jack Tatler (BAAS21006) and reviewed by Alex Graham (BAAS19040).

1.3 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

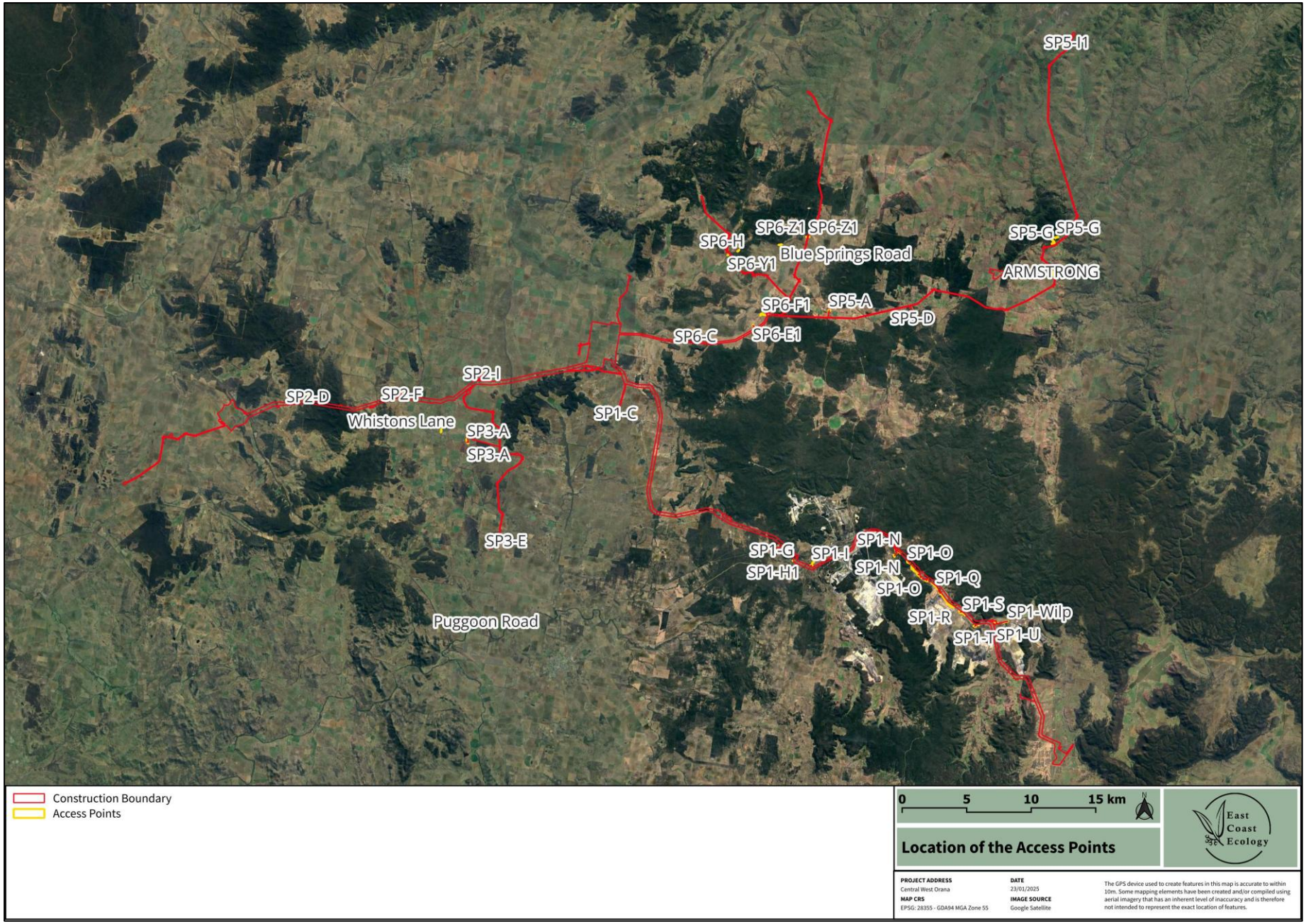


Figure 1. Location of the Access Points in relation to the Construction Boundary.

2. METHODS

2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2025f) was used to assist in the identification of Plant Community Types (PCTs) within the Access Points. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR, and the vegetation integrity plot data collected from field surveys. Each PCT has been divided into vegetation zones based on broad condition state and the same justification/ reasoning for vegetation zones within the approved BDAR have been applied in this BAM report. For consistency, vegetation zones within BA01 – Biodiversity Assessment of Proposed Access Points (ECE, 2025a) have been referred to throughout this report.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Access Points was determined through a field assessment with the aid of a GPS-enabled tablet. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Access Points contain areas of non-native vegetation. These areas have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. Roads, hardstand, and bare earth have also been allocated PCT 0, and labelled '0, Pre-existing infrastructure'. Vegetation mapping from the approved BDAR has been used where it overlaps with the Access Points.

2.1.3 Vegetation Integrity Survey

At least one 1,000m^2 BAM plot was sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Access Points and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Access Points and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within each Access Point and immediate surrounds. Potential habitat constraints within the broader area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEEW, 2025e) and habitat constraints identified in the approved BDAR.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically however, their habitats were targeted during the parallel field traverses.

2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA Subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is 'counts of individuals', the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

2.5 Weather Conditions

Surveys were undertaken over several weeks in 2024 and 2025 (6th – 8th, 25th – 29th November 2024, 9th -12th, 16th -18th December 2024, and 15th, 20th and 22nd January 2025). Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**. Weather conditions during the field surveys were generally conducive for identifying threatened species should they occur within the Access Points.

Table 1. Weather conditions taken from the nearest weather stations (Station number 067113) in the lead up and during the field survey (BOM, 2024).

Timing/activities	Date	Day	Temperature Min	Max	Rainfall (mm)
Field surveys- vegetation mapping, targeted flora surveys & fauna habitat surveys	06/11/2024	Wednesday	12.2	34.5	0
	07/11/2024	Thursday	16.7	32.9	1.0
	08/11/2024	Friday	10.5	26.7	5.4
	25/11/2024	Monday	15.2	34.1	0
	26/11/2024	Tuesday	15.4	33.6	0
	27/11/2024	Wednesday	15.1	31.8	0
	28/11/2024	Thursday	16.9	25.7	0.8
	29/11/2024	Friday	18.3	23.8	4.6
	09/12/2024	Monday	17.7	29.2	0
	10/12/2024	Tuesday	15.1	30.1	0
	11/12/2024	Wednesday	15.8	29.3	0
	12/12/2024	Thursday	9.8	30.4	0
	16/12/2024	Monday	18.9	34.5	0
	17/12/2024	Tuesday	16.3	35.0	0
	18/12/2024	Wednesday	18.1	23.2	0
	15/01/2025	Wednesday	18.0	36.4	0
	20/01/2025	Monday	10.3	30.5	0
	22/01/2025	Wednesday	14.5	36.3	0

2.6 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints and historical records. Some areas within the Access Points were inspected from a distance due to property access issues and location within a rail corridor.

To ensure consistency, a review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) was undertaken to assist in the identification of PCTs and vegetation zones within and surrounding the Access Points. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR. Some of the BAM plots were 10m x 100m owing to access constraints and the linear nature of some of the vegetation zones. Sampling plot locations were chosen in areas that were representative of the type and condition of vegetation across the Access Points.

3. SP1-G

3.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	NSW South Western Slopes	NSW South Western Slopes, Syndey Basin
IBRA Subregion	Inland Slopes	Inland Slopes, Kerrabee
Mitchell Landscape	Cope Hills Granite	Cope Hills Granite, Talbragar - Upper Macquarie Terrace Sands and Gravels
Native vegetation cover	0.19ha	69.70%
Rivers, streams, estuaries and wetlands	N/A	Two 4th order watercourses (Rouses Creek and Sportsmans Hollow Creek) and multiple 1st, 2nd and 3rd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of granite rock outcrop have been identified during the approved BDAR. No other geological features of significance exist within the 1500m buffer.
Topography, Geology and Soils	Rouse soil landscape: undulating hills and low hills with granite outcropping as tors and sloping pavements. Gulgong Granite, biotite granite, adamellite, granodiorite. 464 – 460m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

3.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 2**.

Table 2. PCTs identified within SP1-G.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
481	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	0.19ha
	Total Area	**0.19ha**

3.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

One PCT was determined to occur within the Access Point:

- PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region (**Table 3**).

Table 3. PCT 481.

PCT ID	481
PCT Name	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	North Coast Dry Sclerophyll Forests
Percent Cleared Value (%)	28.00
Extent within Access Point (ha)	0.19

3.2.1.1 Condition States

Native vegetation (PCT 481) was determined to be represented by three condition classes within the Access Point:

- PCT 481, Thinned
- PCT 481, Regrowth Shrubland, and
- PCT 481, Derived Native Grassland.

Figure 2. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-G.

3.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4** and **Table 5**). A summary of the targeted survey effort applied to each species is provided in **Table 4** and **Table 5** along with the results of the survey effort.

A total of seven Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Four (4) of the seven Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining three species were assumed present within the Subject Land.

Table 4. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat Constraints absent. Habitat Constraint: Rocky areas (or within 50m of rocky areas).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat Constraints absent.	No	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Species excluded in the approved BDAR (WSP, 2024).		approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).

Table 5. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes	Yes (WSP) although not nearby. Yes (ECE) although survey conducted outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

3.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

No threatened entities assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

3.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted at this Access Point are provided in **Table 6** and **Table 7**.

Table 6. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	Thinned	0.07
	Regrowth Shrubland	0.01
	Zone 27: Derived Native Grassland	0.11

Table 7. Impacts to threatened species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	481_Thinned	0.07
	481_Regrowth Shrubland	0.01
	481_Derived Native Grassland	0.11
Cercartetus nanus Eastern Pygmy-possum	481_Thinned	0.07
	481_Regrowth Shrubland	0.01
Phascolarctos cinereus Koala	481_Thinned	0.07
	481_Regrowth Shrubland	0.01

4. SP1-H1/H2

4.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	NSW South Western Slopes	NSW South Western Slopes, Syndey Basin
IBRA Subregion	Inland Slopes	Inland Slopes, Kerrabee
Mitchell Landscape	Cope Hills Granite	Cope Hills Granite, Talbragar - Upper Macquarie Terrace Sands and Gravels
Native vegetation cover	0.28ha	51.07%
Rivers, streams, estuaries and wetlands	One shallow waterbody containing emergent vegetation was present within the Access Point.	One 4th order watercourse (Sportsmans Hollow Creek) and multiple 1st, 2nd and 3rd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of granite rock outcrop have been identified during the approved BDAR within the 1500m buffer. No other geological features of significance exist within the 1500m buffer.
Topography, Geology and Soils	Dexter soil landscape: rolling hills with extensive granite outcrops and rock pavements. Gulgong Granite. Approximately 450m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

4.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 8**.

Table 8. PCTs identified within SP1-H1/H2.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
481	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	0.28ha
	Total Area	0.28ha

4.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

One PCT was determined to occur within the Access Point:

- PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region (**Table 9**).

Table 9. PCT 481

PCT ID	481
PCT Name	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	North Coast Dry Sclerophyll Forests
Percent Cleared Value (%)	28.00
Extent within Access Point (ha)	0.28ha

4.2.1.1 Condition States

Native vegetation (PCT 481) was determined to be represented by two condition classes within the Access Point:

- PCT 481, Thinned, and
- PCT 481, Moderate/Good.

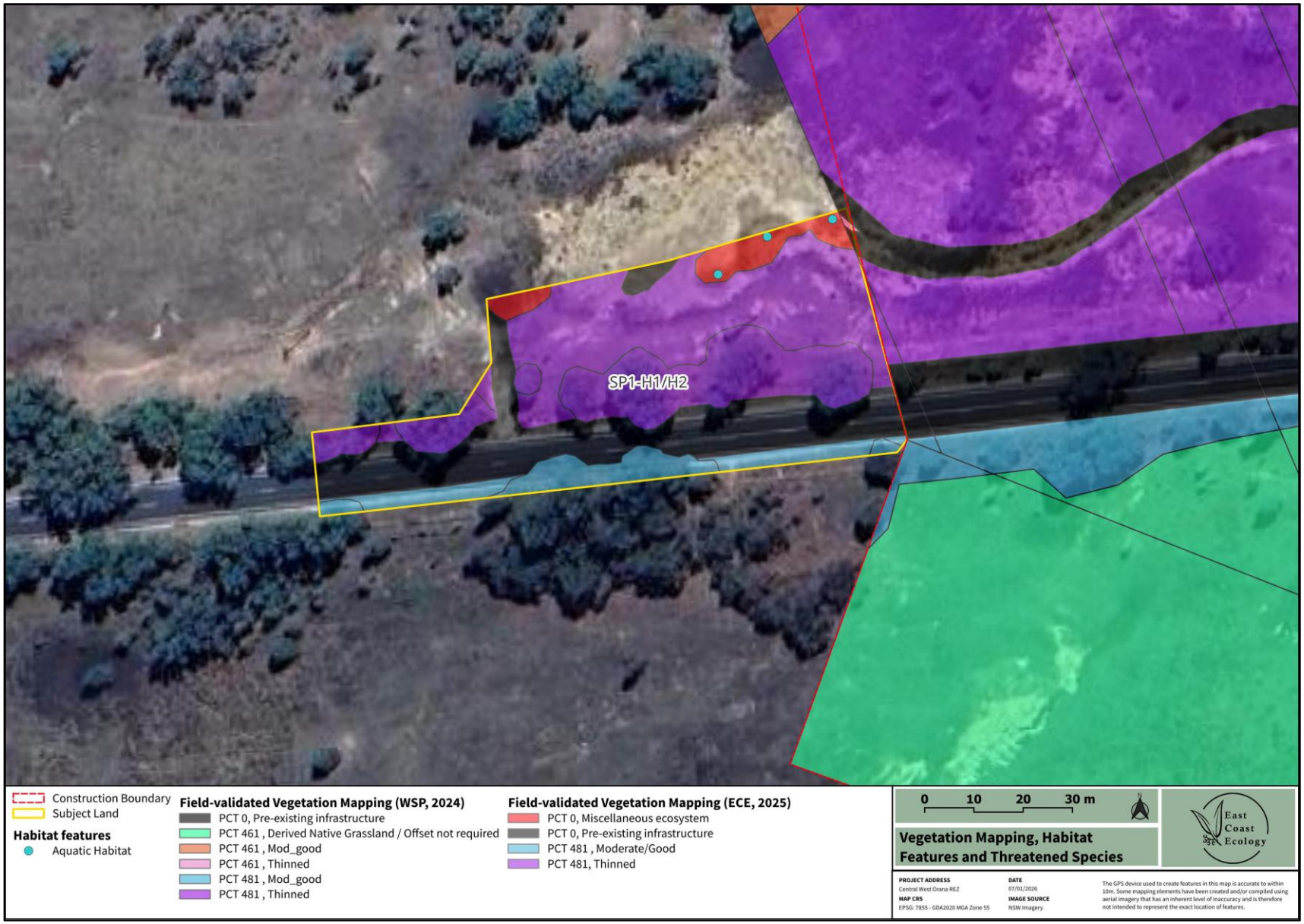


Figure 3. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-H1/H2.

4.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 10** and **Table 11**). A summary of the targeted survey effort applied to each species is provided in **Table 10** and **Table 11** along with the results of the survey effort.

A total of seven Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Five (5) of the seven Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining two species were assumed present within the Subject Land.

Table 10. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat Constraints absent. Habitat Constraint: Rocky areas (or within 50m of rocky areas).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat Constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Species excluded in the approved BDAR (WSP, 2024).	No	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Phascolarctos cinereus Koala	No. Species excluded through nearby, extensive and exhaustive surveys (i.e. Koala drone survey and SAT) undertaken as part of the approved BDAR)	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Table 11. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (WSP) although survey conducted outside of NSW DCCEEW endorsed survey period. Yes (ECE) although survey conducted outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

4.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

No threatened entities assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

4.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted at this Access Point are provided in **Table 12** and **Table 13**.

Table 12. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	Thinned	0.23
	Moderate/Good	0.05

Table 13. Impacts to threatened species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	481_Thinned	0.23
	481_Moderate/Good	0.05
Cercartetus nanus Eastern Pygmy-possum	481_Thinned	0.23
	481_Moderate/Good	0.05

5. SP1-J2

5.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Syndey Basin	NSW South Western Slopes, Syndey Basin
IBRA Subregion	Kerrabee	Inland Slopes, Kerrabee
Mitchell Landscape	Talbragar - Upper Macquarie Terrace Sands and Gravels	Goulburn River Gorges, Cope Hills Granite, Talbragar - Upper Macquarie Terrace Sands and Gravels, Upper Goulburn Valleys and Escarpments
Native vegetation cover	0ha	53.17%
Rivers, streams, estuaries and wetlands	N/A	One 4th order watercourse (Sportsmans Hollow Creek) and multiple 1st, 2nd and 3rd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of granite rock outcrop have been identified during the approved BDAR within the 1500m. No other geological features of significance exist within the 1500m buffer.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. 421m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

5.2 Field-validated Vegetation

Vegetation within the Access Point could not be assigned to a PCT as it contained no native canopy or understorey species and was dominated by exotic species (**Figure 4**). No further assessment is required.

Figure 4. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-J1 and J2.

6. SP1-N

6.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Lees Pinch Foothills	Lees Pinch Foothills, Upper Goulburn Valleys and Escarpment, Liverpool Range Valleys and Footslopes
Native vegetation cover	0.63ha	72.72%
Rivers, streams, estuaries and wetlands	One 1st order watercourse and one 4th order watercourse (Wilpinjong Creek) intersect the Access Point.	Multiple 1st, 2nd and 3rd order watercourses and two 4th order watercourses (Wilpinjong Creek and Murragamba Creek) occur within the 1500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Multiple caves and a gully containing large outcropping and crevices has been identified during the approved BDAR within the 1500m buffer.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. 438m asl to 421m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

6.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 14**.

Table 14. PCTs identified within SP1-N.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
481	Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open	0.41ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	
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	0.19
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	0.03
	Total Area	0.63ha

6.2.1 PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

One PCT was determined to occur within the centre of the Access Point:

- PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region (**Table 15**)

Table 15. PCT 481

PCT ID	481
PCT Name	Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	North Coast Dry Sclerophyll Forests
Percent Cleared Value (%)	28.00
Extent within Access Point (ha)	0.41

6.2.1.1 Condition States

Native vegetation (PCT 481) was determined to be represented by three condition classes within the Access Point:

- PCT 481, Moderate/Good, and
- PCT 481, Derived Native Grassland.

6.2.2 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

One PCT was determined to occur within the southern portion of the Access Point:

- 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 (**Table 15**)

Table 16. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.19

6.2.2.1 Condition States

Native vegetation (PCT 281) was determined to be represented by two condition classes within the Access Point:

- PCT 281, Moderate/Good, and
- PCT 281, Thinned.

6.2.3 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

One PCT was determined to occur within the eastern portion of the Access Point:

- 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 (**Table 15**)

Table 17. PCT 479

PCT ID	479
PCT Name	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
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubb sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	40.00
Extent within Access Point (ha)	0.03

6.2.3.1 Condition States

Native vegetation (PCT 479) was determined to be represented by one condition classes within the Access Point:

- PCT 479, Moderate/Good.

Figure 5. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-N (Map 1 of 2).

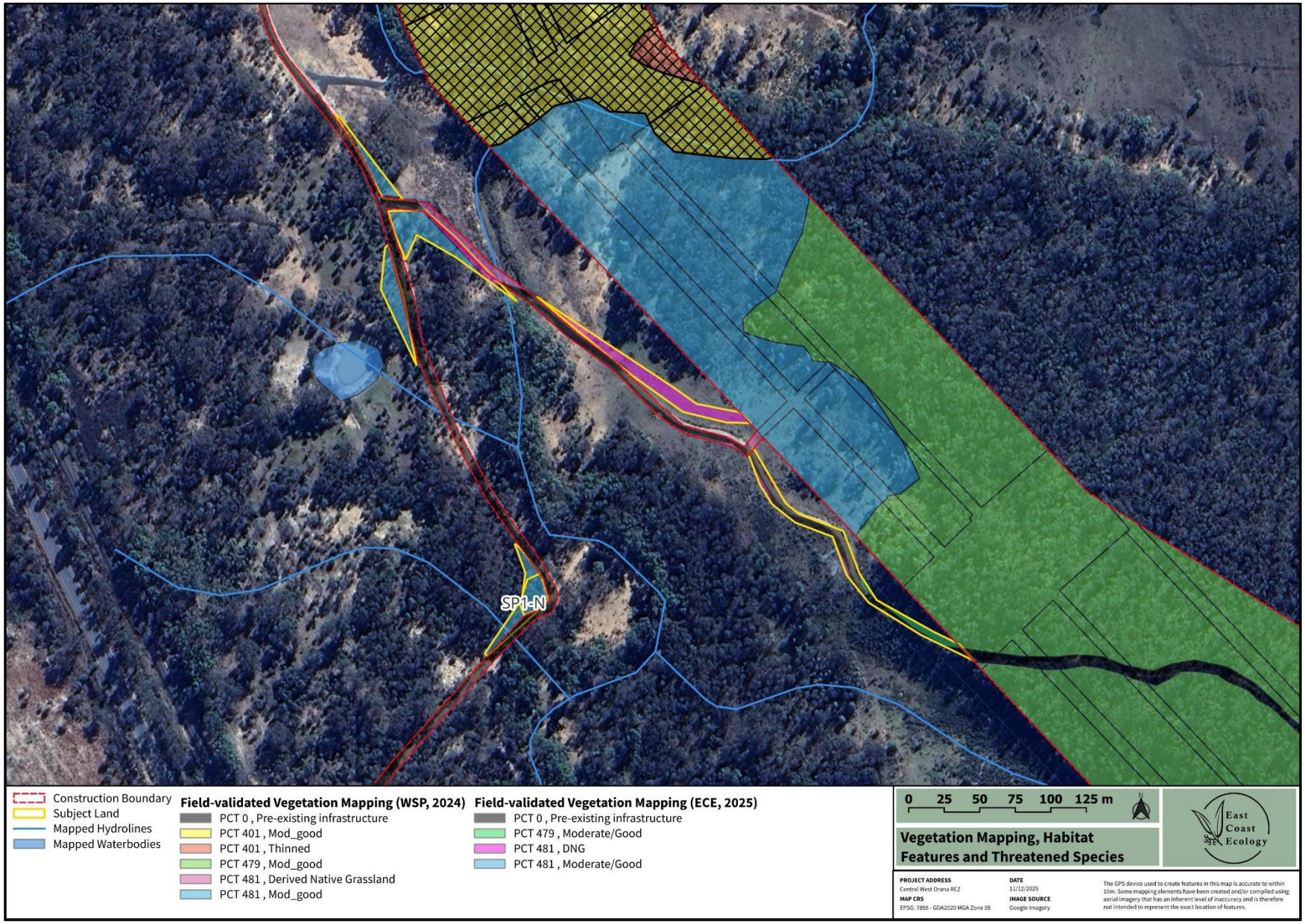


Figure 6. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-N (Map 2 of 2).

6.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 18** and **Table 19**). A summary of the targeted survey effort applied to each species is provided in **Table 18** and **Table 19** along with the results of the survey effort.

A total of 29 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-three (23) of the 29 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining seven species were assumed present within the Subject Land.

Table 18. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	Yes. Habitat Constraints Present. Habitat Constraint: Important Habitat Map.	N/A	**Assumed present** - Mapped on Important Habitat Map
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat Constraints absent. Habitat Constraint: Rocky areas (or within 50m of rocky areas).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3 m above the ground and with hollow diameter of 7 cm or larger.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo (Breeding)	No. Habitat Constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Hollow bearing trees; living or dead tree with hollows greater than 15cm diameter and higher than 8m above ground.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) recorded nearby No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP). No (ECE).	**Assumed present** (PCT 281 and 479) – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) although not nearby Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lophoictinia isura Square-tailed Kite (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat Constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat Constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes. Assumed present where there are no nearby targeted surveys as per the approved BDAR (WSP, 2024).	Yes (WSP) nearby the northern portion of Access Point No (ECE)	**Assumed present** (PCT 281) - consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	No. Species excluded through nearby, extensive and exhaustive surveys (i.e. Koala SAT and call playback) undertaken as part of the approved BDAR)	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints present. Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP). No (ECE).	**Assumed present** (PCT 281 and 479) – consistent with the approved BDAR (WSP, 2024).

Table 19. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (WSP) although not nearby Yes (ECE) although outside of NSW	**Assumed present**– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
		DCCEEW endorsed survey period.	
Androcalva procumbens (syn. Commersonia procumbens)	Habitat constraints absent. Habitat constraint: Pilliga sandstone.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis *Eucalyptus camaldulensis* population in the Hunter catchment	Yes.	Yes (ECE)	No.
Monotaxis macrophylla Large-leafed Monotaxis	Species excluded as suitable habitat deemed not to be present as per the approved BDAR (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE)	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE)	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** – consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Prasophyllum sp. *Wybong*	Species excluded, considered a synonym of *Prasophyllum petilum* as per the approved BDAR (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Tylophora linearis (syn. Vincetoxicum forsteri)	Yes.	Yes (ECE)	No.

6.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Three threatened species, Regent Honeyeater, Large-eared Pied Bat and Eastern Cave Bat assumed present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

6.5 Impact Summary

A summary of the PCTs and species credits species that may be impacted at this Access Point are provided in **Table 20** and **Table 21**.

Table 20. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	Moderate/Good	0.27
	Derived Native Grassland	0.15
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	0.14
	Thinned	0.05
PCT 479: Narrow-leaved Ironbark – Black Cypress Pine – stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills in the southern Brigalow	Moderate/Good	0.03

PCT	Vegetation Zone	Area (ha)
Belt South Bioregion and Sydney Basin Bioregion		

Table 21. Impacts to threatened species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	481_Moderate/Good	0.27
	481_Derived Native Grassland	0.15
	281_Moderate/Good	0.14
	281_Thinned	0.05
	479_Moderate/Good	0.03
Anthochaera phrygia (Regent Honeyeater)	481_Moderate/Good	0.14
	481_Derived Native Grassland	0.04
	281_Moderate/Good	0.11
	281_Thinned	0.05
	479_Moderate/Good	0.02
Cercartetus nanus (Eastern Pygmy-possum)	481_Moderate/Good	0.27
	281_Moderate/Good	0.14
	281_Thinned	0.05
	479_Moderate/Good	0.03
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Moderate/Good	0.14
	281_Thinned	0.05
	479_Moderate/Good	0.03
Petaurus norfolcensis (Squirrel Glider)	281_Moderate/Good	0.14
	281_Thinned	0.05
Vespadelus troughtoni (Eastern Cave Bat)	281_Moderate/Good	0.14
	281_Thinned	0.05

Species	Vegetation Zone	Area (ha)
	479_Moderate/Good	0.03
Prasophyllum petilum (Tarengo Leek Orchid)	281_Moderate/Good	0.14
	281_Thinned	0.05

7. SP1-O

7.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills, Gulgong Ranges
Native vegetation cover	2.14ha	78.14%
Rivers, streams, estuaries and wetlands	Two 1st order watercourses and one 5th order watercourse (Wilpinjong Creek) intersect the Access Point.	One 5th order watercourse (Wilpinjong Creek), one 4th order watercourse (Murragamba Creek) and multiple 1st and 2nd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Multiple caves have been identified during the approved BDAR within the 1500m buffer. No other geological features of significance exist within the 1500m buffer.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. Less Pinch soil landscape: rolling hills and low hills with steep rocky slopes and valley sides. Narrabeen sandstone, conglomerate sandstone, shale, conglomerate, mudstone, chert, coal and torbanite seams. 470m asl to 401m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

7.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCTs identified within **Table 22**.

Table 22. PCTs identified within SP1-O.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
401	Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region	1.51ha
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	0.50ha
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	0.13
	Total Area	**2.14ha**

7.2.1 PCT 401: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

One PCT was determined to occur within south eastern extent of the Access Point:

- PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region (**Table 23**).

Table 23. PCT 401

PCT ID	401
PCT Name	Rough-barked Apple - Blakely's Red Gum - Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	33.00
Extent within Access Point (ha)	1.51ha

7.2.1.1 Condition States

Native vegetation (PCT 401) was determined to be represented by three condition classes within the Access Point:

- PCT 401, Thinned
- PCT 401, Regrowth Shrubland, and
- PCT 401, Derived Native Grassland/ Offset not required.

7.2.2 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

One PCT was determined to occur within the north western extent of the Access Point:

- 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 (**Table 24**).

Table 24. PCT 479

PCT ID	479
PCT Name	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
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	28.00
Extent within Access Point (ha)	0.50ha

7.2.2.1 Condition States

Native vegetation (PCT 479) was determined to be represented by three condition classes within the Access Point:

- PCT 479, Excellent
- PCT 479, Moderate/Good, and
- PCT 479, Regrowth Shrubland.

7.2.3 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

One PCT was determined to occur within the centre of the Access Point:

- 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 (**Table 24**).

Table 25. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.13ha

7.2.3.1 Condition States

Native vegetation (PCT 281) was determined to be represented by one condition class within the Access Point:

- PCT 281, Thinned.

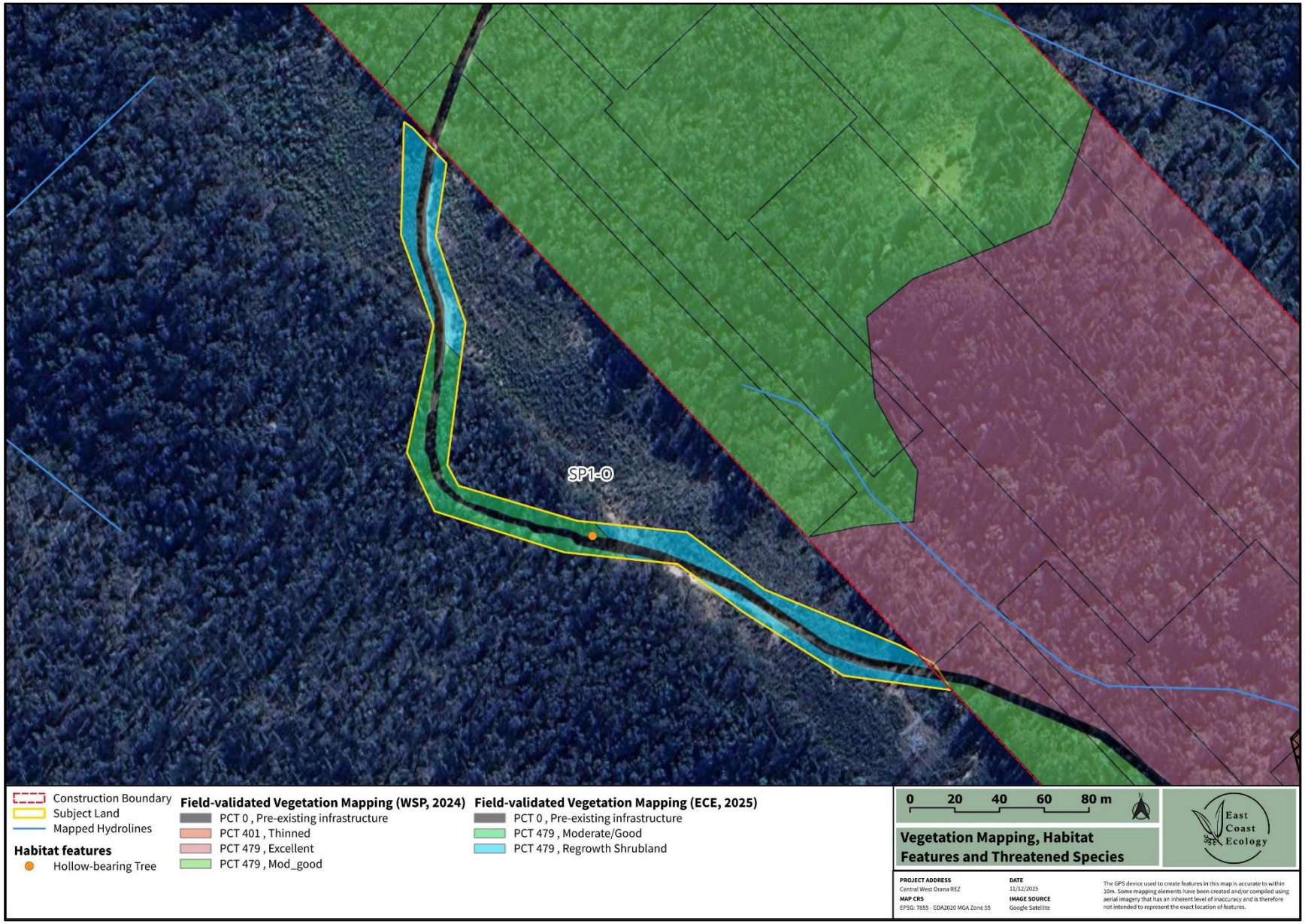


Figure 7. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 1 of 3).

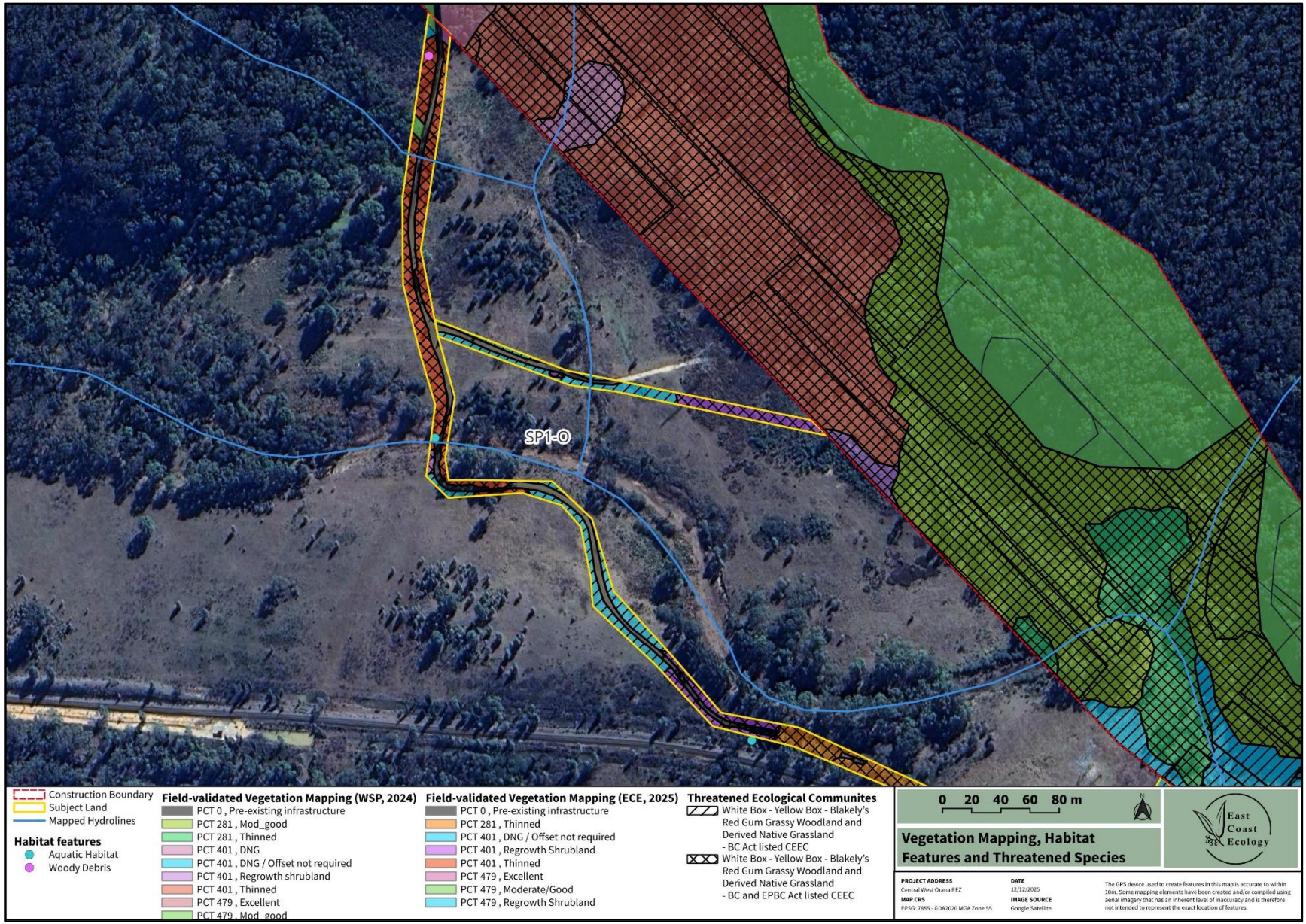


Figure 8. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 2 of 3).

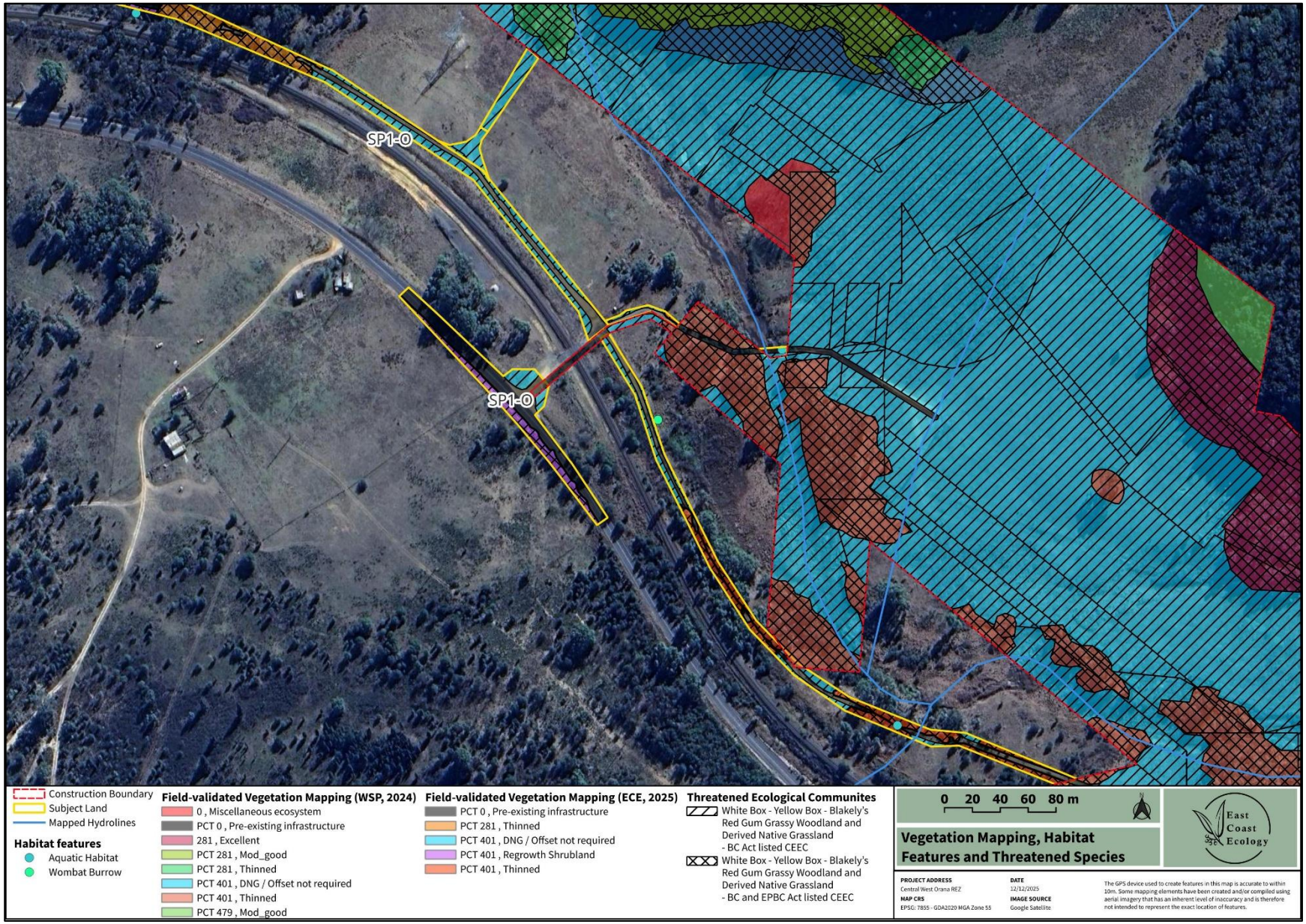


Figure 9. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Map 3 of 3).

7.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 26** and **Table 27**). A summary of the targeted survey effort applied to each species is provided in **Table 26** and **Table 27** along with the results of the survey effort.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Nineteen (19) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining 11 species were assumed present within the Subject Land.

Table 26. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	Yes. Habitat constraints present. Habitat Constraint: Important Habitat Map.	N/A	**Assumed present** - Mapped on Important Habitat Map
Aprasia parapulchella Pink-tailed Legless Lizard	Yes. Habitat constraints present. Habitat Constraint: Rocky areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (breeding)	No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3 m above the ground and with hollow diameter of 7 cm or larger.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami lathami	No. Habitat constraints absent.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
South-eastern Glossy Black-Cockatoo (Breeding)	Habitat Constraint: Hollow bearing trees; Living or dead tree with hollows greater than 15cm diameter and higher than 8m above ground		
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hoplocephalus bitorquatus Pale-headed Snake	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent (the only hollow-bearing tree is located within PCT 479 which this species is not associated with). Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl (Breeding)	No. Habitat constraints present, however nearby targeted surveys (i.e. call playback) undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes.	Yes (WSP) No (ECE)	**Assumed present** (PCT 401 and 281) - consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Assumed present where there are no nearby targeted surveys as per the approved BDAR (WSP, 2024). Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although only nearby the northern portion of access point No (ECE)	**Assumed present** - where there are no nearby targeted surveys
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints only present within PCT 479 which this species is not associated with. Targeted surveys (call playback) undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat Constraints present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 27. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (WSP) although not nearby. Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Androcalva procumbens (syn Commersonia procumbens)	No. Habitat constraints absent. Habitat Constraint: Piliga sandstone.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Diuris tricolor Pine Donkey Orchid	Yes.	Yes (WSP) although not nearby. Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE)	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE)	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE)	No.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. *Wybong*	Species excluded, considered a synonym of *Prasophyllum petilum* as per the approved BDAR (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Tylophora linearis	Yes.	Yes (ECE)	No.

7.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Three threatened species, Regent Honeyeater, Large-eared Pied Bat and Eastern Cave Bat assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

7.5 Impact Summary

A summary of the PCTs and species credits species that may be impacted at this Access Point are provided in **Table 28** and **Table 29**.

Table 28. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 401: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	Thinned	0.57
	Regrowth Shrubland	0.26
	Derived Native Grassland/Offset not required	0.68
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	Excellent	0.01
	Moderate/Good	0.19
	Regrowth Shrubland	0.31
PCT 281: Rough-barked Apple – Red Gum – Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South	Thinned	0.13

PCT	Vegetation Zone	Area (ha)
western slopes Bioregion and Brigalow Belt South Bioregion		

Table 29. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	401_Derived Native Grassland/Offset not required	0.68
	479_Excellent	0.01
	479_Moderate/Good	0.19
	479_Regrowth Shrubland	0.31
	281_Thinned	0.13
Anthochaera Phrygia Regent Honeyeater	401_Thinned	0.06
	401_Regrowth Shrubland	0.04
	401_Derived Native Grassland/Offset not required	0.02
	479_Excellent	0.003
	479_Moderate/Good	0.17
	479_Regrowth Shrubland	0.04
	281_Thinned	0.12
Aprasia parapulchella Pink-tailed Legless Lizard	479_Moderate/Good	0.19
	479_Regrowth Shrubland	0.31
Cercartetus nanus Eastern Pygmy-possum	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	479_Excellent	0.01
	479_Moderate/Good	0.19
	479_Regrowth Shrubland	0.31
	281_Thinned	0.13
Chalinolobus dwyeri Large-eared Pied Bat	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	479_Excellent	0.01

Species	Vegetation Zone	Area (ha)
	479_Moderate/Good	0.19
	479_Regrowth Shrubland	0.31
	281_Thinned	0.13
Diuris tricolor Pine Donkey Orchid	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
Hoplocephalus bitorquatus Pale-headed Snake	401_Thinned	0.57
Petaurus norfolcensis Squirrel Glider	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	281_Thinned	0.13
Phascolarctos cinereus Koala	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	281_Thinned	0.13
Prasophyllum petilum Tarengo Leek Orchid	281_Thinned	0.13
Vespadelus troughtoni Eastern Cave Bat	401_Thinned	0.57
	401_Regrowth Shrubland	0.26
	281_Thinned	0.13

8. SP1-P

8.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills, Gulgong Ranges
Native vegetation cover	0.08ha	75.66%
Rivers, streams, estuaries and wetlands	N/A	Multiple 1st and 2nd order watercourses, one 3rd order watercourse and one 5th order watercourse (Wilpinjong Creek).
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Multiple caves have been identified during the approved BDAR within the 1500m buffer. No other geological features of significance exist within the 1500m buffer.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. Approximately 403m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

8.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 30**.

Table 30. PCTs identified within SP1-P.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
281	Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW	0.07ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	South Western Slopes Bioregion and Brigalow Belt South Bioregion	
401	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	0.01
	Total Area	**0.08ha**

8.2.1 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

One PCT was determined to occur within the majority of the Access Point:

- 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 (**Table 31**).

Table 31. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.07

8.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by four condition classes within the Access Point:

- PCT 281, Excellent
- PCT 281, Thinned

- Vegetation Zone 9: Regrowth Shrubland, and
- Vegetation Zone 10: Derived Native Grassland.

8.2.2 PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region

One PCT was determined to occur within the northern extent of the Access Point:

- PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region (**Table 31**).

Table 32. PCT 401

PCT ID	401
PCT Name	401
Associated TEC	Rough-barked Apple - Blakely's Red Gum - Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region
TEC Present?	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
Vegetation Formation	Yes
Vegetation Class	Dry Sclerophyll Forests (Shrubby sub-formation)
Percent Cleared Value (%)	Western Slopes Dry Sclerophyll Forests
Extent within Access Point (ha)	0.01

8.2.2.1 Condition States

Native vegetation (PCT 401) was determined to be represented by one condition class within the Access Point:

- PCT 401, Derived Native Grassland/ Offset not required.

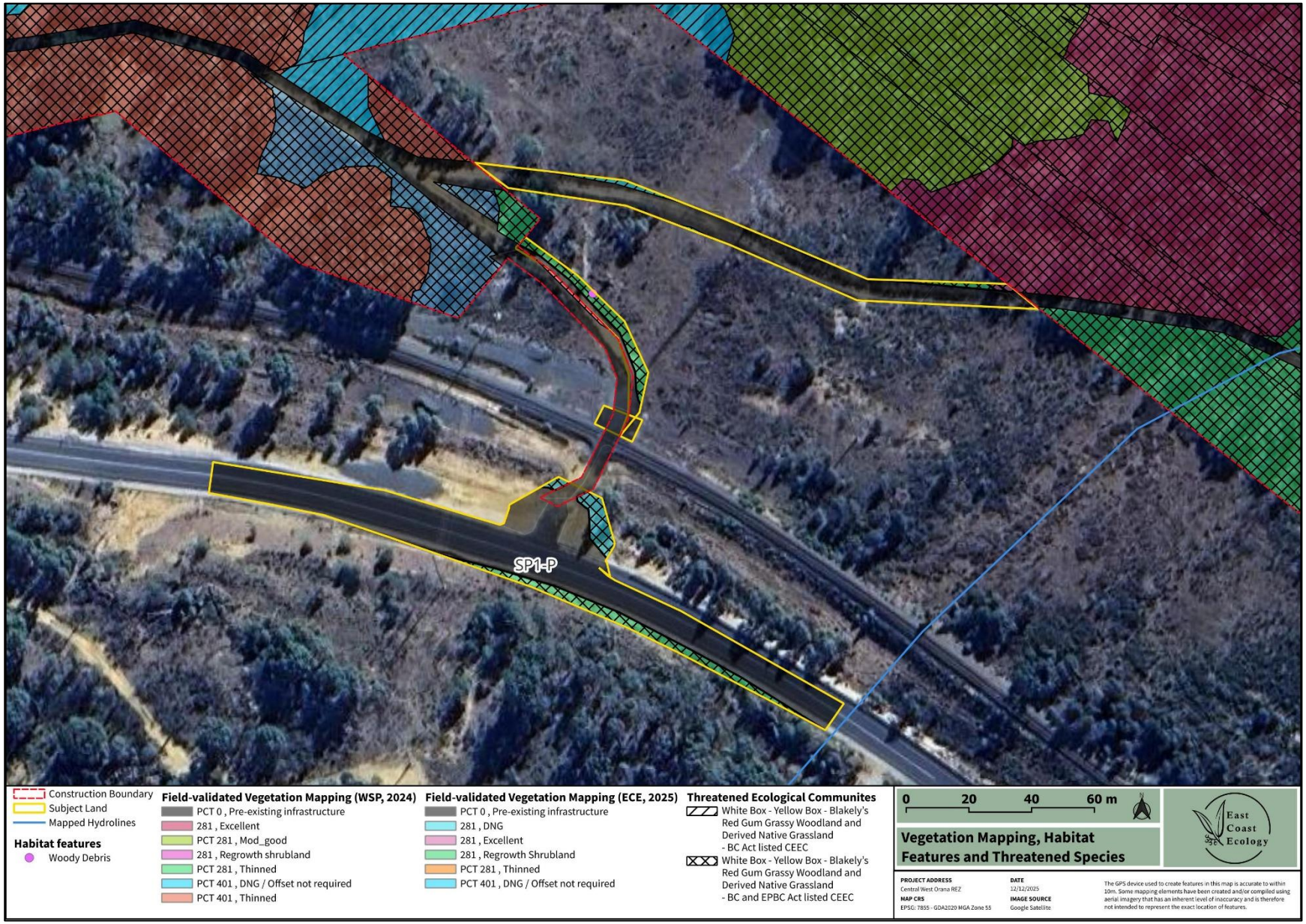


Figure 10. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-P.

8.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 33** and **Table 34**). A summary of the targeted survey effort applied to each species is provided in **Table 33** and **Table 34** along with the results of the survey effort.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-two (22) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining eight species were assumed present within the Subject Land.

Table 33. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	Yes. Habitat constraints present. Habitat Constraint: Important Habitat Map.	N/A	**Assumed present** - Mapped on Important Habitat Map
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (breeding)	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3 m above the ground and with hollow diameter of 7 cm or larger.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo	No. Habitat constraints absent.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
(Breeding)	Habitat Constraint: Hollow bearing trees; Living or dead tree with hollows greater than 15cm diameter and higher than 8m above ground. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Habitat constraints absent and extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hoplocephalus bitorquatus Pale-headed Snake	No. Species is only associated with PCT 401 and there is no suitable habitat present within this PCT. Derived Native Grassland and Regrowth Shrubland has been excluded as potential habitat for the species as per the approved BDAR (WSP, 2024).	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR this species was not recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Habitat constraints absent. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species or any breeding camps. Habitat constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 34. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (WSP) Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Androcalva procumbens (syn Commersonia procumbens)	No. Habitat constraints absent. Habitat Constraint: Piliga sandstone.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Diuris tricolor Pine Donkey Orchid	No. Species excluded from vegetation zones that do not warrant an offset as per the approved BDAR (WSP, 2024).	Yes (WSP) although not nearby. Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	Excluded – consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis *Eucalyptus camaldulensis* population in the Hunter catchment	Yes.	Yes (ECE)	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE)	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE)	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. *Wybong*	Species excluded, considered a synonym of *Prasophyllum petilum* as per the approved BDAR (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Tylophora linearis	Yes.	Yes (ECE)	No.

8.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Three threatened species, Regent Honeyeater, Large-eared Pied Bat, and Eastern Cave Bat, assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

8.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point are provided in **Table 35** and **Table 36**.

Table 35. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Excellent	0.001
	Thinned	0.0002
	Regrowth Shrubland	0.05
	Derived Native Grassland	0.01
PCT 401: Rough-barked Apple - Blakely's Red Gum - Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region	Derived Native Grassland/ Offset not required	0.01

Table 36. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Excellent	0.001
	281_Thinned	0.0002

Species	Vegetation Zone	Area (ha)
	281_Regrowth Shrubland	0.05
	281_Derived Native Grassland	0.01
	401_Derived Native Grassland/ Offset not required	0.01
Anthochaera phrygia (Regent Honeyeater)	281_Regrowth Shrubland	0.03
	281_Derived Native Grassland	0.01
	401_Derived Native Grassland/ Offset not required	0.01
Cercartetus nanus (Eastern Pygmy-possum)	281_Excellent	0.001
	281_Thinned	0.0002
	281_Regrowth Shrubland	0.05
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Excellent	0.001
	281_Thinned	0.0002
	281_Regrowth Shrubland	0.05
Petaurus norfolcensis (Squirrel Glider)	281_Excellent	0.001
	281_Thinned	0.0002
	281_Regrowth Shrubland	0.05
Vespadelus troughtoni (Eastern Cave Bat)	281_Excellent	0.001
	281_Thinned	0.0002
	281_Regrowth Shrubland	0.05
Prasophyllum petilum (Tarengo Leek Orchid)	281_Excellent	0.001
	281_Thinned	0.0002
	281_Regrowth Shrubland	0.05
	281_Derived Native Grassland	0.01

9. SP1-Q

9.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills, Gulgong Ranges
Native vegetation cover	1.11ha	55.96%
Rivers, streams, estuaries and wetlands	One 1st order watercourse, one 2nd order watercourse	One 3rd and 4th order watercourse, multiple 1st and 2nd order watercourses and one 5th order watercourse (Wilpinjong Creek).
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Multiple caves have been identified during the approved BDAR within the 1500m buffer.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. Approximately 400m asl to 387m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

9.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 37**.

Table 37. PCTs identified within SP1-Q.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
281	Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW	1.11ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	South Western Slopes Bioregion and Brigalow Belt South Bioregion	
	Total Area	**1.11ha**

9.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 38**).

Table 38. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	1.11

9.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by four condition classes within the Access Point:

- PCT 281, Excellent
- PCT 281, Thinned
- PCT 281, Regrowth Shrubland, and
- PCT 281, Derived Native Grassland.

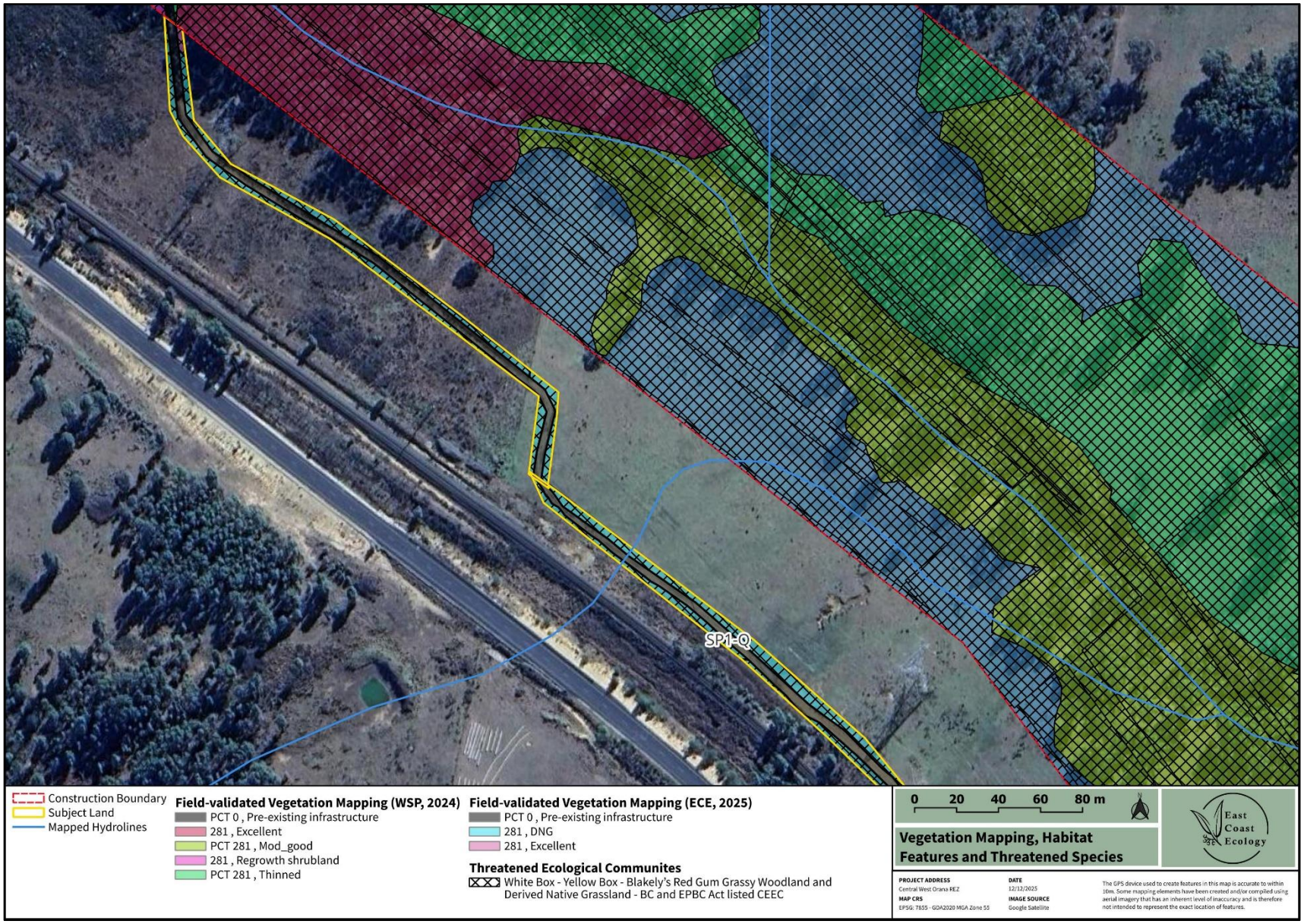


Figure 11. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 1 of 4).

Figure 12. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 2 of 4).

Figure 13. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 3 of 4).

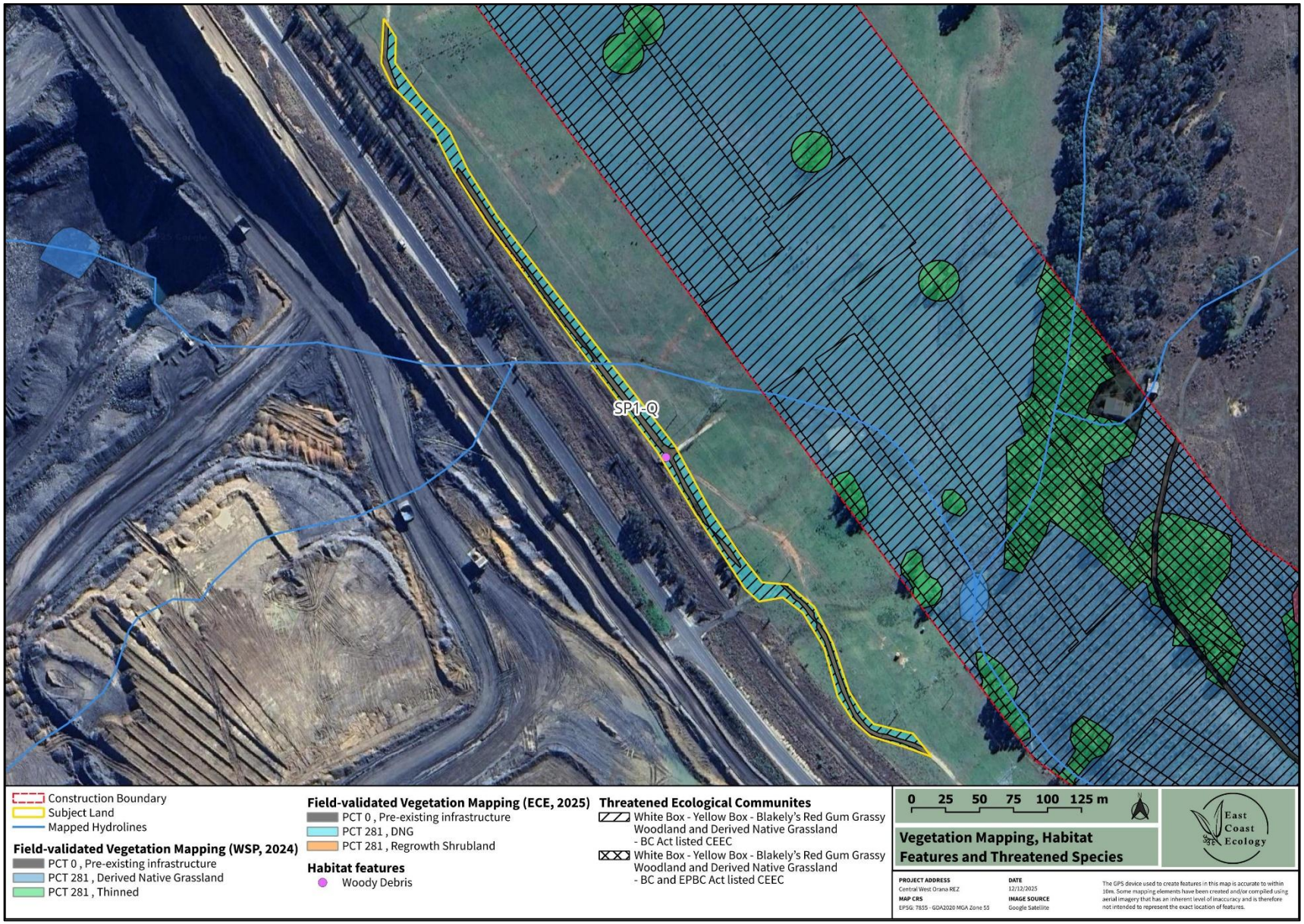


Figure 14. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Map 4 of 4).

9.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 39** and **Table 40**). A summary of the targeted survey effort applied to each species is provided in **Table 39** and **Table 40** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Nineteen (19) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining seven species were assumed present within the Subject Land.

Table 39. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	Yes. Habitat constraints present. Habitat Constraint: Important Habitat Map.	No (ECE) Yes (WSP)	**Assumed present** - Mapped on Important Habitat Map
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes.	No (ECE) Yes (WSP)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.		approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	No. Extensive and exhaustive targeted surveys undertaken nearby during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) N0 (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 40. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE).	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

9.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Three threatened species, Regent Honeyeater, Large-eared Pied Bat and Eastern Cave Bat, assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

9.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point are provided in **Table 41** and **Table 42**.

Table 41. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Excellent	0.005
	Thinned	0.07
	Regrowth Shrubland	0.05
	Derived Native Grassland	0.98

Table 42. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05
	281_Derived Native Grassland	0.98
	281_Thinned	0.4

Species	Vegetation Zone	Area (ha)
Anthochaera phrygia (Regent Honeyeater)	281_Regrowth Shrubland	0.01
Cercartetus nanus (Eastern Pygmy-possum)	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05
Petaurus norfolcensis (Squirrel Glider)	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05
Prasophyllum petilum (Tarengo Leek Orchid)	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05
	281_Derived Native Grassland	0.98
Vespadelus troughtoni (Eastern Cave Bat)	281_Excellent	0.005
	281_Thinned	0.07
	281_Regrowth Shrubland	0.05

10. SP1-T

10.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills
Native vegetation cover	0.24ha	24.44%
Rivers, streams, estuaries and wetlands	N/A	Two large dams occur within the 1500m buffer within a mine site. Multiple 1st, 2nd and 3rd order watercourses, one 4th order watercourse and one 5th order watercourse (Wilpinjong Creek) occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of geological significance including caves and large rocky outcrops are likely to occur in the 1500m buffer area.
Topography, Geology and Soils	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. Approximately 373m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

10.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 43**.

Table 43. PCTs identified within SP1-T.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.24ha
	Total Area	**0.24ha**

10.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 44**).

Table 44. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.24

10.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by three condition classes within the Access Point:

- PCT 281, Thinned
- PCT 281, Regrowth Shrubland, and

- PCT 281, Derived Native Grassland.

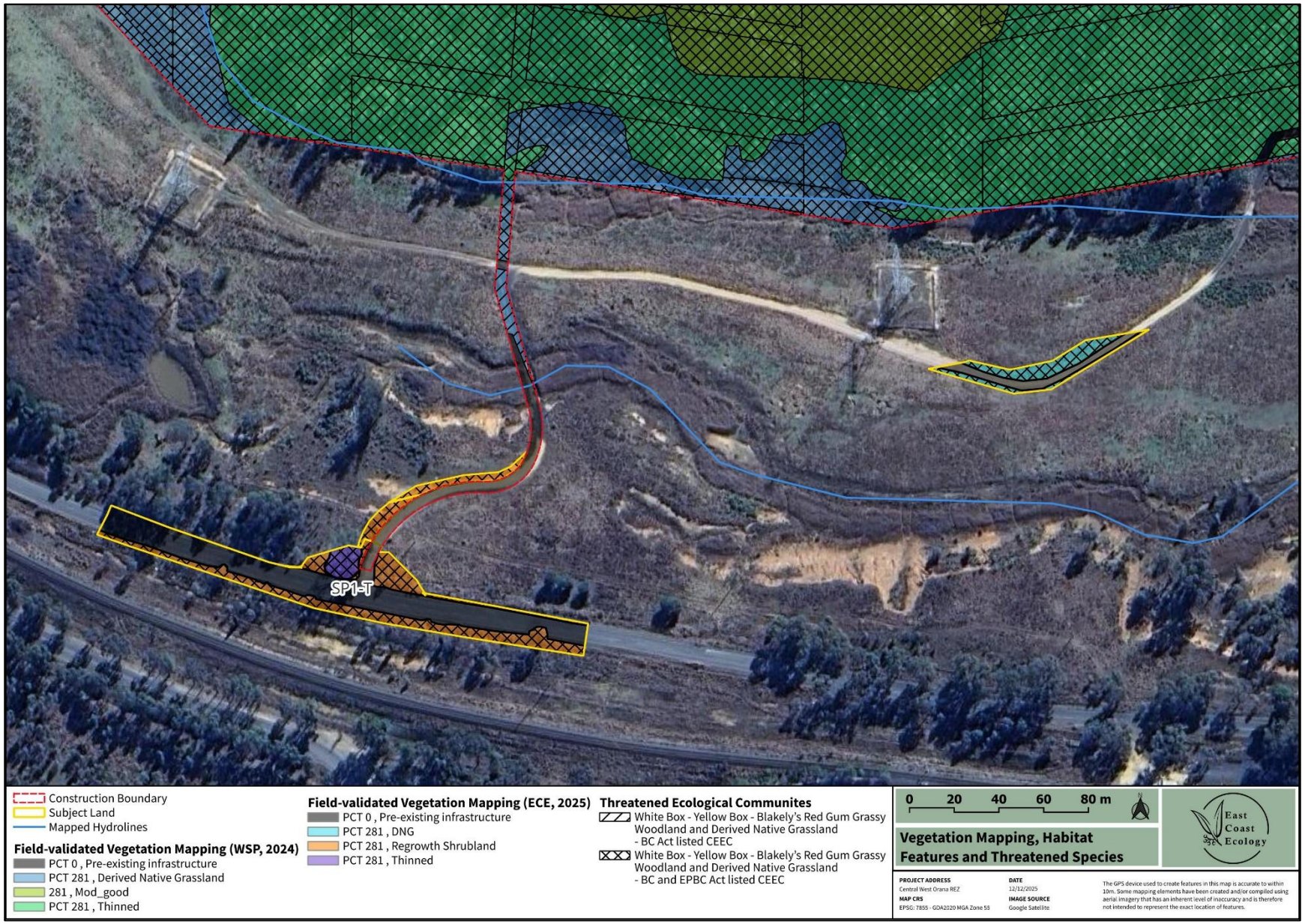


Figure 15. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-T.

10.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 45** and **Table 46**). A summary of the targeted survey effort applied to each species is provided in **Table 45** and **Table 46** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Nineteen (19) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining seven species were assumed present within the Subject Land.

Table 45. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints absent.	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints likely present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) Yes (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraint: Nest trees.		approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes.	No (ECE) Yes (WSP)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.		
Phascolarctos cinereus Koala	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby N0 (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints likely present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 46. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE).	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

10.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Two threatened species, Large-eared Pied Bat and Eastern Cave Bat, assumed present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

10.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point are provided in **Table 47** and **Table 48**.

Table 47. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Thinned	0.02
	Regrowth Shrubland	0.17
	Derived Native Grassland	0.05

Table 48. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
	281_Derived Native Grassland	0.05

Species	Vegetation Zone	Area (ha)
Cercartetus nanus (Eastern Pygmy-possum)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
Petaurus norfolcensis (Squirrel Glider)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
Phascolarctos cinereus (Koala)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
Prasophyllum petilum (Tarengo Leek Orchid)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17
	281_Derived Native Grassland	0.05
Vespadelus troughtoni (Eastern Cave Bat)	281_Thinned	0.02
	281_Regrowth Shrubland	0.17

11. SP1-U

11.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills
Native vegetation cover	0.10ha	38.44%
Rivers, streams, estuaries and wetlands	N/A	One 3rd order watercourse (Bens Creek), two 5th order watercourses (Wilpinjong Creek and Cumbo Creek) and multiple 1st and 2nd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of geological significance including caves and large rocky outcrops are likely to occur in the 1500m buffer area.
Topography, Geology and Soils	Barigan Creek soil landscape: undulating low rises and flats. Shale, sandstone, siltstone, conglomerate, chert. Approximately 372m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

11.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 49**.

Table 49. PCTs identified within SP1-U.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.10ha
	Total Area	**0.10ha**

11.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 44**).

Table 50. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.10

11.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by one condition class within the Access Point:

- PCT 281, Derived Native Grassland.

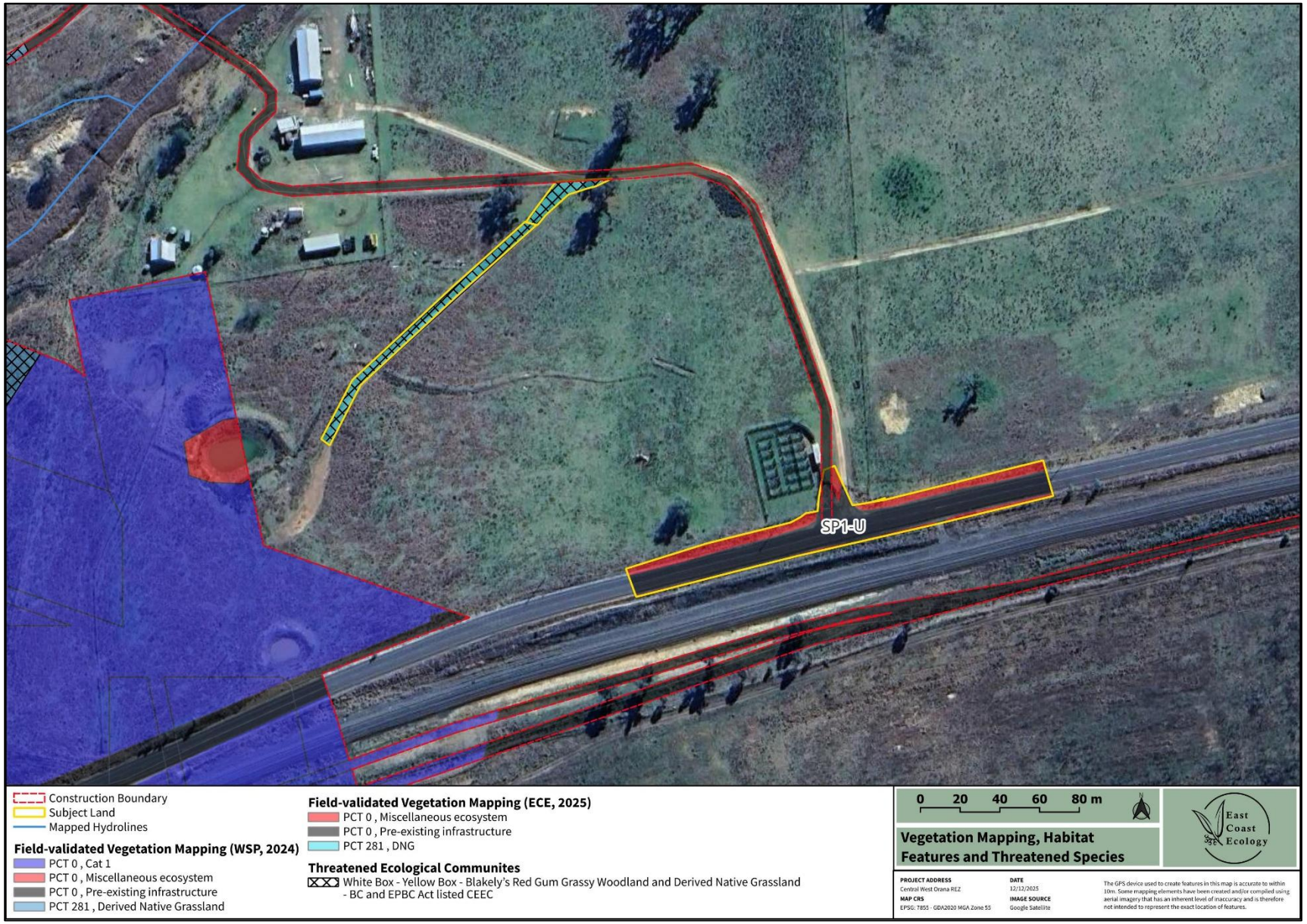


Figure 16. Figure 17. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-U.

11.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 51** and **Table 52**). A summary of the targeted survey effort applied to each species is provided in **Table 51** and **Table 52** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Twenty-four (24) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). Two species were assumed present within the Subject Land.

Table 51. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints absent.	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	No. Derived Native Grassland has been excluded as potential habitat for the species as per the approved BDAR (WSP, 2024).	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	No. Habitat constraints absent. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) Yes (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraint: Nest trees.		approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	No. Derived Native Grassland has been excluded as potential habitat for the species as per the approved BDAR (WSP, 2024).	No (ECE) Yes (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.		
Phascolarctos cinereus Koala	No. Habitat constraints absent. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby N0 (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	No. Habitat constraints absent. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	Excluded - consistent with the approved BDAR (WSP, 2024).

Table 52. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE).	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

11.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

11.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point are provided in **Table 53** and **Table 54**.

Table 53. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Derived Native Grassland	0.10

Table 54. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Derived Native Grassland	0.10
Prasophyllum petilum Tarengo Leek Orchid	281_Derived Native Grassland	0.10

12. SP1-Wilp

12.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Upper Goulburn Valleys and Escarpment	Upper Goulburn Valleys and Escarpment, Lees Pinch Foothills
Native vegetation cover	0.06ha	35.98%
Rivers, streams, estuaries and wetlands	N/A	One 3rd order watercourse (Bens Creek), two 5th order watercourses Wilpinjong Creek and Cumbo Creek and multiple 1st and 2nd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	Areas of geological significance including caves and large rocky outcrops are likely to occur in the 1500m buffer area.
Topography, Geology and Soils	Barigan Creek soil landscape: undulating low rises and flats. Shale, sandstone, siltstone, conglomerate, chert. Approximately 365m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

12.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 37**. The majority of the Access Point has been mapped as 'PCT 0 – Miscellaneous ecosystem' as it was dominated by exotic species.

Table 55. PCTs identified within SP1-Q.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.06ha
	Total Area	**0.06ha**

12.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 38**).

Table 56. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.06

12.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by one condition class within the Access Point:

- PCT 281_Thinned

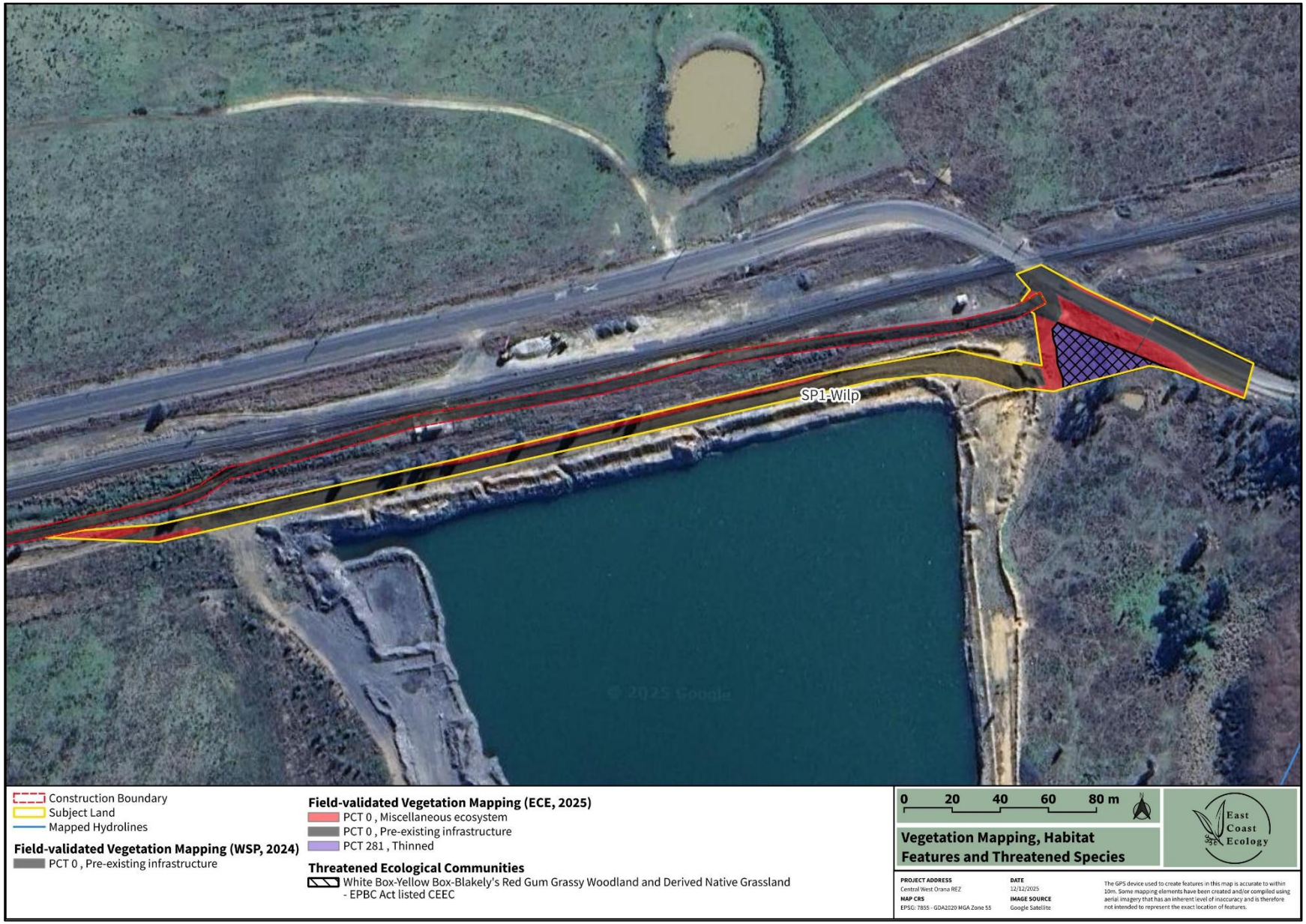


Figure 18. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Wilp.

12.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 57** and **Table 58**). A summary of the targeted survey effort applied to each species is provided in **Table 57** and **Table 58** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Twenty (20) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining six species were assumed present within the Subject Land.

Table 57. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) although not nearby No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints likely present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes.	No (ECE) Yes (WSP)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.		approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	No. Habitat constraints absent, no trees of suitable size (only saplings occur within the Access Point, the one large tree occurs outside of the Access Point). Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints likely present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 58. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period no *Pomaderris spp.* were identified.	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	Yes (ECE) although outside of NSW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

12.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Two threatened species, Large-eared Pied Bat and Eastern Cave Bat, assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

12.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point are provided in **Table 59** and **Table 60**.

Table 59. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Thinned	0.06

Table 60. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	PCT 281_Thinned	0.06
Cercartetus nanus (Eastern Pygmy-possum)	PCT 281_Thinned	0.06
Chalinolobus dwyeri (Large-eared Pied Bat)	PCT 281_Thinned	0.06
Petaurus norfolcensis (Squirrel Glider)	PCT 281_Thinned	0.06
Prasophyllum petilum (Tarengo Leek Orchid)	PCT 281_Thinned	0.06

Species	Vegetation Zone	Area (ha)
Vespadelus troughtoni (Eastern Cave Bat)	PCT 281_Thinned	0.06

13. SP6-C

13.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Cassilis Slopes, small section in the south occurs on Liverpool Range Valleys and Footslopes	Cassilis Slopes, Liverpool Range Valleys and Footslopes, Talbragar - Upper Macquarie Terrace Sands and Gravels
Native vegetation cover	1.87ha	32.28%
Rivers, streams, estuaries and wetlands	N/A	One 6th order watercourse (Talbragar River) and multiple 1st, 2nd and 3rd order watercourses occur within the 1500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	Minor rocky habitat including sandstone outcrops exist within the Access Point.	Rocky areas including sandstone outcrop with overhangs occur with the 1500m buffer. No other areas of geological significance exist with the 1500m buffer.
Topography, Geology and Soils	Bald Hill soil landscape: low hillocks and small basalt caps with moderate to steep slopes. Basalt. 442m asl to 535m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

13.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 61**.

Table 61. PCTs identified within SP6-C.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
618	White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley	0.08

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
483	Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	1.79
	Total Area	**1.87ha**

13.2.1 PCT 618: White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley

One PCT was determined to occur as canopy within the Access Point:

- PCT 618: White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley (**Table 62**).

Table 62. PCT 618

PCT ID	618
PCT Name	White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Coastal Valley Grassy Woodlands
Percent Cleared Value (%)	73.00
Extent within Access Point (ha)	0.08

13.2.1.1 Condition States

Native vegetation (PCT 618) was determined to be represented by one condition class within the Access Point:

- PCT 618, Thinned.

13.2.2 PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley

One PCT was determined to occur within the Access Point:

- PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley (**Table 62**).

Table 63. PCT 483

PCT ID	483
PCT Name	Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	90.00
Extent within Access Point (ha)	1.79

13.2.2.1 Condition States

Native vegetation (PCT 483) was determined to be represented by one condition class within the Access Point:

- PCT 483, Derived Native Grassland.

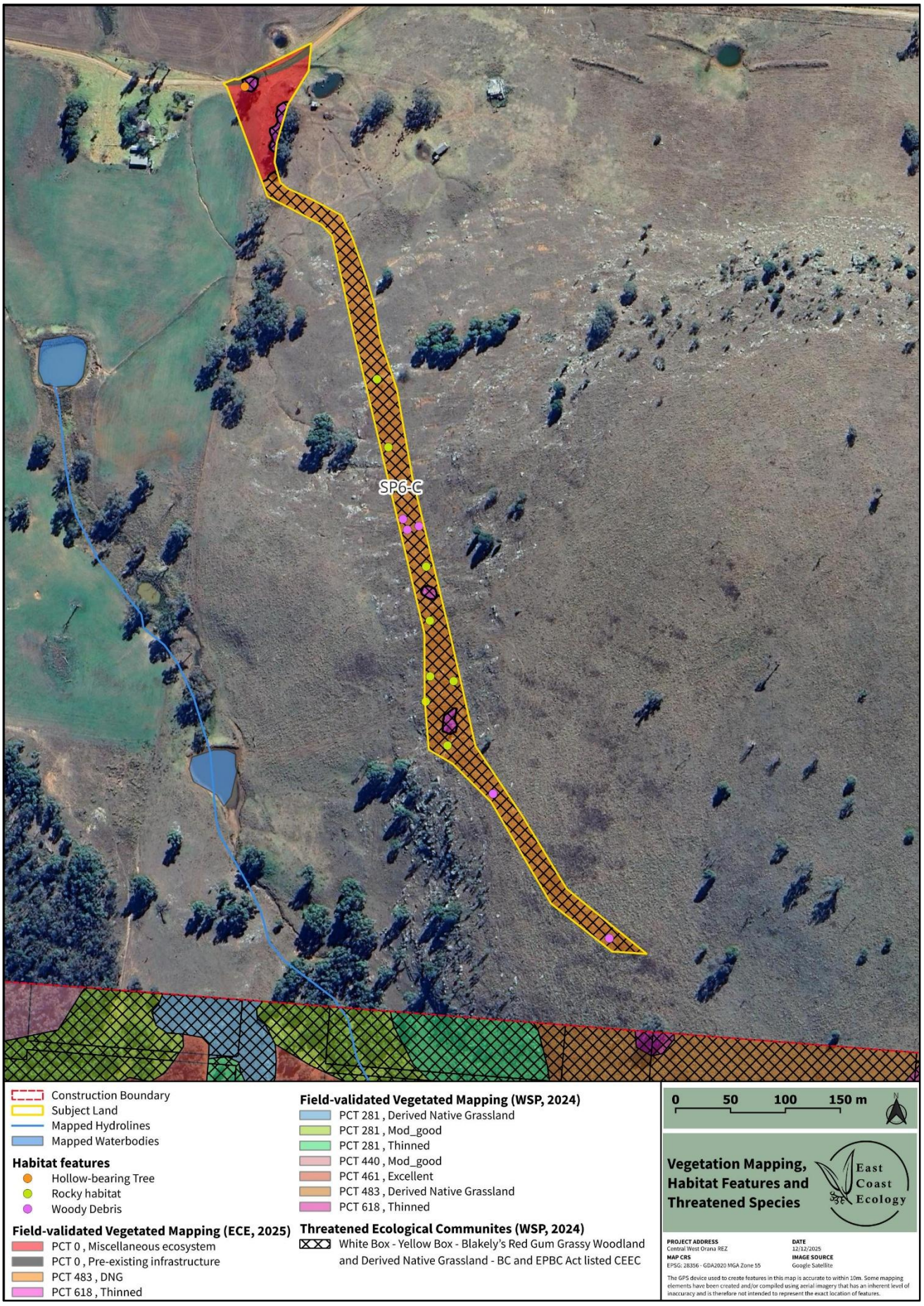


Figure 19. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-C.

13.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 64** and **Table 65**). A summary of the targeted survey effort applied to each species is provided in **Table 64** and **Table 65** along with the results of the survey effort.

A total of eight Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Four (4) of the eight Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining four species were assumed present within the Subject Land.

Table 64. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	Yes. Habitat Constraints present. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Delma impar Striped Legless Lizard	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat Constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat Constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Petaurus norfolcensis Squirrel Glider	Yes.	Yes (WSP) although no nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Habitat constraints present. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).

Table 65. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Monotaxis macrophylla Large-leafed Monotaxis	No. Suitable habitat deemed not to be present as per the approved BDAR (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

13.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

13.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point is provided in **Table 66** and **Table 67**.

Table 66. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 618: White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley	Thinned	0.08
PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	Derived Native Grassland	1.79

Table 67. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Aprasia parapulchella (Pink-tailed Legless Lizard)	618_Thinned	0.08
	483_Derived Native Grassland	1.79
Delma impar (Striped Legless Lizard)	618_Thinned	0.08
	483_Derived Native Grassland	1.79
Petaurus norfolcensis (Squirrel Glider)	618_Thinned	0.08

Species	Vegetation Zone	Area (ha)
Phascolarctos cinereus (Koala)	618_Thinned	0.08

14. SP6-E1

14.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Talbragar - Upper Macquarie Terrace Sands and Gravels, Cassilis Slopes (half, half)	Talbragar - Upper Macquarie Terrace Sands and Gravels, Cassilis Slopes
Native vegetation cover	0.04ha	20.18%
Rivers, streams, estuaries and wetlands	N/A	One 6th order watercourse (Talbragar River), one 4th order watercourse (Mona Creek), two 1st order watercourses and one 2nd order watercourse occur within the 1500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	A few small areas of sandstone outcrop have been identified in the approved BDAR, no other areas of geological significance are likely to occur within the 1500m buffer.
Topography, Geology and Soils	Turill soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. 435m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

14.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 68**.

Table 68. PCTs identified within SP6-E1.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.04ha
	Total Area	0.04ha

14.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 69**).

Table 69. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.04

14.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by two condition classes within the Access Point:

- PCT 281, Thinned, and
- PCT 281, Derived Native Grassland.

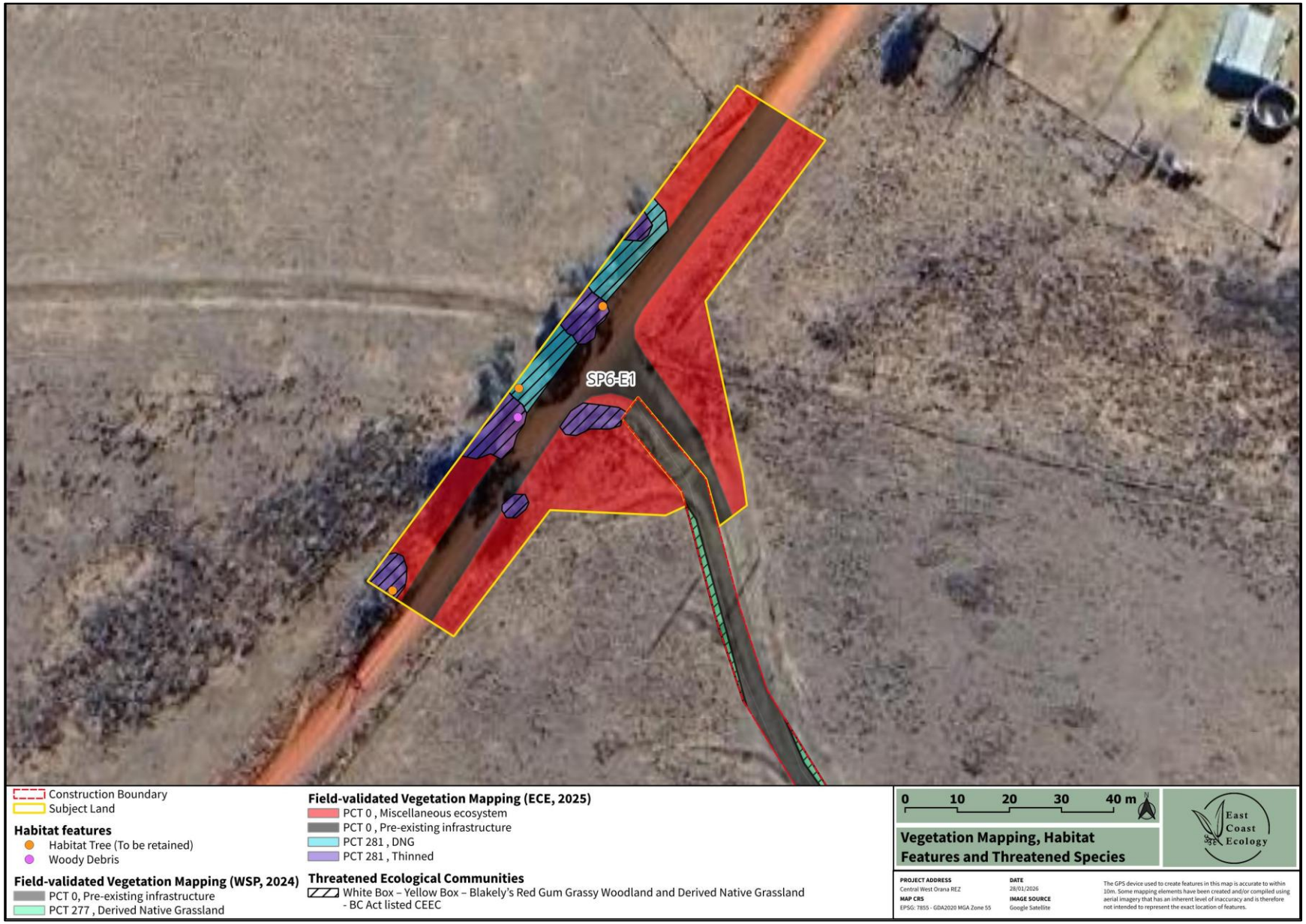


Figure 20. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-E1.

14.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 70** and **Table 71**). A summary of the targeted survey effort applied to each species is provided in **Table 70** and **Table 71** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Twenty-one (21) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining five species were assumed present within the Subject Land.

Table 70. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.		approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	No. Targeted surveys undertaken adjacent to the site during preparation of the approved BDAR (WSP, 2024) did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints present however targeted surveys undertaken nearby during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	No. Extensive and exhaustive targeted surveys undertaken nearby during preparation of the approved BDAR did not detect this species.	No (ECE) Yes (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby N0 (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints present however targeted surveys undertaken nearby during preparation of the approved BDAR did not detect this species. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 71. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE).	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (survey conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

14.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Two threatened species, Large-eared Pied Bat and Eastern Cave Bat, assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

14.5 Impact Summary

A summary of PCTs and species credit species that may be impacted in this Access Point is provided in **Table 72** and **Table 73**.

Table 72. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Thinned	0.03
	DNG	0.02

Table 73. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Thinned	0.03
	281_DNG	0.02
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Thinned	0.03
Phascolarctos cinereus Koala	281_Thinned	0.03

Species	Vegetation Zone	Area (ha)
Prasophyllum petilum Tarengo Leek Orchid	281_Thinned	0.03
	281_DNG	0.02
Vespadelus troughtoni Eastern Cave Bat	281_Thinned	0.03

15. SP6-F1

15.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Sydney Basin	Sydney Basin
IBRA Subregion	Kerrabee	Kerrabee
Mitchell Landscape	Talbragar - Upper Macquarie Terrace Sands and Gravels, Cassilis Slopes	Talbragar - Upper Macquarie Terrace Sands and Gravels, Cassilis Slopes
Native vegetation cover	0.42ha	36.69%
Rivers, streams, estuaries and wetlands	N/A	One 6th order watercourse (Talbragar River), one 4th order watercourse (Mona Creek) and multiple 1st order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	A few small areas of sandstone outcrop and one small crevice cave have been identified in the approved BDAR no other areas of geological significance are likely to occur within the 1500m buffer.
Topography, Geology and Soils	Turill soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. Grades gently from 437m asl to 450m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

15.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 74**.

Table 74. PCTs identified within SP6-F1.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.42ha
	Total Area	0.42ha

15.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 75**).

Table 75. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.42

15.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by two condition classes within the Access Point:

- PCT 281, Thinned, and
- PCT 281, Derived Native Grassland/Offset not required.

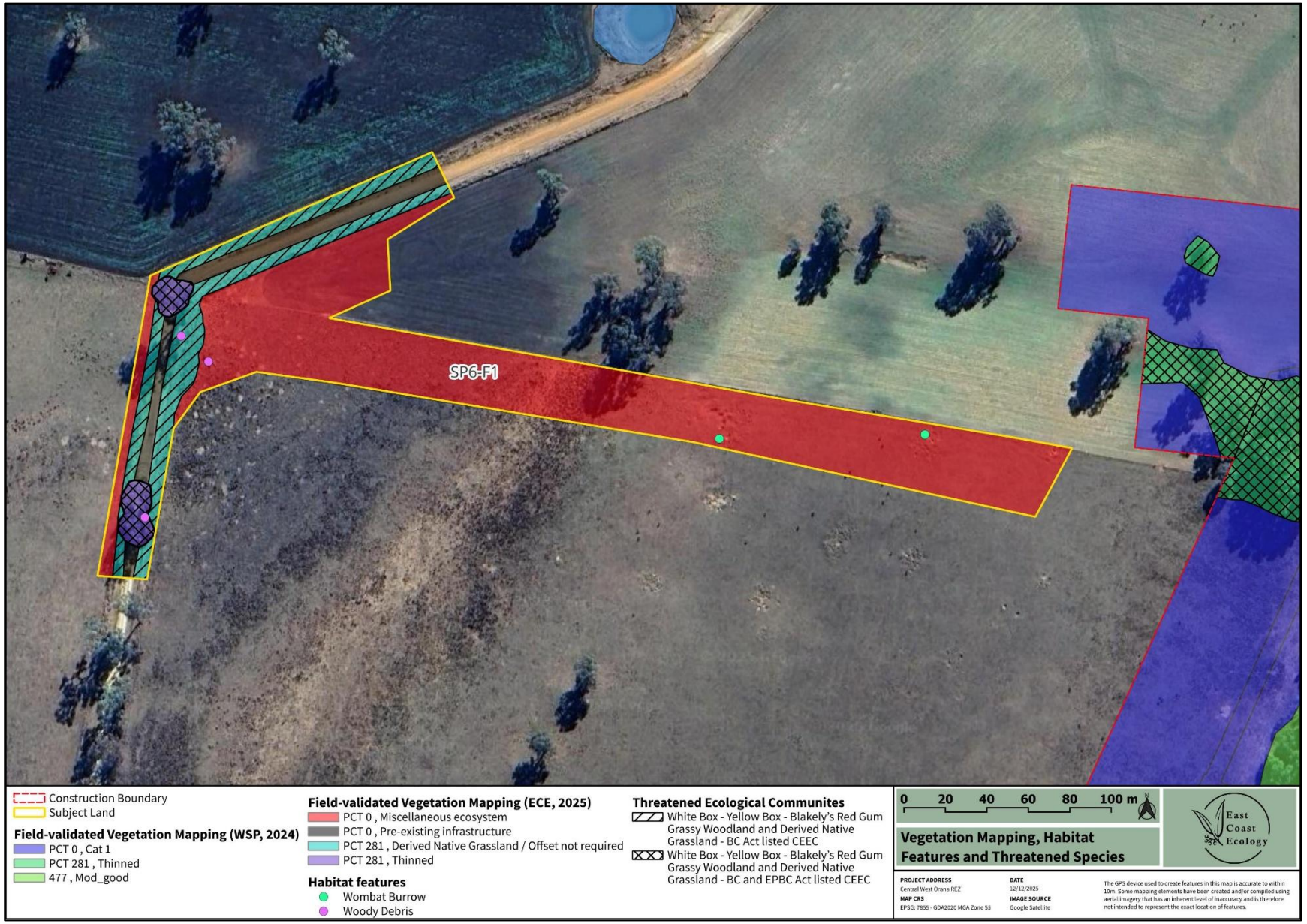


Figure 21. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-F1.

15.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 76** and **Table 77**). A summary of the targeted survey effort applied to each species is provided in **Table 76** and **Table 77** along with the results of the survey effort.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Nineteen (19) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining seven species were assumed present within the Subject Land.

Table 76. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (WSP)	Excluded – consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami Glossy Black-Cockatoo (breeding)	No. Habitat constraints absent.	Yes (WSP) No (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) Yes (ECE)	Excluded – consistent with the

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraint: Nest trees.		approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent. Habitat constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Petaurus norfolcensis Squirrel Glider	Yes. Confirmed species created polygons nearby during preparation of the approved BDAR.	No (ECE) Yes (WSP)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.		
Phascolarctos cinereus Koala	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024). Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby N0 (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Vespadelus troughtoni Eastern Cave Bat	Yes. Habitat constraints present. Habitat Constraints: Caves; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP) No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 77. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Eucalyptus camaldulensis Eucalyptus camaldulensis population in the Hunter catchment	Yes.	Yes (ECE).	No.
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE).	No.
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE).	No.
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (surveyed conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

15.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

Two threatened species, Large-eared Pied Bat and Eastern Cave Bat assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

15.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point is provided in **Table 78** and **Table 79**.

Table 78. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Thinned	0.07
	DNG/Offset not required	0.35

Table 79. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Thinned	0.07
	281_DNG/Offset not required	0.35
Cercartetus nanus (Eastern Pygmy-possum)	281_Thinned	0.07
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Thinned	0.07

Species	Vegetation Zone	Area (ha)
Petaurus norfolcensis (Squirrel Glider)	281_Thinned	0.07
Phascolarctos cinereus (Koala)	281_Thinned	0.07
Vespadelus troughtoni (Eastern Cave Bat)	281_Thinned	0.07
Prasophyllum petilum (Tarengo Leek Orchid)	281_Thinned	0.07

16. SP5-A

16.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Brigalow Belt South	Brigalow Belt South, Sydney Basin
IBRA Subregion	Pilliga	Pilliga, Kerrabee
Mitchell Landscape	Cassilis Slopes	Cassilis Slopes, Liverpool Range Valleys and Footslopes
Native vegetation cover	0.23ha	60.03%
Rivers, streams, estuaries and wetlands	N/A	Three 2nd order watercourses including Salty Creek and Curryall Creek and multiple 1st order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	No areas of geological significance have been identified within the 1500m buffer.
Topography, Geology and Soils	Goonoo soil landscape: undulating rises and low hills. Pilliga Sandstone. Approximately 540m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

16.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 80**.

Table 80. PCTs identified within SP5-A.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.23ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	Total Area	0.23ha

16.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 81**).

Table 81. PCT 479

PCT ID	479
PCT Name	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
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	40.00
Extent within Access Point (ha)	0.23

16.2.1.1 Condition States

Native vegetation (PCT 479) was determined to be represented by two condition classes within the Access Point:

- PCT 479, Moderate/Good, and
- PCT 479, Derived Native Grassland.

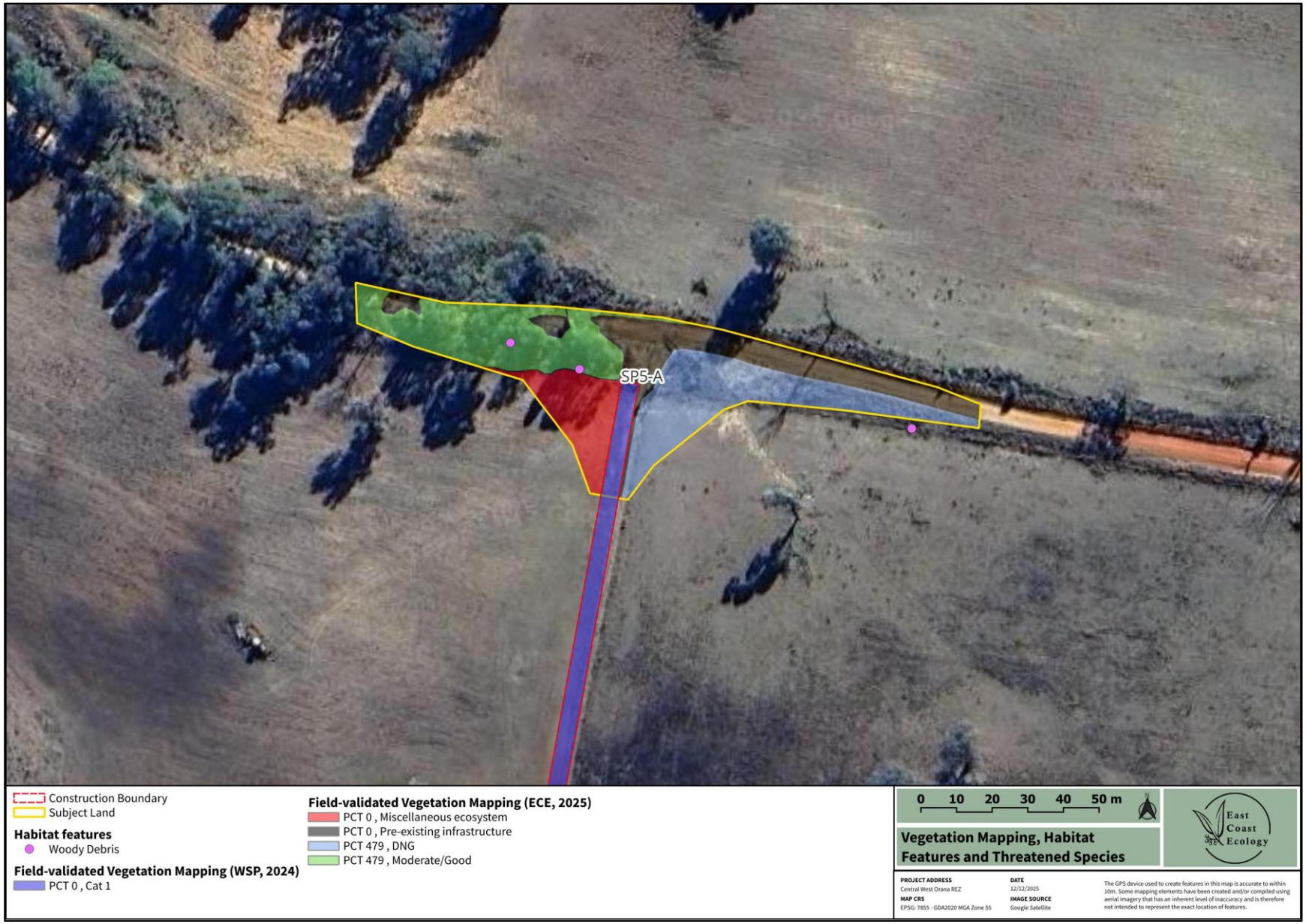


Figure 22. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-A.

16.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 82** and **Table 83**). A summary of the targeted survey effort applied to each species is provided in **Table 82** and **Table 83** along with the results of the survey effort.

A total of 12 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Eight (8) of the 12 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining four species were assumed present within the Subject Land.

Table 82. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo (Breeding)	No. Habitat constraints absent and excluded from this subregion as extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Hollow bearing trees; Living or dead tree with hollows greater than 15cm diameter and higher than 8m above ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect breeding habitat.		
Petaurus norfolcensis Squirrel Glider	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Habitat constraints present. Habitat Constraint: Suitable habitat and Koala Use Trees.	No (ECE) Yes (WSP)	**Assumed present** - consistent with the approved BDAR (WSP, 2024).

Table 83. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of the NSW DCCEEW endorsed survey period.	**Assumed present** - consistent with the approved BDAR (WSP, 2024).
Androcalva procumbens (syn. Commersonia procumbens)	Yes. Habitat Constraints present. Habitat Constraint: Piliga sandstone.	Yes (ECE)	Excluded - consistent with the approved BDAR (WSP, 2024).
Monotaxis macrophylla Large-leafed Monotaxis	No. This species has been excluded due to the absence of suitable habitat (rocky sandstone rock platforms and ridgelines) as per the approved BDAR.	N/A	Excluded - consistent with the approved BDAR (WSP, 2024).
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE)	No.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Tylophora linearis	Yes.	Yes (ECE)	No.

16.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

No threatened entities assumed present within the Access Point have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

16.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point is provided in **Table 84**.

Table 84. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	0.11
	Derived Native Grassland	0.12

Table 85. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	479_Moderate/Good	0.11
	479_Derived Native Grassland	0.12
Cercartetus nanus Eastern Pygmy-possum	479_Moderate/Good	0.11
Petaurus norfolcensis Squirrel Glider	479_Moderate/Good	0.11
Phascolarctos cinereus (Koala)	479_Moderate/Good	0.11

17. SP5-E1/E2

17.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	Brigalow Belt South	Brigalow Belt South
IBRA Subregion	Pilliga	Pilliga
Mitchell Landscape	Cassilis Slopes	Cassilis Slopes
Native vegetation cover	0.03ha	72.13%
Rivers, streams, estuaries and wetlands	N/A	Four 1st order watercourse and one 2nd order watercourse (Yellow Waterholes Gully) occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	No areas of geological significance have been identified within the 1500m buffer.
Topography, Geology and Soils	Goonoo soil landscape: undulating rises and low hills. Pilliga Sandstone. Turill soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone. 465m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

17.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 86**.

Table 86. PCTs identified within SP5-E1/E2.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
481	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open	0.03ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	
	Total Area	**0.03ha**

17.2.1 PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

One PCT was determined to occur within the Access Point:

- PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region (**Table 87**).

Table 87. PCT 481

PCT ID	481
PCT Name	Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region
Associated TEC	N/A
TEC Present?	N/A
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	North Coast Dry Sclerophyll Forests
Percent Cleared Value (%)	28.00
Extent within Access Point (ha)	0.03

17.2.1.1 Condition States

Native vegetation (PCT 481) was determined to be represented by one condition class within the Access Point:

- PCT 481, Thinned.

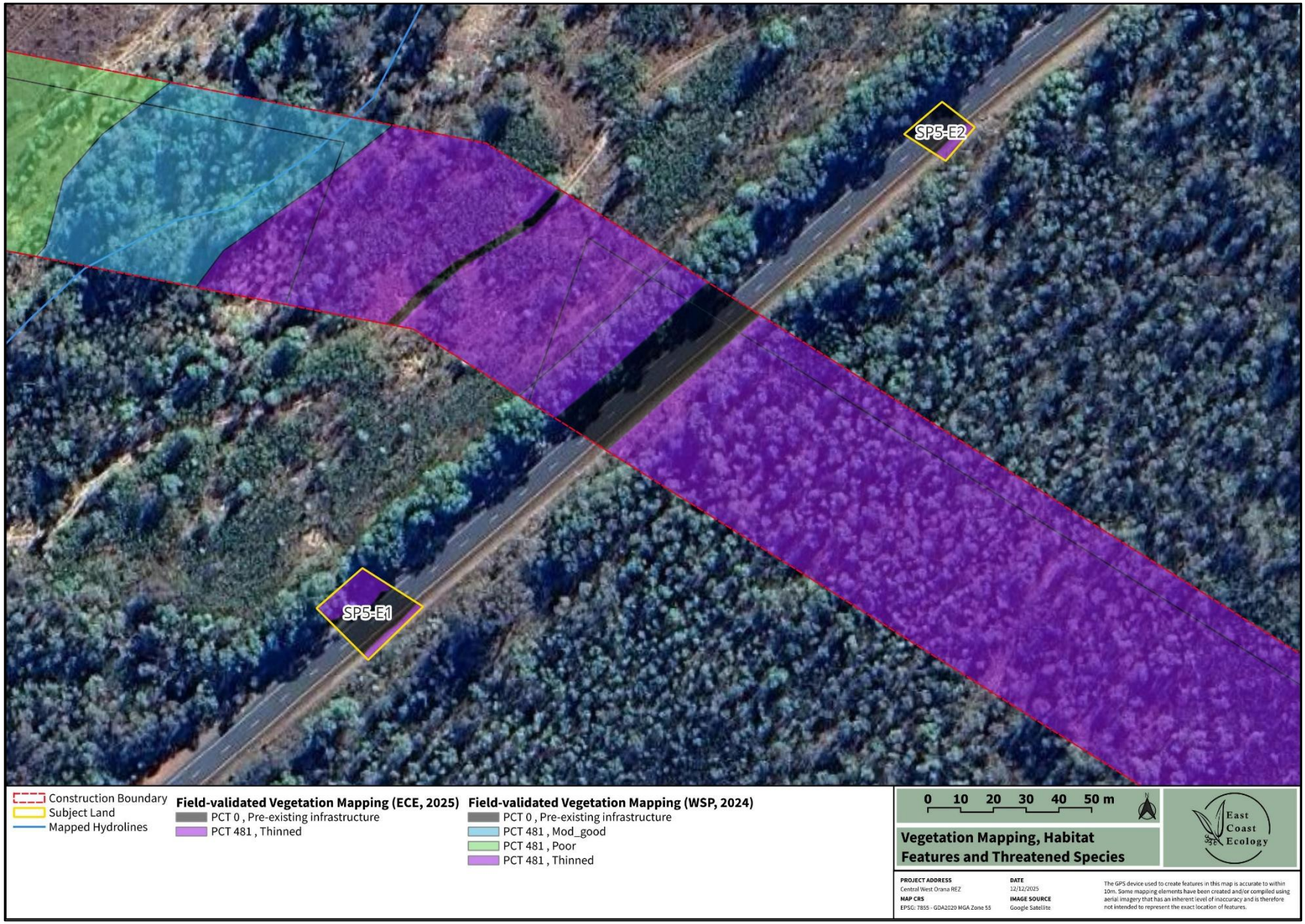


Figure 23. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-E1/E2.

17.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 88** and **Table 89**). A summary of the targeted survey effort applied to each species is provided in **Table 88** and **Table 89** along with the results of the survey effort.

A total of nine Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Eight (8) of the nine Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). Two species was assumed present within the Subject Land.

Table 88. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraint: Rocky Areas or within 50m of rocky areas.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat Constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Phascolarctos cinereus Koala	No. Extensive and exhaustive targeted surveys (i.e. Koala drone survey) undertaken during preparation of the approved BDAR did not detect this species. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) No (ECE)	Excluded – consistent with the approved BDAR (WSP, 2024).

Table 89. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of the NSW DCCEEW endorsed survey period.	**Assumed present**.
Androcalva procumbens *(syn. Commersonia procumbens)*	Yes. Habitat constraints present. Habitat Constraint: Piliga sandstone.	Yes (ECE)	No
Monotaxis macrophylla Large-leafed Monotaxis	No. This species has been excluded due to the absence of suitable habitat (rocky sandstone rock platforms and ridgelines) as per the approved BDAR.	N/A	Excluded – consistent with the approved BDAR (WSP, 2024).

17.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

No threatened entities have been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

17.5 Impact Summary

A summary of the PCTs and species that may be impacted in this Access Point is provided in **Table 90** and **Table 91**.

Table 90. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
PCT 481: Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	Thinned	0.03

Table 91. Impacts to threatened species.

PCT	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	481_Thinned	0.03
Cercartetus nanus Eastern Pygmy-possum	481_Thinned	0.03

18. SP1-C

18.1 Landscape Features

Feature	Access Point	Assessment area (1,500m)
IBRA Bioregion	NSW South Western Slopes	NSW South Western Slopes
IBRA Subregion	Inland Slopes	Inland Slopes
Mitchell Landscape	Cope Hills Granite	Cope Hills Granite, Talbragar - Upper Macquarie Terrace Sands and Gravels, Goonoo Slopes
Native vegetation cover	0.19ha	15.37%
Rivers, streams, estuaries and wetlands	N/A	Multiple 1st, 2nd and 3rd order watercourses occur within the 1,500m buffer.
Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance	The Access Point did not contain any areas of geological significance.	No areas of geological significance have been identified within the 1500m buffer.
Topography, Geology and Soils	Turill soil landscape: undulating low hills with some sandstone outcrop. Narrabeen Sandstone, mudstone, and Jurassic shale and sandstone.480m asl to 490m asl.	N/A
Areas of Outstanding Biodiversity Value	N/A	N/A
Patch size class	>100ha	N/A

18.2 Field-validated Vegetation

Vegetation within the Access Point has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 92**.

Table 92. PCTs identified within SP1-C.

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
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	0.19ha

PCT ID	PCT Scientific Name	Area within the Access Point (ha)
	Total Area	**0.19ha**

18.2.1 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

One PCT was determined to occur within the Access Point:

- 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 (**Table 93**).

Table 93. PCT 281

PCT ID	281
PCT Name	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
Associated TEC	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 – BC Act listed CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – EPBC Act listed CEEC
TEC Present?	Yes
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00
Extent within Access Point (ha)	0.19

18.2.1.1 Condition States

Native vegetation (PCT 281) was determined to be represented by two condition classes within the Access Point:

- PCT 281, Thinned, and
- PCT 281, Derived Native Grassland.

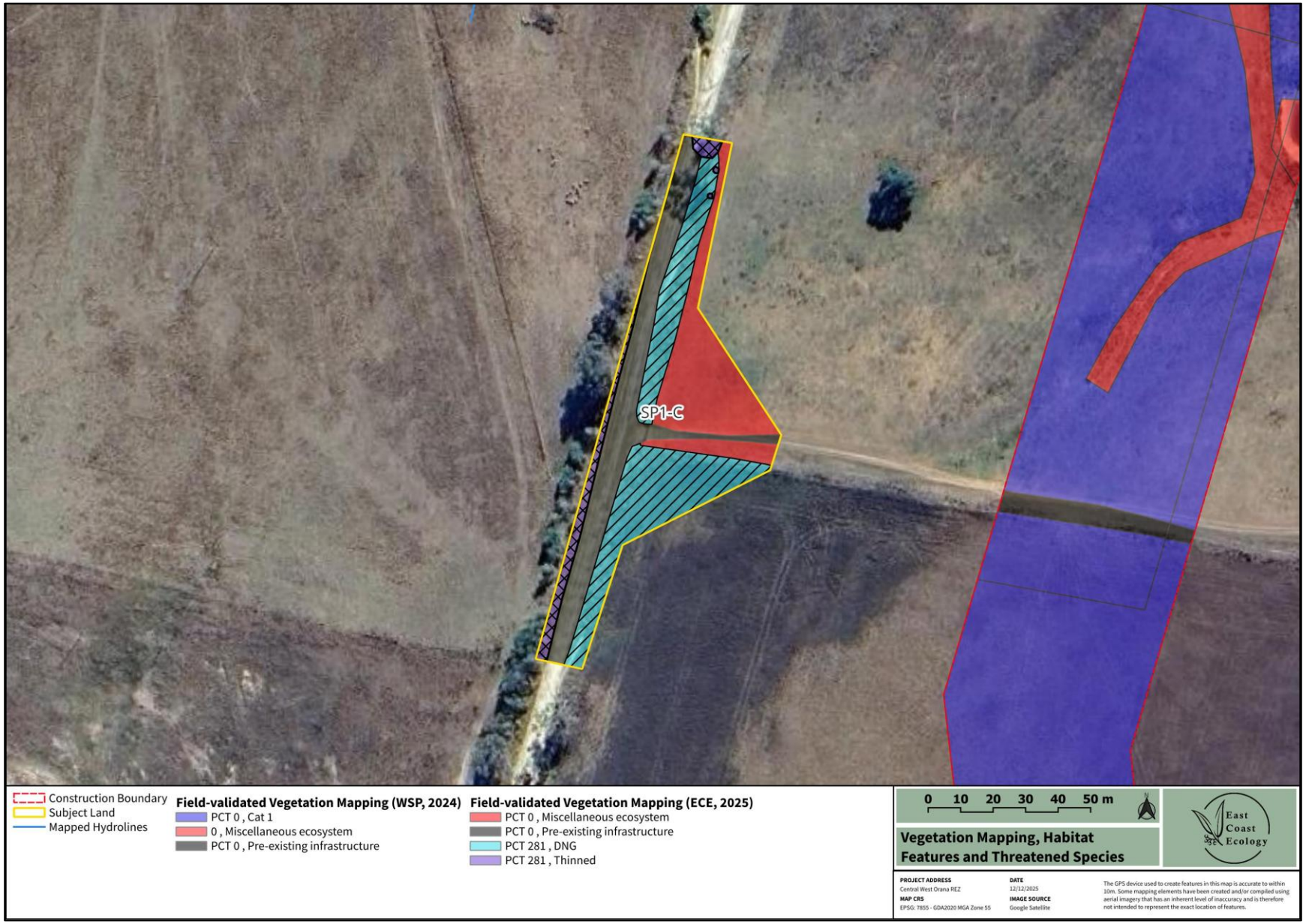


Figure 24. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-C.

18.3 Candidate Species Credit Species Summary

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from BAM-C (NSW DCCEEW, 2025d) (**Table 94** and **Table 95**). A summary of the targeted survey effort applied to each species is provided in **Table 94** and **Table 95** along with the results of the survey effort.

A total of 33 Candidate Species Credit species for the Subject Land were derived from the BAM-C (NSW DCCEEW, 2025d). Twenty-eight (28) of the 33 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining five species was assumed present within the Subject Land.

Table 94. Candidate Fauna Credit Species predicted to occur within the Access Point.

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Anthochaera phrygia Regent Honeyeater (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Aprasia parapulchella Pink-tailed Legless Lizard	No. Habitat constraints absent. Habitat Constraints: Rocky areas or within 50 m of rocky areas.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
Burhinus grallarius Bush Stone-curlew	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat Constraint: Fallen/standing dead timber including logs.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Callocephalon fimbriatum Gang-gang Cockatoo (Breeding)	No. Habitat constraints absent. Habitat Constraint: Hollow bearing trees; Eucalypt tree species with hollows at least 3 m above the ground and with hollow diameter of 7 cm or larger. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Calyptorhynchus lathami Glossy Black-Cockatoo (Breeding)	No. Habitat constraints absent.	Yes (WSP). No (ECE).	Excluded – consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
	Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
Cercartetus nanus Eastern Pygmy-possum	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Chalinolobus dwyeri Large-eared Pied Bat	Yes. Habitat constraints present. Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	Yes (WSP) although not nearby No (ECE)	**Assumed present** – consistent with the approved BDAR (WSP, 2024).
Haliaeetus leucogaster White-bellied Sea-Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP) Yes (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Hieraaetus morphnoides Little Eagle (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Lathamus discolour Swift Parrot (Breeding)	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Lophoictinia isura Square-tailed Kite (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Nest trees.	Yes (WSP) Yes (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Miniopterus orianae oceanensis Large Bent-winged Bat (Breeding)	No. Habitat constraints absent and no breeding habitat for this species was detected during extensive and exhaustive surveys undertaken during preparation of the BDAR. Habitat Constraint: Caves; Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Myotis macropus Southern Myotis	No. Habitat constraints absent. Habitat Constraints: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox connivens Barking Owl (Breeding)	No. Habitat constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Ninox strenua Powerful Owl	No. Habitat constraints absent. Habitat Constraints: Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name (italics) and common name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Petaurus norfolcensis Squirrel Glider	Yes.	Yes (WSP) although not nearby No (ECE)	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Petrogale penicillata Brush-tailed Rock-wallaby	No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022). Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or clifflines.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascogale tapoatafa Brush-tailed Phascogale	No. Suitable habitat deemed not to be present (WSP, 2024).	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Phascolarctos cinereus Koala	Yes. Habitat constraints present. Habitat Constraint: Suitable habitat and Koala Use Trees.	Yes (WSP) although not nearby No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Polytelis swainsonii Superb Parrot (Breeding)	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey undertaken as part of the approved BDAR.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Pteropus poliocephalus Grey-headed Flying-fox (Breeding)	No. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. No further assessment required. Habitat Constraint: Breeding camps.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Tyto novaehollandiae Masked Owl	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.	Yes (WSP) No (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).

Table 95. Candidate Flora Credit Species predicted to occur within the Access Point.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Acacia ausfeldii Ausfeld's Wattle	Yes.	Yes (ECE) although outside of NSW DCCEEW endorsed survey period.	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Ammobium craspedioides Yass Daisy	Species excluded. The Subject Land does not meet the geographic constraints for this species.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Cullen parvum Small Scurf-pea	No Considered to be vagrant (see Section 5.1.1 of the approved BDAR).	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Dichanthium setosum Bluegrass	No. Habitat constraints absent. Habitat constraints: Areas of basalt geology. Assumed species polygons have been restricted to areas of basalt geology within the approved BDAR	Yes (ECE)	Excluded– consistent with the approved BDAR (WSP, 2024).
Euphrasia arguta	Yes.	Yes (ECE)	No
Grevillea wilkinsonii Tumut Grevillea	No. Considered to be vagrant (see Section 5.1.1 of the approved BDAR).	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes.	Yes (ECE)	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Access Point?
Pomaderris queenslandica Scant Pomaderris	Yes.	Yes (ECE)	No
Prasophyllum petilum Tarengo Leek Orchid	Yes.	No (ECE) (surveyed conducted outside of the NSW DCCEEW endorsed survey period).	**Assumed present**– consistent with the approved BDAR (WSP, 2024).
Prasophyllum sp. Wybong	No. Species excluded as it is considered a synonym of *Prasophyllum petilum* (WSP, 2024).	No	N/A
Swainsona sericea Silky Swainson-pea	Yes.	Yes(ECE)	No

18.4 Serious and Irreversible Impacts

This Section addresses Section 10.2 of the BAM and follows the Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE, 2019). All threatened entities impacted by the proposal have been considered if they form or have potential to be Serious and Irreversible Impact (SAII) entities. Criteria for listing as an SAII entity are those species which:

- Are in a rapid rate of decline
- Have a very small population size
- Are severely degraded or disrupted
- Have a very limited geographic distribution, and
- Are unlikely to respond to measures to improve habitat.

One threatened species, Large-eared Pied Bat, assumed present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b). The BC Act listed CEEC, 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, present within the Access Point has been identified as an entity at risk of an SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b).

18.5 Impact Summary

A summary of the PCTs and species credit species that may be impacted in this Access Point is provided in **Table 96** and **Table 97**.

Table 96. Impacts to native vegetation.

PCT	Vegetation Zone	Area (ha)
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	Thinned	0.03
	Derived Native Grassland	0.16

Table 97. Impacts to species credit species.

Species	Vegetation Zone	Area (ha)
Acacia ausfeldii Ausfeld's Wattle	281_Thinned	0.03
	281_Derived Native Grassland	0.16
Cercartetus nanus Eastern Pygmy-possum	281_Thinned	0.03
Chalinolobus dwyeri (Large-eared Pied Bat)	281_Thinned	0.03

Species	Vegetation Zone	Area (ha)
Petaurus norfolcensis (Squirrel Glider)	281_Thinned	0.03
Prasophyllum petilum (Tarengo Leek Orchid)	281_Thinned	0.03
	281_Derived Native Grassland	0.16

19. REFERENCES

East Coast Ecology (ECE) (2025) BL03 Biodiversity Letter PCT Conversion Strategy Draftv2.0

East Coast Ecology (ECE) (2025a) BA01 Biodiversity Assessment CWO Access Points Finalv1.0

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017) https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2024) Mudgee, New South Wales. November 2024 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2023) Approved Conservation Advice for the White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Infrastructure and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Infrastructure and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2024) Priority weeds for the Central Tablelands Region https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=106

Mitchell (2002) NSW Ecosystems Study: Background and Methodology (Unpublished)

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025c) BioNet. Vegetation Classification System

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025d) Biodiversity Assessment Method Calculator Version 1.4.0.00

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025f) The NSW State Vegetation Type Map

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2025g) Biodiversity Values Mapping

NSW Spatial Services (2024b) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

PlantNET (2024) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

Threatened Species Scientific Committee (2020) 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 – Critically Endangered Ecological Community listing.

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | Central West | Central Coast

Biodiversity Assessment of Proposed Access Points

Central West Orana

Prepared for: ACEREZ
Report Date: June 2025

East Coast Ecology

DOCUMENT CONTROL

Document no. BA01

Project Title: Biodiversity Assessment of Proposed Access Points– Central West Orana

Project Manager: Jack Tatler *BSc (Zoology & Entomology), Honours (Zoology), PhD (Ecology)*
Principal Ecologist & Accredited Assessor BAAS21006

Version	Author	Reviewer	Date
Draft v1.0	Jade Minto	Jack Tatler (BAAS21006)	24 January 2025
Final v1.0	Jade Minto	Jack Tatler (BAAS21006)	4 March 2025
Final v2.0	Jade Minto	Jack Tatler (BAAS21006)	26 May 2025
Final v3.0	Jade Minto	Jack Tatler (BAAS21006)	24 June 2025

© East Coast Ecology Pty Ltd (ABN: 66 652 418 623)

Disclaimer
The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of the Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited. This report is invalid for submission to any third party or regulatory authorities while it is in draft stage. East Coast Ecology Pty Ltd will not endorse this report if it has been submitted to a consent authority while it is still in draft stage. Copyright protects this publication. All rights reserved. That scope of services, as described in this report was developed with the client who commissioned this report. Any survey of flora and fauna will be unavoidably constrained in a number of respects. In an effort to mitigate those constraints, we applied the precautionary principle to develop our conclusions. Our conclusions are not therefore based solely upon conditions encountered at the site at the time of the survey. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. East Coast Ecology has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law. This report should be read in full and no excerpts are to be taken as representative of the findings. The review of legislation undertaken by East Coast Ecology for this project does not constitute an interpretation of the law or provision of legal advice. This report has not been developed by a legal professional and the relevant legislation should be consulted and/or legal advice sought, where appropriate, before applying the information in particular circumstances. This report has been prepared on behalf of, and for the exclusive use of, the client who commissioned this report, and is subject to and issued in accordance with the provisions of the contract between East Coast Ecology and the client who commissioned this report. East Coast Ecology accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party. East Coast Ecology accepts no liability for any loss or damages sustained as a result of reliance placed upon this report and any of its content or for any purpose other than that for which this report was intended. Intellectual Property Laws Protect this document: East Coast Ecology reserves the right to revoke this report, its content and results derived during the scope of work. Third parties may only use the information in the ways described in this legal notice: Temporary copies may be generated, necessary to review the data. A single copy may be copied for research or personal use. The documents may not be changed, nor any part removed including copyright notice. Request in writing is required for any variation to the above. An acknowledgement to the source of any data published from this document is mandatory.

i. Details and Experience of Author/s and Contributors

Name	BAM Assessor Accreditation no.	Position/ Role	Tasks Performed	Relevant Qualifications
Jack Tatler	BAAS21006	Principal Ecologist	Project Management, document review	*BSc (Zoology & Entomology), Hons (Zoology), PhD (Ecology)*
Jade Minto	-	Ecologist	Report preparation, figure preparation, habitat mapping, threatened species surveys	*BBioCon*
Ethan Dean	-	Ecologist	Habitat mapping, threatened species surveys	*BBioCon*

1. INTRODUCTION

1.1 Purpose of this Assessment

East Coast Ecology have produced this report to describe and present the methods and results of the field surveys conducted for the 35 Access Points that occur outside of the Central West Orana approved Construction Boundary. This Biodiversity Assessment determines whether entities listed under the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) occur within the Access Points.

This Biodiversity Assessment aims to:

- Describe the biodiversity values present within each Access Point, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs), and
- Determine the habitat suitability within the Subject Land for candidate threatened species.

All biodiversity assessments have been carried out in accordance with the Biodiversity Assessment Method (BAM) (DPIE, 2020a), and this report has been prepared by Jade Minto and Dr. Jack Tatler (BAAS21006).

1.2 Information Sources

The following technical resources were utilised in the preparation of this report:

- State and Commonwealth Datasets:
    - EPBC Protected Matters Search Tool (DCCEEW, 2024)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2024a)
    - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2024b)
    - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2024c)
    - NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024a)
    - BAM Important Habitat Maps
- Vegetation and Soil Mapping:
    - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2024f)
    - eSPADE v2.2.0 (NSW DCCEEW, 2024e)
- NSW State Guidelines:
    - Biodiversity Development Assessment Method (DPIE, 2020a)
    - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b)

1.2.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024).

Information from the approved BDAR has been used to develop the list of PCTs and candidate threatened species for this Biodiversity Assessment.

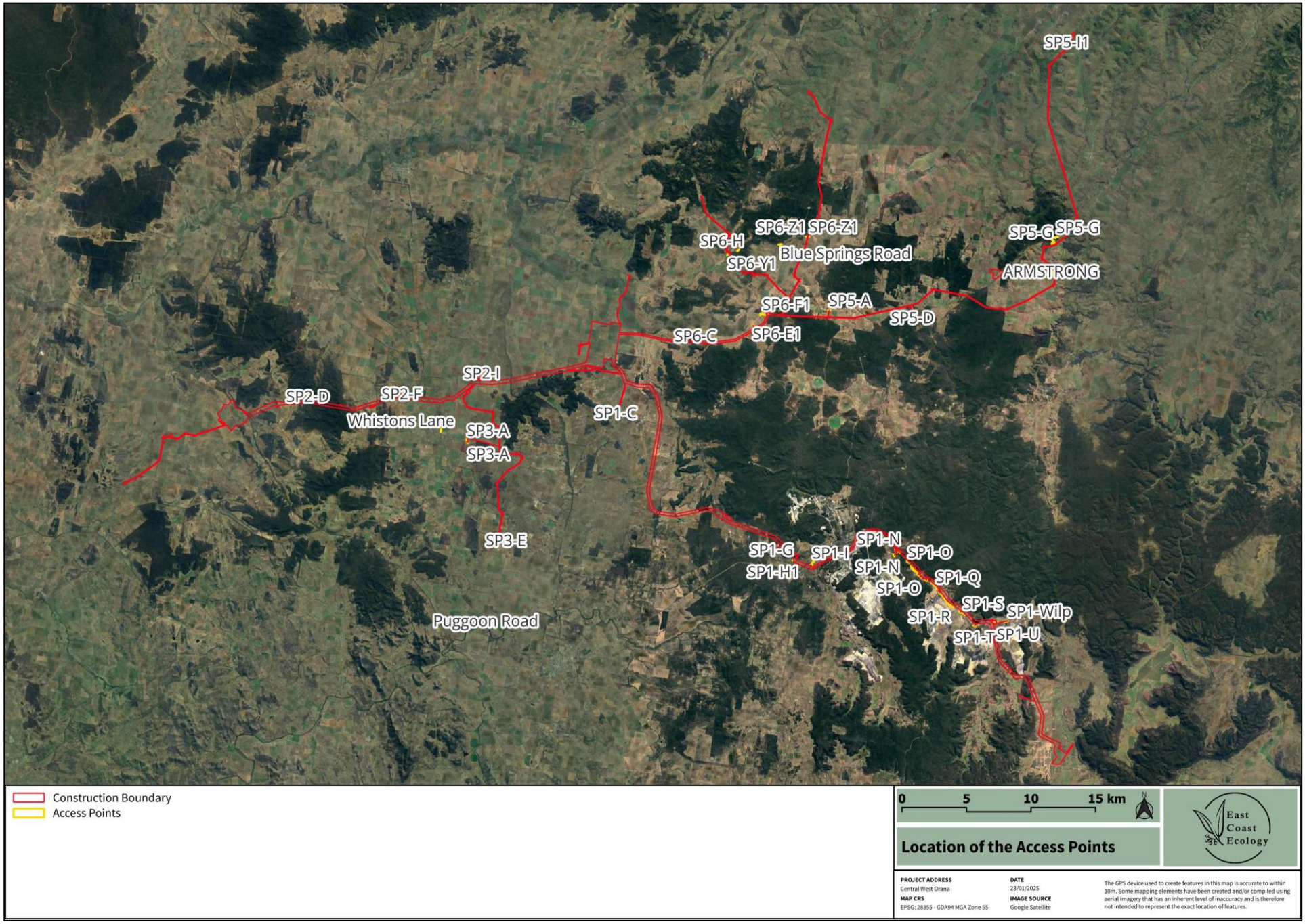


Figure 1. Location of the Access Points in relation to the Construction Boundary.

2. METHODS

2.1 Native Vegetation and Threatened Ecological Communities

2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2024f) was used to assist in the identification of Plant Community Types (PCTs) within the Access Points. The PCT of 'best-fit' was determined based on the floristic descriptions within the Vegetation Classification System database (BioNet) (NSW DCCEEW, 2024c), the PCT descriptions and justifications in the approved BDAR, and the vegetation integrity plot data collected from field surveys.

2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Access Points was determined through a field assessment with the aid of a GPS-enabled tablet. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Access Points contain areas of non-native vegetation. These areas have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. All areas that are not mapped as a PCT are not vegetated. All areas within the Access Points, including areas not mapped as a PCT, have been assessed.

2.1.3 Plot-based Vegetation Survey

A systematic plot-based floristic vegetation survey was undertaken in accordance with BAM subsection 4.2.1. The sampling plot locations were chosen as they were representative of the type and condition of vegetation that is proposed to be impacted for the proposed development.

2.1.4 Vegetation Integrity Survey

The vegetation integrity survey was undertaken in accordance with BAM Subsection 4.3.4. As a total of 10 PCTs with various condition types were present, a total of 36 plots (20m x 50m) were required to be sampled to meet the minimum requirements.

2.1.5 Decommissioned PCTs

Where a PCT has been decommissioned and cannot be entered into the Biodiversity Assessment Method Calculator (BAM-C), the method outlined in the PCT Conversion Strategy (Document no. BL03) has been implemented (ECE, 2025).

2.2 Threatened Flora Survey

2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Access Points and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2024e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.2.2 Field Surveys

To determine whether any suitable habitat for threatened flora species was present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

2.3 Threatened Fauna Survey

2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Access Points and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2024e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Access Points and immediate surrounds.

2.3.3 Field Surveys

Threatened fauna were recorded opportunistically however, their habitats were targeted during the parallel field traverses.

2.4 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee

2.5 Weather Conditions

Surveys were undertaken over several weeks in 2024 and 2025 (6th – 8th, 25th – 29th November 2024, 9th-12th, 16th-18th December 2024, 15th, 20th and 22nd January 2025). Weather conditions taken from the nearest weather station (Mudgee, station no. 062101) during the field surveys are outlined in **Table 1**. Weather conditions during the field surveys were generally conducive for identifying threatened species should they occur within the Subject Land.

Table 1. Weather conditions taken from the nearest weather stations (station number 062101) in the lead up and during the field survey (BOM, 2024 & 2025).

Timing/activities	Date	Day	Temperature		Rainfall (mm)
			Min	Max	
Field surveys- targeted flora surveys & fauna habitat survey	06/11/24	Wednesday	12.2	34.5	0
	07/11/24	Thursday	16.7	32.9	1.0
	08/11/24	Friday	10.5	26.7	5.4
	25/11/24	Monday	15.2	34.1	0
	26/11/24	Tuesday	15.4	33.6	0
	27/11/24	Wednesday	15.1	31.8	0

Timing/activities	Date	Day	Temperature Min	Max	Rainfall (mm)
	28/11/24	Thursday	16.9	25.7	0.8
	29/11/24	Friday	18.3	23.8	4.6
	09/12/24	Monday	17.7	29.2	0
	10/12/24	Tuesday	15.1	30.1	0
	11/12/24	Wednesday	15.8	29.3	0
	12/12/24	Thursday	9.8	30.4	0
	16/12/24	Monday	18.9	34.5	0
	17/12/25	Tuesday	16.3	35.0	0
	18/12/25	Wednesday	18.1	23.2	0
	15/01/25	Wednesday	18.0	36.4	0
	20/01/25	Monday	10.3	30.5	0
	22/01/25	Wednesday	14.5	36.3	0

2.6 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints and historical records. Some areas within the Access Points were inspected from a distance due to property access issues and location within a rail corridor.

Some of the BAM plots were 10m x 100m owing to access constraints and the linear nature of some of the vegetation zones. Sampling plot locations were chosen in areas that were representative of the type and condition of vegetation across the Access Points.

3. SITE CONTEXT

3.1 Assessment Area

The area assessed as part of this Biodiversity Assessment consisted of 35 Access Points (**Figure 1**).

3.2 Landscape Features

3.2.1 IBRA Bioregions and IBRA Subregions

The Access Points span across three mapped IBRA regions and four IBRA subregions including the 'Inland Slopes' IBRA subregion, which is part of the 'NSW South Western Slopes' IBRA Bioregion, the 'Kerrabee' IBRA subregion, which is part of the 'Sydney Basin' IBRA Bioregion and the 'Pilliga' and 'Liverpool Range' IBRA subregions which are part of the 'Brigalow Belt South' IBRA Bioregion.

3.2.2 Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance

The Access Points did not contain any areas of geological significance, including small cliffs, exposed sandstone, overhangs and crevices. However, some small rocky sandstone habitats were present within some of the Access Points. It is likely that areas of geological significance exist within proximity to the Access Points as detailed in the approved BDAR (WSP, 2024). The Access Points, or surrounding area, was not mapped as occurring on acid sulfate soils nor mapped as having risk/ probability of exhibiting occurrence of acid sulfate soils.

4. NATIVE VEGETATION, THREATENED ECOLOGICAL COMMUNITIES AND VEGETATION INTEGRITY

4.1 Plant Community Types

4.1.1 Historically Mapped Vegetation

A total of 26 PCTs occur within the surrounding Construction Boundary, as identified within the approved BDAR (WSP, 2024). Each PCT has been divided into vegetation zones based on broad condition state (**Table 2**). For consistency, the same justification/ reasoning for vegetation zones within the approved BDAR have been applied in this Biodiversity Assessment.

Table 2. Native vegetation broad condition states from the approved BDAR.

Condition	Code used in BAM-C	Description	VI score
Excellent	Excellent	High quality areas of vegetation with close to benchmark VI scores. This condition state represents the best condition vegetation within the subject land.	80-100
Moderate_Good	Mod_good	Native vegetation is relatively intact but may have some altered structural layers. Exotic weed cover is generally low.	60-79
Thinned	Thinned	Native vegetation that has obvious altered structural layers (i.e. canopy thinning, shrub layer removal, etc.) but otherwise retains native species. Exotic weed cover is generally low.	30-59
Poor	Poor	Vegetation in Poor condition that has altered structural layers and/or the groundcover layer is dominated or codominated by exotic species. Native species diversity is generally relatively low and the mid and low stratums have been structurally modified due to weed incursions, clearing, agricultural practises such as cropping or direct seeding.	0-29
Regrowth Shrubland	Regrowth_shrubland	Regrowth shrublands that are derived or secondary forms resulting from clearing of a PCT. These areas generally lack a native over-storey and possess a very dense mid stratum dominated by regrowth pioneer shrubs most notably *Cassinia sifton* and Acacia sp. These	Variable, only areas with VI score above

Condition	Code used in BAM-C	Description	VI score
		areas can contain regrowth trees. These areas can contain small areas of scattered trees.	offset threshold.
Derived Native Grassland	DNG	Grasslands that contain a dominance of native species (i.e. native species cover is greater than exotic species cover) but are derived or secondary forms resulting from clearing of a PCT. For this BDAR, it includes PCTs that have changed to an alternative state because of land management practices since European settlement. Overstorey structural components of derived communities have either entirely been removed or are severely reduced (i.e. derived native grasslands with or without scatted paddock trees). These areas can contain regrowth trees.	Variable, only areas with VI score above offset threshold.

4.1.2 Field-validated Vegetation

A total of nine (9) PCTs were identified across the Access Points. Vegetation within each Access Point has been assessed as aligning with the BioNet Vegetation Classification PCTs identified within **Table 3** and depicted in **Figure 2** to **Figure 40**. Detailed descriptions of each PCT are provided in the following subsections. Eight of the nine PCTs used in this Biodiversity Assessment are consistent with the approved BDAR. One PCT, PCT 481, could not be entered into the BAM-C and therefore, the method outlined in the PCT Conversion Strategy (Document no. BL03) was implemented (ECE, 2025). PCT 481 has been decommissioned in the Kerrabee IBRA subregion and therefore the process described in section 1(3) of Document no. BL03 was followed. The 'Status, Lineage history' tab in the BioNet Vegetation Classification was reviewed to obtain a list of the most likely 'child' PCT's. Candidate 'child' PCT's were assessed against information provided in the BDAR for PCT 481, based on the criteria outlined in section 1(4) of Document no. BL03. All four candidate 'child' PCTs were listed as having a 'weak' relationship with the parent PCT in BioNet, therefore the descriptive attributes, vegetation formation and class, distribution information and species assemblage of each child PCT was reviewed. One PCT (PCT 3528) was determined as the PCT of 'best-fit' based on floristic descriptions and geographic distribution.

Table 3. PCT identified within the Subject Land.

PCT ID	PCT Scientific Name	Area within the Access Points (ha)	Access Point ID
1610	White Box – Black Cypress Pine shrubby woodland of the Western Slopes	0.45ha	SP5-D
266	White Box grassy woodland in the upper slopes sub-region of the	0.36ha	SP2-F

PCT ID	PCT Scientific Name	Area within the Access Points (ha)	Access Point ID
	NSW South Western Slopes Bioregion		
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	8.20ha	SP6-E1, SP3-E, SPI-1, SP1-U, SP1-S, SP1-Q, SP3-A, SP1-C, SP1-P, SP6-F1, SP6-Y1, SP2-I, Puggoon Road, SP1-R, SP1-S, SP1-G, SP1-T, Whistons Lane
394	Narrow-leaved Ironbark – White Cypress pine woodland on slopes and flats in the Coonabarabran – Pilliga Scrub regions	2.26ha	SP5-G, SP6-H, SP6-Z1,
401	Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region	1.65ha	SP1-O
468	Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum shrubby open forest on sandstone low hills in the southern Brigalow Belt South Bioregion (including Goonoo)	0.38ha	SP2-D
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	1.25ha	SP5-A, SP1-O, Blue Springs Road
481 (3528 in the Kerrabee IBRA subregion)	Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region	1.20ha	SP1-G, SP1-H1, SP1-N,
483	Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley	3.67ha	ARMSTRONG

Some areas within the Access Points contain areas of non-native vegetation (**Plate 1**). These areas have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR.

Plate 1. Example of non-native vegetation within the Access Points.

4.1.3 Justification for PCT Selection

A review of the vegetation mapping conducted as part of the approved BDAR was undertaken to assist in the identification of PCTs and vegetation zones within the Access Points. Using the PCT overviews and justifications from the approved BDAR and floristic descriptions within the BioNet Vegetation Classification System database (NSW DCCEEW, 2024c) of PCTs mapped within proximity to the Access Points, the PCT of 'best-fit' was determined. Once the vegetation was assigned to a PCT, the vegetation was then divided into vegetation zones based on the descriptions of the broad condition states provided in the approved BDAR (**Table 2**).

4.1.4 PCT 1610: White Box – Black Cypress Pine shrubby woodland of the Western Slopes

Table 4. PCT 1610.

PCT ID	1610
PCT Name	White Box – Black Cypress Pine shrubby woodland of the Western Slopes
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests

Percent Cleared Value (%)	67.00%
Extent within Subject Land (ha)	0.45ha

4.1.4.1 Condition States

PCT 1610 was represented by three condition classes within Access Point SP2-F:

- Vegetation Zone 1: Thinned (VZ 1)
- Vegetation Zone 2: Regrowth Shrubland (VZ 2), and
- Vegetation Zone 3: Derived Native Grassland (VZ 3).

PCT 1610 is detailed in **Table 7**,and displayed in **Plate 2**, **Plate 3** and **Plate 4**.

Table 5. PCT 1610 within the Access Points.

PCT 1610: White Box – Black Cypress Pine shrubby woodland of the Western Slopes			
Vegetation Zone	**Zone 1: Thinned**	**Zone 2: Regrowth Shrubland**	**Zone 3: Derived Native Grassland**
Extent within Subject Land (approximate)	0.09ha	0.04ha	0.32ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Woodlands characterised by a canopy strongly dominated *by Eucalyptus albens* in association with *Callitris endlicheri*. The mid-storey consists of an open shrub layer. The ground layer is typically a mix of grasses with various forbs and graminoids. Lower slopes and flats of the Central Western Slopes.		
Description of vegetation	Within the Access Point the canopy was dominated with characteristic species such as *Eucalyptus albens* and *Eucalyptus crebra* along with *Eucalyptus blakelyi*. The shrub layer was dominated by *Cassinia sifton* and *Daviesia genistifolia. Anthosachne scabra, Microlaena stipoides, Dichondra repens, Calotis lappulacea* and *Calotis cuneifolia* were common throughout the groundlayer.		
BC Act 2016 Status	Not listed		
EPBC Act 1999 Status	Not listed		
References	Gellie N., 2005;Priday S., 2004;NPWS, 2002a ;Austin M. et al., 2000;Priday S., in prep 2006;Lembit R. & Skelton N., 1998;Prober S., 1996;Moore C., 1953a;Lambert J. & Elix J., 2002;Prober S. & Thiele K., 1995;Gellie N. & Fanning M., 2004;Brickhill J. , 1978a;DEC, 2006.;DEC, 2006a;Seddon J. et al., 2002;		

Plate 2. PCT 1610 – typical condition (VZ 1) within the Access Point (SP5-D).

Plate 3. PCT 1610 – typical condition (VZ 2) within the Access Point (SP5-D).

Plate 4. PCT 1610 – typical condition (VZ 3) within the Access Point (SP5-D).

4.1.5 PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Table 6. PCT 266.

PCT ID	266
PCT Name	White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	94.00%
Extent within Subject Land (ha)	0.36ha

4.1.5.1 Condition States

PCT 266 was represented by two condition classes within Access Point SP2-F:

- Vegetation Zone 4: Moderate/Good (VZ 4), and
- Vegetation Zone 5: Derived Native Grassland (VZ 5).

PCT 266 is detailed in **Table 7**,and displayed in **Plate 5** and **Plate 6**.

Table 7. PCT 266 within the Access Points.

PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion		
Vegetation Zone	**Zone 4: Moderate/Good**	**Zone 5: Derived Native Grassland**
Extent within Subject Land (approximate)	0.27ha	0.09ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.
Description of vegetation in BioNet	A tall woodland with trees to 25m high dominated by *Eucalyptus albens* with *Brachychiton populneus subsp. populneus* often present. Other eucalypt species including *Eucalyptus bridgesiana*, *Eucalyptus blakelyi* or *Eucalyptus melliodora* may also be present as minor components of the canopy. The shrub layer is usually sparse or absent depending on grazing history or soil type and contains a variety of *Acacia species*, *Dodonaea viscosa subsp. cuneata*, *Bursaria spinosa subsp. spinosa* and Cassinia species. The ground cover is usually mid-dense to dense except during drought and may be very diverse in grass and forb species. The soils are mainly red-brown earths, red or yellow podsols with some brown and black earths. The soils are derived from a variety of lithologies including shale, limestone, fine grained metamorphic rocks, granite and basalt. Species composition appears not to vary greatly across these lithologies. Mainly occurs on hillslopes in low hill or hill landform patterns in the NSW South-western Slopes Bioregion overlapping into the South Eastern Highlands Bioregion.	
Description of vegetation	Within the Access Points the dominant species in the canopy was *Eucalyptus albens* with *Brachychiton populneus* and *Melia azedarach*. The shrub layer was moderately disturbed and characterised by *Acacia implexa* (a species typical of PCT 266), *Maireana microphylla*, and *Eremophila debilis.* The ground layer was dominated by *Austrostipa verticillata*, *Microlaena stipoides, Hydrocotyle laxiflora, Dichondra repens, Rytidosperma caespitosum* and *Anthosachne scabra.*	
BC Act 2016 Status	This PCT is associated with 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. Refer to **Section 4.1.13.1**.	
EPBC Act 1999 Status	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC. Refer to **Section 4.1.13.2**.	

PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
References	Gellie N., 2005;Priday S., 2004;NPWS, 2002a ;Austin M. et al., 2000;Priday S., in prep 2006;Lembit R. & Skelton N., 1998;Prober S., 1996;Moore C., 1953a;Lambert J. & Elix J., 2002;Prober S. & Thiele K., 1995;Gellie N. & Fanning M., 2004;Brickhill J. , 1978a;DEC, 2006.;DEC, 2006a;Seddon J. et al., 2002;

Plate 5. PCT 266 – typical condition (VZ 4) within the Access Point SP2-F.

Plate 6. PCT 266 – typical condition (VZ 5) within Access Point SP2-F.

4.1.6 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

Table 8. PCT 281.

PCT ID	281
PCT Name	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
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	67.00%
Extent within Subject Land (ha)	8.20ha

4.1.6.1 Condition States

PCT 281 was represented by five condition classes within the Access Points:

- Vegetation Zone 6: Moderate/Good (VZ 6)
- Vegetation Zone 7: Thinned (VZ 7)
- Vegetation Zone 8: Poor (VZ 8)
- Vegetation Zone 9: Regrowth Shrubland (VZ 9), and

- Vegetation Zone 10: Derived Native Grassland (VZ 10).

PCT 281 is detailed in **Table 9**, and displayed in **Plate 7**, **Plate 8**, **Plate 9**, **Plate 10** and **Plate 11**.

Table 9. PCT 281 within the Access Points.

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					
Vegetation Zone	**Zone 6: Moderate/Good**	**Zone 7: Thinned**	**Zone 8: Poor**	**Zone 9: Regrowth Shrubland**	**Zone 10: Derived Native Grassland**
Extent within Subject Land (approximate)	1.38ha	0.63ha	0.47ha	1.95ha	3.77ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Tall open forest or woodland with trees up to 30 m high dominated by Rough-barked Apple (*Angophora floribunda*) usually with *Eucalyptus blakelyi* or *Eucalyptus melliodora*. Other tree species may include *Callitris glaucophylla*, *Brachychiton populneus* and various red gum intergrades. River Oak (*Casuarina cunninghamiana subsp. cunninghamiana*) may be present but often forms its own riparian community in nearby river banks. Shrub species may include wattles such as *Acacia implexa*, *Acacia decora*, *Acacia penninervis var. penninervis* and *Acacia deanei*. Other shrub species may include *Dodonaea viscosa subsp. angustifolia*, *Bursaria spinosa*, *Olearia elliptica subsp. elliptica* and *Hibbertia obtusifolia*. The ground cover is usually dense to mid-dense. It includes grass species such as *Austrostipa verticillata*, *Austrostipa scabra*, *Arundinella nepalensis*, *Digitaria breviglumis*, *Echinopogon spp., Dichelachne micrantha, Poa labillardierei var. labillardierei* and *Themeda australis*. A widespread community that occurs on black, brown and grey alluivial and colluvial clay loam, loam or sandy loam soils derived from a range of substrates on valley flats and footslopes in valleys in hill landform patterns mainly in the Brigalow Belt South Bioregion. Some areas also occur north of Mudgee in the Gulgong-Dunedoo area in the NSW South-western Slopes Bioregion. Most of its original extent has been cleared and weeds have invaded many remnants but some stands remain.					
Description of vegetation	Within the Access Points the canopy was dominated by *Angophora floribunda* with *Eucalyptus blakelyi* and *Eucalyptus melliodora*. Depending upon location, other tree species including *Eucalyptus albens*, *Acacia linearifolia*, *Callitris glaucophylla*, *Brachychiton populneus subsp. populneus* and *Casuarina cunninghamiana subsp. cunninghamiana* were present. The shrub layer of the vegetation mapped as PCT 281 within the Access Points were typical of PCT 281 and included *Acacia spectabilis* and *Cassinia sifton*. The ground layer contained a number of species typical of PCT 281 including *Arundinella nepalensis*, *Sporobolus creber*, *Themeda triandra* and *Bothriochloa macra*.					

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					
Vegetation Zone	**Zone 6: Moderate/Good**	**Zone 7: Thinned**	**Zone 8: Poor**	**Zone 9: Regrowth Shrubland**	**Zone 10: Derived Native Grassland**
BC Act 2016 Status	This PCT is associated with 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. Refer to **Section 4.1.13.1**.				
EPBC Act 1999 Status	This PCT is associated with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC. Refer to **Section 4.1.13.2**.				
References	Porteners M., 2003;Sommerville M., 2009;Hunter J., 2007;Hunter J., 2008;Ismay K. et al., 2004;DEC, 2006.;McRae R. & Cooper M., 1985;Mid-Lachlan RVC, 1999;Whitehead J., 2000;				

Plate 7. PCT 281 – typical condition (VZ 6) within the Access Points.

Plate 8. PCT 281 – typical condition (VZ 7) within the Access Points.

Plate 9. PCT 281 – typical condition (VZ 8) within the Access Points.

Plate 10. PCT 281 – typical condition (VZ 9) within the Access Points.

Plate 11. PCT 281 – typical condition (VZ 10) within the Access Points.

4.1.7 PCT 394: Narrow-leaved Ironbark – White Cypress pine woodland on slopes and flats in the Coonabarabran – Pilliga Scrub regions

Table 10. PCT 394.

PCT ID	394
PCT Name	Narrow-leaved Ironbark – White Cypress pine woodland on slopes and flats in the Coonabarabran – Pilliga Scrub regions
Vegetation Formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
Vegetation Class	North-west Slopes Dry Sclerophyll Woodlands
Percent Cleared Value (%)	36.00%
Extent within Subject Land (ha)	0.26ha

4.1.7.1 Condition States

PCT 394 was represented by four condition classes within the Access Points:

- Vegetation Zone 11: Moderate/Good (VZ 11)
- Vegetation Zone 12: Thinned (VZ 12)
- Vegetation Zone 13: Regrowth Shrubland (VZ 13), and
- Vegetation Zone 14: Derived Native Grassland (VZ 14).

PCT 394 is detailed in **Table 11**,and displayed in **Plate 12**, **Plate 13**, **Plate 14** and **Plate 15**.

Table 11. PCT 394 within the Access Points.

PCT 394: Narrow-leaved Ironbark – White Cypress pine woodland on slopes and flats in the Coonabarabran – Pilliga Scrub regions				
Vegetation Zone	**Zone 11: Moderate/Good**	**Zone 12: Thinned**	**Zone 13: Regrowth Shrubland**	**Zone 14: Derived Native Grassland**
Extent within Subject Land (approximate)	1.08ha	0.37ha	0.16ha	0.65ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.
Description of vegetation in BioNet	Tall open forest or woodland usually dominated by Narrow-leaved Ironbark (*Eucalyptus crebra*), Blakely's Red Gum (*Eucalyptus blakelyi*), Dirty Gum (*Eucalyptus chloroclada*) and White Cypress Pine (*Callitris glaucophylla*) often with *Angophora floribunda*. The shrub layer is sparse to mid-dense and includes *Cassinia quinquefaria*, *Cassinia aruata*, *Olearia elliptica subsp. elliptica*, *Dodonaea viscosa subsp. angustifolia*, *Bursaria spinosa subsp. spinosa*, *Melichrus urceolatus*, *Notelaea microcarpa var. microcarpa*, *Acacia implexa*, *Acacia sertiformis*, *Swainsona galegifolia*, *Xanthorrhoea glauca subsp. angustifolia*, *Acacia penninervis var. penninervis*, *Acacia decora*, *Hibbertia obtusifolia*, *Persoonia cuspidifera* and *Pultenaea cinerascens*. The ground cover is usually sparse with bare ground common. Grass			

PCT 394: Narrow-leaved Ironbark – White Cypress pine woodland on slopes and flats in the Coonabarabran – Pilliga Scrub regions				
Vegetation Zone	**Zone 11: Moderate/Good**	**Zone 12: Thinned**	**Zone 13: Regrowth Shrubland**	**Zone 14: Derived Native Grassland**
	pecies include *Dichelachne micrantha*, *Aristida calycina var. calycina*, *Aristida vagans*, *Poa sieberiana*, *Cymbopogon efractus*, *Joycea pallida*, *Austrodanthonia racemosa var. obtusata*, *Austrostipa scabra* and *Echinopogon caespitosus var. caespitosus*. Forb species include *Dianella revoluta var. revoluta, Geranium solanderi var. solanderi, Hydrocotyle laxiflora, Dichondra repens, Xerochrysum bracteata, Oxalis perennans, Gonocarpus elatus, Wurmbea biglandulosa, Senecio bathurstianus, Haloragis heterophylla, Galium gaudichaudii, Einadia hastata, Calotis cuneifolia, Stackhousia viminea* and *Veronica calycina*. Occurs on red to brown clay loam to sandy loamy soils derived from a range of substrates including trachyte and sandstone on valley flats and lower hillslopes in hills and low hill landscape patterns in the Warrumbungle Mountains - west Pilliga Scrub region of the southern BBS Bioregion. Ironbark has often been heavily logged and regrowth is common. Some areas on private land have been cleared.			
Description of vegetation	The dominant species in the canopy was *Eucalyptus crebra* and *Eucalyptus blakelyi*. The midstorey was dominated with *Cassinia sifton* and *Acacia implexa* with other shrubs such as *Grevillea sericea*, *Exocarpos cupressiformis*, and *Myoporum montanum* present. The ground layer was dominated by grass species including *Cymbopogon refractus*, *Gahnia aspera*, *Microlaena stipoides* and *Sporobolus creber*, with other native species including *Cheilanthes sieberi* and *Dichondra repens* at low cover and abundance. Ubiquitous weeds of agricultural land including *Eragrostis curvula*, *Hypochaeris radicata*, *Paspalum dilatatum* and *Setaria parviflora* were common.			
BC Act 2016 Status	Not listed.			
EPBC Act 1999 Status	Not listed.			
References	RACAC, 2004;Benson J., 1999-2009;Lindsay D., 1967;Hunter J., 2008;Ismay K. et al., 2004;			

Plate 12. PCT 394 – typical condition (VZ 11) within the Access Points.

Plate 13. PCT 394 – typical condition (VZ 12) within the Access Points.

Plate 14. PCT 394 – typical condition (VZ 13) within the Access Points.

Plate 15. PCT 394 – typical condition (VZ 14) within the Access Points.

4.1.8 PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region

Table 12. PCT 401.

PCT ID	401
PCT Name	Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	33.00%
Extent within Subject Land (ha)	1.65ha

4.1.8.1 Condition States

PCT 401 was represented by four condition classes within the Access Points:

- Vegetation Zone 15: Moderate/Good (VZ 15)
- Vegetation Zone 16: Thinned (VZ 16)
- Vegetation Zone 17: Regrowth Shrubland (VZ 17), and
- Vegetation Zone 18: Derived Native Grassland (VZ 18).

PCT 401 is detailed in **Table 13**, and displayed in **Plate 16**, **Plate 17**, **Plate 18** and **Plate 19**.

Table 13. PCT 401 within the Access Points.

PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region				
Vegetation Zone	**Zone 15: Moderate/Good**	**Zone 16: Thinned**	**Zone 17: Regrowth Shrubland**	**Zone 18: Derived Native Grassland**
Extent within Subject Land (approximate)	0.44ha	0.22ha	0.51ha	0.48ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Tall open forest or woodland dominated by Rough-barked Apple (*Angophora floribunda*) with Black Cypress Pine (*Callitris endlicheri*) and either of the red gums *Eucalyptus blakelyi* or *Eucalyptus chloroclada*. Shrubs are very sparse and include *Acacia spectabilis*, *Hibbertia obtusifolia*, *Cassinia arcuata*, *Aotus subglauca var. filiformis, Correa glabra var. glabra, Acacia tindaleae, Dodonaea peduncularis, Hibbertia obtusifolia, Sannantha cunninghamii, Micromyrtus sessilis* and *Brachyloma daphnoides subsp. pubescens*. Small stands of the tall shrub Banksia marginata occur in this community north and east of Coonabrabran. The ground cover is sparse to mid-dense and often is dominated by several species of mat-rush (Lomandra) including *Lomandra longifolia, Lomandra multiflora, Lomandra leucocephala* and			

PCT 401: Rough-barked Apple – Blakely's Red Gum – Black Cypress Pine woodland on sandy flats, mainly in the Pilliga Scrub region				
Vegetation Zone	**Zone 15: Moderate/Good**	**Zone 16: Thinned**	**Zone 17: Regrowth Shrubland**	**Zone 18: Derived Native Grassland**
	Lomandra filiformis. Sedge species include *Fimbristylis dichotoma* and *Bulbostylis barbata*. Grass species include *Arundinella nepalensis, Imperata cylindrica var. major, Aristida jerichoensis var. subspinulifera, Aristida caput-medusae, Aristida vagans, Austrostipa scabra subsp. scabra, Cymbopogon refractus, Microlaena stipoides var. stipoides, Digitaria ammophila, Austrodanthonia racemosa var. racemosa and Digitaria diffusa. Forb species include Ajuga australis, Dichondra sp. A, Laxmannia gracilis, Wahlenbergia stricta subsp. stricta, Dianella revoluta var. revoluta* and *Chrysocephalum semipapposum.* Occurs on clayey sand or sandy clay loam soils derived from sandstone on valley flats in low hill and rises landscapes mainly in the mid to eastern Pilliga Scrub forests. Grades into similar riparian woodland along creeks (ID399).			
Description of vegetation	*Angophora floribunda* was the dominant canopy species within this PCT. The midstorey was dominated by *Cassinia Sifton* along with *Kunzea parvifolia and Leptospermum polygalifolium*. There were also stands of *Banksia marginata,* a characteristic feature of this PCT. The ground layer was dominated by the native grass species *Arundinella nepalensis, Themeda triandra, Cymbopogon refractus, Bothriochloa macra.* Other common groundlayer species included *Cheilanthes sieberi* and *Dichondra repens.*			
BC Act 2016 Status	This PCT is associated with 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. Refer to **Section 4.1.13.1**.			
EPBC Act 1999 Status	This PCT is associated with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC. Refer to **Section 4.1.13.2**.			
References	RACAC, 2004;Benson J., 1999-2009;Paull D., 2000;Binns D. & Beckers D., 2001;Lindsay D., 1967;Porteners M., 1998a;Ismay K. et al., 2004;Porteners M., 1998b;			

Plate 16. PCT 401 – typical condition (VZ 15) within the Access Points.

Plate 17. PCT 401 – typical condition (VZ 16) within the Access Points.

Plate 18. PCT 401 – typical condition (VZ 17) within the Access Points.

Plate 19. PCT 401 – typical condition (VZ 18) within the Access Points.

4.1.9 PCT 468: Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum shrubby open forest on sandstone low hills in the southern Brigalow Belt South Bioregion (including Goonoo)

Table 14. PCT 468.

PCT ID	468
PCT Name	Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum shrubby open forest on sandstone low hills in the southern Brigalow Belt South Bioregion (including Goonoo)
Vegetation Formation	Dry Sclerophyll Forests (shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	33.00 %
Extent within Subject Land (ha)	0.38ha

4.1.9.1 Condition States

PCT 468 was represented by one condition classes within the Access Points:

- Vegetation Zone 19: Moderate/Good (VZ 19)

PCT 468 is detailed in **Table 15**, and displayed in **Plate 20**.

Table 15. PCT 468 within the Access Points.

PCT 468 Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum shrubby open forest on sandstone low hills in the southern Brigalow Belt South Bioregion (including Goonoo)	
Vegetation Zone	**Zone 19: Moderate/Good**
Extent within Subject Land (approximate)	0.38ha
Field survey effort	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Tall to mid-high woodland or open forest dominated by Narrow-leaved Ironbark (*Eucalyptus crebra*) with Black Cypress Pine (*Callitris endlicheri*) and often Blakely's Red Gum (*Eucalyptus blakelyi*). Other tree species include Buloke (*Allocasuarina luehmannii*) and Mugga Ironbark (*Eucalyptus sideroxylon*). The shrub layer is sparse to mid-dense depending on time since fire, grazing history and soil depth. Shrub species include *Calytrix tetragona, Melichrus urceolatus, Acacia triptera, Pultenaea boormanii, Dillwynia sieberi, Daviesia acicularis, Acacia hakeoides, Melaleuca erubescens, Kunzea parvifolia, Dillwynia sieberi, Grevillea arenaria, Acacia sertiformis* and *Acacia spectabilis*. The ground cover is sparse and includes the low shrubs *Astroloma humifusum* and *Platysace ericoides* along with grasses such as *Austrodanthonia monticola, Aristida vagans, Aristida ramosa* and *Austrostipa scabra*. The mat-rush *Lomandra filiformis subsp. coriacea* is common. Forb species include

PCT 468 Narrow-leaved Ironbark – Black Cypress Pine +/- Blakely's Red Gum shrubby open forest on sandstone low hills in the southern Brigalow Belt South Bioregion (including Goonoo)	
Vegetation Zone	**Zone 19: Moderate/Good**
	Goodenia hederacea subsp. hederacea, Gonocarpus tetragynus, Dianella revoluta var. revoluta, Xerochrysum viscosa and *Laxmannia gracilis*. Occurs on brown to yellow loamy sand or sandy loam soils derived from sandstone on hillslopes, hill crests and footslopes in low hill landforms mainly in the Goonoo forest and reserves north of Dubbo in the far south-western part of the Brigalow Belt South Bioregion.
Description of vegetation	Within the Access Points the canopy was dominated by *Eucalyptus microcarpa* and *Eucalyptus sideroxylon* with *Eucalyptus dawsonii. Acacia decora, Acacia deanei, Cassinia sifton* and *Dodonaea viscosa* common throughout the shrub layer. The ground layer was sparse and included species such as *Dianella revoluta*, *Anthosachne scabra* and *Xerochrysum viscosum*. Vegetation within this zone was in good condition with a very low coverage of environmental weeds present.
BC Act 2016 Status	Not listed.
EPBC Act 1999 Status	Not listed.
References	RACAC, 2004;Benson J., 1999-2009;NPWS, 2000a;Hunter J. & Jobson, 2008a;Lindsay D., 1967;Ismay K. et al., 2004;

Plate 20. PCT 468 – typical condition (VZ 19) within the Access Points.

4.1.10 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

Table 16. PCT 479.

PCT ID	479
PCT Name	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
Vegetation Formation	Dry Sclerophyll Forests (shrubby sub-formation)
Vegetation Class	Western Slopes Dry Sclerophyll Forests
Percent Cleared Value (%)	40 %
Extent within Subject Land (ha)	1.25ha

4.1.10.1 Condition States

PCT 479 was represented by five condition classes within the Access Points:

- Vegetation Zone 20: Excellent (VZ 20)
- Vegetation Zone 21: Moderate/Good (VZ 21)
- Vegetation Zone 22: Regrowth Shrubland (VZ 22)
- Vegetation Zone 23: Derived Native Grassland (VZ 23), and

- Vegetation Zone 24: Poor (VZ 24).

PCT 479 is detailed in **Table 17**, and displayed in **Plate 22** to **Plate 25**.

Table 17. PCT 479 within the Access Points.

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					
Vegetation Zone	**Zone 20: Excellent**	**Zone 21: Moderate/Good**	**Zone 22: Regrowth Shrubland**	**Zone 23: Derived Native Grassland**	**Zone 24: Poor**
Extent within Subject Land (approximate)	0.09ha	0.35ha	0.31ha	0.12ha	0.39ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Tall open forest dominated by Narrow-leaved Ironbark (*Eucalyptus crebra*), Black Cypress Pine (*Callitris endlicheri*) often with *Eucalyptus sparsifolia*, *Eucalyptus punctata* or *Eucalyptus dwyeri*. Other tree species may include *Eucalyptus nubila, Acacia linearifolia, Acacia crassa, Eucalyptus macrorhyncha, Eucalyptus fibrosa* and *Corymbia trachyphloia subsp. amphistomatica*. The occasional presence of *Eucalyptus punctata* and *Eucalyptus sparsifolia* indicates this community is transitioning into typical Sydney Basin sandstone vegetation. The shrub layer is usually sparse but may be mid-dense in places and is rich in species. Shrub species include *Cassinia arcuata, Acacia buxifolia subsp. buxifolia, Acacia verniciflua, Acacia piligera, Cassinia laevis, Dodonaea triangularis, Phyllanthus hirtellus, Sannantha cunninghamii, Macrozamia spiralis, Melichrus urceolatus, Allocasuarina gymnanthera, Melichrus erubescens, Grevillea sericea, Styphelia triflora, Acacia sertiformis, Leucopogon muticus, Hibbertia obtusifolia, Kunzea parvifolia, Acrotriche rigida, Prostanthera howelliae, Exocarpos cupressiformis* and *Choretrum sp. A*. The ground cover is usually sparse and may contain litter or rock. Grass species include *Joycea pallida, Austrostipa densiflora, Echinopogon caespitosus var. caespitosus, Digitaria ramularis, Aristida vagans* and *Microlaena stipoides var. stipoides*. The low shrub *Astroloma humifusum* may be present. Sedges such as Gahnia aspera and Lepidosperma laterale and mat-rushes such as *Lomandra glauca* and *Lomandra filiformis subsp. coriacea* may be present. Forb species include *Pomax umbellata*, *Goodenia hederacea subsp. hederacea, Gonocarpus elatus, Dianella revoluta var. revoluta, Stypandra glauca* and *Xerochrysum viscosa*. Occurs on red-brown loamy clay to sandy loam soils derived from sandstone, sitlstone and shale in hill and low hill landforms in the southern BBS, northern NSW SWS and north-western Sydney Basin Bioregions. Some areas have been cleared but reasonable representation in reserves.					

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					
Vegetation Zone	**Zone 20: Excellent**	**Zone 21: Moderate/Good**	**Zone 22: Regrowth Shrubland**	**Zone 23: Derived Native Grassland**	**Zone 24: Poor**
Description of vegetation	Within the Access Points the canopy was dominated by *Eucalyptus macrorhyncha* and *Eucalyptus crebra* along with *Eucalyptus dealbata*, *Callitris endlicheri* and *Acacia linearifolia*. The shrub layer included *Acacia implexa*, *Allocasuarina gymnanthera*, *Ozothamnus diosmifolius*, *Leucopogon muticus, Persoonia linearis, Hibbertia obtusifolia* and *Cassinia sifton*. The ground layer contains typical species including *Microlaena stipoides*, *Lepidosperma laterale*, *Echinopogon ovatus*, *Entolasia marginata, Gahnia aspera*, *Cheilanthes sieberi* and *Goodenia hederacea*. Vegetation Zone 22 included a greater diversity of shrubs with additional species such as *Grevillea sericea*, *Olearia microphylla*, *Persoonia linearis*, *Platysace ericoides* and more recorded.				
BC Act 2016 Status	Not listed.				
EPBC Act 1999 Status	Not listed.				
References	Benson J., 1999-2009;DEC, 2005;Sommerville M., 2009;Hill L., 1999;Lembit R. & Skelton N., 1998;Ismay K. et al., 2004;				

Plate 21. PCT 479 – typical condition (VZ 20) within the Access Point (Blue Springs Road).

Plate 22. PCT 479 – typical condition (VZ 21) within the Access Points.

Plate 23. PCT 479 – typical condition (VZ 22) within the Access Points.

Plate 24. PCT 479 – typical condition (VZ 23) within the Access Points.

Plate 25. PCT 479 – typical condition (VZ 24) within the Access Point (Blue Springs Road).

4.1.11 PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region

Table 18. PCT 481.

PCT ID	481
PCT Name	Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region
Vegetation Formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation Class	North Coast Dry Sclerophyll Forests
Percent Cleared Value (%)	28%
Extent within Subject Land (ha)	1.20ha

4.1.11.1 Condition States

PCT 481 was represented by five condition classes within the Access Points:

- Vegetation Zone 25: Excellent (VZ 25)
- Vegetation Zone 26: Moderate/Good (VZ 26)

- Vegetation Zone 27: Thinned (VZ 27)
- Vegetation Zone 28: Regrowth Shrubland (VZ 28), and
- Vegetation Zone 29: Derived Native Grassland (VZ 29).

PCT 481 is detailed in **Table 19**, and displayed in **Plate 27** to **Plate 30**.

Table 19. PCT 481 within the Access Points.

PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region					
Vegetation Zone	**Zone 25: Excellent**	**Zone 26: Moderate/Good**	**Zone 27: Thinned**	**Zone 28: Regrowth Shrubland**	**Zone 29: Derived Native Grassland**
Extent within Subject Land (approximate)	0.30 ha	0.14ha	0.22ha	0.21ha	0.32ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 10m x 100m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Tall open forest to woodland dominated by *Angophora floribunda, Eucalyptus blakelyi* with *Eucalyptus punctata* grading upslope into Euc*alyptus crebra, Eucalyptus sparsifolia, Acacia linearifolia* and *Callitris endlicheri*. Shrubs are sparse and include *Styphelia triflora, Hibbertia obtusifolia, Persoonia linearis* and *Xanthorrhoea johnsonii*. The ground cover is very sparse and bare in creek beds. Grasses include *Microlaena stipoides var. stipoides, Echinopogon caespitosus, Echinopogon ovatus, Imperata cylindrica var. major, Arundinella nepalensis* and *Lachnagrostis filiformis*. Forbs include *Dichondra repens, Persicaria prostrata, Hydrocotyle laxiflora, Geranium solanderi var. solanderi, Poranthera microphylla, Rorippa laciniata, Rumex brownii, Urtica incisa, Sigesbeckia australiensis, Veronica plebeia* and *Geranium potentilloides var. potentilloides*. The rock fern *Cheilanthes sieberi subsp. sieberi* and the tall ferns *Ptyridium esculentum* or *Pteris tremula* also occur. The sedge *Carex appressa* and rush *Juncus psammophilus* may be present. Occurs on alluvial sands or loam soil derived mainly from sandstone in hill or low hill landforms in the upper Hunter Valley mainly in the Sydney Basin Bioregion with small areas in the BBS Bioregion. Partly cleared and sometimes weed infested due to position in valleys.				
Description of vegetation	The canopy was dominated by *Angophora floribunda* with other species including *Eucalyptus blakelyi* and *Brachychiton populneus.* The typical shrub species *Styphelia triflora* and *Jacksonia scoparia* were present. The grass species *Arundinella nepalensis* was prevalent in the ground layer along with other typical grass species including *Echinopogon caespitosus, Themeda triandra* and *Imperata cylindrica.*				
BC Act 2016 Status	Not listed				

PCT 481: Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region					
Vegetation Zone	**Zone 25: Excellent**	**Zone 26: Moderate/Good**	**Zone 27: Thinned**	**Zone 28: Regrowth Shrubland**	**Zone 29: Derived Native Grassland**
EPBC Act 1999 Status	Not listed				
References	RACAC, 2004;Benson J., 1999-2009;Paull D., 2000;Binns D. & Beckers D., 2001;Lindsay D., 1967;Porteners M., 1998a;Ismay K. et al., 2004;Porteners M., 1998b;				

Plate 26. PCT 481 – typical condition (VZ 25) within the Access Points.

Plate 27. PCT 481 – typical condition (VZ 26) within the Access Points.

Plate 28. PCT 481 – typical condition (VZ 27) within the Access Points.

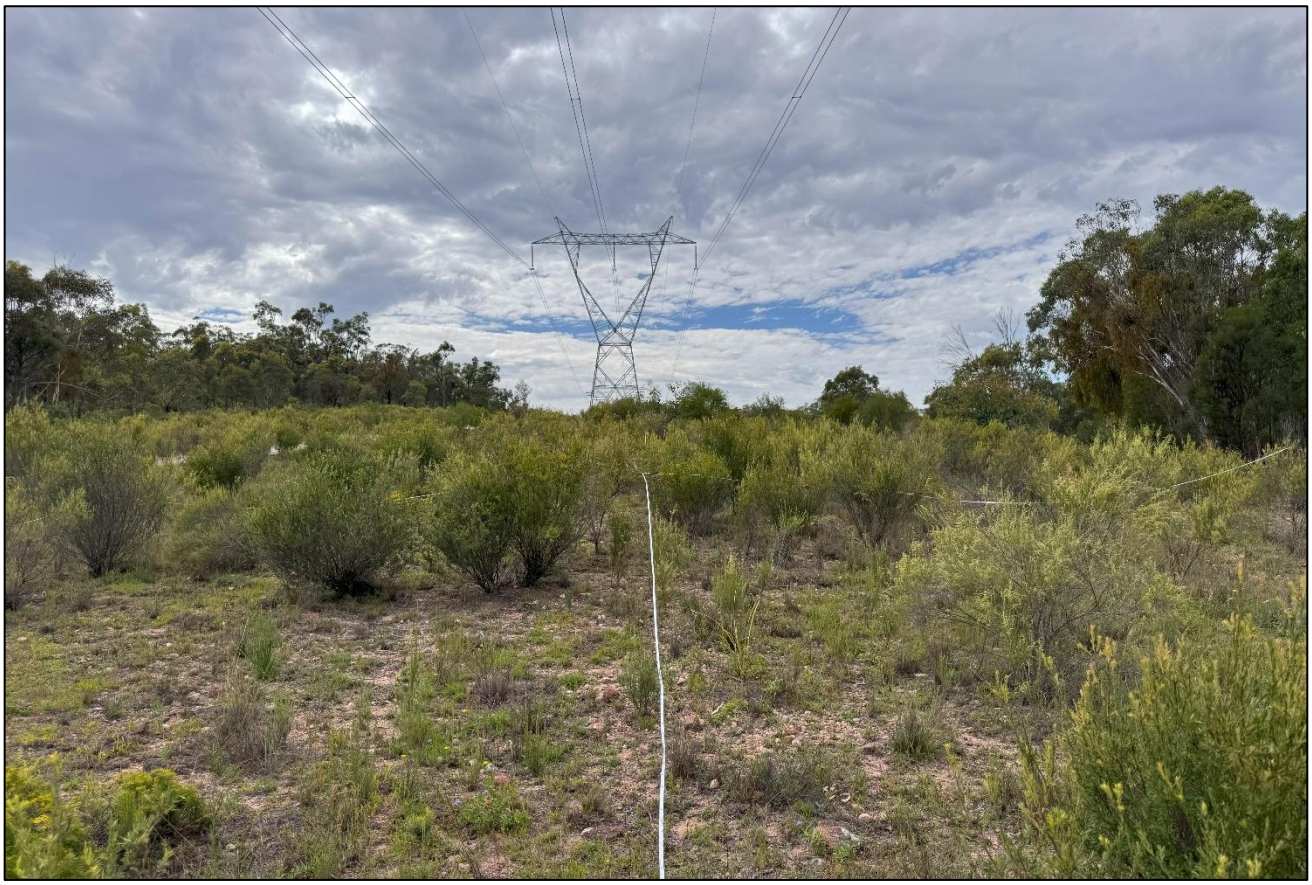


Plate 29. PCT 481 – typical condition (VZ 28) within the Access Points.

Plate 30. PCT 481 – typical condition (VZ 29) within the Access Points.

4.1.12 PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley

Table 20. PCT 483.

PCT ID	483
PCT Name	Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley
Vegetation Formation	Grassy Woodlands
Vegetation Class	Western Slopes Grassy Woodlands
Percent Cleared Value (%)	90%
Extent within Subject Land (ha)	3.67ha

4.1.12.1 Condition States

PCT 483 was represented by two condition classes within the Access Points:

- Vegetation Zone 30: Thinned (VZ 30), and
- Vegetation Zone 31: Derived Native Grassland (VZ 31).

PCT 483 is detailed in **Table 21**,and displayed in **Plate 31** and **Plate 32**.

Table 21. PCT 483 within the Access Points.

PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley		
Vegetation Zone	**Zone 30: Thinned**	**Zone 31: Derived Native Grassland**
Extent within Subject Land (approximate)	0.08ha	3.59ha
Field survey effort	One 20m x 50m BAM plot was sampled.	One 20m x 50m BAM plot was sampled.
Description of vegetation in BioNet	Mid-high to tall open woodland or woodland dominated by a Grey Box (*Eucalyptus moluccana*) x White Box (*Eucalyptus albens*) hybrid forming an *Eucalyptus albens* <-> *moluccana* intermediate taxon. The trees tend to be closer to Grey Box than White Box over most of this region. Few other tree species occur with Rough-barked Apple (*Angophora floribunda*) and Yellow Box (*Eucalyptus melliodora*) occurring on footslopes and valley flats. Shrubs are absent or very sparse and include *Sclerolaena muricata, Sida trichopoda* and *Pimelea curviflora var. curviflora*. The ground cover is dense after rain but mid-dense to sparse in dry times. Grass species include *Austrostipa bigeniculata, Bothriochloa macra, Austrostipa aristiglumis, Elymus scaber var. scaber, Cynodon dactylon* and *Panicum queenslandicum var. queenslandicum*. The sedge *Cyperus gracilis* may be present. Forb species include *Boerhavia dominii, Oxalis perennans, Chamaesyce drummondii, Hibiscus trionum, Einadia nutans subsp.*	

PCT 483: Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley		
Vegetation Zone	**Zone 30: Thinned**	**Zone 31: Derived Native Grassland**
	nutans, Asperula conferta, Rumex brownii, Mentha diemenica, Geranium solanderi var. solanderi and *Calotis lappulacea*. Occurs on brown to black earth, chocolate loam to clay soils derived from basalt on hillslopes, hillcrests, footslopes and valley flats on rolling hills and low hills on the Merriwa Plain and lower southern slopes of the Liverpool Range in the upper Hunter Valley in the far south-eastern corner of the Brigalow Belt South Bioregion. Mainly cleared. Listed as part of the grassy box-gum woodland EEC in both the EPBC and NSW TSC Acts. Threatened by fragmentation, weed invasion, tree dieback and intensive agricultural development of ground cover. Very poorly or not represented in protected areas as of 2009.	
Description of vegetation	The canopy was dominated by *Eucalyptus albens* and *Eucalyptus moluccana x albens.* The shrub layer was almost absent with *Acacia implexa* the only shrub recorded. The groundlayer was made up of a range of native grass species including *Austrostipa verticillata*, *Anthosachne scabra*, *Dichanthium spp.*, *Sporobolus creber* and *Panicum effusum*. Priority and environmental weeds such as *Carthamus lanatus*, *Bromus hordeaceus* and *Hypericum perforatum* were common throughout these vegetation zones.	
BC Act 2016 Status	This PCT is associated with 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. Refer to **Section 4.1.13.1**.	
EPBC Act 1999 Status	This PCT is associated with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC. Refer to **Section 4.1.13.2**.	
References	RACAC, 2004; Benson J., 1999-2009;Sommerville M., 2009;McRae R. & Cooper M., 1985;	

Plate 31. PCT 483 – typical condition (VZ 30) within the Access Point (ARMSTRONG).

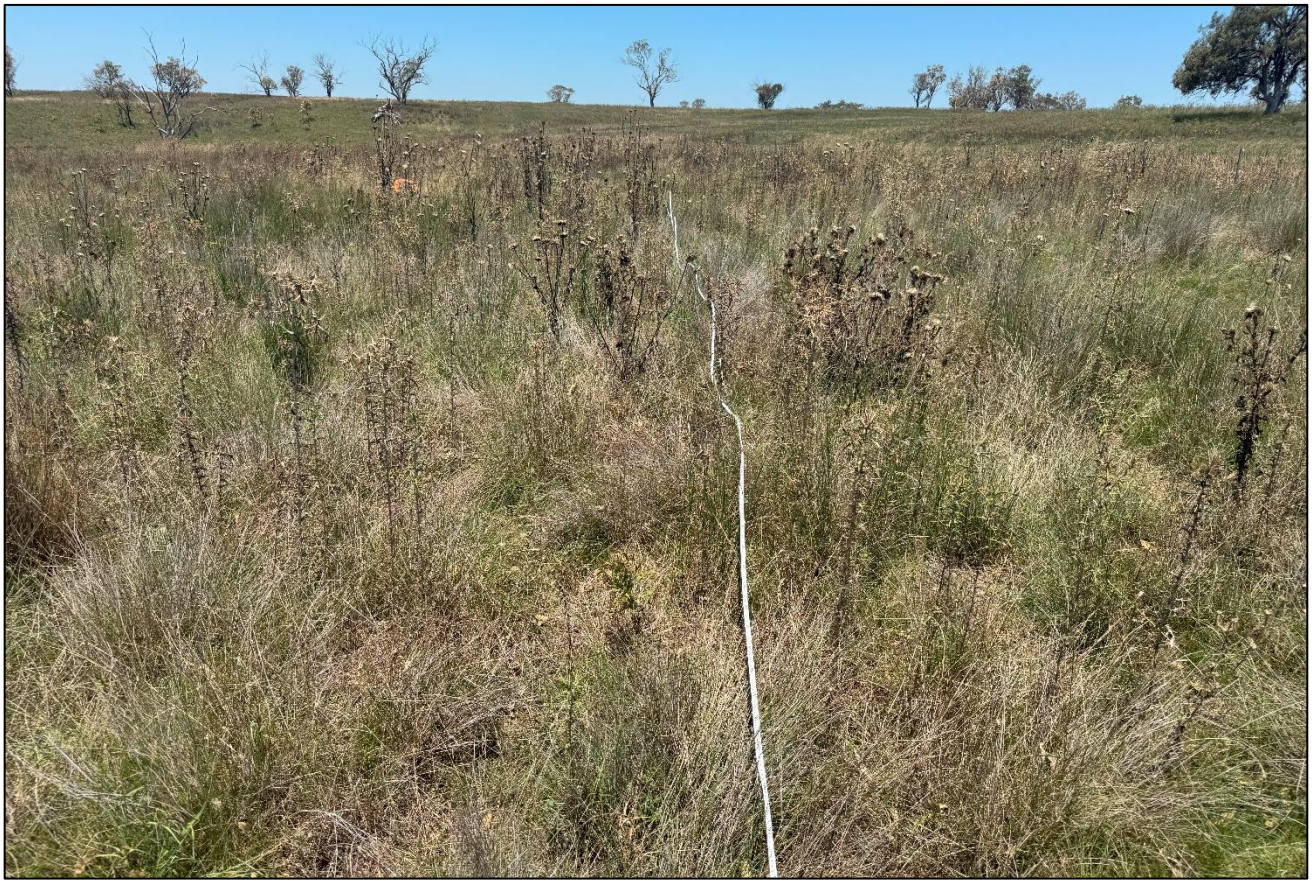


Plate 32. PCT 483 – typical condition (VZ 31) within the Access Point (ARMSTRONG).

4.1.13 Threatened Ecological Communities

4.1.13.1 *Biodiversity Conservation Act 2016* - 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

As outlined in the BioNet Vegetation Classification database, PCT 266, PCT 281, PCT 401 and PCT 483 are associated with the BC Act listed CEEC, 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. Characteristic canopy species detailed in the Final Determination for this community including *Eucalyptus albens*, *Eucalyptus blakelyi*, *Eucalyptus melliodora*, *Angophora floribunda* and *Brachychiton populneus* were recorded within these PCTs (NSW Scientific Committee, 2020). Characteristic shrubs and groundlayer species were also recorded throughout these PCTs. The final determination does not exclude disturbed areas or areas in poor condition from the TEC (NSW Scientific Committee, 2020) and derived native grasslands are specifically included as part of the TEC. Therefore, all vegetation zones of PCT 266, PCT 281, PCT 401 and PCT 483 were considered to be part of the BC Act listed CEEC.

4.1.13.2 *Environmental Protection and Biodiversity Conservation Act 1999* - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

As outlined in the BioNet Vegetation Classification database, PCT 266, PCT 281, PCT 401 and PCT 483 associated with the EPBC Act listed CEEC, White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. The Approved Conservation Advice for this community lists key diagnostic attributes and condition thresholds to determine whether the federal listing applies to an ecological community, both of which must be met for listing under the EPBC Act (Department of Climate Change, Energy, the Environment and Water, 2023). Using data from the vegetation integrity plots within each PCT and vegetation zone, it was determined which vegetation zones meet the key diagnostic characteristics and condition thresholds. A summary of the vegetation zones that are part of the EPBC Act listed CEEC is provided in **Table 22**.

Table 22. White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland EPBC Act listed CEEC within the Access Points.

PCT	Vegetation zone	Meets condition thresholds and key diagnostics?	Access Point ID
266	Moderate/Good	Yes	SP2-F
	Derived Native Grassland	No, the ground layer is not predominantly native, the patch does not contain 20 mature trees per ha and the patch does not contain natural regeneration.	-

PCT	Vegetation zone	Meets condition thresholds and key diagnostics?	Access Point ID
281	Moderate/Good	Yes	SP2-I, SP3-A, Puggoon Road
	Thinned	Yes	SP1-I, SP6-F1, SP6-Y1, SP6-EI, SP1-T, SP3-A, SP3-E, SP1-C, SP6-C, SP1-P, Whistons Lane, Puggoon Road
	Poor	Yes	Puggoon Road, SP1-Q, SP1-I, SP3-A, SP1-R
	Regrowth Shrubland	No, the average shrub cover is >30% therefore the patch is considered to be a shrubby woodland and is not part of the TEC.	-
	Derived Native Grassland	No, the ground layer is not predominantly native, the patch does not contain 20 mature trees per ha and the patch does not contain natural regeneration.	-
401	Moderate/Good	Yes	SP1-O
	Thinned	Yes	SP1-O
	Regrowth Shrubland	No, the average shrub cover is >30% therefore the patch is considered to be a shrubby woodland and is not part of the TEC.	-
	Derived Native Grassland	Yes. Ground layer is predominately native and contains at least 12 native, non-grass species and at least one understorey species is recognised as 'important'.	SP1-O
483	Thinned	Yes.	ARMSTRONG
	Derived Native Grassland	Yes, the ground layer is predominately native and the	ARMSTRONG

PCT	Vegetation zone	Meets condition thresholds and key diagnostics?	Access Point ID
		patch contains natural regeneration of dominant overstorey eucalypts.	

5. HABITAT SUITABILITY FOR THREATENED SPECIES

5.1 Identification of Threatened Species for Assessment

Predicted flora species credit species that were retained for further assessment from Section 5.1.4 of the approved BDAR are listed in **Table 23**.

Table 23. Candidate flora species from the approved BDAR.

Scientific Name	Targeted Survey conducted?	Present within Access Points?
Acacia ausfeldii Ausfeld's Wattle	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Acacia pendula – endangered population *Acacia pendula* population in the Hunter catchment	Yes	No
Androcalva procumbens (syn. *Commersonia procumbens*)	Yes	No
Cymbidium canaliculatum - endangered population	Yes	No
Dichanthium setosum Bluegrass	Yes	No
Digitaria porrecta Finger Panic Grass	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Diuris tricolor Pine Donkey Orchid	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Eucalyptus alligatrix *subsp. alligatrix*	Yes	No
Eucalyptus camaldulensis *Eucalyptus camaldulensis* population in the Hunter catchment	Yes	No
Eucalyptus cannonii	Yes	No
Eucalyptus nicholii	Yes	No
Euphrasia arguta	Yes	No
Homoranthus darwinioides Fairy Bells	Yes	No
Indigofera efoliata Leafless Indigo	Yes, although conducted outside of the NSW DCCEEW survey period.	No

Scientific Name	Targeted Survey conducted?	Present within Access Points?
Kennedia retrorsa	Yes	No
Lasiopetalum longistamineum	Yes	No
Leucochrysum albicans var. tricolor	Yes	No
Ozothamnus tesselatus	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Persoonia marginata	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Polygala linariifolia	Yes	No
Pomaderris cotoneaster Cotoneaster Pomaderris	Yes	No
Pomaderris queenslandica Scant Pomaderris	Yes	No
Pomaderris reperta	Yes	No
Prasophyllum petilum Tarengo Leek Orchid	Yes	No
Prostanthera cryptandroides subsp. cryptandroides Wollemi Mint-bush	Yes	No
Prostanthera discolor	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Prostanthera stricta Mount Vincent Mint-bush	Yes	No
Pterostylis cobarensis Greenhood Orchid	Yes, although conducted outside of the NSW DCCEEW survey period.	No
Swainsona sericea Silky Swainson-pea	Yes	No
Swainsona recta Small Purple-pea	Yes	No
Thesium australe Austral Toadflax	Yes	No
Tylophora linearis	Yes	No
Zieria ingramii Keith's Zieria	Yes	No

5.2 Surveys for Confirmed Species Credit Species and their Habitats

5.2.1 Fauna Species Credit Survey

No targeted threatened fauna surveys were undertaken. Threatened fauna habitat features were recorded during field surveys and are displayed in **Figure 2** to **Figure 40**.

5.2.2 Flora Species Credit Survey

Thirty-three threatened flora species were identified within Section 5.2 the approved BDAR (WSP, 2024) as having the potential to occur within the project. A targeted survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE 2020b).

Table 24. Species credit flora species requiring targeted surveys. Targeted surveys were conducted within endorsed survey periods.

Candidate Flora Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Acacia ausfeldii											✓	✓
Acacia pendula											✓	✓
Androcalva procumbens											✓	✓
Cymbidium canaliculatum											✓	✓
Dichanthium setosum											✓	✓
Digitaria porrecta											✓	✓
Diuris tricolor											✓	✓
Eucalyptus alligatrix subsp. alligatrix											✓	✓
Eucalyptus camaldulensis											✓	✓
Eucalyptus cannonii											✓	✓
Eucalyptus nicholii											✓	✓
Euphrasia arguta											✓	✓
Homoranthus darwinioides											✓	✓
Indigofera efoliata											✓	✓
Kennedia retrorsa											✓	✓
Lasiopetalum longistamineum											✓	✓
Leucochrysum albicans var. tricolor											✓	✓
Ozothamnus tesselatus											✓	✓
Persoonia marginata											✓	✓
Polygala linariifolia											✓	✓

Candidate Flora Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pomaderris cotoneaster											✓	
Pomaderris queenslandica											✓	✓
Pomaderris reperta											✓	✓
Prasophyllum petilum											✓	✓
Prostanthera cryptandroides subsp. cryptandroides											✓	✓
Prostanthera discolor											✓	✓
Prostanthera stricta											✓	✓
Pterostylis cobarensis											✓	✓
Swainsona sericea											✓	
Swainsona recta											✓	
Thesium australe											✓	✓
Tylophora linearis											✓	✓
Zieria ingramii											✓	✓
Key	✓ = Surveyed						= NSW DCCEEW endorsed survey period					

Pre-survey weather conditions (**Table 1**) were generally conducive for identifying threatened species should they occur within the Access Points. These surveys were implemented in accordance with Section 5.3 of the BAM.

Three (3) potential threatened flora species were identified within the Access Points during the field surveys (**Table 25**). Samples were collected and sent to the NSW Herbarium, which confirmed the samples were not threatened flora species.

Table 25. Threatened flora species identified within the Access Points.

Scientific Name	Common Name	BC Act	EPBC Act	Location/Access Point ID	Herbarium Identification
Dichanthium setosum	Bluegrass	V	V	SP1-Q, SP1-N, SP6-C, SP6-F1, SP5-I1, SP1-O	All samples identified as *Dichanthium sericeum* or *Bothriochloa biloba.*
Eucalyptus cannonii	Capertee Stringybark	V	-	SP5-A	Samples identified as *Eucalyptus*

Scientific Name	Common Name		BC Act	EPBC Act	Location/Access Point ID	Herbarium Identification
						macrorhyncha x *cannonii* hybrids.
Swainsona sericea	Silky pea	Swainson-	V	-	SP1-O, just outside of the boundary.	Sample identified as *Swainsona reticulata*.

6. SERIOUS AND IRREVERSIBLE IMPACTS

One TEC present within the Access Points has been identified as an entity at risk of a SAII in the Threatened Biodiversity Data Collection (NSW DCCEEW, 2024b) (**Table 26**).

Table 26. Threatened Ecological Communities within the Access Points at risk of an SAII.

Threatened Ecological Community	Access Point ID
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 – BC Act listed CEEC	ARMSTRONG, Puggoon Road, SP1-C, SP1-G, SP1-I, SP1-O, SP1-P, SP1-Q, SP1-R, SP1-S, SP1-T, SP1-U, SP2-F, SP2-I, SP3-A, SP3-E, SP5-I1, SP6-C, SP6-E1, SP6-F1, SP6-Y1, Whistons Lane

Figure 2. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP2-D.

Figure 3. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP2-F.

Figure 4. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP2-I.

Figure 5. Vegetation Mapping, Habitat Features and Threatened Species within Access Point Whistons Lane.

Figure 6. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP3-A.

Figure 7. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP3-E.

Figure 8. Vegetation Mapping, Habitat Features and Threatened Species within Access Point Puggoon Road.

Figure 9. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-C.

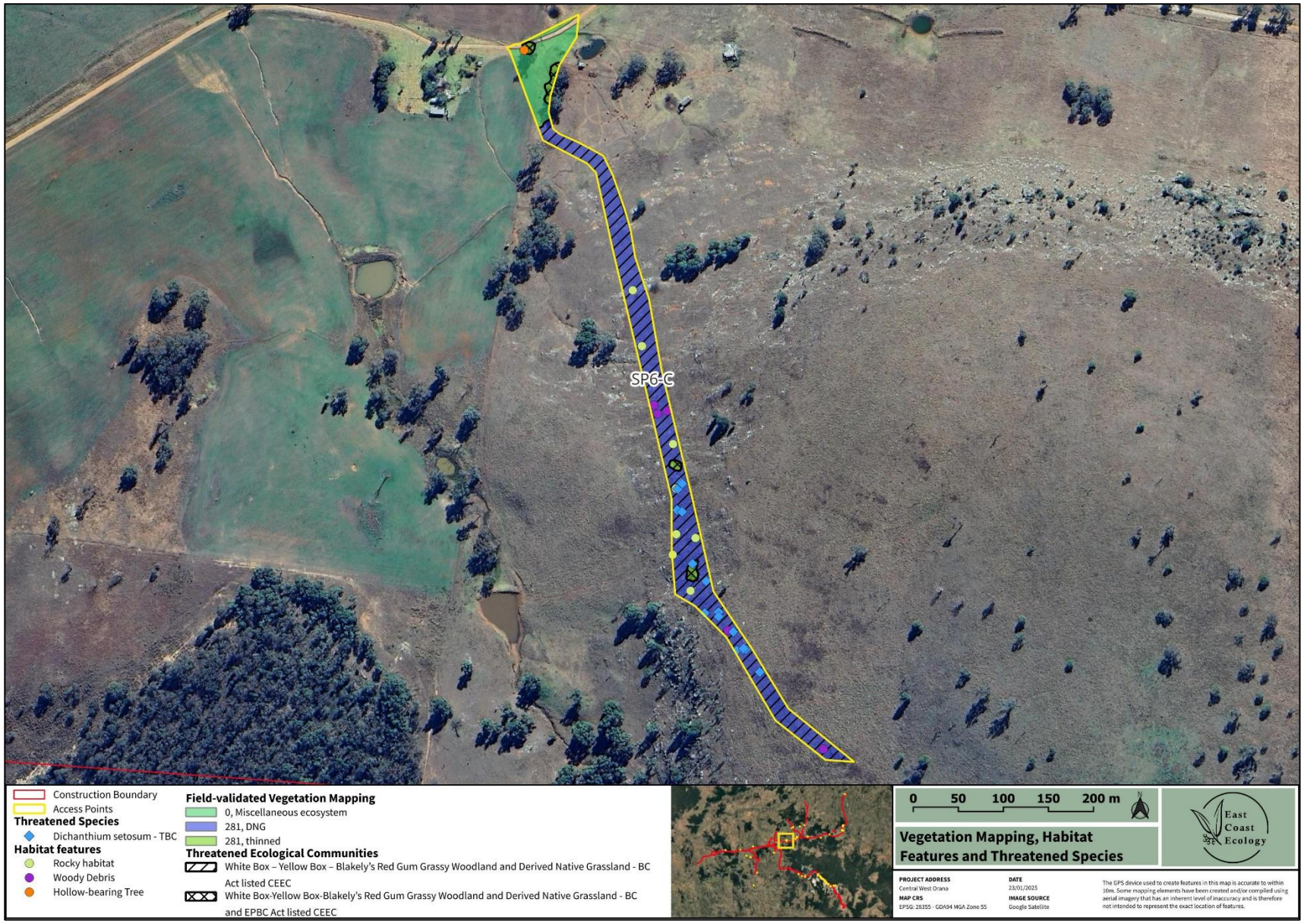


Figure 10. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-C.

Figure 11. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-E1.

Figure 12. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-F1.

Figure 13. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-Y1.

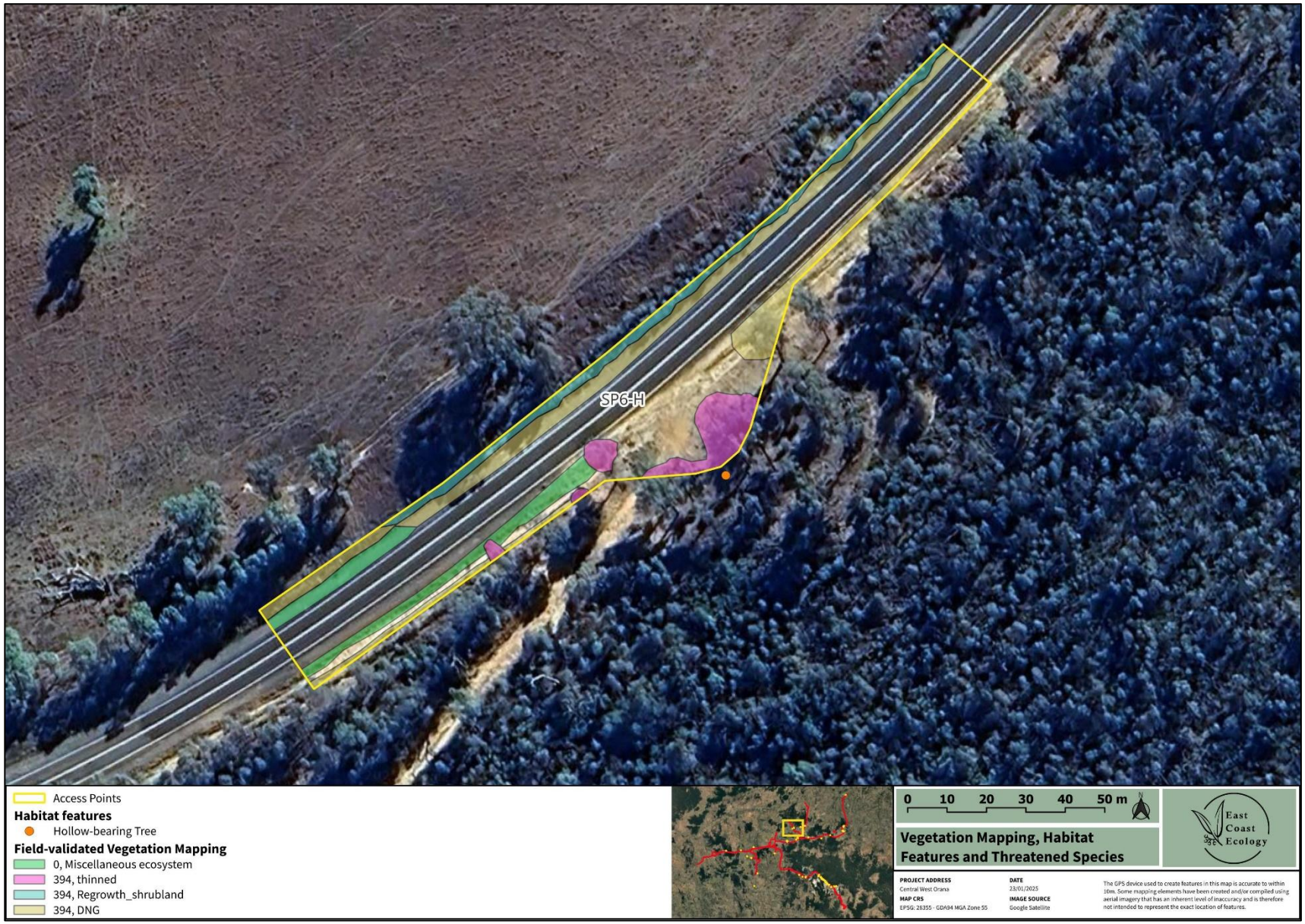


Figure 14. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP6-H.

Figure 15. Vegetation Mapping, Habitat Features and Threatened Species within Access Points SP6-Z1 and Z2.

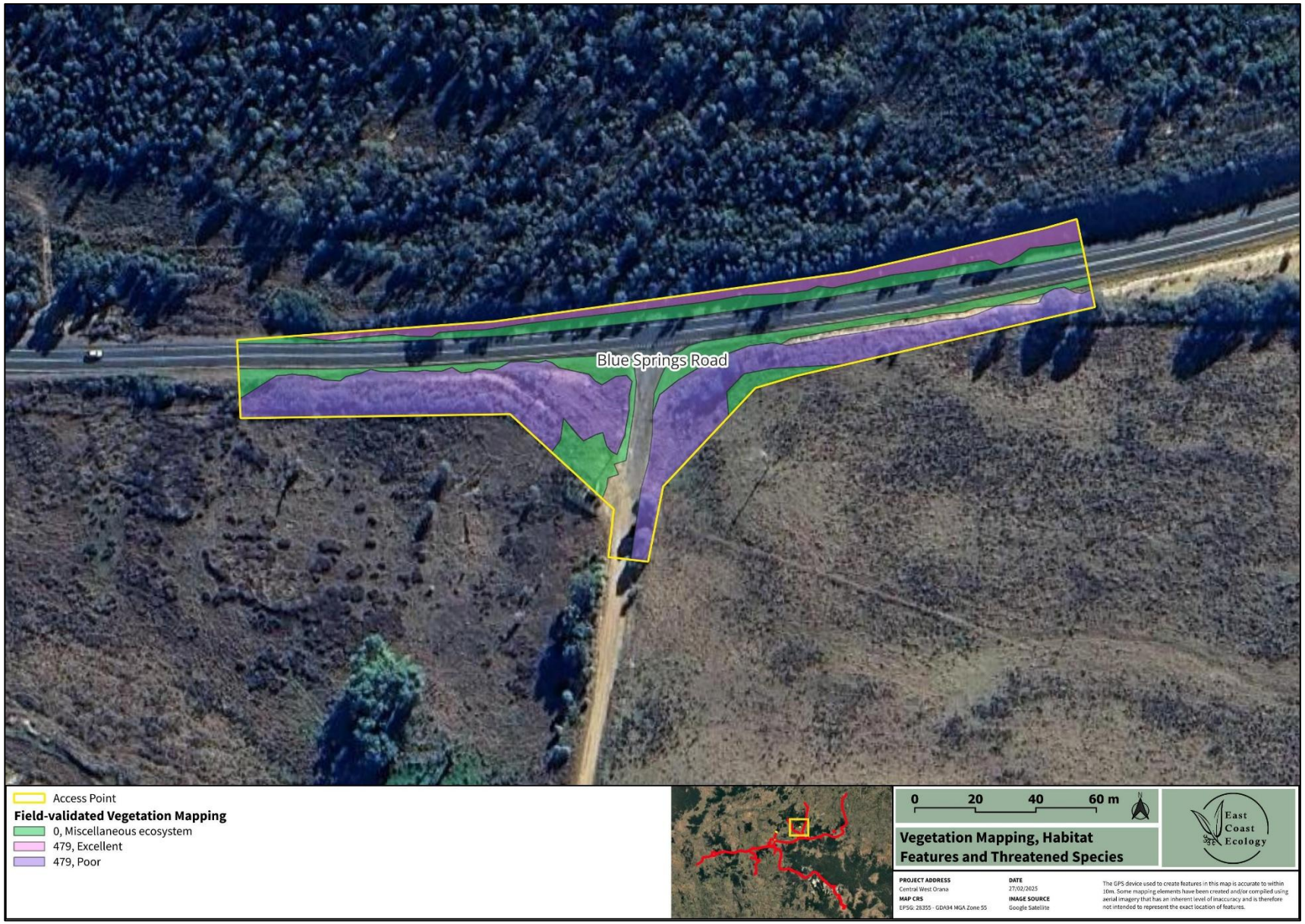


Figure 16. Vegetation Mapping, Habitat Features and Threatened Species within Access Point Blue Springs Road.

Figure 17. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-A.

Figure 18. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-D.

Figure 19. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-E1 and E2.

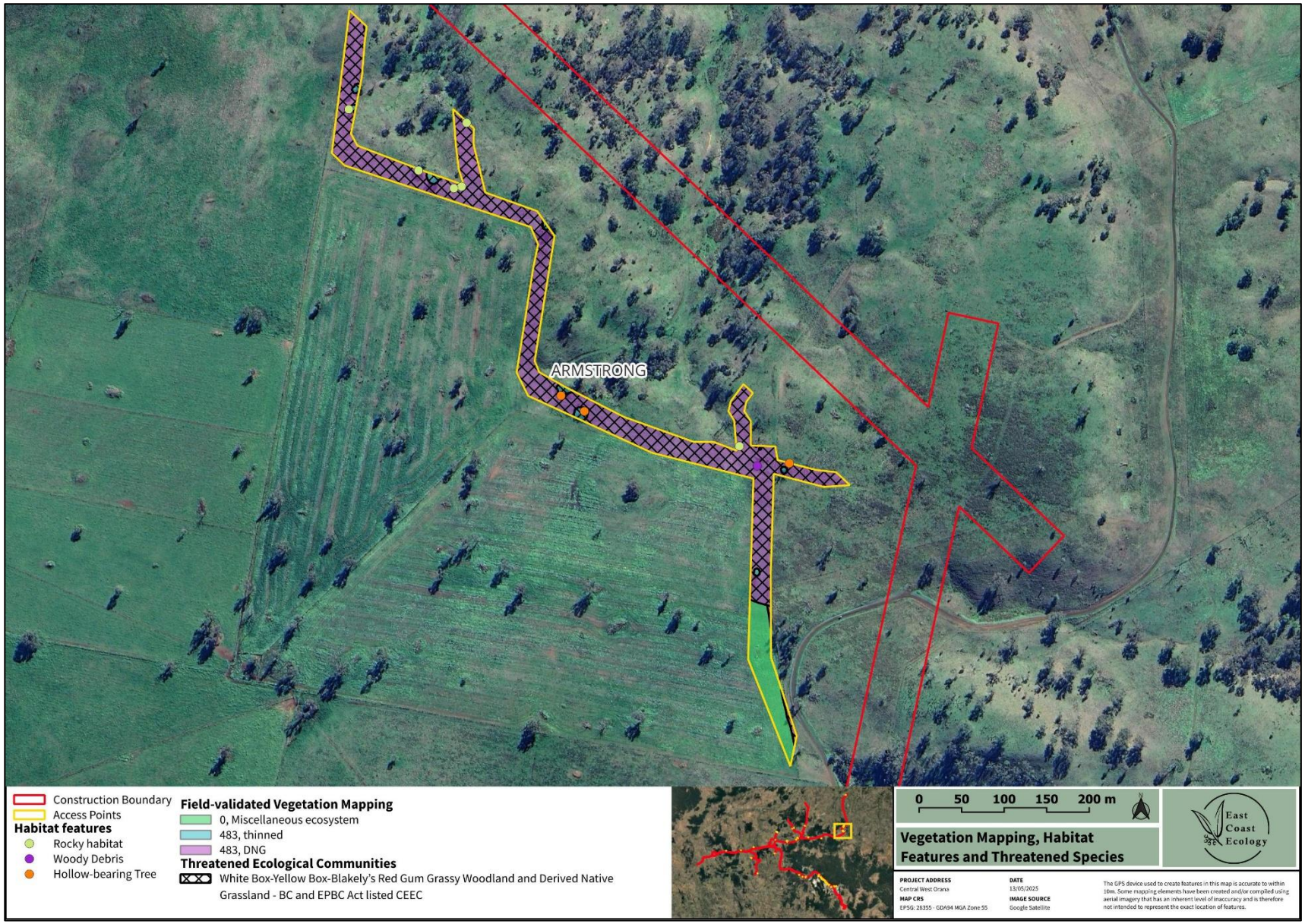


Figure 20. Vegetation Mapping, Habitat Features and Threatened Species within Access Point ARMSTRONG.

Figure 21. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-G (Part 1).

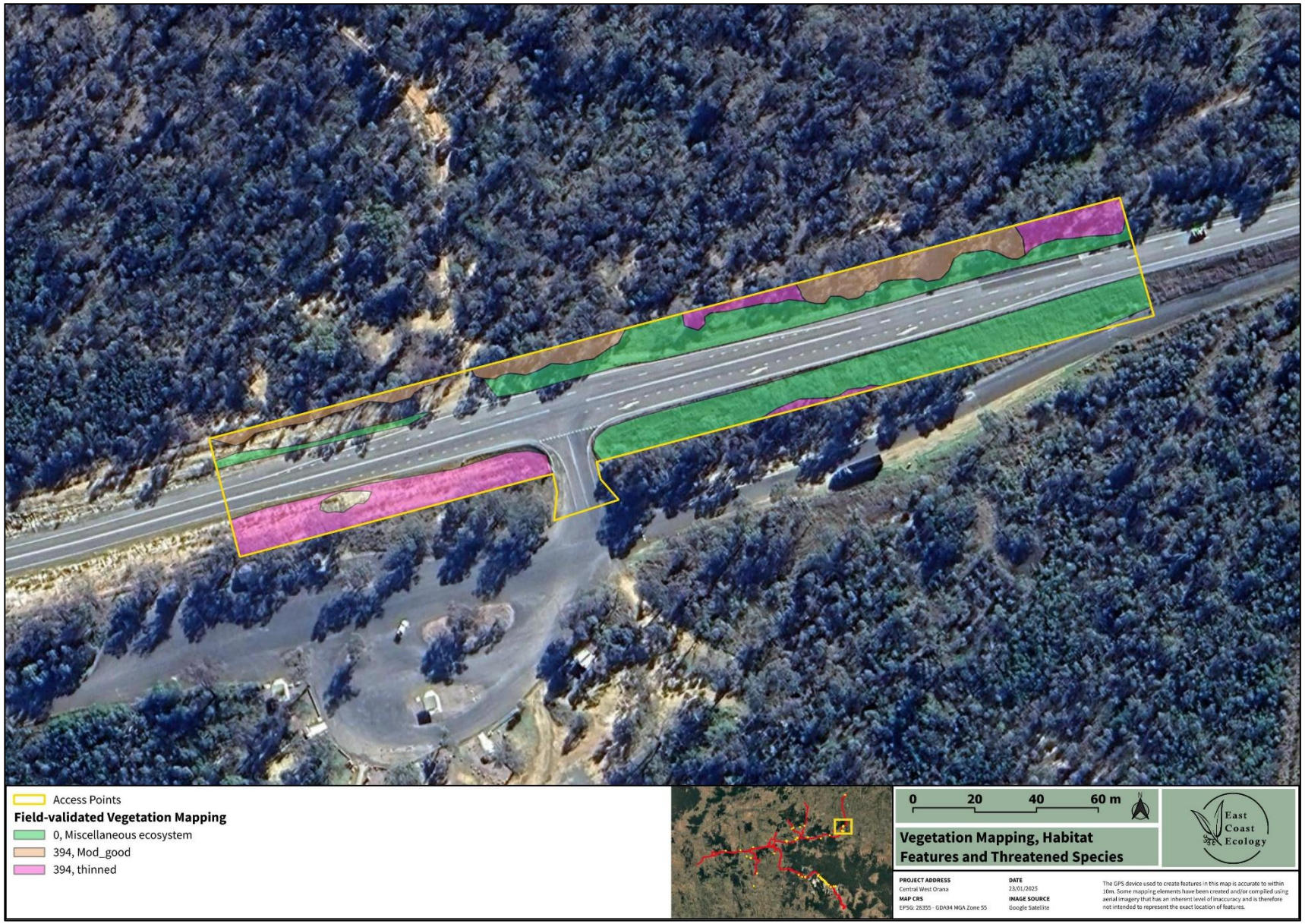


Figure 22. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-G (Part 2).

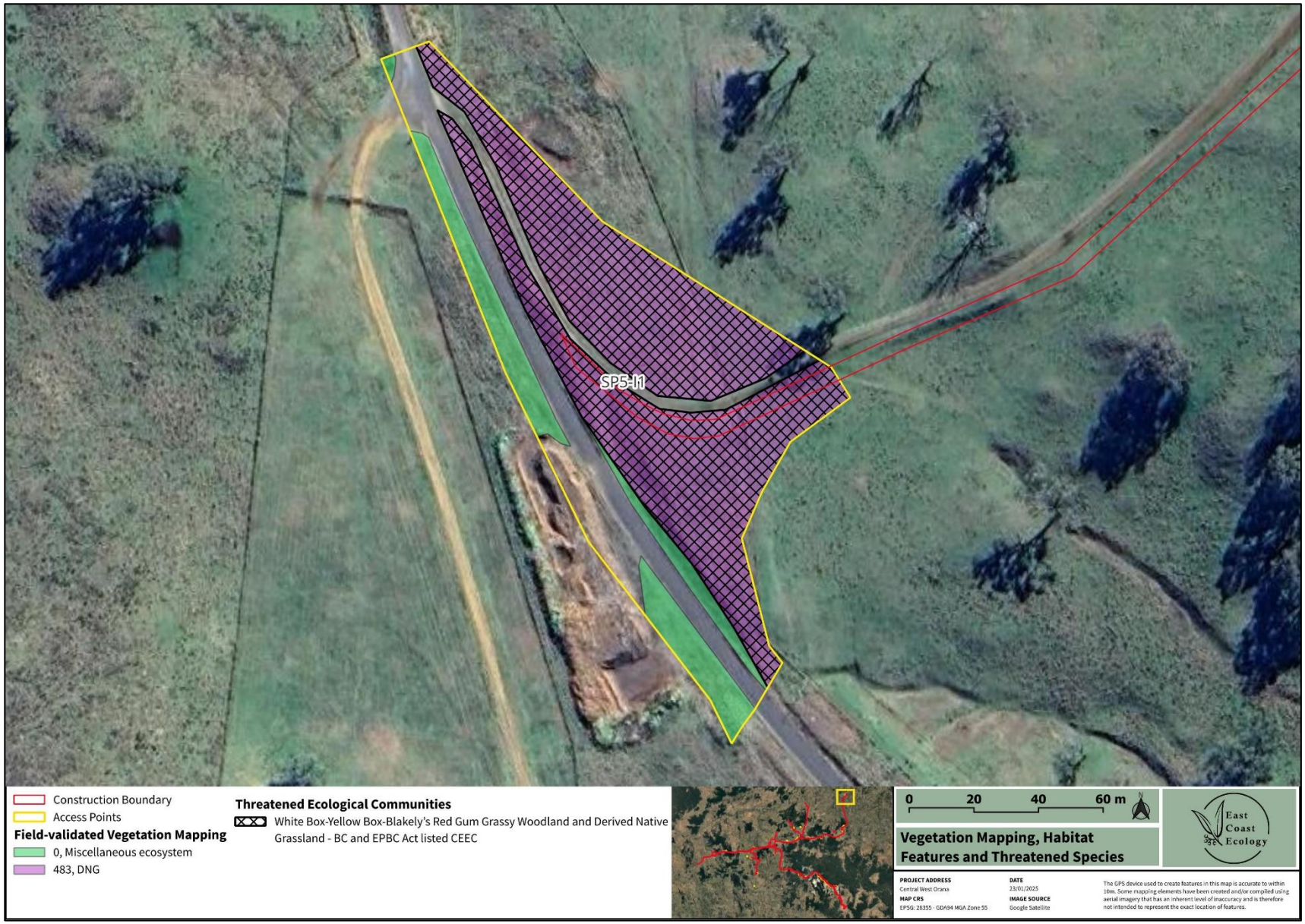


Figure 23. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP5-I1.

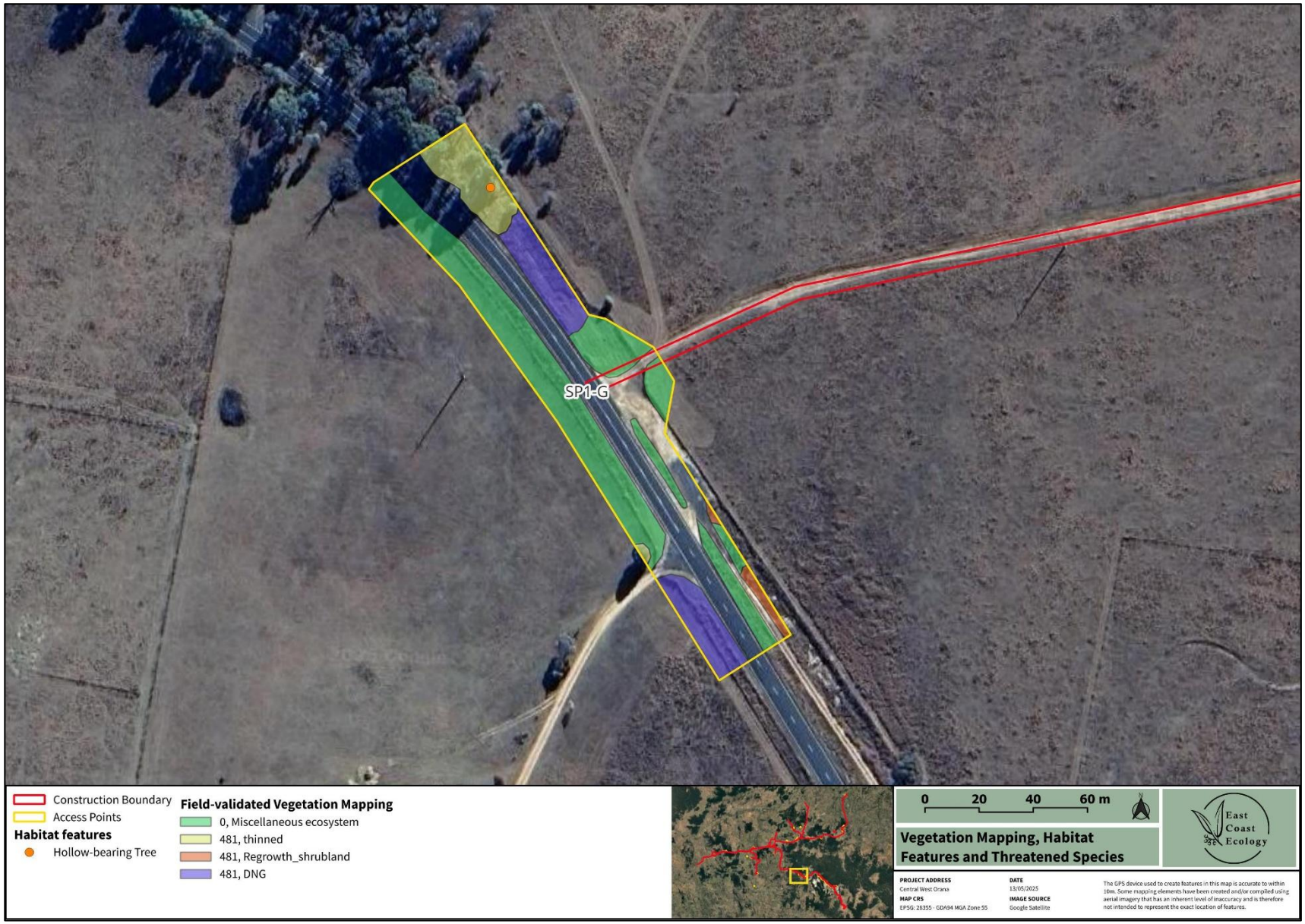


Figure 24. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-G.

Figure 25. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-H1.

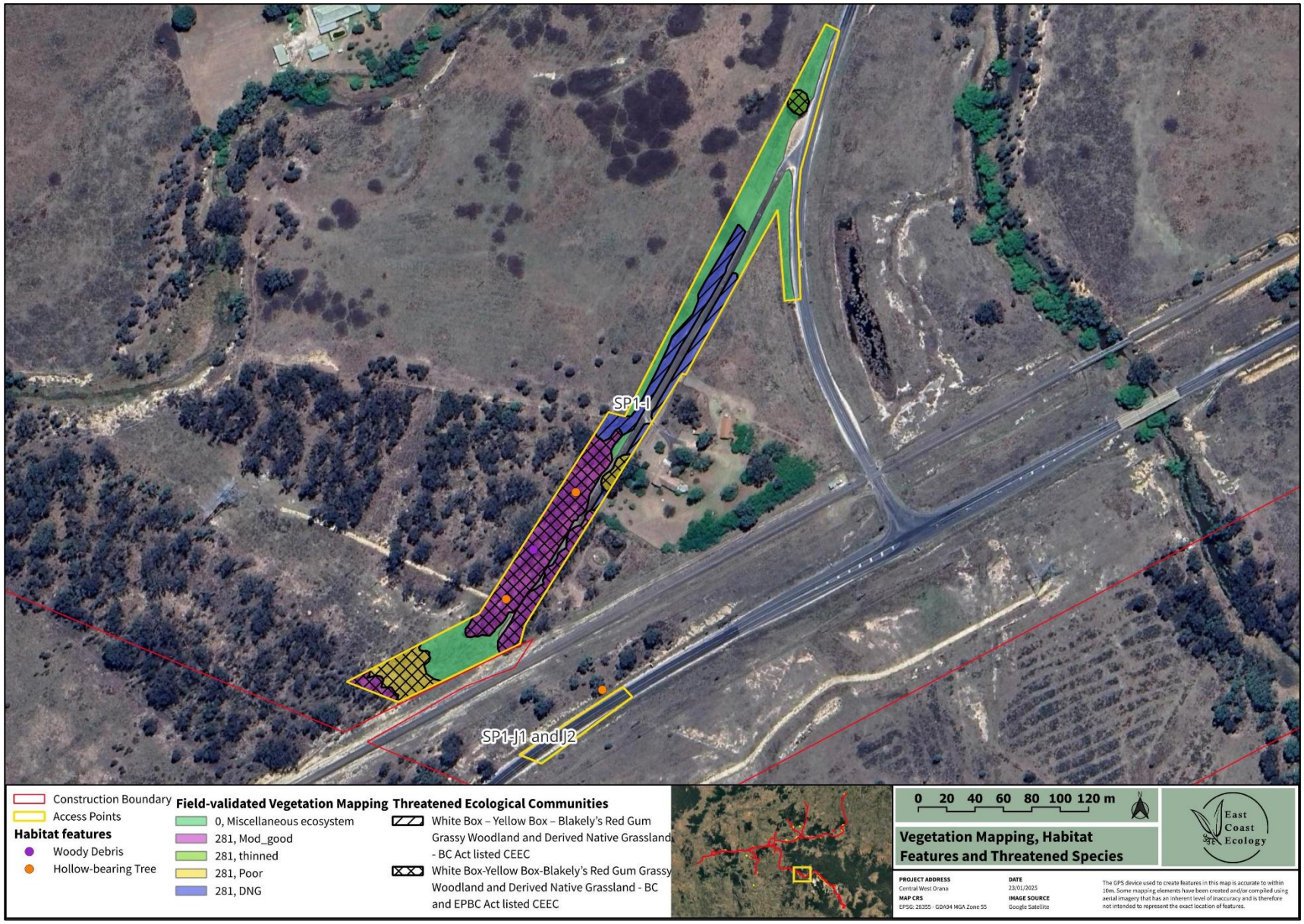


Figure 26. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-I.

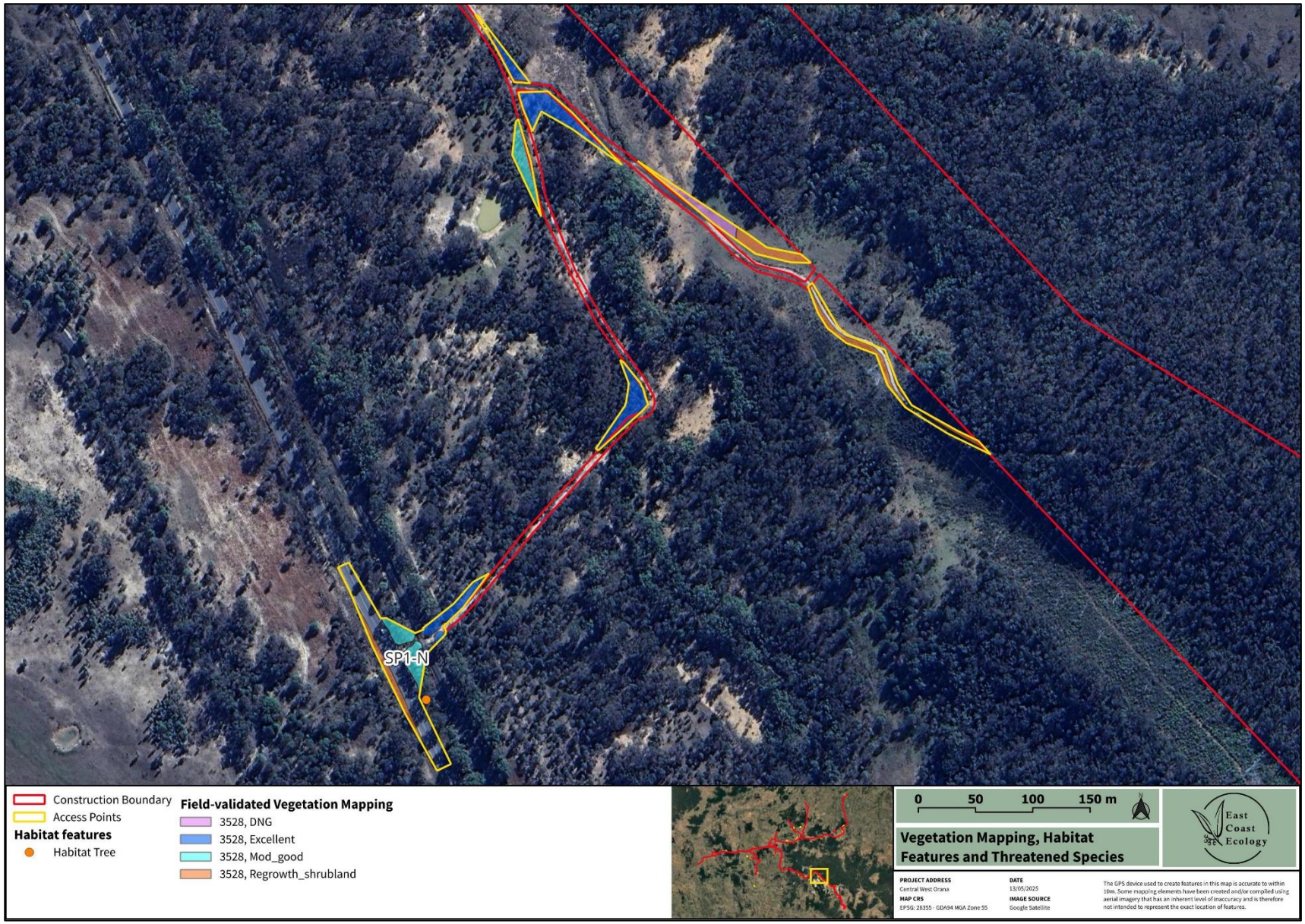


Figure 27. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-N.

Figure 28. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Part 1).

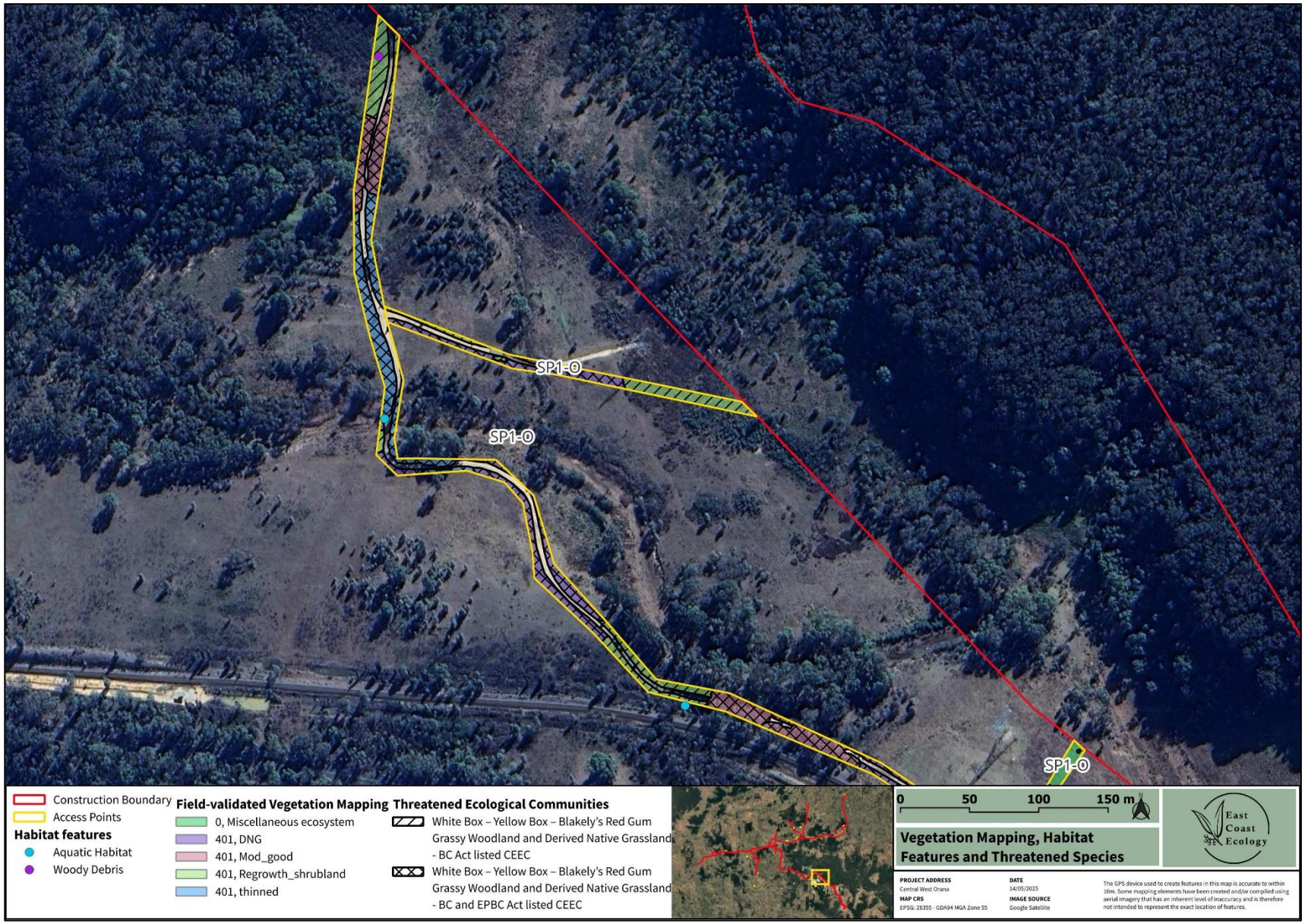


Figure 29. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Part 2).

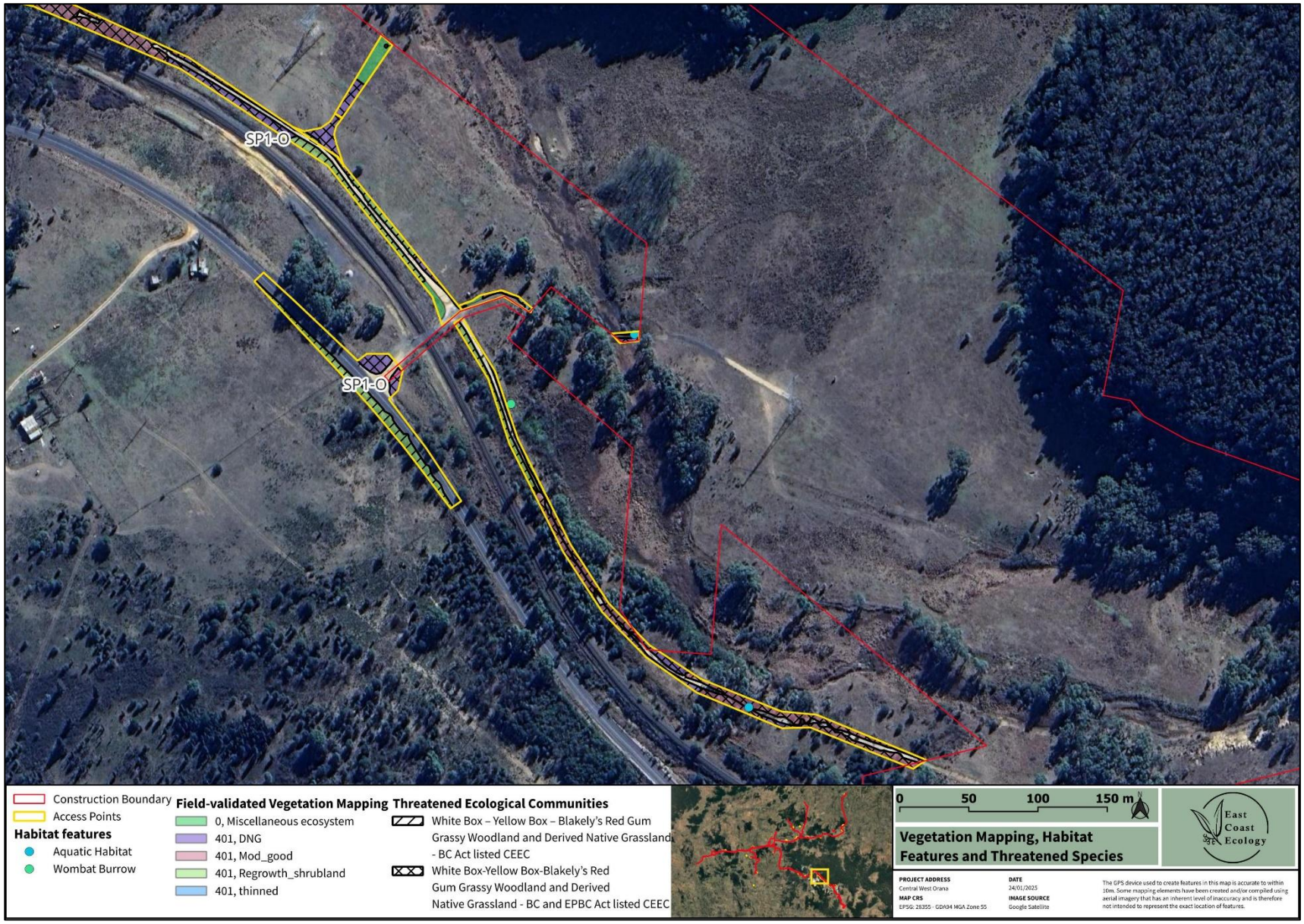


Figure 30. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-O (Part 3).

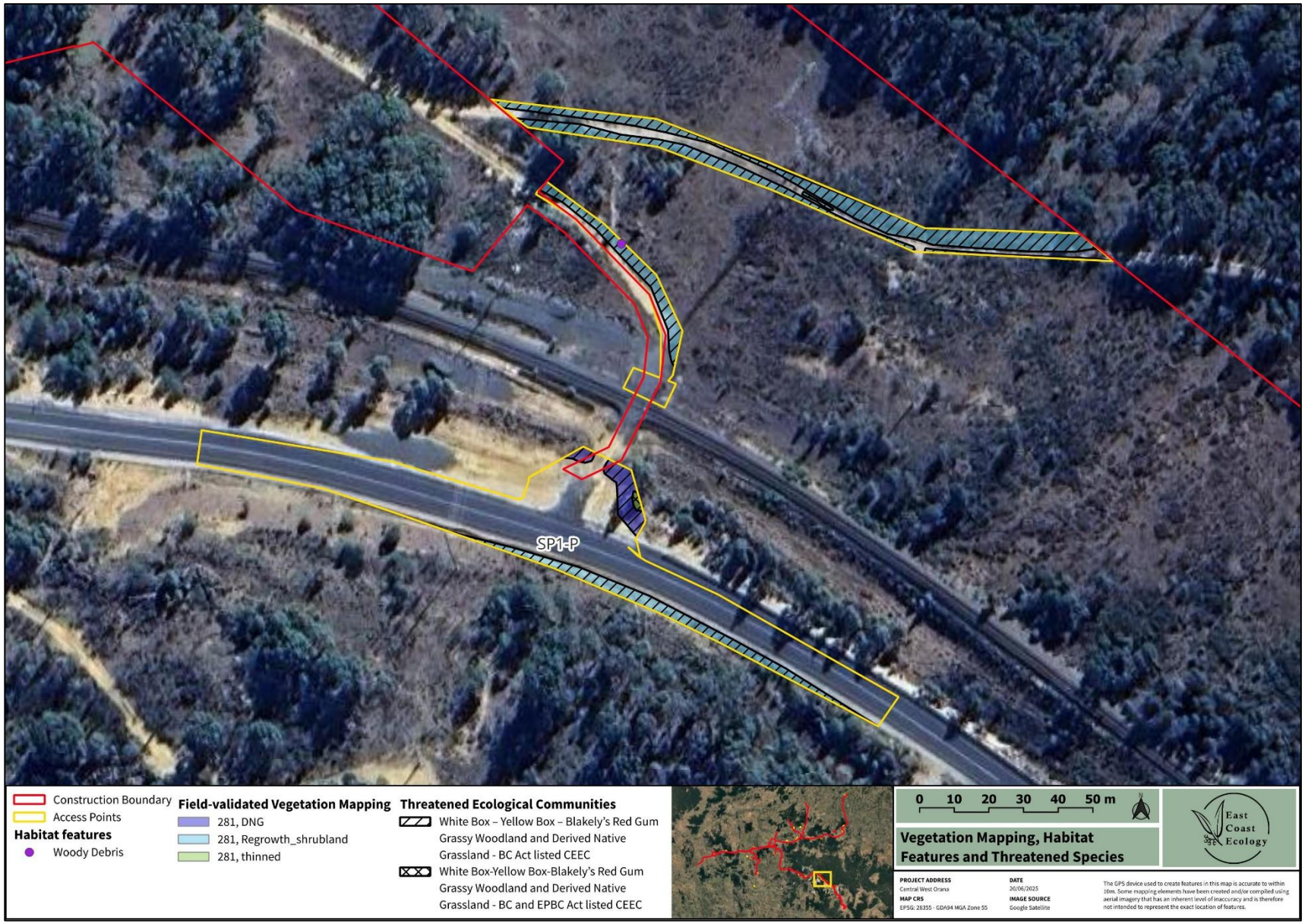


Figure 31. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-P.

Figure 32. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Part 1).

Figure 33. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Part 2).

Figure 34. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Part 3).

Figure 35. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Q (Part 4).

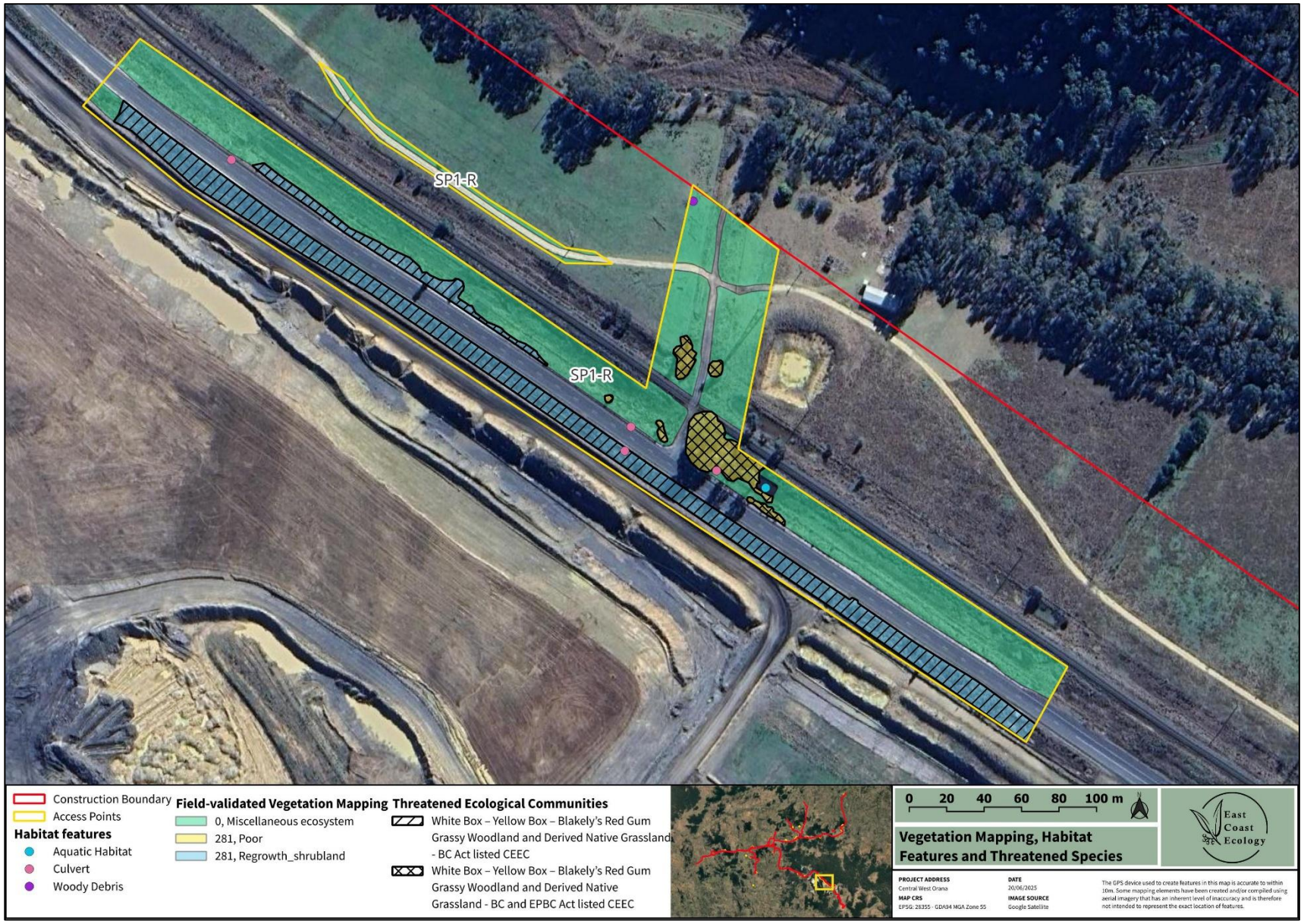


Figure 36. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-R.

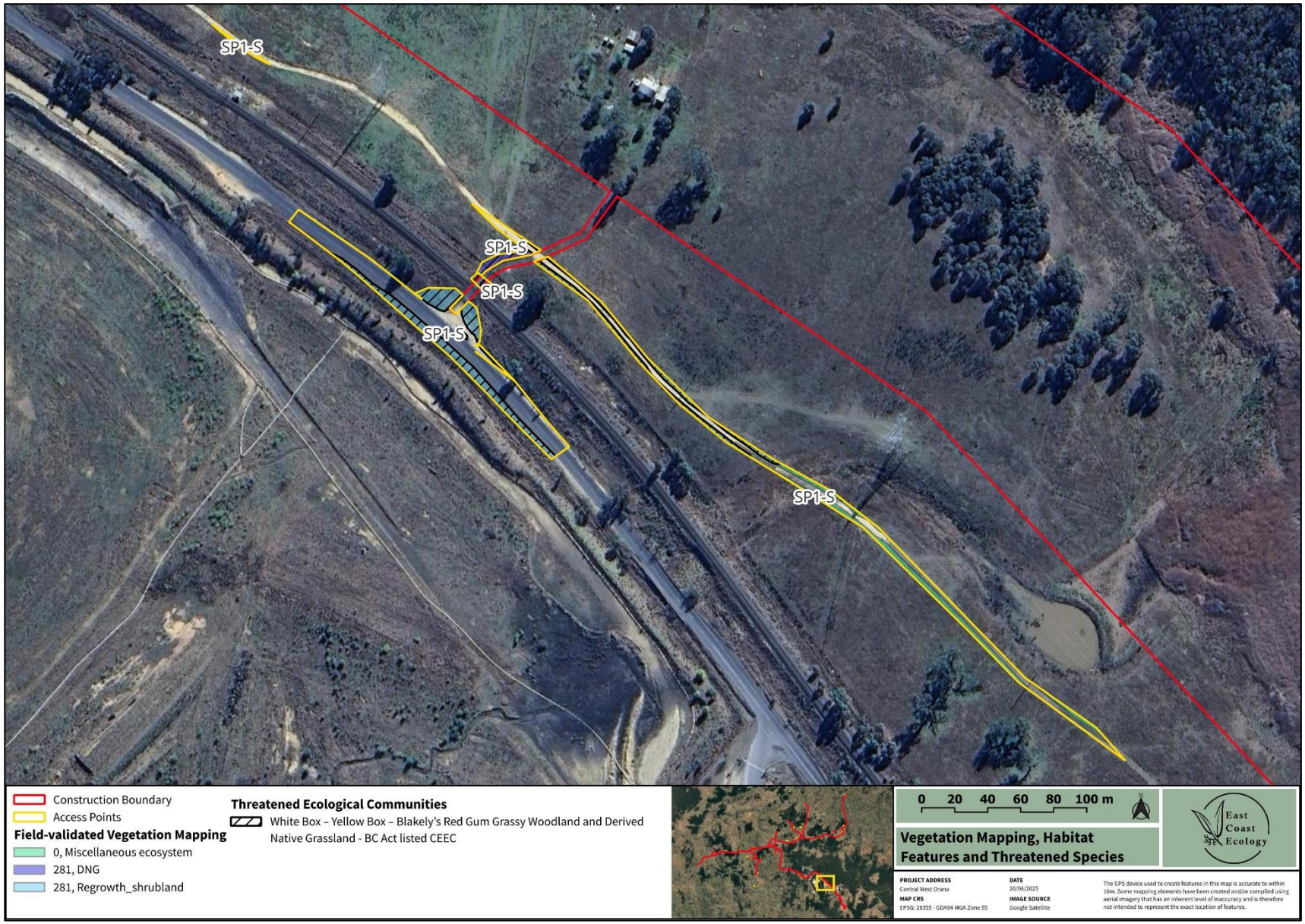


Figure 37. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-S.

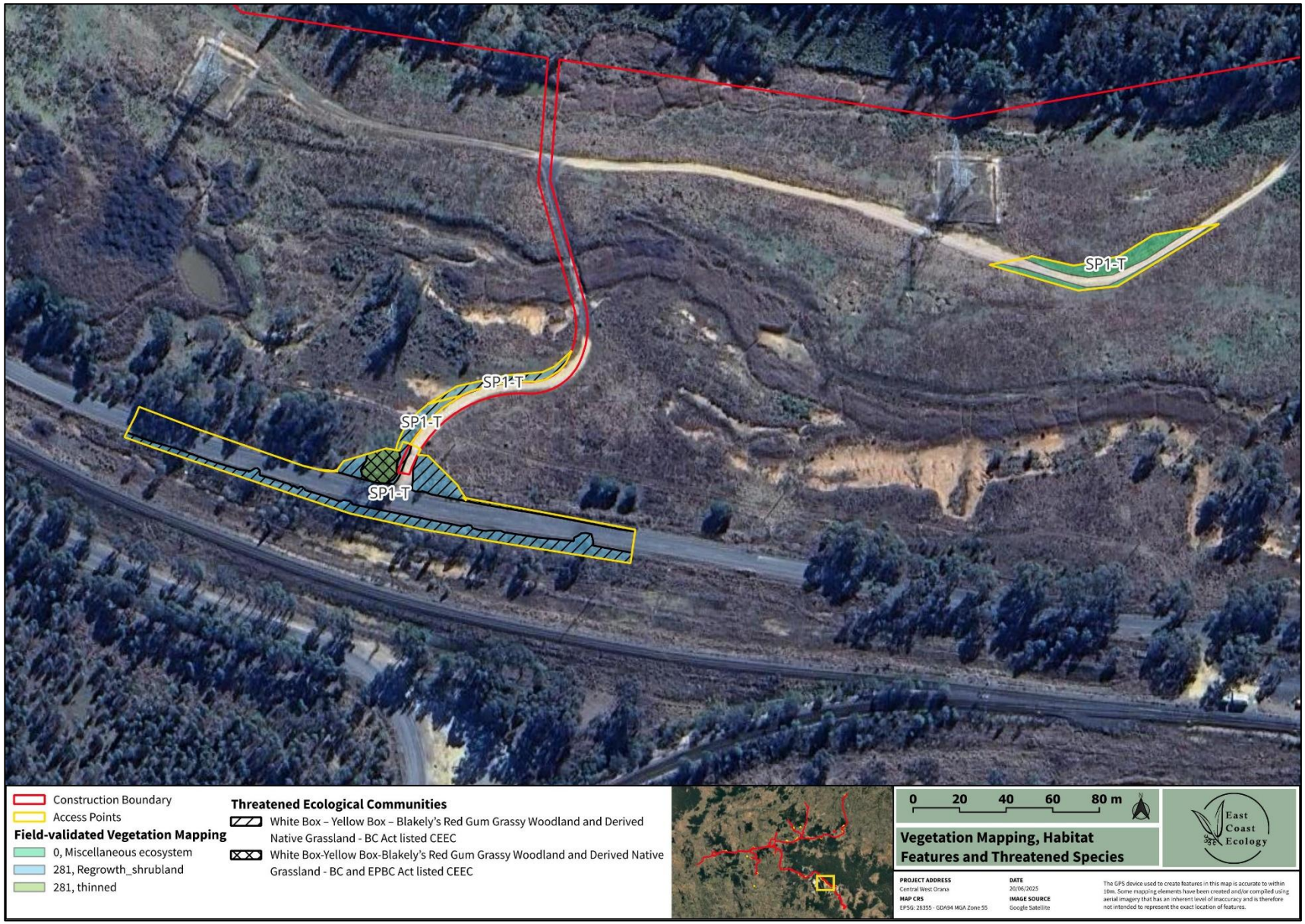


Figure 38. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-T.

Figure 39. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-U.

Figure 40. Vegetation Mapping, Habitat Features and Threatened Species within Access Point SP1-Wilp.

7. REFERENCES

Biodiversity Conservation Act (2016) https://legislation.nsw.gov.au/#/view/act/2016/63/full

Biodiversity Conservation Regulation (2017) https://www.legislation.nsw.gov.au/#/view/regulation/2017/432

Bureau of Meteorology (BOM) (2024 & 2025) Mudgee, New South Wales. November 2024 Daily Weather Observations http://www.bom.gov.au/

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2023) Approved Conservation Advice for the White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Department of Climate Change Energy the Environment and Water (DCCEEW) (2024) Protected Matters Search Tool

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Infrastructure and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Infrastructure and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2024) Priority weeds for the Central Tablelands Region https://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=106

Mitchell (2002) NSW Ecosystems Study: Background and Methodology (Unpublished)

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024a) BioNet. The website of the Atlas of NSW Wildlife http://www.bionet.nsw.gov.au/

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024c) BioNet. Vegetation Classification System

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024d) Biodiversity Assessment Method Calculator Version 1.4.0.00

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024e) Soil Landscapes http://espade.environment.nsw.gov.au

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024f) The NSW State Vegetation Type Map

NSW Department of Climate Change Energy the Environment and Water (NSW DCCEEW) (2024g) Biodiversity Values Mapping

NSW Spatial Services (2024b) Six Maps Clip & Ship https://maps.six.nsw.gov.au/clipnship.html

PlantNET (2024) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. http://plantnet.rbgsyd.nsw.gov.au

Threatened Species Scientific Committee (2020) 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 – Critically Endangered Ecological Community listing.

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report

www.ececology.com.au

Greater Sydney | Canberra | South Coast