

CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE

MID-WESTERN REGIONAL LGA

TRANSPORT STRATEGY – PRIORITY

3B

CWO-PRO-050-ENV-STR-000031 REV 01

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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 3B			
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	Quoc Phuong	Traffic Manager	05/12/2025	<i>Quoc Phuong</i>
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DOCUMENT STATUS

Revision	Date	Pages	Revised by	Description
Rev A	18/02/2026	All	Katie Baxter	Drafted for review
Rev B	16/03/2026	All	Martin Lee / Amy Wilkinson	Updated following review. For consultation.
Rev C	1/05/2026	All	Martin Lee / Katie Baxter	For ER endorsement
Rev 00	13/05/2026	All	Katie Baxter	For DPHI review and approval
Rev 01	28/05/2026	Fig A-8	Katie Baxter	In response to DPHI RFI

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 Policies 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, Policies, 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).

Mid-Western Regional LGA Transport Strategy Priority 3A (CWO-PRO-050-ENV-STR-000028).

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 <i>Environmental Planning and Assessment Act 1979</i>
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 <i>Environmental Planning and Assessment Act 1979</i> 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
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 D

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 road upgrade is not proposed, a strategic concept design is not provided.	Section 2.1 Appendix B Appendix C Appendix D
	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 road upgrade is not proposed, a strategic concept design is not provided.	Appendix B Appendix C Appendix D
	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 D
	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 D
	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 D

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 3B.

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 3B 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

In accordance with MCoA (NSW) B31 all road upgrades undertaken by the Project under MCoA B31 will be designed to comply with the *Austrroads Guide to Road Design* (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise. Specific examples of Austrroads Guide to Road Design and how these will be implemented to comply with MCoA B31(b) are provided in Sections 2.2 to 2.5 below.

The final design of the road upgrades will be subject to consultation and agreement with the relevant road authority/authorities.

Where required, the road upgrades will be incorporated into the appropriate permit application for either a Road Occupancy Licence or Section 138 Application.

2.2 RURAL ROAD WIDTHS

In the case of road widening upgrade, the upgrade design will be in accordance with the Rural 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)

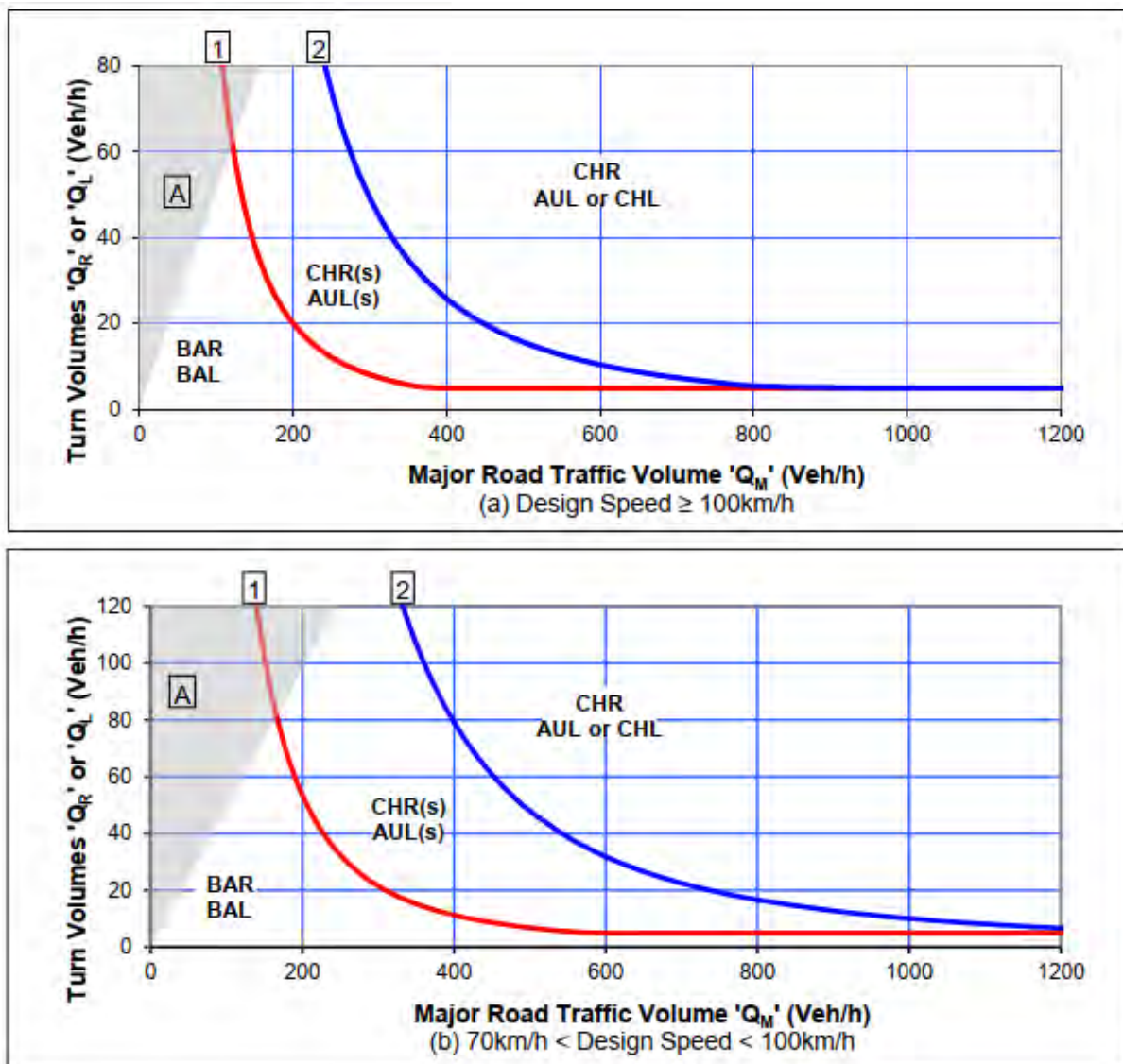
2.3 TURN WARRANT ASSESSMENT

A Turn Warrant Assessment (TWA), described in Austrroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management, will be conducted as relevant when preparing road upgrade designs for consultation and agreement with the relevant road authority.

The *Austrroads 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.

The outcome of the TWA will be used in the design of the necessary road upgrade in accordance with *Austrroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management*, for consultation and agreement with the relevant road authority.



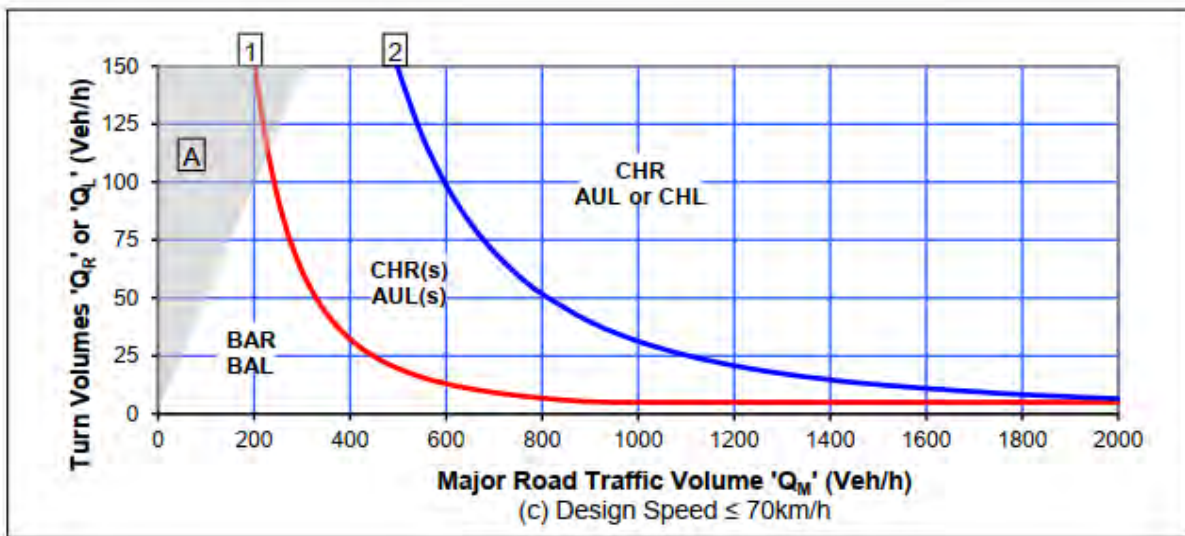


FIGURE 2-2 WARRANTS FOR TURN UPGRADES ON MAJOR ROADS AT UNSIGNALISED INTERSECTIONS (SOURCE: AUSTRADS GUIDE TO TRAFFIC MANAGEMENT PART 6: INTERSECTIONS INTERCHANGES AND CROSSINGS MANAGEMENT FIGURE 3.25)

2.4 SAFE INTERSECTION SIGHT DISTANCE

A Safe Intersection Site Distance (SISD) described in *Austrads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* will be conducted when preparing the road upgrade designs for consultation and agreement with the relevant road authority.

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.

The SISD checks will occur prior to the use of the relevant upgrades listed in Appendix A, Appendix B, Appendix C and/or Appendix D of this Strategy.

The outcome of the SISD will be used in the design of the necessary road upgrade in accordance with *Austrads Guide to Traffic Management Part 4A: Unsignalised and Signalised Intersections*, for consultation and agreement with the relevant road authority.

2.5 ACCESS TYPES

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 2.5.1., subject to consultation and agreement with the applicable road authority.

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 *Austrads 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.

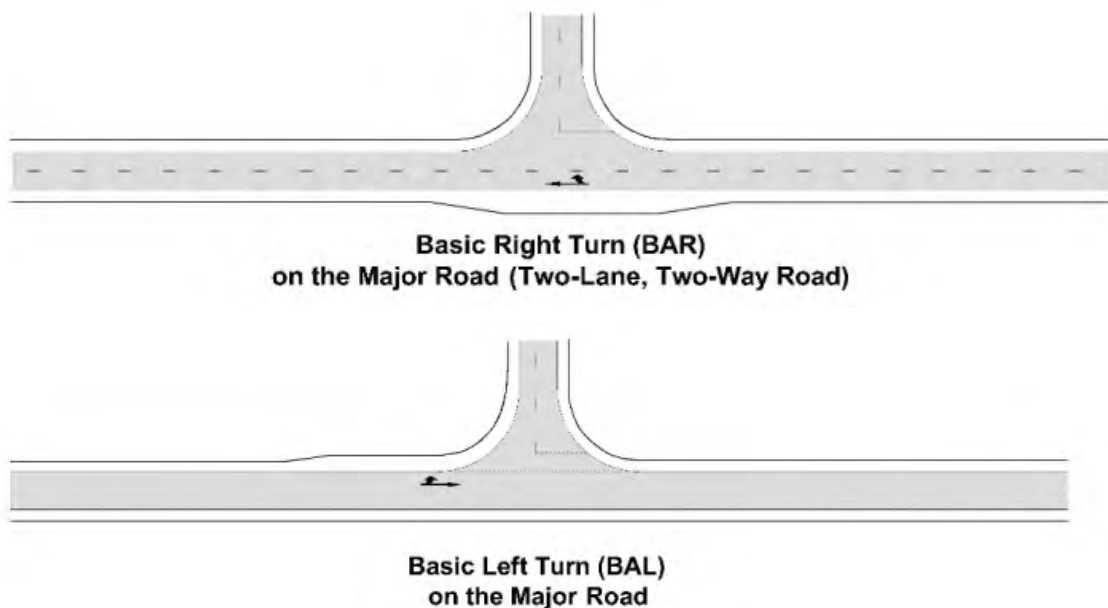
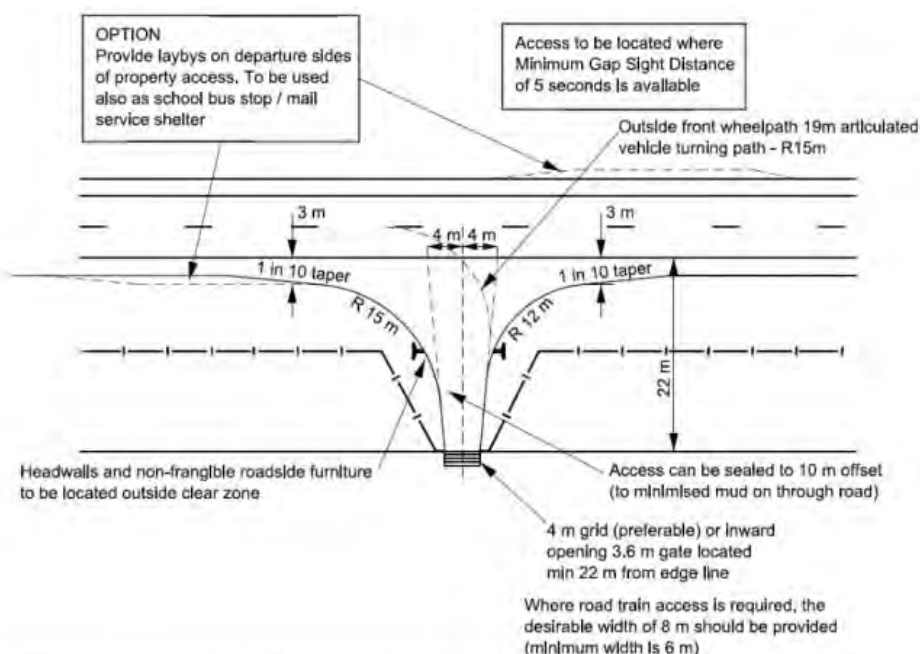


FIGURE 2-3 BAR AND BAL (ACCESS POINTS)

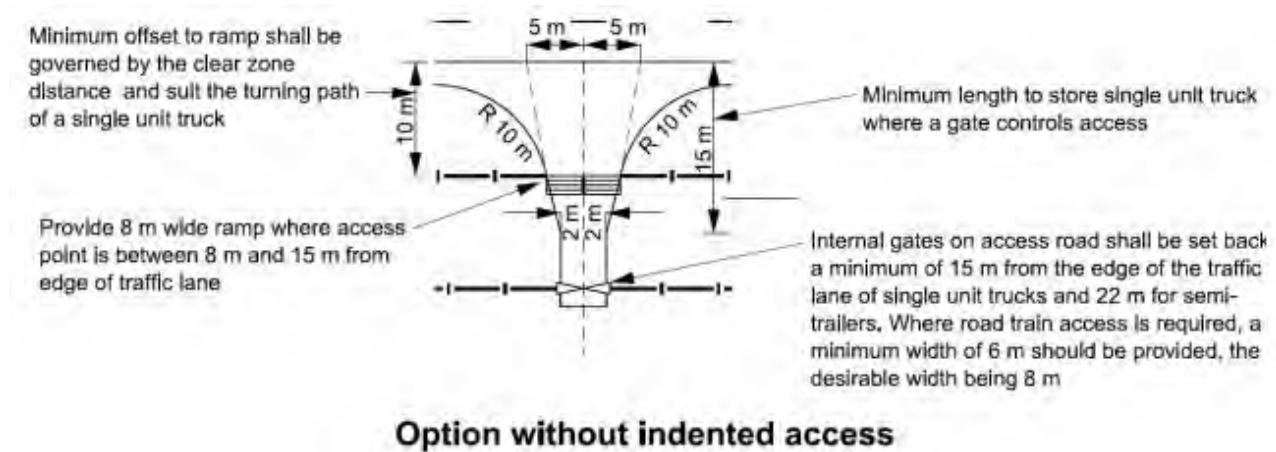
The *Austroroads Guide to Road Design Part 4: Intersections and Crossings* outlines road designs for light and heavy vehicle movements for rural access points. Figure 2-4 illustrates the recommended road design for rural property access where entry is required for semi-trailers or articulated vehicles. These designs will be adopted in accordance with the assessment matrix (refer to Section 2.5.1) 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.



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)

2.5.1 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 2.3, 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)

Scenario	Option
(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

2.6 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

2.7 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.

2.7.1 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.

2.7.2 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.

2.7.3 Bellambi Heights BESS

Bellambi Heights Battery Energy Storage System (BESS) 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.

Appendices B, C and D of this Strategy reference and summarise the existing assessment and outcomes, as well as the consideration of cumulative traffic impacts and appropriate mitigation measures as relevant, 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-5, along with a cross reference to where further detail is provided within Appendix B, Appendix C and Appendix D and a status.

The table below shows the location of each road upgrade which has been approved by the Planning Secretary.

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 priority grouping of this Strategy.

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

TABLE A-3 ROAD UPGRADES RELEVANT TO THIS STRATEGY

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule 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	Commencement of the upgrade with commencement of development related construction traffic	Priority 6A	Appendix B3	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	No but listed in Table 5 of the MCoA	Outside Project construction area Outside Heritage survey area Outside Biodiversity study area
Intersection of Tucklan Road and Castlereagh Highway	Commencement of the upgrade with commencement of development related construction traffic	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	Commencement of the upgrade with commencement of development related construction traffic	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	Priority 6A	Appendix B6	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Road upgrade – no but listed in MCoA Table 5	Outside Project construction area In Heritage assessment area In Biodiversity Study Area
Wollar Road access gates	Prior to construction of the relevant minor access track off the public road network	Not yet assigned	Appendix B7	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Cope Road access gate (North)	Prior to construction of the relevant minor access track off the public road network	Not yet assigned	Appendix B8	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Cope Road access gate (South)	Prior to construction of the relevant minor access track off the public road network	Not yet assigned	Appendix B9	Not yet included	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Local Roads								
Timing: Prior to commencing the use of the local road for any heavy vehicle traffic associated with construction								
Birkalla Road (North and South)	-	Priority 3A	Appendix C1	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Road use – yes Road upgrade – No, but listed in Table 5 of MCoA	Outside of approved Project construction area and study areas
Blue Springs Road (North and South)	-	Priority 3A	Appendix C2	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Road use – yes Road upgrade – no but listed in MCoA Table 5	Outside of approved Project construction area and study areas
Turrill Bus Route	-	No longer proposed	Appendix C3	-	-	-	-	-
Cliffdale Road	-	Priority 3B	Appendix C4	Included for approval	Q3 2026	Q4 2026	Road use – yes	Outside of approved Project construction area and study areas

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion	Assessed in the EIS	Extent Assessed
							Road upgrade – no but listed in MCoA Table 5	
Puggoon Road	-	Priority 6B	Appendix C5	Refer to Mid-Western Regional Council Transport Strategy Priority 6B	Q3 2026	Q4 2026	To be confirmed	To be confirmed
Whistons Lane	-	Priority 6A	Appendix C6	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Road use – yes Road upgrade – no but listed in MCoA Table 5	Outside of approved Project construction area Outside Heritage assessment area Outside Biodiversity Study Area
Minor Access Points and Crossing Points		Timing: Prior to construction of the relevant minor access track off the public road network						
SP1-A1/A2 (Merotherie Road)	-	Priority 1 (Crossing Points)	Refer to Mid-Western Regional Council Transport Strategy Priority 1		Q2 2026	Q3 2026	Yes	
	-	Priority 6A (Access Points)	Appendix D1	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	
SP1-B1/B2 (Birkalla Road)	-	Priority 1 (Crossing Points)	Refer to Mid-Western Regional Council Transport Strategy Priority 1		Q2 2026	Q3 2026	Yes	
	-	Priority 6A (Access Points)	Appendix D2	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	In approved Project construction area
SP1-E1/E2 (Blue Springs Road South)	-	Priority 1 (Crossing Points)	Refer to Mid-Western Regional Council Transport Strategy Priority 1		Q2 2026	Q3 2026	Yes	In Heritage assessment area
	-	Priority 6A (Access Points)	Appendix D3	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	In Biodiversity Study Area
SP1-F1/F2 (Highett Road)	-	Priority 1 (Crossing Points)	Refer to Mid-Western Regional Council Transport Strategy Priority 1		N/A	N/A	Yes	
	-	Priority 6A (Access Points)	Appendix D4	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	
SP1-J2 (Ulan Road)	-	Priority 3A	Appendix D5	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Yes	Partially in approved construction area Partially in Heritage study area Partially in Biodiversity study area
SP1-L1/L2 (Ulan Road / Ulan-Wollar Road)	-	Priority 3A	Appendix D6	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Yes	Partially in approved construction area In Aboriginal Heritage survey area In Biodiversity study area

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion	Assessed in the EIS	Extent Assessed
SP1-U (Ulan-Wollar Road)	-	Priority 2	Appendix D7	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Partially in Project construction area Partially in Heritage assessment area Partially in Biodiversity study area
SP1-N (Ulan-Wollar Road)	-	Priority 2	Appendix D8	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Outside Project construction area Outside Aboriginal Heritage survey area Outside Biodiversity study area
SP1-P (Ulan-Wollar Road)	-	Priority 2	Appendix D9	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Partially in Project construction area Partially in Heritage assessment area Partially in Biodiversity study area
SP1-T (Ulan-Wollar Road)	-	Priority 2	Appendix D10	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Partially in Project construction area Partially in Heritage study area Partially in Biodiversity study area
SP2-K1/K2 (Barneys Reef Road)	-	Priority 6A	Appendix D11	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	In Project construction area In heritage assessment area In biodiversity study area
SP5-C1/C2 (Turill Bus Route)	-	Priority 3B	Appendix D12	Not yet included	Q3 2026	Q4 2026	Yes	Partially in Project construction area In Heritage study area In Biodiversity study area
SP0-A3/SP6-A2 (Merotherie Road)	-	Priority 2	Appendix D13	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q2 2026	Yes	In Project construction area In heritage assessment area In biodiversity study area
SP6-B1/B2 (Birkalla Road)	-	Priority 2	Appendix D14	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q3 2026	Q4 2026	Yes	Partially in Project construction area (SP6-B1) Partially in Heritage study area (SP6-B1) In Biodiversity study area (SP6-B1 and SP6-B2)
SP6-D1/D2 (Blue Springs Road South)	-	Priority 2	Appendix D15	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q3 2026	Q4 2026	Yes	In Project construction area In heritage assessment area In 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

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion	Assessed in the EIS	Extent Assessed
SP6-E1 (Blue Springs Road South)	-	Priority 2	Appendix D17	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q3 2026	Q4 2026	Yes	Partially in Project construction area Partially in Heritage assessment area Partially in Biodiversity study area
SP5-B1/B2 (Cliffdale Road)	-	Priority 3B	Appendix D18	Included for approval	Q3 2026	Q4 2026	Yes	Partially in Project construction area In heritage assessment area In biodiversity study area
SP1-H1/H2 (Cope Road)	-	Priority 2	Appendix D19	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Partially in the Project construction area Partially in the Heritage assessment area, although In an area classified as 'unsurveyed' per the Addendum ACHAR Partially in the Biodiversity study area
SP3-D1/D2 (Puggoon Road)	-	Priority 6A	Appendix D20	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	Partially in Project construction area In heritage assessment area In biodiversity study area
SP3-E (Puggoon Road)	-	Priority 6A	Appendix D21	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	Outside approved construction area Outside Aboriginal Heritage survey area Outside Biodiversity study area
SP3-X1/X2 (Puggoon Road)	-	Priority 6A	Appendix D22	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	Partially in Project construction area In heritage assessment area In biodiversity study area
SP1-Q (Ulan-Wollar Road)	-	Priority 2	Appendix D23	Refer to Mid-Western Regional Council Transport Strategy Priority 2	Q2 2026	Q3 2026	Yes	Partially in Project construction area Partially in Heritage assessment area Partially in Biodiversity study area
SP1-Wilp (Ulan-Wollar Road)	-	Priority 3A	Appendix D24	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	No	Outside approved construction area Outside Aboriginal Heritage survey area Partially in Biodiversity study area
SP1-X1/X2 (Upper Cumbo Road)	-	Priority 3A	Appendix D25	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Yes	In approved construction area In Heritage assessment area In Biodiversity study area

Upgrades	Timing	Priority Group	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion	Assessed in the EIS	Extent Assessed
SP3-A (Whistons Lane)	-	Priority 6	Appendix D26	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	In approved construction area In Aboriginal Heritage survey area Partially in Biodiversity study area
SP1-V1/V2 (Wilpinjong Road)	-	Priority 3A	Appendix D27	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Yes	In approved construction area In Heritage assessment area In Biodiversity study area
SP1-W (Wollar Road)	-	Priority 3A	Appendix D28	Refer to Mid-Western Regional Council Transport Strategy Priority 3A	Q3 2026	Q4 2026	Yes	Partially in approved construction area In heritage assessment area In biodiversity study area
SP2-G1/G2 (Tuckland Road)	-	Priority 6	Appendix D29	Refer to Mid-Western Regional Council Transport Strategy Priority 6A	Q3 2026	Q4 2026	Yes	In approved construction area In Heritage assessment area In Biodiversity study area

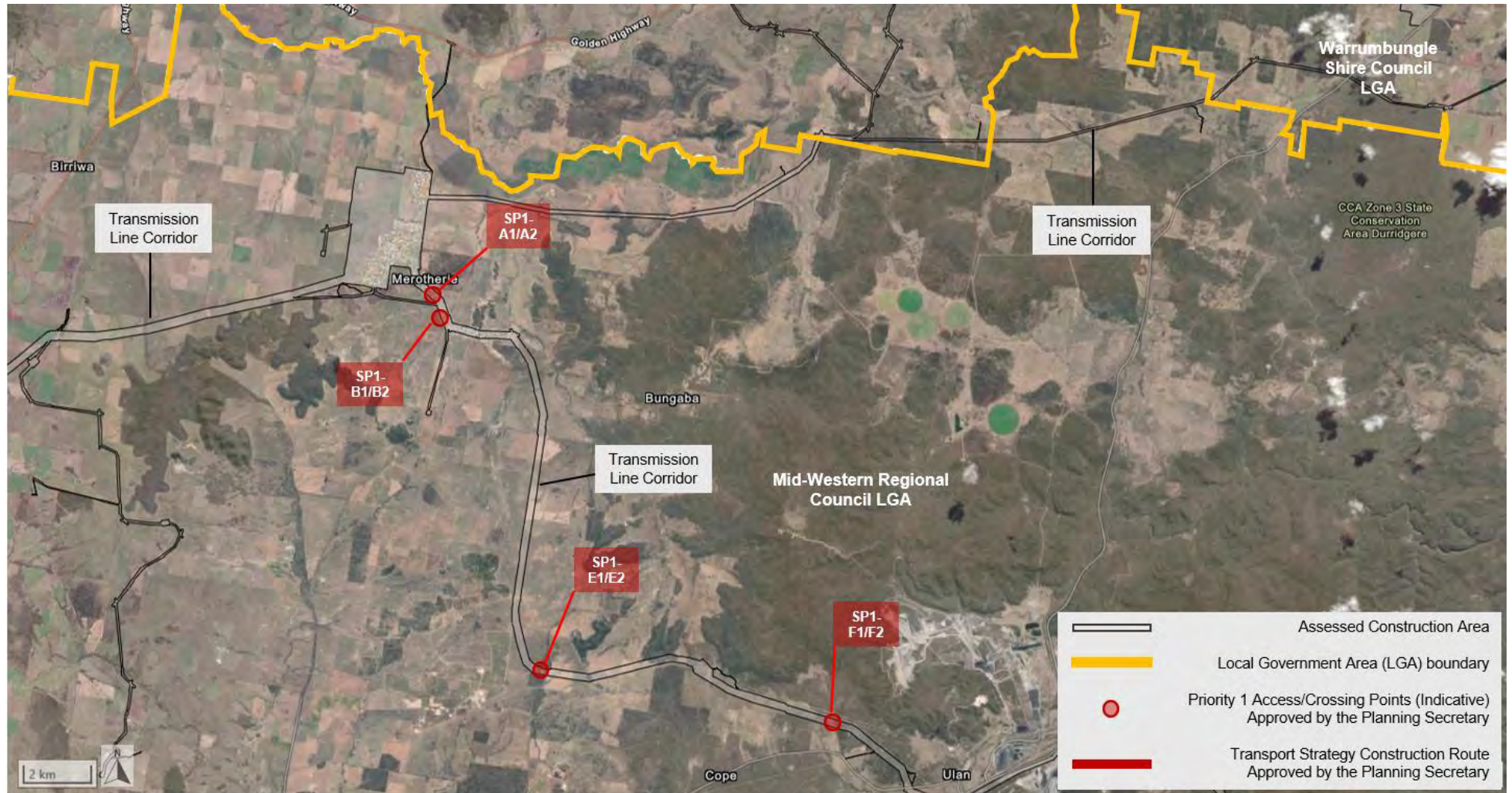


FIGURE A-6 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES ALREADY APPROVED IN THIS STRATEGY (PRIORITY 1)

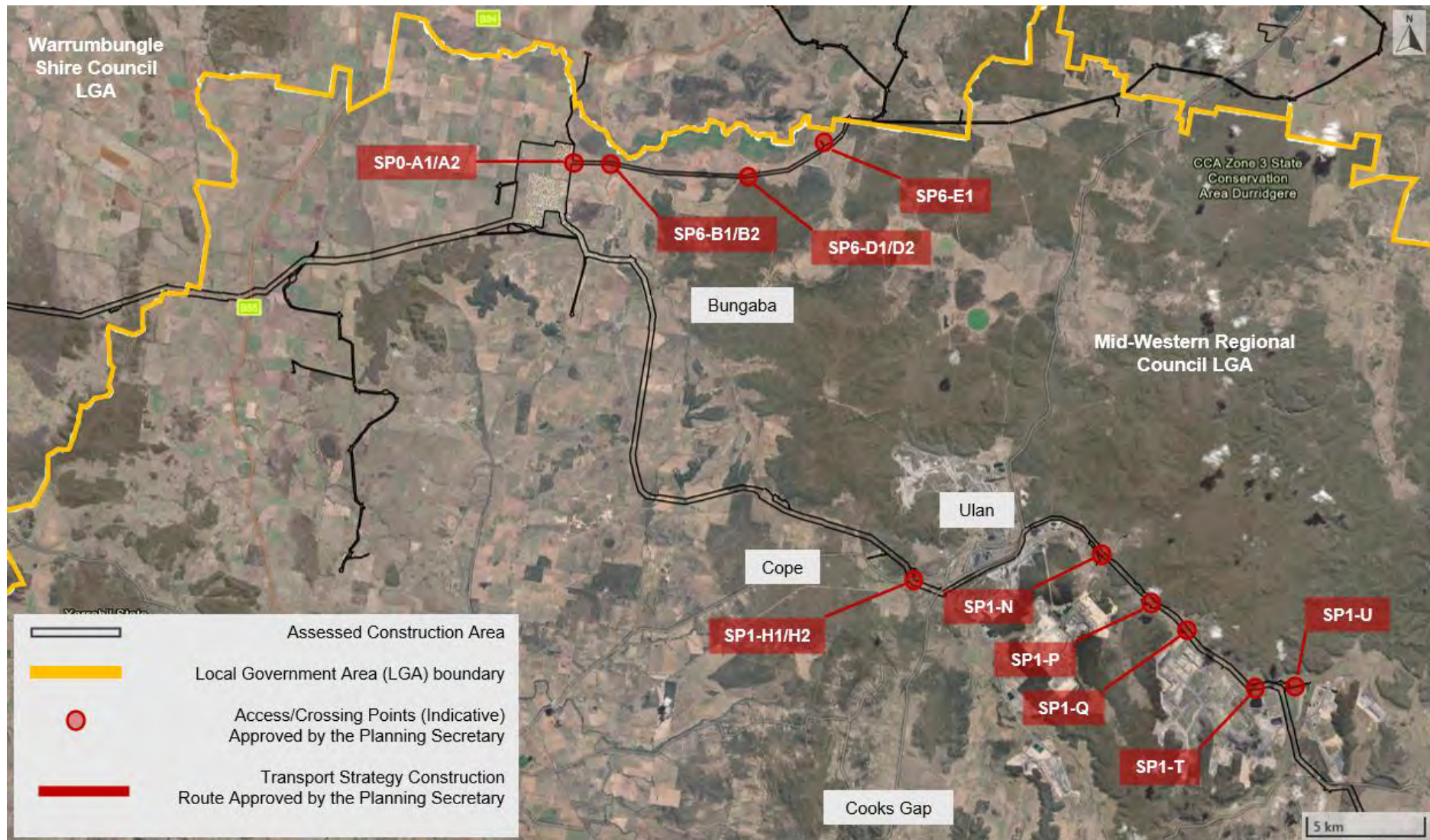


FIGURE A-7 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES ALREADY APPROVED IN THIS STRATEGY (PRIORITY 2)

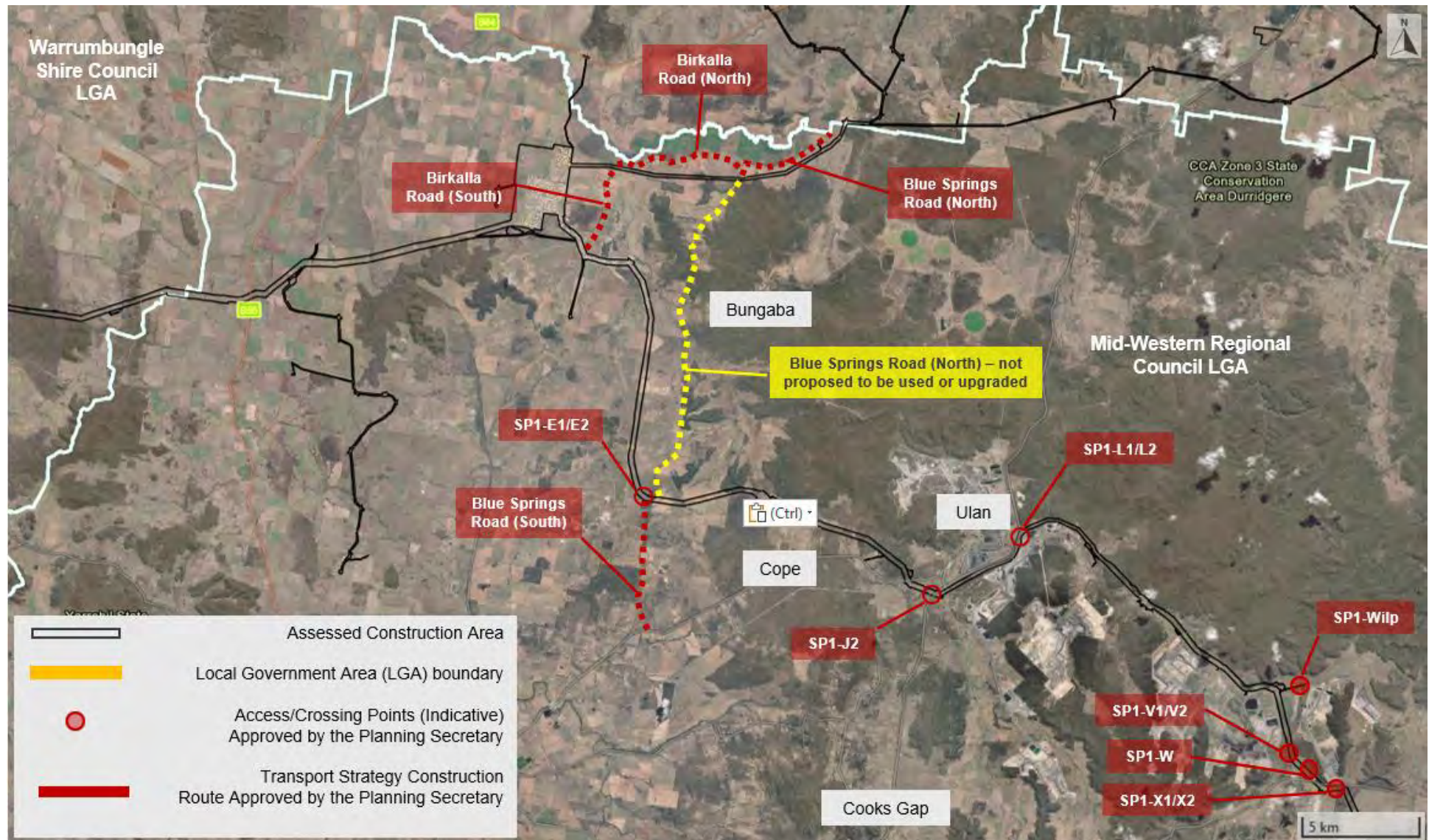


FIGURE A-8 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES ALREADY APPROVED IN THIS STRATEGY (PRIORITY 3A)

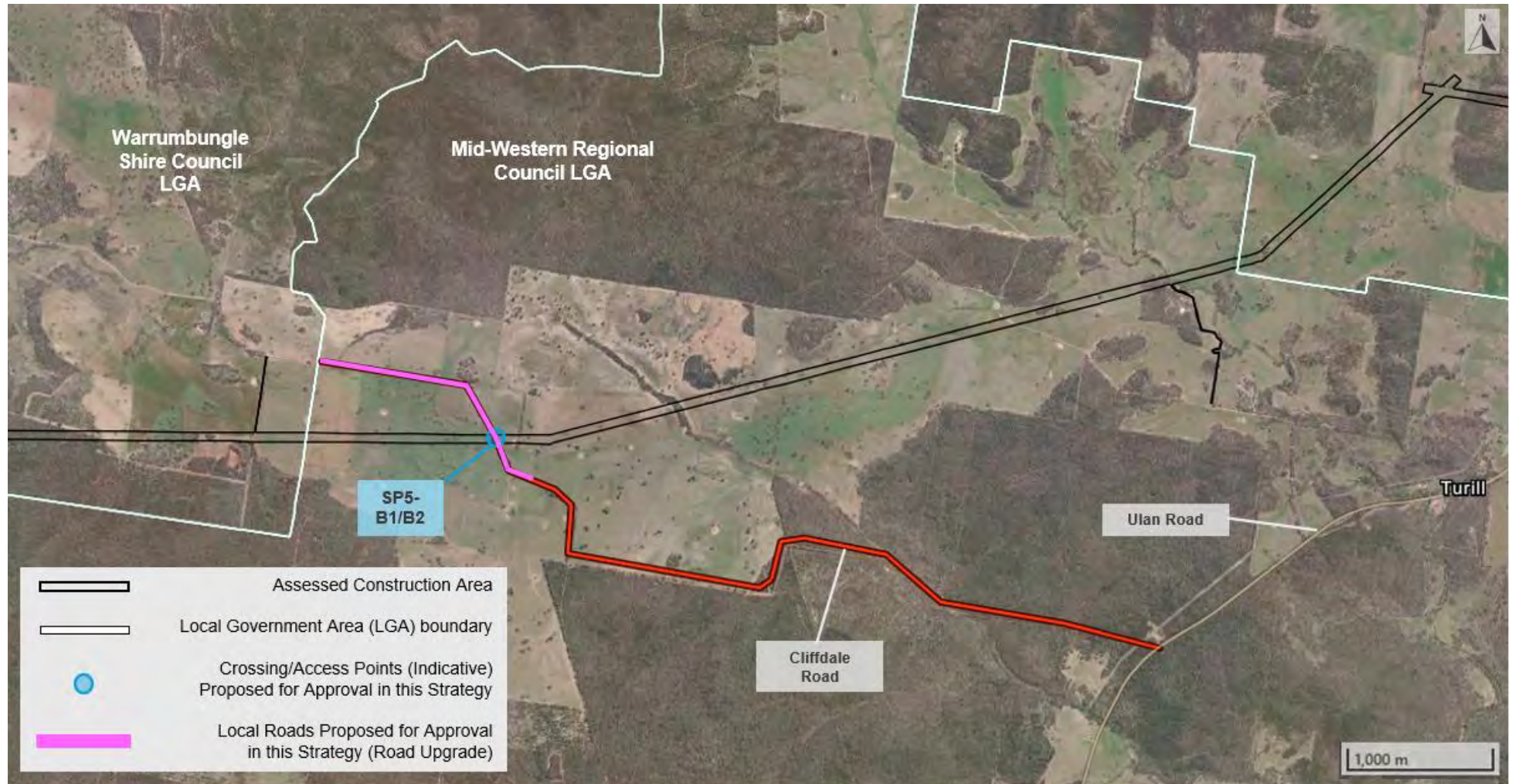


FIGURE A-9 INDICATIVE LOCATIONS OF ACCESS POINTS, CROSSING POINTS AND CONSTRUCTION ROUTES PROPOSED IN THIS STRATEGY (PRIORITY 3B)

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 assigned
- Intersection of Laheys Creek Road and Castlereagh Highway - Appendix B2 – Not yet assigned
- Intersection of Whistons Lane and Castlereagh Highway – Appendix B3 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- Intersection of Tucklan Road and Castlereagh Highway – Appendix B4 - Not yet assigned
- Intersection of Puggoon Road and Castlereagh Highway – Appendix B5 - Not yet assigned
- Castlereagh Highway Access Gates – Appendix B6 – Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- Wollar Road Access Gates – Appendix B7 - Not yet assigned
- Cope Road Access Gate (north) – Appendix B8 - Not yet assigned
- Cope Road Access Gate (south) – Appendix B9 - Not yet assigned

APPENDIX B1 ASSIGNED

ACCESS TO MAGPIE HILL MICROWAVE REPEATER – NOT YET

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

APPENDIX B3 INTERSECTION OF WHISTONS LANE AND CASTLEREAGH HIGHWAY

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

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

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

APPENDIX B6 CASTLEREAGH HIGHWAY ACCESS GATES

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX B7 WOLLAR ROAD ACCESS GATES – NOT YET ASSIGNED

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

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

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 – Refer to Priority 3A
- Blue Springs Road (North and South) – Appendix C2 – Refer to Priority 3A
- Clifdale Road – Appendix C4 – Included for approval
- Puggoon Road – Appendix C5 - Not Yet Included
- Whistons Lane – Appendix C6 – 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)

Refer to Mid-Western Regional Council Traffic Strategy Priority 3A

APPENDIX C2 BLUE SPRINGS ROAD (NORTH AND SOUTH)

Refer to Mid-Western Regional Council Traffic Strategy Priority 3A

APPENDIX C3 TURRILL BUS ROUTE – NO LONGER PROPOSED

Turrill Bus Route is no longer proposed to be upgraded and used for HV construction access. Only a small area will be used between access points SP5-C1/C2 which are assessed in Appendix D12 SP5-C1/C2

APPENDIX C4 CLIFFDALE ROAD – INCLUDED

Existing Condition

Cliffdale Road is classified as a local road and serves as an access route connecting Castlereagh Highway in Blue Springs Road to Ulan Road in an east-west alignment. It is an unsealed, two-way carriageway with a rural speed limit of 100 km/h in accordance with the New South Wales guidelines for local rural roads.



FIGURE C4-10 SECTION OF CLIFFDALE ROAD (SOURCE: DIPALIDATION SURVEY – APRIL 2025).

Location

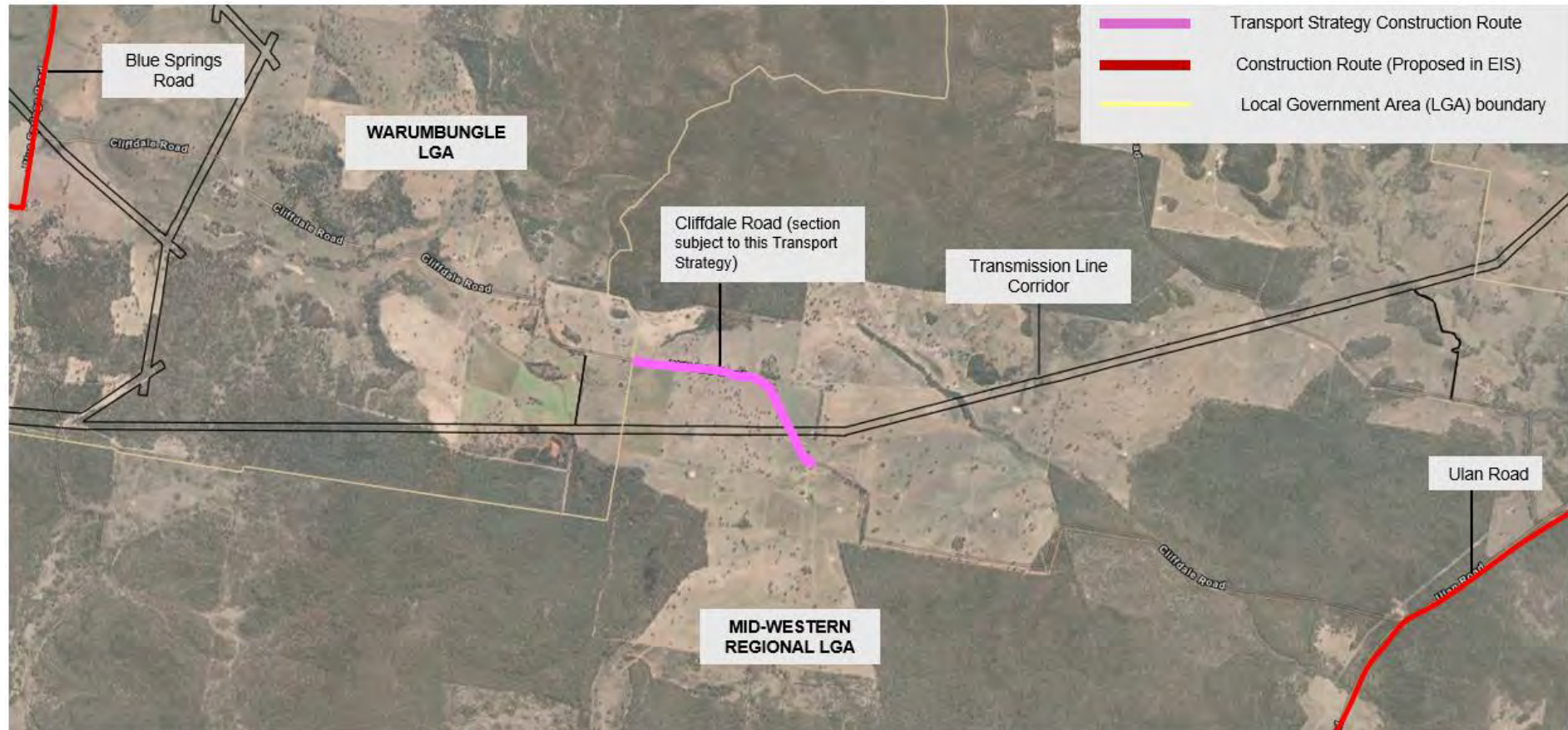


FIGURE C4-11 LOCATION OF THE TRANSPORT STRATEGY CONSTRUCTION ROUTE ON CLIFFDALE ROAD WITHIN THE MID-WESTERN REGIONAL COUNCIL LGA



FIGURE C4-12 LOCATION OF CLIFFDALE ROAD WITHIN WARRUMBUNGLE LGA AND MID-WESTERN REGIONAL LGA

Description

Further detail regarding the treatment and use of Cliffdale Road by construction-related HVss provided in the table below. The proposed treatment that is subject of this Transport Strategy is to the 2km section of Cliffdale Road that is within the Mid-Western Regional LGA, as depicted in Figure C4-12, and not the section of road that is within the Warrumbungle LGA. The remaining sections of Cliffdale Road to Ulan Road will be used by construction-related heavy vehicles in its existing state, no road treatment is proposed of the remaining sections of Cliffdale Road to Ulan Road.

TABLE C4-4 CLIFFDALE ROAD TREATMENT AND USE

Road	Cliffdale Road in the Mid-Western Regional LGA (refer to Figure C4-12)
Treatment MCoA B31(a)	The following treatments are proposed to improve safety outcomes for the use of Cliffdale Road (for the 2km section of Cliffdale Road as depicted in Figure C4-12): • Regrade / re-sheet unsealed road to 7.2m width (2 x 3.1m lane widths plus 2 x 0.5m shoulder widths) • No proposed seal • 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 • Culverts widened to suit formation width • Cattle grids to be assessed and may be removed, relocated or widened as required in consultation with landowners and Council • On each side of cattle grid within the existing road, 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 impact during installation of these treatments, such as noise, vibration and visual impacts, is expected to be minor and of short duration. The outcome is a substantial safety improvement for the local community during, and after, construction related use of these roads, leaving a positive amenity impact for the community.
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)	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.
Assessment of potential impacts MCoA B31 (d)	Refer to the section below.
Schedule MCoA B31(e)	The proposed treatments will commence immediately on approval as part of an approved Transport Strategy.
Permanent or Temporary MCoA B31(h)	The proposed treatments will be 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 C4-5 EIS ASSESSMENT AND OUTCOMES SUMMARY

EIS Assessment and Outcomes Summary	EIS Assessment References
Land Use, Property and Agriculture	
<i>Study Area and Existing Environment</i> 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))
<i>Relevant Environmental Risks</i> • 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)
<i>Assessment and Outcomes Summary</i> 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	Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property)) Section 8.4 of the EIS (Chapter 8 (Agriculture))

EIS Assessment and Outcomes Summary	EIS Assessment References
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.	
Landscape Character and Visual Amenity	
<i>Study Area and Existing Environment</i> 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. Cliffdale Road is located within the 'forested hills' landscape character zone (FH-02 - Durridgere, Goulburn River and Munghorn Gap forested hills). FH-02 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))
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> 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 FH-02 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	
<i>Study Area and Existing Environment</i> 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)).	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

- 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 BDAR partially assessed the area of Cliffdale Road within the MWRC LGA that is subject to the proposed treatment, This includes the area where the transmission line corridor crosses, approximately 225m long. The BDAR identified vegetation within the footprint of the proposed road treatment on Cliffdale Road as consisting of Plant Community Type 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 0 Miscellaneous Ecosystem and PCT 618 (Thinned and DNG).

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 (SAIL) entity.

The BDAR did not identify any threatened species within the assessed footprint Cliffdale Road.

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.

PCT	Act	Listed Status	Threat Status	Associated TEC
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.	N/A	Not listed	N/A	No
PCT 618 White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley	BC Act	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

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)

EIS Assessment and Outcomes Summary				EIS Assessment References
			Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	
	EPBC Act	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
PCT 0 Miscellaneous Ecosystem	N/A	Not listed	N/A	No
PCT 479 and PCT 0 are not 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 BDAR identified a small area of vegetation within and adjacent to Cliffdale Road reserve as threatened ecological community (TEC) listed under the <i>Biodiversity Conservation Act 2016</i> and the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. The location of this section of Cliffdale Road subject to proposed treatment was identified in the BDAR, and therefore the BDAR generally considered the associated impacts at this location. The BDAR did not identify any suitable habitat for threatened species that would be impacted by the Project at this location.				
Aboriginal Heritage and Non-Aboriginal Heritage				
<i>Study Area and Existing Environment</i>				Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))
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.				Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)
The Aboriginal and historic heritage assessments carried out as part of the EIS and Amendment Report only assess a small area (approximately 225 metres) of the proposed section of Cliffdale Road within the MWRC LGA that is to be upgraded.				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)
<i>Relevant Environmental Risks</i>				Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
- 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				
<i>Assessment and Outcomes Summary</i>				Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage))
The Aboriginal and historic heritage assessments carried out as part of the EIS and Amendment Report did not identify any items or areas of non-Aboriginal or Aboriginal Cultural Heritage significance within 1 kilometre of the assessed area of Cliffdale Road subject to the proposed treatment.				Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Noise and Vibration				
<i>Study Area and Existing Environment</i>				Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration))
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.				

EIS Assessment and Outcomes Summary	EIS Assessment References
The nearest sensitive receiver to the section of Clifffdale Road assessed in the EIS/ Amendment Report is located more than 1.8 kilometres east (residential receiver 1003).	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))
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> Given the distance from the area of road upgrade to the nearest sensitive receiver (approximately 1.8km), 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	
<i>Study Area and Existing Environment</i> 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. Clifffdale Road is classified as a Local Road that is approximately 12 kilometres in length connecting the Golden Highway via Blue Springs Road to Ulan Road. It runs in an east-west direction as an unsealed, two-way carriageway, with a rural speed limit of 100km/h. The section of Clifffdale Road that runs through the Mid-Western Regional LGA that is subject to this Transport Strategy is approximately 2 kilometres.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
<i>Relevant Environmental Risks</i> - 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)
<i>Assessment and Outcomes Summary</i> 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 All residual risk ratings for traffic and transport in the EIS were noted as being '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	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
AustRoads Guide to Road Design requirements and would not alter the traffic impacts substantially compared to the Project described and assessed in the EIS.	
Waste Management	
<i>Study Area and Existing Environment</i> 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)
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> 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	
<i>Study Area and Existing Environment</i> 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)
<i>Relevant Environmental Risks</i> - 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)
<i>Assessment and Outcomes Summary</i> 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 proposed to interact with any watercourses and the risk to water quality impacts is considered very low. The potential for the proposed	Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality))

EIS Assessment and Outcomes Summary	EIS Assessment References
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.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Climate Change and Greenhouse Gas	
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> 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	
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> 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 proposed local road upgrade has extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey 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 Cliffdale Road.

TABLE C4-6 LOCAL ROAD ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION BOUNDARY (CLIFFDALE ROAD)

Impacts
Biodiversity The supplementary assessment BAM Report (ECE, 2026) (refer to Appendix F) assessed the biodiversity values associated with the road verge that falls outside of the approved Project disturbance footprint (the Proposed Change). The proposed footprint of the Cliffdale Road verge (the subject land) and a 1,500m buffer zone comprise the

Impacts

Assessment Area for the BAM Report. The Subject Land is approximately 16.21ha and is located primarily within road reserve.

Cliffdale Road is located within both the Warumbungle LGA and the Mid-Western Regional LGA. While the supplementary assessment assesses the full alignment, this table of impacts assesses only a 2 kilometre section of Cliffdale Road located within the Mid Western Regional LGA.

The BDAR identified two PCTs nearby to the subject land (refer to figures 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 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.

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)

The area of PCT 281 within the proposed footprint of Cliffdale Road is 0.16ha and the area of PCT 479 is 0.42ha. This area is the maximum predicted impact, and impacts will be reduced following further design development as well as on-site micro siting.

White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) is at risk of serious and irreversible impact (SAIL). However, vegetation within the Subject Land has been confirmed as aligning with the PCT's and vegetation zones identified within the approved BDAR. The extent of PCT 281 (Derived Native Grassland) has been mapped as 'Offset not required' due to a Vegetation Integrity (VI) score <15 and so requires no ecosystem credit offsets.

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).

The following flora species associated with the PCTs were assumed present within the subject land:

- Ausfeld's Wattle (*Acacia ausfeldii*) - PCT 281 and PCT 479
- Cotoneaster Pomaderris (*Pomaderris cotoneaster*) - PCT 281 only
- Tarengo Leek Orchid (*Prasophyllum petilum*) - PCT 281 only
- Tylophora linearis - PCT 281 and PCT 479
- Silky Swainson-pea (*Swainsona sericea*) - PCT 281 and PCT 479

The following fauna species associated with the PCTs were assumed present within the subject land:

- Pink-tailed Legless Lizard (*Aprasia parapulchella*) - PCT 281 only
- Glossy Black-Cockatoo (breeding) (*Calyptorhynchus lathamii*) - PCT 281 and PCT 479
- Little Eagle (breeding) (*Hieraaetus morphnoides*) - PCT 281 and PCT 479
- Eastern Pygmy-possum (*Cercartetus nanus*) - PCT 281 and PCT 479
- Squirrel Glider (*Petaurus norfolcensis*) - PCT 281 and PCT 479
- Koala (*Phascolarctos cinereus*) - PCT 281 and PCT 479

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.

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.

No tree clearing would be required to facilitate the road upgrade.

Aboriginal Heritage and Non-Aboriginal Heritage

The supplementary assessment (KNC, 2026) (refer to Appendix F) did not identify any Aboriginal or Non-Aboriginal Heritage sites located within the footprint of Cliffdale Road within the MWRC LGA (refer to figures in Appendix E).

Impacts

Noise and Vibration

The nearest sensitive receiver (residential - ID 1037) to the proposed section of Clifdale road to be upgraded is located approximately 1 kilometre west.

A construction noise & vibration assessment was carried out. The assessment considers a scenario where all plant and equipment would be operating concurrently. At this distance, construction noise would not likely exceed the identified Noise Management Level (NML) during standard work hours and out of hours. Vibration impacts from both the proposed road treatment 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. 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 C4-7 LOCAL ROAD MITIGATION MEASURES (CLIFFDALE 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)
- Tree clearing is not permitted
- 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 0.16ha of PCT 281 and 0.42ha of PCT 479 will be tracked in the Project's clearing register for Clifdale Road
- Vegetation clearing or land disturbance outside of the assessed area will not be permitted

Mitigation Measures

- 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

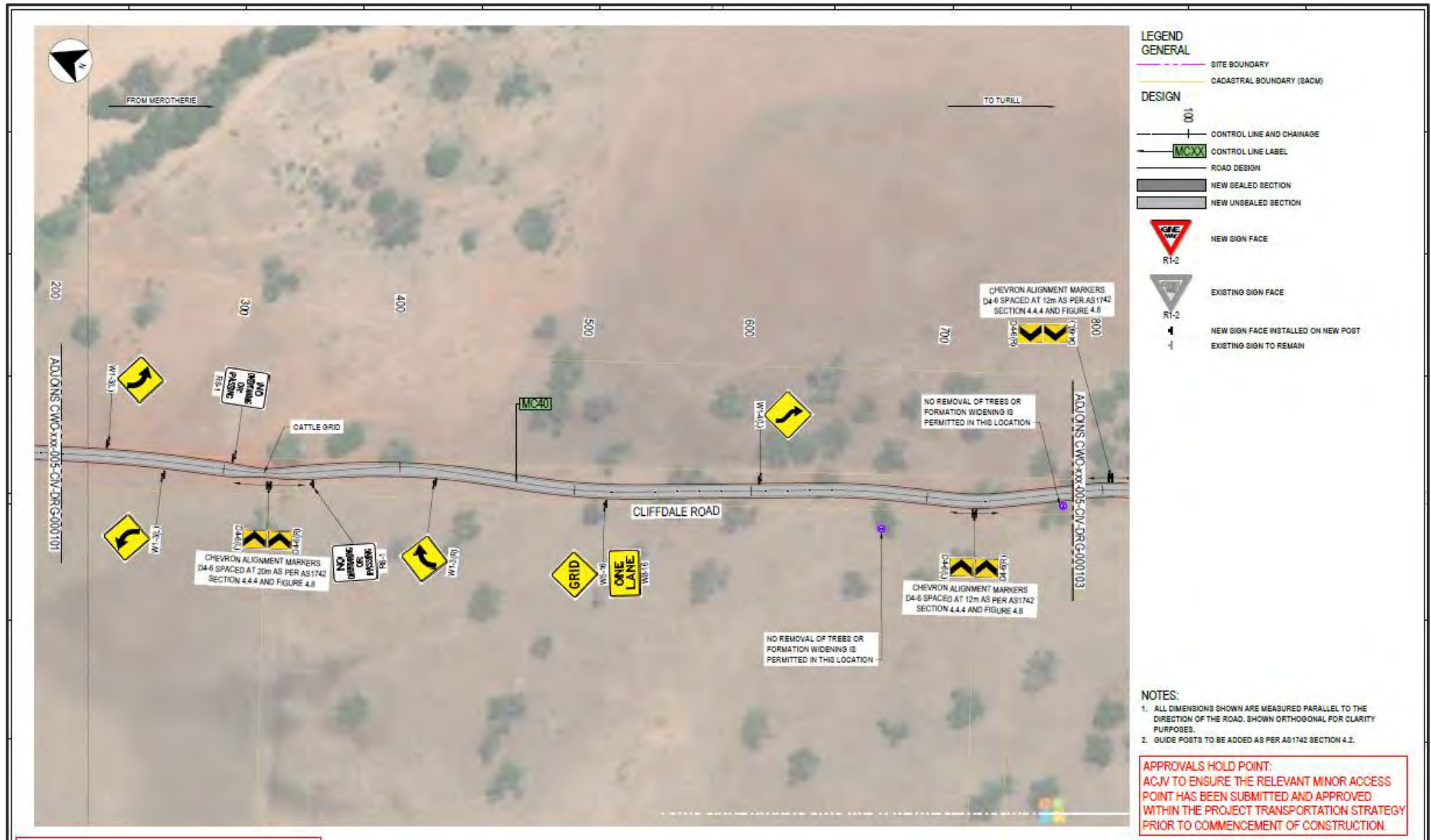
MCoA (NSW) B31(c) requires that the Transport Strategy "includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)".

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.









APPENDIX C5 PUGGOON ROAD

Refer to Mid-Western Regional Council Transport Strategy Priority 6B

APPENDIX C6 WHISTONS LANE

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

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) - Appendix D1 – Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points. Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.
- SP1-B1/B2 (Birkalla Road) - Appendix D2 - Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points. Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.
- SP1-E1/E2 (Blue Springs Road South) - Appendix D3 – Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points. Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.
- SP1-F1/F2 (Highett Road) - Appendix D4 - Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points. Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.
- SP1-J2 (Ulan Road) - Appendix D5 – Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP1-L1/L2 (Ulan Road / Ulan-Wollar Road) - Appendix D6 - Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP1-U (Ulan-Wollar Road) - Appendix D7 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP1-N (Ulan-Wollar Road) - Appendix D8 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP1-P (Ulan-Wollar Road) - Appendix D9 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP1-T (Ulan-Wollar Road) - Appendix D10 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP2-K1/K2 (Barneys Reef Road) - Appendix D11 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- SP5-C1/C2 (Turill Bus Route) - Appendix D12 – Included for approval
- SP0-A3/SP6-A2 (Merotherie Road) - Appendix D13 - Refer to Mid-Western Regional Council Transport Strategy Priority 2

- SP6-B1/B2 (Birkalla Road) - Appendix D14 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP6-D1/D2 (Blue Springs Road South) - Appendix D15 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP7-A (Birriwa Bus Route South) - Appendix D16 - Not yet assigned
- SP6-E1 (Blue Springs Road North) - Appendix D17 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP5-B1/B2 (Cliffdale Road) – Appendix D18 - Included for approval
- SP1-H1/H2 (Cope Road) - Appendix D19 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP3-D1/D2 (Puggoon Road) - Appendix D20 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- SP3-E (Puggoon Road) - 0 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- SP3-X1/X2 (Puggoon Road) - 0 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- SP1-Q (Ulan-Wollar Road) - Appendix D23 - Refer to Mid-Western Regional Council Transport Strategy Priority 2
- SP1-Wilp (Ulan-Wollar Road) - Appendix D24 - Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP1-X1/X2 (Upper Cumbo Road) - Appendix D25 - Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP3-A (Whistons Lane) - Appendix D26 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A
- SP1-V1/V2 (Wilpinjong Road) - Appendix D27 - Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP1-W (Wollar Road) - Appendix D28 - Refer to Mid-Western Regional Council Transport Strategy Priority 3A
- SP2-G1/G2 (Tuckland Road) - Appendix D29 - Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX D1 SP1-A1/A2 ACCESS POINTS (MEROTHERIE ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points.

Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.

APPENDIX D2 SP1-B1/B2 ACCESS POINTS (BIRKALLA ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points.

Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.

APPENDIX D3 SP1-E1/E2 ACCESS POINTS (BLUE SPRINGS ROAD SOUTH)

Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points.

Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.

APPENDIX D4 SP1-F1/F2 ACCESS POINTS (HIGHETT ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 1 as crossing points.

Refer Mid-Western Regional Council Transport Strategy Priority 6A as access point.

APPENDIX D5 SP1-J2 (ULAN ROAD) – REFER PRIORITY 3A

**APPENDIX D6 SP1-L1/L2 (ULAN ROAD / ULAN-WOLLAR ROAD) – REFER
PRIORITY 3A**

**APPENDIX D7
PRIORITY 2**

SP1-U ACCESS POINT (ULAN-WOLLAR ROAD) – REFER

**APPENDIX D8
PRIORITY 2**

SP1-N ACCESS POINT (ULAN-WOLLAR ROAD) – REFER

**APPENDIX D9
PRIORITY 2**

SP1-P ACCESS POINT (ULAN-WOLLAR ROAD) – REFER

**APPENDIX D10
PRIORITY 2**

SP1-T ACCESS POINT (ULAN-WOLLAR ROAD) – REFER

APPENDIX D11 SP2-K1/K2 (BARNEYS REEF ROAD) – NOT YET INCLUDED

APPENDIX D12 SP5-C1/C2 ACCESS POINTS (TURILL BUS ROUTE) – NO LONGER REQUIRED

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 SOUTH) – 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 SP5-B1/B2 ACCESS POINTS (CLIFFDALE ROAD)

Location

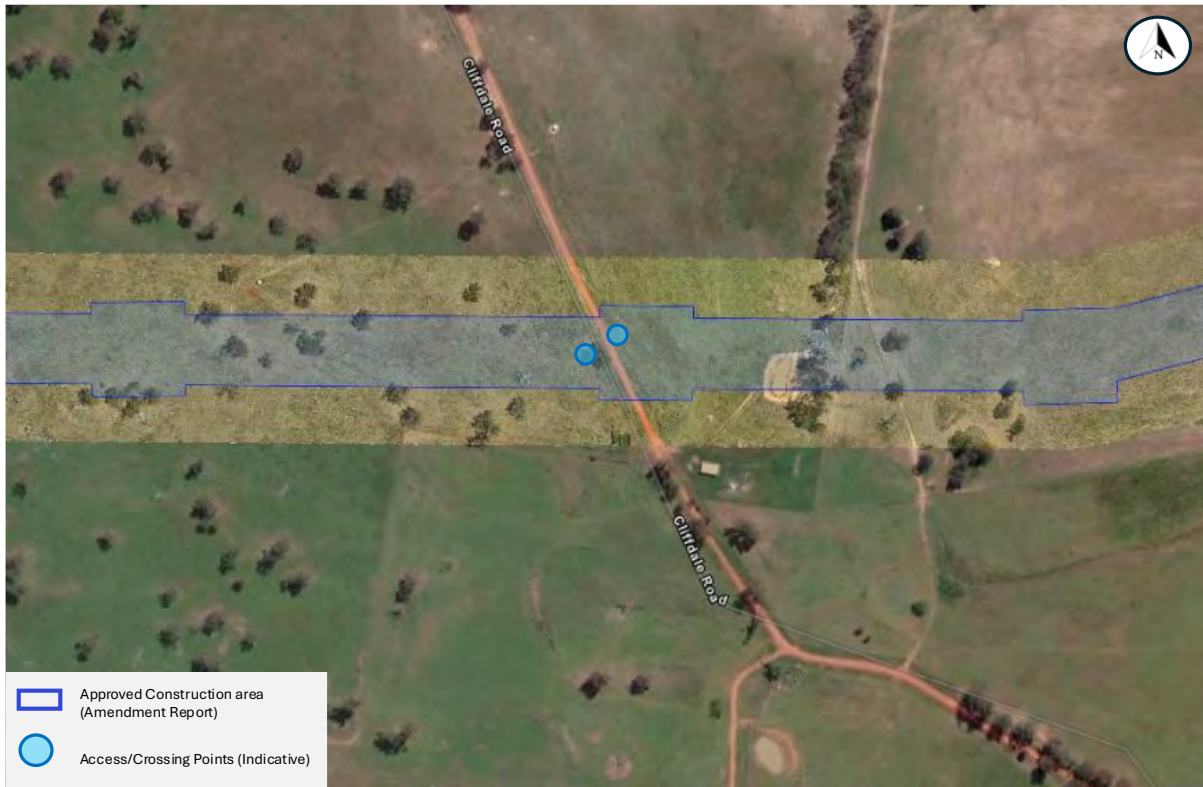


FIGURE D18-13 LOCATION OF ACCESS POINT SP5-B1/B2 ON CLIFFDALE ROAD



FIGURE D18-14 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP5-B1/B2)

Description

The Access Point will be used to access the construction area from Cliffdale Road. Further details are provided within the table below.

TABLE D18-8 ACCESS POINT SP5-B1/B2 TREATMENT AND USE

Entry Point ID	SP5-B1/B2
EIS Access Point (if applicable)	L2.21 / L2.22
Road	Cliffdale Road
Location	https://maps.app.goo.gl/uEdeAUyhMzLUbj4j8
Type	Access Point
Scope of Work	- Construction of new access driveway - Installation of fence, gate and signage - Installation of drainage pipe and headwalls - Installation of livestock grid - 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 is included in the section below.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to section below.
Schedule MCoA (NSW) B31(e)	These access points are required in Q3 2026 and will be completed for use by the end of 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 access points SP5-B1/B2 were 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 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 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.

TABLE D18-9 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-B1/B2)

EIS Assessment and Outcomes Summary	EIS Assessment References
Biodiversity	
<i>Study Area and Existing Environment</i> 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	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

- 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.

The BDAR identified vegetation within the footprint of the proposed access point SP5-B1 and SP5-B2 as consisting of 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. PCT 0 Miscellaneous Ecosystem was identified at access point SP5-B2.

The BDAR did not identify any threatened species within the footprint of the access points.

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 summarises the PCT's that have been identified by the BDAR as being impacted by the access points.

PCT	Act	Listed Status	Threat Status	Associated TEC
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.	N/A	Not listed	N/A	No
PCT 618 White Box x Grey Box - red gum - Rough-barked Apple grassy woodland on rich soils on hills in the upper Hunter Valley	BC Act	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

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)

EIS Assessment and Outcomes Summary					EIS Assessment References
	EPBC Act	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	
PCT 0 Miscellaneous Ecosystem	N/A	Not listed	N/A	No	
PCT 479 and PCT 0 are not 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 BDAR did not identify any suitable habitat for threatened species that would be impacted by the Project at this location. The location of access points SP5-B1/B2 at Cliffdale Road was identified in the BDAR, and therefore the BDAR generally considered the access point and the associated impacts at this location. No additional biodiversity impacts compared to what was assessed as part of the EIS / AR will result from the proposed refinement at these locations.					
Aboriginal Heritage and Non-Aboriginal Heritage					
<i>Study Area and Existing Environment</i> 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 Aboriginal heritage 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)
<i>Relevant Environmental Risks</i> - 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)
<i>Assessment and Outcomes Summary</i> The Non-Aboriginal Heritage and Aboriginal Cultural Heritage Assessment Report included in the EIS and Amendment Report did not identify any items or areas of non-Aboriginal or Aboriginal Cultural Heritage significance within 1km of the proposed SP5-B1/B2.					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

EIS Assessment and Outcomes Summary	EIS Assessment References
	Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
<i>Study Area and Existing Environment</i> 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. Cliffdale Road is a local road in the study area. It is noted in the EIS as being approximately 12 kilometres long providing an east-west connection between Castlereagh Highway via Blue Springs to Ulan Road. It is an unsealed pavement and bi-directional two-lane road (one lane in each direction). The posted speed limit is 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))
<i>Relevant Environmental Risks</i> - 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)
<i>Assessment and Outcomes Summary</i> 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	
<i>Study Area and Existing Environment</i> The nearest sensitive air quality receiver (residential – ID 1119) is located more than 5km northeast of access points SP5-B1 and SP5-B2.	Figure 19-3 of the EIS (Chapter (Air Quality))
<i>Relevant Environmental Risks</i> 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)
<i>Assessment and Outcomes Summary</i> 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	
<i>Relevant Environmental Risks</i> 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 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 Points have 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 D18-10 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP5-B1/B2)

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 surveyed for the BDAR is provided in the table below.

Access Point	PCT Identified	TEC?	Habitat for Threatened Species?	Extent (Ha)
SP5-B1	PCT 479	No	No	0.04
SP5-B2	PCT 479	No	No	0.025
	PCT 0	No	No	0.005

Notes:

PCT 0 – Miscellaneous ecosystem

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

The additional footprint of works would result in 0.065ha of clearing of PCT 479. This PCT is 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.

No additional habitat for threatened species was identified as being associated with PCT 479.

No additional biodiversity impacts 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 extended footprint of the access points was included in the heritage assessment area of the Non-Aboriginal heritage and Aboriginal Cultural Heritage Assessment Report of the EIS. No Aboriginal or Non-Aboriginal cultural heritage values were recorded within the extended footprint of the access point.

Traffic and Transport

There is the potential for minor disruption to traffic on Cliffdale Road during construction of the access points. 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

Impacts

nature and duration.

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 minor refinements to the disturbance footprints, or relocation of access points, 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.

Noise and Vibration

The use of the access points SP5-B1/B2 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 SP5-B1/B2 is more than 2km away. 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 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 points SP5-B1/B2 were assessed in the Amendment Report flooding assessment and therefore are not discussed 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.

Erosion and Sedimentation

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.

Construction of the access points is not proposed to interact with any watercourses and the risk to water quality impacts 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 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 points described in this Strategy. Where specific mitigations are identified, they have been detailed in the relevant sections below.

TABLE D18-11 MITIGATION MEASURES SP5-B1/B2 ACCESS POINTS

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). - 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
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 treatments include:

Mitigation Measures

- 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)

Traffic and Transport

A Section 138 approval is required for both:

- The construction of the access points
- The implementation of traffic control measures under Traffic Control at Work Sites during use

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 treatments:

- 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.



APPENDIX D19 SP1-H1/H2 ACCESS POINTS (COPE ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 2

APPENDIX D20 SP3-D1/D2 (PUGGOON ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX D21 SP3-E (PUGGOON ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX D22 SP3-X1/X2 (PUGGOON ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX D23 SP1-Q ACCESS POINT (ULAN-WOLLAR ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 2

APPENDIX D24 SP1-WILP (ULAN-WOLLAR ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 3A

APPENDIX D25 SP1-X1/X2 (UPPER CUMBO ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 3A

APPENDIX D26 SP3-A (WHISTONS LANE)

Refer to Mid-Western Regional Council Transport Strategy Priority 6A

APPENDIX D27 SP1-V1/V2 (WILPINJONG ROAD)

Refer to Mid-Western Regional Council Transport Strategy Priority 3A

APPENDIX D28 SP1-W (WOLLAR ROAD)

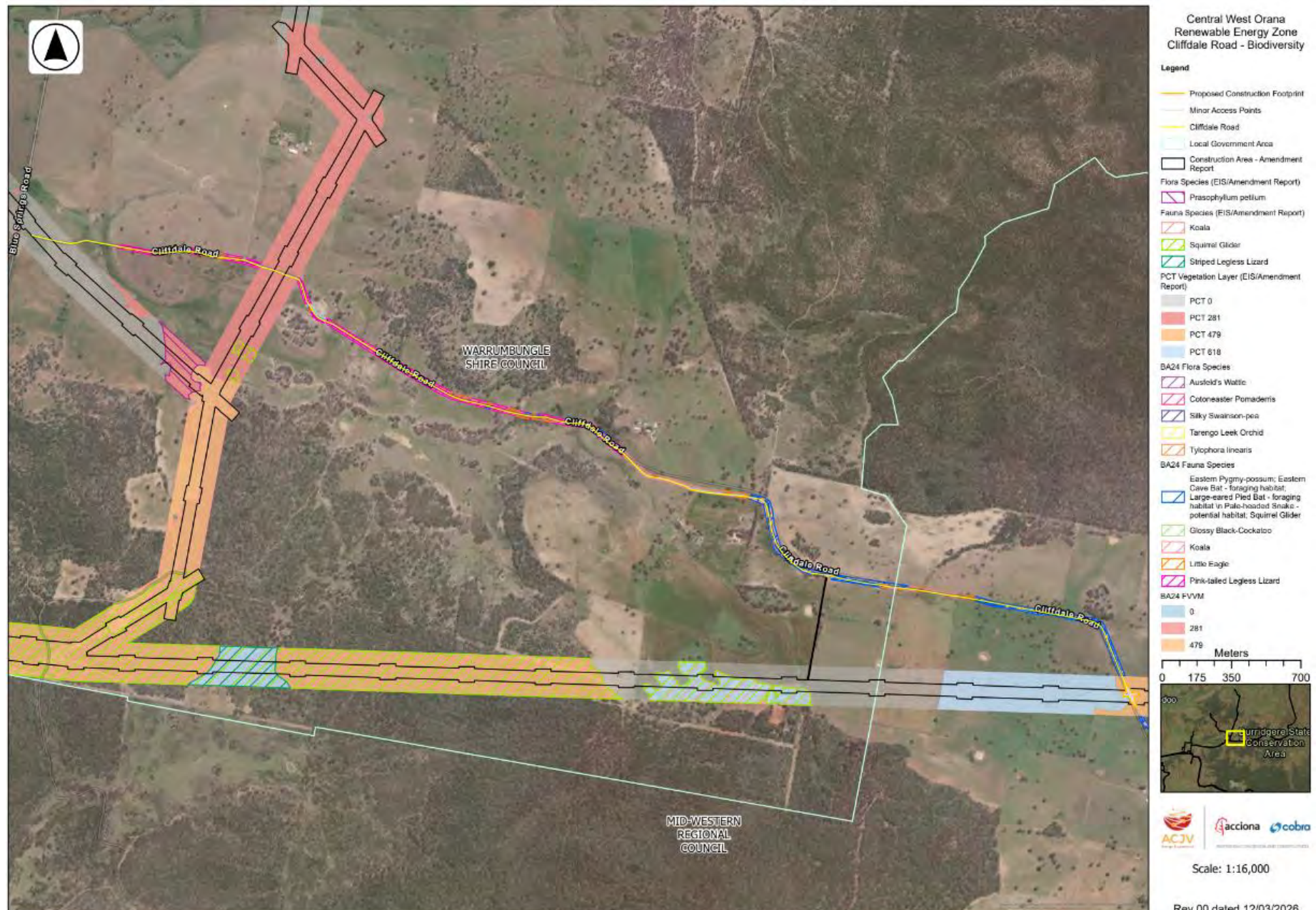
Refer to Mid-Western Regional Council Transport Strategy Priority 3A

APPENDIX D29 SP2-G1/G2 (TUCKLAND ROAD)

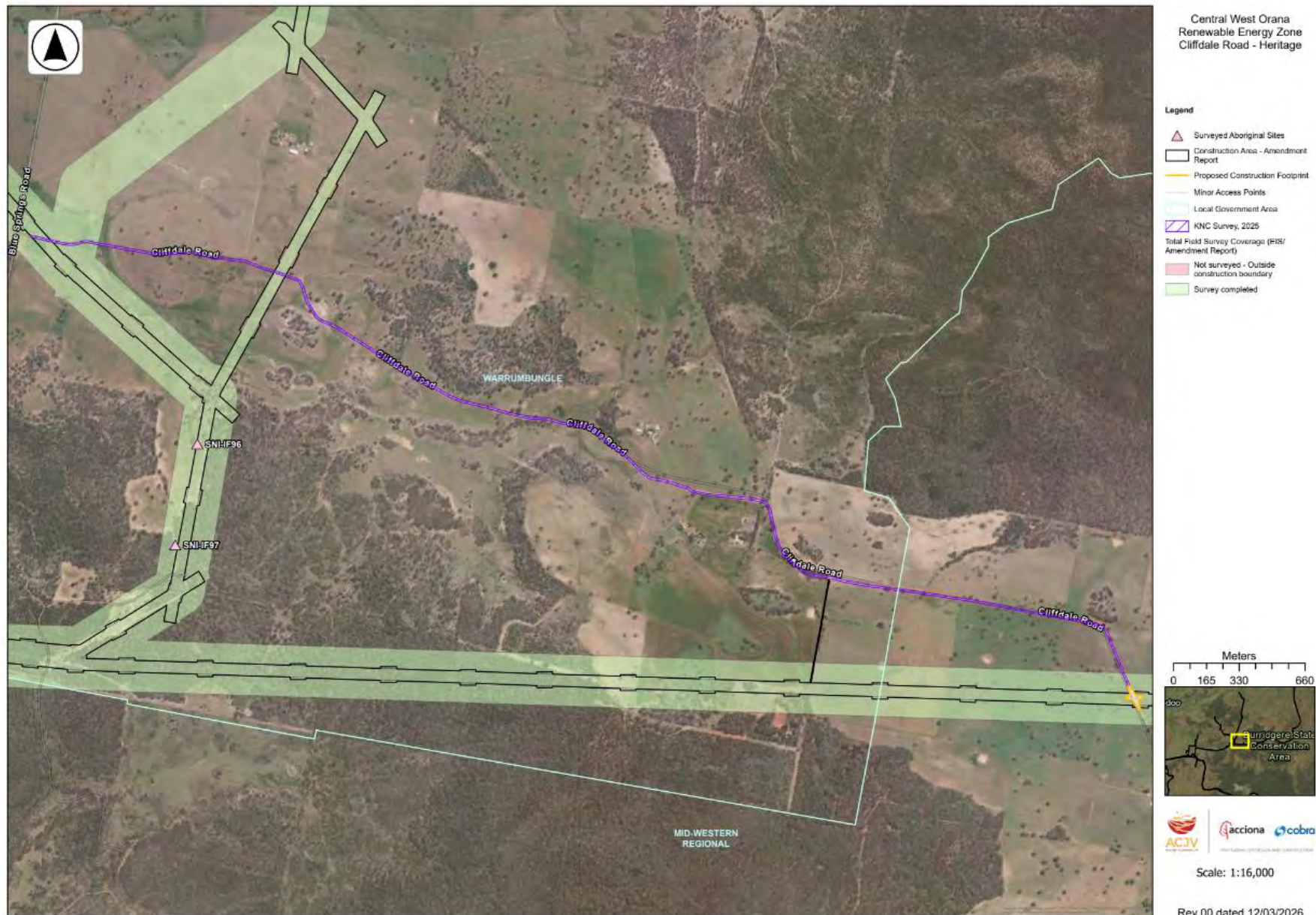
Refer to Mid-Western Regional Council Transport Strategy Priority 6A

Appendix E Additional Environmental Assessment Figures

Cliffdale Road (Local Road)

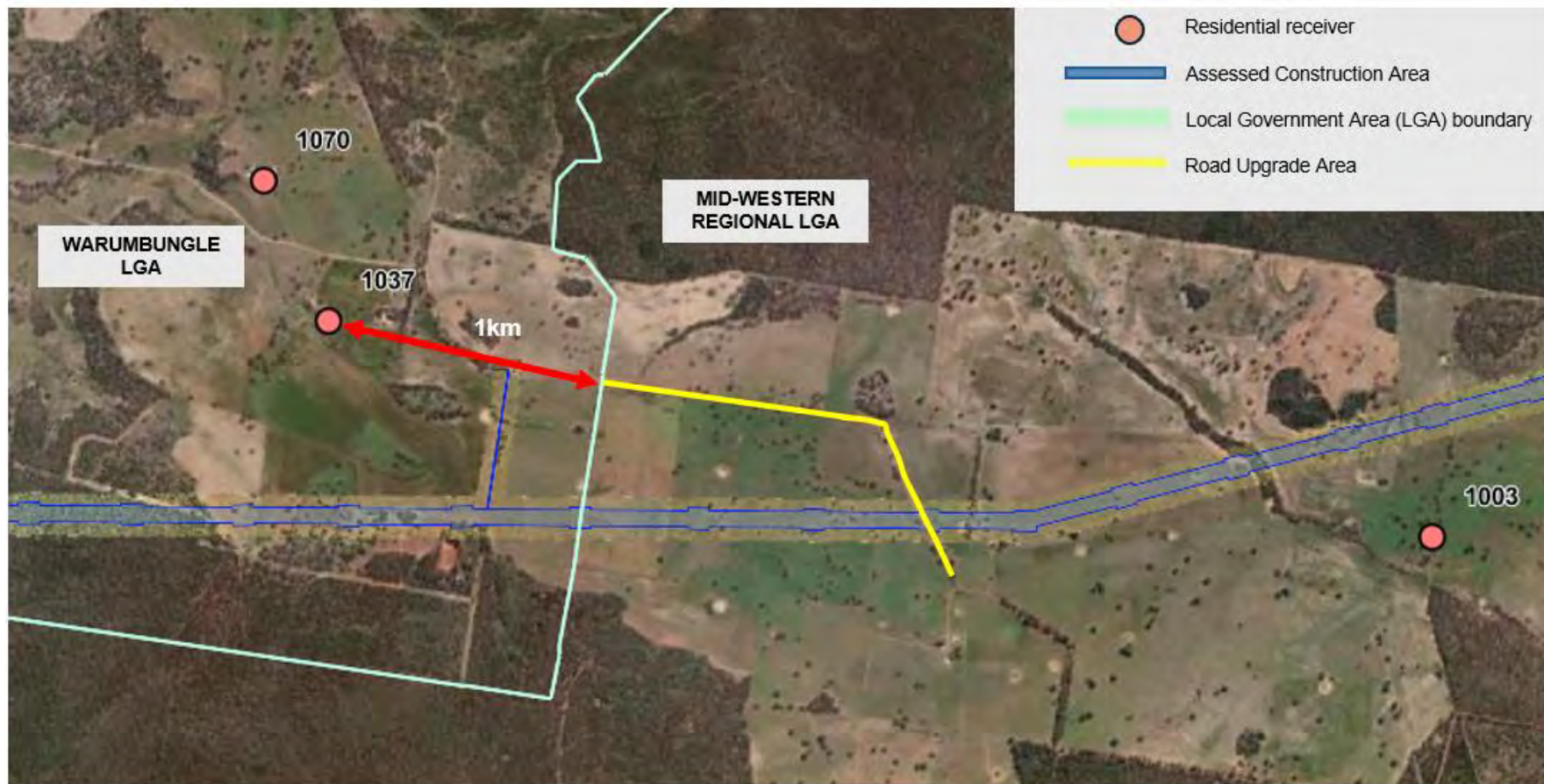












SP5-C1/C2

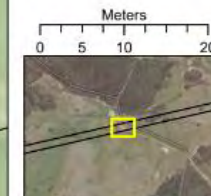




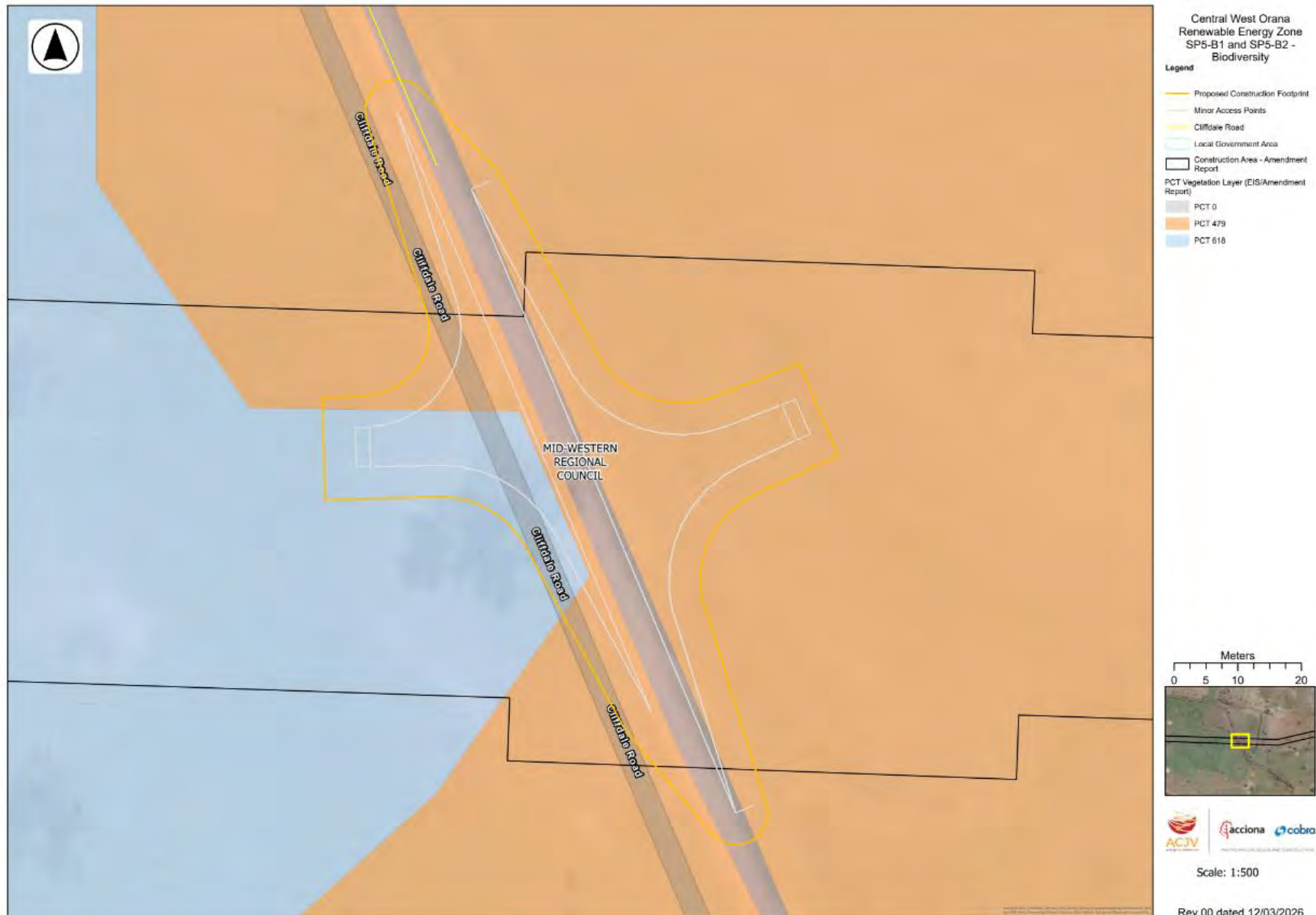
Central West Orana
Renewable Energy Zone
SP5-C1 and SP5-C2 -
Heritage

Legend

- Construction Area - Amendment Report
- Proposed Construction Footprint
- Minor Access Points
- Total Field Survey Coverage (EIS/
Amendment Report)
- Survey completed



SP5-B1/B2





Appendix F Supplementary Environmental Assessments

Activity:	Aboriginal and historical heritage assessment of proposed road upgrade works along Clifffdale Road outside the approved Construction Area.
Heritage Site ID:	- Newly identified Aboriginal Potential Archaeological Deposit (PAD) SNI-PAD201, near Salty Creek (Figure 2). Outside proposed impact area for current works. - Historical heritage item Riverton Subsidised School, near Blue Springs Road (Figure 2). Outside proposed impact area for current works. - No Aboriginal or historical heritage items, sites or areas of archaeological potential identified within proposed work area
Describe activity/works statement/expected impact (attach any additional information):	Activities associated with potential road upgrades along sections of Clifffdale Road outside the approved Construction Area. The proposed works will disturb the ground surface.
Describe where this activity will take place (attach aerial or plans):	Sections of Clifffdale Road which extend on either side of the approved Construction Area (refer Figure 1). The heritage assessment area and proposed work area encompasses the existing road corridor. The majority of the proposed work area is within the Warrumbungle LGA, with the eastern section within the Mid-Western Regional LGA.
Area of proposed works surveyed and clearly identified (e.g. survey pegs, fencing)?	
☐ Yes ☒ No	Proposed work area was 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 21 January 2026. Inspection confirmed that historical heritage item Riverton Subsidised School is present on the northern side of the road and is not located within the proposed impact area. One previously unidentified Aboriginal PAD was recorded on the southern side of the road near Salty Creek: SNI-PAD201 (Figure 2). The PAD is in proximity to the proposed upgrade works however is not located within the proposed impact area. No other Aboriginal or historical objects, archaeological sites or areas of archaeological potential were identified.
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 PAD area SNI-PAD201 and historical heritage item Riverton Subsidised School are shown in Figure 2. Both are within the Warrumbungle LGA. No ground disturbance is to occur within the identified PAD or heritage item. The areas should be included in the EWMS for the proposed work. An exclusion (no-go) buffer will be established during the works to ensure no impact.
Are proposed works ok to proceed?	
☒ Yes ☐ No	Provided that newly identified SNI-PAD201 and historical heritage item Riverton Subsidised School 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. 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 area as shown in Figures 1-2. Provided that the identified areas 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: 28/01/2026

Document Reference: No 10 Rev A

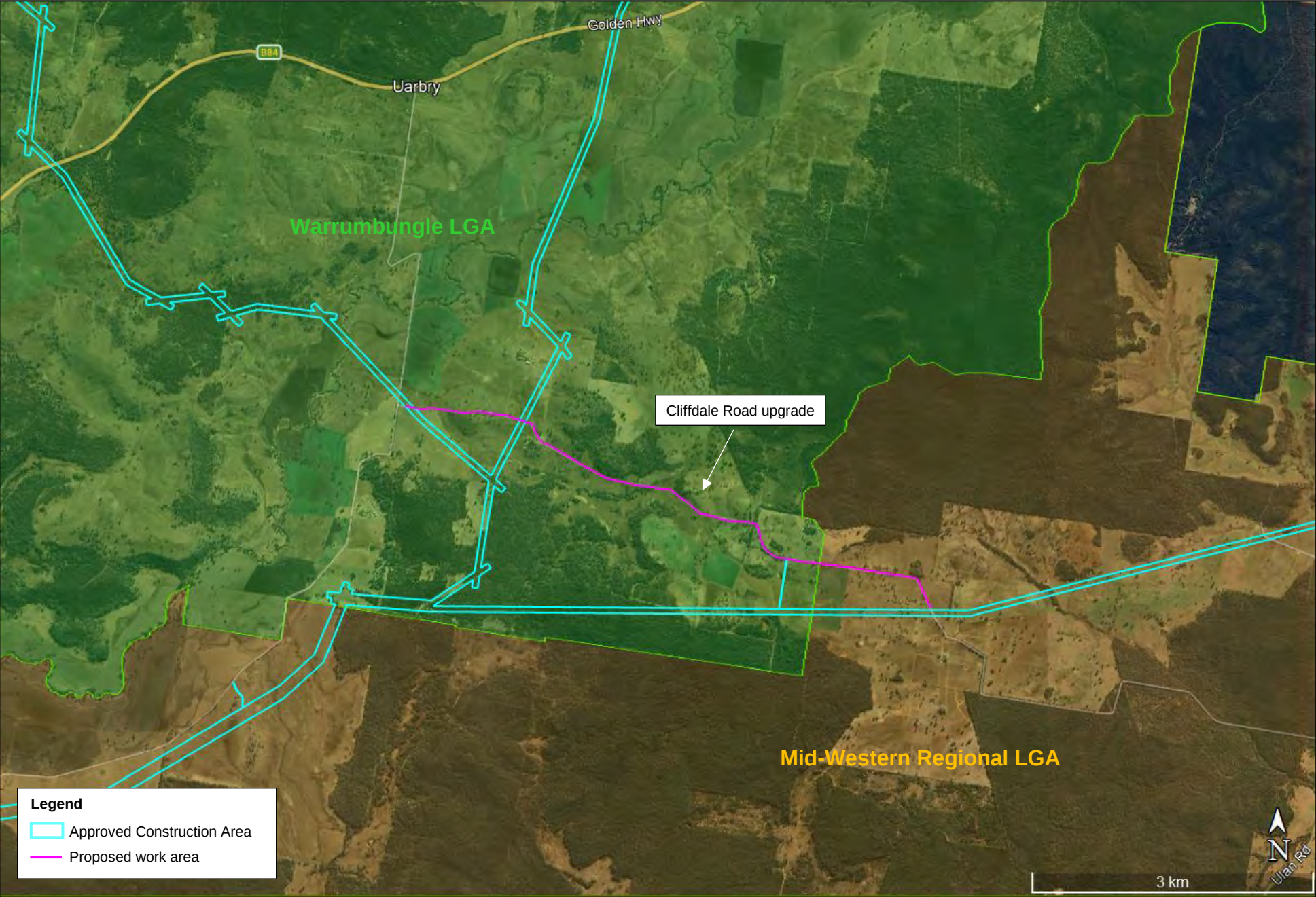


Figure 1. Overview of proposed road upgrade area in relation to approved Construction Area and LGAs



Figure 2. Cliffdale Road upgrade work area, Aboriginal PAD SNI-PAD201 and historical heritage item Riverton Subsidised School. SNI-PAD201 and Riverton Subsidised School must be avoided by the proposed works. No other heritage constraints identified.

BAM Report

Central West Orana:
Cliffdale Road

Prepared by: Jade Minto

Prepared for: ACCIONA Cobra Joint Venture

Report date: February 2026





DOCUMENT CONTROL

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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
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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	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BC Reg	<i>Biodiversity Conservation Regulation 2017 (NSW)</i>
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	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FM Act	<i>Fisheries Management Act 1994</i>
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
SAIL	Serious and Irreversible Impacts
SAIL entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAILs)
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 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 (ecoplaning, 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, 1,000m² 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 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).

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 Foothills and Talbragar - Upper Macquarie Terrace Sands and Gravels
Rivers, streams, estuaries and wetlands	Two unnamed 1 st order watercourses and one unnamed 2 nd order watercourse intersect the Subject Land. Salty Creek occurs approximately 170m south of the Subject Land and runs parallel to the Subject Land. Several 1 st , 2 nd , 3 rd and 6 th 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

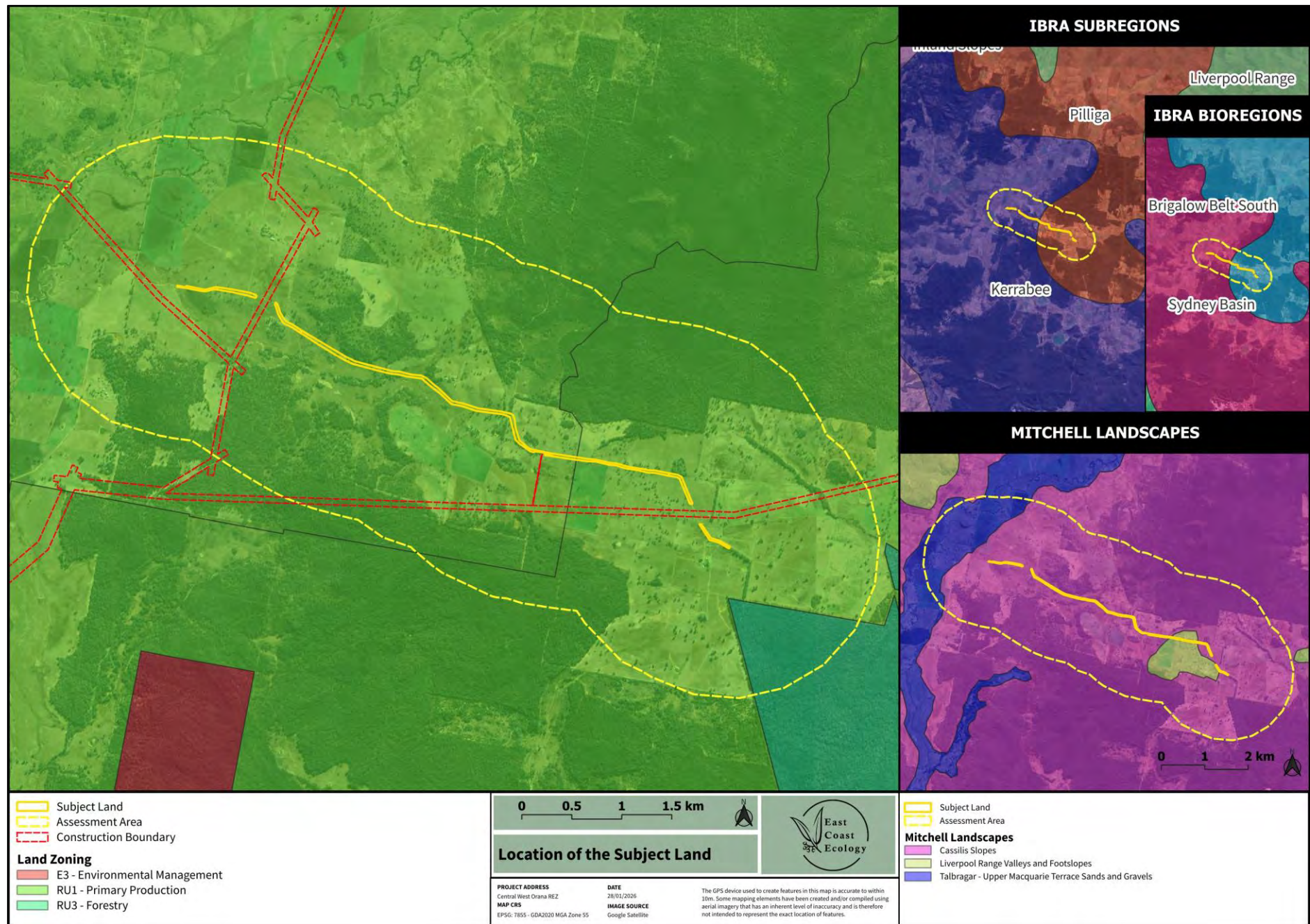


Figure 1. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.

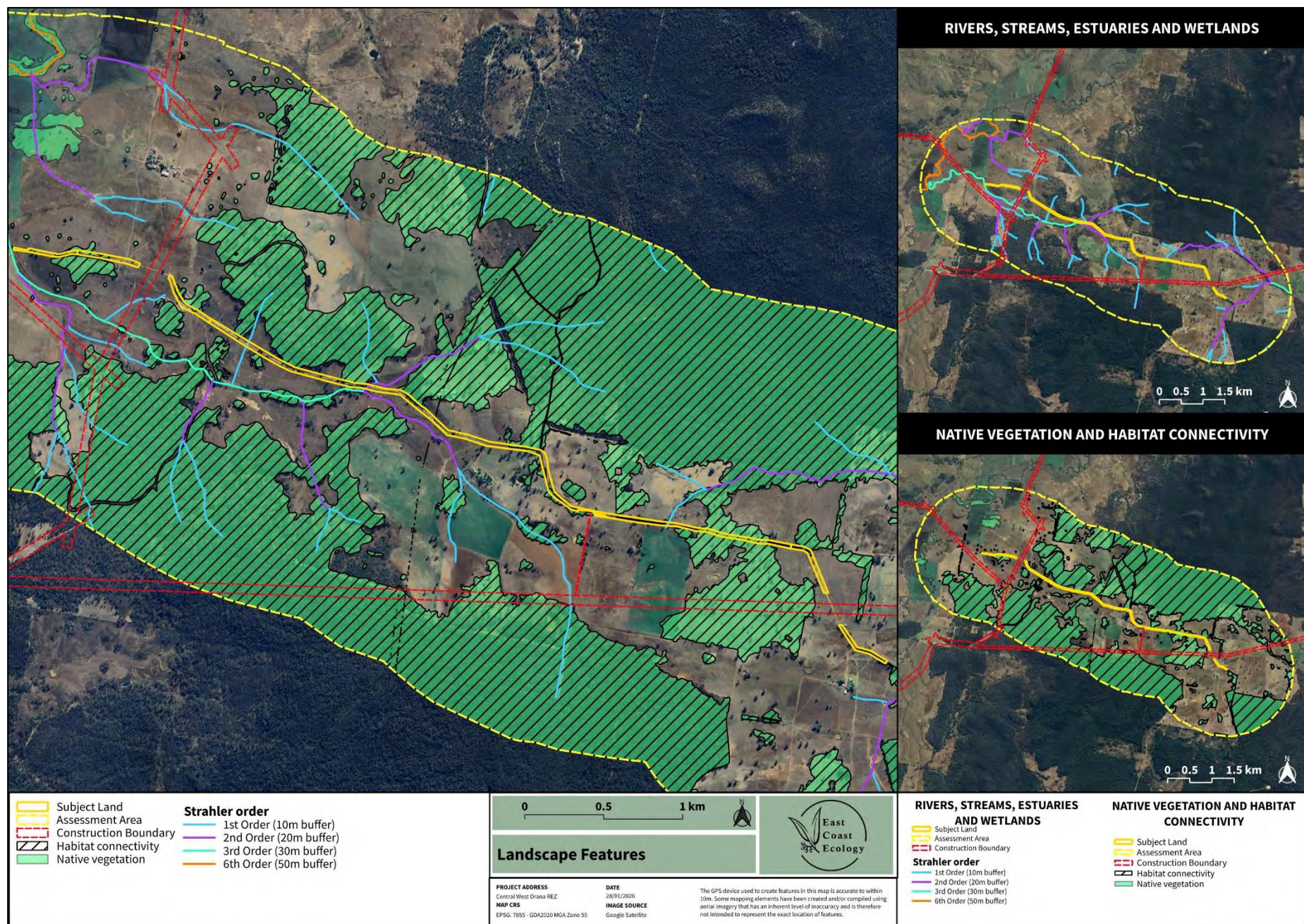


Figure 2. Strahler stream order, waterbodies, native vegetation and habitat connectivity.

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.

Table 3. PCTs identified within the Subject Land.

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	SAIL
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	0.38	Moderate/ Good	(WBYB BC and EPBC Act)	Yes
		0.91	Thinned	(WBYB BC and EPBC Act)	Yes
		0.32	Regrowth Shrubland	(WBYB BC and EPBC Act)	Yes
		6.52	Derived Native Grassland	(WBYB BC Act)	Yes

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	SAIL
			(DNG)/ Offset not required		
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	Moderate/ Good	-	-
		0.78	Thinned	-	-
		0.06	Poor	-	-
		0.25	Regrowth Shrubland	-	-
		2.78	Derived Native Grassland	-	-
0	Pre-existing Infrastructure	3.48	-	-	-
Total Area		16.21			

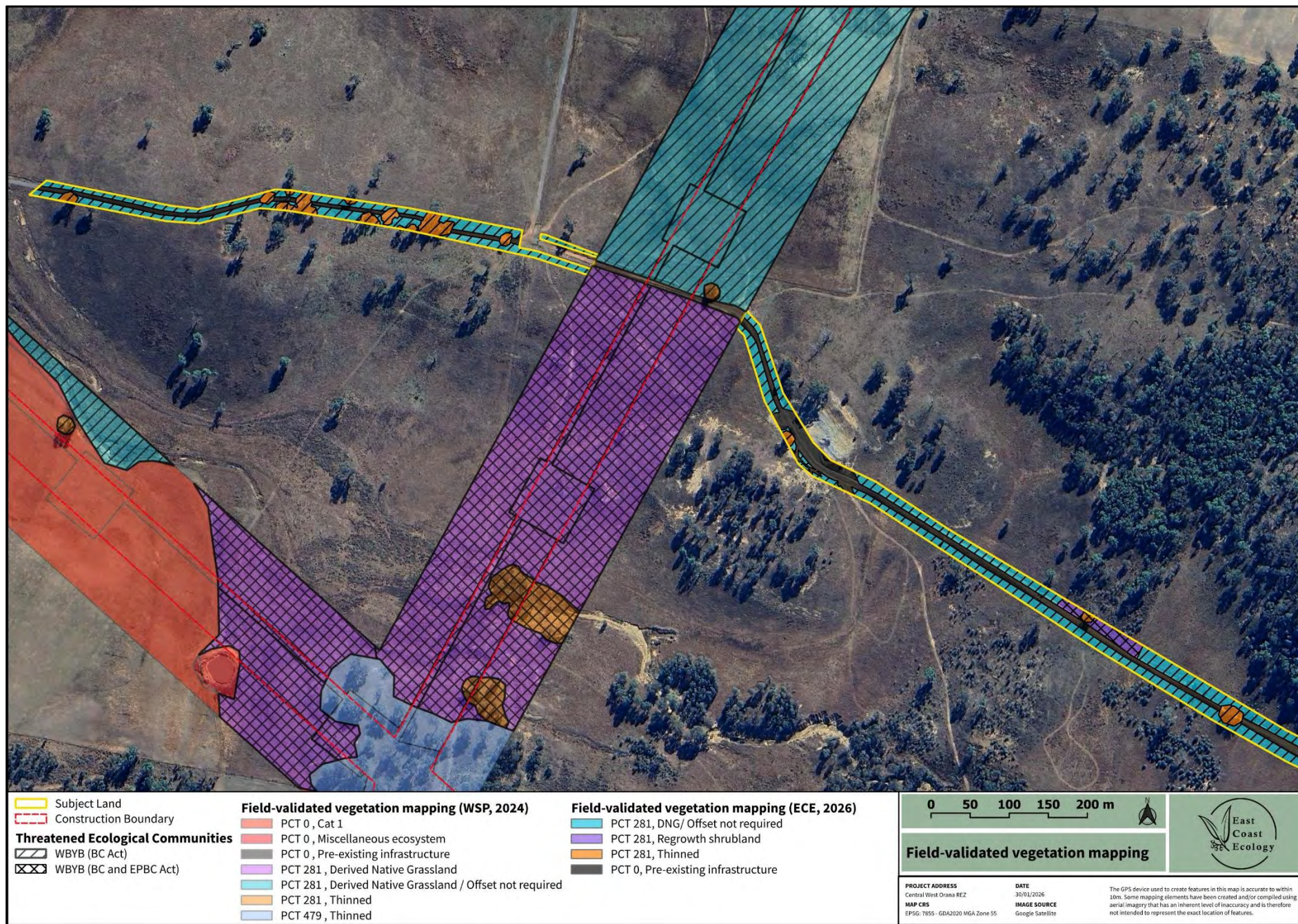


Figure 3. Field-validated vegetation mapping within the Subject Land (1 of 4).



Figure 4. Field-validated vegetation mapping within the Subject Land (2 of 4).

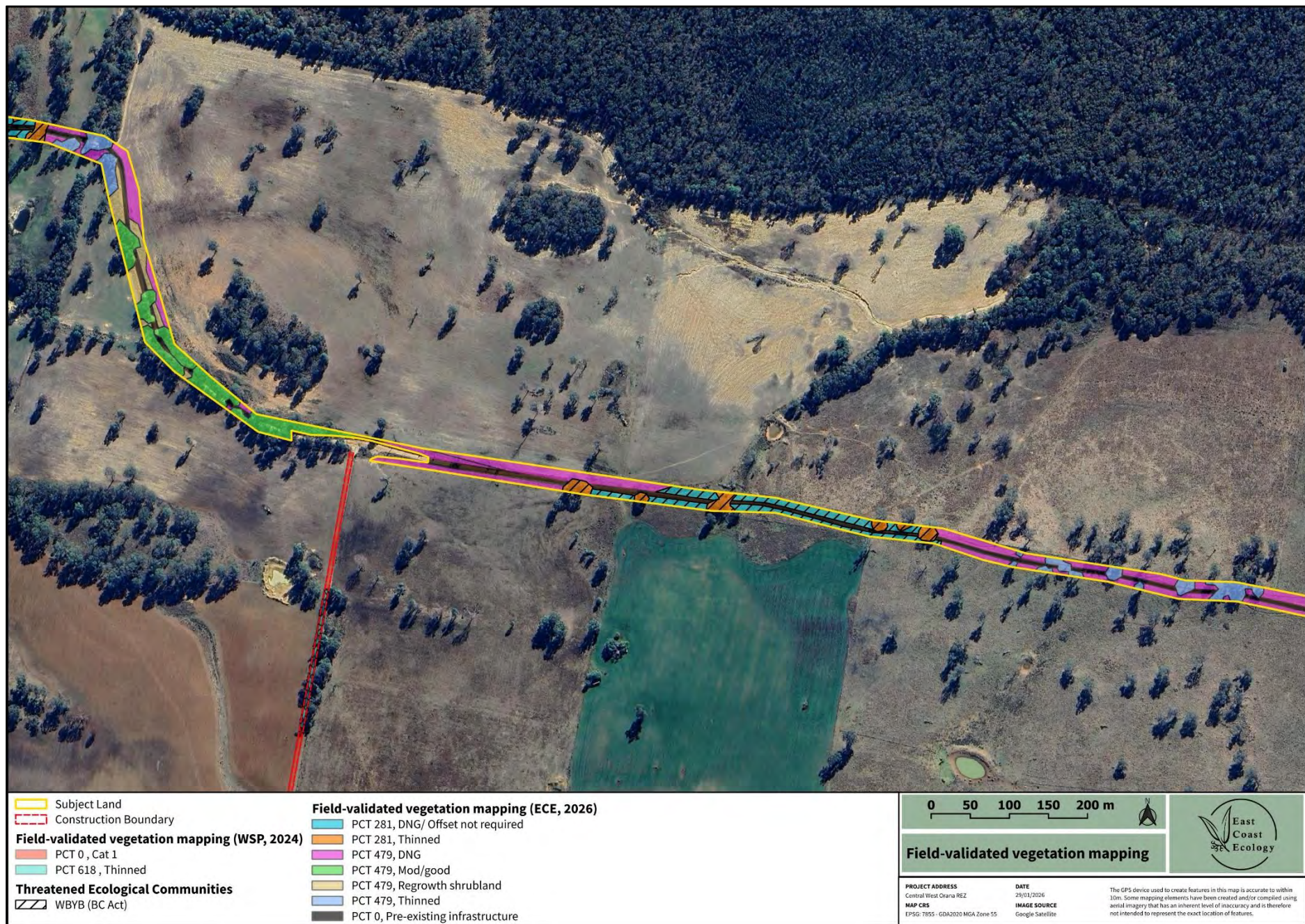


Figure 5. Field-validated vegetation mapping within the Subject Land (3 of 4).

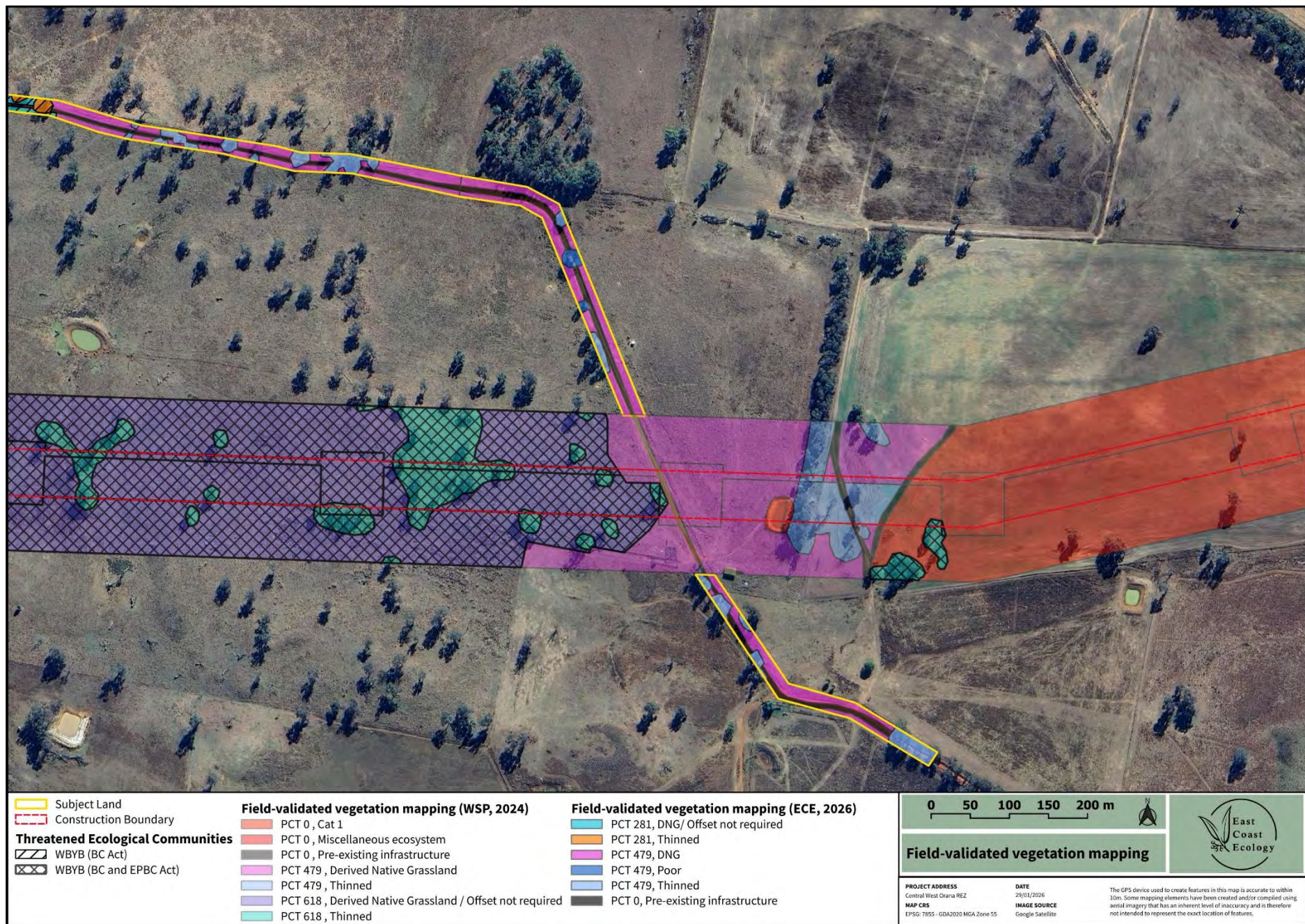


Figure 6. Field-validated vegetation mapping within the Subject Land (4 of 4).

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.

Table 4. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	-	Yes.	No (WSP). No (ECE)	Assumed present –consistent with the approved BDAR (WSP, 2024).
<i>Eucalyptus camaldulensis</i>	Eucalyptus camaldulensis population in the Hunter catchment	-	Yes.	Yes (ECE).	No.
<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	-	Yes.	No (WSP). No (ECE).	Assumed present –consistent with the approved BDAR (WSP, 2024).
<i>Pomaderris queenslandica</i>	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
<i>Prasophyllum petilum</i>	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).
<i>Prasophyllum</i> sp. <i>Wybong</i>	-	-	No. Species excluded as it is considered a synonym of <i>Prasophyllum petilum</i> (WSP, 2024).	N/A	N/A
<i>Aprasia parapulchella</i>	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).
<i>Anthochaera phrygia</i>	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).
<i>Burhinus grallarius</i>	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).
<i>Collocephalon fimbriatum</i>	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).
<i>Calyptorhynchus lathamii</i>	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).
<i>Haliaeetus leucogaster</i>	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).
<i>Hieraetus morphnoides</i>	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).
<i>Lathamus discolor</i>	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Lophoictinia isura</i>	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).
<i>Ninox connivens</i>	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).
<i>Ninox strenua</i>	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).
<i>Tyto novaehollandiae</i>	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).
<i>Cercartetus nanus</i>	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).
<i>Chalinolobus dwyeri</i>	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).
<i>Miniopterus orianae oceanensis</i>	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).
<i>Petaurus norfolcensis</i>	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).
<i>Petrogale penicillata</i>	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).
<i>Phascolarctos cinereus</i>	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).
<i>Pteropus poliocephalus</i>	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).
			No. Habitat constraints absent.		
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	Yes	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 DCCEE 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	Moderate/ Good	0.38
		Thinned	0.57
		Regrowth Shrubland	0.32
		DNG/ Offset not required	4.61

Table 7. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)
<i>Acacia ausfeldii</i> Ausfeld's Wattle	281_Moderate/ Good	0.38
	281_Thinned	0.57

Species	Vegetation Zone	Area (ha)
	281_Regrowth Shrubland	0.32
<i>Pomaderris cotoneaster</i> Cotoneaster Pomaderris	281_Moderate/ Good	0.38
	281_Thinned	0.57
	281_Regrowth Shrubland	0.32
<i>Prasophyllum petilum</i> Tarengo Leek Orchid	281_Moderate/ Good	0.38
	281_Thinned	0.57
	281_Regrowth Shrubland	0.32
<i>Aprasia parapulchella</i> Pink-tailed Legless Lizard	281_Moderate/ Good	0.38
	281_Thinned	0.57
	281_Regrowth Shrubland	0.32
	281_DNG/ Offset not required	4.61
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo (Breeding)	281_Thinned	0.27
<i>Hieraaetus morphnoides</i> Little Eagle (Breeding)	Moderate/ Good	0.38
	Thinned	0.57
<i>Cercartetus nanus</i> Eastern Pygmy-possum	281_Moderate/ Good	0.38
	281_Thinned	0.57

Species	Vegetation Zone	Area (ha)
	281_Regrowth Shrubland	0.32
<i>Petaurus norfolcensis</i> Squirrel Glider	281_Moderate/ Good	0.38
	281_Thinned	0.57
	281_Regrowth Shrubland	0.32
<i>Phascolarctos cinereus</i> Koala	281_Moderate/ Good	0.38
	281_Thinned	0.57
	281_Regrowth Shrubland	0.32

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.

Table 8. Candidate Species Credit Species predicted to occur within the Subject Land.

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	-	Yes.	No (WSP). No (ECE).	Assumed present – consistent with the approved BDAR (WSP, 2024).
			Yes. Habitat constraints present.		
			Habitat Constraint: Pilliga Sandstone.		
<i>Androcalva procumbens</i> (syn. <i>Commersonia procumbens</i>)	-	-	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.
			No. Habitat constraints absent.		
<i>Dichanthium setosum</i>	Bluegrass	-	Habitat Constraint: Areas of Basalt geology.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Pomaderris queenslandica</i>	Scant Pomaderris	-	Yes.	No (WSP). Yes (ECE).	No.
<i>Prasophyllum sp. Wybong</i>	-	-	No. Species excluded as it is considered a synonym of <i>Prasophyllum petilum</i> (WSP, 2024).	N/A	N/A
					Assumed present – consistent with the approved BDAR (WSP, 2024).
<i>Swainsona sericea</i>	Silky Swainson-pea	-	Yes.	No (WSP) No (ECE).	Assumed present – consistent with the approved BDAR (WSP, 2024).
<i>Tylophora linearis</i> (syn. <i>Vincetoxicum forsteri</i>)	-	-	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).
<i>Aprasia parapulchella</i>	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).
<i>Anthochaera phrygia</i>	Regent Honeyeater (Breeding)	Yes	No. Habitat constraints absent. Habitat Constraint: Important Habitat Map.	N/A	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Burhinus grallarius</i>	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).
<i>Calyptorhynchus lathamii</i>	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).
<i>Haliaeetus leucogaster</i>	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).
<i>Hieraaetus morphnoides</i>	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).
<i>Lathamus discolor</i>	Swift Parrot (Breeding)	Yes.	No. Habitat constraints absent. Habitat constraint: Important Habitat Map.	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Lophoictinia isura</i>	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).
<i>Ninox connivens</i>	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).
<i>Ninox strenua</i>	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).
<i>Polytelis swainsonii</i>	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).
<i>Tyto novaehollandiae</i>	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).
<i>Cercartetus nanus</i>	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).
<i>Chalinolobus dwyeri</i>	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).
<i>Miniopterus orianae oceanensis</i>	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.		
<i>Petaurus norfolcensis</i>	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).
<i>Petrogale penicillata</i>	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).
<i>Phascolarctos cinereus</i>	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).
<i>Pteropus poliocephalus</i>	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).
<i>Vespadelus troughtoni</i>	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).

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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												
<i>Tylophora linearis</i>												
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)
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
		DNG/ Offset not required	1.91
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
		Thinned	0.78
		Poor	0.06
		Regrowth Shrubland	0.25
		Derived Native Grassland	2.78

Table 11. Assumed present Species Credit species.

Species	Vegetation Zone	Area (ha)
<i>Acacia ausfeldii</i> Ausfeld's Wattle	281_Thinned	0.35
	479_Moderate/ Good	0.73
	479_Thinned	0.78
	479_Poor	0.06
	479_Regrowth Shrubland	0.25
	479_Derived Native Grassland	2.78
<i>Tylophora linearis</i>	479_Moderate/ Good	0.73
	479_Thinned	0.78
	479_Poor	0.06
	479_Regrowth Shrubland	0.25
<i>Swainsona sericea</i> Silky Swainson-pea	281_Thinned	0.35
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo (Breeding)	479_Thinned	0.36
	479_DNG	0.99
<i>Hieraaetus morphnoides</i> Little Eagle (Breeding)	281_Thinned	0.35
<i>Cercartetus nanus</i> Eastern Pygmy-possum	281_Thinned	0.35

Species	Vegetation Zone	Area (ha)
	479_Moderate/ Good	0.73
	479_Thinned	0.78
	479_Poor	0.06
	479_Regrowth Shrubland	0.25
	479_Derived Native Grassland	2.78
<i>Petaurus norfolcensis</i> Squirrel Glider	281_Thinned	0.35
	479_Moderate/ Good	0.73
	479_Thinned	0.78
	479_Poor	0.06
	479_Regrowth Shrubland	0.25
	479_Derived Native Grassland	2.78
<i>Phascolarctos cinereus</i> Koala	281_Thinned	0.35
	479_Moderate/ Good	0.73
	479_Thinned	0.78
	479_Poor	0.06
	479_Regrowth Shrubland	0.25

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.

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