



PARTNERING ON DESIGN AND CONSTRUCTION

**CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE**

**UPPER HUNTER LOCAL**

**GOVERNMENT AREA TRANSPORT**

**STRATEGY**

**CWO-PRO-050-ENV-STR-000032 4B REV 04**

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## Document Control

This Upper Hunter Shire LGA Transport Strategy (the 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			
<b>Document Title</b>	CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE - UPPER HUNTER SHIRE TRANSPORT STRATEGY 4B		
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Review	Erran Woodward	Approvals Manager	<i>Erran Woodward</i>
Approval	Tung Pham	Project Wide Director	<i>Tung Pham</i>

### DOCUMENT STATUS

Revision	Date	Pages	Revised by	Description
Rev 00	23/02/2026	App D3	Katie Baxter	Approved (Priority 4A scope)
Rev 01	16/03/2026	App D4	Katie Baxter	To respond to client comments
Rev 02	26/03/2026	App D3/D4	Katie Baxter	To respond to client comments For consultation
Rev 03	07/05/2026	All	Katie Baxter	To respond to ER comments

### 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 Upper Hunter LGA Transport Strategy falls under the purview of ACJV 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 Upper Hunter LGA Transport Strategy intends to provide the framework and guidelines, to operate within the Central-West Orana REZ, to ensure integrity, coherence, and effective stakeholder interface management and required reporting as defined in the ACJV D&C Polices and Code of Conduct.

The Traffic Manager together with the Project Wide Director is responsible for implementing this Strategy and ensures that the processes and associated documentation is applicable to the Project works undertaken and that it complies with the D&C Deed, Polices, code of conduct and legislative requirements. The Upper Hunter Shire 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).

Upper Hunter Local Government Area Transport Strategy – Priority 4A (CWO-NO-PRO-050-ENV-STR-000024).

## Terms and Abbreviations

Acronym	Definition
AADT	Average Annual Daily Traffic
ACJV D&C	A design and construct unincorporated joint venture of ACCIONA and COBRA
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
CHR	Channelised Right Turn
CWO	Central-West Orana
DPHI	Department of Planning, Housing and Infrastructure
EIS	<p>The Environmental Impact Statement titled Environmental Impact Statement – Central-West Orana REZ Transmission Project, prepared by WSP, dated February 2023, including the Proponent's:</p> <ul style="list-style-type: none"> <li>• Amendment Report, dated March 2024</li> <li>• Submissions Report, dated March 2024</li> <li>• Biodiversity Development Assessment Report</li> <li>• Additional information dated 14 June 2024</li> <li>• Central-West Orana REZ Transmission Project Modification 1 - Request for minor modifications to the condition of approvals, dated September 2024</li> <li>• Additional information dated 11 October 2024</li> <li>• Central-West Orana REZ Transmission Project Modification 2 – Mudgee maintenance facility, dated October 2025</li> <li>• Central-West Orana REZ Transmission Project Modification 3 – Strategic offset delivery agreement, dated August 2025</li> <li>• Central-West Orana REZ Transmission Project Modification 4 – Minor change to clearing limits, dated 2 December 2025</li> </ul>
HV	Heavy vehicles, as defined by as defined by the Heavy Vehicle National Regulator under the Heavy Vehicle National Law
LV	Light vehicles
MCoA	Minister's Conditions of Approval, which form part of the Project Approval (refer to definition herein).
NML	Noise Management Level
NSW	New South Wales
OSOM	Oversize 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	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 NSW Government’s Electricity Infrastructure 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 invest in new generation to 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 REZ is the first project in this strategy and is expected to be operational by 2028. It will initially unlock up to 4.5 gigawatts (GW) of new network capacity – equivalent to powering 2 million homes.

The Central-West Orana REZ is approximately 20,000 square kilometres in size, centred by Dubbo and Dunedoo, on the traditional land of the Wiradjuri, Wailwan and Kamilaroi people.

## 1.2 PURPOSE

This Upper Hunter Shire Local Government Area (LGA) Transport Strategy (this Strategy) has been developed specifically for the Central-West Orana REZ as part of scheduled documents required by the Minister’s Condition of Approval (MCoA (NSW)) B31. The full list of the MCoA (NSW) requirements and how and where these are addressed within the Strategy is outlined in Table 1-1.

This Strategy assesses road upgrades within the Upper Hunter Shire LGA.

In addition, this 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
	b) Ensures the road upgrades comply with the <i>Austrroads Guide to Road Design</i> (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	Section 2.1 Appendix B Appendix C Appendix D

MCoA (NSW)	Requirement	How addressed	Where
		each individual upgrade. Where a road upgrade is not proposed, a strategic concept design is not provided.	
	c) Includes strategic concept designs prepared in accordance with <i>Austroads Guide to Road Design</i> (as amended by TfNSW supplements)	Concept plans are included in the appendices for each individual upgrade. Where a 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 described.	Appendix A 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 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 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.

This Strategy addresses the local roads and access points within Upper Hunter Shire Council LGA, as indicated in bold text in Table 1-2.

The full scope of proposed 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.

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	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.
<b>Upper Hunter Shire LGA Transport Strategy (this Strategy)</b>	<b>All remaining upgrades and usage necessary for construction within the Upper Hunter Shire LGA.</b>
Stringing Transport Strategy	Details and assessment of methods for the installation of transmission lines (stringing) over State roads.

### 1.4 SCOPE OF THIS STRATEGY

This Strategy identifies the known road upgrades that will be used to support construction of the Project across the Upper Hunter Shire LGA (refer to Appendix A). 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 A with a cross-reference to where each item is addressed in this Strategy.

As noted in Section 1.3, 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.

The details and assessment of each 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/crossing points which are used for construction site access

Within each Appendix are separate item-specific reports for each individual upgrade. As additional upgrades are identified, they will be added to Appendix B, Appendix C or Appendix D with no changes made to the main document. 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 details 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 document relates to both the Priority 4A and 4B scope, which have been combined into one document for ease of reference.

## 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 Upper Hunter Shire Council.

Where new access/crossing points are required, consultation with the relevant roads authority will be carried out in accordance with MCoA (NSW) B31.

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

## 2 Typical Design, Assessment and Upgrades

### 2.1 DESIGN CRITERIA

MCoA (NSW) B31 requires Project road upgrades to comply with the *Austrroads Guide to Road Design* (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise; and that this Strategy includes strategic concept designs prepared in accordance with *Austrroads Guide to Road Design* (as amended by TfNSW supplements).

Transport for NSW has prepared a *Supplement to Austrroads Guide to Road Design* (20 December 2023) (the TfNSW Supplement), which has been used in the preparation of the strategic concept designs (as required under MCoA (NSW) B31(c)).

In some instances, Council specifications may be adopted for council access point arrangements, as agreed with the Upper Hunter Shire Council, acting as the road authority.

### 2.2 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 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 from approved projects, design speed and identifies if/what further road alterations 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 2-1 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.

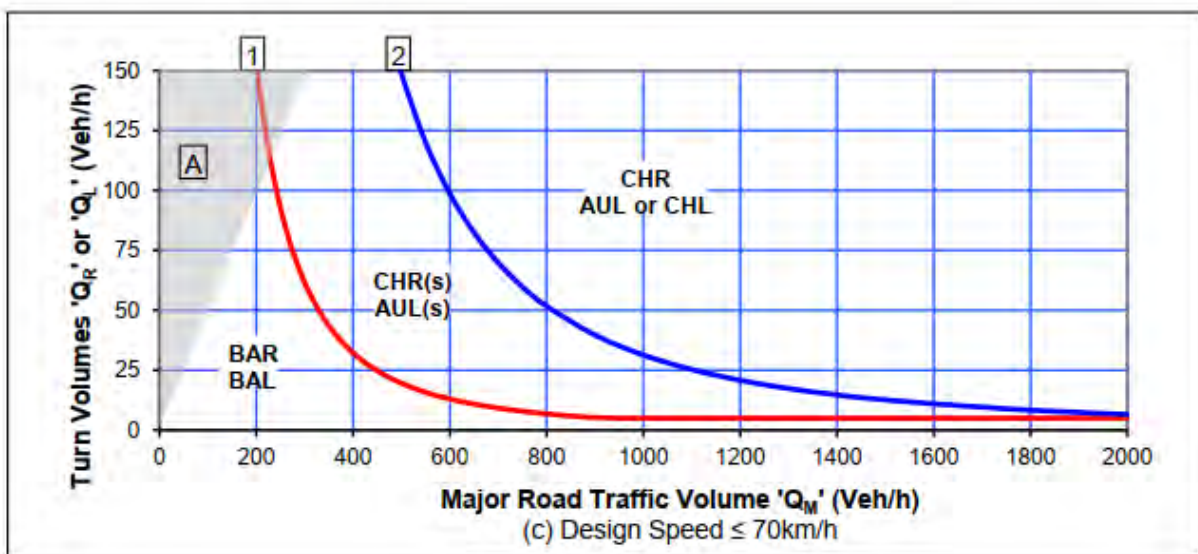
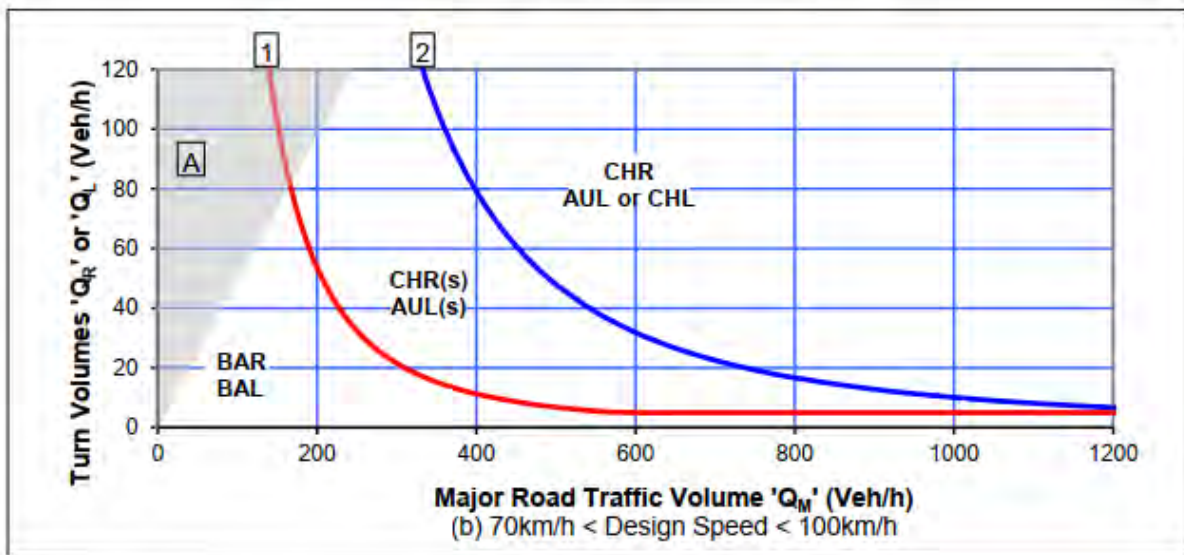
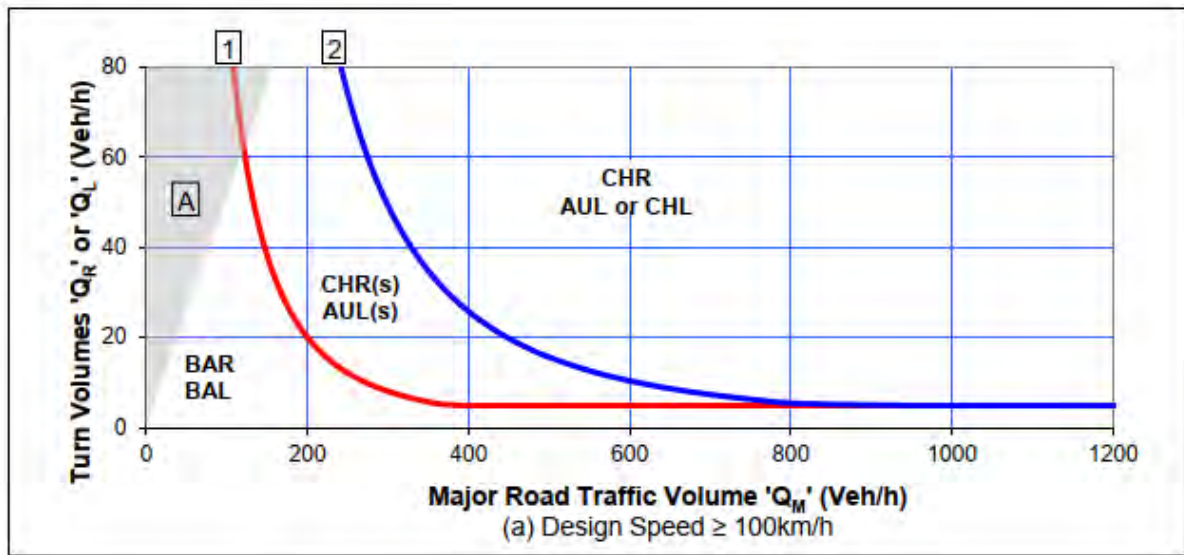


FIGURE 2-1 WARRANTS FOR TURN UPGRADES ON MAJOR ROADS AT UNSIGNALISED INTERSECTIONS (SOURCE: AUSTRROADS GUIDE TO TRAFFIC MANAGEMENT PART 6: INTERSECTIONS INTERCHANGES AND CROSSINGS MANAGEMENT)

## 2.3 SAFE INTERSECTION SIGHT DISTANCE

A Safe Intersection Site Distance (SISA), described in *Austroads Guide to Traffic Management 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.

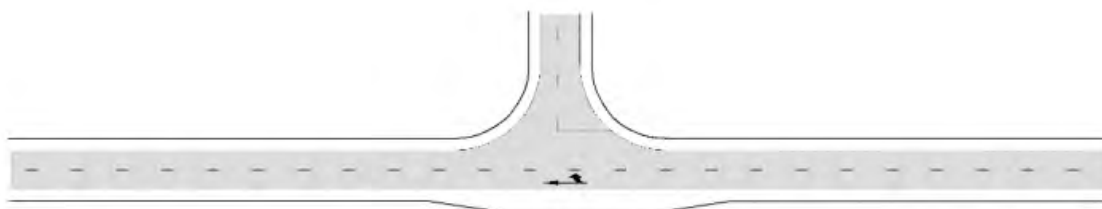
The SISD checks will occur prior to the use of the relevant upgrades listed in Appendix A, Appendix B, Appendix C and/or Appendix D of this Strategy.

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

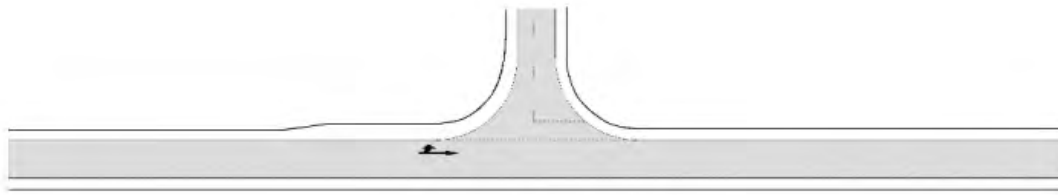
## 2.4 ACCESS TYPES

Where access point/crossing point road upgrades are required, these will typically be in accordance with one of the options detailed below, as determined by the assessment matrix outlined in Section 2.4.1, subject to consultation with the applicable road authority.

Figure 2-2 presents the standard BAR and BAL upgrades for rural roads when turning off a major road into a minor road (or in this instance, a construction access point) under the *Austroads Guide to Road Design Part 4A Unsignalised and Signalised Intersections* (2023). These designs are typically applied to a public road junction or intersection and not necessarily required for private access points.



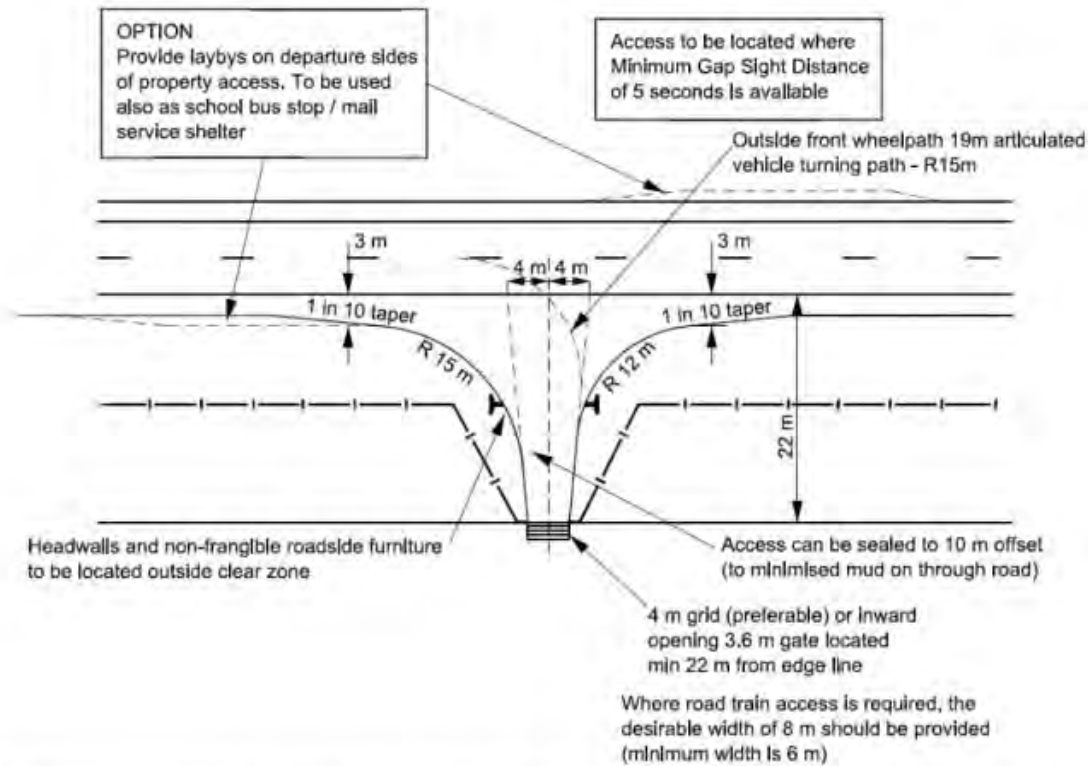
**Basic Right Turn (BAR)  
on the Major Road (Two-Lane, Two-Way Road)**



**Basic Left Turn (BAL)  
on the Major Road**

FIGURE 2-2 BAR AND BAL (ACCESS POINTS)

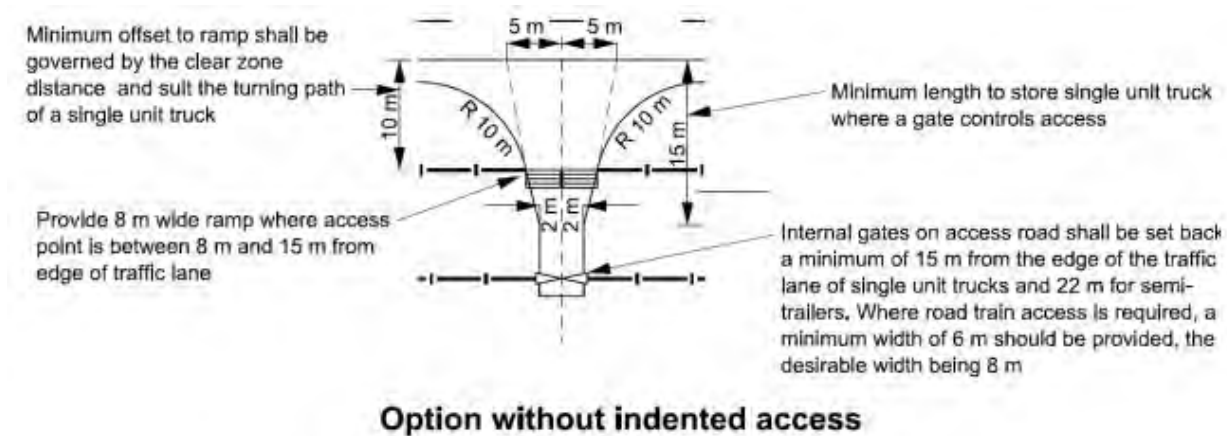
The *Austrroads Guide to Road Design Part 4: Intersections and Crossings* outlines road designs for light and heavy vehicle movements for rural access points. Figure 2-3 illustrates the recommended road designs for rural property access where entry is required for semi-trailers or articulated vehicles. These designs will be adopted in accordance with the assessment matrix (Section 2.4.1) and are expected on lower volume Local Roads.



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

FIGURE 2-3 RURAL ACCESS FOR ARTICULATED VEHICLES (AUSTRROADS GUIDE TO ROAD DESIGN PART 4: INTERSECTIONS AND CROSSINGS)

The alternative upgrade in Figure 2-4 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 2-4 LIGHT VEHICLE ACCESS (AUSTRROADS GUIDE TO ROAD DESIGN PART 4: INTERSECTIONS AND CROSSINGS)

### 2.4.1 Access Upgrades Assessment Matrix

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

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

TABLE 2-1 ACCESS POINTS OPTIONS MATRIX

Scenario	Option
Access 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 points without prescribed upgrades in the Project Approval	Road alterations will be assessed using TWA as outlined in Section 2.2, in consideration of construction delivery and access requirements
State Road / Highway	Road alterations will include BAR/BAL unless assessment and agreement for alternative upgrade can be reached with TfNSW
(Regional Road or Local Road) and >2000 AADT and >20 average daily HV movements	Rural access for articulated vehicles (minimum), however, may warrant BAR/BAL (subject to consultation with TfNSW or relevant roads authority)
(Regional Road or Local Road) and >2000 AADT but <21 average daily HV movements	Rural access for articulated vehicles (minimum)

Scenario	Option
Local Road and < 2000 AADT and requires >20 average daily HV movements	Rural access for articulated vehicles
Local Road with limited HV	Light vehicle access
Permanent driveway locations	Light vehicle access

## 2.5 CONSTRUCTION TRAFFIC DEMANDS

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

The current projected construction-related vehicle movements remain consistent with those assessed in the EIS, and as such, the outcomes of this assessment can be reliably referenced in consideration of Project related vehicle and traffic impacts. Unless explicitly stated otherwise, the road upgrades provided in the Appendices to this document are based on the maximum vehicle movements as described in the EIS. ACJV D&C is not proposing to exceed the Project-related vehicle volumes contemplated and assessed in the EIS.

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

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

Note: \* Denotes locations that would include main construction compounds

## 2.6 CUMULATIVE TRAFFIC

A review of approved projects with the Central-West Orana REZ has been undertaken, including the minor additional traffic movements that are associated with each project. These projects have been sourced from Appendix L (Updated Cumulative Impact Assessment) of the REZ Amendment Report and are specific to the Upper Hunter Shire Council LGA.

### 2.6.1 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 per cent 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 Central-West Orana REZ Transmission Project, and does not propose or identify any additional upgrades required to accommodate their works.

### 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) and will be used for construction site access and have been identified as being necessary for upgrading
- 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.

The relevant requirements of MCoA (NSW) B31 are addressed for each item in the relevant Appendix.

As noted in Section 1.4, the full scope of proposed 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 and when 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 upgrades extend beyond the EIS construction area and assessment areas. Where this occurs, these 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 MCoA (NSW) B31(d), where the proposed upgrade and associated disturbance footprint has been described and assessed in the EIS and associated environmental assessment documentation, the Transport Strategy will reference and summarise the existing assessment and outcomes. This must include confirmation that the assessment of the disturbance footprint aligns with the footprint of the proposed upgrade and includes appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects.

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

## Appendix A Upgrades within this Strategy

This Strategy identifies and details the currently known road upgrades which will be implemented by the Project within the Upper Hunter Shire LGA. These upgrades are summarised in

Table A-1, along with a cross reference to where further detail is provided within Appendix B, Appendix C and Appendix D.

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 (Priority 4B) and which ones have been approved under Priority 4A.

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

TABLE A-1 ROAD UPGRADES RELEVANT TO THE UPPER HUNTER SHIRE TRANSPORT STRATEGY

Upgrades	Priority	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
<b>Specific Items in Appendix 4, Table 5</b>					
Intersection of Cassilis Road and Golden Highway	N/A	N/A	No longer required – constructed by another project	N/A	N/A
<b>Access Points / Crossing Points</b>					
SP5-E1/E2 (Ulan Road)	Priority 4A	Appendix D1	Included - Approved	Q2/Q3 2026	Q3 2026
SP5-H1/H2 (Coolah Road)	Priority 4A	Appendix D2	Included - Approved	Q2/Q3 2026	Q3 2026
SP5-I1/I2 (Rotherwood Road)	Priority 4A	Appendix D3	Included - Approved	Q2/Q3 2026	Q3 2026
SP5-F2 (Summer Hill Road)	Priority 4B	Appendix D4	Included – For Approval	Q2/Q3 2026	Q3 2026

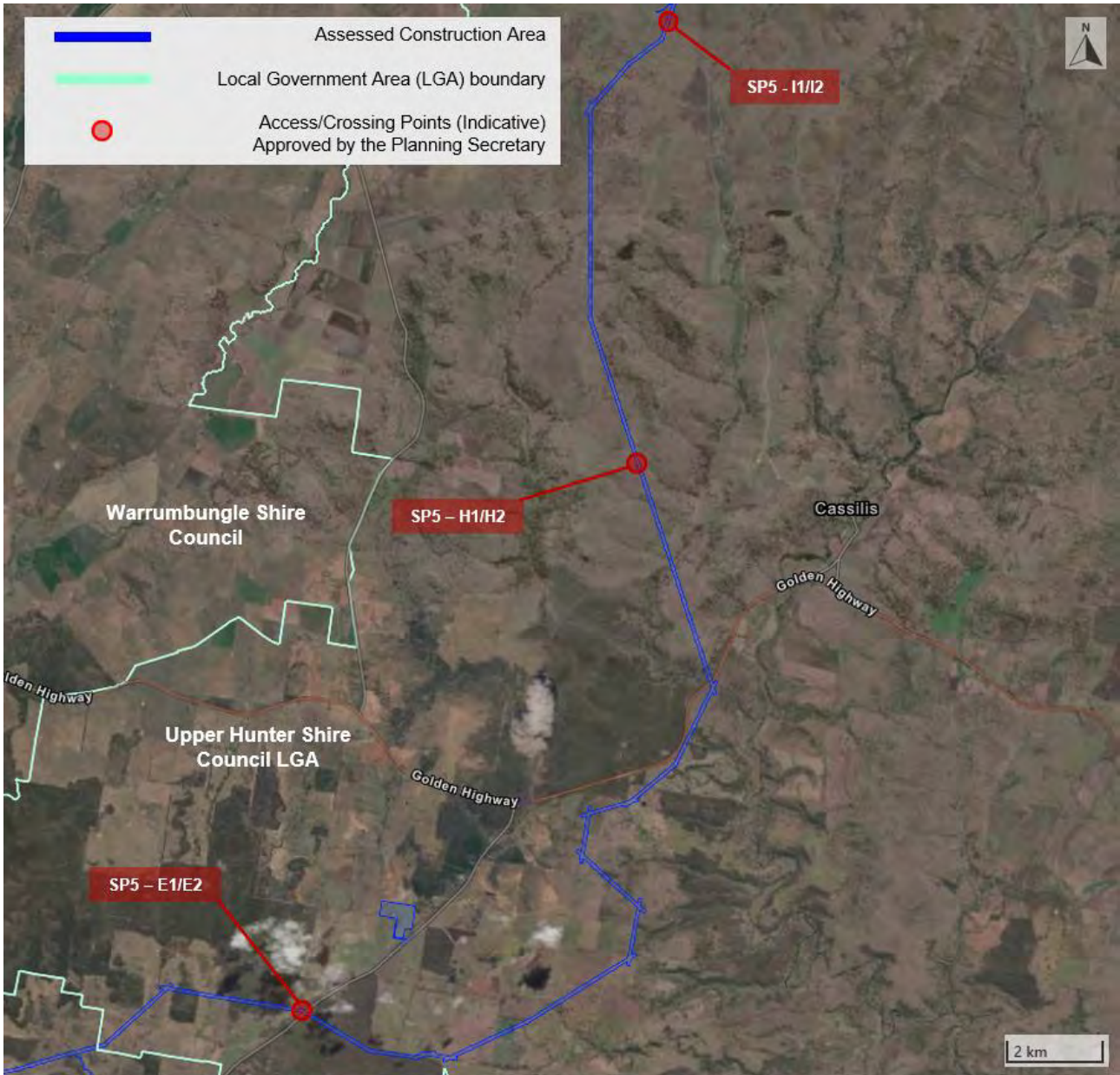


FIGURE A-1 INDICATIVE LOCATIONS OF APPROVED ACCESS POINTS (PRIORITY 4A)

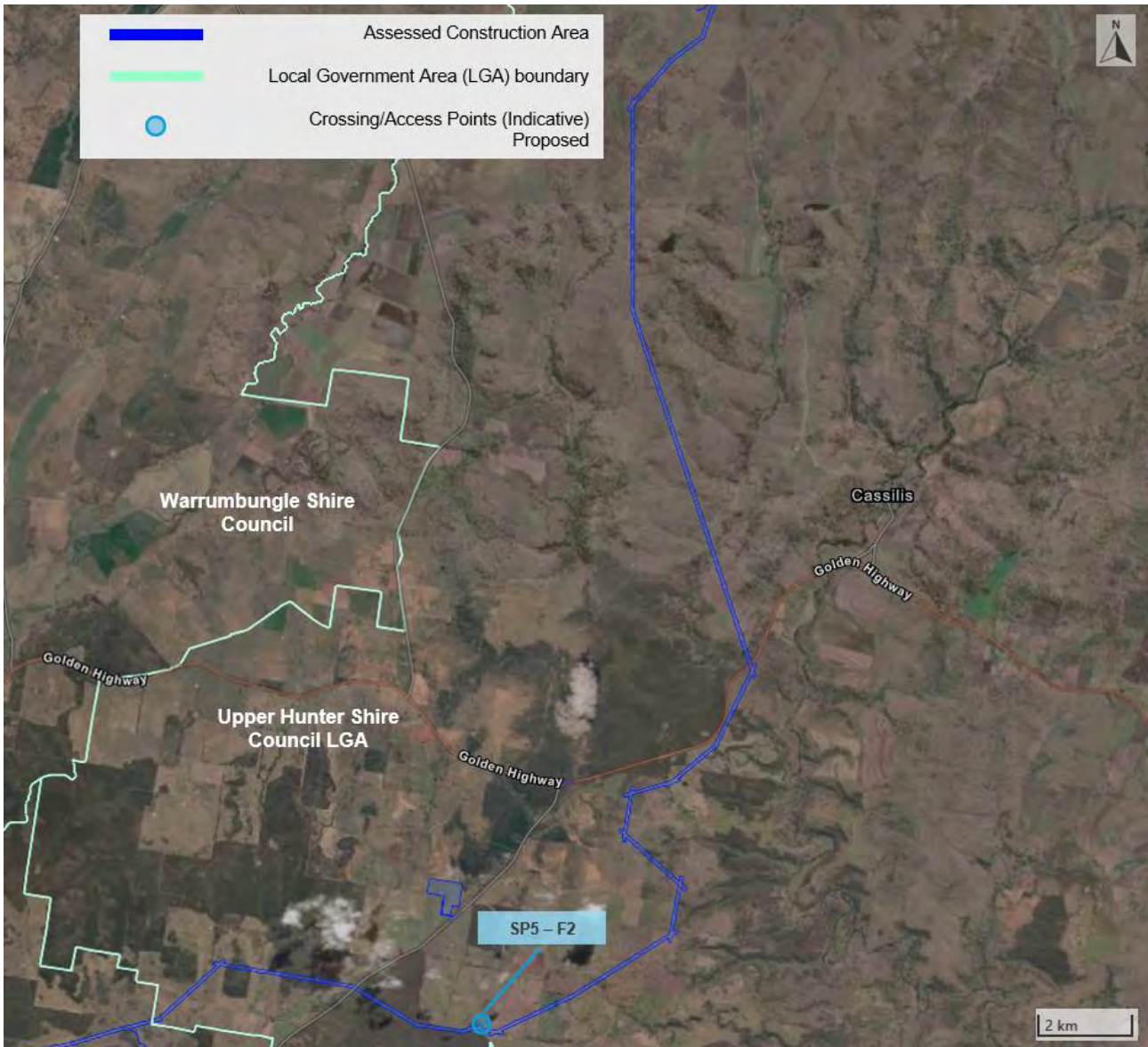


FIGURE A-2 INDICATIVE LOCATIONS OF ACCESS POINTS FOR APPROVAL IN THIS STRATEGY (PRIORITY 4B)

## 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 one intersection within the Upper Hunter Shire LGA which is to be upgraded with the commencement of development related to construction traffic and needs to be included in a Transport Strategy:

- Intersection of Cassilis Road and Golden Highway – No longer required (constructed by other project)

## Appendix C Local Road Upgrades

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
- Are identified in Figure 4-1 to Figure 4-4 of the Project Approval
- Are not specifically excluded from being used by the Project, as described in the TTMP

At present, no Local Road upgrades have been determined as required within the Upper Hunter LGA. Should this change, this Transport Strategy will be updated in accordance with MCoA (NSW) B31.

## 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 this Strategy are:

- SP5-E1/E2 (Ulan Road) - Appendix D1 – Approved
- SP5-H1/H2 (Coolah Road) - Appendix D2 - Approved
- SP5-I1/I2 (Rotherwood Road) - Appendix D3 – Approved
- SP5-F2 (Summer Hill Road) – Appendix D4 – Included for approval

APPENDIX D1 SP5-E1/E2 (ULAN ROAD) ACCESS POINTS - APPROVED

Location

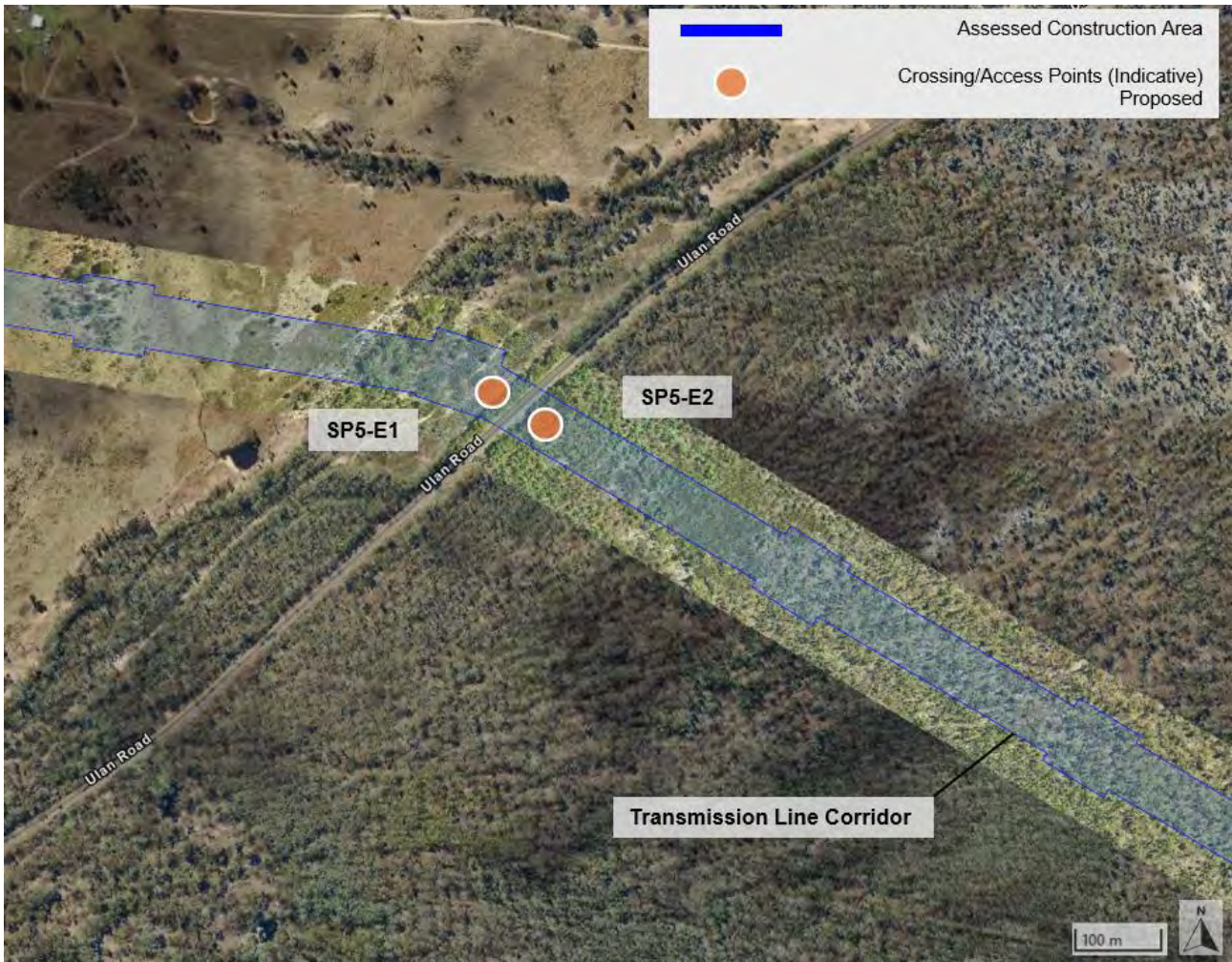


FIGURE D1- 1 LOCATION OF ACCESS POINTS SP5-E1/E2



FIGURE D1- 2 CONFIRMATION OF THE DISTURBANCE FOOTPRINT (SP5-E1/E2)

## Description

The Access Points SP5-E1/E2 will be used to access the construction area from Ulan Road. Further details are provided within the table below.

TABLE D1- 1 ACCESS POINTS UPGRADE AND USE (SP5-E1/E2)

<b>Entry Point ID</b>	SP5-E1/E2
<b>EIS Access Point (if applicable)</b>	L2.26 / L2.27
<b>Road</b>	Ulan Road
<b>Location</b>	<a href="https://maps.app.goo.gl/coQ2B64PmE61gPJW7">https://maps.app.goo.gl/coQ2B64PmE61gPJW7</a>
<b>Type</b>	BAR/BAL
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>Construction of new access driveway</li> <li>Installation of fence, gate and signage</li> <li>Installation of drainage pipe and headwalls (if required)</li> <li>Installation of livestock grid (if required)</li> </ul> <p>Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with the 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.</p>
<b>Amenity impacts MCoA B31(a)</b>	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the access points' location and small physical footprint when compared to the overall Project.
<b>Design criteria MCoA B31(b)</b>	The access points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
<b>Strategic concept design MCoA B31(c)</b>	The Strategic Concept Design are included in the section below.
<b>Assessment of potential impacts MCoA B31 (d)</b>	Refer to section below
<b>Schedule MCoA B31(e)</b>	Proposed commencement in Q1 2026 and completion in Q2 2026.
<b>Permanent or Temporary MCoA B31(h)</b>	The access points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

## Summary of Existing EIS Assessment and Outcomes

The access points 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 points and their construction area has been refined and is:

- Partially within the Project construction area (the disturbance footprint)

- Within the Aboriginal Heritage survey area
- Partially within the Biodiversity study area

As such, the access points have been predominantly assessed within the EIS, albeit not at the exact same location. The general area was assessed in the EIS as being subject to activities associated with the construction of the transmission line.

Where the access points have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey area they are required to be assessed in accordance with MCoA (NSW) B31(d) (refer to the next section).

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 the access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D1-1 identifies the actual disturbance footprint of the access points in comparison to what was assessed within the EIS. Other supporting figures are contained in Appendix D4.

TABLE D1- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-E1/E2)

EIS Assessment and Outcomes Summary	EIS Assessment References
<b>Land Use, Property and Agriculture</b>	
<p><i>Study Area and Existing Environment</i></p> <p>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</p>	<p>Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.2.1 of the EIS (Chapter 8 (Agriculture))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>directly impacted by the Project). This study area is also consistent with the agriculture study area.</p> <p>The existing environment around the access points is characterised by primary production land zoning (RU1). To the south of the access points there is large lot residential land zoning (R5) and to the north there is heavy industrial land zoning (IN3).</p> <p>The land use is nominated in the EIS as grazing native pasture/vegetation (agricultural land use). This means that the land is classified as having moderate to low capability (Class 5), which largely restricts agricultural land use to grazing, and some horticultural activities.</p>	<p>Figure 7-1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Figure 7-2 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.3.6 of the EIS (Chapter 8 (Agriculture))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities</li> <li>• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production.</p> <p>The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.4 of the EIS (Chapter 8 (Agriculture))</p>
<p><b>Landscape Character and Visual Amenity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The access points are located within the 'forested hills' landscape character zone (FH-02 - Durrigere, 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.</p>	<p>Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p> <p>Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• 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</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>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 these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><b>Biodiversity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project</li> <li>• The study area, which includes all areas within 220 metres of the centreline of the transmission line. It includes the subject land as is within the assessment area.</li> <li>• 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</li> <li>• 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</li> </ul> <p>The access points are located within the biodiversity study area.</p> <p>The BDAR partially assessed the footprint for the access points. The BDAR identified vegetation within the footprint of the access point as consisting of Plant Community Type (PCT) 481 Rough-barked Apple- Blakely's Red Gum-Narrow-leaved Stringybark +/- Grey Gum and PCT 0 miscellaneous ecosystem. PCT 481 is not a listed threatened ecological community under either the BC Act or EPBC Act and there is no clearing limit associated with this PCT listed in the Project Planning Approval.</p>	<p>Section 10.2.1 of the EIS (Chapter 10 (Biodiversity))</p> <p>Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p> <p>Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity</li> <li>• Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Vegetation within the assessed area was identified as PCT 481 Rough-barked Apple-Blakely's Red Gum-Narrow-leaved Stringybark +/- Grey Gum and PCT 0 miscellaneous ecosystem. PCT 481 is not a listed threatened ecological community under either the BC Act or EPBC Act and there is no clearing limits associated with this PCT listed in the Project Planning Approval.</p> <p>The BDAR undertaken by ECE Ecology identified the presence of PCT 481 within the access point footprint. A total of four threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species.</p>	<p>Section 10.4 of the EIS (Chapter 10 (Biodiversity))</p> <p>Table 10-3 of the EIS (Chapter 10 (Biodiversity))</p> <p>Table 10-4 of the EIS (Chapter 10 (Biodiversity))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>Three threatened flora species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. Targeted surveys were completed for the threatened flora species and none of the three species were identified within the assessment area, including the extent that sits outside the disturbance footprint.</p> <p>No additional impact to the habitat for threatened species compared to what was assessed in the EIS / Amendment Report will result from the refinement and no increase to clearing limits will be required as a result of the refinement.</p>	<p>Table 10-5 of the EIS (Chapter 10 (Biodiversity))</p> <p>Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p> <p>Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p>
<p><b>Aboriginal Heritage and non-Aboriginal Heritage</b></p>	
<p><i>Study Area and Existing Environment</i></p>	
<p>The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.</p> <p>The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SP5-E1/E2.</p> <p>The nearest recorded site (SNI-AS74) is located approximately 510m to the southwest of SP5-E1 and was recorded as part of the EIS / Amendment Report. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-E1.</p> <p>The nearest recorded site (SNI-AS74) is located approximately 530m to the southwest of SP5-E2 and was recorded as part of the EIS / Amendment Report. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-E2.</p>	<p>Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)</p> <p>Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)</p> <p>Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)</p>
<p><i>Relevant Environmental Risks</i></p>	
<ul style="list-style-type: none"> <li>• Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value</li> <li>• Impacts on unknown/unlisted heritage items and areas of archaeological potential</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p>	
<p>No heritage items or sites have been identified within the access point construction area and so potential impacts are expected to be negligible.</p> <p>The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.</p>	<p>Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Noise and Vibration</b></p>	
<p><i>Study Area and Existing Environment</i></p>	
<p>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.</p> <p>The nearest sensitive receiver to access point, SP5-E1, is residential receiver 1091 located approximately 670m northwest.</p>	<p>Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>The nearest sensitive receiver to access point, SP5-E2, is residential receiver 1091 located approximately 700m northwest.</p>	<p>Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))</p>
<p><i>Relevant Environmental Risks</i></p> <p>Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps.</p>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.</p>	<p>Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))</p>
<p><b>Traffic and Transport</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>Ulan Road is a main road in the study area. It is noted in the EIS as being approximately 72 kilometres long road providing a north-south connection between Golden Highway in the north and Mudgee town centre. It is a sealed pavement and is a bidirectional two-lane road (one lane in each direction). The posted speed limit is 100 km/h. The relevant section of Ulan Road to the access points is the portion south of Ulan-Wollar Road.</p>	<p>Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts to condition of roads due to increased vehicular traffic</li> <li>• Impacts on access to and within properties</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. Roads that also experience higher traffic volumes include Ulan Road (approximately 9,000 vehicles per day) on weekdays. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B:</p> <ul style="list-style-type: none"> <li>• The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road</li> <li>• All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B</li> </ul> <p>Ulan Road and Ulan-Wollar Road have been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction.</p> <p>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.</p> <p>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</p>	<p>Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>easement whilst minimising impacts to public motorists. The minor refinements to the disturbance footprints 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.</p>	
<p><b>Waste Management</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>Existing waste sources in the Mid-Western Regional LGA primarily includes waste from agricultural, mining and forestry operations and domestic waste.</p> <p>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.</p>	<p>Section 18.3 of Chapter 18 of the EIS (Waste Management)</p>
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>Impacts on local and regional waste management facilities due to increased demand from overall Project generated construction wastes</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes.</p> <p>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.</p> <p>The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.</p>	<p>Chapter 18 of the EIS (Waste Management)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Hydrology, Flooding and Water Quality</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>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.</p>	<p>Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)</p>
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills</li> <li>Impact to regional or local water supply due to construction water demands</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period.</p>	<p>Section 19.2.4 of the EIS (Chapter 19)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project.</p> <p>All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>(Hydrology, Flooding and Water Quality))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Climate Change and Greenhouse Gas</b></p>	
<p>Relevant Environmental Risks</p> <p>Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles.</p>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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 tCO<sub>2</sub>-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.</p> <p>All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Cumulative Impacts</b></p>	
<p>Relevant Environmental Risks</p> <p>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.</p>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>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.</p>	<p>Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

**Assessment of Potential Impacts Outside the EIS Construction Area**

Where the Access Points SP5-E1/E2 have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey 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.

A supplementary biodiversity survey of the access points that were not fully covered within the BDAR assessment area was undertaken by East Coast Ecology (ECE) in November/December 2024 and

January 2025. The supplementary biodiversity surveys focussed on areas of the road corridor where the ACJV D&C design extends beyond the area surveyed for the BDAR. The supplementary biodiversity survey report has been included in Appendix F.

TABLE D1- 3 ACCESS POINTS ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION AREA (SP5-E1/E2)

Impacts Outside the EIS Construction Boundary	
<b>Biodiversity</b>	
Plant Community Types	
Although the access points were included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint). A summary of the additional vegetated areas outside the Project construction area is summarised in the table below:	
<b>PCT Identified</b>	PCT 481
<b>TEC?</b>	Not listed
<b>Habitat for Threatened Species?</b>	Yes
<b>SAII?</b>	No
<b>Extent (Ha)</b>	<b>Total = 0.03 ha</b>
<b>Notes:</b>	
PCT 481 – Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest in the southern Brigalow Belt South Bioregion and Upper Hunter region	
Vegetation within the assessed area was identified as PCT 481 Rough-barked Apple- Blakely's Red Gum-Narrow-leaved Stringybark +/- Grey Gum and PCT 0 miscellaneous ecosystem. PCT 481 is not a listed threatened ecological community under either the BC Act or EPBC Act and there is no clearing limits associated with this PCT listed in the Project Planning Approval.	
The additional footprint of works would result in 0.03ha of clearing for this PCT.	
<i>Habitat for Threatened Fauna Species</i>	
Both the BDAR and the supplementary assessment undertaken by ECE Ecology identified the presence of PCT 481 within the access point footprint. A total of four threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The supplementary assessment determined three of the four fauna species unlikely to occur within the assessment area. One fauna species, Eastern Pygmy Possum ( <i>Cercartetus nanus</i> ), has been assumed present within the footprint of SP5-E1/E2. It is therefore considered that PCT 481 is associated with habitat for the threatened fauna species listed above at SP5- E1/E2.	
No additional impact to the habitat for threatened species compared to what was assessed in the EIS / Amendment Report will result from the refinement and no increase to clearing limits will be required as a result of the refinement.	
<i>Threatened Flora</i>	
Three threatened flora species were identified within the BAM-C as having potential to occur within the assessment area Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. Targeted surveys were completed for two of the threatened flora species and one, Ausfeld's Wattle ( <i>Acacia ausfeldii</i> ), was assumed present within the access point assessment area. Based on the above, it is considered that PCT 481 is associated with habitat for Ausfeld's Wattle ( <i>Acacia ausfeldii</i> ).	
<b>Aboriginal Heritage and Non-Aboriginal Heritage</b>	
The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SP5-E1/E2.	
No heritage items or sites have been identified within the access point construction area.	
<b>Noise and Vibration</b>	

## Impacts Outside the EIS Construction Boundary

The use of the access points SP5-E1/E2 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 nearest sensitive receiver to the access points SP5-E1/E2 is 670m away. The access points' 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.

### Surface Water and Hydrology

The access points SP5-E1/E2 were assessed in the Amendment Report flooding assessment and therefore are not discussed further.

### Erosion and Sedimentation

The construction of the proposed access points will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.

### Air Quality

The 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 SP5-E1/E2 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 additional mitigations are identified, they have been detailed in the table below.

TABLE D1- 4 SP5-E1/E2 ACCESS POINTS MITIGATION MEASURES

## Mitigation Measures

### Biodiversity

The environmental mitigations described in the EIS (including the Amendment Report) are considered appropriate for the management of all access points described in this document.

The following additional 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)

## Mitigation Measures

- The additional clearing of 0.03 ha of PCT 481 at SP5-E1 and SP5-E2 will be tracked in the Project's clearing register
- Vegetation clearing or land disturbance outside of the assessed area will not be permitted
- If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access points, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented

## Aboriginal Heritage and Non-Aboriginal Heritage

Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access points:

- If any potential heritage items or sites are encountered during installation of the access points, the Heritage Unexpected Finds Protocol (Appendix B of the Environmental Management Strategy) will be implemented
- No ground disturbance will be permitted outside of the assessed disturbance footprint

## Noise and Vibration

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.

## Surface Water and Hydrology

The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.

## Erosion and Sedimentation

Erosion and sedimentation related management measures to address impacts associated with the road upgrades include:

- Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters
- Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)

## Air Quality

Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work.

If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction.

The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades:

- Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any 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

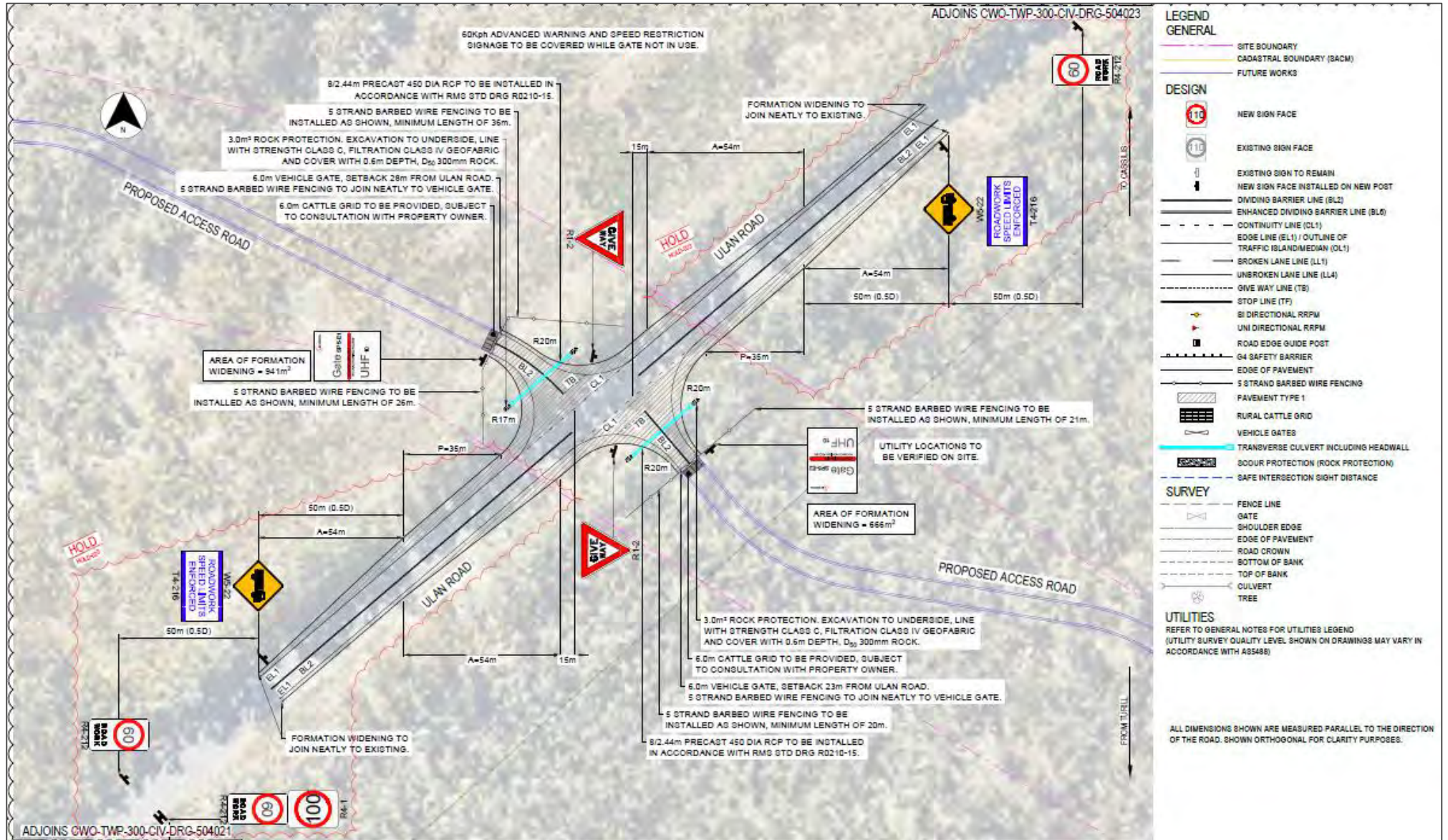
## Strategic Concept Design

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 D2 SP5-H1/H2 (COOLAH ROAD) ACCESS POINTS - APPROVED

### Location

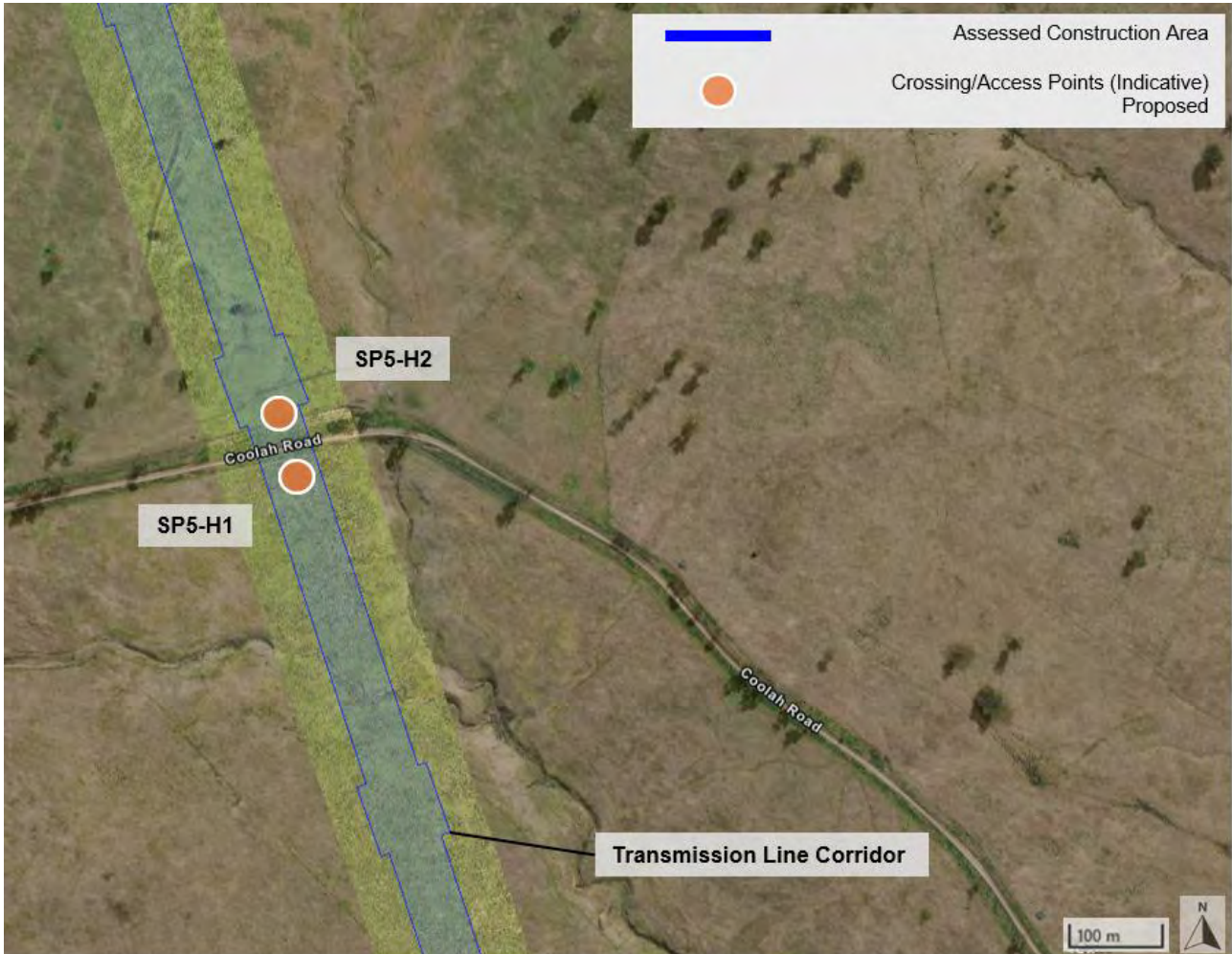


FIGURE D2- 1 LOCATION OF ACCESS POINTS SP5-H1/H2



FIGURE D2- 2 CONFIRMATION OF THE DISTURBANCE FOOTPRINT OF ACCESS POINTS SP5-H1/H2

## Description

The Access Points SP5-H1/H2 will be used to access the construction area from Coolah Road. Further details are provided within the table below.

TABLE D2- 1 ACCESS POINTS UPGRADE AND USE (SP5-H1/H2)

<b>Entry Point ID</b>	SP5-H1/H2
<b>EIS Access Point (if applicable)</b>	L2.34 / L2.35
<b>Road</b>	Coolah Road
<b>Location</b>	<a href="https://maps.app.goo.gl/byBuNbUudh1hRuu98">https://maps.app.goo.gl/byBuNbUudh1hRuu98</a>
<b>Type</b>	STD
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Construction of new access driveway</li> <li>• Installation of fence, gate and signage</li> <li>• Installation of drainage pipe and headwalls (if required)</li> <li>• Installation of livestock grid (if required)</li> </ul> <p>Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with the 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.</p>
<b>Amenity impacts</b> MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the access points' location and small physical footprint when compared to the overall Project.
<b>Design criteria</b> MCoA B31(b)	The access points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
<b>Strategic concept design</b> MCoA B31(c)	The General Arrangement drawings are included in the section below
<b>Assessment of potential impacts</b> MCoA B31 (d)	Refer to section below
<b>Schedule</b> MCoA B31(e)	Proposed commencement in Q1 2026 and completion in Q2 2026.
<b>Permanent or Temporary</b> MCoA B31(h)	The access points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

## Summary of Existing EIS Assessment and Outcomes

The Access Points SP5-H1/H2 were included within the EIS prepared for the Central-West Orana REZ Transmission project. As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access points and their construction area has been refined and is:

- Partially within the Project construction area (the disturbance footprint)

- Within the Aboriginal Heritage survey area
- Within the Biodiversity study area

As such, the access points have been predominantly assessed within the EIS.

Where the access points have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey area they are required to be assessed in accordance with MCoA (NSW) B31(d) (refer to the next section).

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 the access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D2-1 identifies the actual disturbance footprint of the access points in comparison to what was assessed within the EIS.

TABLE D2- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-H1/H2 ACCESS POINTS)

EIS Assessment and Outcomes Summary	EIS Assessment References
<b>Land Use, Property and Agriculture</b>	
<p><i>Study area and existing environment</i></p> <p>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.</p>	<p>Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.2.1 of the EIS (Chapter 8 (Agriculture))</p> <p>Figure 7-1 of the EIS (Chapter 7 (Land Use and Property))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>The existing environment around the access points is characterised by primary production land zoning (RU1). The land use is nominated in the EIS as grazing modified pastures.</p>	<p>Figure 7-2 of the EIS (Chapter 7 (Land Use and Property)) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))</p>
<p><i>Relevant environmental risks</i></p> <ul style="list-style-type: none"> <li>• Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities</li> <li>• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and outcomes summary</i></p> <p>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.</p> <p>For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production.</p> <p>The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property)) Section 8.4 of the EIS (Chapter 8 (Agriculture))</p>
<p><b>Landscape Character and Visual Amenity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The access points are located within the 'Dapper and Elong undulating rural hills' landscape character zone (URH-05) and has a 'low' landscape sensitivity. The undulating rural hills landscape zone is located in the western section of the study area, this zone is characterised by remote, flat to undulating grazing and cropping areas along the Sandy and Spring creek valleys, containing few built features other than scattered rural dwellings, farm related structures and dams.</p>	<p>Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)) Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity)) Table 9-4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), construction traffic, ancillary infrastructure and workforce accommodation camps</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>The EIS assessed that the magnitude of the Project's change to URH-05 during construction would result in an overall moderate landscape impact and a residual risk rating of 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><b>Biodiversity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project</li> <li>• The study area, which includes all areas within 220 metres of the centreline of the transmission line. It includes the subject land as is within the assessment area.</li> <li>• 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</li> <li>• 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</li> </ul> <p>The access points are located within the biodiversity study area.</p> <p>Vegetation within the assessed area of SP5-H2 was identified as 483 Grey Box x White Box grassy open woodland threatened ecological community (TEC) and PCT 0 miscellaneous ecosystem. PCT 483 is part of the critically endangered TEC White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAIL) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct.</p> <p>Vegetation within the assessed area of SP5-H1 was identified as PCT483 TEC under the BC Act.</p>	<p>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)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity</li> <li>• Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The BDAR assessment identified the presence of PCT 483 within the access point footprint. One threatened fauna species, Striped Legless Lizard (<i>Delma impar</i>), were identified within the BAM-C as having potential to occur within the assessment area at SP5-H1. Desktop assessment and field surveys were undertaken for habitat constraints and geographic restrictions to assess each species. The BDAR</p>	<p>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))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>assessment identified the species was unlikely to occur within the access point footprint.</p> <p>No threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area at SP5-H1 or SP5-H2.</p> <p>No threatened flora species were identified within the BAM-C as having potential to occur within the assessment area at SP5-H1 or SP5-H2.</p>	<p>Table 10-5 of the EIS (Chapter 10 (Biodiversity))</p>
<p><b>Aboriginal Heritage and Non-Aboriginal heritage</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.</p> <p>The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SP5-E1/E2.</p> <p>The nearest recorded site (SNI-CMT06) is located approximately 2km to the north of SP5-H1. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-H1.</p> <p>The nearest recorded site (SNI-CMT06) is located approximately 2km to the north of SP5-H1. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-H1.</p>	<p>Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)</p> <p>Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)</p> <p>Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value</li> <li>• Impacts on unknown/unlisted heritage items and areas of archaeological potential</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>No heritage items or sites have been identified within the access point construction area.</p> <p>The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.</p> <p>Relevant management and mitigation measures to be implemented are noted in the next section.</p>	<p>Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Noise and Vibration</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The nearest sensitive receiver to the access points SP5-H1/H2 is 1.7km away. At this distance construction noise would not exceed the identified NML and vibration impacts on both the construction and use of this location are considered negligible.</p>	<p>Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p><i>Assessment and Outcomes Summary</i></p> <p>The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.</p>	<p>Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))</p>
<p><b>Traffic and Transport</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>Ulan Road is a main road in the study area. It is noted in the EIS as being approximately 72 kilometres long road providing a north-south connection between Golden Highway in the north and Mudgee town centre. It is a sealed pavement and is a bidirectional two-lane road (one lane in each direction). The posted speed limit is 100 km/h. The relevant section of Ulan Road to the access points is the portion south of Ulan-Wollar Road.</p>	<p>Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts to condition of roads due to increased vehicular traffic</li> <li>• Impacts on access to and within properties</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. Roads that also experience higher traffic volumes include Ulan Road (approximately 9,000 vehicles per day) on weekdays. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B:</p> <ul style="list-style-type: none"> <li>• The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road</li> <li>• All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B</li> </ul> <p>Ulan Road and Ulan-Wollar Road have been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction.</p> <p>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.</p>	<p>Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)</p>
<p><b>Waste Management</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>Existing waste sources in the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs primarily includes waste from agricultural, mining and forestry operations and domestic waste.</p> <p>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.</p>	<p>Section 18.3 of Chapter 18 of the EIS (Waste Management)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts on local and regional waste management facilities due to increased demand from overall project generated construction wastes</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p><i>Assessment and Outcomes Summary</i></p> <p>Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes.</p> <p>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.</p> <p>The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.</p>	<p>Chapter 18 of the EIS (Waste Management)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Hydrology, Flooding and Water Quality</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>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.</p>	<p>Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)</p>
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>• Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills</li> <li>• Impact to regional or local water supply due to construction water demands</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period.</p> <p>The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project.</p> <p>All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Climate Change and Greenhouse Gas</b></p>	
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>• Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p><i>Assessment and Outcomes Summary</i></p> <p>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 tCO<sub>2</sub>-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.</p> <p>All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

Cumulative Impacts	
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>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</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>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.</p>	<p>Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

## Assessment of Potential Impacts Outside the EIS Construction Area

Where the Access Points SP5-H1/H2 have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey 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.

FIGURE D2- 3 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-H1/H2 ACCESS POINTS)

Impacts	
<b>Biodiversity</b>	
Plant Community Types	
Although the access points were included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint). A summary of the additional vegetated areas outside the Project construction area is below:	
<b>PCT Identified</b>	PCT 483
<b>TEC?</b>	Yes
<b>Habitat for Threatened Species?</b>	No
<b>SAII?</b>	Yes
<b>Extent (Ha)</b>	<b>Total = 0.09 ha</b>

## Impacts

### Notes:

PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley  
Vegetation within the assessed area of SP5-H2 was identified as 483 Grey Box x White Box grassy open woodland threatened ecological community (TEC) and PCT 0 miscellaneous ecosystem. PCT 483 is part of the critically endangered TEC White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SII) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct. Vegetation within the assessed area of SP5-H1 was identified as PCT 483 TEC under the BC Act.

Clearing limits for this PCT are defined within the Project Planning Approval, with a revised clearing limit of 93.77 Ha (per DPHI correspondence ref SSI-48323210-PA-57) of PCT 483 applicable for the Project. The clearing of PCT 483 associated with the refinement will be accommodated within the clearing limits defined by the Project Planning Approval and no increase to clearing limits will be required as a result of the proposed refinement.

#### *Habitat For Threatened Fauna Species*

No threatened fauna species were identified within the BAM-C as having potential to occur within the assessment area at SP5-H1 or SP5-H2.

#### *Threatened Flora*

No threatened flora species were identified within the BAM-C as having potential to occur within the assessment area at SP5-H1 or SP5-H2.

### Aboriginal Heritage and Non-Aboriginal Heritage

The Historical Heritage and Aboriginal Cultural Heritage Assessment Report included the construction area required to establish the access points SP5-H1/H2.

### Noise and Vibration

The use of the access points SP5-H1/H2 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.

### Surface Water and Hydrology

The access points SP5-H1/H2 were assessed in the Amendment Report flooding assessment and therefore are not discussed further.

### Erosion and Sedimentation

The construction of the proposed access points will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.

### Air Quality

The 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 SP5-H1/H2 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 additional mitigations are identified, they have been detailed in the table below.

TABLE D2- 3 MITIGATION MEASURES SP5-H1/H2 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 additional mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access points:

- Access points will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b)
- Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy)
- The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements
- Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable
- Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a)
- The additional clearing of 0.09 ha of PCT 483 at SP5-H1 and SP5-H2 will be tracked in the Project's clearing register
- Vegetation clearing or land disturbance outside of the assessed area will not be permitted
- If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access points, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented

### 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 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

## Mitigation Measures

Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work.

If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction.

The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades (including the access points):

- Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority
- Regularly conducting visual inspections of dust emissions and applying additional controls as required

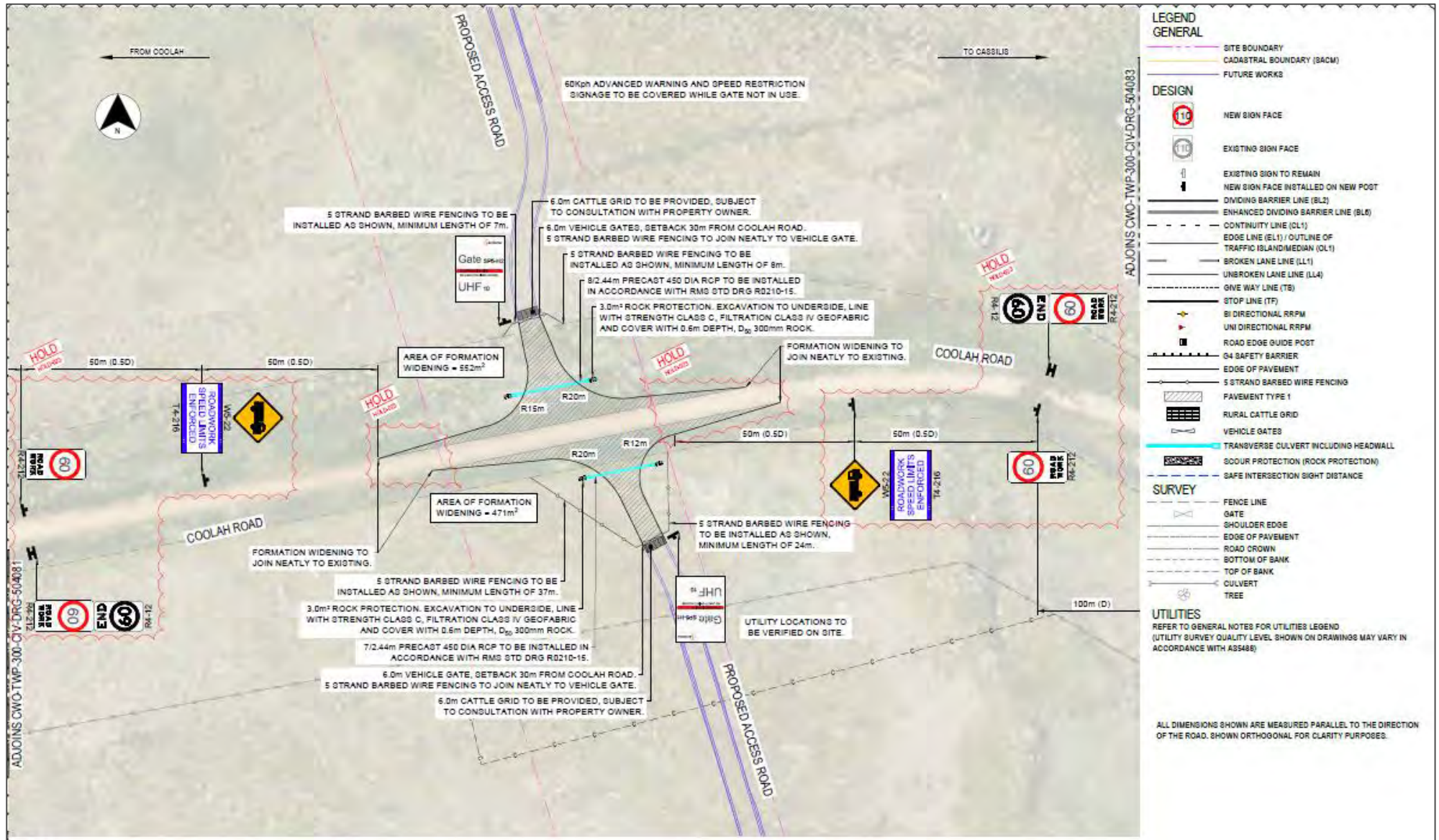
## Strategic Concept Design

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

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

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

Refer to the following Strategic Concept Design drawings.



## APPENDIX D3 SP5-I1/I2 (ROTHERWOOD ROAD) ACCESS POINTS - APPROVED

### Location

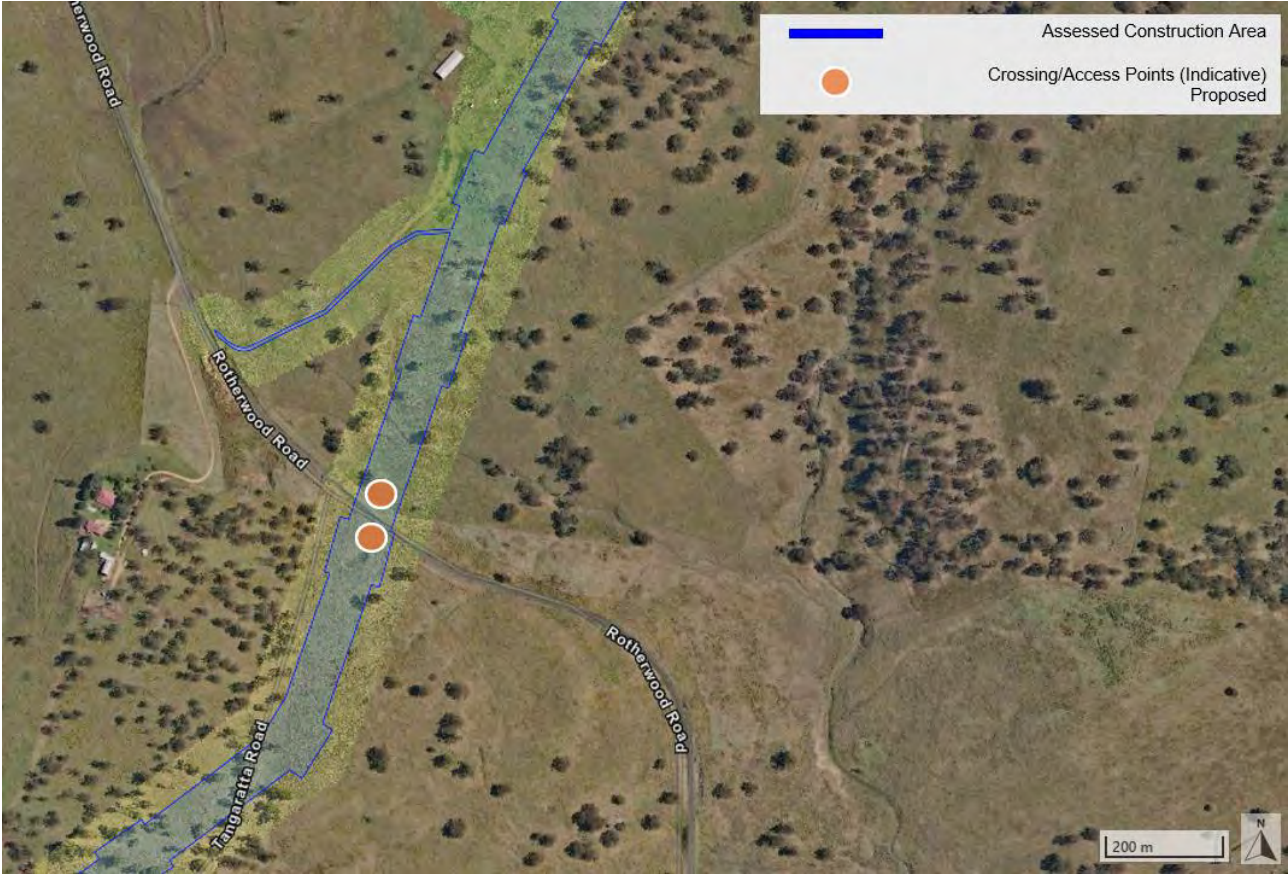


FIGURE D3- 1 LOCATION OF ACCESS POINTS SP5-I1/I2



FIGURE D3- 2 CONFIRMATION OF THE DISTURBANCE FOOTPRINT OF ACCESS POINTS SP5-11/12

## Description

The Access Points SP5-I1/I2 will be used to access the construction area from Rotherwood Road. Further details are provided within the table below.

TABLE D3- 1 ACCESS POINTS UPGRADE AND USE (SP5-I1/I2)

<b>Entry Point ID</b>	SP5-I1/I2
<b>EIS Access Point (if applicable)</b>	L2.36 / L2.37
<b>Road</b>	Rotherwood Road
<b>Location</b>	<a href="https://maps.app.goo.gl/AH4av4wtmz86bxvX9">https://maps.app.goo.gl/AH4av4wtmz86bxvX9</a>
<b>Type</b>	STD
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Construction of new access driveway</li> <li>• Installation of fence, gate and signage</li> <li>• Installation of drainage pipe and headwalls (if required)</li> <li>• Installation of livestock grid (if required)</li> </ul> <p>Determination of the requirement to install a drainage pipe and headwall and/or livestock grid will be made on site, based on consultation with the 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.</p>
<b>Amenity impacts</b> MCoA B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Once complete there will be a net overall improvement on access points.
<b>Design criteria</b> MCoA B31(b)	The access point will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
<b>Strategic concept design</b> MCoA B31(c)	The General Arrangement drawings are in the section below.
<b>Assessment of potential impacts</b> MCoA B31 (d)	Refer to section below.
<b>Schedule</b> MCoA B31(e)	Proposed commencement in Q1 2026 and completion in Q2 2026.
<b>Permanent or Temporary</b> MCoA B31(h)	The access points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

## Summary of Existing EIS Assessment and Outcomes

The Access Points SP5-I1/I2 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 and their construction area has been refined and is:

- Partially within the Project construction area (the disturbance footprint)
- Partially within the Aboriginal Heritage survey area (SP5-I1)

- Wholly within the Aboriginal Heritage survey area (SP5-I2)
- Within the Biodiversity study area

As such, the access points have been predominantly assessed within the EIS.

Where the access points have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey area they are required to be assessed in accordance with MCoA (NSW) B31(d) (refer to the next section).

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 the access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D3-1 identifies the actual disturbance footprint of the access points in comparison to what was assessed within the EIS.

TABLE D3- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-11/I2 ACCESS POINTS)

EIS Assessment and Outcomes Summary	EIS Assessment References
<b>Land Use, Property and Agriculture</b>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p>	<p>Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.2.1 of the EIS (Chapter 8 (Agriculture))</p> <p>Figure 7-1 of the EIS (Chapter 7 (Land Use and Property))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>The existing environment around the access points is characterised by primary production land zoning (RU1). The land use is nominated in the EIS as grazing modified pastures.</p>	<p>Figure 7-2 of the EIS (Chapter 7 (Land Use and Property)) Section 8.3.6 of the EIS (Chapter 8 (Agriculture))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities</li> <li>• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production.</p> <p>The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'.</p>	<p>Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property)) Section 8.4 of the EIS (Chapter 8 (Agriculture))</p>
<p><b>Landscape Character and Visual Amenity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The access points are located within the 'Dapper and Elong undulating rural hills' landscape character zone (URH-05). The undulating rural hills landscape zone is located in the western section of the study area, this zone is characterised by remote, flat to undulating grazing and cropping areas along the Sandy and Spring creek valleys, containing few built features other than scattered rural dwellings, farm related structures and dams.</p>	<p>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))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), construction traffic, ancillary infrastructure and workforce accommodation camps</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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</p>	<p>Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
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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 access points are not visible from viewpoint VP05.

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'.

**Biodiversity**

*Study Area and Existing Environment*

The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to:

- The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the project
- The study area, which includes all areas within 220 metres of the centreline of the transmission line. It includes the subject land as is within the assessment area.
- The assessment area, which includes all areas within 500 metres of the centreline of the transmission line, extending up to 1,500 metres from the edge of the construction area at energy hubs and switching stations
- The locality, being the area within 10 kilometres of the subject land (or construction area), within which database searches and broader vegetation mapping to inform the assessment was based

The access points are located within the biodiversity study area.

Vegetation within the assessed area of SP5-I1 was identified as 483 Grey Box x White Box grassy open woodland threatened ecological community (TEC) and PCT 0 miscellaneous ecosystem. PCT 483 is part of the critically endangered TEC White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act. This TEC is also identified as a Serious and Irreversible Impact (SAIL) entity as impacts regarded as serious and irreversible may contribute to the risk of the TEC becoming extinct. Vegetation within the assessed area of SP5-I2 was identified as PCT483 TEC under the BC Act.

Section 10.2.1 of the EIS (Chapter 10 (Biodiversity))  
 Biodiversity Development Assessment Report of the EIS (Technical Paper 4)  
 Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

*Relevant Environmental Risks*

- Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity
- Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities

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

*Assessment and Outcomes Summary*

The BAR assessment identified the presence of PCT 483 within the access points' footprint. One threatened fauna species, Pink-tailed Legless Lizard (*Aprasia parapulchella*), was identified within the BAM-C as having potential to occur within the assessment area at SP5-I1 but the BDAR assessment identified the species was unlikely to occur within the access point footprint.

One threatened flora species, Bluegrass (*Dichanthium setosum*), was identified within the BAM-C as having potential to occur within the assessment area at SP5-I1. Desktop assessment was undertaken for habitat constraints and geographic restrictions to assess the species and it was assumed present within assessment area. Based on the above, it is considered that PCT 483 is associated with habitat for Bluegrass (*Dichanthium setosum*).

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))

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>One threatened fauna species –the Striped Legless Lizard (<i>Delma impar</i>) – was identified within the BAM-C as having potential to occur within the assessment area at SP5-I2. Desktop assessment was undertaken for habitat constraints and geographic restrictions to assess the species and it was assumed present. It is therefore considered that PCT 483 is associated with habitat for the threatened fauna species listed above at SP5-I2.</p>	
<p><b>Aboriginal Heritage and non-Aboriginal heritage</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.</p> <p>The nearest recorded site (28-6-0053) is located approximately 5.5km to the south of SP5-I1. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-I1.</p> <p>The nearest recorded site (28-6-0053) is located approximately 5.5km to the south of SP5-I1. No other areas, sites, items or places of Non-Aboriginal or Aboriginal Cultural Heritage significance are recorded in the vicinity of SP5-I2.</p>	<p>Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)</p> <p>Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)</p> <p>Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value</li> <li>• Impacts on unknown/unlisted heritage items and areas of archaeological potential</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>No heritage items or sites have been identified within the access point construction area. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.</p>	<p>Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Noise and Vibration</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The nearest sensitive receiver to access point, SP5-I1, is residential receiver 1351 located approximately 390m west. The nearest sensitive receiver to access point, SP5-I2, is residential receiver 1351 located approximately 385m west.</p>	<p>Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))</p>
<p><i>Relevant Environmental Risks</i></p>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<ul style="list-style-type: none"> <li>Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps</li> </ul>	
<p><i>Assessment and Outcomes Summary</i></p> <p>The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration.</p>	<p>Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))</p>
<p><b>Traffic and Transport</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>Ulan Road is a main road in the study area. It is noted in the EIS as being approximately 72 kilometres long road providing a north-south connection between Golden Highway in the north and Mudgee town centre. It is a sealed pavement and is a bidirectional two-lane road (one lane in each direction). The posted speed limit is 100 km/h. The relevant section of Ulan Road to the access points is the portion south of Ulan-Wollar Road.</p>	<p>Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Impacts to condition of roads due to increased vehicular traffic</li> <li>Impacts on access to and within properties</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. Roads that also experience higher traffic volumes include Ulan Road (approximately 9,000 vehicles per day) on weekdays. All of the roads assessed in the study area perform at Level of Service A, with the exception of the following which operate at a Level of Service B:</p> <ul style="list-style-type: none"> <li>The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road</li> <li>All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B</li> </ul> <p>Ulan Road and Ulan-Wollar Road have been approved for RAV (up to 25/26 metres B-double) and has previously been used by other projects (e.g. Wollar Solar Farm) to access the site for construction.</p> <p>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.</p>	<p>Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)</p>
<p><b>Waste Management</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>Existing waste sources in the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs primarily includes waste from agricultural, mining and forestry operations and domestic waste.</p> <p>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.</p>	<p>Section 18.3 of Chapter 18 of the EIS (Waste Management)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>Impacts on local and regional waste management facilities due to increased demand from overall project generated construction wastes</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes.</p> <p>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.</p> <p>The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.</p>	<p>Chapter 18 of the EIS (Waste Management)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Hydrology, Flooding and Water Quality</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>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.</p>	<p>Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)</p>
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills</li> <li>Impact to regional or local water supply due to construction water demands</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period.</p> <p>The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project.</p> <p>All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Climate Change and Greenhouse Gas</b></p>	

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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 tCO<sub>2</sub>-e, as shown in Table 19-34. Scope 3 emissions are estimated to be the largest contributor (approximately 94 per cent) to GHG emissions during construction, primarily due to the embodied emissions within materials that would be produced for the project. Scope 1 emissions would account for approximately 5.7 per cent and Scope 2 emissions would account for approximately 0.03 per cent of the total GHG emissions during construction. All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Cumulative Impacts</b></p>	
<p>Relevant Environmental Risks</p> <ul style="list-style-type: none"> <li>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</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p>	<p>Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

## Assessment of Potential Impacts Outside the EIS Construction Area

Where the Access Points SP5-I1/I2 have extended beyond the EIS construction area, biodiversity study area or Aboriginal heritage survey 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 D3- 3 ACCESS POINTS SP5-I1/I2 ASSESSMENT OUTSIDE OF THE EIS CONSTRUCTION AREA

Impacts	
<b>Biodiversity</b>	
<p>Although the access points were included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint). A summary of the additional vegetated areas outside the Project construction area is summarised in the table below:</p>	
<b>PCT Identified</b>	PCT 483
<b>TEC?</b>	Yes
<b>Habitat for Threatened Species?</b>	Yes
<b>SAII?</b>	No

## Impacts

**Extent (Ha)**

**Total = 0.1 ha**

### Notes:

PCT 483 – Grey Box x White Box grassy open woodland on basalt hills in the Merriwa region, upper Hunter Valley

#### *Plant Community Types*

Vegetation within the assessed area was identified as 483 Grey Box x White Box grassy open woodland threatened ecological community (TEC) and PCT 0 miscellaneous ecosystem. PCT 483 is part of the critically endangered TEC White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland under both the BC Act and EPBC Act.

#### *Habitat for Threatened Fauna Species*

The BDAR assessment identified the presence of PCT 483 within the access points’ footprint. One threatened fauna species, Pink-tailed Legless Lizard (*Aprasia parapulchella*), was identified within the BAM-C as having potential to occur within the assessment area at SP5-I1 but the BDAR assessment identified the species was unlikely to occur within the access point footprint.

A total of two threatened fauna species, Pink-tailed Legless Lizard (*Aprasia parapulchella*) and Striped Legless Lizard (*Delma impar*), were identified within the BAM-C as having potential to occur within the assessment area. Desktop assessment was undertaken for habitat constraints and geographic restrictions to assess each species and the Striped Legless Lizard was assumed present. It is therefore considered that PCT 483 is associated with habitat for the threatened fauna species, Striped Legless Lizard, at SP5-I2.

#### *Threatened Flora*

One threatened flora species, Bluegrass (*Dichanthium setosum*), was identified within the BAM-C as having potential to occur within the assessment area at SP5-I1 and SP5-I2. Desktop assessment was undertaken for habitat constraints and geographic restrictions to assess each species. Targeted surveys were completed for the species, and it was assumed present within assessment area at SP5-I1 and SP5-I2. Based on the above, it is considered that PCT 483 is associated with habitat for Bluegrass (*Dichanthium setosum*).

## Aboriginal Heritage and Non-Aboriginal Heritage

The Historical Heritage and Aboriginal Cultural Heritage Assessment Report partially included the construction area required to establish the access points SP5-I1/I2.

The portion of the access point SP5-I1/I2 which was not surveyed as part of the EIS, is covered by EnergyCo’s Aboriginal Cultural Heritage Assessment Report. In addition, ACJV D&C undertook additional targeted assessments of the unsurveyed areas, in accordance with the Code of Due Diligence. No items or areas of Aboriginal Cultural, Archaeological, or historical heritage value were identified.

## Noise and Vibration

The use of the access points SP5-I1/I2 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 nearest sensitive receiver to the access points SP5-I1/I2 is 310 m away (refer to Figure A-15). The construction noise assessment determined that this receiver would likely be exposed to noise levels up to 46 dBA (LAeq(15mins)), which would be approximately 1 dBA above the daytime Noise Management Level (NML). It is worth noting that this estimated construction noise level is conservative and models all items of plant operating concurrently on site for a full fifteen-minute period (which is unlikely to be the case).

Although this receiver would likely experience noticeable construction noise from the establishment of the access point, the impact would not be intrusive and would also be, temporary, of a short duration.

## Surface Water and Hydrology

The access points SP5-I1/I2 were assessed in the Amendment Report flooding assessment and therefore are not discussed further.

## Impacts

### Erosion and Sedimentation

The construction of the proposed access points will require the temporary use of plant and equipment. There is the potential for minor hydrocarbon (fuels, diesel, oils) contamination of soil, surface water and groundwater arising from operation of plant and machinery. Spill volumes from such incidents would be expected to be minor.

### Air Quality

The main air quality impact associated with the establishment of the access points is the potential for dust to be generated throughout road upgrade works. One residential sensitive receiver is located approximately 310m to the west from proposed access point SP5-I1/I2.

The potential for dust impacts at any nearby sensitive receivers due to installation and use of these access points will depend on the separation distances and the atmospheric conditions (for example wind direction and speed) at the time. Any dust generation during establishment of the access point would be temporary and for a relatively short duration (i.e. while the works are occurring). Considering the separation distance to the nearest sensitive receivers, 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 additional mitigations are identified, they have been detailed in the table below.

TABLE D3- 4 MITIGATION MEASURES SP5-I1/I2 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 additional mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access points:

- Access points will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b)
- Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy)
- The extent of clearing of native vegetation within the access point disturbance footprint will be recorded to confirm actual impacts to biodiversity values to inform any final biodiversity offset requirements
- Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable
- Clearing extents will be monitored against the clearing limits defined in MCoA (NSW) Appendix 2 Table 2-1, Table 2-2 and Table 2-3 to ensure compliance with MCoA (NSW) B21(a)
- The additional clearing of 0.1 ha of PCT 483 at SP5-I1 and SP5-I2 will be tracked in the Project's clearing register
- Vegetation clearing or land disturbance outside of the assessed area will not be permitted
- If any threatened species or threatened ecological communities are unexpectedly encountered during installation of the access points, the Biodiversity Unexpected Finds Protocol (Appendix A of the Environmental Management Strategy) will be implemented

### Aboriginal Heritage and Non-Aboriginal Heritage

Whilst no heritage items or sites have been identified within the access point construction area, the following mitigation measures will be adopted throughout installation of the access points:

### Mitigation Measures

- 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 upgrades include:

- Progressive Erosion and Sediment Control Plans (PESCPs) will be prepared and implemented for the installation of the access points and other road upgrades. The PESCPs will outline controls to be implemented to manage and aim to minimise soil erosion and movement of sediment and other pollutants to land and/or waters
- Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)

### Air Quality

Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work.

If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction.

The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road upgrades (including the access points):

- Where safe to do so, exposed and disturbed surfaces at the site access point installation location, will be watered using dust suppression techniques such as water sprays (from water carts) or dust suppression surfactants. Any application of water or surfactants onto a public road would only be carried out in consultation with the relevant road authority
- Regularly conducting visual inspections of dust emissions and applying additional controls as required

## Strategic Concept Design

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

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



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

Refer to the following Strategic Concept Design drawings.





**APPENDIX D4  
APPROVAL**

**SP5-F2 (SUMMER HILL ROAD) ACCESS POINT – INCLUDED FOR**

## Location



FIGURE D4- 1 LOCATION OF ACCESS POINTS SP5-F2



Central West Orana  
Renewable Energy Zone  
SP5-F2 - Location

Legend

- Minor Access Points
- Proposed Construction Footprint
- ▭ Construction Area - Amendment Report

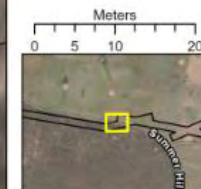


FIGURE D4- 2 COMPARISON OF THE DISTURBANCE FOOTPRINT (SP5-F2)

## Description

Access Point SP5-F2 will be used to access the construction area from Summer Hill Road. Further details are provided within the table below.

TABLE D4- 1 ACCESS POINT SP5-F2 TREATMENT AND USE

<b>Entry Point ID</b>	SP5-F2
<b>EIS Access Point (if applicable)</b>	L2.29
<b>Road</b>	Summer Hill Road
<b>Location</b>	<a href="https://maps.app.goo.gl/pNyP5NETarfNJ7MX9">https://maps.app.goo.gl/pNyP5NETarfNJ7MX9</a>
<b>Type</b>	Access Point
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Construction of new access driveway</li> <li>• Installation of fence, gate and signage</li> <li>• Installation of drainage pipe and headwalls (if required)</li> <li>• Installation of livestock grid (if required)</li> <li>• Installation of advanced warning signs on approach to the access points.</li> </ul> <p>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.</p>
<b>Amenity impacts MCoA B31(a)</b>	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. Overall, the impact to amenity is expected to be negligible given the access points' location and small physical footprint when compared to the overall Project.
<b>Design criteria MCoA B31(b)</b>	The access points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
<b>Strategic concept design MCoA B31(c)</b>	The Strategic Concept Design is included in the section below.
<b>Assessment of potential impacts MCoA B31 (d)</b>	Refer to section below
<b>Schedule MCoA B31(e)</b>	These access points are required by the start of Q2 2026 and will be completed for use by the end of Q2 2026.
<b>Permanent or Temporary MCoA B31(h)</b>	The access points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

It is noted that Summer Hill Road is not an approved road as described in the EIS and identified in the Figure 4-1 to Figure 4-4 in Appendix 4 of the MCoA (NSW). As such, in accordance with MCoA (NSW) B30, the Planning Secretary's agreement was sought prior to all heavy and light vehicles associated with construction, upgrading and decommissioning of the development travelling to and from the site via Summer Hill Road. The Planning Secretary agreed to the proposed use of Summer Hill Road (between Ulan Road and SP5-F2) on 8 May 2026 (SSI-48323210-PA-120).

## Summary of Existing EIS Assessment and Outcomes

The Access Point SP5-F2 was included within the EIS. As a result of design refinements and a better understanding of ground conditions following finalisation of the EIS and MCoAs (NSW), the location of the access point and its construction area have been refined and is:

- Partially within the approved construction area (the disturbance footprint)
- Partially outside the Aboriginal Heritage survey 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).

Where access points have extended beyond the EIS construction area, biodiversity study area or heritage assessment area they are required to be assessed in accordance with MCoA (NSW) B31(d). As these access points are partially within the construction area, biodiversity study area and heritage assessment area further assessment is required.

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

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

The table below summarises the most relevant existing EIS assessment and outcomes where an unmitigated impact rating of 'medium' or 'high' was allocated in Chapter 22 of the EIS (Environmental Risk Analysis). The relevant aspects of the assessment have been determined by considering the nature of the construction works associated with the establishment and use of access points. It is noted that the access points in the EIS are assessed as part of a wider construction impact (i.e. they are not assessed as a standalone activity). In addition, given the minor nature of these access points, some environmental aspects in the table below have been combined (e.g. land use and property and agriculture, Aboriginal heritage and non-Aboriginal heritage) to avoid unnecessary repetition of similar information.

Figure D4-2 identifies the actual disturbance footprint of the access point in comparison to what was assessed within the EIS. Other supporting figures are contained in Appendix E.

TABLE D4- 2 EIS ASSESSMENT AND OUTCOMES SUMMARY (SP5-F2)

EIS Assessment and Outcomes Summary	EIS Assessment References
<b>Land Use, Property and Agriculture</b>	
<p><i>Study Area and Existing Environment</i></p> <p>The land use study area in the EIS comprised a four-kilometre buffer either side from the construction area, to understand the context of the areas immediately surrounding the project. Where relevant to do so, the broader region was also considered in the assessment by Local Government Area (LGA), however the assessment of property impacts was generally limited to the construction and operational areas (i.e. the land directly impacted by the project). This study area is also consistent with the agriculture study area.</p> <p>The existing environment around the access points is characterised by primary production land zoning (RU1). The land use is nominated in the EIS as grazing modified pastures.</p>	<p>Section 7.2.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.2.1 of the EIS (Chapter 8 (Agriculture))</p> <p>Figure 7-1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Figure 7-2 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.3.6 of the EIS (Chapter 8 (Agriculture))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Temporary restrictions to land use due to the leasing and use of land for the construction area, access and ancillary facilities</li> <li>• Effects on access to properties and adjustments to infrastructure (fences/gates) as a result of changes to private access roads and internal access arrangements</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>For estimating total impacts to agricultural land use during construction, the EIS conservatively assumed that the entire construction area (including the transmission line easement) (consisting of around 3,660 ha of agricultural land use) would be unavailable for agricultural activities and use. The EIS noted that the level of impact on agricultural activities would vary, depending on the scale and intensity of construction activities. The EIS assessed that in areas where a higher intensity of construction activities is required, such as the location of energy hubs, switching stations, worker accommodation camps and construction compounds, the Project would result in direct impacts to agricultural land use, with land permanently acquired and removed from agricultural production.</p> <p>The access points would only temporarily remove the agricultural land and restrict movement of the landowners. The EIS noted that the residual risk rating for general impacts to agricultural productivity as 'medium'. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 7.4.1 of the EIS (Chapter 7 (Land Use and Property))</p> <p>Section 8.4 of the EIS (Chapter 8 (Agriculture))</p>
<b>Landscape Character and Visual Amenity</b>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The access point is located within the rural valley landscape character type (Munmurra River rural valley - RV-04). The rural valley landscape character type is</p>	<p>Figure 9-1 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p> <p>Figure 9-8 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>defined by the creek and river valleys within the study area, and adjacent land which generally consists of wide flat areas of agricultural uses, including arable farmland and some areas of grazing pastures.</p> <p>Although the landform varies between each character zone, it is generally low-lying and flat to gently undulating, including rural plains, which have been cleared for agriculture. The Munmurra River rural valley landscape character type is located south of Cassilis, south of the Golden Highway. The Munmurra River has wide bends, meandering through an undulating valley, and is visually enclosed by the surrounding ridges and hills. Existing built features in this zone include the Golden Highway.</p>	<p>Table 9-4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Adverse impacts on landscape character and visual amenity from private/public places due to construction activities (e.g. vegetation clearing and earthworks), construction traffic, ancillary infrastructure and workforce accommodation camps</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>The EIS assessed that the magnitude of the Project's change to the landscape character would be moderate-low or moderate as construction works would result in a low to moderate magnitude of change. Given the minor and temporal nature of these access points, it can be reasonably concluded that their actual impacts would be much lower.</p>	<p>Section 9.4 of the EIS (Chapter 9 (Landscape Character and Visual Amenity))</p>
<p><b>Biodiversity</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project</li> <li>The study area as a minimum 220 m wide corridor focussed on the planned infrastructure that was surveyed (the Biodiversity Study Area (BSA))</li> <li>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</li> <li>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</li> </ul> <p>The access point is located within the biodiversity study area.</p> <p>The BDAR mapped vegetation along the existing access as consisting of Plant Community Type (PCT) 0 miscellaneous ecosystem. The BDAR mapped the vegetation present in the road verge (between the road pavement and the fence) as PCT 479 (Derived Native Grassland). It is not a threatened ecological community and the BDAR does not map it as habitat for threatened species.</p>	<p>Section 10.2.1 of the EIS (Chapter 10 (Biodiversity))</p> <p>Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p> <p>Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)</p>

EIS Assessment and Outcomes Summary	EIS Assessment References
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<p>The location of access point SP5-F2 on Summer Hill Road was identified in the BDAR, and therefore the BDAR generally considered the access point and the associated impacts at this location.</p>	
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<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity</li> <li>• Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
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<p><i>Assessment and Outcomes Summary</i></p> <p>Biodiversity impacts at this location encompass PCT 0 only, as such no additional biodiversity impacts compared to what was assessed as part of the EIS / Amendment Report will result from the proposed refinement at this location.</p>	<p>Section 10.4 of the EIS (Chapter 10 (Biodiversity))</p> <p>Table 10-3 of the EIS (Chapter 10 (Biodiversity))</p> <p>Table 10-4 of the EIS (Chapter 10 (Biodiversity))</p> <p>Table 10-5 of the EIS (Chapter 10 (Biodiversity))</p>
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Aboriginal Heritage and Non-Aboriginal Heritage	
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<p><i>Study Area and Existing Environment</i></p> <p>The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The access points are located within the study area.</p> <p>While the access point was partially included within the approved construction area, it was not surveyed as part of the heritage assessment prepared for the EIS/ Amendment Report.</p>	<p>Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)</p> <p>Technical Paper 5 of the EIS (Aboriginal Cultural Heritage)</p> <p>Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)</p>
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<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value</li> <li>• Impacts on unknown/unlisted heritage items and areas of archaeological potential</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
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<p><i>Assessment and Outcomes Summary</i></p> <p>The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.</p> <p>Refer to the next section (Assessment of Potential Impacts Outside the EIS Construction Area) for an assessment of the potential impacts to Aboriginal heritage and non-Aboriginal heritage.</p>	<p>Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
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Noise and Vibration	
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<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>The nearest sensitive receiver to the access points is residential receiver 1103 which is located approximately 1.5km north of access point SP5-F2.</p>	<p>Section 15.2.1 of the EIS (Chapter 15 (Noise and Vibration))</p> <p>Figure 15-2 of the EIS (Chapter 15 (Noise and Vibration))</p>
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EIS Assessment and Outcomes Summary	EIS Assessment References
	Figure 4-1 of the project's approved Noise and Vibration Management Plan (CWO-PRO-050-ENV-PLN-000002))
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Potential exceedances of noise management levels (NMLs) from activities within and outside standard construction hours, including activities at construction compounds and workforce accommodation camps</li> </ul>	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<p><i>Assessment and Outcomes Summary</i></p> <p>The results of the noise and vibration assessment undertaken as part of the EIS and Amendment Report show construction noise impacts associated with road upgrades would generally be minor, temporary, and of short duration and managed in accordance with the mitigation measures associated with the Project Planning Approval.</p> <p>Refer to the next section (Assessment of Potential Impacts Outside the EIS Construction Area) for an assessment of the potential noise and vibration impacts.</p>	Section 15.5 of the EIS (Chapter 15 (Noise and Vibration))
<p><b>Traffic and Transport</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>SP5-F2 is located along Summer Hill Road and requires upgrading to facilitate safe use by Project related construction traffic. Summer Hill Road is a local road that intercepts with Ulan Road.</p>	<p>Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Impacts to condition of roads due to increased vehicular traffic</li> <li>Impacts on access to and within properties</li> </ul>	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<p><i>Assessment and Outcomes Summary</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>The south bound/east bound direction of Ulan-Wollar Road during the AM peak on Ulan-Wollar Road</li> <li>All directions on Ulan Road (north-east of Lue Road during the PM peak) perform at Level of Service B</li> </ul> <p>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.</p>	<p>Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport))</p> <p>Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)</p>
<p><b>Waste Management</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>Existing waste sources in the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs primarily includes waste from agricultural, mining and forestry operations and domestic waste.</p>	Section 18.3 of Chapter 18 of the EIS (Waste Management)

EIS Assessment and Outcomes Summary	EIS Assessment References
<p>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.</p>	
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Impacts on local and regional waste management facilities due to increased demand from overall project generated construction wastes</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>Like most other environmental aspects, there is no singular assessment for access points. The most relevant construction waste stream volumes for the Project are included below. It is considered that the establishment and use of access points would represent a very minor portion of these indicative volumes.</p> <p>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.</p> <p>The EIS noted that the residual risk rating would be 'medium'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be much lower.</p>	<p>Chapter 18 of the EIS (Waste Management)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><b>Hydrology, Flooding and Water Quality</b></p>	
<p><i>Study Area and Existing Environment</i></p> <p>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.</p> <p>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.</p>	<p>Section 19.1.2 of Chapter 19 (Hydrology, Flooding and Water Quality)</p>
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>Surface water quality impacts due to erosion and sedimentation, contamination, leaks and spills</li> <li>Impact to regional or local water supply due to construction water demands</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>The access points are anticipated to cause minor disturbance to the local soil profile due to earthworks required during the installation period.</p> <p>The construction of the proposed refinement is not proposed to interact with any watercourses and the risk to water quality impacts due to the construction of the proposed refinement is considered very low. The potential for the proposed refinements to result in soil and water impacts remains the same as assessed in the EIS and is consistent with the approved Project.</p> <p>All residual risk ratings for hydrology, flooding and water quality in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Section 19.2.4 of the EIS (Chapter 19 (Hydrology, Flooding and Water Quality))</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

<b>EIS Assessment and Outcomes Summary</b>	<b>EIS Assessment References</b>
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<b>Climate Change and Greenhouse Gas</b>	
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• Emissions of greenhouse gases during construction from embodied energy in materials, or emissions from construction plant and vehicles</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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 tCO<sub>2</sub>-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.</p> <p>All residual risk ratings for climate change and greenhouse gas in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of access points, it is anticipated that the actual impact would be negligible.</p>	<p>Table 19-34 of Chapter 19 of the EIS (Climate Change and Greenhouse Gas)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

<b>Cumulative Impacts</b>	
<p><i>Relevant Environmental Risks</i></p> <ul style="list-style-type: none"> <li>• 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</li> </ul>	<p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>
<p><i>Assessment and Outcomes Summary</i></p> <p>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.</p> <p>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.</p>	<p>Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts)</p> <p>Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)</p>

### Assessment of Potential Impacts Outside the EIS 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 D4- 3 ACCESS POINT ASSESSMENT OUTSIDE OF THE APPROVED CONSTRUCTION AREA (SP5-2)

<b>Impacts</b>
<p><b>Biodiversity</b></p> <p>Although access point SP5-F2 was included within the biodiversity survey area of the EIS, some areas were not included within the Project construction area (the disturbance footprint).</p> <p>A summary of the additional vegetated areas outside the Project construction area is provided in the table below and mapped in Appendix E:</p>

## Impacts

Access Point	PCT Identified	TEC?	Habitat for Threatened Species?	Extent (Ha)
SP5-F2	PCT 0	No	No	<0.01
	PCT 479	No	No	<0.01

**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

PCT 0 and PCT 479 are not listed as a threatened ecological community under either the BC or EPBC Acts and there are no clearing limits for these PCT's defined within the Project Planning Approval.

No additional impact to the habitat for threatened species compared to what was assessed in the EIS / Amendment report will result from the proposed refinement and no increase to clearing limits will be required as a result of the proposed refinement.

### Aboriginal Heritage and Non-Aboriginal Heritage

The supplementary assessment (KNC, 2025) did not map any items or areas of Aboriginal Cultural, Archaeological, or historical heritage value within the footprint of access point SP5-F2 (refer to Appendix F).

### Noise and Vibration

The use of the access points SP5-F2 was assessed within the EIS, however the establishment of the access point partially extends beyond the project construction area. For these establishment activities a construction noise assessment was undertaken. The assessment considered the equipment and plant that would be required to construct the access points and the offset distance from the access points to the nearest sensitive noise receiver identified in the EIS.

The proposed refinement is not expected to alter the outcomes of the noise and vibration assessment undertaken as part of the EIS and Amendment Report as the proposed refinement does not decrease the distance between the Construction Area and the nearest sensitive receiver.

The nearest sensitive receiver to access point SP5-F2 more than 1.5km away (receiver ID 1103). 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

Access point SP5-F2 was assessed in the Amendment Report flooding assessment and therefore are not discussed further.

### 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.

### 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 SP5-F2 is greater than 500m away, the potential for dust impacts is considered to be very low to negligible.

## Mitigation Measures

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

TABLE D4- 4 ACCESS POINT MITIGATION MEASURES (SP5-F2)

Mitigation Measures
<p><b>Biodiversity</b></p> <p>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.</p> <p>The following specific mitigation measures will be implemented to manage biodiversity impacts associated with the installation of access points:</p> <ul style="list-style-type: none"> <li>• Access points will be designed to minimise vegetation clearing wherever possible to facilitate compliance with MCoA (NSW) B21(b)</li> <li>• Clearing will be completed in accordance with the Project's Pre-Clearing Protocol (Appendix C of the Environmental Management Strategy)</li> <li>• 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</li> <li>• Clearing of Threatened Ecological Communities (TEC), threatened flora species and habitat for threatened fauna species will be minimised as far as practicable</li> <li>• 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).</li> <li>• Vegetation clearing or land disturbance outside of the assessed area will not be permitted</li> <li>• 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</li> </ul>
<p><b>Aboriginal Heritage and Non-Aboriginal Heritage</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• No ground disturbance will be permitted outside of the assessed disturbance footprint</li> </ul>
<p><b>Noise and Vibration</b></p> <p>The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.</p>
<p><b>Surface Water and Hydrology</b></p> <p>The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate.</p>
<p><b>Erosion and Sedimentation</b></p> <p>Erosion and sedimentation related management measures to address impacts associated with the road treatments include:</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>

## Mitigation Measures

- Weekly environmental inspections are to be undertaken, which includes inspection of any erosion and sediment controls present on-site, stockpiles and the access point(s)

## Air Quality

Dust generation during site access installation anywhere near sensitive receivers would be monitored visually by site personnel during the work.

If required mitigation measures to minimise dust impacts to sensitive residential receivers will be implemented throughout the construction.

The following mitigation measures would be implemented, if required, to manage the air quality impacts as a result of the installation and use of the road 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

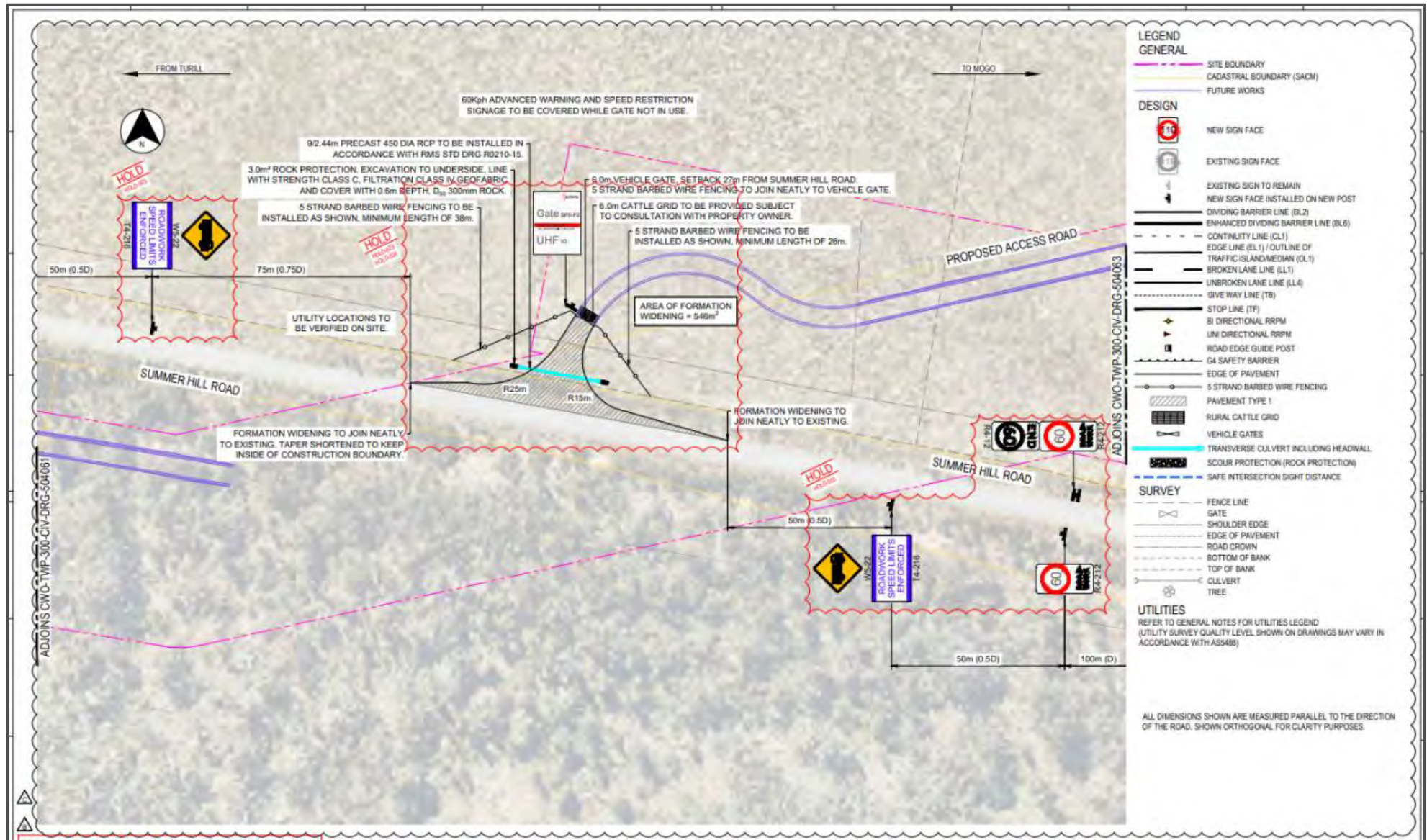
## Strategic Concept Design

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.

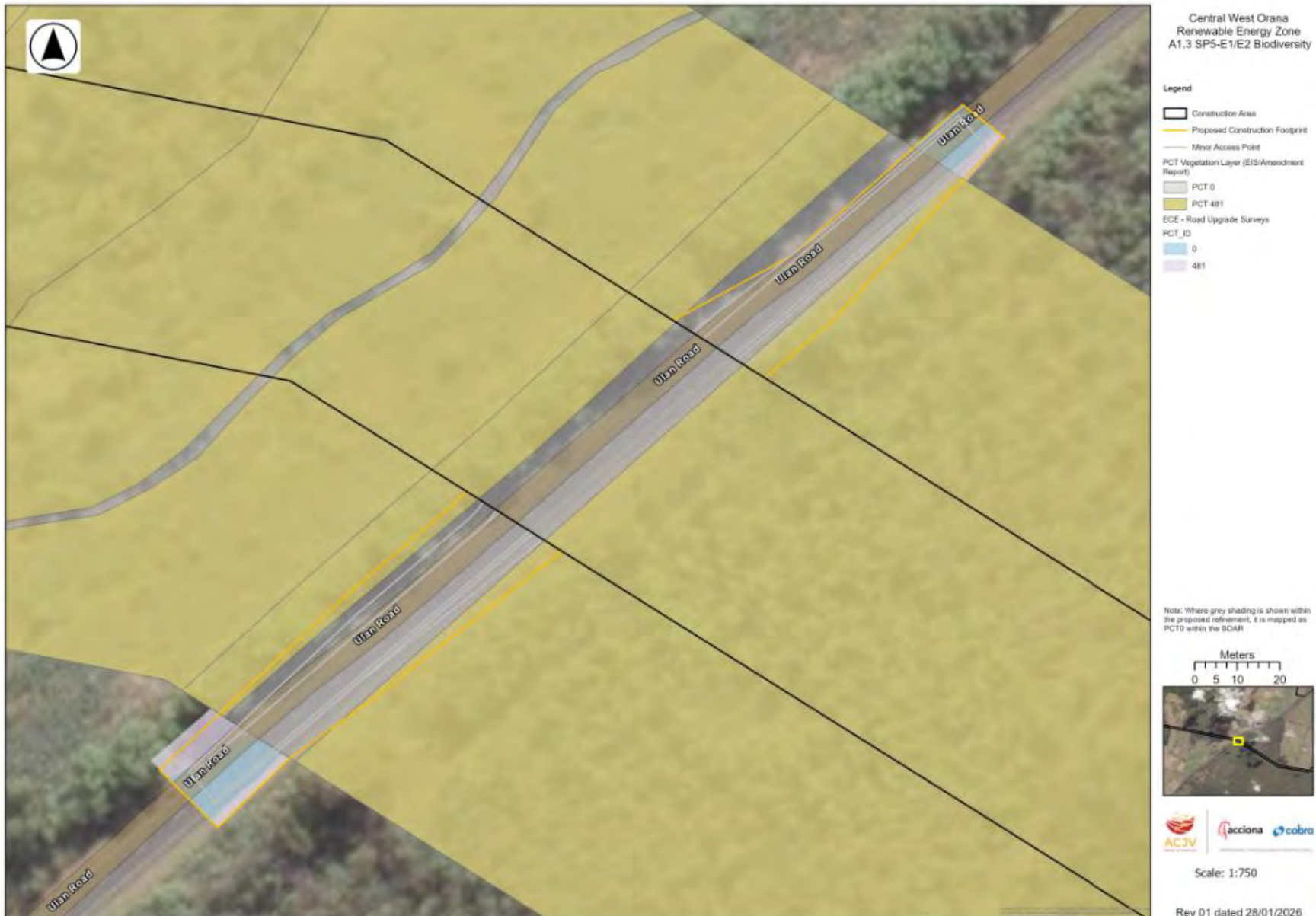




## Appendix E Additional Environmental Figures



**SP5-E1/E2**







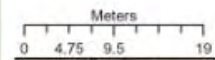
**SP5-H1/H2**

Central West Orana  
Renewable Energy Zone  
A2.3 SP5-H1/H2 Biodiversity

Legend

-  Constructor Area
-  Proposed Construction Footprint
-  Minor Access Point
- PCT Vegetation Layer (EIS/Amendment Report)
-  PCT 0
-  PCT 4B3

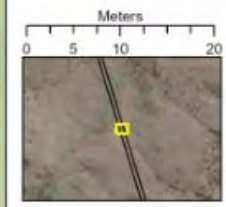
Note: Where grey shading is shown within the proposed refinement, it is mapped as PCT0 within the BDAR.





Central West Orana  
Renewable Energy Zone  
A2.2 SP5-H1/H2 Heritage

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





**SP5-11/I2**







LOCATION OF NEAREST SENSITIVE RECEIVER (BLUE DOT) TO ACCESS POINT CONSTRUCTION AREA (BLUE SHADED)

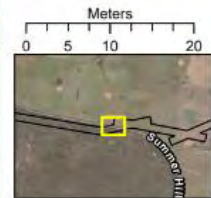


**SP5-F2**



Central West Orana  
Renewable Energy Zone  
SP5-F2 - Biodiversity

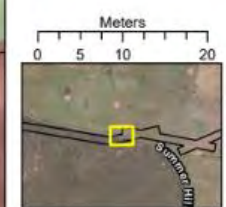
- Legend**
- Proposed Construction Footprint
  - Minor Access Points
  - Local Government Area
  - Construction Area - Amendment Report
  - PCT Vegetation Layer (EIS/Amendment Report)
    - PCT 0
    - PCT 479



Central West Orana  
Renewable Energy Zone  
SP5-F2 - Heritage

Legend

-  Construction Area - Amendment Report
-  Proposed Construction Footprint
-  Minor Access Points
-  KNC Survey, 2025
-  Total Field Survey Coverage (EIS/ Amendment Report)
-  Not surveyed - Outside construction boundary
-  Not surveyed - Within construction boundary
-  Survey completed



## Appendix F Supplementary Environmental Assessments

A supplementary biodiversity survey of the access points in this Strategy that were not fully covered within the BDAR assessment area was undertaken by East Coast Ecology (ECE) in November/December 2024 and January 2025.

The supplementary biodiversity surveys focusses on areas of the road corridor where the ACJV D&C design extends beyond the area surveyed for the BDAR.

The supplementary biodiversity survey was undertaken by a suitably qualified person(s) in accordance with the relevant industry standards and guidelines.



**Kelleher  
Nightingale Consulting Pty Ltd**  
ABN 26 120 187 671 ACN 120 187 671



## Central-West Orana Renewable Energy Zone Transmission Project (SSI-48323210) Pre-Works Heritage Clearance Memo

<b>Date</b>	<b>23 January 2026</b>	<b>Memorandum ID</b>	<b>2402_1 Rev C</b>
<b>Areas Assessed</b>	<ul style="list-style-type: none"> <li>• <b>75 individual locations across 37 areas for proposed road or access works</b></li> <li>• <b>Refer Figure 1 showing 37 areas assessed</b></li> </ul>		

### 1 Project Background

Acciona Construction Australia Pty Ltd and Cobra Asia Pacific Pty Ltd (together referred to as ACJV D&C) are undertaking works related to the construction of an electric power transmission network in the Central-West Orana Renewable Energy Zone (CWO REZ) in central western NSW (the Project). The Project comprises the construction and operation of new electricity transmission infrastructure, new energy hubs and switching stations and ancillary works required to connect new renewable energy generation and storage projects within the CWO REZ to the NSW transmission network.

The Project was declared Critical State Significant Infrastructure (CSSI) by the NSW Minister for Planning and Public Spaces (the Minister) on 23 November 2020 (amended in February 2023) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Section 23 in Schedule 5 of the *State Environmental Planning Policy (Planning Systems) 2021*. The Project was also deemed a Controlled Action and required a separate approval from the Commonwealth Minister (or its delegate) for the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project Environmental Impact Statement (EIS) was prepared to assess the impacts of construction and operation of the Project. As part of the EIS development, an Aboriginal Cultural Heritage Assessment Report (ACHAR) (Technical Paper 5 – Aboriginal Cultural Heritage Assessment Report) was prepared to assess and address matters concerning Aboriginal heritage. A Non-Aboriginal Heritage Assessment (NHA) (Technical Paper 6 - Non-Aboriginal Heritage) was also prepared to assess and address matters concerning non-Aboriginal heritage. The findings of the heritage assessments were summarised in Chapter 11 (Aboriginal Heritage) and Chapter 12 (Non-Aboriginal Heritage), respectively, of the EIS.

A Response to Submissions (RtS) was prepared in response to submissions received on the EIS. The RtS included clarifications as well as further detail relating to Aboriginal and non-Aboriginal (hereafter historical) heritage management issues of the Project. An Amendment Report (AR) and an Aboriginal Cultural Heritage Assessment Report Addendum (ACHAR-A) were subsequently prepared to address Project changes resulting from the submissions and design progress. The AR was accepted on 11 March 2024.

The Project was approved by the Minister on 26 June 2024. This approval was updated to accommodate Modification 1 (MOD 1) on 14 October 2024. Approval for the Project under the EPBC Act was granted by the Branch Head of Environmental Assessments NSW and ACT of the DCCEEW on 8 August 2024 (EPBC 2022/09353).

ACJV D&C engaged Kelleher Nightingale Consulting Pty Ltd (KNC) to provide professional services related to Aboriginal and historical heritage for the construction phase of the Project, including preparation of a Heritage Management Plan (HMP) in accordance with the recommendations of the EIS, AR and the Project’s Conditions of Approval.

ACJV D&C must carry out construction activities for the CSSI in accordance with the conditions of approval and the following environmental assessment documentation:

- Central-West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement
- Central-West Orana Renewable Energy Zone Transmission Project: Submissions Report
- Central-West Orana Renewable Energy Zone Transmission Project: Amendment Report

Project documentation specific to Aboriginal and historical cultural heritage includes:

- EMM Consulting Pty Ltd ('EMM'), 2023a. Central West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement Technical Paper 5 - Aboriginal cultural heritage assessment. Report to WSP on behalf of EnergyCo.
- EMM, 2023b. Central West Orana Renewable Energy Zone transmission project: Environmental Impact Statement Technical Paper 6 - Non- Aboriginal heritage assessment. Report to WSP on behalf of EnergyCo.

- EMM, 2024. Central West Orana Renewable Energy Zone Transmission Project: Amendment Report Appendix H - Aboriginal cultural heritage assessment addendum. Report to WSP on behalf of EnergyCo.
- KNC, 2025. Central-West Orana Renewable Energy Zone Transmission Project: Heritage Management Plan. Prepared for Acciona Construction Australia.

## **2 Current Assessment**

Since the development of the Project environmental assessment documentation described above, additional minor amendments to the approved Construction Area have been identified. These are required to enable required road upgrades and access points for construction. These additional areas required for access works are located outside the approved Construction Area across 37 areas and comprise 75 individual locations. Figure 1 shows the 37 general areas where the access works are proposed (referred to as the 'proposed work areas' for this memo).

KNC were engaged to review the proposed changes in terms of impacts to historical and Aboriginal heritage matters and identify if they are consistent with the Approved Project or if additional or reduced impacts are predicted.

## **3 Proposed Activities**

Within the 37 identified areas, proposed activities include the use or construction of or adjustments to access points and/or access routes which will be required to undertake construction of the Project. This includes road upgrades at certain intersections on the Golden Highway. Proposed activities will disturb the ground surface and have the potential to disturb any historical heritage items or Aboriginal objects which may be present.

## **4 Assessment Process**

### **4.1 Aboriginal Heritage**

#### **Existing Project Documentation**

Aboriginal heritage was assessed for the EIS and AR in the *Central West Orana Renewable Energy Zone Transmission Project: Environmental Impact Statement Technical Paper 5 - Aboriginal cultural heritage assessment* and *Central West Orana Renewable Energy Zone Transmission Project: Amendment Report Appendix H - Aboriginal cultural heritage assessment addendum*.

The proposed work areas all fall within the wider 'study area' previously assessed for Aboriginal cultural heritage during preparation of the EIS and AR. The wider 'study area' is defined in the ACHAR-A as "a general region extending beyond the construction area, [...] but in general captures an area from Dubbo and Gilgandra in the west, Mudgee in the south, Bylong in the east, and Coolah in the north" (EMM 2024:5). The majority of the proposed work areas directly adjoin the approved Construction Area. The ACHAR and ACHAR-A were reviewed to assess the presence of previously recorded Aboriginal archaeological sites or potential Aboriginal heritage constraints to the proposed works.

Review of existing project documentation indicated the presence of potential Aboriginal heritage constraints at the following areas:

- SP1-N (Area of sensitivity along Wilpinjong Creek)
- SP1-O (Area of sensitivity along Wilpinjong Creek)
- SP1-P (Area of sensitivity along Wilpinjong Creek)
- SP1-Q (Area of sensitivity along Wilpinjong Creek, previously recorded sites 36-3-0686 and 36-3-0687)
- SP1-R (Area of sensitivity along Wilpinjong Creek, previously recorded sites 36-3-0681 and 36-3-3188)
- SP1-S (Previously recorded site 36-3-3157)
- SP1-T (Area of sensitivity along Wilpinjong Creek)
- SP1-U (Previously recorded site 36-3-2664)
- SP1-Wilp (Area of sensitivity along Wilpinjong Creek, Area of sensitivity along Cumbo Creek, previously recorded site 36-3-3347)
- SP1-C (Previously recorded site 36-3-4088)

The 'Areas of sensitivity' referred to above are defined in the ACHAR-A (EMM 2024:157) as a zone extending c.150 metres either side of certain creeks intersected by the project, including Wilpinjong Creek and Cumbo Creek, within which higher densities of stone artefacts and/or other areas of past foci may be expected to be present. REMM AH10 requires archaeological excavation where ground disturbance activities cannot be avoided within Areas of Sensitivity. The ACHAR and ACHAR-A assessments did not identify any previously unrecorded Aboriginal objects, archaeological sites, or any specific constraints associated with the Areas of Sensitivity near the proposed work areas.

#### **AHIMS Searches**

The current assessment undertook updated searches of the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) database to confirm the location and status of Aboriginal archaeological sites.

The search areas encompassed the proposed work areas. Results are attached as Appendix A. The AHIMS search results were generally consistent with the existing findings of the EIS and AR.

The AHIMS search results confirmed the location of the eight previously recorded sites listed above and identified in the existing project documentation, with the addition of one site (36-3-4279) within SP1-Q; this site was registered subsequent to preparation of the EIS. AHIMS site status was confirmed as “Destroyed” for three sites: 36-3-4279 at SP1-Q, 36-3-3188 at SP1-R, and 36-3-3347 at SP1-Wilp. These three sites are no longer extant and do not pose a constraint to the proposed access works at the indicated locations.

The remaining previously recorded sites at the proposed work areas were confirmed as “Valid” extant site recordings:

- SP1-Q (36-3-0686 and 36-3-0687)
- SP1-R (36-3-0681)
- SP1-S (36-3-3157)
- SP1-U (36-3-2664)
- SP1-C (36-3-4088)

Relevant AHIMS site locations are included on Figures 2-6.

## **4.2 Historical Heritage**

### **Existing Project Documentation**

Historical heritage was assessed for the EIS in the *Central West Orana Renewable Energy Zone transmission project: Environmental Impact Statement Technical Paper 6 - Non- Aboriginal heritage assessment* and in an updated assessment contained within Section 5.7 of the AR.

The proposed work areas fall within the ‘study area’ previously assessed for historical heritage during preparation of the EIS and AR. The ‘study area’ is defined in the NHA as the construction area plus a one kilometre buffer (EMM 2023b:11) and in the AR as the amended construction area of the Project with a one kilometre buffer.

The majority of the proposed work areas directly adjoin the approved Construction Area. The NHA and AR were reviewed to assess the presence of previously recorded historical heritage items or potential historical heritage constraints to the proposed works.

Review of existing project documentation indicated the presence of a potential historical heritage constraint at the following area:

- SP1-Q (CWO-22-HH017: Mittaville Archaeological Site)

The NHA describes CWO-22-HH017 as a potential heritage item, identified from review of historical (1960s) aerial photography. The item description is as follows (EMM 2023b:A.62):

*The Mittaville Archaeological Site is thought to have been built in the early 20th century but is known to have been historically heavily modified by later work. A more modern house was built in 1981. Demolished prior to construction of current electrical transmission line easement.*

CWO-22-HH017 was assessed as displaying a low cultural heritage sensitivity (if archaeological deposits were present) at a local level of significance. Impact assessment for the Project identified potential partial disturbance of the item. It was noted that the assessed area of CWO-22-HH017 had likely already been significantly impacted through past demolition and construction of the existing electrical transmission line easement. No mitigation was recommended for potential impacts from the Project.

The relevant item location is included on Figure 6.

### **Heritage Register Searches**

The current assessment undertook updated searches of heritage registers and databases to confirm the findings of the NHA and AR for the proposed work areas. Consistent with the NHA and AR, these included:

- Mid-Western Regional Local Environmental Plan 2012
- Warrumbungle Local Environmental Plan 2013
- Upper Hunter Local Environmental Plan 2013
- State Heritage Register
- State Heritage Inventory
- NSW Government Agency Section 170 Heritage and Conservation Registers
- Commonwealth Heritage List
- National Heritage List
- Register of the National Estate (non-statutory archive).
- Australian Heritage Places Database and Australian Heritage Places Inventory.

- The updated register search results confirmed that CWO-22-HH017 is unlisted, as identified in the existing Project documentation.
- No items of historical heritage were listed or registered on these databases within or near the proposed work areas, consistent with the existing findings of the NHA and AR.

### **4.3 Field Inspection**

Field inspection was undertaken for the 37 areas required for access works outside the Construction Area. Inspections were undertaken by KNC in November–December 2024, February 2025 and September 2025. Field inspection included pedestrian survey/visual inspection of the proposed work areas, assessment of disturbance and Aboriginal or historical archaeological potential, and identification and recording of potential heritage constraints to the proposed works. The field inspection identified potential heritage constraints at four areas: SP1-N, SP1-O, SP1-Q and SP1-T.

#### **SP1-Q**

An Aboriginal archaeological site (surface artefact scatter) was recorded within SP1-Q (refer Figure 6). The site was located on a raised gently sloping spur positioned on the south-western side of Wilpinjong Creek and overlooking the confluence with Planters Creek. The site extended from near the railway crossing in the south-west down the spur towards the overhead powerlines in the north-east. Artefacts recorded included one quartz flake, one chert flake and one chert proximal flake fragment.

All artefacts were found in a disturbed context within track exposures cut and eroded down to a gravelly A2 horizon. Other parts of the site extent may display more limited disturbance. The site identified during the field inspection is considered to form part of existing (valid) AHIMS site recording 36-3-0687.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-Q. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site location may require further investigation under REMM AH10 if impact cannot be avoided.

One historical heritage item was previously recorded at SP1-Q, comprising item CWO-22-HH017 (Mittaville Archaeological Site) identified during the NHA prepared as part of the EIS (refer Figure 6). The item comprised a potential archaeological site, based on review of a mid-1960s aerial photograph. The NHA noted that the assessed extent of the item had been subject to high levels of existing disturbance.

The current field inspection confirmed that the area of CWO-22-HH017 which overlaps SP1-Q is positioned along the existing access track and transmission corridor. The area was confirmed as highly disturbed and was considered to display low to no historical archaeological potential in this area. No historical heritage materials or indications of subsurface archaeological material were identified.

#### **SP1-N**

An Aboriginal archaeological site (surface artefact scatter) was recorded within SP1-N on the western side of Wilpinjong Creek (refer Figure 7). Landform comprised a moderately-raised terrace situated directly alongside the western bank. The Redhills Trail followed the western side of the terrace while side tracks crossed at the northern and southern ends. The ground surface along the terrace had extensive areas of exposed ground which appeared loose and disturbed by machinery.

Previous disturbance has included vegetation clearance, use as pasture, ripping/ploughing, trail/access construction and tree planting. Recorded artefacts included a chert flake, two quartz flakes and a chert core. The site is not associated with any existing AHIMS site recordings.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-N. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site location may require further investigation under REMM AH10 if impact cannot be avoided.

#### **SP1-O**

Three Aboriginal archaeological sites were recorded within SP1-O (refer Figures 8-9). The first comprised an isolated find of a quartz flake south of Wilpinjong Creek, on the southern side of the Wilpinjong Creek trail crossing and on the opposite bank to a second site recorded in this area. The second site comprised a low density surface artefact scatter on a moderately prominent rise on the northern bank of the creek, including the up- and down-slope of a side gully. Artefacts recorded included a chert core and a mudstone flake. The third recorded site was approximately 935 metres to the south east. This comprised a surface artefact scatter on a rise along the south-western side of Wilpinjong Creek and on the upstream side of a gully confluence. Artefacts recorded included a silcrete proximal flake fragment and a quartz flake.

All artefacts appeared in a disturbed context due to the impacts of machinery at the north-western sites and cattle grazing and/or trail construction at the south-eastern site. Apart from the track and machinery scraped areas the north-western site appeared relatively intact. None of these sites are not associated with any existing AHIMS site recordings.

Outside of the identified site locations, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-O. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site locations may require further investigation under REMM AH10 if impact cannot be avoided.

#### **SP1-T**

An Aboriginal archaeological site (surface artefact scatter) was recorded across a well-defined and moderately raised landform located on the southern bank of Bens Creek, approximately 800 metres upstream from the confluence with Wilpinjong Creek (refer Figure 10). The site extended from the railway crossing in the south up to the edge of the creek bank in the north and west. The channel of Bens Creek formed a moderately deep gully below the site.

Artefacts recorded included one silcrete flake, one chert flake and one quartz flake, with numerous (>10) other artefacts noted at this location along the edge of the landscaped (cut) gully. The archaeological material was disturbed at the artefact findspots, with the remainder of the site area displaying variable but generally lower levels of disturbance. The site is not associated with any existing AHIMS site recordings.

Outside of the identified site location, no Aboriginal archaeological heritage constraints associated with the Wilpinjong Creek Area of Sensitivity were identified at SP1-T. The field assessment confirmed that the Area of Sensitivity does not extend into the remainder of the proposed work area and further investigation (archaeological excavation under REMM AH10) is not required. The confirmed Area of Sensitivity associated with the identified site locations may require further investigation under REMM AH10 if impact cannot be avoided.

#### **SP1-P, SP1-R and SP1-Wilp**

Background information review indicated that these proposed access work areas fell within Areas of Sensitivity associated with Wilpinjong and/or Cumbo Creeks. No Aboriginal objects, archaeological sites or areas of Aboriginal archaeological potential were identified at these locations. No Aboriginal heritage constraints associated with the Areas of Sensitivity were identified and the field assessment confirmed that the Areas of Sensitivity do not extend into the proposed work areas. Therefore further investigation (archaeological excavation under REMM AH10) is not required at these areas.

## **5 Impact & Consistency Assessment**

Review of background Aboriginal heritage information including updated AHIMS database searches identified six valid (extant) AHIMS site recordings within the proposed work areas at SP1-Q, SP1-R, SP1-S, SP1-U and SP1-C. Field inspection identified Aboriginal archaeological sites within the proposed work areas at SP1-N, SP1-O, SP1-Q and SP1-T. Outside of the identified site locations, no specific constraints associated with the Aboriginal Areas of sensitivity along Wilpinjong Creek and Cumbo Creek were identified for work areas which overlap these zones. Therefore further investigation (archaeological excavation under REMM AH10) of these areas is not required.

Review of background historical heritage information including updated historical heritage register searches identified one unlisted historical heritage item within the proposed work area at SP1-Q (CWO-22-HH017). Field inspection confirmed the portion of this item which overlaps the proposed work area is highly disturbed with low to no historical archaeological potential.

There are therefore heritage considerations for the proposed works within the following eight areas:

- SP1-Q (36-3-0686 and 36-3-0687, CWO-22-HH017, Wilpinjong Creek Area of Sensitivity)
- SP1-R (36-3-0681)
- SP1-S (36-3-3157)
- SP1-U (36-3-2664)
- SP1-C (36-3-4088)
- SP1-N (Aboriginal site identified during field inspection, Wilpinjong Creek Area of Sensitivity)
- SP1-O (Aboriginal sites identified during field inspection, Wilpinjong Creek Area of Sensitivity)
- SP1-T (Aboriginal site identified during field inspection, Wilpinjong Creek Area of Sensitivity)

#### **Aboriginal heritage impacts**

The sites listed above are located outside of the approved Construction Area and were not considered for impact in the EIS/AR. Impact to these sites is not included under the Project Approval or existing project documentation. Any impact to these sites would not be considered consistent with the Project Approval. Management measures should be employed for access works in proximity to the identified sites to ensure no impact (discussed in Section 6 below).

If impact to the Wilpinjong Creek Area of Sensitivity within the identified site locations at SP1-Q, SP1-N, SP1-O and SP1-T cannot be avoided, further investigation (archaeological test excavation under REMM AH10) may be required.

#### **Historical heritage impacts**

CWO-22-HH017 is partially located within the approved Construction Area and was assessed for partial impact in the EIS/AR. The item exhibits low cultural heritage sensitivity (if archaeological deposits are present) at a local level of significance. No mitigation activities were required for partial impact to the item as a result of the Project, beyond the implementation of the Project's Unexpected Finds Protocol if required. Partial impact to the item as a result of the current proposed works at SP1-Q is therefore not inconsistent with the findings of the EIS/AR or the Project Approval. Management measures should be employed for access works in proximity to the item to ensure consistency (discussed in Section 6 below).

#### **No identified heritage impacts**

No Aboriginal or historical heritage constraints or impacts were identified within the following 29 proposed work areas:

- SP1-H1 and H2
- SP1-I
- SP1-J1 and J2
- SP1-G
- SP1-P
- SP1-Wilp
- SP6-E1
- SP6-C
- SP6-F1
- SP5-A
- SP6-B1
- SP6-X1 and X2
- SP5-D
- SP3-E
- SP6-Y1 (WAD 3)
- SP6-H (WAD 3)
- SP5-F2
- SP3-A
- SP2-I
- ARMSTRONG
- SP5-G
- SP2-F
- SP2-D
- SP5-I1
- Blue Springs Road (WAD 2A)
- Ulan Road (WAD 2B)
- SP6-Z1 and Z2 (WAD 3)
- SP2-H1 and H2 (WAD 4)
- SP5-E1

The proposed works at these 29 locations would be consistent with the Project Approval (resulting in no change to Aboriginal or historical archaeological heritage impacts).

Specifically, CoA B27(a) states that

*The proponent must:*

*ensure the development does not cause any harm to any Aboriginal heritage objects/sites or historic heritage items located outside the approved construction area (see Table 3-1 and Table 3-3 of Appendix 3)*

No Aboriginal heritage objects/sites or historic heritage items have been identified within or near the proposed work areas listed above outside the approved Construction Area. The proposed works would not cause harm to any identified Aboriginal heritage objects/sites or historic heritage items outside the approved Construction Area, including those listed in Table 3-1 and Table 3-3 of CoA Appendix 3. The proposed works are therefore consistent with the requirements of CoA B27a.

## **6 Result and Recommendations**

The proposed access works outside the project boundary may proceed with caution at the 29 areas listed above where no Aboriginal or historical heritage constraints were identified. At the eight areas with identified constraints, the following management measures should be implemented.

### **Aboriginal heritage**

Impacts must be avoided to the AHIMS site recordings and Aboriginal archaeological sites identified during the field inspection. No ground disturbance or impacts are to occur at the Aboriginal site locations or areas as shown on Figures 2-10. Sites must be avoided and should be identified within the relevant activities' Construction Environmental Management Plan (CEMP) and workers/contractors inducted regarding the protection of Aboriginal heritage. Temporary fencing may be appropriate along the site boundaries in proximity to the proposed work areas.

If ground disturbance within the Aboriginal archaeological site locations and areas indicated in Figures 2-10 is avoided, the proposed access works at these locations would be consistent with the Project Approval (resulting in no change to Aboriginal heritage impacts) and may proceed with caution. If site impacts cannot be avoided, this would be inconsistent with the Project Approval and further assessment or approvals may be required. The Wilpinjong Creek Area of Sensitivity associated with the identified site locations at SP1-Q, SP1-N, SP1-O and SP1-T may require further investigation under REMM AH10 if impact cannot be avoided.

### **Historical heritage**

Proposed access works at SP1-Q partially overlap the extent of historical heritage item CWO-22-HH017 (Figure 6). Field inspection confirmed the portion of this item which overlaps the proposed work area is highly disturbed with low to no historical archaeological potential, consistent with the findings of the EIS/AR. Partial impact to the item was included in the EIS/AR.

Partial impact to the item as a result of the current proposed works at SP1-Q is therefore not inconsistent with the findings of the EIS/AR or the Project Approval (resulting in no change to existing historical heritage impacts) and can proceed with caution. The Project's Unexpected Finds Protocol must be implemented in the event of a potential heritage find within CWO-22-HH017 during the proposed works, consistent with the recommendations of the EIS/AR.

If you have any questions, please do not hesitate to contact me on 9232 5373 or at [matthew.kelleher@knconsult.com.au](mailto:matthew.kelleher@knconsult.com.au)

Yours sincerely,



Dr Matthew Kelleher  
Director/Archaeologist  
Kelleher Nightingale Consulting Pty Ltd

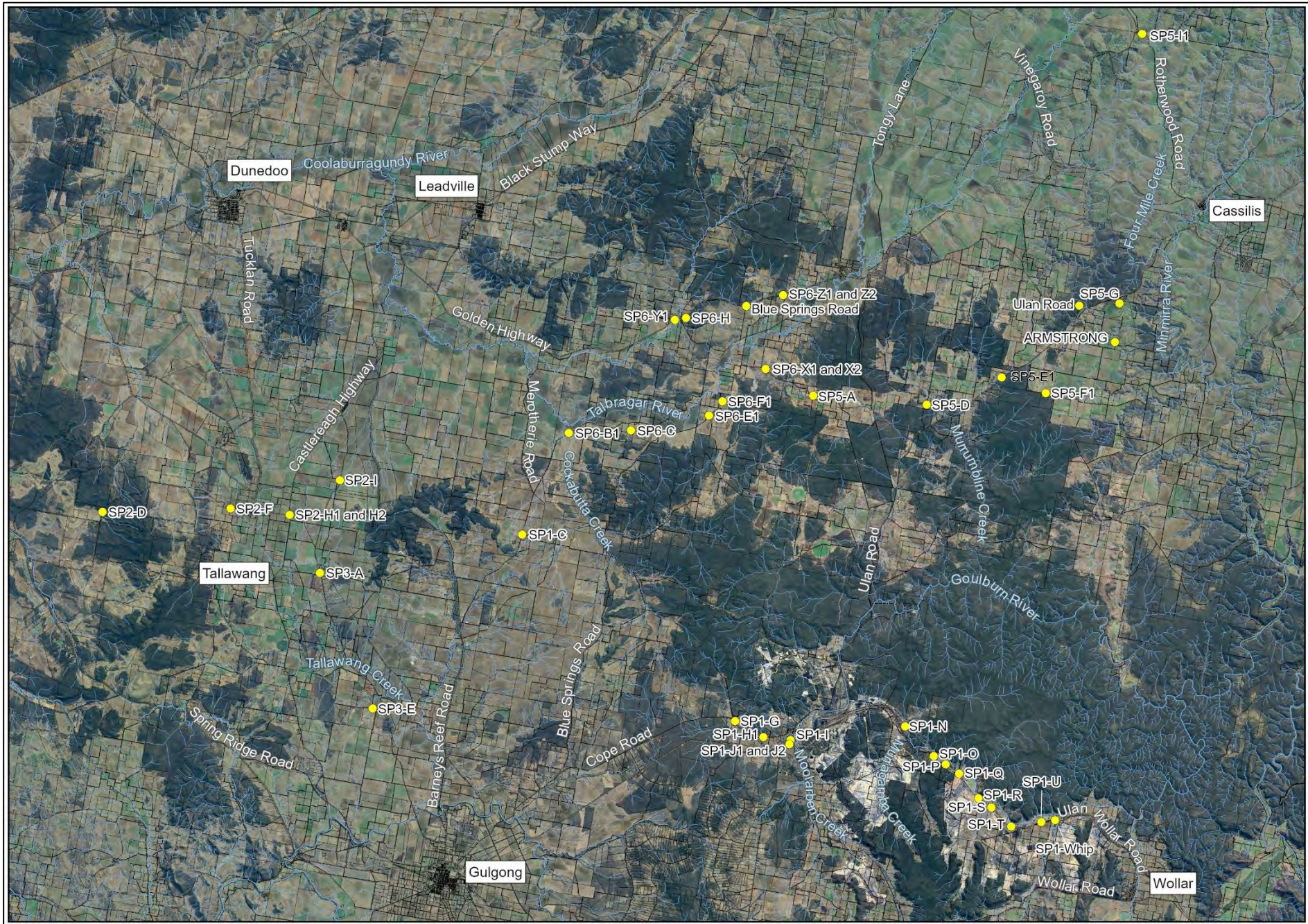


Figure 1. Overview map showing general location of proposed work areas



Figure 2. Recorded AHIMS site at SP1-R. Base image Google Earth.



Figure 3. Recorded AHIMS site at SP1-S. Base image Google Earth.



Figure 4. Recorded AHIMS site at SP1-U. Base image Google Earth.



Figure 5. Recorded AHIMS site at SP1-C. Base image Google Earth.

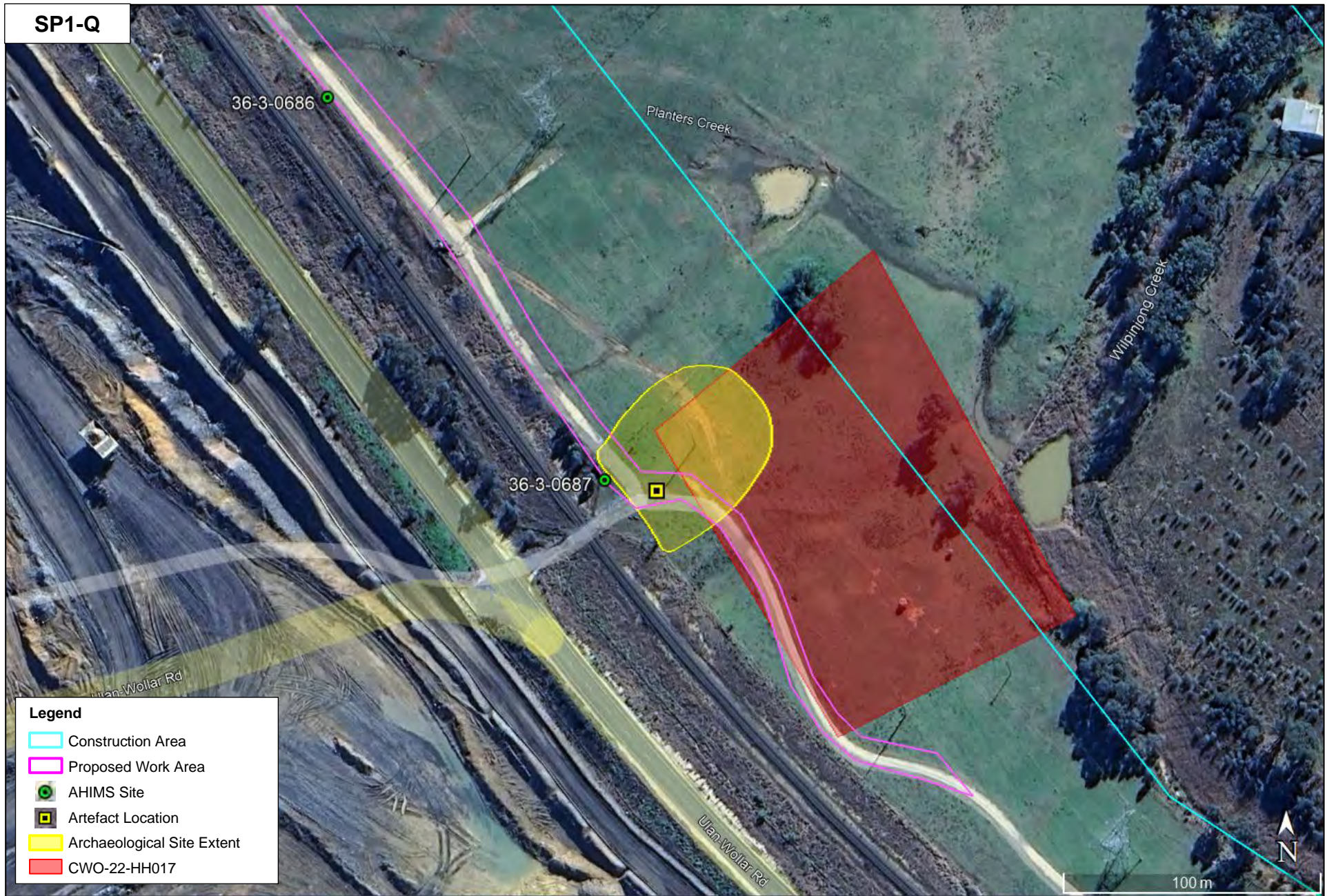


Figure 6. CWO-22-HH017, recorded AHIMS sites and archaeological site location at SP1-Q

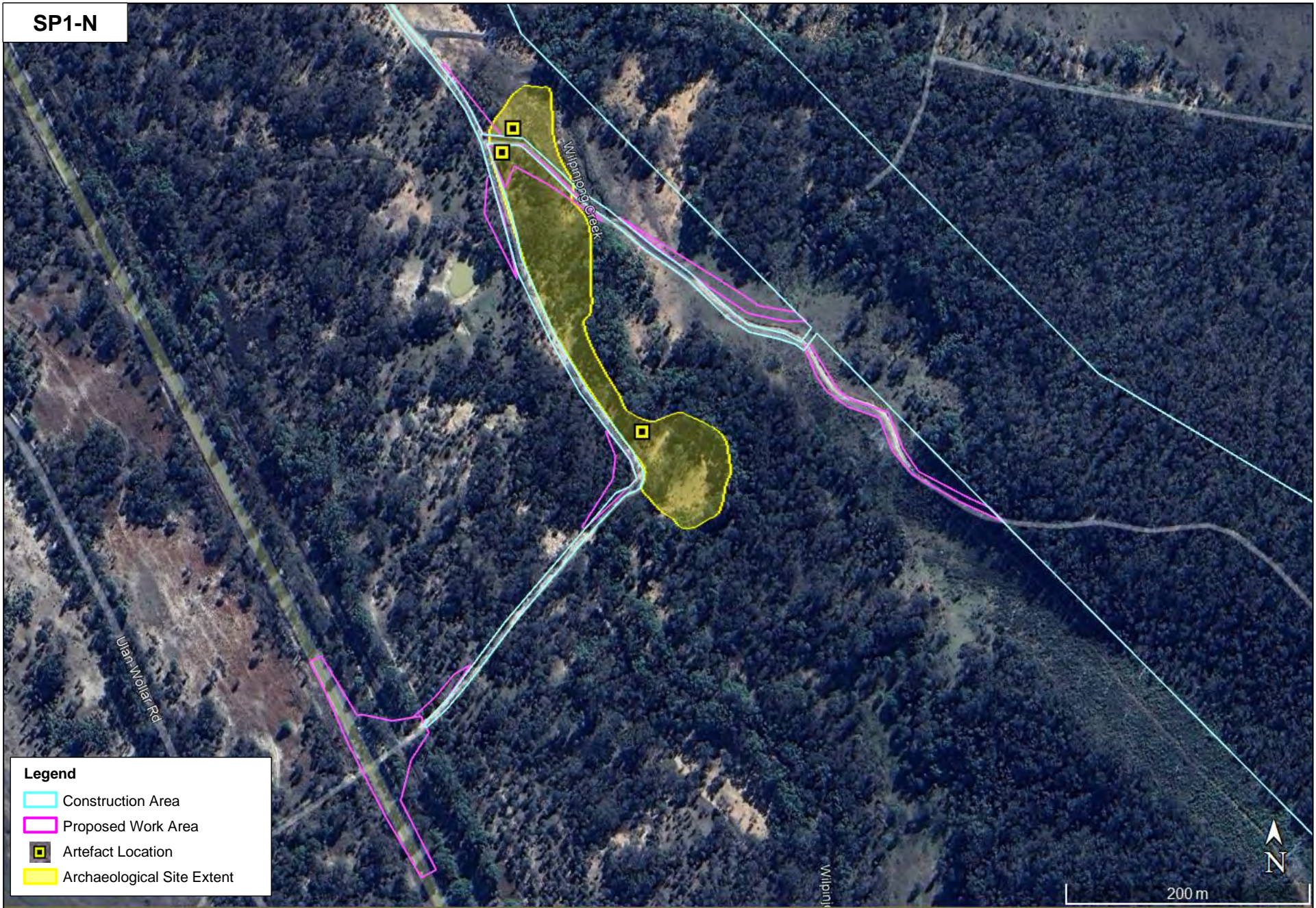


Figure 7. Archaeological site location at SP1-N. Base image Google Earth.



Figure 8. Archaeological site locations at SP1-O (north western)



Figure 9. Archaeological site location at SP1-O (south eastern)



Figure 10. Archaeological site location at SP1-T

# BAM Report

Central West Orana:  
Proposed Access Points

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**Prepared for:** ACCIONA Cobra Joint Venture

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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	Proposed Access Points (SP1-I, SP3-E, SP5-G and SP3-A), which fall outside 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

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## 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 four proposed Access Points (SP1-I, SP3-E, SP5-G and SP3-A), as part of the approved Central West Orana Project (SSI-48323210) (the Project). The CA assesses the Access Points, which fall outside the approved Project disturbance footprint (the Proposed Change). This BAM Report will assess the biodiversity values associated with the Proposed Change in accordance with the requirements of the *Biodiversity Conservation Act 2016* (BC Act) (NSW) and *Biodiversity Conservation Regulation 2017* (NSW).

This BAM Report aims to:

- Describe the biodiversity values present within the additional areas, including the extent of native vegetation and the presence of Threatened Ecological Communities (TECs)
- Determine the habitat suitability within the additional areas for candidate threatened species, and
- Consider and assess the Proposed Change in accordance with other relevant legislation such as the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The approved Biodiversity Development Assessment Report (BDAR) (WSP, 2024) addresses the direct impacts of the Project within the approved Construction Boundary and the indirect impacts of the Project within the immediate surrounds. This BAM Report assesses the biodiversity values associated with the Proposed Change only and does not include an assessment of the total Project impacts. This BAM Report relies on information provided within the approved BDAR (WSP, 2024) and the assessment of threatened entities at the time of approval.

All biodiversity assessments have been carried out using the BAM (DPIE, 2020a), and this report has been prepared by Jade Minto and Dr. Jack Tatler (BAAS21006).

## 1.2 Assessment Area

The proposed footprint of each Access Point (SP1-I, SP3-E, SP5-G and SP3-A) (the 'Subject Land') and a 1,500m buffer zone comprise the Assessment Area for this BAM Report. The approximate size and location of each Access Point is provided below:

- SP1-I (1.86ha) within Lot 293/ DP719007, Lot 291/ DP720330, Lot 1/ DP722879 and the road reserve
- SP3-E (0.84ha) within Lot 150/ DP750762, Lot 195/ DP750762 and the road reserve
- SP5-G (3.72ha) within Lot 1/ DP1289109, Lot 7008/ DP1026534, Lot 2/ DP1289109, Lot 6/ DP254128, Lot 4/ DP254128, the road reserve and the edge of Durridgere State Conservation Area, and
- SP3-A (3.01ha) within Lot 4338/ DP1216553, Lot 1/ DP1099131, Lot 1/ DP618310, Lot 41/ DP1248995 and the road corridor.

The Assessment Area is located within the Warrumbungle, Mid-Western Regional and Upper Hunter 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, 2025)
  - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2025a)
  - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2025b)
  - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2025c)
  - NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024)
  - BAM Important Habitat Maps (NSW DCCEEW, 2025d).
- Vegetation and Soil Mapping:
  - The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2025f)
  - eSPADE v2.2.0 (NSW DCCEEW, 2025e)
- NSW State Guidelines:
  - Biodiversity Assessment Method (DPIE, 2020a)
  - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE, 2020b).

### 1.3.1 Other Documentation

The following project-specific documentation was utilised in the preparation of this report:

- Technical paper 4 – Biodiversity Development Assessment Report (WSP, 2024)
- Central-West Orana Renewable Energy Zone Transmission project, Amendment Report (EnergyCo, 2024), and
- Central-West Orana Transmission Project, Biodiversity Assessment Verification Report (ecoplanning, 2025).

## 2. METHODS

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### 2.1 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

#### 2.1.1 Existing Information

A review of the vegetation mapping conducted as part of the approved BDAR (WSP, 2024) and the State Vegetation Type Map (NSW DCCEEW, 2025f) was used to assist in the identification of Plant Community Types (PCTs) within the Subject Land.

#### 2.1.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet. The PCT of 'best-fit' was determined based on the floristics observed during the field surveys and the PCT descriptions and justifications in the approved BDAR. Native vegetation assigned to a PCT was then stratified into vegetation zones based on the vegetation zones used in the approved BDAR. Some areas within the Subject Land consist of non-native vegetation only and have been allocated to PCT 0, and labelled '0, Miscellaneous ecosystem' to be consistent with the approved BDAR. The PCTs used in this Biodiversity Assessment are consistent with the approved BDAR.

#### 2.1.1 Vegetation Integrity Survey

At least one, 1,000m<sup>2</sup> BAM plot has been sampled within each PCT and condition class to ensure allocation of PCTs and vegetation zones was consistent with the descriptions and justifications provided in the approved BDAR.

### 2.2 Threatened Flora Survey

#### 2.2.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

#### 2.2.2 Field Surveys

To determine whether any threatened flora species were present, a survey was undertaken using parallel field traverses in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE, 2020b).

### 2.3 Threatened Fauna Survey

#### 2.3.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of the approved BDAR. Soil mapping (NSW DCCEEW, 2025e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

### 2.3.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows) present within the Subject Land and immediate surrounds. Potential habitat constraints within the Assessment Area (1,500m buffer) were assessed using Google Earth and soil landscape mapping (NSW DCCEE, 2025e) as well as habitat constraints identified in the approved BDAR.

### 2.3.3 Field Surveys

Threatened fauna were recorded opportunistically but their habitats were targeted during the parallel field traverses.

## 2.4 Presence/ Absence of Threatened Species

Due to the critical nature of the assessment and narrow completion window, the only threatened species surveys completed were for potentially occurring flora. However, information collected during the desktop assessment, including review of the approved BDAR, as well as data collected during field surveys were used to determine which species could be excluded within the Subject Land based on known habitat constraints and/ or geographic restrictions. When assessing the presence/ absence of threatened species as part of this assessment, consideration was given to the targeted surveys undertaken as part of the approved BDAR. Comprehensive targeted surveys were undertaken for a range of species across the project alignment as part of the approved BDAR. Where applicable, the results from these targeted surveys were used to assist in the likelihood of a given threatened species occurring within the Subject Land. The exclusion/ assumed presence of threatened species has been determined in the approved BDAR per IBRA subregion, where a species has been excluded/ assumed present within an IBRA subregion, the same has been done in this biodiversity assessment and the relevant justification from the approved BDAR has been used.

Updates to the BAM-C and species listings under the BC Act or EPBC Act since finalisation of the approved BDAR may result in the identification of new Species Credit species. Only candidate Species Credit species included at the time of approval were considered in this assessment.

Where a species is assumed to be present and the unit of measure is 'counts of individuals', the number of individuals likely to be present within the Subject Land was estimated with reference to the approved BDAR.

## 2.5 Weather Conditions

Field surveys were undertaken by ECE on the 7<sup>th</sup>, 25<sup>th</sup>-27<sup>th</sup> of November and the 9<sup>th</sup>, 10<sup>th</sup> and 17<sup>th</sup> of December 2024. 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, 2024).**

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
Field surveys - vegetation mapping, targeted flora surveys and fauna habitat surveys	07/11/2024	Thursday	16.7	32.9	1.0
	25/11/2024	Monday	15.2	34.1	0
	26/11/2024	Tuesday	15.4	33.6	0
	27/11/2024	Wednesday	15.1	31.8	0

Timing/activities	Date	Day	Temperature °C		Rainfall (mm)
			Min	Max	
	09/12/2024	Monday	17.7	29.2	0
	10/12/2024	Tuesday	15.1	30.1	0
	17/12/2024	Tuesday	16.3	35.0	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). Areas of SP3-E that occur within private property were inspected from a distance due to access constraints.

## 3. SP1-I

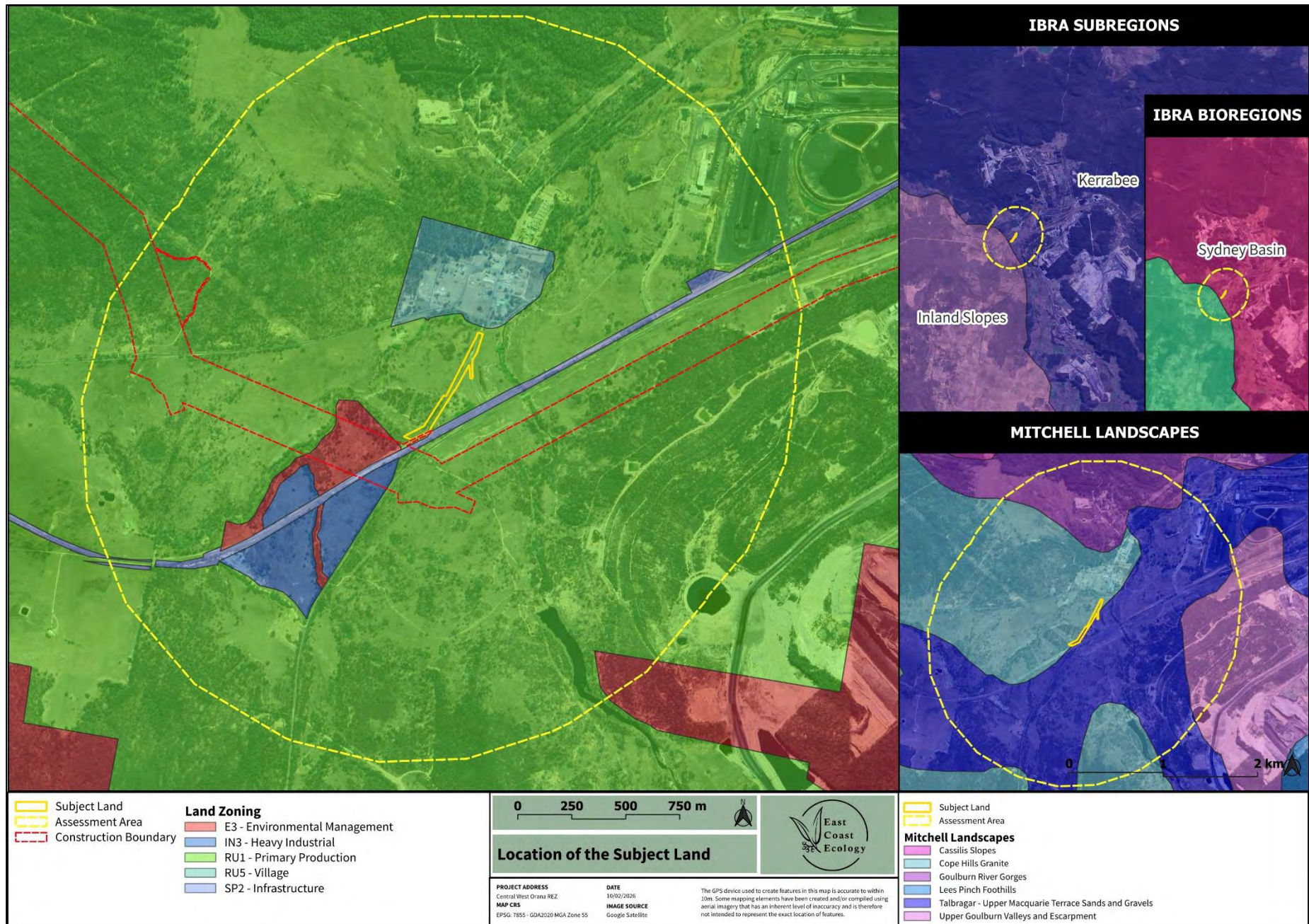
### 3.1 Landscape Context

Landscape context for the Assessment Area has been provided within **Table 2** below.

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2025f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

**Table 2. Landscape Context for the Assessment Area.**

Feature	Subject Land
<b>IBRA Bioregion</b>	Sydney Basin
<b>IBRA Subregion</b>	Kerrabee
<b>Mitchell Landscape</b>	Cope Hills Granite and Talbragar - Upper Macquarie Terrace Sands and Gravels
<b>Rivers, streams, estuaries and wetlands</b>	No watercourses intersect the Subject Land. Sportsmans Hollow Creek, a 5 <sup>th</sup> order watercourse, is located approximately 56m north of the Subject Land.  1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> , 5 <sup>th</sup> and 6 <sup>th</sup> order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
<b>Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance</b>	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Potential areas of geological significance (i.e. rocky areas) have been mapped within the 1,500m buffer area (WSP, 2024).
<b>Topography, Geology and Soils</b>	Ulan soil landscape: low undulating rises and flats. Shale, sandstone, conglomerate, chert, coal and torbanite seams. Approximately 420-430m above sea level (asl).
<b>Habitat Connectivity</b>	The Subject Land is connected to small patches of native vegetation which eventually join up with larger patches of native vegetation ( <b>Figure 2</b> ). It is not considered likely that threatened species would be reliant on the Subject Land as a movement corridor as it occurs in a disturbed landscape.
<b>Areas of Outstanding Biodiversity Value</b>	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
<b>Total Area of Native Vegetation Cover (ha) (1,500m buffer)</b>	451.56
<b>Percentage of Native Vegetation Cover (%) (1,500m buffer)</b>	51
<b>Patch Size Class (&lt;5 ha, 5-&lt;25 ha, 25-&lt;100 ha, and ≥100 ha)</b>	≥100



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



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

## 3.2 Stage 1 – Native Vegetation Identification

### 3.2.1 Historically Mapped Vegetation

The approved BDAR identified one PCT immediately adjacent to the Subject Land:

- PCT 281: Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South western slopes Bioregion and Brigalow Belt South Bioregion.

PCT 281 is associated with the following threatened ecological communities:

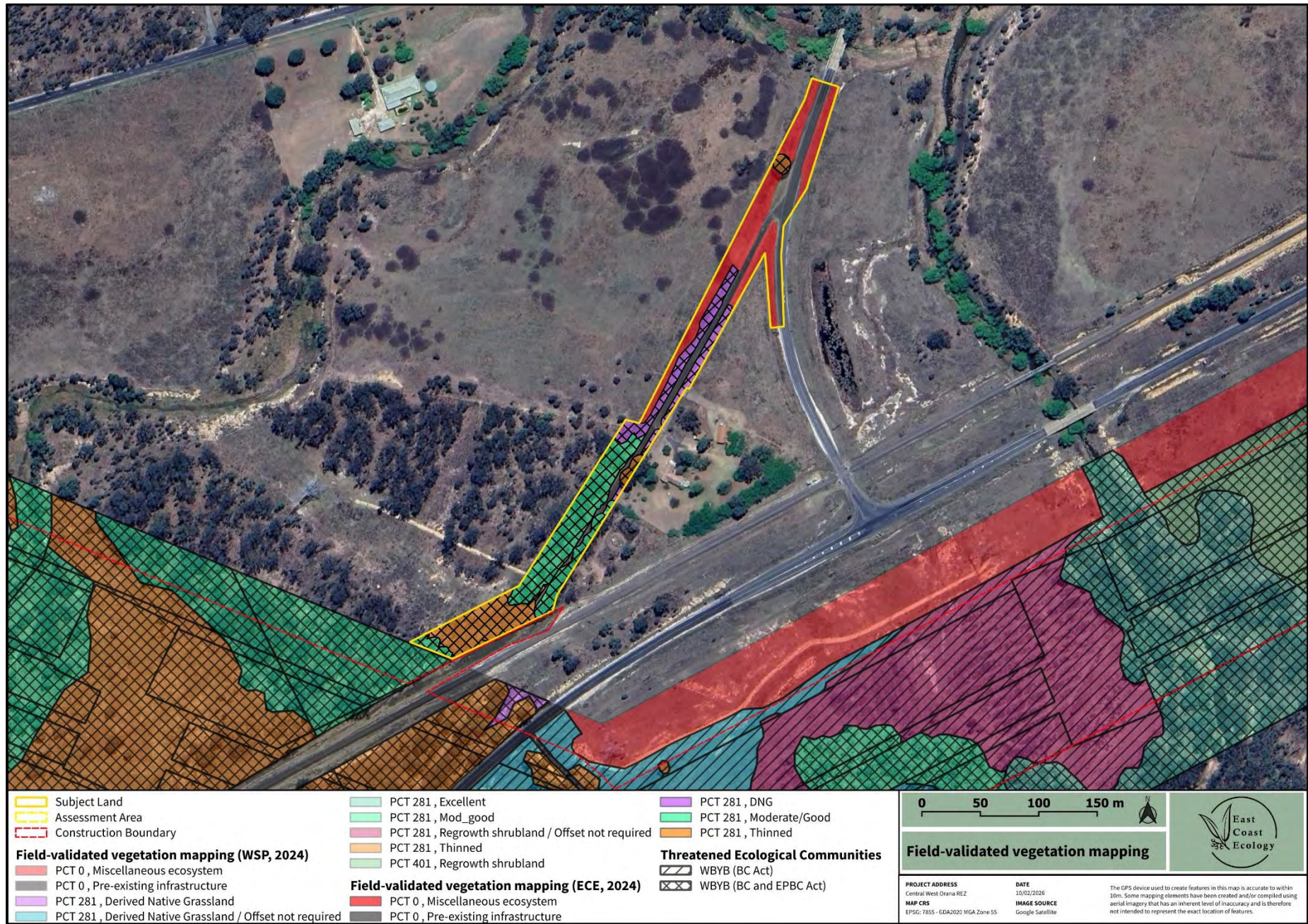
- White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (WBYB)-critically endangered ecological community (EPBC Act).

### 3.2.2 Field-validated Vegetation

Vegetation within the Subject Land has been confirmed as aligning with the PCT’S and vegetation zones identified within the approved BDAR (WSP, 2024) (**Table 3, Figure 3**).

**Table 3. PCTs identified within the Subject Land.**

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	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	0.48	Moderate/Good	(WBYB BC and EPBC Act)	Yes
		0.28	Thinned	(WBYB BC and EPBC Act)	Yes
		0.22	Derived Native Grassland (DNG)	(WBYB BC and EPBC Act)	Yes
0	Miscellaneous ecosystem	0.52	-	-	-
0	Pre-existing infrastructure	0.36	-	-	-
<b>Total Area</b>		<b>1.86</b>			



**Figure 3. Field-validated vegetation mapping within the Subject Land.**

### 3.3 Stage 2 – BAM Assessment

#### 3.3.1 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).

##### 3.3.1.1 Species Credit Species

This section provides a summary of the Candidate Species Credit fauna and flora species for the Subject Land derived from the approved BDAR (WSP, 2024) (**Table 4**). A summary of the targeted survey effort applied to each species is provided in **Table 4** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 26 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty (20) of the 26 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining six species were assumed present within the Subject Land.

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

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	-	Yes.	No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Anthochaera phrygia</i>	Regent Honeyeater (Breeding)	Yes	Yes. Habitat constraints present. Habitat Constraint: Important Habitat Map.	N/A	<b>Assumed present</b> – mapped on Important Habitat Map
<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>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>Callocephalon 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)	-	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	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?
			Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	-	No. Targeted surveys as part of the approved BDAR did not detect this species within PCT 281 nearby. No species polygons were created for this species in adjacent PCT 281 in the approved BDAR.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Yes	Yes. Habitat constraints likely present.  Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	No (WSP). No (ECE).	<b>Assumed present</b> –consistent with the approved BDAR (WSP, 2024).
<i>Eucalyptus camaldulensis</i>	<i>Eucalyptus camaldulensis</i> population in the Hunter catchment	-	Yes.	Yes (ECE).	No.
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.  Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers, lakes, large dams or creeks, wetlands and coastlines.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Hieraetus morphnoides</i>	Little Eagle (Breeding)	-	No. Habitat constraints absent.  Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).		
<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 absent. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<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>Ninox connivens</i>	Barking Owl	-	No. Habitat constraints absent. Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

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.		
			No. Habitat constraints absent.		
<i>Ninox strenua</i>	Powerful Owl	-	Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.  Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Petaurus norfolcensis</i>	Squirrel Glider	-	Yes. However, species excluded from patches of derived native grassland as per the approved BDAR (WSP, 2024).	No (ECE).	<b>Assumed present</b> – 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).  Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Phascolarctos cinereus</i>	Koala	-	No. Species excluded through extensive and exhaustive surveys undertaken as part of the approved BDAR.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	-	Yes.	Yes (ECE)	No.

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Pomaderris queenslandica</i>	Scant Pomaderris	-	Yes.	Yes (ECE)	No.
<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	-	Yes.	No (ECE)	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<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
<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>Tyto novaehollandiae</i>	Masked Owl	-	No. Habitat constraints absent.  Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	Yes	Yes. Habitat constraints likely present.  Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds."	Yes (WSP). No (ECE).	<b>Assumed present</b> – 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												
Regent Honeyeater	Assessed via Important Habitat Map											
Large-eared Pied Bat												
Squirrel Glider												
Eastern Cave Bat												
Tarengo Leek Orchid												
<b>Key</b>	= NSW DCCEEW endorsed survey period											

### 3.4 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	0.48
		Thinned	0.28
		Derived Native Grassland	0.22

**Table 7. Assumed present Species Credit species.**

Species	Vegetation Zone	Area (ha)
<i>Acacia ausfeldii</i> Ausfeld's Wattle	281_Moderate/Good	0.48
	281_Thinned	0.28
	281_DNG	0.22
<i>Anthochaera phrygia</i> Regent Honeyeater	281_Moderate/Good	0.21

Species	Vegetation Zone	Area (ha)
(Breeding)	281_Thinned	0.18
	281_DNG	0.02
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	281_Moderate/Good	0.48
	281_Thinned	0.28
<i>Petaurus norfolcensis</i> Squirrel Glider	281_Moderate/Good	0.48
	281_Thinned	0.28
<i>Prasophyllum petilum</i> Tarengo Leek Orchid	281_Moderate/Good	0.48
	281_Thinned	0.28
	281_DNG	0.22
<i>Vespadelus troughtoni</i> Eastern Cave Bat	281_Moderate/Good	0.48
	281_Thinned	0.28

### 3.5 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified, or assumed present, within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded
- Regent Honeyeater – assumed present
- Large-eared Pied Bat – assumed present, and
- Eastern Cave Bat – assumed present.

## 4. SP3-E

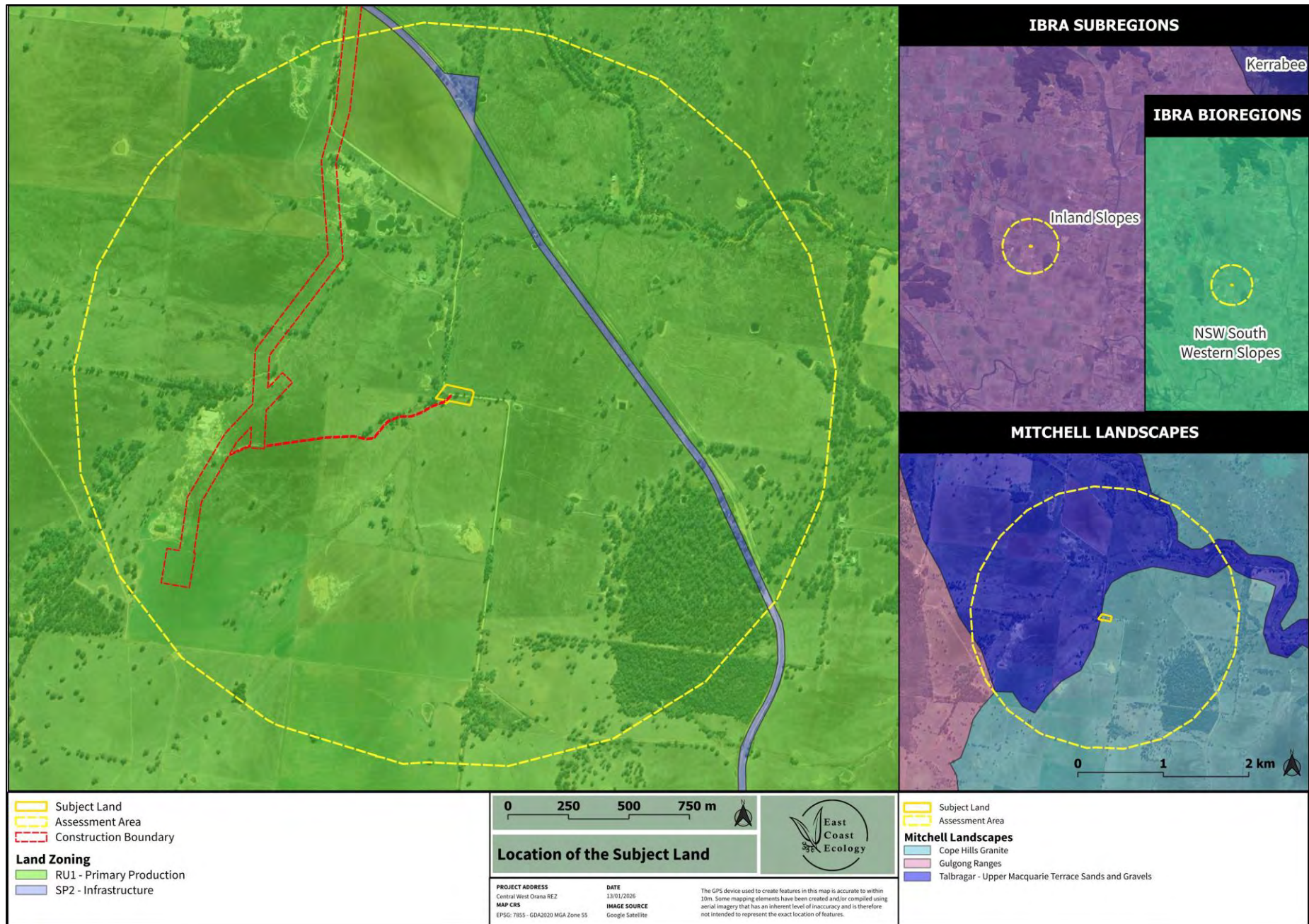
### 4.1 Landscape Context

Landscape context for the Assessment Area has been provided within **Table 8** 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 (DCCEE, 2025f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

**Table 8. Landscape Context for the Assessment Area.**

Feature	Subject Land
<b>IBRA Bioregion</b>	NSW South Western Slopes
<b>IBRA Subregion</b>	Inland Slopes
<b>Mitchell Landscape</b>	Cope Hills Granite and Talbragar - Upper Macquarie Terrace Sands and Gravels
<b>Rivers, streams, estuaries and wetlands</b>	No watercourses intersect the Subject Land. An unnamed 2 <sup>nd</sup> order watercourse occurs approximately 48m west of the Subject Land.  1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> and 5 <sup>th</sup> order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
<b>Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance</b>	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Cliffs and other areas of potential geological significance (e.g. caves) occur within the 1,500m buffer area.
<b>Topography, Geology and Soils</b>	Home rule soil landscape: undulating low hills. Sediment derived from the Gulgong and Rouse Granites. Approximately 446m asl.
<b>Habitat Connectivity</b>	The Subject Land primarily consists of roadside vegetation and grassland ( <b>Figure 5</b> ). Minor habitat connectivity is provided by remnant roadside vegetation. Given the location within an agricultural landscape, it is not considered likely that threatened species would be reliant on the Subject Land as a movement corridor.
<b>Areas of Outstanding Biodiversity Value</b>	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
<b>Total Area of Native Vegetation Cover (ha) (1,500m buffer)</b>	119.39
<b>Percentage of Native Vegetation Cover (%) (1,500m buffer)</b>	16
<b>Patch Size Class (&lt;5 ha, 5-&lt;25 ha, 25-&lt;100 ha, and ≥100 ha)</b>	<5ha



**Figure 4. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.**



**Figure 5. Strahler stream order, waterbodies, native vegetation and habitat connectivity.**

## 4.2 Stage 1 – Native Vegetation Identification

### 4.2.1 Historically Mapped Vegetation

The approved BDAR identified one PCT immediately adjacent to the Subject Land:

- PCT 281: Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South western slopes Bioregion and Brigalow Belt South Bioregion.

PCT 281 is associated with the following threatened ecological communities:

- White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (WBYB)-critically endangered ecological community (EPBC Act).

### 4.2.2 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 9, Figure 6**).

**Table 9. 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	0.21	Thinned	WBYB (BC and EPBC Act)	Yes
		0.55	Derived Native Grassland	WBYB (BC and EPBC Act)	Yes
0	Pre-existing infrastructure	0.07	-	-	-
<b>Total Area</b>		<b>0.83</b>			



**Figure 6. Field-validated vegetation mapping within the Subject Land.**

## 4.3 Stage 2 – BAM Assessment

### 4.3.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Inland Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

#### 4.3.1.1 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 10**). A summary of the targeted survey effort applied to each species is provided in **Table 10** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-six (26) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining four species were assumed present within the Subject Land.

**Table 10. Candidate Species Credit Species predicted to occur within the Subject Land.**

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	-	Yes.	No (ECE).	<b>Assumed present</b> - 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>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>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>Callocephalon fimbriatum</i>	Gang-gang Cockatoo (Breeding)	-	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo (breeding)	-	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	-	Yes. However, species excluded from patches of derived native grassland and no species polygons created for areas of DNG adjacent to the Subject Land in the approved BDAR (WSP, 2024). Species adequately surveyed in PCT 281_DNG (WSP, 2024).	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	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.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Dichanthium setosum</i>	Bluegrass	-	No. Habitat constraints absent.  Habitat constraints: Areas of basalt geology.  Assumed species polygons have been restricted to areas of basalt geology within the approved BDAR.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Euphrasia arguta</i>	-	Yes.	Yes.	Yes (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent.  Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.  Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers,	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			lakes, large dams or creeks, wetlands and coastlines.		
<i>Hieraetus morphnoides</i>	Little Eagle (Breeding)	-	No. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species. No further assessment required.  Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). No (ECE).	Excluded– 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 absent.  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>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>Myotis macropus</i>	Southern Myotis	-	No. Habitat constraints absent.  Habitat Constraints: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Ninox connivens</i>	Barking Owl	-	No. Habitat constraints absent.  Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.  Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Ninox strenua</i>	Powerful Owl	-	No. Habitat constraints absent.  Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.  Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Petaurus norfolcensis</i>	Squirrel Glider	-	Yes. However, species excluded from patches of derived native grassland and no species polygons created for areas of DNG adjacent to the Subject	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			Land in the approved BDAR (WSP, 2024). Species adequately surveyed in PCT 281_DNG (WSP, 2024). No. Habitat constraints absent.		the approved BDAR (WSP, 2024).
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Yes	Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).  Habitat constraints: Land within 1km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	-	No. Suitable habitat deemed not to be present (WSP, 2024).	No (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Phascolarctos cinereus</i>	Koala	-	No. Species excluded through extensive and exhaustive surveys undertaken as part of the approved BDAR.	Yes (WSP) No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	-	Yes.	Yes (ECE).	No.
<i>Pomaderris queenslandica</i>	Scant Pomaderris	-	Yes.	Yes (ECE).	No.
<i>Polytelis swainsonii</i>	Superb Parrot (Breeding)	-	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey undertaken as part of the approved BDAR.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	-	Yes.	No (ECE).	<b>Assumed present</b> –consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<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
<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>Swainsona sericea</i>	Silky Swainson-pea	-	Yes.  No. Habitat constraints absent.	Yes (ECE)	No.
<i>Tyto novaehollandiae</i>	Masked Owl	-	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).

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**Table 11. Survey periods for assumed present species credit species.**

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle												
Eastern Pygmy-possum												
Squirrel Glider												
Tarengo Leek Orchid												
<b>Key</b>	= NSW DCCEEW endorsed survey period											

#### 4.4 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 12** and **Table 13**.

**Table 12. 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	0.21
		Derived Native Grassland	0.55

**Table 13. Assumed present Species Credit species.**

Species	Vegetation Zone	Area (ha)
<i>Acacia ausfeldii</i> Ausfeld's Wattle	281_Thinned	0.21
	281_DNG	0.55
<i>Cercatetus nanus</i> Eastern Pygmy-possum	281_Thinned	0.21
<i>Petaurus norfolcensis</i> Squirrel Glider	281_Thinned	0.21
<i>Prasophyllum petilum</i> Tarengo Leek Orchid	281_Thinned	0.21
	281_DNG	0.55

## 4.5 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified, or assumed present, within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

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## 5. SP5-G

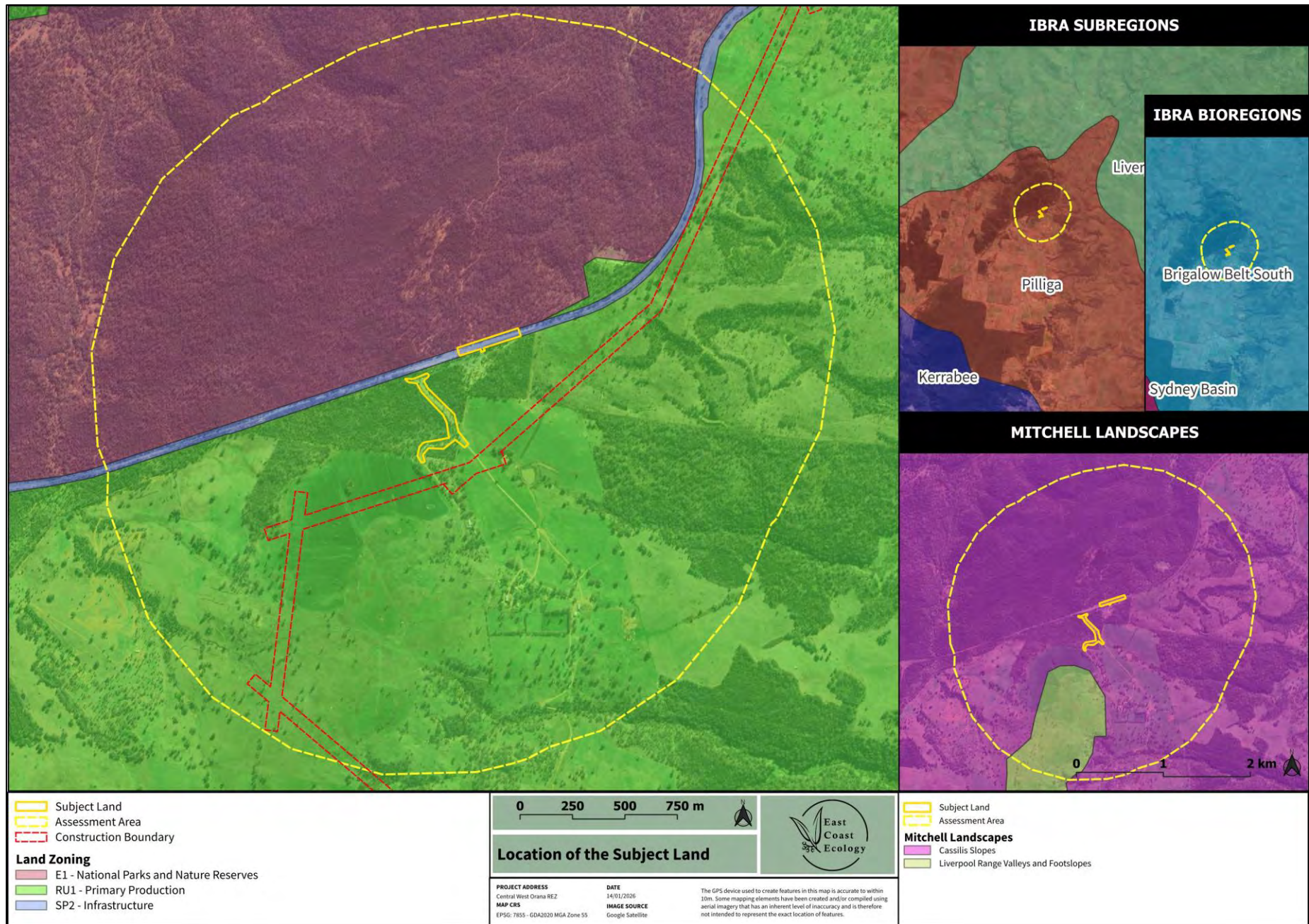
### 5.1 Landscape Context

Landscape context for the Assessment Area has been provided within **Table 14** below.

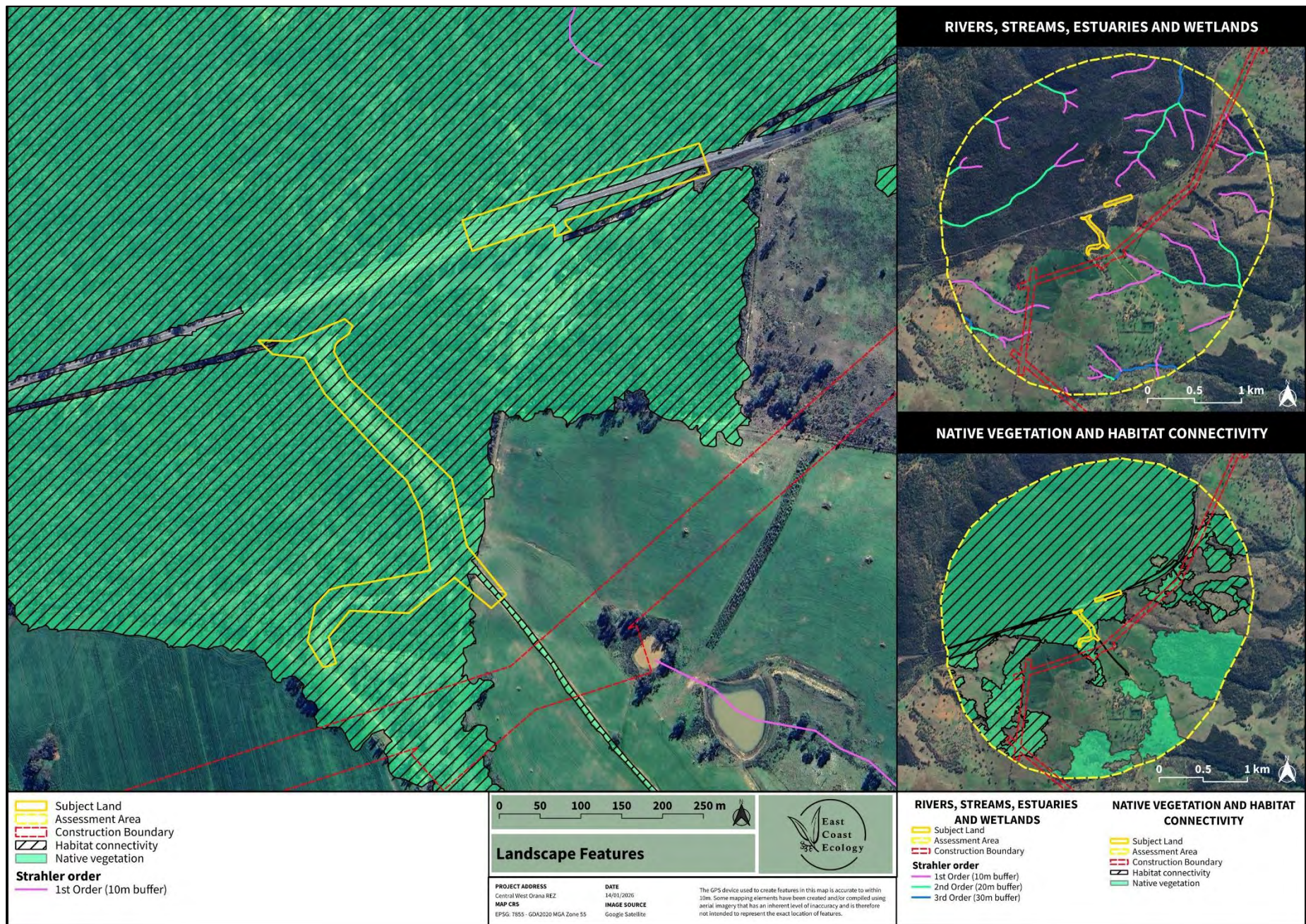
Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEE, 2025f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

**Table 14. Landscape Context for the Assessment Area.**

Feature	Subject Land
<b>IBRA Bioregion</b>	Brigalow Belt South
<b>IBRA Subregion</b>	Pilliga
<b>Mitchell Landscape</b>	Cassilis Slopes
<b>Rivers, streams, estuaries and wetlands</b>	No watercourses intersect the Subject Land. 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
<b>Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance</b>	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. Potential areas of geological significance (i.e. rocky areas) have been mapped within the 1,500m buffer area (WSP, 2024).
<b>Topography, Geology and Soils</b>	Goonoo soil landscape: undulating rises and low hills on Pilliga Sandstone. Approximately 485m asl.
<b>Habitat Connectivity</b>	The Subject Land is located between two large areas of connected habitat ( <b>Figure 8</b> ). Given the location on the edge of higher quality habitat, it is not considered likely that threatened species would be reliant on the Subject Land as a movement corridor.
<b>Areas of Outstanding Biodiversity Value</b>	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
<b>Total Area of Native Vegetation Cover (ha) (1,500m buffer)</b>	660.02
<b>Percentage of Native Vegetation Cover (%) (1,500m buffer)</b>	67
<b>Patch Size Class (&lt;5 ha, 5-&lt;25 ha, 25-&lt;100 ha, and ≥100 ha)</b>	≥100



**Figure 7. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.**



**Figure 8. Strahler stream order, waterbodies, native vegetation and habitat connectivity.**

## 5.2 Stage 1 – Native Vegetation Identification

### 5.2.1 Historically Mapped Vegetation

The approved BDAR identified one PCT immediately adjacent to the Subject Land:

- PCT 599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion.

PCT 599 is associated with the following threatened ecological communities:

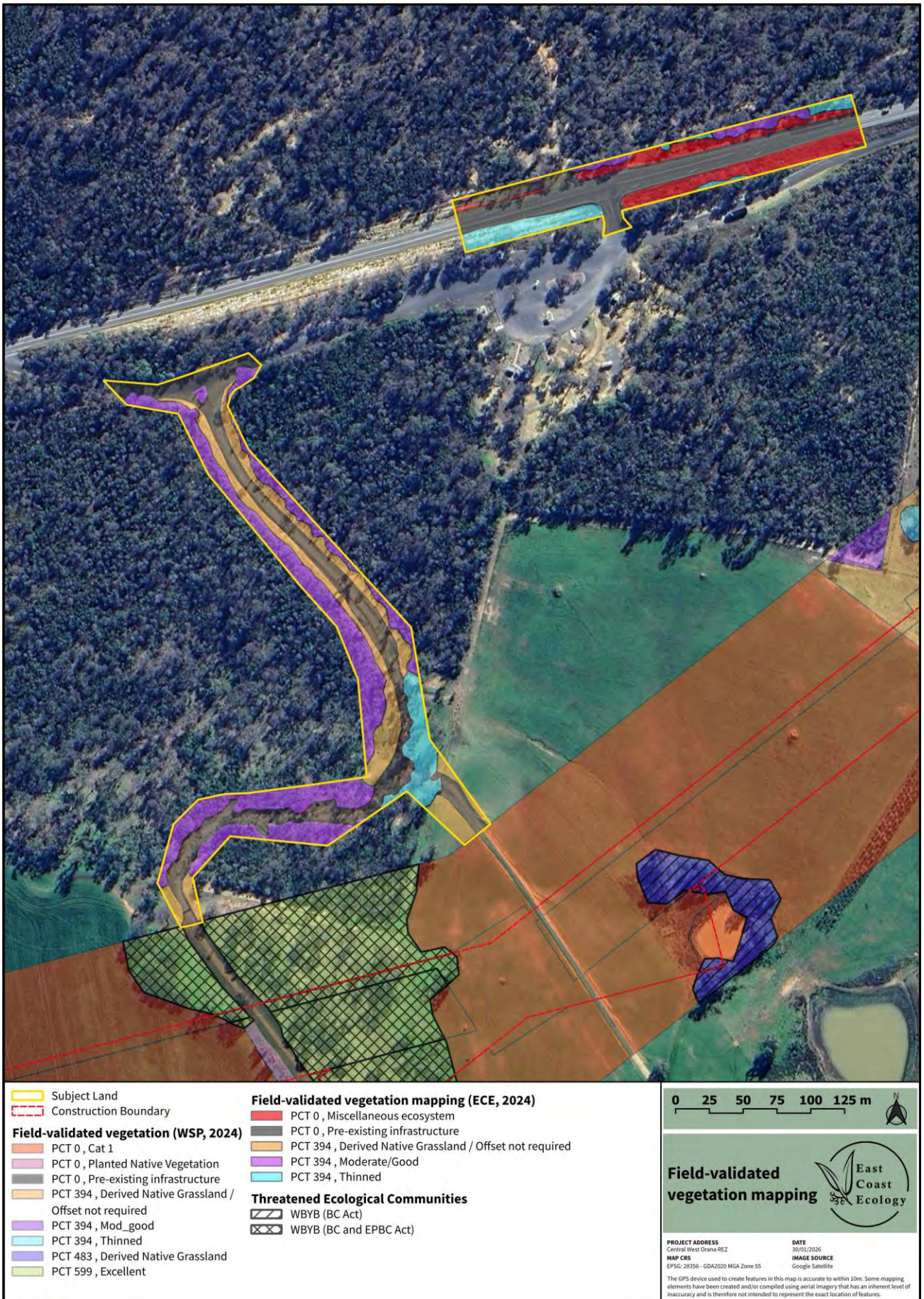
- White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (WBYP) – critically endangered ecological community (BC Act)
- White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (WBYP)- critically endangered ecological community (EPBC Act)

### 5.2.2 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 15, Figure 9**).

**Table 15. PCTs identified within the Subject Land.**

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	SAII
		1.06	Moderate/Good	-	-
394	Narrow-leaved Ironbark - White Cypress pine woodland on slopes and flats in the Coonabarabran - Pilliga Scrub regions	0.35	Thinned	-	-
		0.55	Derived Native Grassland/ Offset not required	-	-
0	Miscellaneous ecosystem	0.38	-	-	-
0	Pre-existing infrastructure	1.37	-	-	-
<b>Total Area</b>					



**Figure 9. Field-validated vegetation mapping within the Subject Land.**

## 5.3 Stage 2 – BAM Assessment

### 5.3.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 394 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).

#### 5.3.1.1 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 16**). A summary of the targeted survey effort applied to each species is provided in **Table 16** 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 19 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Thirteen (13) of the 19 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining six species were assumed present within the Subject Land.

**Table 16. Candidate Species Credit Species predicted to occur within the Subject Land.**

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Aepyprymnus rufescens</i>	Rufous Bettong	-	No. Species excluded as it is considered a vagrant (WSP, 2024).	N/A	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo (breeding)	-	No. Habitat constraints present however this species has been excluded from the Pilliga Subregion in the approved BDAR through extensive survey and a lack of suitable foraging and breeding habitats present (WSP, 2024).  Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	-	Yes. However, targeted surveys as part of the approved BDAR did not detect this species within, PCT 394 Derived Native Grassland (DNG) nearby. No species polygons were created for this species in adjacent Derived Native Grassland in the approved BDAR.	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Yes	Yes. Habitat constraints likely present.  Habitat Constraint: Cliffs; Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	No (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Hieraaetus morphnoides</i>	Little Eagle (Breeding)	-	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).

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).		
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	-	Yes.	Yes (WSP). No (ECE).	<b>Assumed present</b> – 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 absent. Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species. Habitat constraint: Nest trees.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<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>Monotaxis macrophylla</i>	Large-leafed Monotaxis	-	No. Suitable habitat deemed not to be present (WSP, 2024).	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>Ninox connivens</i>	Barking Owl	-	<p>Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted.</p> <p>Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow &gt;20cm diameter that occurs &gt;4m above the ground.</p>	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Ninox strenua</i>	Powerful Owl	-	<p>No. Habitat constraints present however extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.</p> <p>Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow &gt;20 cm diameter that occurs &gt;4 metres above the ground.</p>	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Petaurus norfolcensis</i>	Squirrel Glider	-	<p>Yes. However, targeted surveys as part of the approved BDAR did not detect this species within, PCT 394 Derived Native Grassland (DNG) nearby. No species polygons were created for this species in adjacent Derived Native Grassland in the approved BDAR.</p>	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Yes	<p>No. Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).</p> <p>Habitat Constraints: Land within 1 km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.</p>	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?
<i>Phascolarctos cinereus</i>	Koala	-	Yes. Habitat constraints present and no targeted surveys undertaken nearby during preparation of the approved BDAR (WSP, 2024).  Habitat Constraints: Koala feed trees.	Yes (WSP) although not nearby. No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Polygala linariifolia</i>	Native Milkwort	-	Yes.	Yes (ECE).	No.
<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>Tyto novaehollandiae</i>	Masked Owl	-	Yes. Trees with potential breeding hollows are present within the Subject Land, however, ACJV have confirmed that these trees will not be impacted.  Habitat constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	Yes	Yes. Habitat constraints likely present.  Habitat constraint: Within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).

**Table 17. 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
Eastern Pygmy-possum												
Large-eared Pied Bat												
Pale-headed Snake												
Squirrel Glider												
Koala												
Eastern Cave Bat												
<b>Key</b>	= NSW DCCEEW endorsed survey period											

## 5.4 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 18** and **Table 19**.

**Table 18. Native vegetation.**

PCT ID	PCT Scientific Name	Condition	Area (ha)
394	Narrow-leaved Ironbark - White Cypress pine woodland on slopes and flats in the Coonabarabran - Pilliga Scrub regions	Moderate/Good	1.06
		Thinned	0.35
		Derived Native Grassland/Offset not required	0.55

**Table 19. Assumed present Species Credit species.**

Species	Vegetation Zone	Area (ha)
<i>Cercartetus nanus</i> Eastern Pygmy-possum	394_Moderate/Good	1.06
	394_Thinned	0.35
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	394_Moderate/Good	1.06
	394_Thinned	0.35
<i>Hoplocephalus bitorquatus</i> Pale-headed Snake	394_Moderate/Good	1.06
	394_Thinned	0.35
<i>Petaurus norfolcensis</i> Squirrel Glider	394_Moderate/Good	1.06

Species	Vegetation Zone	Area (ha)
	394_Thinned	0.35
<i>Phascolarctos cinereus</i> Koala	394_Moderate/Good	1.06
	394_Thinned	0.35
<i>Vespadelus troughtoni</i> Eastern Cave Bat	394_Moderate/Good	1.06
	394_Thinned	0.35

## 5.5 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified, or assumed present, within the Subject Land:

- Large-eared Pied Bat – assumed present, and
- Eastern Cave Bat – assumed present.

## 6. SP3-A

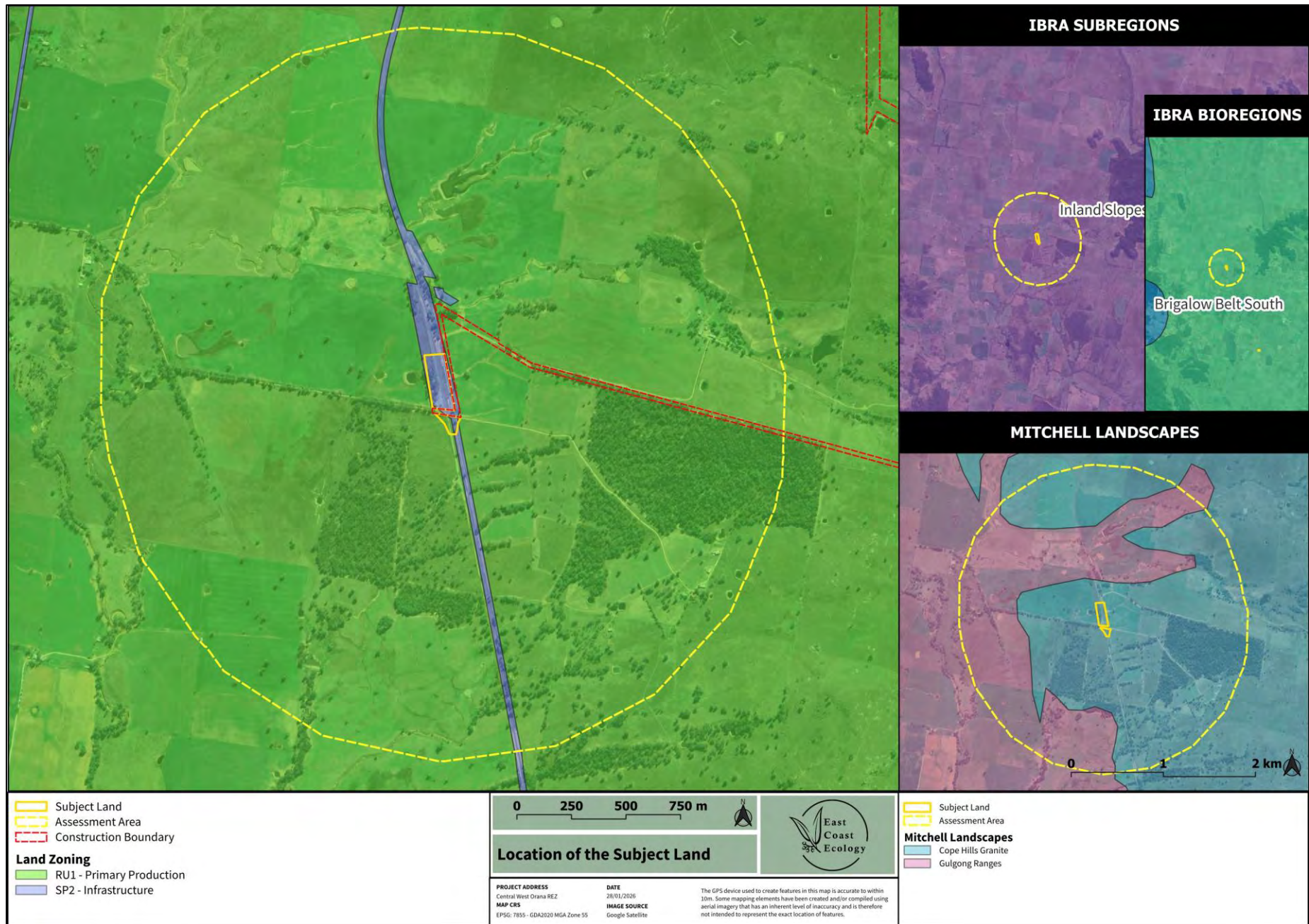
### 6.1 Landscape Context

Landscape context for the Assessment Area has been provided within **Table 20** below.

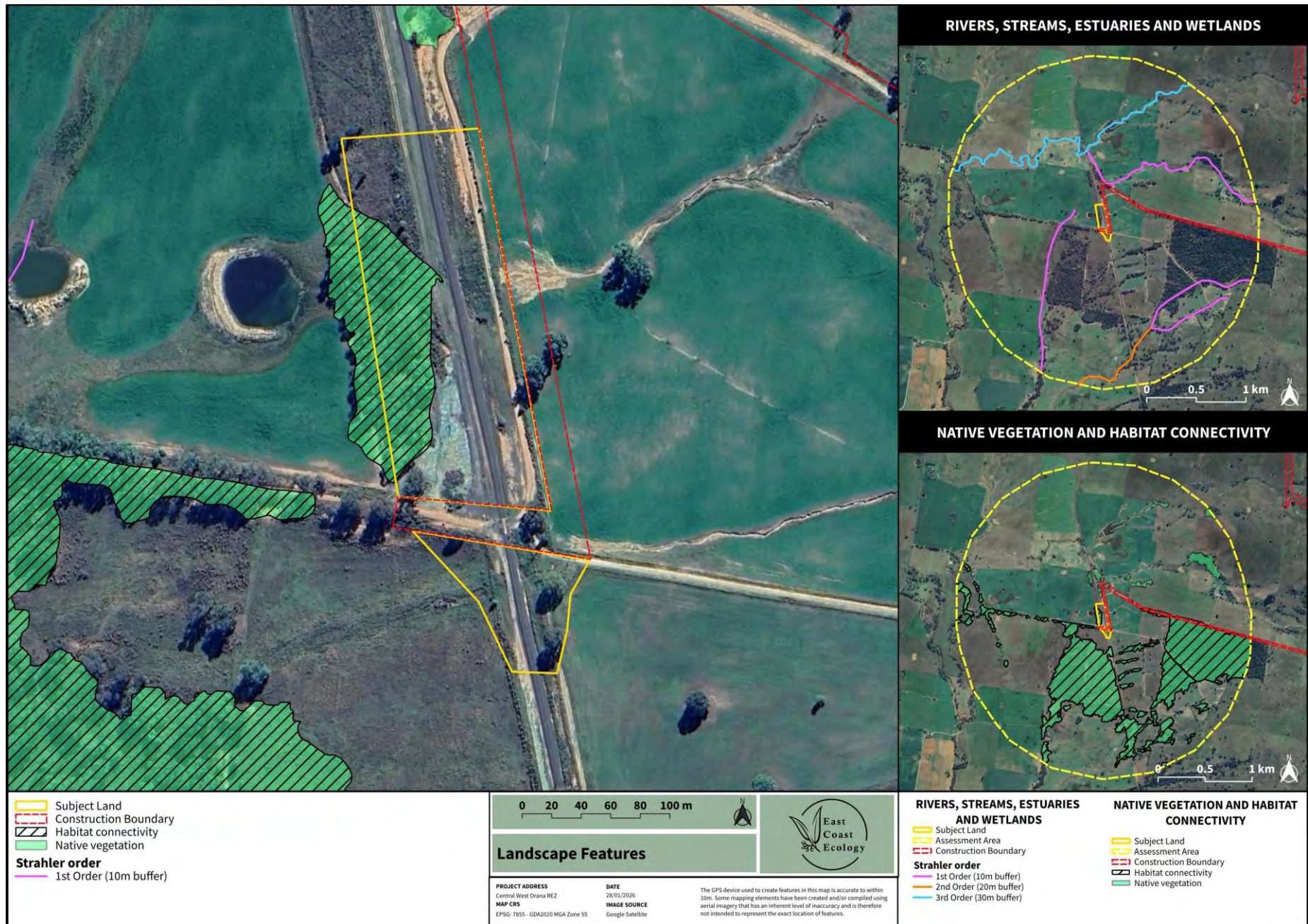
Native vegetation cover and connectivity have been assessed in accordance with Sections 3.1.3 and 3.2 of the BAM (DPIE, 2020a). The State Vegetation Type Map (DCCEEW, 2025f) was used to determine the extent of native vegetation within 1,500m of the Subject Land. Native vegetation cover was used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity determined the extent of habitat that may facilitate the movement of threatened species across their range.

**Table 20. Landscape Context for the Assessment Area.**

Feature	Subject Land
<b>IBRA Bioregion</b>	NSW South Western Slopes
<b>IBRA Subregion</b>	Inland Slopes
<b>Mitchell Landscape</b>	Cope Hills Granite
<b>Rivers, streams, estuaries and wetlands</b>	No watercourses intersect the Subject Land. An unnamed 1 <sup>st</sup> order watercourse occurs approximately 220m west of the Subject Land.  1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> order watercourses along with their associated riparian buffers, are located within the 1,500m buffer.
<b>Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance</b>	The Subject Land does not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. It is unlikely that areas of geological significance occur within the 1,500m buffer area.
<b>Topography, Geology and Soils</b>	Home rule soil landscape: undulating low hills. Sediment derived from the Gulgong and Rouse Granites. Approximately 500m asl.
<b>Habitat Connectivity</b>	The Subject Land primarily consists of vegetation within the railway corridor and grassland ( <b>Figure 11</b> ). Minor habitat connectivity is provided by remnant roadside vegetation. Given the location within an agricultural landscape, it is not considered likely that threatened species would be reliant on the Subject Land as a movement corridor.
<b>Areas of Outstanding Biodiversity Value</b>	No areas of Areas of Outstanding Biodiversity Value occur within the Subject Land, or within the surrounding 1,500m buffer
<b>Total Area of Native Vegetation Cover (ha) (1,500m buffer)</b>	145.41
<b>Percentage of Native Vegetation Cover (%) (1,500m buffer)</b>	18
<b>Patch Size Class (&lt;5 ha, 5-&lt;25 ha, 25-&lt;100 ha, and ≥100 ha)</b>	≥100 ha



**Figure 10. IBRA Bioregion and Subregion of the Subject Land, and within a 1,500m buffer.**



**Figure 11. Strahler stream order, waterbodies, native vegetation and habitat connectivity.**

## 6.2 Stage 1 – Native Vegetation Identification

### 6.2.1 Historically Mapped Vegetation

The approved BDAR identified one PCT immediately adjacent to the Subject Land:

- PCT 281: Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South western slopes Bioregion and Brigalow Belt South Bioregion.

PCT 281 is associated with the following threatened ecological communities:

- White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (WBYB) – critically endangered ecological community (BC Act), and
- White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (WBYB)-critically endangered ecological community (EPBC Act).

### 6.2.2 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 21, Figure 12**).

**Table 21. PCTs identified within the Subject Land.**

PCT ID	PCT Scientific Name	Area (ha)	Condition	TEC present	SAII
281	Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South western slopes Bioregion and Brigalow Belt South Bioregion	0.55	Moderate/ Good	WBYB (BC and EPBC Act)	Yes
		0.27	Thinned	WBYB (BC and EPBC Act)	Yes
		0.49	Regrowth Shrubland	WBYB (BC and EPBC Act)	Yes
		0.47	Derived Native Grassland	WBYB (BC and EPBC Act)	Yes
0	Miscellaneous ecosystem	0.42	-	-	-
0	Pre-existing infrastructure	0.81	-	-	-
<b>Total Area</b>		<b>3.01</b>			



**Figure 12. Field-validated vegetation mapping within the Subject Land.**

## 6.3 Stage 2 – BAM Assessment

### 6.3.1 Threatened Species

Candidate Species described in the approved BDAR that are associated with PCT 281 within the Inland Slopes IBRA subregion were assessed for their presence/ absence within the Subject Land. No unexpected finds or species/ entities outside of what was identified in the approved BDAR/ Biodiversity Assessment Verification Report (BAVR) (ecoplanning, 2025) were identified in the Subject Land. The outcomes of this assessment does not require mitigation measures beyond those specified in the Biodiversity Management Plan (BMP).

#### 6.3.1.1 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 22**). A summary of the targeted survey effort applied to each species is provided in **Table 22** along with the results of the survey effort. Whether or not WSP undertook targeted surveys as part of the approved BDAR has been included where their surveys have been determined to apply to the Subject Land.

A total of 30 Candidate Species Credit species for the Subject Land were derived from the approved BDAR (WSP, 2024). Twenty-five (25) of the 30 Candidate Species Credit species were excluded from the assessment in accordance with the BAM and approved BDAR (WSP, 2024). The remaining four species were assumed present within the Subject Land.

**Table 22. Candidate Species Credit Species predicted to occur within the Subject Land.**

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<i>Acacia ausfeldii</i>	Ausfeld's Wattle	-	Yes.	No (ECE).	<b>Assumed present</b> - 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>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>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>Callocephalon fimbriatum</i>	Gang-gang Cockatoo (Breeding)	-	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 3m above the ground and with hollow diameter of 7cm or larger. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo (breeding)	-	No. Habitat constraints absent. Habitat constraint: Eucalypt tree species with hollows at least 8m above the ground and with hollow diameter of 15cm or larger.	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?
			Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.		
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	-	Yes. However, targeted surveys as part of the approved BDAR did not detect this species within, PCT 281 Derived Native Grassland (DNG) nearby. No species polygons were created for this species in nearby 281_DNG in the approved BDAR (WSP, 2024).	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with the approved BDAR (WSP, 2024).
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	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.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Dichanthium setosum</i>	Bluegrass	-	No. Habitat constraints absent.  Habitat constraints: Areas of basalt geology. Assumed species polygons have been restricted to areas of basalt geology within the approved BDAR.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Euphrasia arguta</i>	-	Yes.	Yes.	Yes (ECE).	No.
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle (Breeding)	-	No. Habitat constraints absent.  Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species.  Habitat Constraint: Living or dead mature trees within suitable vegetation within 1km of a rivers,	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			lakes, large dams or creeks, wetlands and coastlines.		
<i>Hieraaetus morphnoides</i>	Little Eagle (Breeding)	-	No. Habitat constraints absent. Extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR did not detect this species within the Inland Slopes subregion. No further assessment required.  Habitat Constraint: Nest trees - live (occasionally dead) large old trees within vegetation).	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<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 absent.  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>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>Myotis macropus</i>	Southern Myotis	-	No. Habitat constraints absent.  Habitat Constraints: Waterbodies with permanent pools/stretches 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other waterbodies, on or within 200m of the site.	No (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Ninox connivens</i>	Barking Owl	-	No. Habitat constraints absent.  Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20cm diameter that occurs >4m above the ground.  Despite extensive and exhaustive targeted surveys undertaken during preparation of the approved BDAR, no breeding habitat was recorded.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Ninox strenua</i>	Powerful Owl	-	No. Habitat constraints absent.  Habitat Constraints: Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground.  Extensive and exhaustive targeted surveys undertaken during the preparation of the approved BDAR did not detect this species.	Yes (WSP). No (ECE).	Excluded– consistent with the approved BDAR (WSP, 2024).
<i>Petaurus norfolcensis</i>	Squirrel Glider	-	Yes. However, species excluded from patches of 281 derived native grassland and no species polygons were created for 281_DNG in the approved BDAR	Yes (WSP). No (ECE).	<b>Assumed present</b> – consistent with

Scientific Name	Common Name	SAII	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
			(WSP, 2024). Species adequately surveyed in PCT 281_DNG (WSP, 2024). No. Habitat constraints absent.		the approved BDAR (WSP, 2024).
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Yes	Species excluded as per the approved BDAR (populations within the locality were considered extinct as of 2022).  Habitat constraints: Land within 1km of rocky escarpments, gorges, steep slopes, boulder piles, rock outcrops or cliff lines.	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	-	No. Suitable habitat deemed not to be present (WSP, 2024).	No (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Phascolarctos cinereus</i>	Koala	-	No. Species excluded through extensive and exhaustive surveys undertaken as part of the approved BDAR.	Yes (WSP), although not nearby. No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	-	Yes.	Yes (ECE).	No.
<i>Pomaderris queenslandica</i>	Scant Pomaderris	-	Yes.	Yes (ECE).	No.
<i>Polytelis swainsonii</i>	Superb Parrot (Breeding)	-	No. Species has been excluded from Inland Slopes and Pilliga Subregions through adequate survey undertaken as part of the approved BDAR (WSP, 2024).	Yes (WSP). No (ECE).	Excluded–consistent with the approved BDAR (WSP, 2024).
<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	-	Yes.	No (ECE).	<b>Assumed present</b> –consistent with the approved BDAR (WSP, 2024).

Scientific Name	Common Name	SAIL	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?
<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
<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>Swainsona sericea</i>	Silky Swainson-pea	-	Yes.  No. Habitat constraints absent.	Yes (ECE)	No.
<i>Tyto novaehollandiae</i>	Masked Owl	-	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).

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**Table 23. Survey periods for assumed present species credit species.**

Candidate Species	Survey Period (BAM-C)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ausfeld's Wattle												
Eastern Pygmy-possum												
Squirrel Glider												
Tarengo Leek Orchid												
<b>Key</b>	= NSW DCCEEW endorsed survey period											

## 6.4 Assessment Summary

A summary of the PCT and species credit species that are applicable to the Proposed Change are provided in **Table 12** and **Table 13**.

**Table 24. 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	0.55
		Thinned	0.27
		Regrowth Shrubland	0.49
		Derived Native Grassland	0.47

**Table 25. Assumed present Species Credit species.**

Species	Vegetation Zone	Area (ha)
<i>Acacia ausfeldii</i> Ausfeld's Wattle	281_Moderate/ Good	0.55
	281_Thinned	0.27
	281_Regrowth Shrubland	0.49
	281_Derived Native Grassland	0.47
<i>Cercatetus nanus</i> Eastern Pygmy-possum	281_Moderate/ Good	0.55
	281_Thinned	0.27
	281_Regrowth Shrubland	0.49

Species	Vegetation Zone	Area (ha)
<i>Petaurus norfolcensis</i> Squirrel Glider	281_Moderate/ Good	0.55
	281_Thinned	0.27
	281_Regrowth Shrubland	0.49
<i>Prasophyllum petilum</i> Tarengo Leek Orchid	281_Moderate/ Good	0.55
	281_Thinned	0.27
	281_Regrowth Shrubland	0.49
	281_Derived Native Grassland	0.47

## 6.5 Serious And Irreversible Impacts

The following entities at risk of a serious and irreversible impact were identified, or assumed present, within the Subject Land:

- White Box Yellow Box Blakely's Red Gum Woodland (PCT 281) – recorded.

## 7. REFERENCES

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ACCIONA Cobra Joint Venture (2025) Construction Biodiversity Management Plan

Biodiversity Conservation Act (2016) <https://legislation.nsw.gov.au/#/view/act/2016/63/full>

Biodiversity Conservation Regulation (2017)

<https://www.legislation.nsw.gov.au/#/view/regulation/2017/432>

Bureau of Meteorology (BOM) (2024) Mudgee, New South Wales. November and December 2024 Daily Weather Observations <http://www.bom.gov.au/>

Department of Climate Change Energy the Environment and Water (DCCEEW) (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Australian Government Department of the Environment, Commonwealth of Australia, Canberra. Australian Government Department of the Environment. Canberra, Australian Capital Territory

Department of Climate Change Energy the Environment and Water (DCCEEW) (2006) White Box – Yellow Box – Blakely’s Red Gum grassy woodlands and derived native grasslands, Nationally threatened species and ecological communities

Department of Climate Change Energy the Environment and Water (DCCEEW) (2025) Protected Matters Search Tool

Department of Environmental Conservation (DEC) (2004b) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Primary Industries (DPI) (2025) Priority weeds for the Central West <https://weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=143>

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact <https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf>

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025a) BioNet. The website of the Atlas of NSW Wildlife <http://www.bionet.nsw.gov.au/>

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025b) BioNet. Threatened Biodiversity Data Collection

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025c) BioNet. Vegetation Classification System

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025d) Biodiversity Assessment Method Calculator Version 1.5

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025e) Soil Landscapes <http://espade.environment.nsw.gov.au>

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025f) The NSW State Vegetation Type Map

NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) (2025g) Biodiversity Values Mapping

NSW Spatial Services (2024) Six Maps Clip & Ship <https://maps.six.nsw.gov.au/clipnship.html>

NSW Threatened Species Scientific Committee (NSW TSSC) – Final Determination (2020) White Box Yellow Box Blakelys Red Gum Grassy Woodland and Derived Native Grassland

PlantNET (2025) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. <http://plantnet.rbgsyd.nsw.gov.au>

WSP (2024) Central-West Orana Renewable Energy Zone Transmission project Technical paper 4 – Biodiversity Development Assessment Report



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