



PARTNERING ON DESIGN AND CONSTRUCTION

CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE

MID-WESTERN REGIONAL LGA TRANSPORT STRATEGY

CWO-PRO-050-ENV-STR-000026 REV 01

Table of Contents

Terms and Abbreviations	vii
1 Introduction	1
1.1 Background.....	1
1.2 Purpose	1
1.3 Staging.....	3
1.4 Scope of this Strategy	3
1.5 Consultation	4
2 Typical Design, Assessment and Upgrades	5
2.1 Design Criteria	5
2.2 Turn Warrant Assessment.....	6
2.3 Safe Intersection Sight Distance	8
2.4 Access Types.....	8
2.5 Construction Traffic Demands	11
2.6 Cumulative Traffic	11
3 Road Upgrades	13
4 Environmental Assessment and Mitigation	14
Appendix A Road Upgrades within this Strategy	15
Appendix B Specific Items in Appendix 4, Table 5.....	23
Appendix B1 Access to Magpie Hill Microwave Repeater – Not Yet Included	24
Appendix B2 Intersection of Laheys Creek Road and Castlereagh Highway – Not Yet Included 25	
Appendix B3 Intersection of Whistons Lane and Castlereagh Highway – Not Yet Included.....	26
Appendix B4 Intersection of Tucklan Road and Castlereagh Highway – Not Yet Included	27
Appendix B5 Intersection of Puggoon Road and Castlereagh Highway – Not Yet Included	28
Appendix B6 Castlereagh Highway Access Gates – Not Yet Included	29
Appendix B7 Wollar Road Access Gates – Not Yet Included	30
Appendix B8 Cope Road Access Gate (North) – Not Yet Included.....	31
Appendix B9 Cope Road Access Gate (South) – Not Yet Included	32
Appendix C Local Roads	33
Appendix C1 Birkalla Road – Not Yet Included	34
Appendix C2 Blue Springs Road (South) – Not Yet included.....	35
Appendix C3 Turrill Bus Route – Not yet included	36
Appendix C4 Clifdale Road – Not Yet Included	37
Appendix C5 Corishs Lane – Not Yet Included.....	38

Appendix C6	Puggoon Road – Not Yet Included	39
Appendix C7	Trgo Close – Not Yet Included	40
Appendix C8	Upper Cumbo Road – Not Yet Included	41
Appendix C9	Whistons Lane – Not Yet Included	42
Appendix C10	Wilpinjong Road – Not Yet Included	43
Appendix C11	Blue Springs Road (North) – Not Yet Included	44
Appendix D	Minor Access Points and Crossing Points.....	45
Appendix D1	SP1-A1/A2 (Merotherie Road) Crossing Points.....	47
Appendix D2	SP1-B1/B2 (Birkalla Road) Crossing Points	56
Appendix D3	SP1-E1/E2 (Blue Springs Road South) Crossing Points	66
Appendix D4	SP1-F1/F2 (Hightett Road) Crossing Points.....	76
Appendix D5	SP1-J2 (Ulan Road) – Not Yet Included	86
Appendix D6	SP1-L1/L2 (Ulan Road / Ulan-Wollar Road) – Not Yet Included	87
Appendix D7	SP1-U (Ulan-Wollar Road) – Not Yet Included	88
Appendix D8	SP1-N (Ulan-Wollar Road) – Not Yet Included	89
Appendix D9	SP1-P (Ulan-Wollar Road) – Not Yet Included	90
Appendix D10	SP1-T (Ulan-Wollar Road) – Not Yet Included	91
Appendix D11	SP2-K1/K2 (Barneys Reef Road) – Not Yet Included	92
Appendix D12	SP5-C1/C2 (Turill Bus Route) – Not Yet Included	93
Appendix D13	SP6-A2 (Merotherie Road) – Not Yet Included.....	94
Appendix D14	SP6-B1/B2 (Birkalla Road) – Not Yet Included.....	95
Appendix D15	SP6-D1/D2 (Blue Springs Road South) – Not Yet Included.....	96
Appendix D16	SP7-A (Birriwa Bus Route South) – Not Yet Included.....	97
Appendix D17	SP6-E1/E2 (Birriwa Bus Route South) – Not Yet Included	98
Appendix D18	SP2-H1/H2 (Castlereagh Highway) – Not Yet Included.....	99
Appendix D19	SP5-B1/B2 (Cliffdale Road) – Not Yet Included.....	100
Appendix D20	SP1-H1/H2 (Cope Road) – Not Yet Included	101
Appendix D21	SP3-D1/D2 (Puggoon Road) – Not Yet Included.....	102
Appendix D22	SP3-E (Puggoon Road) – Not Yet Included	103
Appendix D23	SP3-X1/X2 (Puggoon Road) – Not Yet Included	104
Appendix D24	SP1-Q (Ulan-Wollar Road) – Not Yet Included.....	105
Appendix D25	SP1-Wilp (Ulan-Wollar Road) – Not Yet Included.....	106
Appendix D26	SP1-X1/X2 (Upper Cumbo Road) – Not Yet Included	107
Appendix D27	SP3-A (Whistons Lane) – Not Yet Included.....	108
Appendix D28	SP1-V1/V2 (Wilpinjong Road) – Not Yet Included	109
Appendix D29	SP1-W (Wollar Road) – Not Yet Included.....	110
Appendix D30	SP2-G1/G2 (Tuckland Road) - Not Yet Included	111

List of Figures

Figure 2-1 Rural Road Widths (Table 4.5 of AGRD03-16 Guide to Road Design Part 3 Geometric Design Ed3.4)	6
Figure 2-2 Warrants for Turn Treatments on Major Roads at Unsignalised Intersections (Source: Austroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management Figure 3.25).....	7
Figure 2-3 BAR and BAL (Access Points).....	9
Figure 2-4 Rural Access for Articulated Vehicles (Austroads Guide to Road Design Part 4: Intersections and Crossings)	9
Figure 2-5 Light Vehicle Access (Austroads Guide to Road Design Part 4: Intersections and Crossings)	10
Figure A- 1 Indicative Locations of Access Points, Crossing Points and Construction Routes in this Strategy.....	21
Figure D1- 1: Location of Crossing Point SP1-A1/A2 on Merotherie Road	47
Figure D2- 1 Location of Crossing Points SP1-B1/B2	56
Figure D3- 1 Location of Crossing Points SP1-E1/E2 on Blue Springs Road	66
Figure D4- 1 Location of Crossing Points SP1-F1/F2 on Hightett Road	76

List of Tables

Table 1-1 Compliance Matrix	1
Table 1-2 Transport Strategies	3
Table 2-1 Access Points Options Matrix	10
Table 2-2 Construction Traffic Demands Per Site (EIS).....	11
Table D1- 1 Crossing Points Sp1-A1/A2 Description and Use.....	47
Table D1- 2 EIS Assessment and Outcomes Summary (Sp1-A1/A2 Crossing Points)	49
Table D2- 1 Crossing Points Sp11-B1/B2 Description and Use.....	57
Table D2- 2 EIS Assessment and Outcomes Summary (Sp1-B1/B2 Crossing Points)	58
Table D3- 1 Crossing Points SP1-E1/E2 Description and Use	67
Table D3- 2 EIS Assessment and Outcomes Summary (SP1-B1/B2 Crossing Points)	68
Table D4- 1 Crossing Points SP1-F1/F2 Description and Use	76
Table D4- 2 EIS Assessment and Outcomes Summary (Sp1-F1/F2 Crossing Points)	78

Document Control

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

PROJECT AUTHORISATION

Authorisation				
Document Title	CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE – MID-WESTERN REGIONAL LGA TRANSPORT STRATEGY			
Revision Number	REV 00			
Document Number	CWO-PRO-050-ENV-STR-000026			
Discipline/Department	Project Wide Construction			
Originator	Acciona Construction Australia			
Review	Name	Position	Date	Signature
	Quoc Phuong	Traffic Manager	19/11/2025	<i>Quoc Phuong</i>
Review	Erran Woodward	Approvals Manager	19/11/2025	<i>Erran Woodward</i>
Approval	Tung Pham	Project Wide Director	19/11/2025	<i>Tung Pham</i>

DOCUMENT STATUS

Revision	Date	Pages	Revised by	Description
CWO-PRO-050-ENV-STR-000020 was at Rev C before being broken up into three separate Transport Strategies by council area				
Rev A	19/08/2025	All	Kirk Martinez	Drafted to align with approved staging plan. For consultation.
Rev B	03/11/2025	All	Erran Woodward	Drafted in response to comments. For consultation.
Rev C	17/11/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments.
Rev D	19/11/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments.
Rev E	19/11/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments.
Rev F	21/11/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments.

Revision	Date	Pages	Revised by	Description
Rev G	2/12/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments.
Rev H	5/12/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to comments. For endorsement.
Rev 00	15/12/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to DPHI comments. For approval.
Rev 01	18/12/2025	All	Erran Woodward/ Quoc Phuong	Drafted in response to DPHI comments. For approval.

CONTROL AND RECORDS

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

UNCONTROLLED COPIES

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

REVIEW

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

DISTRIBUTION

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

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

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

GOVERNANCE AND AUTHORISATION

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

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

RELATED DOCUMENTS

Traffic and Transport Management Plan (TTMP).

Terms and Abbreviations

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

Acronym/Term	Definition
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
TTMP	Traffic and Transport Management Plan
TWA	Turn Warrant Assessment
Vehicle Movement	A vehicle movement is defined as a vehicle on a single inbound or outbound journey (definition taken from Section 17.4.1 of the EIS, paragraph 1)
WAD	Works Authorisation Deed

1 Introduction

1.1 BACKGROUND

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

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

1.2 PURPOSE

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

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

Table 1-1.

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

Table 1-1 Compliance Matrix

MCoA (NSW)	Requirement	How Addressed	Where
B31	Prior to commencing road upgrades specified in Appendix 4 as requiring inclusion in the Transport Strategy, the Proponent must prepare a Transport Strategy in consultation with Transport for NSW (TfNSW) and relevant Councils, to the satisfaction of the Planning Secretary, which:		

MCoA (NSW)	Requirement	How Addressed	Where
	a) Ensures the road upgrades comply with the Austroads Guide to Road Design (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise	Design criteria for the various upgrades is referenced in Section 2.1 and will be used unless agreed with relevant road authority, in which case it will be described in the appendices for each individual upgrade. Where are road upgrade is not proposed, a strategic concept design is not provided.	Section 2.1 Appendix B Appendix C Appendix D
	b) Includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)	Concept plans are included in the appendices for each individual upgrade. Where are road upgrade is not proposed, a strategic concept design is not provided.	Appendix B Appendix C Appendix D
	c) 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
	d) 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 the works for that road upgrade.	Appendix A Appendix B Appendix C Appendix D
	e) 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	
	f) 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		
	g) Identifies whether intersections, crossing points and access points would be permanent or temporary	The appendices for each individual road upgrade include if the this is proposed to be permanent or temporary.	Appendix B Appendix C Appendix D

1.3 STAGING

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

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

Table 1-2 Transport Strategies

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

1.4 SCOPE OF THIS STRATEGY

As noted in Section 1.3, the transport strategies required by MCoA (NSW) B31 have been staged. These stages were described in a staging strategy letter, approved 19 August 2025 by the Department of Planning, Housing and Infrastructure (DPHI) (DPHI reference: SSI-48323210-PA-54) in accordance with MCoA (NSW) C3.

This Strategy applies to the Mid-Western Regional LGA.

This Strategy identifies the road upgrades that will be used to support construction of the Project across the Mid-Western Regional LGA (refer to Appendix A). The specific roads, intersections, crossing points 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 address in this Strategy.

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

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

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

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

1.5 CONSULTATION

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

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

2 Typical Design, Assessment and Upgrades

2.1 DESIGN CRITERIA

In accordance with MCoA (NSW) B31 all road upgrades undertaken by the Project under MCoA B31 will be designed to comply with the *Austroads Guide to Road Design* (as amended by TfNSW supplements¹), unless the relevant road authority agrees otherwise. Specific examples of *Austroads Guide to Road Design* and how these will be implemented to comply with MCoA B31(b) are provided in Sections 2.2 to 2.5 below.

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

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

2.2 RURAL ROAD WIDTHS

In the case of a road widening upgrade, the upgrade design will be in accordance with the Rural Road Widths road widths (AGRD03-16 Guide to Road Design Part 3 Geometric Design Ed3.4) as provided in Figure 2-1.

¹ At the time of this document, Transport for NSW has prepared only one supplement, being the *Supplement to Austroads Guide to Road Design* (20 December 2023)

Table 4.5: Single carriageway rural road widths (m)

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

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

Figure 2-1 Rural Road Widths (Table 4.5 of AGRD03-16 Guide to Road Design Part 3 Geometric Design Ed3.4)

2.3 TURN WARRANT ASSESSMENT

A Turn Warrant Assessment (TWA), described in *Austroads 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 *Austroads Guide to Traffic Management* provides the process for assessing an intersection for the appropriate configuration to ensure safe operation. It considers the volume of through traffic, turning traffic, cumulative traffic 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 2-2 provides the assessment graphs of calculated turning movements, the result of which determines the appropriate road alterations for the anticipated turning and through traffic of the intersection.

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

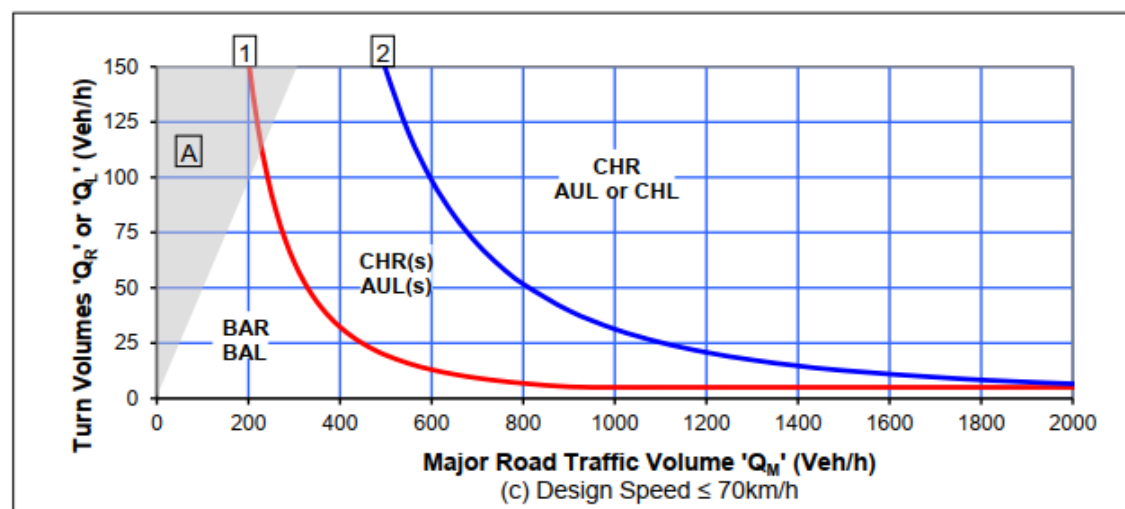
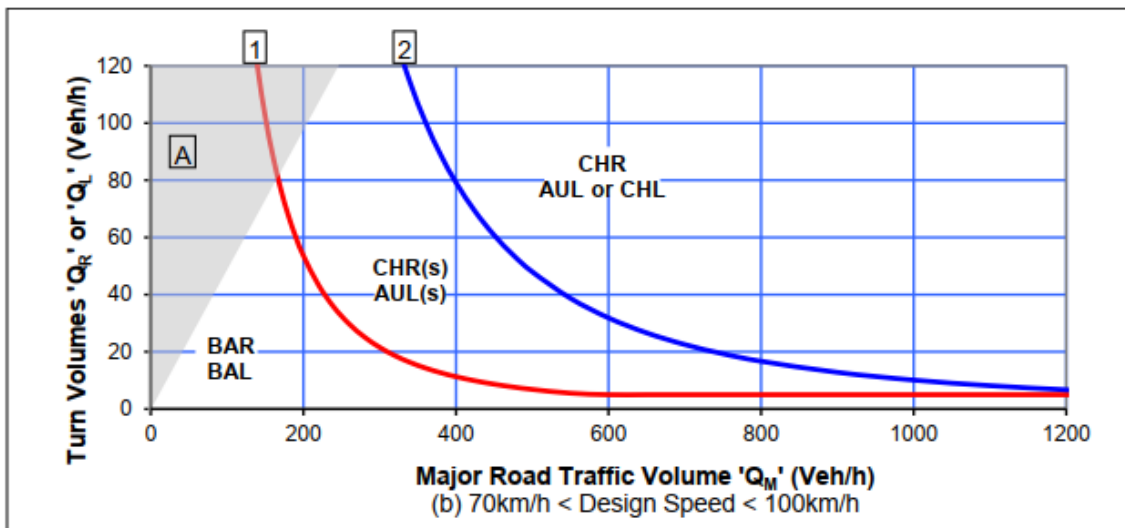
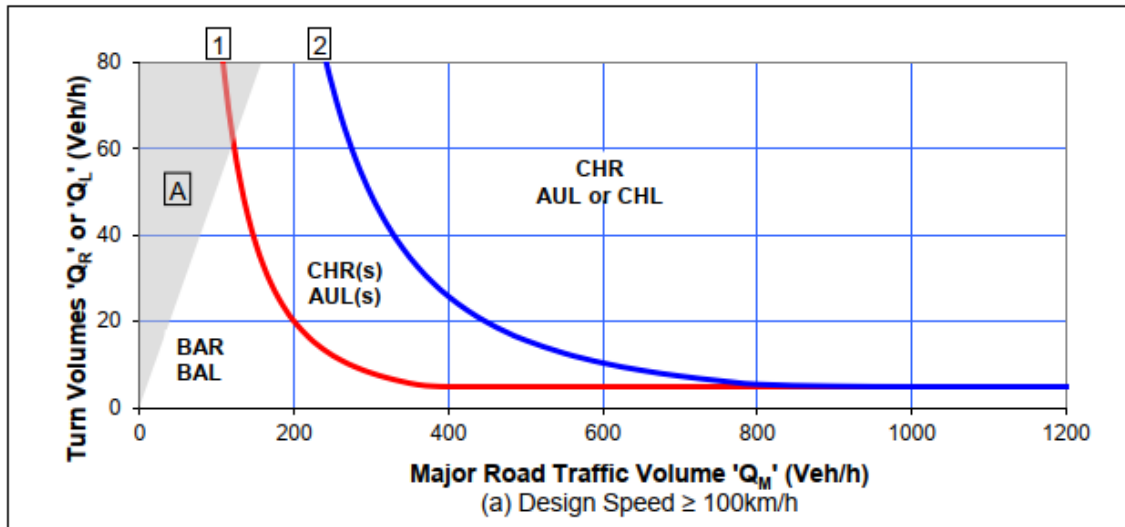


Figure 2-2 Warrants for Turn Treatments on Major Roads at Unsignalised Intersections (Source: Austroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management Figure 3.25)

2.4 SAFE INTERSECTION SIGHT DISTANCE

A Safe Intersection Site Distance (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.

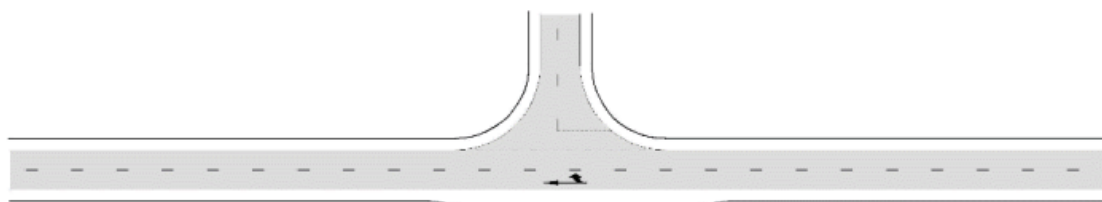
The SISD checks will occur prior to the use of the relevant upgrades listed in Appendix A, Appendix B, Appendix C and/or Appendix D of this Strategy.

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.

2.5 ACCESS TYPES

Where access point/crossing point road upgrades are required, these will typically be in accordance with one of the options details below, as determined by the assessment matrix outlined in Section 2.5.1., subject to consultation and agreement with the applicable road authority.

Figure 2-3 presents the standard BAR and BAL road design for rural roads when turning off a major road into a minor road (or in this instance, a construction access point) under the *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)**

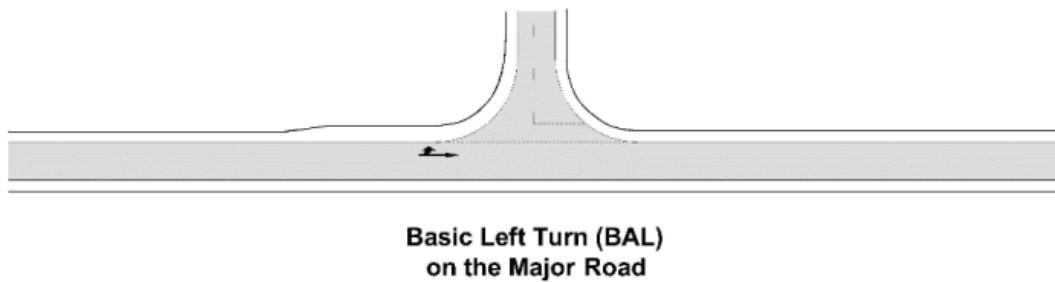
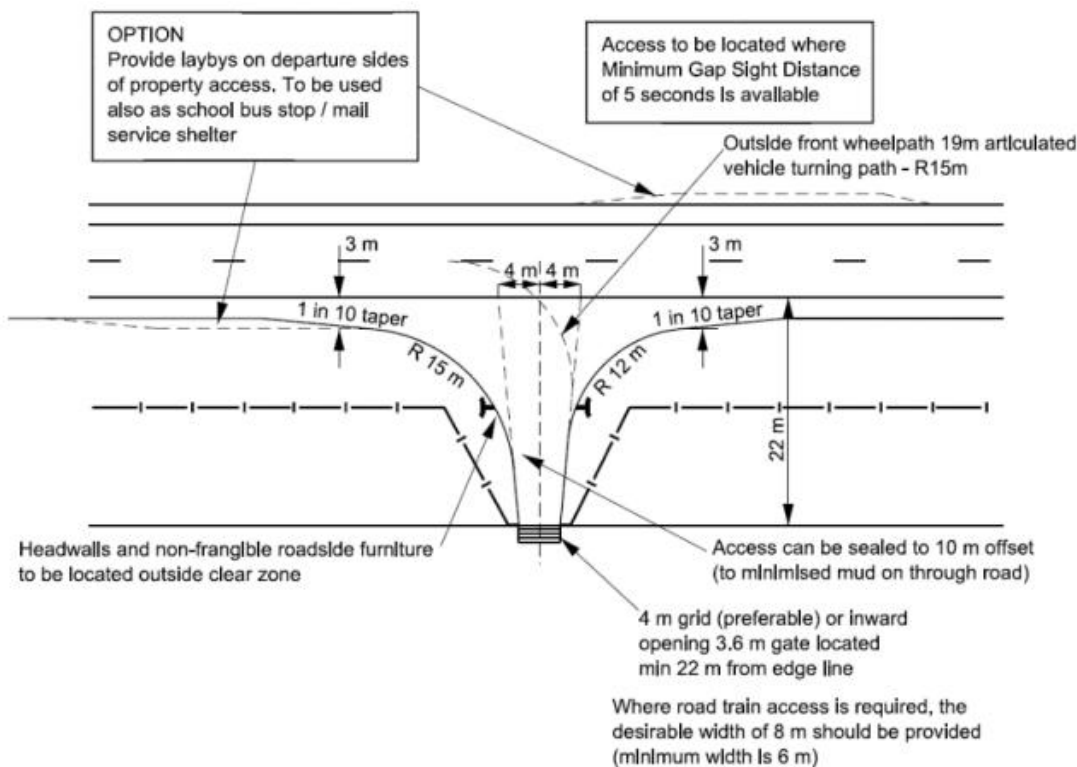


Figure 2-3 BAR and BAL (Access Points)

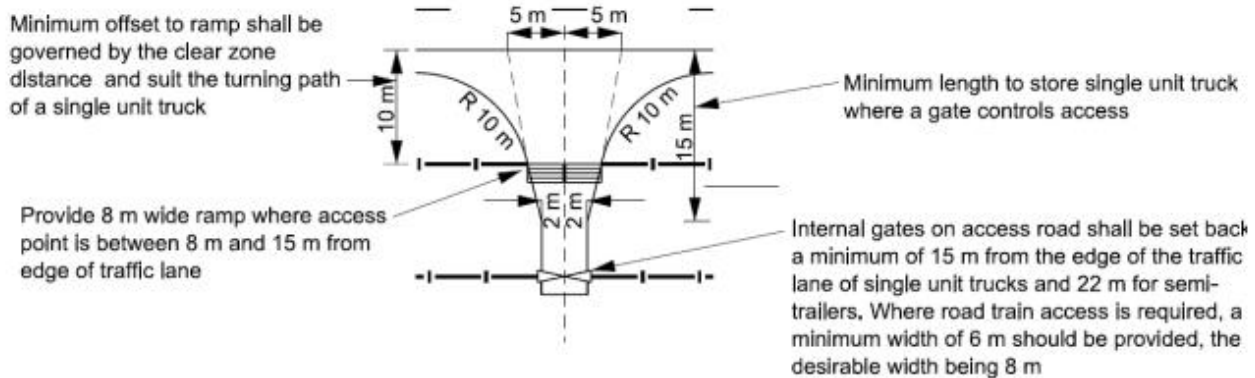
The *Austrroads Guide to Road Design Part 4: Intersections and Crossings* outlines road designs for light and heavy vehicle movements for rural access points. Figure 2-4 illustrates the recommended road design for rural property access where entry is required for semi-trailers or articulated vehicles.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



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

Figure 2-4 Rural Access for Articulated Vehicles (*Austrroads Guide to Road Design Part 4: Intersections and Crossings*)

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



Option without indented access

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

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

Figure 2-5 Light Vehicle Access (Austroads Guide to Road Design Part 4: Intersections and Crossings)

2.5.1 Access Upgrades Assessment Matrix

The appropriate option for access points and crossing points upgrades 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), and will be subject to consultation and agreement with the applicable roads authority.

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

Table 2-1 Access Points Options Matrix

Scenario	Option
Access/crossing points with prescribed upgrades in the Project Approval	Road alterations will be implemented as prescribed in the Minister's Conditions of Approval, unless otherwise approved by a Transport Strategy or agreed by the Planning Secretary
Access/crossing points without prescribed upgrades in the Project Approval	Road alterations will be assessed using TWA as outlined in Section 2.3, in consideration of construction delivery and access requirements
State Road / Highway	Road alterations will include BAR/BAL unless assessment and agreement for alternative treatment 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

2.6 CONSTRUCTION TRAFFIC DEMANDS

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

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

Table 2-2 Construction Traffic Demands Per Site (EIS)

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

Note: * Denotes locations that would include main construction compounds

2.7 CUMULATIVE TRAFFIC

A review of approved projects relating to the Mid-Western Regional LGA portion of the REZ has been undertaken, including the minor additional traffic movements that have are associated with

each project. These projects have been sourced from Appendix L (Updated Cumulative Impact Assessment) of the REZ Amendment Report.

2.7.1 Birriwa Solar Farm

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

2.7.2 Liverpool Range Wind Farm

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

2.7.3 Bellambi Heights BESS

Bellambi Heights Battery Energy Storage System (BESS) project identifies a peak workforce of between 80 and 100 workers of which majority will be residing in the nearby towns of Mudgee, Gulgong, Wellington, Dunedoo or Dubbo. As such, the utilisation of the intersection of Ulan Road and Golden Highway is expected to be limited.

3 Road Upgrades

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

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

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

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

4 Environmental Assessment and Mitigation

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

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

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

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

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

Appendices B, C and D of this Strategy reference and summarise the existing assessment and outcomes, as well as the consideration of cumulative traffic impacts and appropriate mitigation measures as relevant, in accordance with this requirement.

Appendix F of this Strategy provides a road upgrade refinements checklist. This checklist is to be used where there is a changed location to an access/crossing point, or a new access/crossing point required as compared to those within this Transport Strategy.

Appendix A Road Upgrades within this Strategy

This Strategy identifies and details road upgrades which will be implemented by the Project within the Mid-Western Regional LGA. These road upgrades are summarised in Table A-1, along with a cross reference to where further detail is provided within Appendix B, Appendix C and Appendix D and a status and indicative schedule. Figure A- 1 below shows the location of each road upgrade currently included within the Strategy for approval.

Figure A-1 shows the location of the crossing points subject to this Strategy.

Figure A-2 shows the indicative location and schedule for their commencement and completion of the local road upgrades that are anticipated to occur during construction of the Project in the Mid-Western Regional LGA. These local road upgrades and schedule are subject to further consultation with the relevant asset owner and approval of a Transport Strategy in accordance with MCoA (NSW) B31.

Table A-1 Road Upgrades Relevant to this Strategy

Upgrades / Timing	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
Specific Items in Appendix 4, Table 5				
Access to Magpie Hill microwave repeater Timing: Prior to commencing work on the Magpie Hill repeater	Appendix B1	Not yet included	Q3 2026	Q4 2026
Intersection of Laheys Creek Road and Castlereagh Highway Timing: Commencement of the upgrade with commencement of development related construction traffic.	Appendix B2	Not yet included	Q3 2026	Q4 2026
Intersection of Whistons Lane and Castlereagh Highway Timing: Commencement of the upgrade with commencement of development related construction traffic.	Appendix B3	Not yet included	Q2 2026	Q3 2026
Intersection of Tucklan Road and Castlereagh Highway Timing: Commencement of the upgrade with commencement of development related construction traffic.	Appendix B4	Not yet included	Q3 2026	Q4 2026
Intersection of Puggoon Road and Castlereagh Highway Timing: Commencement of the upgrade with commencement of development related construction traffic.	Appendix B5	Not yet included	Q2 2026	Q3 2026
Castlereagh Highway access gates Timing: Prior to construction of the relevant minor access track off the public road network	Appendix B6	Not yet included	Q3 2026	Q4 2026
Wollar Road access gates Timing: Prior to construction of the relevant minor access track off the public road network	Appendix B7	Not yet included	Q2 2026	Q3 2026

Upgrades / Timing	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
Cope Road access gate (North) Timing: Prior to construction of the relevant minor access track off the public road network	Appendix B8	Not yet included	Q1 2026	Q2 2026
Cope Road access gate (South) Timing: Prior to construction of the relevant minor access track off the public road network	Appendix B9	Not yet included	Q1 2026	Q2 2026
Local Roads Upgrades where required				
Timing: Prior to commencing the use of the local road for any heavy vehicle traffic associated with construction				
Birkalla Road	Appendix C1	Not yet included	Q2 2026	Q3 2026
Blue Springs Road (South)	Appendix C2	Not yet included	Q2 2026	Q3 2026
Cliffdale Road	Appendix C4	Not yet included	Q2 2026	Q3 2026
Corishs Lane	Appendix C5	Not yet included	Q3 2026	Q4 2026
Puggoon Road	Appendix C6	Not yet included	Q3 2026	Q4 2026
Trgo Close	Appendix C7	Not yet included	Q3 2026	Q4 2026
Upper Cumbo Road	Appendix C8	Not yet included	Q2 2026	Q3 2026
Whistons Lane	Appendix C9	Not yet included	Q3 2026	Q4 2026
Wilpinjong Road	Appendix C10	Not yet included	Q3 2026	Q4 2026
Birriwa Bus Route South	Addressed in the Merotherie Transport Strategy			
Highett Road	Not proposed to be used for construction-related HV access purposes			

Upgrades / Timing	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
Turrill Bus Route (aka Turrill-Uarbry Road)	Appendix C3	Not yet included	Q2 2026	Q3 2026
Blue Springs Road (North)	Appendix D	Not yet included	Q2 2026	Q3 2026
Note: Cope Road, Ulan Road, Mackay Street, Robison Road, and Main Street are classified as regional roads under Transport for NSW's Road Network Classification and are not required to be included in a Transport Strategy.				
Minor Access Points and Crossing Points				
Timing: Prior to construction of the relevant minor access track off the public road network				
SP1-A1/A2 (Merotherie Road) Crossings only	Appendix D1	Included	Q1 2026	Q1 2026
SP1-B1/B2 (Birkalla Road) Crossings only	Appendix D1	Included	Q1 2026	Q1 2026
SP1-E1/E2 (Blue Springs Road South) Crossing only	Appendix D3	Included	Q1 2026	Q1 2026
SP1-F1/F2 (Highett Road) Crossings only	Appendix D4	Included	Q1 2026	Q1 2026
SP1-J2 (Ulan Road)	Appendix D5	Not yet included	Q2 2026	Q3 2026
SP1-L1/L2 (Ulan Road / Ulan-Wollar Road)	Appendix D6	Not yet included	Q2 2026	Q3 2026
SP1-U (Ulan-Wollar Road)	Appendix D7	Not yet included	Q1 2026	Q2 2026
SP1-N (Ulan-Wollar Road)	Appendix D8	Not yet included	Q1 2026	Q2 2026
SP1-P (Ulan-Wollar Road)	Appendix D9	Not yet included	Q1 2026	Q2 2026
SP1-T (Ulan-Wollar Road)	Appendix D10	Not yet included	Q1 2026	Q2 2026
SP2-K1/K2 (Barneys Reef Road)	Appendix D11	Not yet included	Q3 2026	Q4 2026
SP5-C1/C2 (Turill Bus Route)	Appendix D12	Not yet included	Q2 2026	Q3 2026

Upgrades / Timing	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
SP6-A2 (Merotherie Road)	Appendix D13	Not yet included	Q1 2026	Q2 2026
SP6-B1/B2 (Birkalla Road)	Appendix D14	Not yet included	Q2 2026	Q3 2026
SP6-D1/D2 (Blue Springs Road South)	Appendix D15	Not yet included	Q2 2026	Q3 2026
SP7-A (Birriwa Bus Route South)	Appendix D16	Not yet included	Q3 2026	Q4 2026
SP6-E1/E2 (Birriwa Bus Route South)	Appendix D17	Not yet included	Q2 2026	Q3 2026
SP2-H1/H2 (Castlereagh Highway)	Appendix D18	Not yet included	Q3 2026	Q4 2026
SP5-B1/B2 (Cliffdale Road)	Appendix D19	Not yet included	Q2 2026	Q3 2026
SP1-H1/H2 (Cope Road)	Appendix D20	Not yet included	Q1 2026	Q2 2026
SP3-D1/D2 (Puggoon Road)	Appendix D21	Not yet included	Q3 2026	Q4 2026
SP3-E (Puggoon Road)	Appendix D22	Not yet included	Q3 2026	Q4 2026
SP3-X1/X2 (Puggoon Road)	Appendix D23	Not yet included	Q3 2026	Q4 2026
SP1-Q (Ulan-Wollar Road)	Appendix D24	Not yet included	Q1 2026	Q2 2026
SP1-Wilp (Ulan-Wollar Road)	Appendix D25	Not yet included	Q2 2026	Q3 2026
SP1-X1/X2 (Upper Cumbo Road)	Appendix D26	Not yet included	Q2 2026	Q3 2026
SP3-A (Whistons Lane)	Appendix D27	Not yet included	Q3 2026	Q4 2026
SP1-V1/V2 (Wilpinjong Road)	Appendix D28	Not yet included	Q2 2026	Q3 2026
SP1-W (Wollar Road)	Appendix D28	Not yet included	Q2 2026	Q3 2026

Upgrades / Timing	Details Provided In	Status	Indicative Schedule Commencement	Indicative Schedule Completion
SP2-G1/G2 (Tuckland Road)	Appendix D30	Not yet included	Q3 2026	Q4 2026

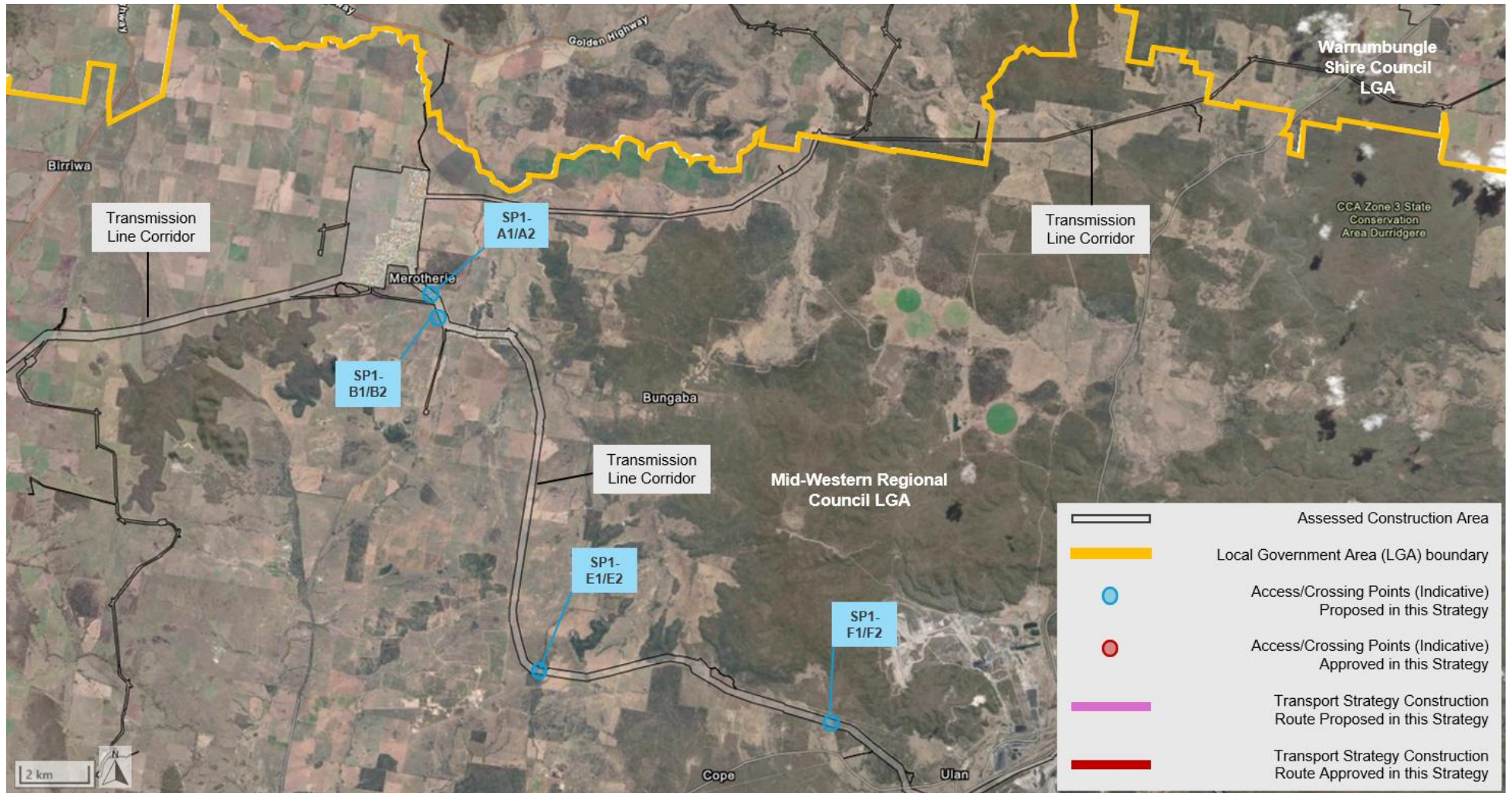


Figure A- 1 Indicative Locations of Access Points, Crossing Points and Construction Routes in this Strategy

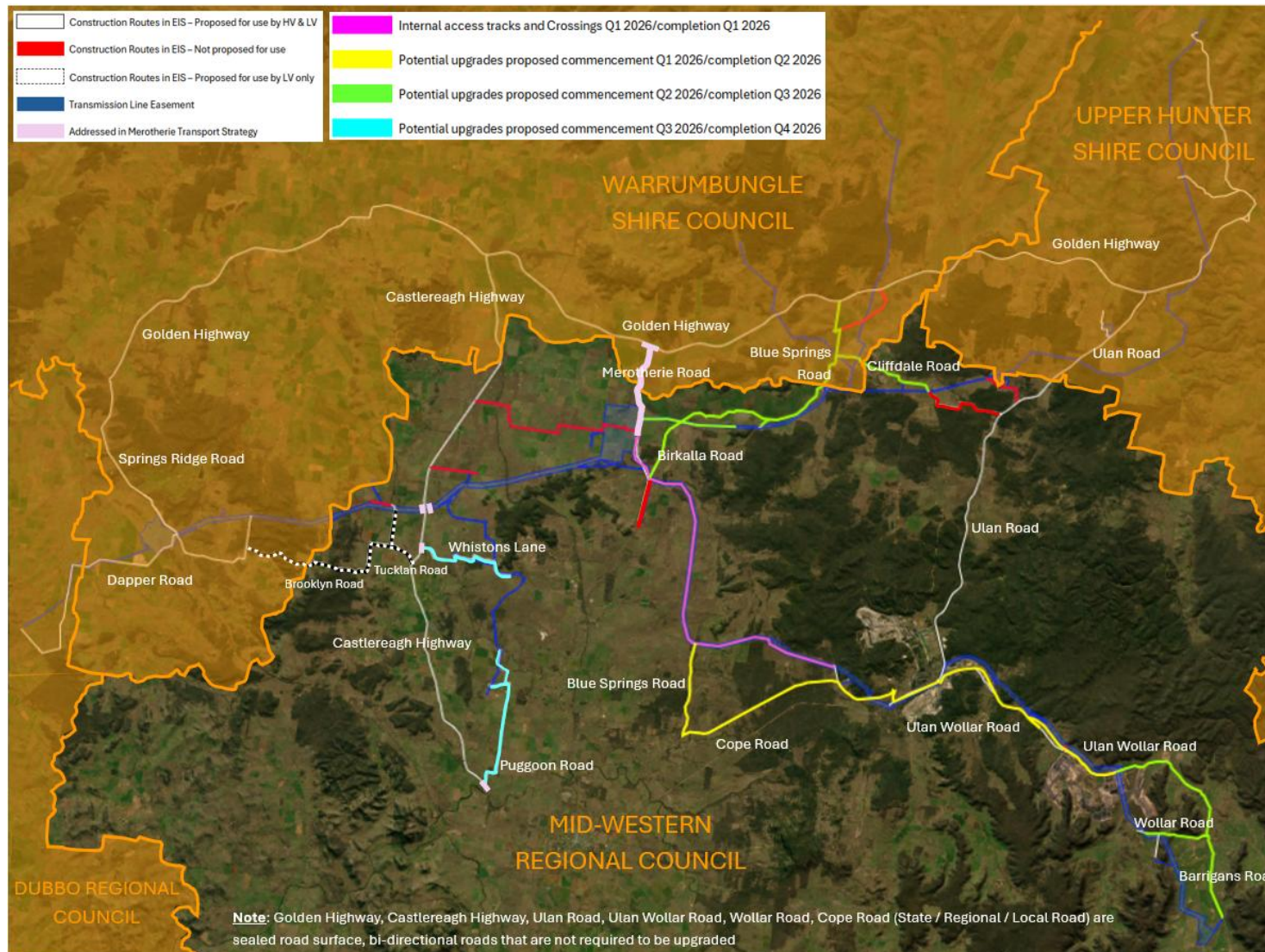


Figure A-2 Indicative Timing and Location of Potential Road Upgrades

Appendix B Specific Items in Appendix 4, Table 5

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

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

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

**APPENDIX B1
INCLUDED**

ACCESS TO MAGPIE HILL MICROWAVE REPEATER – NOT YET

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

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

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

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

APPENDIX B6

CASTLEREAGH HIGHWAY ACCESS GATES – NOT YET INCLUDED

APPENDIX B7

WOLLAR ROAD ACCESS GATES – NOT YET INCLUDED

APPENDIX B8

COPE ROAD ACCESS GATE (NORTH) – NOT YET INCLUDED

APPENDIX B9

COPE ROAD ACCESS GATE (SOUTH) – NOT YET INCLUDED

Appendix C Local Roads

Appendix 4, Table 5 of the Project Approval states that upgrades as necessary of 'other Local Roads' be included into a Transport Strategy prior to commencing the use of that local road for any HV traffic associated with construction. For clarity, 'other local roads' are taken to mean:

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

The other local roads applicable to the Mid-Western Regional LGA to be utilised for HV construction access include:

- Birkalla Road - Appendix C1 - Not yet included
- Blue Springs Road (South) - Appendix C2 - Not yet included
- Turrill Bus Route – Appendix C3 – Not yet included
- Clifdale Road – Appendix C4 - Not yet included
- Corishs Lane – Appendix C5 - Not yet included
- Puggoon Road – Appendix C6 - Not yet included
- Trgo Close – Appendix C7 - Not yet included
- Upper Cumbo Road – Appendix C8 - Not yet included
- Whistons Lane – Appendix C9 - Not yet included
- Wilpinjong Road – Appendix C10 - Not yet included
- Blue Springs Road (North) – Appendix C11 - Not yet included

APPENDIX C1 BIRKALLA ROAD – NOT YET INCLUDED

APPENDIX C2 BLUE SPRINGS ROAD (SOUTH) – NOT YET INCLUDED

APPENDIX C3 TURRILL BUS ROUTE – NOT YET INCLUDED

APPENDIX C4 CLIFFDALE ROAD – NOT YET INCLUDED

APPENDIX C5 CORISHS LANE – NOT YET INCLUDED

APPENDIX C6 PUGGOON ROAD – NOT YET INCLUDED

APPENDIX C7 TRGO CLOSE – NOT YET INCLUDED

APPENDIX C8 UPPER CUMBO ROAD – NOT YET INCLUDED

APPENDIX C9 WHISTONS LANE – NOT YET INCLUDED

APPENDIX C10 WILPINJONG ROAD – NOT YET INCLUDED

APPENDIX C11 BLUE SPRINGS ROAD (NORTH) – NOT YET INCLUDED

Appendix D Minor Access Points and Crossing Points

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

The minor access points and crossing points applicable to the Mid-Western Regional LGA where a road upgrade is necessary are:

- SP1-A1/A2 (Merotherie Road) Crossing only - Appendix D1 - Included
- SP1-B1/B2 (Birkalla Road) Crossing only – Appendix D2 - Included
- SP1-E1/E2 (Blue Springs Road South) Crossing only - Appendix D3 - Included
- SP1-F1/F2 (Highett Road) Crossing only - Appendix D4 - Included
- SP1-J2 (Ulan Road) – Appendix D5 - Not yet included
- SP1-L1/L2 (Ulan Road / Ulan-Wollar Road) - Appendix D6 - Not yet included
- SP1-U (Ulan-Wollar Road) - Appendix D7 - Not yet included
- SP1-N (Ulan-Wollar Road) - Appendix D8 - Not yet included
- SP1-P (Ulan-Wollar Road) - Appendix D9 - Not yet included
- SP1-T (Ulan-Wollar Road) - Appendix D10 - Not yet included
- SP2-K1/K2 (Barneys Reef Road) - Appendix D11 - Not yet included
- SP5-C1/C2 (Turill Bus Route) - Appendix D12 - Not yet included
- SP6-A2 (Merotherie Road) - Appendix D13 - Not yet included
- SP6-B1/B2 (Birkalla Road) - Appendix D14 - Not yet included
- SP6-D1/D2 (Blue Springs Road South) - Appendix D15 - Not yet included
- SP7-A (Birriwa Bus Route South) - Appendix D16 - Not yet included
- SP6-E1/E2 (Birriwa Bus Route South) - Appendix D17 - Not yet included
- SP2-H1/H2 (Castlereagh Highway) - Appendix D18 - Not yet included
- SP5-B1/B2 (Cliffdale Road) - Appendix D19 - Not yet included
- SP1-H1/H2 (Cope Road) - Appendix D20 - Not yet included
- SP3-D1/D2 (Puggoon Road) - Appendix D21 - Not yet included
- SP3-E (Puggoon Road) - Appendix D22 - Not yet included
- SP3-X1/X2 (Puggoon Road) - Appendix D23 - Not yet included

- SP1-Q (Ulan-Wollar Road) - Appendix D24 - Not yet included
- SP1-Wilp (Ulan-Wollar Road) - Appendix D25 - Not yet included
- SP1-X1/X2 (Upper Cumbo Road) - Appendix D26 - Not yet included
- SP3-A (Whistons Lane) - Appendix D27 - Not yet included
- SP1-V1/V2 (Wilpinjong Road) - Appendix D28 - Not yet included
- SP1-W (Wollar Road) - Appendix D29 - Not yet included
- SP2-G1/G2 (Tuckland Road) – Appendix D30 - Not yet included

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

Location

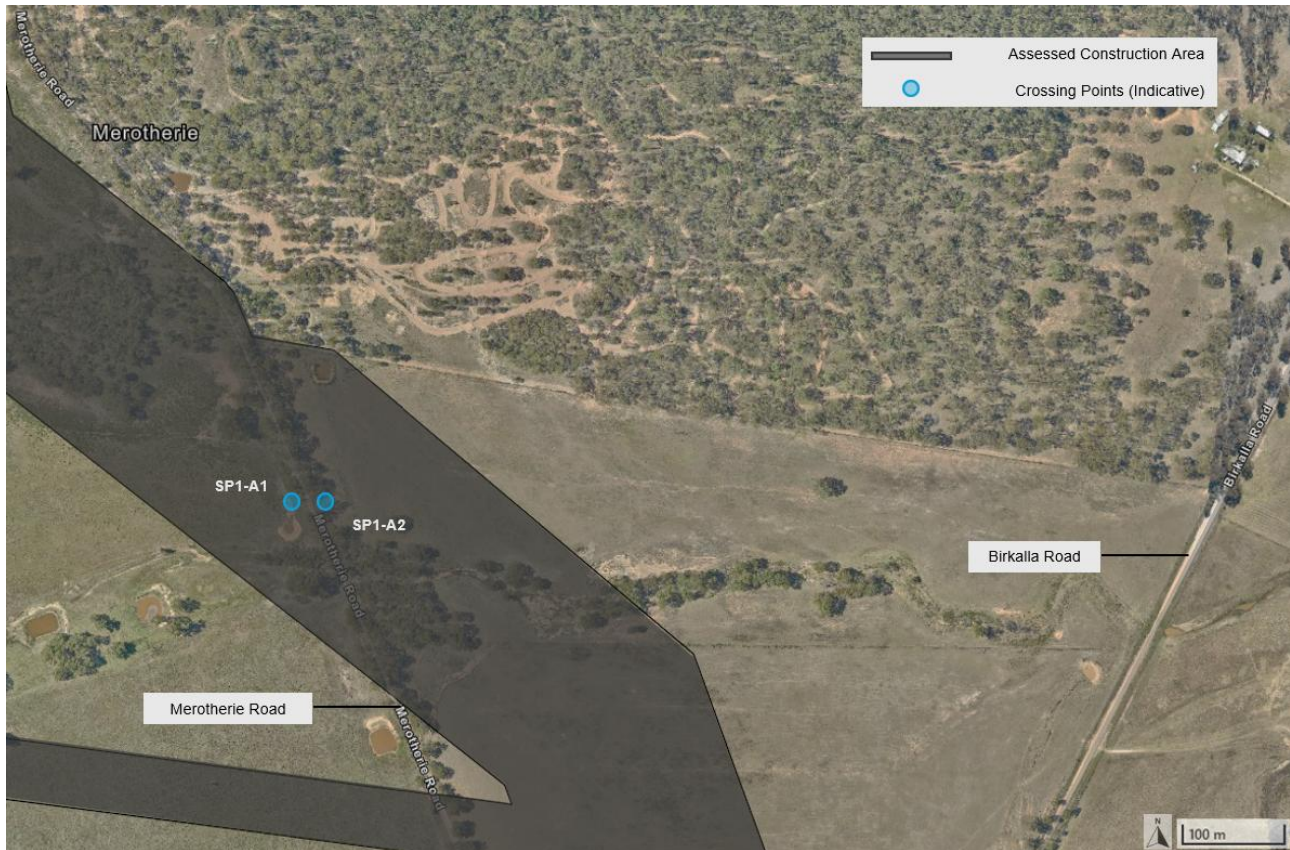


Figure D1- 1: Location of Crossing Point SP1-A1/A2 on Merotherie Road

Description

The crossing points at SP1-A1/A2 formalise the existing crossing points approved under MCoA (NSW) B32, which included vehicle restriction limits. These crossings will be used to cross Merotherie Road for access along the internal access road and construction areas on either side of the road.

Further details are provided within the table below.

Table D1- 1 Crossing Points Sp1-A1/A2 Description and Use

Entry Point ID	SP1-A1/A2 – Crossing points
EIS Access Point (if applicable)	L1.21 and L1.20
Road	Merotherie Road
Location	https://maps.app.goo.gl/1KQ3tA59BsS7FdP8 (Refer to Figure D1-1)
Type	Crossing point
Scope of Work	- Ongoing use of existing crossing, but with vehicle movement restrictions removed - Maintenance of existing structures and controls, or installation of additional structures and controls, including: - Fence, gate and signage - Drainage pipe and headwalls (if required)

	○ Livestock grid (if required) ○ Advanced warning signs on approach to the crossing points ○ Signage referencing 'give way' on the internal access tracks, clearly indicating that the public road has right of way ● Public vehicle traffic management measures will be implemented as deemed necessary to enhance safety and traffic efficiency, in consultation with Council. These measures may include traffic signal/traffic control adjustments to manage traffic flow and the installation temporary traffic control devices such as signs warning of construction vehicles ahead ● Maintenance of localised road stabilisation and re-sheeting across the public road where the crossing is located, as determined in consultation with Council and in accordance with MCoA B34 and associated agreements with Council. Independent dilapidation surveys along the applicable local roads have been undertaken in accordance with MCoA (NSW) B34. Regular inspections will be conducted throughout the proposed use described herein, for signs of wear, damage, or deterioration, to identify any repair actions (for example re-sheeting or pothole repair) to maintain the current road surface and condition, in accordance with MCoA (NSW) B34.
Amenity impacts MCoA (NSW) B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the crossing points' location and small physical footprint when compared to the overall Project.
Design criteria MCoA (NSW) B31(b)	The crossing points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA (NSW) B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to section below.
Schedule MCoA (NSW) B31(e)	Proposed commencement in December 2025 and completion in Q1 2026.
Permanent or Temporary MCoA (NSW) B31(h)	The crossing points will be temporary but may be replaced in time with a permanent crossing point (subject to further design and assessment).

Assessment of Impacts

The crossing points at SP1-A1/A2 were wholly included within the EIS approved construction area. The location of the crossing points and their construction area are:

- Within the Project construction area (the disturbance footprint)
- Within the Heritage assessment area
- Within the Biodiversity Study Area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to

minimise this wherever possible during construction). All works, including this construction buffer, are within the EIS assessed areas.

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

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

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below.

Table D1- 2 EIS Assessment and Outcomes Summary (Sp1-A1/A2 Crossing Points)

EIS Assessment and Outcomes Summary					EIS References
Biodiversity					
<i>Study Area and Existing Environment</i>					Section 10.2.1 of the EIS (Chapter 10 (Biodiversity))
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:					Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
- The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project - The study area as 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					Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
The crossing points are located within the biodiversity study area.					
<i>Relevant Environmental Risks</i>					Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
- 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					
<i>Assessment and Outcomes Summary</i>					Section 10.4 of the EIS (Chapter 10 (Biodiversity))
Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen.					Table 10-3 of the EIS (Chapter 10 (Biodiversity))
The table below summarises the PCT's that have been identified at the crossing points that would be impacted.					Table 10-4 of the EIS (Chapter 10 (Biodiversity))
PCT	Act	Listed Status	Threat Status	Associated TEC	Table 10-5 of the EIS (Chapter 10 (Biodiversity))
PCT 277 (Blakely's Red Gum - Yellow	BC Act (NSW)	Listed	Critically Endangered	White Box – Yellow Box – Blakley's Red Gum Grassy Woodland and Derived Native Grassland in the	Biodiversity Development

EIS Assessment and Outcomes Summary					EIS References
Box grassy tall woodland) and PCT 281 (Rough-Barked Apple – red gum – Yellow Box woodland)	EPBC Act (Cth)	Listed	Critically Endangered	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 White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
The Biodiversity Development Assessment Report of the EIS (Technical Paper 4) (BDAR) identified these sections of vegetation along Merotherie Road as threatened ecological community (TEC) listed under the <i>Biodiversity Conservation Act 2016</i> and the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. The location of crossing point SP1-A1 at Merotherie Road was identified in the BDAR, and therefore the BDAR generally considered the crossing point and the associated impacts at this location. The BDAR also identifies that the following threatened fauna species have habitat that will be impacted by the crossing points: • Eastern Pygmy-possum (<i>Cercartetus nanus</i>) • Key's Matchstick Grasshopper (<i>Keyacris scurra</i>) • Squirrel Glider (<i>Petaurus norfolcensis</i>) The BDAR also identified the following flora species as being impacted by the crossing points: • Silky swainson-pea (<i>Swainsona sericea</i>) • Tarengo leek orchid (<i>Prasophyllum petilum</i>) • <i>Euphrasia arguta</i>					
Aboriginal Heritage and Non-Aboriginal Heritage					
Study Area and Existing Environment The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The crossing points are located within the study area.					Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))
Relevant Environmental Risks • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential					Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
Assessment and Outcomes Summary The Non-Aboriginal Heritage and Aboriginal Cultural Heritage Assessment Report included in the EIS and Amendment Report did not identify any items or areas of historic heritage significance that would be impacted by the proposed SP1-A1 crossing point. Although two isolated Aboriginal heritage finds were identified in the vicinity of Merotherie Road (SNI-GG15 approximately 150m north and SNI-IF33 approximately 280m south), no areas, sites, items or places of Aboriginal Cultural Heritage significance were identified at the SP1-A1 crossing point. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.					Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment)

EIS Assessment and Outcomes Summary	EIS References
	Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
<i>Study Area and Existing Environment</i> The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
<i>Relevant Environmental Risks</i> - Impacts to condition of roads due to increased vehicular traffic - Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area in proximity to Merotherie Road perform at Level of Service A. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of crossing points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Air Quality	
<i>Study Area and Existing Environment</i> The nearest sensitive air quality receiver (residential) is located 3.19km to the northwest of the crossing point.	Figure 19-3 of the EIS (Chapter (Air Quality))
<i>Relevant Environmental Risks</i> Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the crossing point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
<i>Relevant Environmental Risks</i> Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity and traffic.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS References
<i>Assessment and Outcomes Summary</i> The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of crossing points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
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 and crossing points described in this document.	

Mitigation Measures

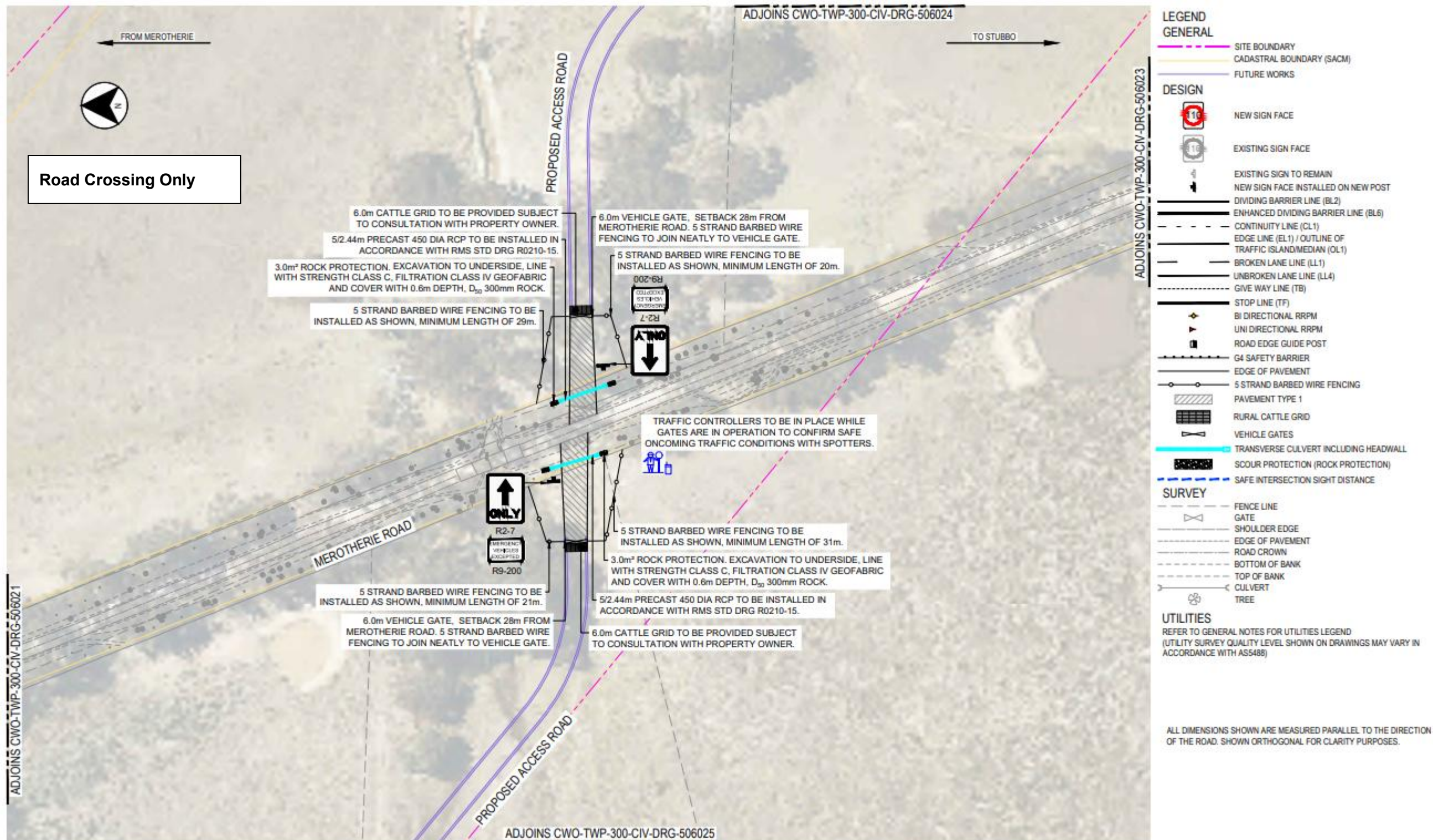
The environmental mitigations described in the EIS (including the Amendment Report) and incorporated into the Project Approval are considered appropriate for the management of all crossing points described in this Strategy. No additional mitigation measures have been identified as required to facilitate the construction and use of these crossing points.

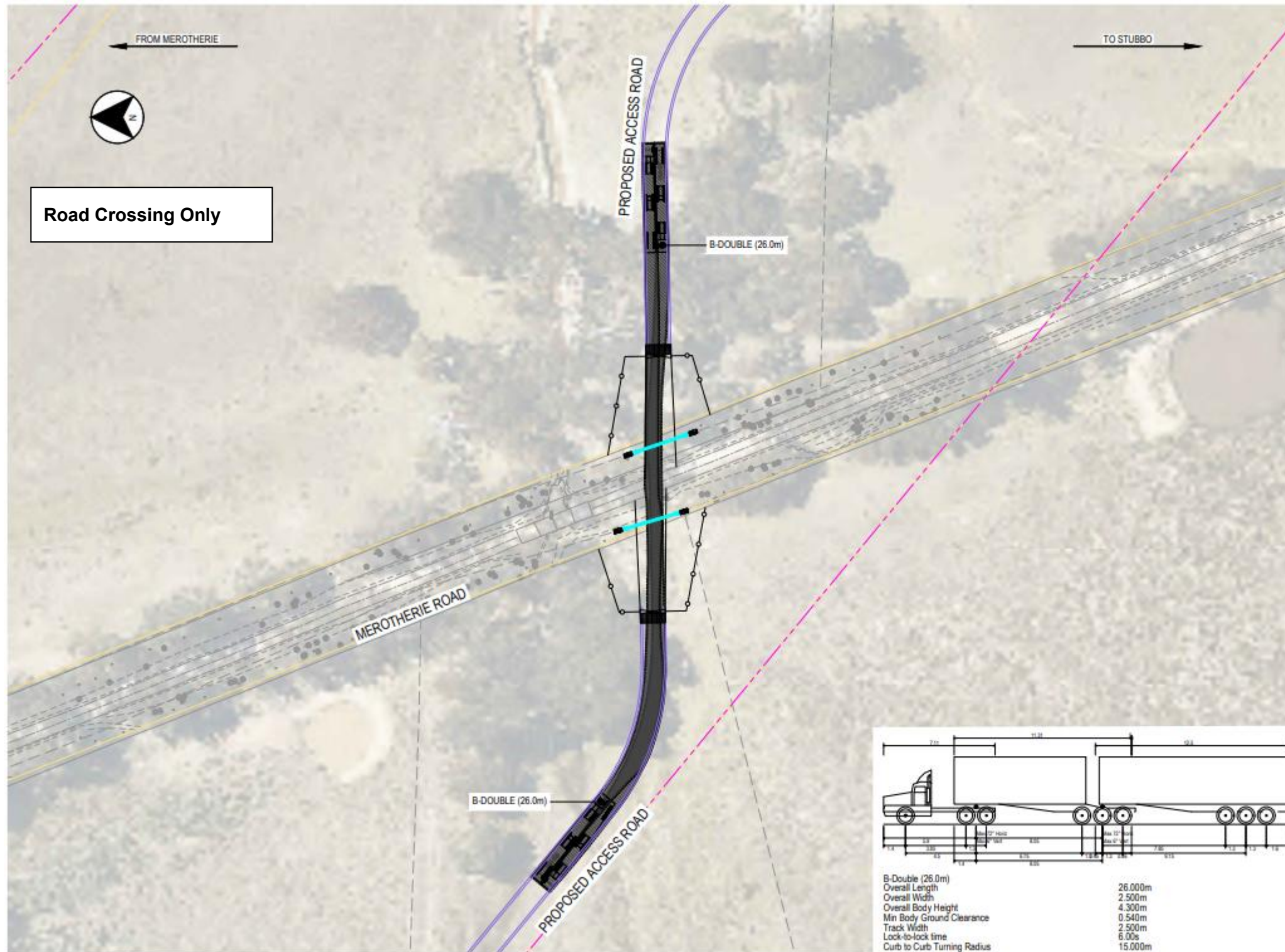
Strategic Concept Design

MCoA 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. TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

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





LEGEND GENERAL

- SITE BOUNDARY
- CADASTRAL BOUNDARY (SACM)
- FUTURE WORKS

DESIGN

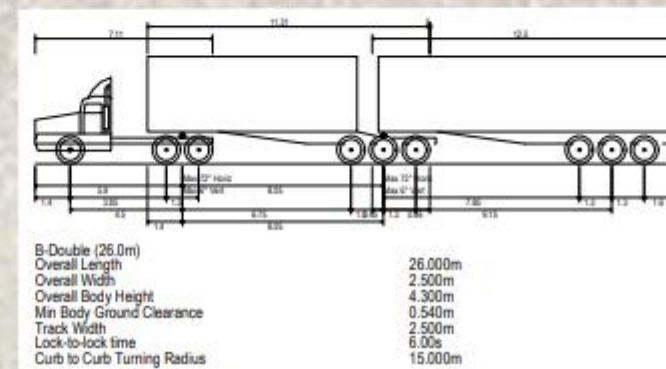
- NEW SIGN FACE
- EXISTING SIGN FACE
- EXISTING SIGN TO REMAIN
- NEW SIGN FACE INSTALLED ON NEW POST
- DIVIDING BARRIER LINE (BL2)
- ENHANCED DIVIDING BARRIER LINE (BL6)
- CONTINUITY LINE (CL1)
- EDGE LINE (EL1) / OUTLINE OF TRAFFIC ISLAND/MEDIAN (OL1)
- BROKEN LANE LINE (LL1)
- UNBROKEN LANE LINE (LL4)
- GIVE WAY LINE (TB)
- STOP LINE (TF)
- BI DIRECTIONAL RRPM
- UNI DIRECTIONAL RRPM
- ROAD EDGE GUIDE POST
- G4 SAFETY BARRIER
- EDGE OF PAVEMENT
- 5 STRAND BARBED WIRE FENCING
- PAVEMENT TYPE 1
- RURAL CATTLE GRID
- VEHICLE GATES
- TRANSVERSE CULVERT INCLUDING HEADWALL
- SCOUR PROTECTION (ROCK PROTECTION)
- SAFE INTERSECTION SIGHT DISTANCE

SURVEY

- FENCE LINE
- GATE
- SHOULDER EDGE
- EDGE OF PAVEMENT
- ROAD CROWN
- BOTTOM OF BANK
- TOP OF BANK
- CULVERT
- TREE

UTILITIES

REFER TO GENERAL NOTES FOR UTILITIES LEGEND
(UTILITY SURVEY QUALITY LEVEL SHOWN ON DRAWINGS MAY VARY IN ACCORDANCE WITH AS5488)



ALL DIMENSIONS SHOWN ARE MEASURED PARALLEL TO THE DIRECTION OF THE ROAD. SHOWN ORTHOGONAL FOR CLARITY PURPOSES.

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

Location

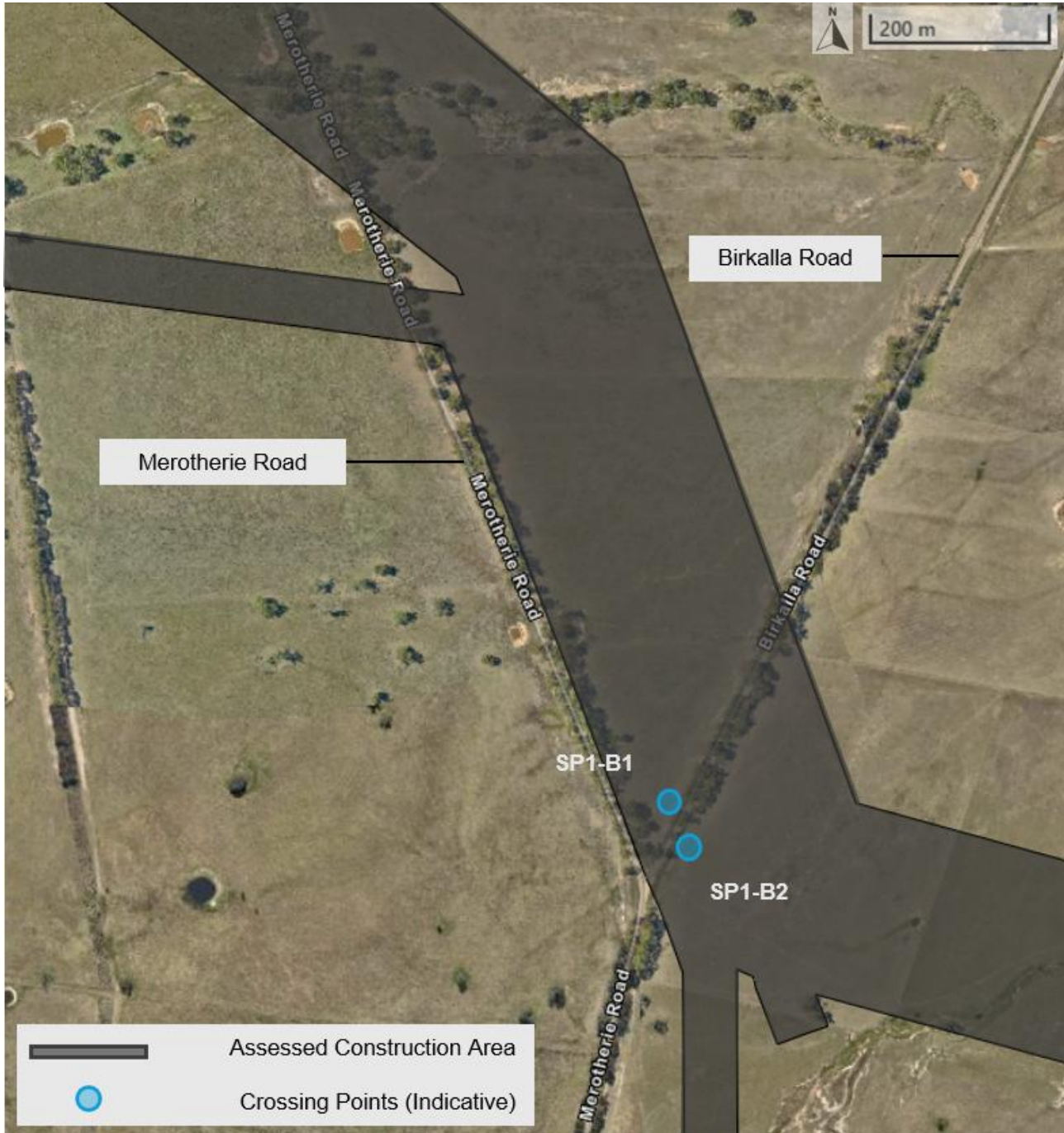


Figure D2- 1 Location of Crossing Points SP1-B1/B2

Description

The crossing points SP1-B1/B2 formalise the existing crossing points approved under MCoA (NSW) B32 which included vehicle restriction limits. These crossing will be used to cross Birkalla Road for access along the internal access road and construction areas on either side of the road.

Further details are provided within the table below Table D2- 1.

Table D2- 1 Crossing Points Sp11-B1/B2 Description and Use

Entry Point ID	SP1-B1/B2 - Crossing points
EIS Access Point (if applicable)	L1.18 / L1.19
Road	Birkalla Road
Location	https://maps.app.goo.gl/npPgyuzt5jcFRuBV8 (refer to Figure D2- 1 D2-1)
Type	Crossing
Scope of Work	- Ongoing use of existing crossing, but with vehicle movement restrictions removed - Maintenance of existing structures and controls, or installation of additional structures and controls, including: - Fence, gate and signage - Drainage pipe and headwalls (if required) - Livestock grid (if required) - Advanced warning signs on approach to the crossing points - Signage referencing 'give way' on the internal access tracks, clearly indicating that the public road has right of way - Public vehicle traffic management measures will be implemented as deemed necessary to enhance safety and traffic efficiency, in consultation with Council. These measures may include traffic signal/traffic control adjustments to manage traffic flow and the installation temporary traffic control devices such as signs warning of construction vehicles ahead - Maintenance of localised road stabilisation and re-sheeting across the public road where the crossing is located, as determined in consultation with Council Independent dilapidation surveys along the applicable local roads have been undertaken in accordance with MCoA (NSW) B34. Regular inspections will be conducted throughout the proposed use described herein, for signs of wear, damage, or deterioration, to identify any repair actions (for example re-sheeting or pothole repair) to maintain the current road surface and condition, in accordance with MCoA (NSW) B34. 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 Council. Livestock grids may be necessary for properties where there is a risk of livestock escaping. Drainage pipe requirements will depend on the existing provision for drains at the edge of the existing road formation.
Amenity impacts MCoA (NSW) B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the crossing points' location and small physical footprint when compared to the overall Project.
Design criteria MCoA (NSW) B31(b)	The crossing points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA (NSW) B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to section below.
Schedule MCoA (NSW) B31(e)	Proposed commencement in December 2025 and completion in Q1 2026.

Permanent or Temporary MCoA (NSW) B31(h)

The crossing points will be temporary but may be replaced in time with a permanent crossing point (subject to further design and assessment).

Assessment of Impacts

The design and construction footprint of the crossing points SP1-B1/B2 were wholly included within the EIS approved construction area. Specifically, the location of the crossing points and their construction area is:

- Within the Project construction area (the disturbance footprint)
- Within the heritage assessment area
- Within the biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction). All works, including this construction buffer, are within the EIS assessed areas.

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

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

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below.

Table D2- 2 EIS Assessment and Outcomes Summary (Sp1-B1/B2 Crossing Points)

EIS Assessment and Outcomes Summary	EIS References
Biodiversity	
<i>Study Area and Existing Environment</i> The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as 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 crossing points are located within the biodiversity study area.	Section 10.2.1 of the EIS (Chapter 10 (Biodiversity)) Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

EIS Assessment and Outcomes Summary

EIS References

Relevant Environmental Risks

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

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

Assessment and Outcomes Summary

Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen.

The table below summaries the PCT's that have been identified at the crossing points that would be impacted.

PCT	Act	Listed Status	Threat Status	Associated TEC
PCT 277 (Blakely's Red Gum - Yellow Box grassy tall woodland)	BC Act (NSW)	Listed	Critically Endangered	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions
	EPBC Act (Cth)	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

Section 10.4 of the EIS (Chapter 10 (Biodiversity))

Table 10-3 of the EIS (Chapter 10 (Biodiversity))

Table 10-4 of the EIS (Chapter 10 (Biodiversity))

Table 10-5 of the EIS (Chapter 10 (Biodiversity))

Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)

The BDAR identified these sections of vegetation along Birkalla Road as threatened ecological community (TEC) listed under the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999*. The location of crossing point SP1-B1/B2 at Birkalla Road was identified in the BDAR, and therefore the BDAR generally considered the crossing points and the associated impacts at this location.

The BDAR also identifies that the following threatened fauna species have habitat that will be impacted by the crossing points:

- Squirrel Glider (*Petaurus norfolcensis*)

The BDAR also identified the following flora species as being impacted by the crossing points:

- Pine donkey orchid (*Diuris tricolor*)

Aboriginal Heritage and Non-Aboriginal heritage

Study Area and Existing Environment

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

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

EIS Assessment and Outcomes Summary	EIS References
<i>Relevant Environmental Risks</i> - Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value - Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The Non-Aboriginal Heritage and Aboriginal Cultural Heritage Assessment Report included in the EIS and Amendment Report did not identify any items or areas of historic heritage significance that would be impacted by the proposed SP1-B1/B2 crossing points. Although one isolated Aboriginal heritage find was identified in the vicinity of Birkalla Road (SNI-AS27 approximately 515m north of SP1-B1 and 590m north of SP1-B2), no areas, sites, items or places of Aboriginal Cultural Heritage significance were identified at the SP1-B1/B2 crossing points. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
<i>Study Area and Existing Environment</i> The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. 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 crossing points is the portion south of Ulan-Wollar Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
<i>Relevant Environmental Risks</i> - Impacts to condition of roads due to increased vehicular traffic - Impacts on access to and within properties	
<i>Assessment and Outcomes Summary</i> Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of crossing points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Air Quality	
<i>Study Area and Existing Environment</i>	Figure 19-3 of the EIS (Chapter (Air Quality))

EIS Assessment and Outcomes Summary	EIS References
The nearest sensitive air quality receiver (residential – ID 703) is located 1.95km to the southwest of the crossing point.	
<i>Relevant Environmental Risks</i> Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the crossing point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
<i>Relevant Environmental Risks</i> Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of crossing points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

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 crossing points described in this Strategy. No additional mitigation measures have been identified as required to facilitate the construction and use of these crossing points.

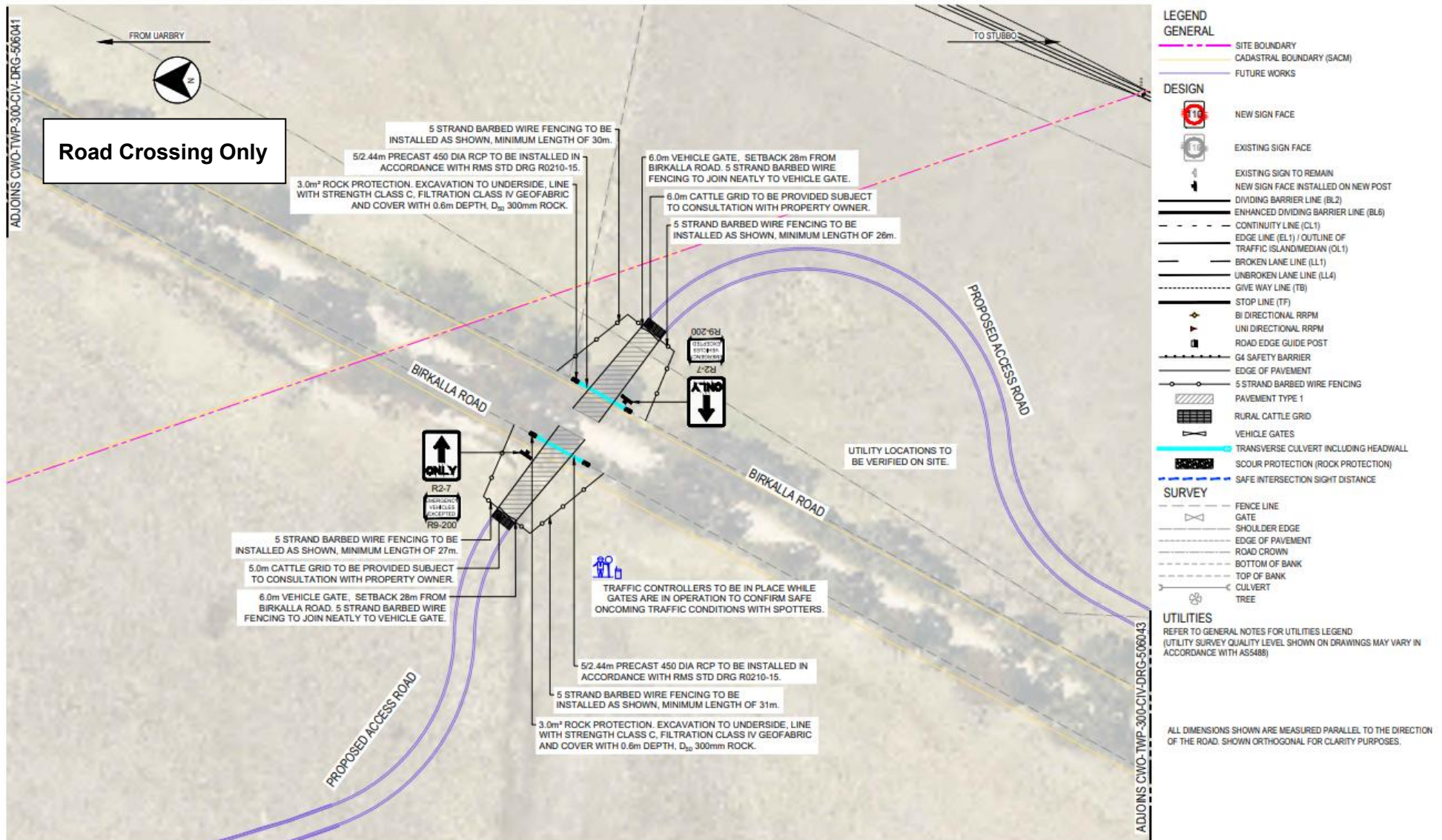
Strategic Concept Design

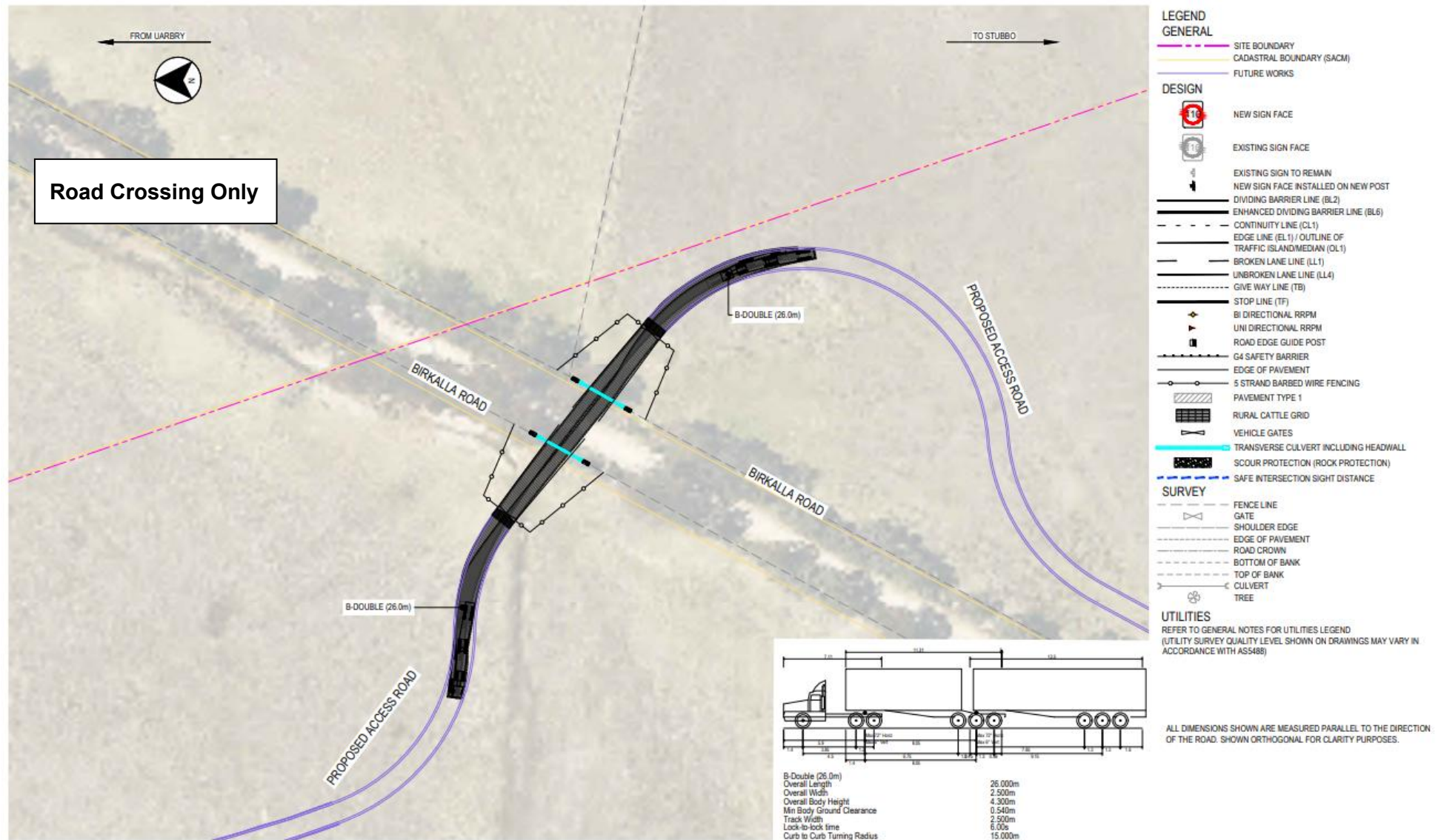
MCoA B31(c) requires that the Transport Strategy "*includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)*".

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. TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

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







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

Location



Figure D3- 1 Location of Crossing Points SP1-E1/E2 on Blue Springs Road

Description

The crossing points at SP1-E1/E2 formalise the existing crossing points approved under MCoA (NSW) B32, which included vehicle restriction limits. These crossings will be used to cross Blue Springs Road for access along the internal access road and construction areas on either side of the road.

Further details are provided within the table below Table D3- 1.

Table D3- 1 Crossing Points SP1-E1/E2 Description and Use

Entry Point ID	SP1-E1/E2 – Crossing point only
EIS Access Point (if applicable)	L1.16 / L1.17
Road	Blue Springs Road
Location	https://maps.app.goo.gl/7NfJmVFCHLYZjS3f6 (refer to Figure D3-1)
Type	Crossing point
Scope of Work	- Ongoing use of existing crossing, but with vehicle movement restrictions removed - Maintenance of existing structures and controls, or installation of additional structures and controls, including: - Fence, gate and signage - Drainage pipe and headwalls (if required) - Livestock grid (if required) - Advanced warning signs on approach to the crossing points - Signage referencing 'give way' on the internal access tracks, clearly indicating that the public road has right of way - Public vehicle traffic management measures will be implemented as deemed necessary to enhance safety and traffic efficiency, in consultation with Council. These measures may include traffic signal/traffic control adjustments to manage traffic flow and the installation temporary traffic control devices such as signs warning of construction vehicles ahead - Maintenance of localised road stabilisation and re-sheeting across the public road where the crossing is located, as determined in consultation with Council and in accordance with MCoA B34 and associated agreements with Council. Independent dilapidation surveys along the applicable local roads have been undertaken in accordance with MCoA (NSW) B34. Regular inspections will be conducted throughout the proposed use described herein, for signs of wear, damage, or deterioration, to identify any repair actions (for example re-sheeting or pothole repair) to maintain the current road surface and condition, in accordance with MCoA (NSW) B34.
Amenity impacts MCoA (NSW) B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the crossing points' location and small physical footprint when compared to the overall Project.
Design criteria MCoA (NSW) B31(b)	The crossing points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA (NSW) B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to the section below.
Schedule MCoA (NSW) B31(e)	Proposed commencement in December 2025 and completion in Q1 2026.
Permanent or Temporary MCoA (NSW) B31(h)	The crossing points will be temporary but may be replaced in time with a permanent access (subject to further design and assessment).

Assessment of Impacts

The design and construction footprint of the crossing points SP1-E1/E2 were wholly included within the EIS approved construction area. Specifically, the location of the crossing points and their construction area is:

- Within the Project construction area (the disturbance footprint)
- Within the heritage assessment area
- Within the biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction). All works, including this construction buffer, are within the EIS assessed areas.

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

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

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below.

Table D3- 2 EIS Assessment and Outcomes Summary (SP1-B1/B2 Crossing Points)

EIS Assessment and Outcomes Summary	EIS References
Biodiversity	
<i>Study Area and Existing Environment</i> The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as 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 crossing points are located within the biodiversity study area.	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)
<i>Relevant Environmental Risks</i> • Clearing of native vegetation resulting in loss of fauna habitat, habitat fragmentation and loss of connectivity • Impacts on listed threatened fauna, threatened flora species and endangered terrestrial ecological populations and communities	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary					EIS References
<i>Assessment and Outcomes Summary</i> Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen. The table below summaries the PCT's that have been identified by the BDAR as being impacted at the crossing points.					Section 10.4 of the EIS (Chapter 10 (Biodiversity)) Table 10-3 of the EIS (Chapter 10 (Biodiversity)) Table 10-4 of the EIS (Chapter 10 (Biodiversity)) Table 10-5 of the EIS (Chapter 10 (Biodiversity)) 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)
PCT	Act	Listed Status	Threat Status	Associated TEC	
PCT 281 (Rough-Barked Apple – red gum – Yellow Box woodland)	BC Act (NSW)	Listed	Critically Endangered	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	
	EPBC Act (Cth)	Listed	Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	
PCT 0 (Category 1 Land)	N/A	N/A	N/A	N/A	
The BDAR identified these sections of vegetation along Blue Springs Road as threatened ecological community (TEC) listed under the <i>Biodiversity Conservation Act 2016 and the Environment Protection and Biodiversity Conservation Act 1999</i>. The location of the access point SP1-E1/E2 at Blue Springs Road was identified in the BDAR, and therefore the BDAR generally considered the crossing points and the associated impacts at this location. The BDAR also identifies that the following threatened fauna species have habitat that will be impacted by the crossing points: • Eastern Pygmy-possum (<i>Cercartetus nanus</i>) • Striped legless lizard (<i>Delma impar</i>) • Squirrel Glider (<i>Petaurus norfolcensis</i>)					
Aboriginal Heritage and Non-Aboriginal heritage					
<i>Study Area and Existing Environment</i> The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The crossing points are located within the study area.					Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))

EIS Assessment and Outcomes Summary	EIS References
<i>Relevant Environmental Risks</i> - Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value - Impacts on unknown/unlisted heritage items and areas of archaeological potential	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The Non-Aboriginal Heritage and Aboriginal Cultural Heritage Assessment Report included in the EIS and Amendment Report identified the High Density Zone of Copes Creek which is mapped on a small portion of the SP1-E2 access point footprint. In accordance with REMM AH10, where ground disturbance activities are unable to avoid areas within 150m of Copes Creek (excluding areas already disturbed during construction of existing access tracks and access roads), archaeological excavations will be undertaken. Where sub-surface artefacts or cultural materials are uncovered, archaeological excavations will be followed immediately by salvage mitigation requirements in locations where ground disturbance activities would occur, following the methods outlined in Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report and described in the ACHMP. Although two isolated Aboriginal heritage finds were identified in the vicinity of Blue Springs Road (SNI-IF17 approximately 280m west of SP1-E1 and SNI-AS13 approximately 170m northeast of SP1-E2), no areas, sites, items or places of Aboriginal Cultural Heritage significance were identified at the SP1-E1/E2 crossing points. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.	Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
<i>Study Area and Existing Environment</i> The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. 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 crossing points is the portion south of Ulan-Wollar Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
<i>Relevant Environmental Risks</i> - Impacts to condition of roads due to increased vehicular traffic - Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)

EIS Assessment and Outcomes Summary	EIS References
exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of crossing points, it is anticipated that the actual impact would be much lower.	
Air Quality	
<i>Study Area and Existing Environment</i> The nearest sensitive air quality receiver (residential – ID 399) is located 645m to the northeast of the crossing point.	Figure 19-3 of the EIS (Chapter (Air Quality))
<i>Relevant Environmental Risks</i> Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the crossing point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
<i>Relevant Environmental Risks</i> Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity and traffic	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of crossing points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

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 the crossing points. No additional mitigation measures have been identified as required to facilitate the construction and use of these crossing points.

Strategic Concept Design

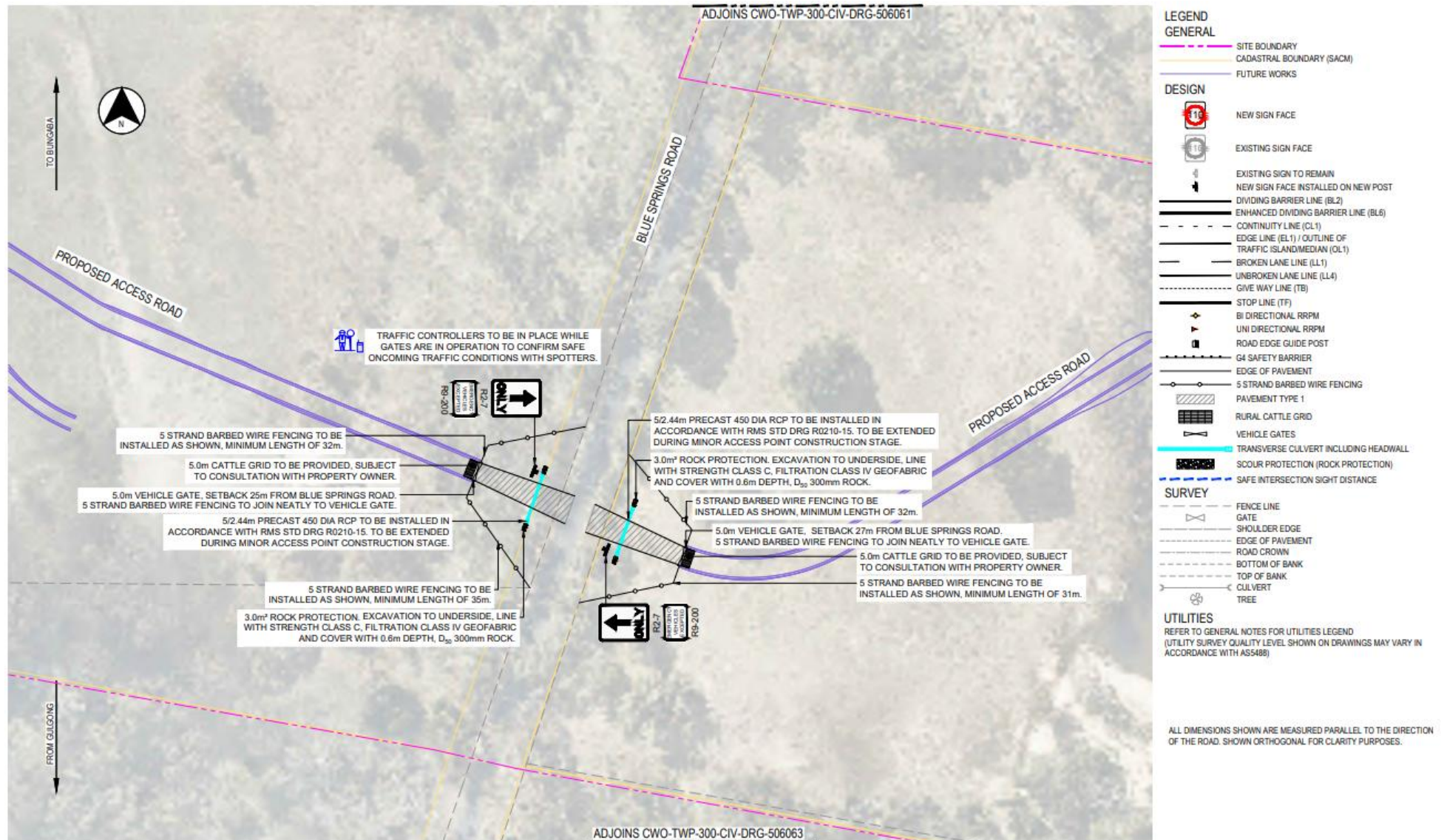
MCoA B31(c) requires that the Transport Strategy "*includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)*".

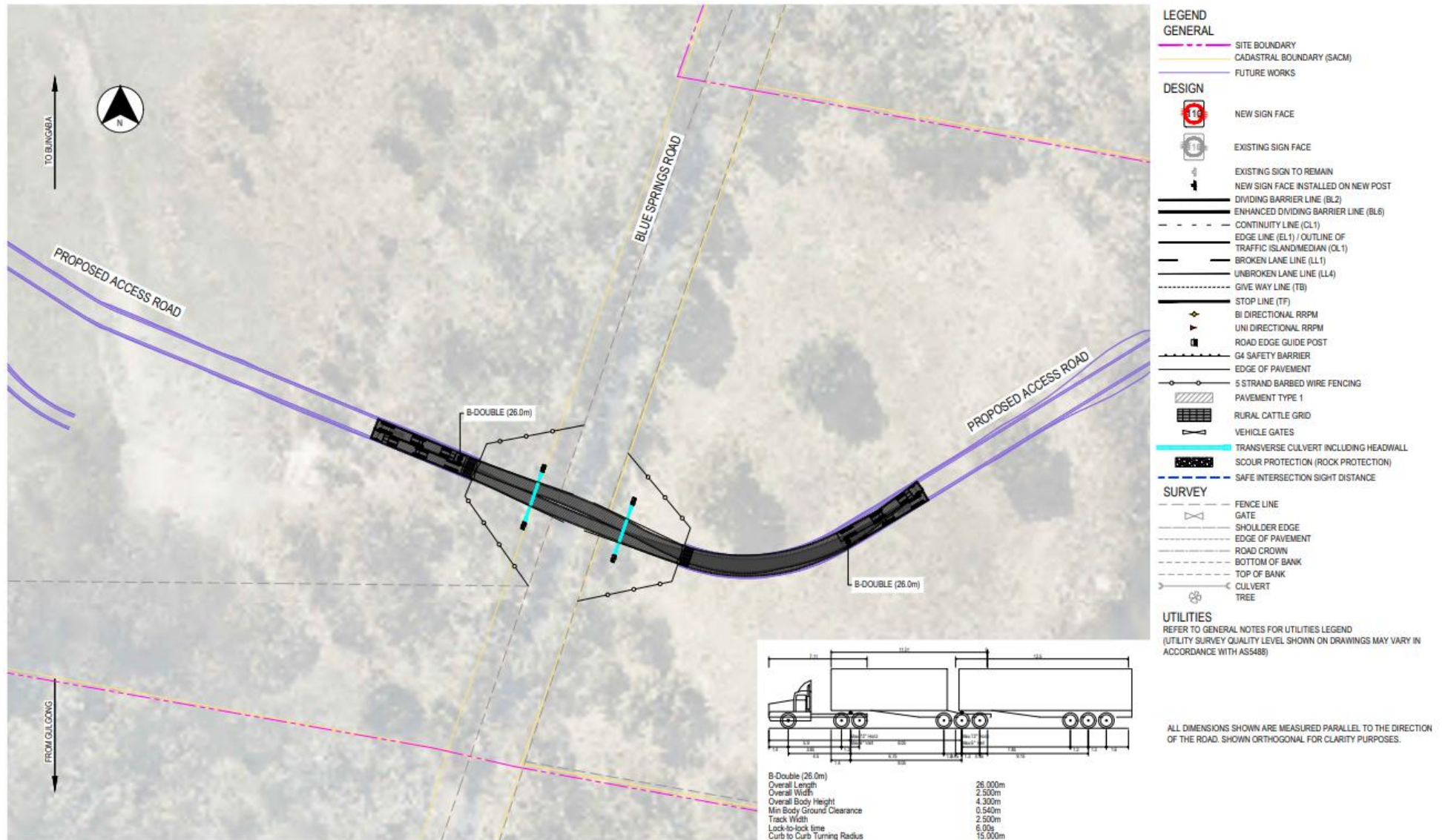
In design terms, a Strategic Concept Design refers to a level of detail typically included at the first stage of a design drawing, and is generally followed by Preliminary Design, Detailed Design and Issued for Construction Design. It is noted that the Austroads Guide to Road Design does not provide

a description of what is required to be in a Strategic Concept Design. TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

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







APPENDIX D4 SP1-F1/F2 (HIGHTETT ROAD) CROSSING POINTS

Location



Figure D4- 1 Location of Crossing Points SP1-F1/F2 on Highett Road

Description

Crossing Points SP1-F1/F2 formalise the existing crossing points approved under MCoA (NSW) B32 which included vehicle restriction limits. These crossing will be used to cross Highett Road for access along the internal access road and construction areas on either side of the road.

Further details are provided within the table below Table D4- 1.

Table D4- 1 Crossing Points SP1-F1/F2 Description and Use

Entry Point ID	SP1-F1/F2 – Crossing points
EIS Access Point (if applicable)	L1.14 / L1.15
Road	Highett Road (refer to Figure D4-1)
Location	https://maps.app.goo.gl/iCmmUXyDHgWQBLT19
Type	Crossing
Scope of work	Ongoing use of existing crossing, but with vehicle movement restrictions removed.

	- Maintenance of existing structures and controls, or installation of additional structures and controls, including: - Fence, gate and signage - drainage pipe and headwalls (if required) - livestock grid (if required) - advanced warning signs on approach to the crossing points - signage referencing 'give way' on the internal access tracks, clearly indicating that the public road has right of way - Public vehicle traffic management measures will be implemented as deemed necessary to enhance safety and traffic efficiency, in consultation with Council. These measures may include traffic signal/traffic control adjustments to manage traffic flow and the installation temporary traffic control devices such as signs warning of construction vehicles ahead - Maintenance of road stabilisation and re-sheeting across the public road where the crossing is located in accordance with MCoA B34 and associated agreements with Council. Independent dilapidation surveys along the applicable local roads have been undertaken in accordance with MCoA (NSW) B34. Regular inspections will be conducted throughout the proposed use described herein, for signs of wear, damage, or deterioration, to identify any repair actions (for example re-sheeting or pothole repair) to maintain the current road surface and condition, in accordance with MCoA (NSW) B34.
Amenity impacts MCoA (NSW) B31(a)	The works would result in some localised traffic control requirements both during construction and prior to operation. Overall, the impact to amenity is expected to be negligible given the crossing points' location and small physical footprint when compared to the overall Project.
Design criteria MCoA (NSW) B31(b)	The crossing points will be designed in accordance with the design documentation and in accordance with Section 2.1 of this Strategy, above.
Strategic concept design MCoA (NSW) B31(c)	The typical 'Access Point & Crossing – standard design' (refer to drawings below) will be utilised. Further detailed design will continue outside the scope of this Strategy through a separate process for review and approval with Council.
Assessment of potential impacts MCoA (NSW) B31 (d)	Refer to section below
Schedule MCoA (NSW) B31(e)	Proposed commencement in December 2025 and completion in Q1 2026.
Permanent or Temporary MCoA (NSW) B31(h)	The crossing points will be temporary but may be replaced in time with a permanent access point (subject to further design, assessment and Transport Strategy approval).

Assessment of Impacts

The design and construction footprint of crossing points SP1-F1/F2 were wholly included within the EIS approved construction area. Specifically, the location of the crossing points and their construction area is:

- Within the Project construction area (the disturbance footprint)
- Within the heritage assessment area
- Within the biodiversity study area

This location has been considered with the provision of a 5m construction buffer, which is taken to be the worst-case scenario for the actual disturbance footprint (noting that efforts will be made to minimise this wherever possible during construction). All works, including this construction buffer, are within the EIS assessed areas.

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

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

To address this requirement, a summary of the potential biodiversity, heritage and traffic impacts relevant to the crossing points has been extracted from the EIS and provided below.

Table D4- 2 EIS Assessment and Outcomes Summary (Sp1-F1/F2 Crossing Points)

EIS Assessment and Outcomes Summary	EIS References
Biodiversity	
<i>Study Area and Existing Environment</i> The biodiversity study area in the EIS includes the construction area and surrounding areas that have the potential to be directly and indirectly impacted by the Project. In accordance with the BAM, Technical paper 4 of the EIS (Biodiversity) refers to: • The construction area as the subject land, which includes all areas that would be directly impacted by construction and operation of the Project • The study area as 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 crossing points are located within the biodiversity study area.	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)
<i>Relevant Environmental Risks</i> • 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)
<i>Assessment and Outcomes Summary</i> Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen. The table below summaries the PCT's that have been identified at the crossing points.	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 References
PCT	Act	Listed Status	Threat Status	Associated TEC	Biodiversity Development Assessment Report of the EIS (Technical Paper 4) Revised Biodiversity Development Assessment Report of the EIS (Technical Paper 4)
PCT 399 (Red Gum – Rough-Barked Apple +/- tea tree sandy creek woodland)	N/A	N/A	N/A	N/A	
PCT 479 (Narrow-leaved Ironbark-Black Cypress Pine – Stringybark +/- Barrie-leaved Wattle)	N/A	N/A	N/A	N/A	
The location of crossing points SP1-F1/F2 at Highett Road were identified in the BDAR, and therefore the BDAR generally considered the crossing points and the associated impacts at this location. The BDAR also identified the following threatened fauna species as having habitat that will be impacted by the crossing points: • Eastern Pygmy-possum (<i>Cercartetus nanus</i>) • Squirrel Glider (<i>Petaurus norfolcensis</i>) • Pale-headed snake (<i>Hoplocephalus bitorquatus</i>) The BDAR also identifies that the following threatened flora species have habitat that will be impacted by the crossing points: • Ausfeld's wattle (<i>Acacia ausfeldii</i>)					
Aboriginal Heritage and Non-Aboriginal heritage					
<i>Study Area and Existing Environment</i> The Aboriginal heritage study area comprises the construction area, and where relevant incorporates the broader areas of the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) to capture the broader cultural and historical context of the region. The crossing points are located within the study area.					Section 11.2.1 of the EIS (Chapter 11 (Aboriginal heritage))
<i>Relevant Environmental Risks</i> • Impacts on unidentified Aboriginal heritage sites or areas of archaeological sensitivity of cultural value • Impacts on unknown/unlisted heritage items and areas of archaeological potential					Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The Non-Aboriginal Heritage and Aboriginal Cultural Heritage Assessment Report included in the EIS and Amendment Report did not identify any items or areas of historic heritage significance that would be impacted by the proposed SP1-F1/F2 crossing points. Although seven isolated Aboriginal heritage finds were identified in the vicinity of Highett Road (SNI-IF85 approximately 10m south of SP1-F1, SNI-IF86 approximately 180m west of SP1-F1, SNI-IF84 approximately 300m west of SP1-F1, SNI-AS93 approximately 290m west of SP1-F1, SNI-AS94 approximately 300m west of SP1-F1, SNI-IF85 approximately 280m west of SP1-F2 and SNI-AS31 approximately 220m southeast of SP1-F2), no areas, sites, items or places of Aboriginal Cultural Heritage significance were identified at the SP1-F1/F2 crossing points. The EIS identifies that impacts on unknown/unlisted heritage items and areas of archaeological potential are likely without adequate mitigation measures in place.					Figure 11-1 of the EIS (Chapter 11 (Aboriginal heritage)) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis) Technical Paper 6 of the EIS (Non-Aboriginal Heritage Assessment) Technical Paper 5 of the EIS (Aboriginal Cultural Heritage) Appendix E of the Addendum Aboriginal Cultural Heritage

EIS Assessment and Outcomes Summary	EIS References
	Assessment Report (Appendix H of the Amendment Report)
Traffic and Transport	
<i>Study Area and Existing Environment</i> The traffic and transport study area comprises the transport networks that may be impacted by construction movements to and from the energy hubs, switching stations, access gates, construction compounds and workforce accommodation camps, or by the operation of the Project (staff and maintenance movements). It includes the roads that provide access to the construction area back to the nearest highway. 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 crossing points is the portion south of Ulan-Wollar Road.	Figure 17-1 of the EIS (Chapter 17 (Traffic and Transport)) Table 17-3 of the EIS (Chapter 17 (Traffic and Transport))
<i>Relevant Environmental Risks</i> - Impacts to condition of roads due to increased vehicular traffic - Impacts on access to and within properties	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> Based on the survey results collected, the highest traffic volumes are observed on highways (State roads), which reflects the function of these roads. All of the roads assessed in the study area perform at Level of Service A, with the exception of Ulan Road and Ullar-Wollar Road which operate at a Level of Service B. All residual risk ratings for traffic and transport in the EIS were noted as being 'low'. Due to the minor nature of the establishment and use of crossing points, it is anticipated that the actual impact would be much lower.	Section 17.3.2 of the EIS (Chapter 17 (Traffic and Transport)) Section 5.2.3 of EIS Technical Paper 13 (Traffic and Transport)
Air Quality	
<i>Study Area and Existing Environment</i> The nearest sensitive air quality receiver (residential – ID 328) is located 514m to the southwest of the crossing point.	Figure 19-3 of the EIS (Chapter (Air Quality))
<i>Relevant Environmental Risks</i> Local air quality impacts due to dust generation (from exposed soil/stockpiles, excavation, concrete batching and vehicle movements) or emissions from construction plant and equipment	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)
<i>Assessment and Outcomes Summary</i> The EIS noted that for sensitive receivers located over 200m from project components, the potential air quality impacts are predicted to remain low. As the crossing point (of which only minimal dust of a temporary duration would be generated during construction) is located over 200m from the nearest receiver, it is considered that the amenity impacts on any receivers would be negligible.	Section 19.4 of the EIS (Chapter 19 (Air Quality))
Cumulative Impacts	
<i>Relevant Environmental Risks</i> Numerous projects have the potential to be under construction at the same time as the Project, leading to potential cumulative impacts including biodiversity and traffic.	Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

EIS Assessment and Outcomes Summary	EIS References
<i>Assessment and Outcomes Summary</i> The EIS identified that these impacts are not likely to be major, generally due to these projects being located across a large geographic area (resulting in dispersal of cumulative impacts). The EIS noted that the residual risk rating for this impact would be 'medium'. Due to the minor nature of the establishment and use of crossing points in the context of the wider Project, it is anticipated that the actual impact would be negligible.	Section 20.2 of Chapter 20 of the EIS (Cumulative Impacts) Table 22-4 of Chapter 22 of the EIS (Environmental Risk Analysis)

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 crossing points described in this Strategy. No additional mitigation measures have been identified as required to facilitate the construction and use of these crossing points.

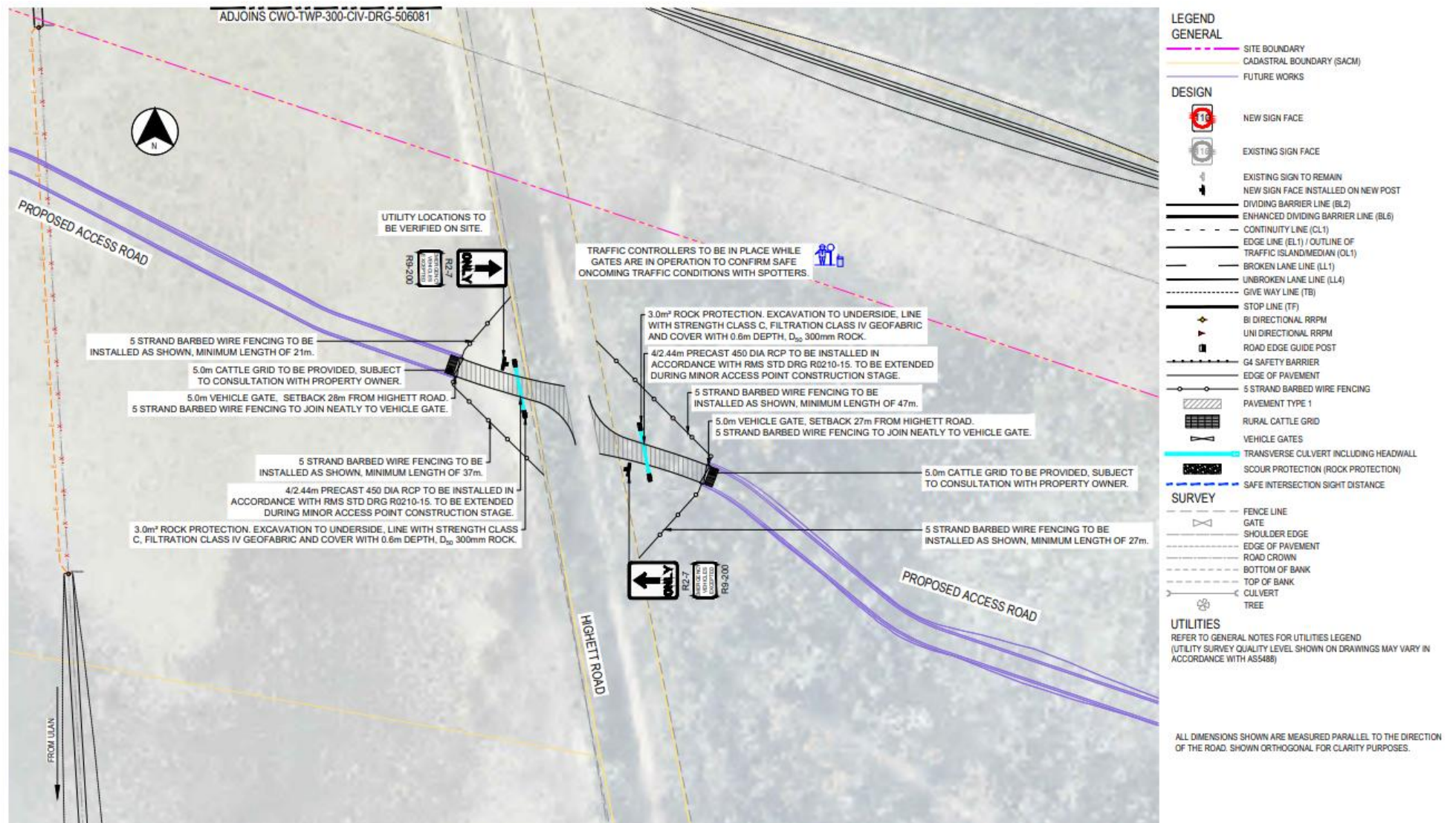
Strategic Concept Design

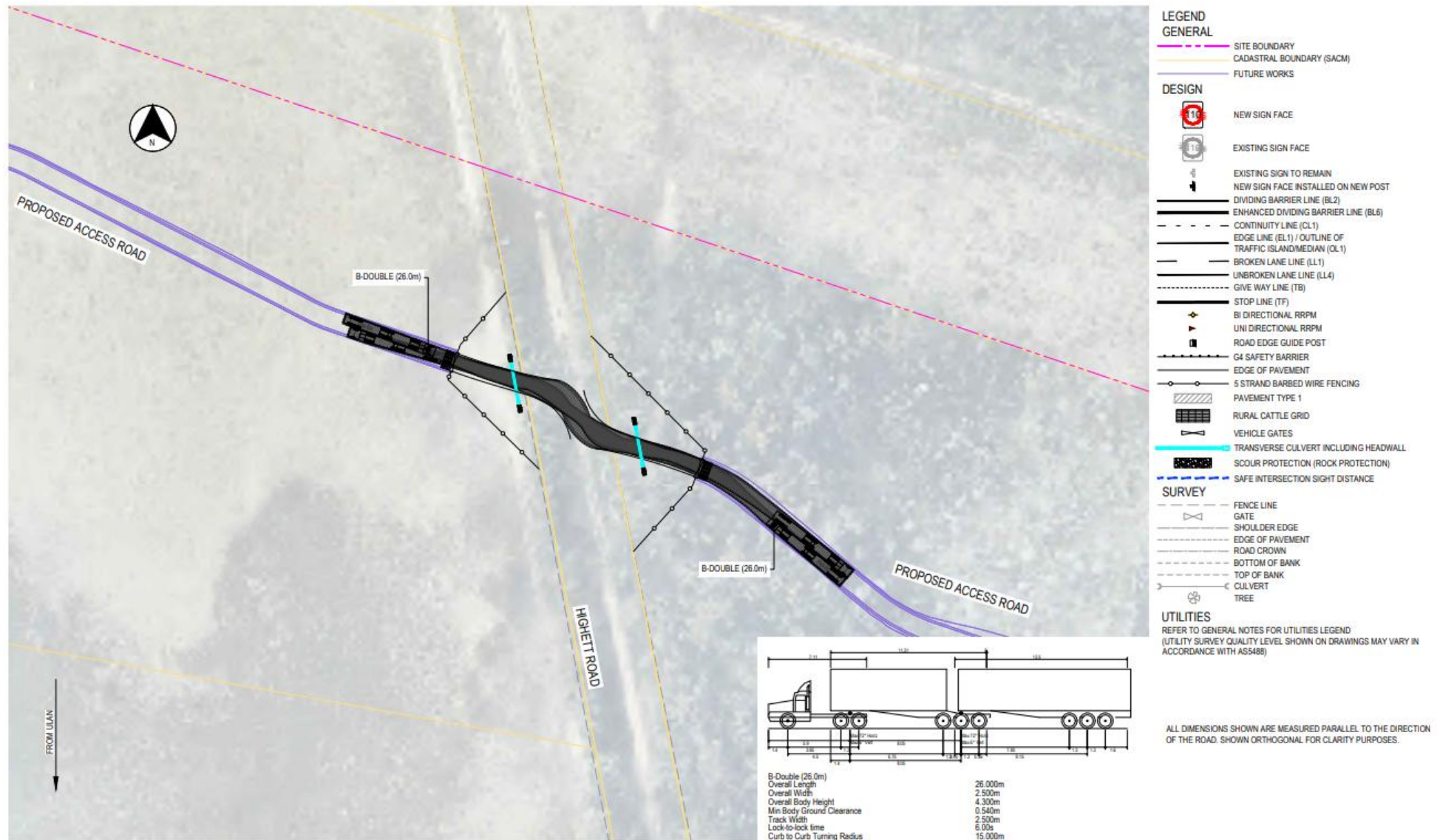
MCoA B31(c) requires that the Transport Strategy "*includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)*".

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. TfNSW has prepared only one supplement to Austroads Guide to Road Design (20 December 2023), which does not provide description for what is required to be in a Strategic Concept Design.

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







APPENDIX D5 SP1-J2 (ULAN ROAD) – NOT YET INCLUDED

**APPENDIX D6
INCLUDED**

SP1-L1/L2 (ULAN ROAD / ULAN-WOLLAR ROAD) – NOT YET

APPENDIX D7 SP1-U (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D8 SP1-N (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D9 SP1-P (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D10 SP1-T (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

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

APPENDIX D12 SP5-C1/C2 (TURILL BUS ROUTE) – NOT YET INCLUDED

APPENDIX D13 SP6-A2 (MEROTHERIE ROAD) – NOT YET INCLUDED

APPENDIX D14 SP6-B1/B2 (BIRKALLA ROAD) – NOT YET INCLUDED

**APPENDIX D15
INCLUDED**

SP6-D1/D2 (BLUE SPRINGS ROAD SOUTH) – NOT YET

APPENDIX D16 SP7-A (BIRRIWA BUS ROUTE SOUTH) – NOT YET INCLUDED

APPENDIX D17 SP6-E1/E2 (BIRRIWA BUS ROUTE SOUTH) – NOT YET INCLUDED

APPENDIX D18 SP2-H1/H2 (CASTLEREAGH HIGHWAY) – NOT YET INCLUDED

APPENDIX D19 SP5-B1/B2 (CLIFFDALE ROAD) – NOT YET INCLUDED

APPENDIX D20 SP1-H1/H2 (COPE ROAD) – NOT YET INCLUDED

APPENDIX D21 SP3-D1/D2 (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D22 SP3-E (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D23 SP3-X1/X2 (PUGGOON ROAD) – NOT YET INCLUDED

APPENDIX D24 SP1-Q (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D25 SP1-WILP (ULAN-WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D26 SP1-X1/X2 (UPPER CUMBO ROAD) – NOT YET INCLUDED

APPENDIX D27 SP3-A (WHISTONS LANE) – NOT YET INCLUDED

APPENDIX D28 SP1-V1/V2 (WILPINJONG ROAD) – NOT YET INCLUDED

APPENDIX D29 SP1-W (WOLLAR ROAD) – NOT YET INCLUDED

APPENDIX D30 SP2-G1/G2 (TUCKLAND ROAD) - NOT YET INCLUDED

