



PARTNERING ON DESIGN AND CONSTRUCTION

CENTRAL-WEST ORANA RENEWABLE ENERGY ZONE

B31 WOLLAR TRANSPORT STRATEGY

CWO-PRO-050-ENV-STR-000015 REV 05

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Document Control

This Wollar Transport 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 - B31 WOLLAR TRANSPORT STRATEGY			
Revision Number	REV 05			
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Review	Name	Position	Date	Signature
	Alex Gosper	Traffic Manager	25/02/2025	<i>Alex Gosper</i>
Approval	Tung Pham	Project Wide Director	25/02/2025	<i>Tung Pham</i>
Principal Endorsement	Grant Andersen	Project Director	26/02/2025	

DOCUMENT STATUS

Revision	Date	Pages	Revised by	Description
Rev A	30/08/2024	All	Alex Gosper Luz Vasquez-Castro	For NO review, For EnergyCo review,
Rev B	28/10/2024	All	Alex Gosper Luz Vasquez-Castro	For NO review, For EnergyCo review,
Rev C	14/11/2024	All	Alex Gosper Luz Vasquez-Castro	For External Review
Rev D	10/01/2025	All	Alex Gosper	For External Review
Rev E	23/02/2025	All	Alex Gosper	For ER 2 nd Review
Rev 00	26/02/2025	All	Alex Gosper	For ER Endorsement & DPHI Approval
Rev 01	10/03/2025	All	Erran Woodward	For ER Endorsement

Revision	Date	Pages	Revised by	Description
Rev 02	06/06/2025	All	Kirk Martinez	Split content pertaining to Elong Elong area. For Council consultation
Rev 03	22/08/2025	All	Erran Woodward	Updated to address consultee comments
Rev 04	3/09/2025	All	Erran Woodward Kirk Martinez	Updated to address consultee comments
Rev 05	11/09/2025	All	Erran Woodward	Updated to address ER comments

CONTROL AND RECORDS

The approved CWO-PRO-050-ENV-STR-000015 B31 Wollar 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 execution of the B31 Transport Strategies 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 B31 Transport Strategies intends to provide the framework and guidelines, to operate within the Central-West Orana REZ, to ensure integrity, coherence, and effective stakeholder interface management and required reporting as defined in the ACJV D&C Polices and Code of Conduct.

The Traffic Manager together with the Project Wide Director is responsible for implementing this Strategy and ensures that the processes and associated documentation is applicable to the Project works undertaken and that it complies with the D&C Deed, Polices, code of conduct and legislative requirements. The B31 Project Wide Transport Strategy is approved by the Project Director, who has overall accountability for the project control function.

RELATED DOCUMENTS

Traffic and Transport Management Plan.

Terms and Abbreviations

Acronym	Definition
AADT	Average Annual Daily Traffic
ACJV D&C	A design and construction unincorporated joint venture of ACCIONA and Cobra.
ACERREZ	ACERREZ Network Operator has been selected by EnergyCo as the Network Operator for the Central-West Orana REZ
AED	Acciona Engineering and Design
Approved Projects	Renewable Energy Zone (REZ) Projects with Infrastructure Approval under Section 5.19 of the Environmental Planning and Assessment Act 1979
AUL	Auxiliary Left Turn
BAL	Basic Left Turn
BAR	Basic Right Turn
CHR	Channelised Right Turn
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
HV	Heavy vehicles
LV	Light vehicles
MCoA	Minister's Conditions of Approval
MWRC	Mid-Western Regional Council
NO	Network Operator
NSW	New South Wales
OSOM	Oversize Overmass
Project Approval	The Infrastructure Approval under Section 5.19 of the Environmental Planning and Assessment Act 1979 by the Minister for Planning and Public Spaces in June 2024.
REZ	Renewable Energy Zone
RNI	REZ Network Infrastructure
Roadmap	New South Wales (NSW) Government's Electricity Strategy

Acronym	Definition
Road upgrades	Collective term used within this document to refer to intersection upgrades, access points and road modifications required for the CWO REZ Project. The mandatory Road Upgrades are identified in Planning Approval Appendix 4 Table 5 under the header 'Road/Intersection'
SISD	Safe Intersection Site Distances
TfNSW	Transport for New South Wales
Treatment	The manner in which a Road Upgrade will be implemented. Defined (for some upgrades) in the Planning Approval Appendix 4 Table 5.
TWA	Turn Warrant Assessment
WAD	Works Authorisation Deed

1 Introduction

1.1 BACKGROUND

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

The Central-West Orana REZ is the first project in this strategy and is expected to be operational by 2028. It will initially unlock up to 4.5 gigawatts (GW) of new network capacity – equivalent to powering 2 million homes.

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

1.2 PURPOSE

This Wollar Transport Strategy (the Strategy) has been developed specifically for the Central-West Orana REZ as part of scheduled documents required by the Minister's Conditions of Approval (MCoA) item B31 (refer to SSI-48323210-Mod-3).

The full list of requirements and how and where these are addressed within the Strategy is outlined in Table 1-1.

TABLE 1-1 COMPLIANCE MATRIX

MCoA	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 the TfNSW and relevant Councils, to the satisfaction of the Planning Secretary, which:	Consultation has been completed in accordance with MCoA B31, including the provision of this document to Transport for NSW and Midwestern Council.	This document
	a) Identifies the location and type of any necessary road upgrades (including roads, intersections, crossing points, bridges and access points), including consideration of relevant amenity impacts	Description of the upgrades along with concept design for upgrades in the respective Appendices.	Section 1.4 Scope of this strategy Section 5 Road Treatments Section 6 Environmental Assessment and Mitigation
	b) Ensures the road upgrades comply	Design criteria for the	Section 2.1 Design Criteria

MCoA	Requirement	How addressed	Where
	with the Austroads Guide to Road Design (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise	various upgrades is referenced unless agreed with relevant road authority.	
	c) Includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements)	As noted in the summary of each portion of upgrade required, concept plans included in Appendices.	Not applicable – no physical treatments are proposed as part of this Strategy
	d) Includes a detailed assessment of potential impacts of any necessary road upgrades (such as heritage and biodiversity impacts) and appropriate mitigation measures, including consideration of cumulative traffic impacts from approved projects	A summary of the identified biodiversity and heritage impacts identified as part of the EIS is included.	Section 6 Environmental Assessment and Mitigation
	e) Include a schedule for the commencement and completion of all necessary road upgrades	The summaries of each upgrade include an expected program for the works described.	Section 5 Road Treatments
	f) Includes strategic concept designs for transmission lines crossing state roads and any structures required to facilitate stringing	To be addressed in the Stringing Transport Strategy	
	g) Details the methods for installing transmission lines across State roads, ensuring the number and length of delays is minimised and avoids peak traffic hours for Golden and Castlereagh Highways		
	h) Identifies whether intersections, crossing points and access points would be permanent or temporary	The summaries of each upgrade include if the works are proposed to be permanent or temporary.	Section 5 Road Treatments

1.3 STAGING

Due to the extensive scope of the Project works, the design development and program constraints, it is proposed to stage the submission and approval of this document. These stages, as shown in Table 1-2, were described in a staging strategy letter, approved by the Department of Planning, Housing and Infrastructure (DPHI) in accordance with MCoA C3, on 19 August 2025.

This Strategy is addressing the Wollar region, as indicated in bold text in Table 1-2, in the Mid-Western Regional Council (MWRC) area.

TABLE 1-2 TRANSPORT STRATEGIES STAGING STRUCTURE

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 (this document)	Road upgrades required for commencement of site establishment at the Barigan Creek Switching Station (referred to as the New Wollar Switching Station in the EIS), which are within the Mid-Western Regional LGA.
Elong Elong Transport Strategy	Road upgrades required for commencement of site establishment at the Elong Elong Energy Hub, which are within the Warrumbungle Shire LGA.
Mid-Western Regional LGA Transport 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

The specific roads, intersections and access points that are required to be addressed in a Transport Strategy are 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, this applicable items for this Strategy from Planning Approval Appendix 4, Table 5 has been replicated in Appendix A and summarised below.

A) Specific items in Appendix 4 Table 5

- Ulan Road and Golden Highway Intersection: This is relevant to the geographical area addressed in this Strategy, however this intersection is not required to be included into a Transport Strategy

- Ulan Road and Neeleys Lane Intersection: This is relevant to the geographical area addressed in this Strategy, however this intersection is not required to be included into a Transport Strategy
- Wollar Road Access Gates: These are relevant to the geographical area addressed in this Strategy, however will be addressed in the Project Wide TS (either 3A or 3B)

B) Local Roads

The following Local Roads are addressed in this Strategy:

- Ulan-Wollar Road
- Barigan Road
- Barigan Street

C) Minor Access Points

- Reference to the existing access point from Barigan Road into Transgrid's Wollar Substation has been included for completeness, though it is noted that this does not require the construction of an access point nor an access track off a public road network, and therefore is not required to be included in a Transport Strategy in accordance with the Planning Approval.

1.5 CONSULTATION

In accordance with MCoA (NSW) B31, consultation on this Strategy has been undertaken with Transport for NSW and Mid-Western Regional Council, as required under MCoA (NSW) B31 (refer to Table 1-1).

In accordance with MCoA (NSW) A7, a record of consultation will be prepared and issued to the Planning Secretary along with this Strategy, which includes details of the consultation undertaken including 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 Treatments

2.1 DESIGN CRITERIA

Planning Approval condition B31 requires that the road upgrades comply with the Austroads Guide to Road Design (as amended by TfNSW supplements), unless the relevant road authority agrees otherwise; and includes strategic concept designs prepared in accordance with Austroads Guide to Road Design (as amended by TfNSW supplements).

Transport for NSW has prepared a *Supplement to Austroads Guide to Road Design* (Issue date: 20 December 2023; Effective date: 20 December 2023) (the TfNSW Supplement), which has been used in the preparation of Strategic Concept Designs (as required under MCoA B32(c)).

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

2.2 TURN WARRANT ASSESSMENT

Where a State Road intersection has been identified for use, it may be assessed for adequacy based on the Turn Warrant Assessment (TWA) process, which is outlined in Austroads Guide to Traffic Management Part 6: Intersections Interchanges and Crossings Management.

This guide provides the process for assessing an intersection for the appropriate configuration to ensure safe operation of the intersection. It considers the volume of through traffic, turning traffic, design speed and identifies if/what further treatments are required, including Basic Right Turn (BAR) and Basic Left Turn (BAL) (localised widening of shoulders to improve safety of turning), or further treatments like channelised turn lanes dedicated for turning traffic, which are a higher standard of intersection treatment.

The figures below represent the assessment graphs where the associated, calculated turning movements are plotted, the result of which determines the appropriate treatment for the anticipated turning and through traffic of the intersection.

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections

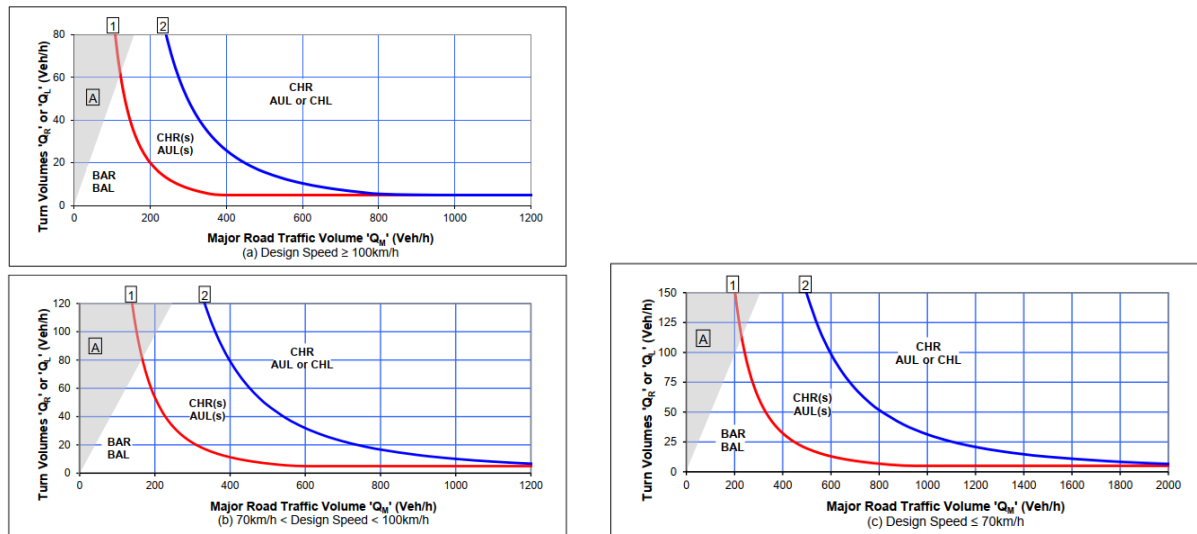


FIGURE 2 TWA ASSESSMENT GRAPHS FOR MAJOR ROADS AT UNSIGNALISED INTERSECTIONS (AUSTROADS GUIDE TO TRAFFIC MANAGEMENT PART 6: INTERSECTIONS INTERCHANGES AND CROSSINGS MANAGEMENT)

Where the TWA identifies that a certain treatment is required, it will be compared to the existing intersection layout to identify whether a road upgrade treatment is required. In the case the existing configuration is deficient, and where no treatment is prescribed by Planning Approval Appendix 4 Table 5, the outcome of the turn warrant assessment can be used in the determination of the most appropriate treatment that can reasonably be adopted to ensure no worsening of existing road capacity and safety standards, while considering other project and environmental impacts, such as biodiversity and heritage values.

2.3 SAFE INTERSECTION SIGHT DISTANCE

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

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

In some instances, the 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.

If the SISD identifies a deficiency for another reason, treatments will be investigated in consultation with the relevant roads authority and be incorporated into a Transport Strategy where required under the Planning Approval. Additionally, where required, the proposed treatment will be incorporated into the appropriate permit application for either a Road Occupancy Licence or

Section 138 Application, for the purpose of implementation and to support the use of the intersection for construction-related use.

2.4 ACCESS TREATMENT TYPES

2.4.1 General Arrangements

Planning Approval Appendix 4 Table 5 outlines the treatment required for nominated road upgrades, including minor access points off the public road network. These will typically be in accordance with one of the details below, based on an assessment matrix outlined in Section 2.4.2.

Figure 2 presents the standard Basic Right Turn (BAR) and Basic Left Turn (BAL) treatments 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 treatments are typically applied to a public road junction or intersection, and not necessarily required for private access points. In some cases, these treatments have been prescribed in the Planning Approval as a result of the existing traffic volumes and construction traffic demands.

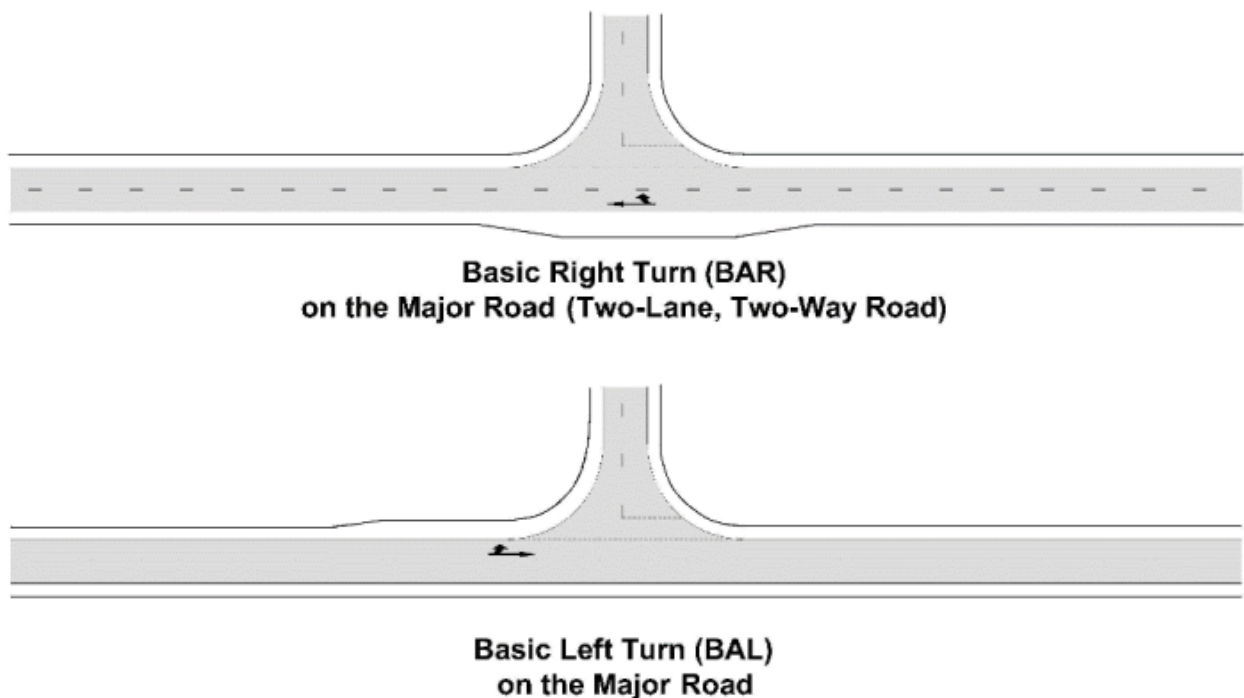
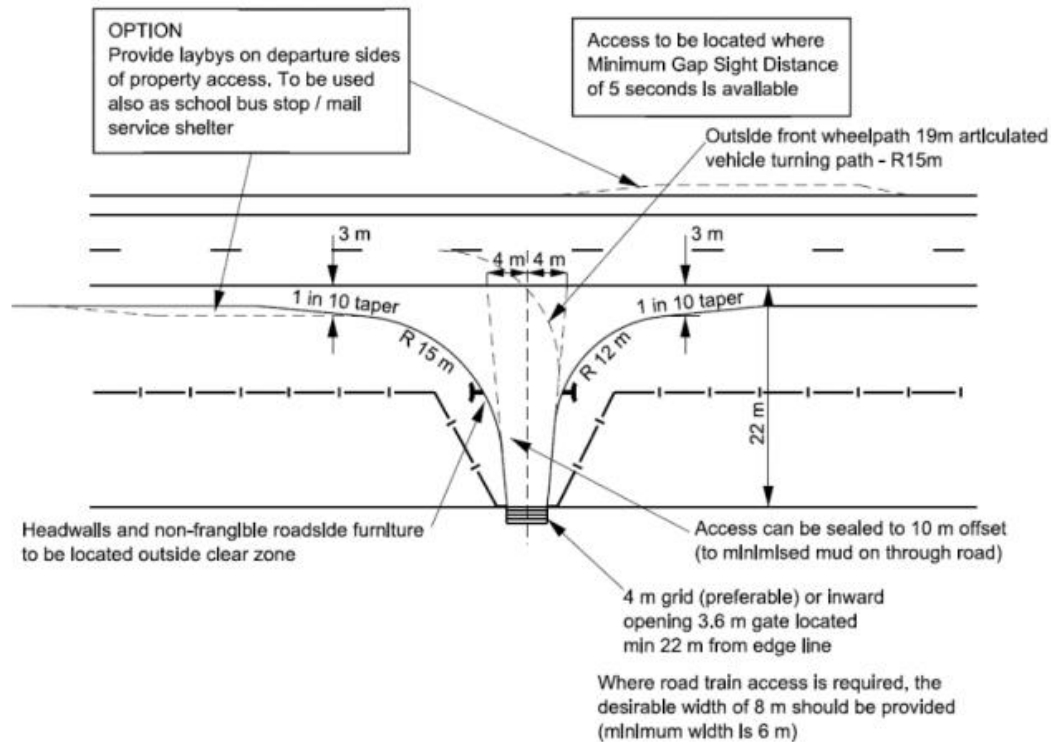


FIGURE 2 BAR AND BAL TREATMENTS (AUSTROADS GUIDE TO ROAD DESIGN PART4A: UNSIGNALISED AND SIGNALISED INTERSECTIONS 2023)

The Austroads Guide to Road Design Part 4: Intersections and Crossings outlines treatments for light and heavy vehicle movements for rural access points. Figure 3 illustrates the recommended

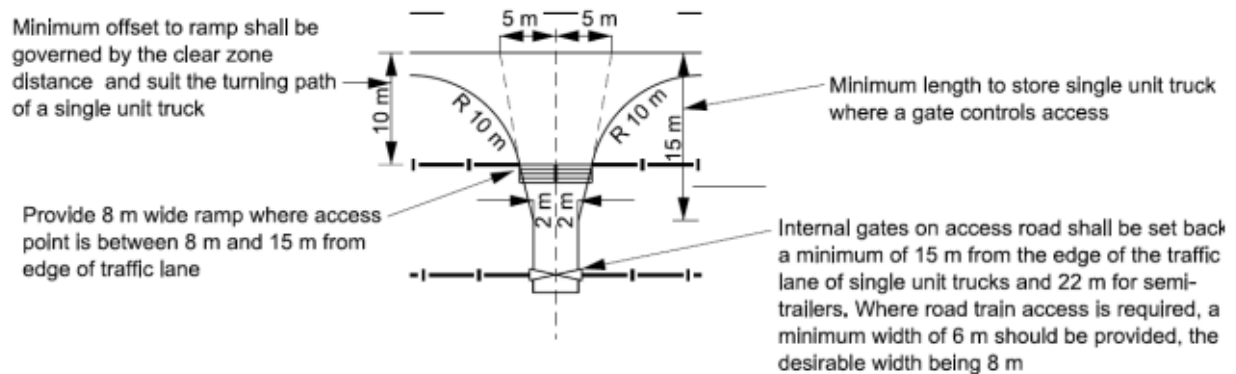
treatment for rural property access where entry is required for semi-trailers or articulated vehicles. These treatments will be adopted in accordance with the assessment matrix (Section 2.4.2) and are expected on lower volume Local Roads.



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

The alternative treatment in Figure 3 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.



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

2.4.2 Assessment Matrix

In consideration of available treatment options (described above) and review of the various design triggers, criteria, and existing configurations, the construction access points will have a variety of treatments available. These options are provided in the assessment matrix in Table 2-1, and will be reflected in the concept designs required under MCoA B31(c).

TABLE 2-1 ASSESSMENT MATRIX FOR TREATMENT OPTIONS

Scenario	Treatment
Project Approval road upgrades with prescribed upgrades for public intersections	Treatments will typically be implemented as prescribed in the Minister's Conditions of Approval, unless otherwise approved by a Transport Strategy, as per B32.
Project Approval road upgrades without prescribed upgrades	Treatments for public intersections that are to be addressed in the Transport Strategy will be assessed against the turn treatment warrants outlined in Section 2.2.2, and the construction delivery requirements
State Road / Highway	Treatment will include BAR/BAL to accommodate the construction site access 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 council as the roads authority)

Scenario	Treatment
(Regional Road or Local Road) and >2000 AADT but <21 average daily HV movements	Rural access for articulated vehicles (minimum) or as otherwise agreed with the Roads Authority
Local Road and < 2000 AADT and requires >20 average daily HV movements	Rural access for articulated vehicles or as otherwise agreed with the Roads Authority
Local Road with limited HV	Light vehicle access or as otherwise agreed with the Roads Authority
Permanent driveway locations	Light vehicle access or as otherwise agreed with the Roads Authority

3 Existing Conditions

3.1 BARIGAN ROAD

Barigan Road is classified as a Local Road and comprises of a sealed two-way carriageway with one traffic lane in each direction (refer to Figure 1). It will serve as a primary access route to the Barigan Creek Switching Station. This road has been upgraded recently however retains some tight curves with limited site distances.



FIGURE 1 BARIGAN ROAD (SITE PHOTOS DATED APRIL 2025)

3.2 BARIGAN STREET

Barigan Street is classified as a Local Road and comprises of a sealed two-way carriageway without formal line marking. It operates within a low-speed traffic environment, consistent with its surrounding land uses, which include residential properties and a school frontage.

3.3 WOLLAR ROAD

Wollar Road is classified as a Regional Road under the TfNSW Road Network Classification Network, and despite not being required for inclusion into this Strategy (in accordance with Planning Approval Appendix 4 Table 5) is included herein for completeness as it does form part of the approved construction access route. It is a sealed road with single lane in each direction. Wollar Road is line-marked with a posted speed limit of 100 km/h.

3.4 ULAN-WOLLAR ROAD

Ulan-Wollar Road is classified as a Local Road and comprises of a sealed two-way carriageway with one lane in each direction (refer to Figure 2). Sections of the road are currently line-marked, and the posted speed limit is 100 km/h.



FIGURE 2 ULAN-WOLLAR ROAD (SITE PHOTOS DATED APRIL 2025)

3.5 BARIGAN ROAD AND WOLLAR ROAD INTERSECTION

The existing configuration at Barigan Road and Wollar Road Intersection is shown in Figure 3. A review of the intersection for Safe Intersection Sight Distances (SISD) has been undertaken and is found to be suitable for the Project (refer to Section 5.2.2 for further details).



FIGURE 3 BARIGAN ROAD AND WOLLAR ROAD INTERSECTION

3.6 EXISTING ACCESS POINT VIA BARIGAN ROAD

The construction works at the Barigan Creek Switching Station will use an existing access which is established to facilitate access to Transgrid's Wollar Substation. The existing entry configuration is shown in Figure 4.



FIGURE 4 EXISTING ACCESS VIA BARIGAN ROAD

4 Construction Use

4.1 CONSTRUCTION TRAFFIC ROUTES

The construction traffic routes to be utilised for the works described within this Strategy are provided in Table 4-1. This route described below is consistent with the Planning Approval Appendix 4 Figures 4-1 to 4-4, as required by MCoA B29 and B30.

TABLE 4-1 CONSTRUCTION TRAFFIC ROUTES ADDRESSED BY THIS STRATEGY

State	Regional	Local
Golden Highway	- Wollar Road - Ulan Road - Maitland Street	- Ulan-Wollar Road - Barigan Road - Barigan Street

These roads are all included in the Traffic and Transport Management Plan (TTMP), as required under MCoA B35(a), and are shown (excluding State Roads) in the context of the broader region, in Appendix B: Vehicle Access Routes.

Further detail on specific elements of the traffic routes is provided below.

4.1.1 Local Roads

Appendix 4, Table 5 of the Planning Approval requires that other Local Roads (meaning, those that are not specific items of that table, and are identified in Figure 4-1 to Figure 4-4 of the Planning Approval) require upgrade as necessary as per the applicable Transport Strategy prepared in accordance with MCoA B31, prior to commencing the use of that Local Road for any heavy vehicle traffic associated with construction of the Project.

In meeting this requirement, this Strategy particularly addresses the Local Roads as listed in Table 4-1.

4.1.2 Barigan Road and Wollar Road Intersection

Intersection counts and 24-hour midblock counts (using Automatic Traffic Counters) were undertaken as part of the EIS for the use of the intersection of Barigan Road and Wollar Road by construction traffic. The projected construction traffic volumes for the Barigan Creek Switching Station are anticipated to be consistent with the peak levels outlined in the EIS summary, meaning that the outcomes from these traffic assessments can be relied upon for the purpose of determining road upgrade requirements.

Using the EIS data, the Average Daily Traffic (ADT) has been estimated for Wollar Road and Barigan Road, for existing public traffic movements (i.e. not inclusive of construction-related traffic). Consistent with the findings from the EIS midblock survey data, peak hour traffic constitutes approximately ten percent of the daily traffic as shown in Table 4-2.

TABLE 4-2 ESTIMATED AVERAGE DAILY GENERAL (NOT PROJECT RELATED) TRAFFIC

Location	Road Classification	Average Daily Traffic (ADT)	AM Peak Period	PM Peak Period
Wollar Road (west of Wollar)	Regional	170	17 vehicles	15 vehicles
Barigan Road (to Wollar Substation)	Local	100	10 vehicles	10 vehicles

These roads are not expected to be heavily used during construction; their main purpose being to provide access to the transmission line access gates and Barigan Creek Switching Station.

4.1.3 Barigan Creek Switching Station

Construction activities at the Barigan Creek Switching Station will utilise an existing access that provides access to Transgrid's Wollar Substation. This existing access has been previously constructed to accommodate all-weather access for construction and operational traffic, and is suitable for continued use during the Barigan Creek Switching Station works. The construction access route from Barigan Road to the Barigan Creek Switching Station site is shown in Figure 5.



FIGURE 5 ACCESS TO BARGIAN CREEK SWITCHING STATION

4.2 PEAK CONSTRUCTION RELATED TRAFFIC DEMANDS

The volumes adopted for assessing the impacts of the construction of the project are consistent with those provided in the Project EIS, shown in Table 4-3.

TABLE 4-3 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

* Denotes locations that would include main construction compounds

4.3 CUMULATIVE TRAFFIC

A review of approved projects relating to the REZ has been undertaken. As the scope of this Strategy is concentrated on areas around the south-east portion of the Project, near the Wollar township there is no anticipated increases of approved project traffic that would change the treatments described in this Strategy.

The following projects were considered in this assessment of cumulative impacts, as described in the sections below.

4.3.1 Ungula Wind Farm

The Ungula Wind Farm is located south of the Project and is not expected to have any noticeable impact on this area or intersection beyond the anticipated background traffic growth. No additional traffic has been added to the background traffic in the turn warrant assessment as a result.

In addition, Ungula is upgrading their access road in preparation for mobilisation and will require the workforce to use Golden Highway to access the site.

4.3.2 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 turn warrant assessment.

4.3.3 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. This is not sufficient to alter the outcome of the existing turn warrant assessment or background traffic volumes adopted for the intersection of Ulan Road and Golden Highway. The EIS Response to Submissions report for Liverpool Range reflects the assessment undertaken for the Central-West Orana Project and does not propose or identify any additional upgrades required to accommodate their works.

5 Road Treatments

Section 1.4 of this Strategy provides the scope of roads, intersections and access points that will be addressed herein. Details of treatments of these roads, intersections and access points are provided below.

5.1 SPECIFIC ITEMS IN APPENDIX 4 TABLE 5

None are applicable to the content of this Strategy, however it is noted that the following specific items from Appendix 4 Table 5 of the Planning Approval are located within the geographical proximity of the other items addressed herein:

- Ulan Road and Golden Highway Intersection: this intersection is not required to be included into a Transport Strategy. Consultation and design review of any applicable treatments will occur with the relevant road authorities outside the scope of this document.
- Ulan Road and Neeleys Lane Intersection: this intersection is not required to be included into a Transport Strategy. Consultation and design review of any applicable treatments will occur with the relevant road authorities outside the scope of this document
- Wollar Road Access Gates: these will be addressed in the Project Wide Transport Strategy (either 3A or 3B).

5.2 LOCAL ROADS

The following Local Roads are considered as part of this Strategy:

- Ulan-Wollar Road
- Barigan Road (including the intersection with Wollar Road)
- Barigan Street (including the intersection with Maitland Street)

In addition, Maitland Street (also known at different locations as Wollar Road and Phillip Street), a regional road, has also been discussed herein with regards to maintenance of impacts caused by construction-related traffic, however it is noted that regional roads are not mandated to be included in a Transport Strategy.

A risk assessment has been completed (Appendix C: Risk Assessment) to identify and provide treatments to these roads for potential hazards from construction-related vehicle movements. The objective of this assessment is to:

- Identify and evaluate existing and potential risks along key road
- Assess the adequacy of current road conditions
- Recommend mitigation strategies to manage identified risks

This assessment informs the identification and implementation of potential road treatments. Please note, not all potential controls listed in the Risk Assessment have been adopted within this Transport Strategy, but rather the Risk Assessment has been used to inform the most appropriate treatments, which are subsequently included in the sections below.

A review of the Local Road conditions will be undertaken in consultation with MWRC within three months of the use of these roads for construction-related purposes, to consider their ongoing use for construction access as described herein. Consultation with MWRC will be undertaken on a case-by-case basis to agree on appropriate solutions, considering road corridor width, duration and volume of construction-related use, corridor restraints, etc. Any agreed repair action will commence within six months of the commencement of these roads for construction-related purposes, subject to obtaining relevant approvals required, such as updates to the Transport Strategy.

In all cases, Local Road pavement will be visually monitored for damage, and repaired where required, in accordance with MCoA B34, to ensure the useful life of this asset is not diminished. These will be informed by dilapidation surveys undertaken in accordance with MCoA B34.

5.2.1 Ulan-Wollar Road

Ulan-Wollar Road is a sealed two-way carriageway with one lane in each direction. Sections of the road are currently line-marked, and the posted speed limit is 100 km/h. Road repair works and/or preventative maintenance, such filling of pot-holes or minor re-surfacing will be required to enhance road safety and accommodate for heavy vehicle movements. This has been identified in the risk assessment (refer to Appendix C: Risk Assessment).

Additionally, the area which Project construction related traffic will utilise that are not currently line-marked will be completed in consultation with MWRC.

In addition, ongoing routine pavement inspections will be undertaken to assess and maintain the roads structural integrity, and its suitability for heavy vehicle use. During construction or maintenance activities, temporary traffic management measures will be implemented to ensure safe vehicle passage (when required). These may include regulatory signage, temporary speed limit reductions, traffic controllers, or portable traffic signals.

Consultation with MWRC will be ongoing for the above mentioned commitments, in consideration of the ongoing construction-related use of this road.

5.2.2 Barigan Road

Barigan Road is a two-way carriageway providing a single traffic lane in each direction. Recent road upgrades have been undertaken on Barigan Road, meaning that the pavement quality is generally in good condition. However, this upgrade did not include removal of tight curves along the road, which are still in place. As such, an investigation will be undertaken as to the possibility of realignment of this road, in consultation with MWRC. This will include a full environmental assessment and obtaining additional approvals if required.

Until such time as this realignment is determined, in acknowledgment of narrow width and the presence of multiple curves and bends, temporary traffic management measures in the form of warning signs will be installed as indicated in the Traffic Guidance Scheme (TGS) provided in Appendix D: Barigan Road – Indicative Traffic Management, following additional consultation with MWRC.

Ongoing consultation will occur to determine whether additional controls are required, such as temporary speed reductions, deployment of traffic controllers, use of portable traffic signals to facilitate alternating one-way traffic flow through constrained sections, or UHV radio for heavy vehicle traffic.

Routine inspections will be conducted to monitor pavement condition and ensure its ongoing suitability for heavy vehicle operations, in accordance with MCoA B34. Road repair and preventative maintenance works will be undertaken prior to heavy vehicle movements, as identified in the risk assessment (refer to Appendix C: Risk Assessment).

During consultation, existing site distances at the Barigan Road and Wollar Road intersection was raised as a concern (shown in Figure 6). As such, a review of the intersection for SISD has been undertaken and determined as suitable for the proposed construction-related use.

Following a site inspection conducted in April 2025, it has been observed that the intersection is adequately designed to accommodate heavy vehicle movements. However, it was noted that line markings have not yet been implemented, as shown in Figure 6. To enhance delineation, traffic flow, and overall safety, it is proposed to provide line markings at this intersection. The addition of these line markings will significantly improve visibility and guidance for drivers, thereby reducing the risk of accidents and ensuring safer navigation for all vehicles, including heavy vehicle movements.

A SISD drawing as well as proposed refreshing of line-marking plan is included in Appendix F: Barigan Road and Wollar Road Intersection SISD, and will be implemented in consultation with MWRC.



FIGURE 6 INTERSECTION OF BARIGAN ROAD AND WOLLAR ROAD (PHOTO - DATED APRIL 2025)

5.2.3 Barigan Street

Barigan Street is a two-way carriageway, unmarked and situated within a low-speed traffic environment. To ensure ongoing road user safety, ACJV will investigate the option to undertake asset durability improvements inside the existing road carriageway as identified in the risk assessment (refer to Appendix C: Risk Assessment), in consultation and (where applicable) in accordance with a Section 138 approval from MWRC. .

Following the commencement of construction traffic use, routine inspections will be conducted to monitor pavement condition and ensure its ongoing suitability for heavy vehicle operations, in accordance with MCoA B34.

A vehicle swept path analysis was conducted for the Barigan Street and Maitland Street intersection using a 19-metre semi-trailer. The analysis demonstrated that both left and right turning movements can be accommodated without any overlap or encroachment beyond the designated swept paths (refer to Appendix E: Vehicle Swept Path Analysis). This is consistent with a TWA conducted as part of the EIS and demonstrated that there is sufficient capacity to accommodate the additional traffic volumes.

Routine pavement inspections will be undertaken to assess and maintain the roads structural integrity, and its suitability for heavy vehicle use. During construction or maintenance activities, temporary traffic management measures will be implemented to ensure safe vehicle passage (when required). These may include regulatory signage, temporary speed limit reductions, traffic controllers, or portable traffic signals, and will be determined in consultation with MWRC.

In accordance with MCoA B34, repair of the pavement within the intersection will be repaired in consultation with MWRC. An agreement will be established with MWRC to undertake any required

repairs (as agreed with Council) within three months of the date of commencement of use for construction-related purposes.

5.2.4 Treatment Schedule

MCoA B31(e) requires inclusion of a “schedule for the commencement and completion of all necessary road upgrades”. This can be summarised as follows:

- A review of the Local Road conditions will be undertaken in consultation with MWRC within three months of the use of these roads for construction-related purposes.
- Any agreed repair action will commence within six months of the commencement of these roads for construction-related purposes (subject to obtaining relevant approvals).
- Any additional treatments described in the sections above (such as line marking, or temporary traffic management measures such as regulatory signage, temporary speed limit reductions, traffic controllers, or portable traffic signals) will be implemented where deemed to be required as part of ongoing consultation with MWRC, in accordance with timeframes discussed and agreed with Council.

It is noted that maintenance and/or repairs undertaken under MCoA B34 are separate to ‘upgrades’ required under MCoA B31, and are performed in accordance with that condition.

5.3 MAITLAND STREET

During consultation MWRC had raised concerns pertaining to the road surface of Maitland Street, a regional road, and its connection to Barigan Street and Wollar Road, as MWRC has recently completed rehabilitation works on Maitland Street.

It is noted that regional roads are not required to be included in a Transport Strategy unless it is part of a specific item identified in Appendix 4 Table 5 of the Planning Approval. However, in response to concerns expressed by MWRC, during the proposed use described herein, the pavement will be visually monitored for damage, and repaired if required to ensure the useful life of this asset as recently upgraded is not diminished.

5.4 MINOR ACCESS POINTS

The existing access point from Barigan Road into Transgrid’s Wollar Substation has been included for completeness, though it is noted that this does not require the construction of an access point nor an access track off a public road network.

This existing access point is proposed to be utilised from Barigan Road into the Barigan Creek Switching Station site. The existing access point leads onto an existing access track on private property for Transgrid’s Wollar Substation, has been subject to a vehicle swept paths assessment for the largest expected construction vehicle required to access the sites during the initial phases

of construction. The vehicle swept path assessment for a 19-metre semi-trailer and the indicative signage configuration are provided in Appendix G: Barigan Creek Existing Access Drawings.

Upon commencement of construction, ACJV D&C will undertake routine pavement inspections and implement ongoing repair activities to ensure pavement integrity and mitigate safety risks for all road users. Any damage caused by the Project will be repaired in accordance with Condition B34 and in consultation with MWRC.

Additional new access points and existing access point upgrades will be incorporated into the wider Project Transport Strategy for later approval. However, as a result of a relocated or new access point, changed impacts may be introduced.

Proposed changes to the location of an access point will be communicated to the ACEREZ Approvals team and/or the Environment team. The checklist included within Appendix H: Road Upgrade Refinement Checklist will be completed prior to works commencing on the access point. This checklist provides a process to ensure that any changed or new access points are carried out consistent with the Planning Approval and this Strategy.

6 Environmental Assessment and Mitigation

The road treatments included in this Strategy do not require any physical ground disturbance or vegetation clearing. The physical works are currently limited to the installation of temporary signage, with the locations to be determined as part of future consultation with MWRC. Should this require ground disturbance an assessment of the disturbance footprint will be undertaken to confirm whether it aligns with the footprint of the proposed upgrade. If disturbance is required outside the approved construction boundary, additional assessments will be undertaken and appropriate mitigation measures will be identified and included within this Transport Strategy as required.

The EIS was prepared to address the requirements of both the State and the Commonwealth as set out in the SEARs issued by DPHI. The EIS was prepared with regard to the State significant infrastructure guidelines (DPE, 2022a) (in particular State significant infrastructure guidelines – preparing an environmental impact statement).

The assessments undertaken and documented in the EIS and technical papers were consistent with accepted scientific and assessment methodologies and have considered relevant statutory and agency requirements and guidelines. The technical papers prepared to support the EIS were completed considering all relevant procedures and guidelines required by government agencies.

The assessments included in the EIS were prepared, reviewed, and validated by specialists in their field, and where relevant are based on data gathered from field investigations throughout the EIS preparation. Locally based specialists (such as an agricultural specialist) and those with local knowledge were engaged where available.

Following a detailed review of the assessments undertaken and documented in the EIS in consideration of the treatments proposed in this strategy, the following outcomes have been identified:

- Air Quality – no impact has been identified as, due to the nature of the proposed treatments, the scope of disturbance no ground disturbance or dust generating activities are required. Additionally, the vehicle numbers are consistent with that proposed in the EIS.
- Noise and Vibration – no impact has been identified as, due to the nature of the proposed treatments, the scope plant and equipment use, and vehicle numbers have not increased from that considered in the EIS.
- Biodiversity – no impact has been identified as, due to the nature of the proposed treatments, no clearing or ground disturbance is proposed.
- Heritage – no impact has been identified as, due to the nature of the proposed treatments, no clearing or ground disturbance is proposed, and all works are within the existing disturbed road corridor.

- Soil and water – no impact has been identified as, due to the nature of the proposed treatments, no clearing, ground disturbance or stockpiling is proposed.

The environmental impacts and mitigation measures included in the EIS and Amendment Report considered are appropriate for the installation of the treatments described in this Strategy.

Where additional assessment is required, i.e. where disturbance is required outside the EIS footprint for the implementation of the treatments identified herein, the assessment methodology described in the EIS will be replicated where feasible and as appropriate, for the purpose of providing a detailed assessment of potential impacts and appropriate mitigation measures, including consideration of cumulative traffic, as required by MCoA B31 (d).

Appendix A: Scope of this Strategy against Planning Approval Appendix 4 Table 5

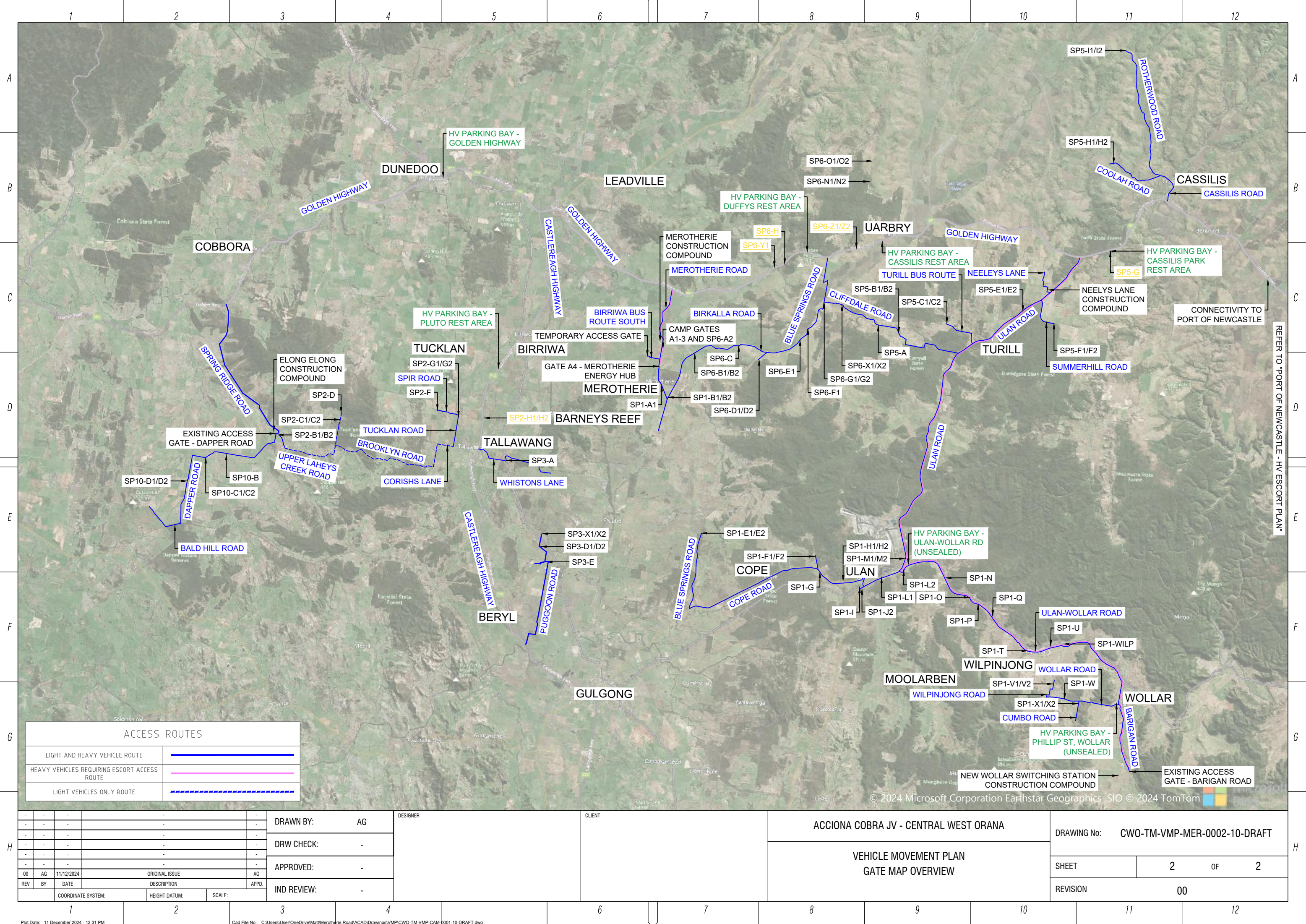
Item	Road/intersection	Treatment	Timing	Required to be in a TS? Y/N	Addressed in this Strategy?
1	Merotherie Road	Widening and upgrade, as necessary to sealed standard between the Golden Highway and the Merotherie Energy Hub access point.	Commencement of the upgrade with commencement of any of the following: Merotherie Energy Hub, construction compound or any workforce accommodation camp	No	N/A. Not required to be included in a Transport Strategy
2	Merotherie Road	Installing a new bridge to replace the existing crossing of the Talbragar River.	Prior to delivery of oversized specialist electrical equipment (power transformers and synchronous condensers) to the Merotherie Energy Hub	No	N/A. Not required to be included in a Transport Strategy
3	Intersection of Merotherie Road and Golden Highway	Basic Left Turn and Short Channelised Right Turn Confirmation that the design for upgrade meets Austroads requirements (and TfNSW supplements), including checks for OSOM movements to be provided in Transport Strategy under condition B31.	Commencement of the upgrade with commencement of any of the following: Merotherie Energy Hub, construction compound or any workforce accommodation camp	Yes	No, not included, as per approved Staging approach (MCoA C3)
4	Spring Ridge Road	Upgrade road and install new bridge to replace the existing causeway at Laheys Creek as necessary as per the Transport Strategy under condition B31	Timing as outlined in Transport Strategy	Yes	No, not included, as per approved Staging approach (MCoA C3)
5	Intersection of Golden Highway and Spring Ridge Road	Current intersection configuration (AUL and BAR) is adequate, subject to: Confirmation SISD for this intersection is adequate (to be provided in Transport Strategy under condition B31). If SISD is non-compliant, mitigations to address the non-compliance to be detailed in the Transport Strategy under condition B31.	Commencement of the upgrade with commencement of development related construction traffic	Yes	No, not included, as per approved Staging approach (MCoA C3)

Item	Road/intersection	Treatment	Timing	Required to be in a TS? Y/N	Addressed in this Strategy?
6	Intersection of Neeleys Lane and Ulan Road	Auxiliary Left Turn and Short Channelised Right-turn	Commencement of the upgrade with commencement of the construction of the Neeleys Lane workforce accommodation camp	No	N/A. Not required to be included in a Transport Strategy
7	Intersection of Cassilis Road and Golden Highway	Short Auxiliary Left Turn	Commencement of the upgrade with commencement of use the of Cassilis Road by development related Construction traffic	No	N/A. Not required to be included in a Transport Strategy
8	Intersection of Ulan Road and Golden Highway	Basic Left Turn and Short Channelised Right Turn	Commencement of the upgrade with commencement of right turn movement of construction traffic from Golden Highway into Ulan Road	No	N/A. Not required to be included in a Transport Strategy
9	Intersection of Blue Springs Road and Golden Highway	Upgrade as necessary as per the Transport Strategy under condition B31	Timing as outlined in Transport Strategy	Yes	No, not included, as per approved Staging approach (MCoA C3)
10	Intersection of Laheys Creek Road and Castlereagh Highway	Basic Right Turn and Basic Left Turn Upgrade to be outlined in the Transport Strategy under condition B31.	Commencement of the upgrade with commencement of development related construction traffic	Yes	No, not included, as per approved Staging approach (MCoA C3)
11	Intersection of Whistons Lane and Castlereagh Highway	Basic Right Turn and Basic Left Turn Confirmation that the design for upgrade meets Austroads requirements (and TfNSW supplements), including checks for OSOM movements to be provided in Transport Strategy under condition B31.	Commencement of the upgrade with commencement of development related construction traffic	Yes	No, not included, as per approved Staging approach (MCoA C3)

Item	Road/intersection	Treatment	Timing	Required to be in a TS? Y/N	Addressed in this Strategy?
12	Intersection of Tucklan Road and Castlereagh Highway	Basic Right Turn and Basic Left Turn Upgrade to be outlined in the Transport Strategy under condition B31	Commencement of the upgrade with commencement of development related construction traffic	Yes	No, not included, as per approved Staging approach (MCoA C3)
13	Intersection of Puggoon Road and Castlereagh Highway	Basic Right Turn and Basic Left Turn Upgrade to be outlined in the Transport Strategy under condition B31	Commencement of the upgrade with commencement of development related construction traffic	Yes	No, not included, as per approved Staging approach (MCoA C3)
14	Golden Highway (East of Merotherie Road) access gates	Basic Right Turn and Basic Left Turn Upgrade to be outlined in the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	No, not included, as per approved Staging approach (MCoA C3)
15	Castlereagh Highway access gates	Basic Right Turn and Basic Left Turn Upgrade to be outlined in the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	No, not included, as per approved Staging approach (MCoA C3)
16	Wollar Road access gates	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	No, not included, as per approved Staging approach (MCoA C3)
17	Cope Road access gate (north)	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	No, not included, as per approved Staging approach (MCoA C3)
18	Cope Road access gate (south)	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	No, not included, as per approved Staging approach (MCoA C3)

Item	Road/intersection	Treatment	Timing	Required to be in a TS? Y/N	Addressed in this Strategy?
19	Access to Magpie Hill microwave repeater	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to commencing work on the Magpie Hill repeater	Yes	No, not included, as per approved Staging approach (MCoA C3)
20	Other Local Roads, as identified in Figure 4-1 to Figure 4-4 of this Appendix	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to commencing the use of the Local Road for any heavy vehicle traffic associated with construction	Yes	Yes – the following Local Roads are addressed in this Strategy: • Ulan-Wollar Road • Barigan Road • Barigan Street
21	Minor Access Points intersections (any Access Point associated with minor access tracks off public road network)	Upgrade as necessary as per the Transport Strategy under condition B31	Prior to construction of the relevant minor access track off the public road network	Yes	Yes. Reference to the existing access point from Barigan Road into Transgrid's Wollar Substation has been included for completeness, though it is noted that this does not require the construction of an access track off a public road network.

Appendix B: Vehicle Access Routes



ACCESS ROUTES				
LIGHT AND HEAVY VEHICLE ROUTE				
HEAVY VEHICLES REQUIRING ESCORT ACCESS ROUTE				
LIGHT VEHICLES ONLY ROUTE				

-	-	-	-	-
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DRW CHECK:	-
APPROVED:	-
IND REVIEW:	-

DESIGNER
CLIENT

ACCIONA COBRA JV - CENTRAL WEST ORANA
VEHICLE MOVEMENT PLAN GATE MAP OVERVIEW

DRAWING No:	CWO-TM-VMP-MER-0002-10-DRAFT		
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Appendix C: Risk Assessment

Traffic Risk Assessment – Wollar Transport Strategy

1. Introduction

This risk assessment has been developed to support the identification and mitigation of risks associated with construction traffic using local roads within the Central West Orana Project. Many of these roads are narrow, rural in nature, and may not safely accommodate increased volumes or two-way movement of heavy vehicles without temporary or permanent mitigations.

The assessment aligns with the *Traffic Control at Worksites Manual (Version 6.1)* and *Austrroads Guide to Road Safety – Part 6: Road Safety Audit*. It is to be used in the development of Project Traffic Strategies to justify mitigation measures including, but not limited to:

- Temporary or permanent speed reductions
- Construction of passing bays or pull-over zones
- Temporary shoulder or pavement widenings
- Access restrictions or local detours
- Vegetation clearing / roadside hazard clearing
- Pavement rectification
- Installation of advance warning signs

It is noted that these mitigation measures may be subject to further approval from the applicable authorities, and/or subject to further environmental assessments (including heritage and biodiversity impacts) and project approval.

2. Risk Assessment Scope

Each assessment considers whether a local road can safely accommodate construction traffic alongside existing users. Key factors include road width, traffic composition, sight distance, access density, and the presence of vulnerable road users. Risks are assessed using the Austrroads risk matrix, and outcomes will guide whether mitigation is needed and what form it should take.

2.1. Method

For each local road, record key road characteristics (e.g. lane width, speed limit, traffic volume) and outline the anticipated construction traffic. Identify any potential safety risks that may arise from two-way movements, restricted geometry or user conflict. Each risk should be rated, with appropriate treatments proposed. Once mitigation is identified, re-rate the risk and confirm whether further action is required.

2.2. Frequency

Description	
Almost Certain	Occurrence once per quarter
Likely	Occurrence once per quarter to once per year
Possible	Occurrence once per year to once every three years
Unlikely	Occurrence once every three years to once every seven years
Rare	Occurrence less than once every seven years

2.3. Severity

Description	
Insignificant	Property damage
Minor	Minor first aid
Moderate	Major first aid and/or presents to hospital (not admitted)
Serious	Admitted to hospital
Fatal	At scene or within 30 days of the crash

2.4. Risk Rating

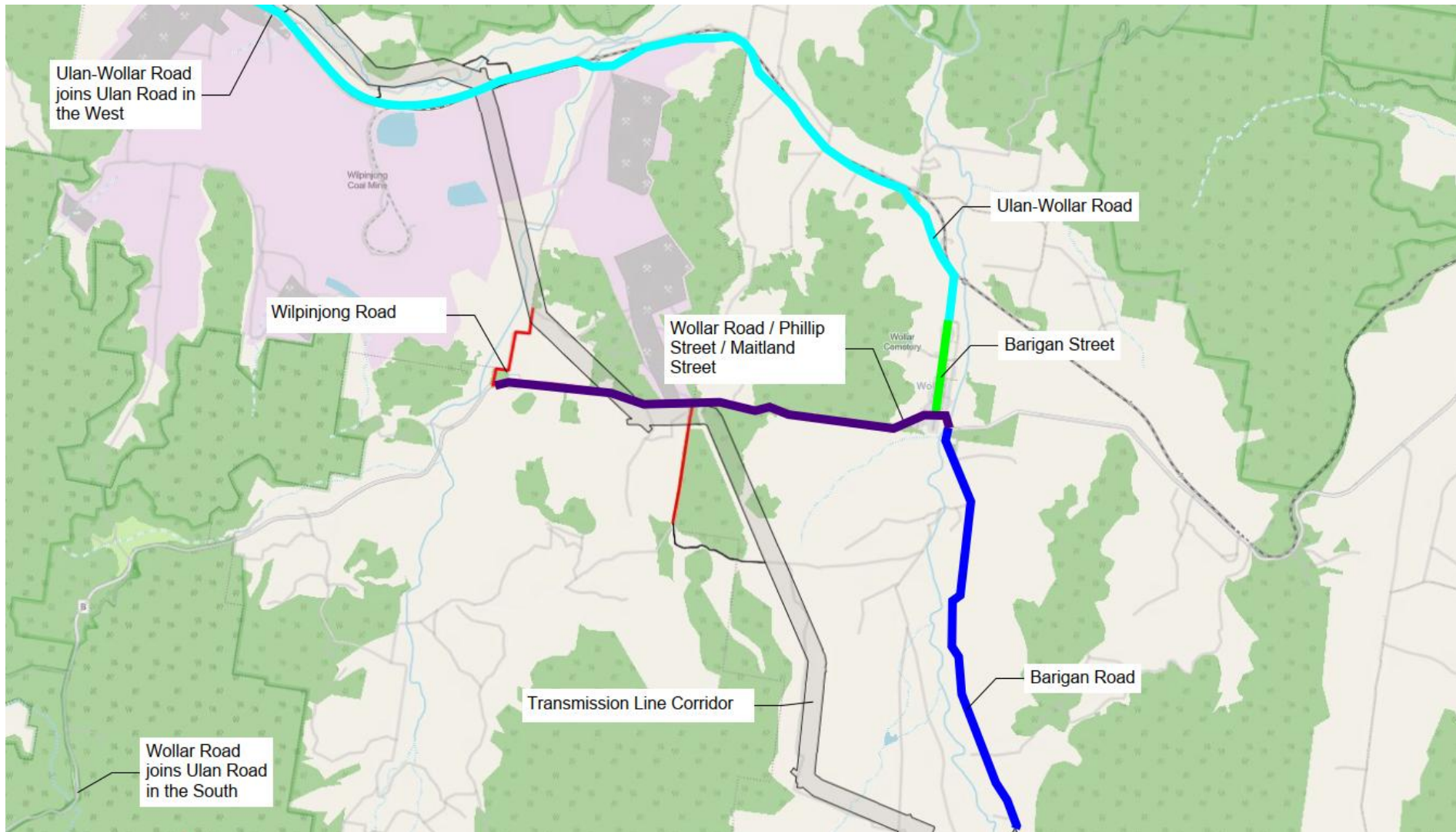
		Severity				
		Insignificant	Minor	Moderate	Serious	Fatal
Likelihood	Almost Certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	Extreme	Extreme
	Possible	Low	Medium	High	High	Extreme
	Unlikely	Negligible	Low	Medium	High	Extreme
	Rare	Negligible	Negligible	Low	Medium	High

2.5. Treatment

Risk	Suggested treatment approach
Negligible	No action required
Low	Should be corrected or the risk reduced if the treatment cost is low
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate but not high
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high
Extreme	Must be corrected regardless of cost

2.6. Site Related Data

ROAD NAME	SETTING / ROAD CLASSIFICATION	SPEED LIMIT	ROAD CONDITION	LANE WIDTH	TRAFFIC VOLUMES	ROAD AUTHORITY
Barigan Street	Rural (LOCAL)	50km/h	Sealed road with unsealed shoulders	Not available	Not available	Mid-Western Regional Council
Barigan Road	Rural (LOCAL)	100km/h	Sealed road with unsealed shoulders	Not available	Not available	Mid-Western Regional Council
Wollar Road / Maitland Street /Phillip Street	Rural (REGIONAL)	100km/h, 50km/h	Sealed road with unsealed shoulders Poor pavement condition along some parts of Wollar Road and Maitland Street	Not available	170 Vehicle Movements per day – West of Wollar (EIS Chapter 13 – Survey ID R01)	Mid-Western Regional Council
Ulan-Wollar Road	Rural (LOCAL)	100km/h	Sealed road with unsealed shoulders	Not available	3,760 Vehicle Movements per Day (near Ulan)	Mid-Western Regional Council



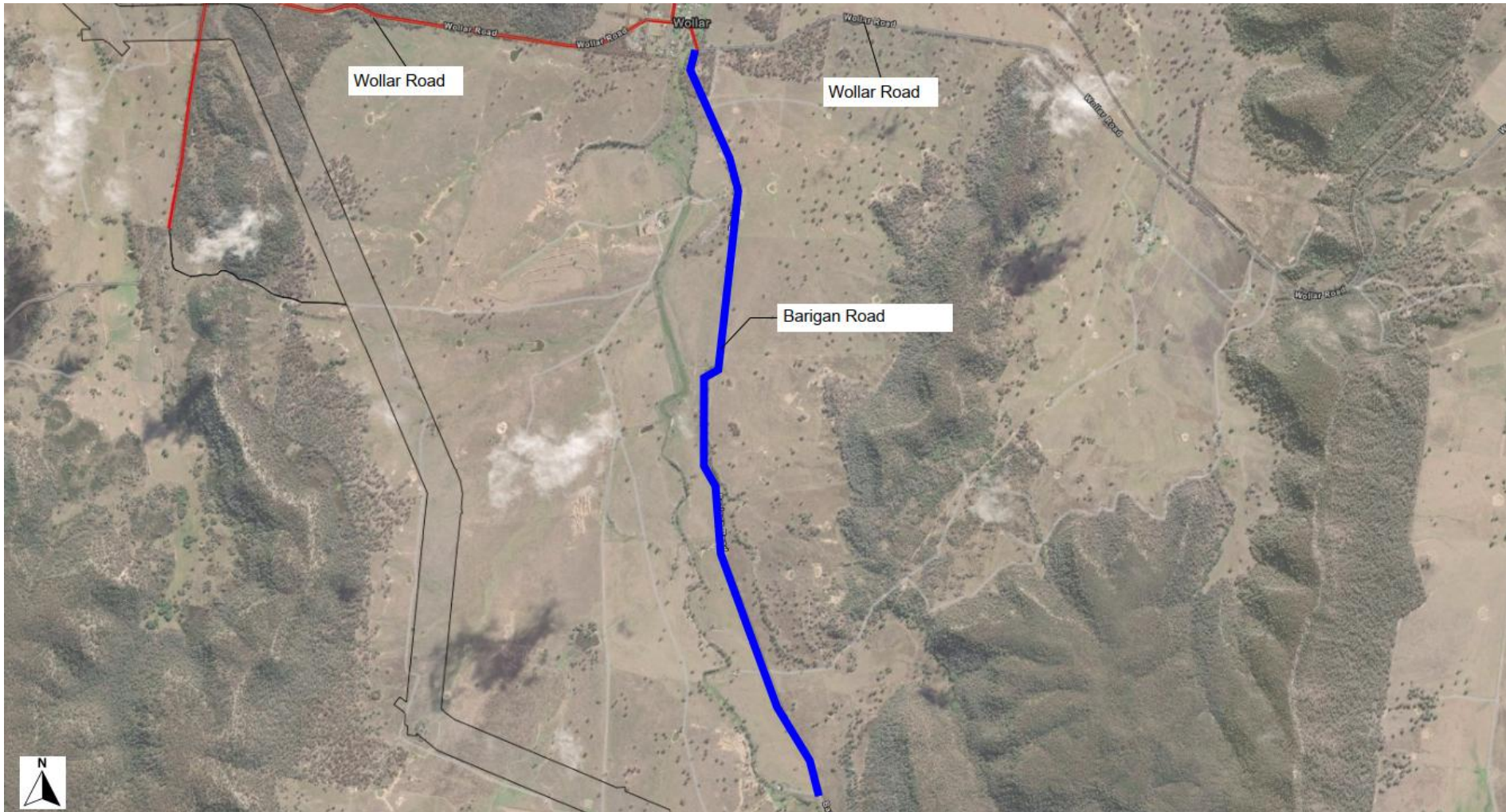
2.7. Risk Assessment Considerations

When developing this risk assessment all items below relevant to the site have been considered.

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • Proximity of traffic • Queued traffic • High traffic volume • Traffic speed and compliance / behaviour • Traffic composition • Exposure and proximity of workers to live traffic • Length of delays for road users • Traffic generating land use (hospitals, mines, schools) | <ul style="list-style-type: none"> • Non-compliance with temporary speed limits • Reduced lane and shoulder widths • Compromised access points • Site vehicle access and egress points • Horizontal and vertical alignment • Utilities including above and below services • Crash history • Topographical constraints | <ul style="list-style-type: none"> • Sight distances • Emergency services • Car parking impacted • Transport services (bus stops etc) • Access to private and commercial properties • Local road access • Special events or high-risk venues • Other..... |
|---|---|---|

3. BARIGAN ROAD

3.1. Site Assessment



3.2. Crash Analysis (Barigan Road)

Based on the crash data from 2019 to 2023, sourced from Transport for NSW ([LGA view - crashes map | Transport for NSW](#)), indicates that no recorded incidents occurred along Barigan Road during this period.

3.3. Risk Assessment

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Post Treatment Rating / Acceptance
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicles trafficking Barigan Road	Barigan Road is sealed, clearly line-marked, and generally well maintained up to the Wollar Solar Farm access point. Its rural nature and low traffic volumes may lead to complacency among drivers. The slight curves may pose a risk if road conditions deteriorate or if unexpected obstacles are present. Barigan Road is mostly used by the Wollar Solar Farm, and drivers may become less alert and less prepared to react to unexpected vehicles or hazards.	Possible	Minor	M	(administrative control / elimination) As part of the road rehabilitation works, regular inspections and maintenance activities (such as pothole repairs, surface repairs and surface cleaning) will be carried to preserve pavement quality and ensure the safety of road users.	Unlikely	Minor	L	Low / Acceptable

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Post Treatment Rating / Acceptance
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Heavy Vehicle Movements	A section of Barigan Road has tight curves and winding road alignment, which may restrict the ability of two heavy vehicles to pass each other safely. This presents a risk of side-swipe collisions or vehicles needing to stop or reverse in unsafe conditions, particularly during periods of increased heavy vehicle traffic.	Possible	Minor	M	(administrative controls) Warning signs to be installed ahead of tight curves to alert drivers, especially heavy vehicle operators, to reduce speed and proceed with caution.	Unlikely	Minor	L	Low / Acceptable
		Possible	Minor	M	(administrative controls) Traffic management measures will be implemented to safely manage two-way vehicle movements. This may include the use of traffic controllers or temporary traffic signals, depending on site conditions and traffic volumes.	Unlikely	Minor	L	Medium / Acceptable
					(Engineer control) Realignment of Barigan Road	Unlikely	Minor	L	High / Acceptable subject to further environmental assessment and approval to determine if this is reasonable and feasible.

4. WOLLAR ROAD / MAITLAND STREET / PHILLIP STREET

5. Site Assessment



5.1. Crash Analysis (Wollar Road / Maitland Street and Phillip Street)

Based on the crash data from 2019 to 2023, sourced from Transport for NSW, indicates that no recorded incidents occurred along Wollar Road between Wilpinjong Road and Barigan Road during this period.

5.2. Risk Assessment

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicles trafficking Wollar Road / Maitland Street /Phillip Street	Potentially poor pavement condition along Maitland Street. Hazards such as rough pavement surface and potholes in wet conditions, or at high speeds, could cause vehicles to lose traction resulting in an increased likelihood of run-off-road incidents.	Possible	Minor	M	(administrative control) Install 50km/hr speed limit sign along Maitland Street to inform vehicles coming from Barigan Street.	Unlikely	Minor	L	Low / Acceptable.
					(administrative control) Install symbolic 'loose stones' sign (T3-9) in advance of poor pavement areas.	Unlikely	Minor	L	Low / Acceptable
					(administrative control / elimination) As part of the road rehabilitation works, regular inspections and maintenance activities (such as pothole repairs, surface repairs and surface cleaning) will be carried to preserve pavement quality and ensure the safety of road users.	Unlikely	Minor	L	Medium / Acceptable

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
					(engineering control / elimination) Mill and resheet of existing pavement	Unlikely	Minor	L	High / Acceptable subject to further environmental assessment and approval to determine if this is reasonable and feasible.
Construction vehicle movements	Vegetation along the roadside may obstruct driver visibility, particularly around curves or intersections. This can reduce sight distance and increase the risk of collisions with oncoming vehicles or roadside hazards.	Unlikely	Moderate	M	(administrative control / elimination) Regularly trim or remove vegetation along the roadside to improve visibility and reduce the risk of hidden obstacles.	Rare	Moderate	L	Low / Acceptable
Construction vehicle movements	The road has limited or no sealed shoulder width, and vegetation may encroach along the roadside. As a result, heavy vehicles may need to partially or fully mount the unsealed shoulder to pass or manoeuvre, especially in narrow sections. This increases the risk of vehicle instability, roadside damage, or collisions with hidden obstacles.	Possible	Moderate	H	(administrative control) Install signs to alert drivers to narrow road sections and limited shoulder width, especially in areas with frequent heavy vehicle traffic.	Unlikely	Minor	L	Low / Acceptable
		Possible	Moderate	H	(administrative control) Implement temporary traffic management (e.g., one-way flow with signals or spotters) during peak heavy vehicle use or construction periods	Unlikely	Minor	L	Medium / Acceptable

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
					(Engineering Control) Full depth pavement reconstruction, shoulder widening, and installation of asphalt overlay.	Unlikely	Minor		High / Acceptable subject to further environmental assessment and approval to determine if this is reasonable and feasible.

6. BARIGAN STREET

6.1. Site Assessment



6.2. Crash Analysis (Barigan Street)

Based on the crash data from 2019 to 2023, sourced from Transport for NSW, indicates that no recorded incidents occurred along Barigan Street during this period.

6.3. Risk Assessment

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicles trafficking Barigan Street	A section of Barigan Road is narrow, which may force drivers (particularly heavy vehicle operators) to use the unsealed shoulder when passing. Unsealed shoulders typically offer reduced skid resistance, increasing the risk of loss-of-control incidents, especially in wet or loose surface conditions.	Possible	Serious	H	(administrative control / elimination) As part of the road rehabilitation works, regular inspections and maintenance activities (such as pothole repairs, surface repairs and surface cleaning) will be carried to preserve pavement quality and ensure the safety of road users.	Unlikely	Minor	L	Medium / Acceptable

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicle movements	There is no speed limit signage at the south end of Barigan Street (near Maitland Street) indicating where the 50km/hr speed zone ends. Lack of speed limit signs / unclear speed zones may result in poor speed limit compliance and drivers speeding. Speeding will increase the severity of any accidents noting that there are several property frontages and a school along Barigan Street. This risk is somewhat mitigated due to Barigan Street being straight and having good sight distance.	Possible	Serious	H	(administrative control) Install speed limit sign at Barigan Street / Maitland Street intersection.	Unlikely	Minor	L	Low / Acceptable subject to further environmental assessment and approval to determine if this is reasonable and feasible.
		Possible	Serious	H	(administrative control / elimination) Regularly trim or remove vegetation along the roadside to improve visibility and reduce the risk of hidden obstacles	Unlikely	Minor	L	Low / Acceptable

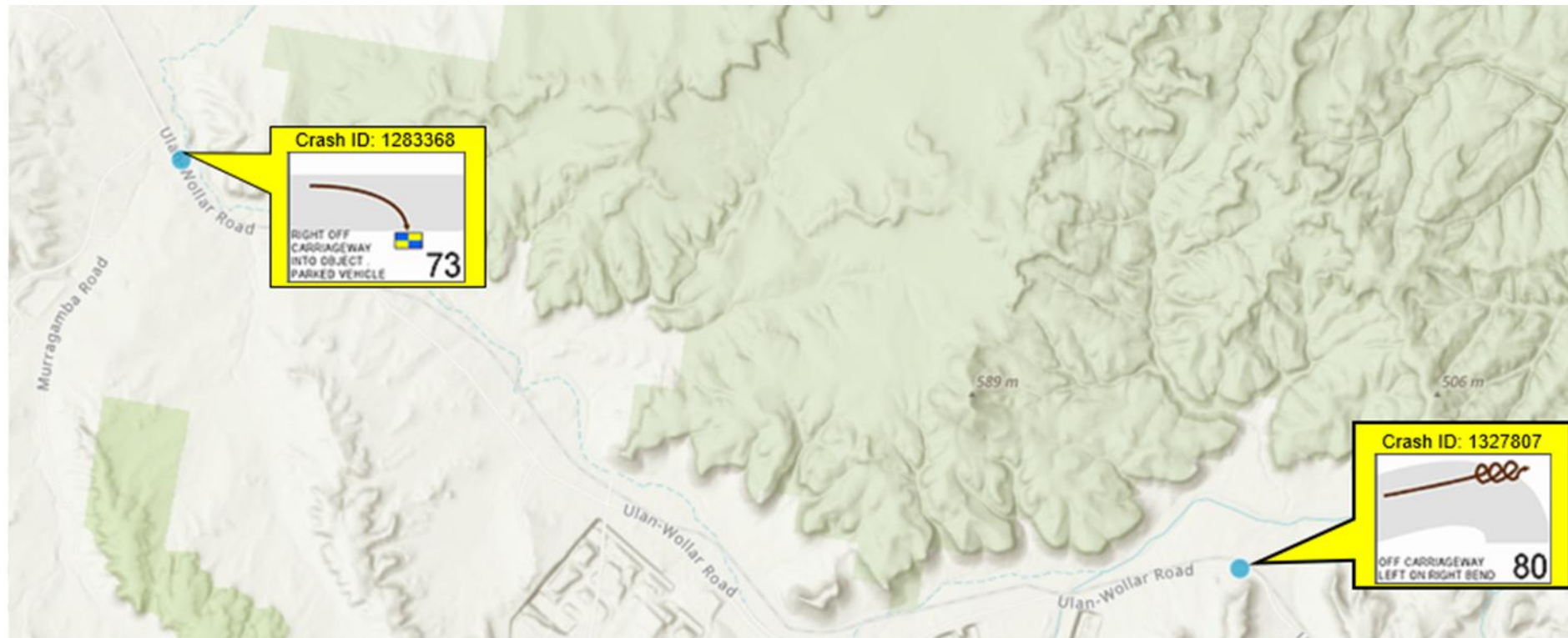
7. ULAN-WOLLAR ROAD

7.1. Site Assessment



7.2. Crash Analysis (Ulan-Wollar Road)

Crash data from 2019 to 2023, sourced from Transport for NSW, indicates that two recorded incidents occurred along Ulan-Wollar Road during this period. Both crashes took place during daylight hours. One crash involved a vehicle off the carriageway, while the other crash involved a vehicle veering off the carriageway and striking an object. The crash locations are shown below.



Reporting year	Crash Id	Degree of crash	RUM - code	RUM - description	Type of location	Natural lighting	Longitude	Latitude	Number killed	Number injured
2022	1283368	Moderate Injury	73	Off rd rgt => obj	2-way undivided	Daylight	149.810199	-32.283273		1
2023	1327807	Moderate Injury	80	Off left/right bend	2-way undivided	Daylight	149.922128	-32.319731		1

7.3. Risk Assessment

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicles trafficking Ulan-Wollar Road	Ulan-Wollar Road is narrow. Narrow roads may cause drivers to drive on unsealed shoulder to pass or overtake. There is reduced skid-resistance on unsealed surfaces which may contribute to loss-of-control incidents.	Possible	Moderate	H	(administrative control / elimination) Regularly trim or remove vegetation along the roadside to improve visibility and reduce the risk of hidden obstacles.	Unlikely	Minor	L	Low / Acceptable
		Possible	Moderate	H	(administrative control / elimination) As part of the road rehabilitation works, regular inspections and maintenance activities (such as pothole repairs, surface repairs and surface cleaning) will be carried to preserve pavement quality and ensure the safety of road users.	Unlikely	Minor	L	Medium / Acceptable
					(Engineering Control / Elimination) Road widening including full depth pavement construction in the shoulders.	Unlikely	Minor	L	High / Acceptable subject to further environmental assessment and approval to determine if this is reasonable and feasible.

INITIAL RISK ASSESSMENT					REVISED RISK ASSESSMENT				Treatment Rating
Activity	Hazards	Frequency	Severity	Risk	Mitigations	Frequency	Severity	Risk	
Construction vehicles trafficking Ulan-Wollar Road	It was also observed that there is no advanced signage before river crossings. Drivers should be made aware of changing road conditions so that they can adjust appropriately.	Possible	Moderate	H	(administrative control) Install advance Narrow Bridge (W4-1) warning signs on approaches to the river crossings to alert drivers of the potential hazard.	Unlikely	Minor	L	Low / Acceptable
Heavy vehicle movements	Ulan-Wollar Road between Robinsons Road and Barigan Street is not line marked. Lack of clear delineation, could contribute to run-off road incidents or head-on collisions especially at night.	Possible	Serious	H	(administrative control) Install advance Road Narrows (W4-3) warning signs between Robinson Road and Goulburn Street where the road narrows in some areas.	Unlikely	Minor	L	Low / Acceptable
					(administrative control) Install line marking on Ulan-Wollar Road	Unlikely	Minor	L	Low / Acceptable

Risk Assessment drafted:

Date: 03/09/2025

Risk Assessment Author:

Name: John Yap

Date: 03/09/2025

Signed: 

Risk Assessment reviewed and approved by:

Name: Kirk Martinez

Date: 03/09/2025

Signed: _____

Appendix D: Barigan Road – Indicative Traffic Management

1	2	3	4	5	6	7	8	9	10	11	12
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TGS VERIFICATION CHECKLIST			
1	Have the below items been addressed on the TGS for this location?	Yes	No
1.1	Traffic Volumes Predicted queue length Shoulder widths Sight distances Existing infrastructure Transport services (i.e. bus stops) Pedestrian generators Appropriate site access Appropriate escape route for traffic controllers	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
2	Confirmation	Yes	No
2.1	Does the TGS require adjustments within tolerances? Does the TGS require any additional modifications? Is the TGS appropriate for use for works? Have key risk been addressed on site?	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Additional comments			

RISK ASSESSMENT							
3	☐	Does the TGS Involve Detours of traffic?	Yes	N/A	Risk	Risk rating	
3.1		Are Detour routes suitable for all vehicle classes being detoured? Is access to residential properties and businesses maintained? Are detour signs located at decision points? Can roads and intersections used as detour routes accommodate the volumes? Is the same level of safety maintained for turn movements?	☐ ☐ ☐ ☐ ☐	☒ ☒ ☒ ☒ ☒			
4	☒	Does the TGS involve Stop/slow arrangements?	Yes	No	Risk	Risk rating	
4.1		Are escape routes defined on the TGS, clear and safe to use? Is a PTCO used in place of a Traffic Controller where speed >45kmh? Is the speed of the road <=60km/h where TC or PTCO are in use? Are 4x traffic cones placed on the edge or centre line, approaching TC or PTCO? Is Prepare to stop and Traffic control or PTCO symbolic sign installed? Do TC and PTCO positions have adequate lighting during low light conditions? Does sight distance of at least 1.5D exist on approach to TC or PTCO?	☒ ☒ ☐ ☐ ☒ ☒ ☒	☐ ☐ ☒ ☐ ☐ ☐ ☐			
5		General	Yes	No	Risk	Risk rating	
5.1		Does the TGS define minimum clearances required of workers to live traffic? Are distances compliant? Are worker symbolic signs shown in advance of workers that are visible to traffic? Are all signs placed at correct distances? i.e. D for multiple or 2D for single sign? Are taper lengths compliant and not placed in areas with poor sight distance? Are lane status signs to be placed in advance of a lane merge? Are the correct tapers being used? i.e. Merge, Traffic Control, Lateral shift? Does the TGS clearly define transition zones between tapers on Multilane roads? Are they compliant? Does the TGS clearly define buffer areas and are they at least 30m in length? Does the TGS clearly define site access and egress for work vehicles? Are any impacts on traffic managed? Does the TGS clearly define pedestrian routes, and are they suitable? Does the TGS consider cyclists and can they traverse site safely?	☒ ☒ ☒ ☒ ☒ ☐ ☒ ☒ ☐ ☒ ☒ ☒ ☒ ☒ ☒ ☒	☐ ☐ ☐ ☐ ☐ ☒ ☐ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐	N/A N/A N/A		

GENERAL NOTES

- THIS TGS HAS BEEN PREPARED IN ACCORDANCE WITH THE TCAWS MANUAL V6.1 2022.
- CONTRACTOR SHALL ENSURE ALL ROAD OCCUPANCY PERMITS AND SPEED ZONE AUTHORISATION REQUIREMENTS ARE SATISFIED PRIOR IMPLEMENTATION OF THIS TGS.
- ANY EXISTING SIGNAGE THAT CONFLICTS WITH THIS TGS MUST BE COVERED AT THE START OF OPERATION AND UNCOVERED AT THE COMPLETION.
- THE SITE MUST COMPLY WITH THE TRAFFIC CONTROL AT WORK SITES MANUAL V6.1 2022 EDITION AND A.S. 1742.3
- RISK ASSESSMENT AND TGS VERIFICATION MUST BE COMPLETED PRIOR TO USE
- SIGNS TO BE POSITIONED IN ACCORDANCE WITH THE TCAWS MANUAL V6.1 2022.
- TRAFFIC CONTROLLERS TO BE POSITIONED WHERE THEY CAN MAINTAIN A CLEAR ESCAPE PATH
- SITE DAILY INSPECTION TO BE COMPLETED AT LEAST TWICE DAILY, OTHERWISE 2 HOURLY.

SITE SPECIFIC NOTES

PRIMARY ROAD	BARIGAN RD
SECONDARY ROAD	
PERMITTED TIMES FOR USE	24/7
PREDICTED END-OF-QUEUE LENGTH	N/A - LOW VOLUME ROADS
EXISTING SPEED - PRIMARY ROAD	100km/h
EXISTING SPEED - SECONDARY ROAD	
DIMENSION D ADOPTED	100m
CONE SPACING (MAX)	4m
SIGN SIZE (MIN)	B
MINIMUM CLEARANCE TO WORKERS FROM TRAFFIC	1.5m

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						DRW CHECK: AG					
						APPROVED: AG				BARIGAN RD	
00	AG	17.05.25	ORIGINAL ISSUE			AG				LONG TERM TEMPORARY SIGNAL OPERATION	
REV	BY	DATE	DESCRIPTION			APPD.				LOCALITY PLAN	
		COORDINATE SYSTEM:		HEIGHT DATUM:	SCALE:	IND REVIEW: N/A					REVISION 00

TGS NOTES

- USERS OF THIS TGS TO USE TCAWS MANUAL V6.1 2022 TO CORRECTLY SET UP PHASE TIMING OF ALTERNATE FLOW SETUP



				DRAWN BY: AG		DESIGNER 	CLIENT  ACEREZ design & construct  acciona cobra PARTNERING ON DESIGN AND CONSTRUCTION	ACJV - BARIGAN CREEK RD		DRAWING No: ACJV-BAR-TGS-0001-00	
				DRW CHECK: AG				BARIGAN RD LONG TERM TEMPORARY SIGNAL OPERATION TRAFFIC GUIDANCE SCHEME		SHEET 3 OF 6	
				APPROVED: AG						REVISION 00	
				IND REVIEW: N/A							
00	AG	17.05.25	ORIGINAL ISSUE		AG						
REV	BY	DATE	DESCRIPTION		APPD.						
		COORDINATE SYSTEM:		HEIGHT DATUM:	SCALE:						

TGS NOTES

- USERS OF THIS TGS TO USE TCAWS MANUAL V6.1 2022 TO CORRECTLY SET UP PHASE TIMING OF ALTERNATE FLOW SETUP



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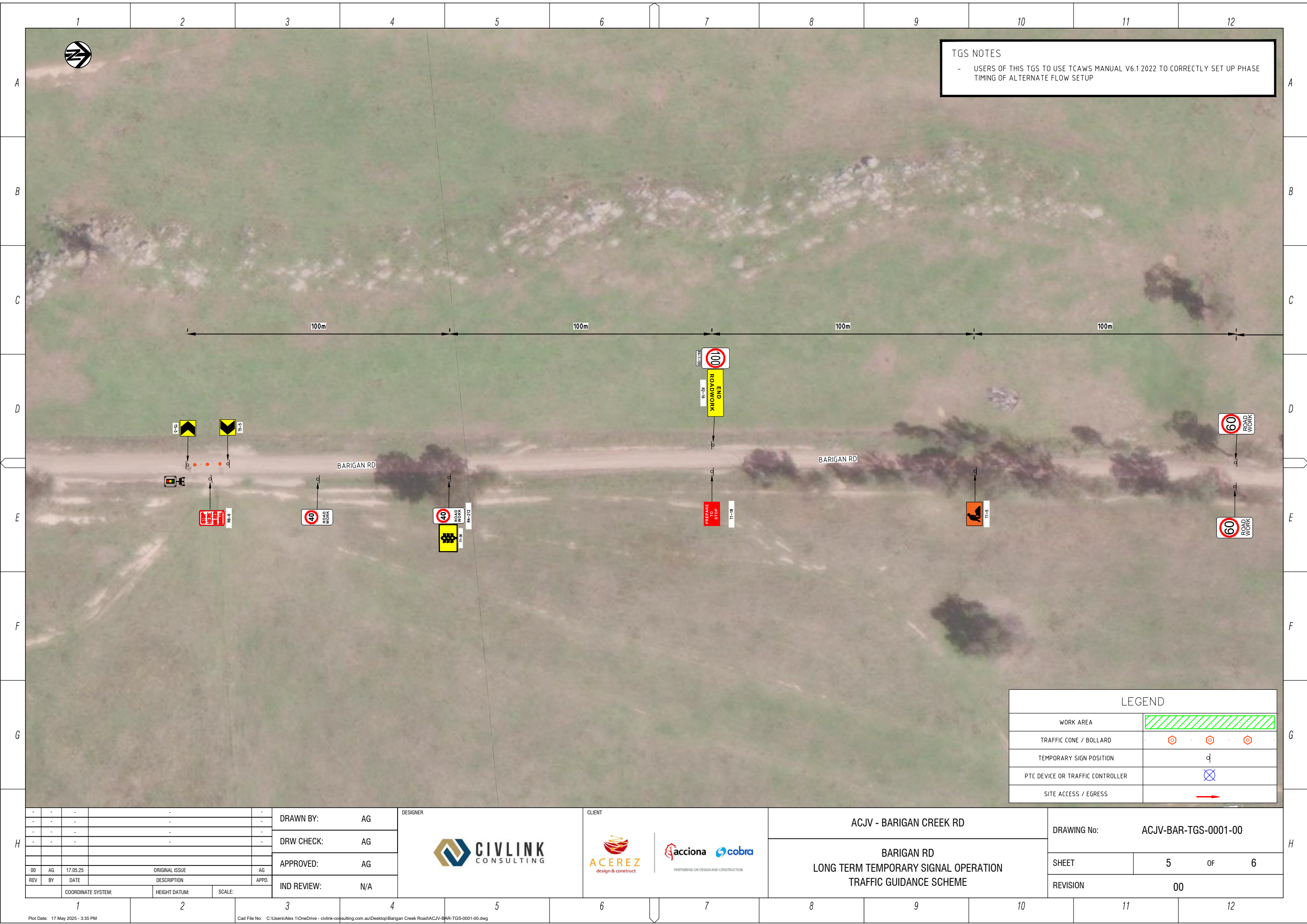
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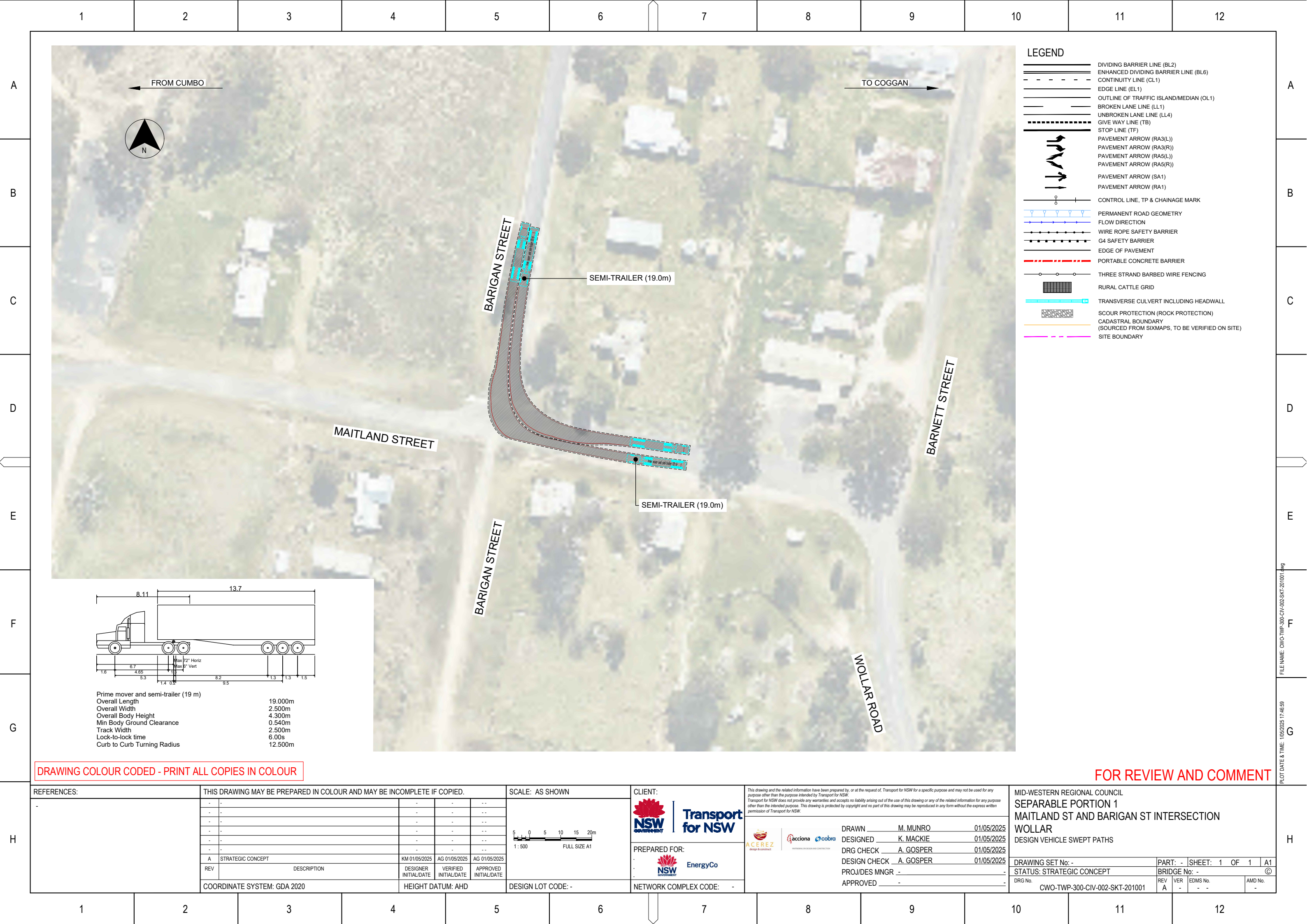


LEGEND	
WORK AREA	
TRAFFIC CONE / BOLLARD	
TEMPORARY SIGN POSITION	
PTC DEVICE OR TRAFFIC CONTROLLER	
SITE ACCESS / EGRESS	

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REV	BY	DATE	DESCRIPTION			APPD.					
COORDINATE SYSTEM:			HEIGHT DATUM:		SCALE:						



Appendix E: Vehicle Swept Path Analysis



FILE NAME: CWO-TWP-300-CIV-002-SKT-201001.dwg

PLOT DATE & TIME: 1/05/2025 17:46:59

Appendix F: Barigan Road and Wollar Road Intersection SISD

NSW

GOVERNMENT

Transport

for NSW

MID-WESTERN REGIONAL COUNCIL

WOLLAR ROAD

BARIGAN ROAD INTERSECTION

RENEWABLE ENERGY ZONE

LOCALITY PLAN
NOT TO SCALE

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

FOR REVIEW AND COMMENT

REFERENCES:	THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.				SCALE: AS SHOWN	NSW GOVERNMENT Transport for NSW PREPARED FOR: NSW GOVERNMENT EnergyCo
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 ACEREZ design & construct acciona cobra partnership in renewable construction DRAWN M. MUNRO 18/02/2025 DESIGNED K. MACKIE 18/02/2025 DRG CHECK A. GOSPER 18/02/2025 DESIGN CHECK A. GOSPER 18/02/2025 PROJ/DES MNGR - APPROVED - || | - | - | - | - | | | | | | | |
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REV	DESCRIPTION		DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE						
COORDINATE SYSTEM: GDA 2020			HEIGHT DATUM: AHD								

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MID-WESTERN REGIONAL COUNCIL - WOLLAR ROAD BARIGAN ROAD INTERSECTION

DRAWING NUMBER	TITLE
MWN-300-CIV-SKT-201001	CWO SUBSTANTIAL DETAILED DESIGN - WOLLAR ROAD BARIGAN ROAD INTERSECTION - COVER SHEET
MWN-300-CIV-SKT-201002	CWO SUBSTANTIAL DETAILED DESIGN - WOLLAR ROAD BARIGAN ROAD INTERSECTION - DRAWING INDEX
MWN-300-CIV-SKT-201003	CWO SUBSTANTIAL DETAILED DESIGN - WOLLAR ROAD BARIGAN ROAD INTERSECTION - GENERAL ARRANGEMENT SHEET 1
MWN-300-CIV-SKT-201004	CWO SUBSTANTIAL DETAILED DESIGN - WOLLAR ROAD BARIGAN ROAD INTERSECTION - SAFE INTERSECTION SIGHT DISTANCE - SHEET 1
MWN-300-CIV-SKT-201005	CWO SUBSTANTIAL DETAILED DESIGN - WOLLAR ROAD BARIGAN ROAD INTERSECTION - SAFE INTERSECTION SIGHT DISTANCE - SHEET 2

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PLOT DATE & TIME: 17/02/2025 5:11:27 PM

SAFE INTERSECTION SIGHT DISTANCE

FOR REVIEW AND COMMENT

LEGEND

- 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)
- PAVEMENT ARROW (RA3(L))
- PAVEMENT ARROW (RA3(R))
- PAVEMENT ARROW (RA5(L))
- PAVEMENT ARROW (RA5(R))
- PAVEMENT ARROW (SA1)
- PAVEMENT ARROW (RA1)
- CONTROL LINE, TP & CHAINAGE MARK
- PERMANENT ROAD GEOMETRY
- WIRE ROPE SAFETY BARRIER
- G4 SAFETY BARRIER
- EDGE OF PAVEMENT
- PORTABLE CONCRETE BARRIER
- THREE STRAND BARBED WIRE FENCING
- RURAL CATTLE GRID
- TRANSVERSE CULVERT INCLUDING HEADWALL
- SCOUR PROTECTION (ROCK PROTECTION)
- SAFE INTERSECTION SIGHT DISTANCE
- CADASTRAL BOUNDARY

SAFE INTERSECTION SIGHT DISTANCE
REQUIRED SIRD = 123m
ACHIEVED SIRD = 123m
DESIGN SPEED = 60Kph

WOLLAR ROAD

BARIGAN ROAD

WOLLAR ROAD

REFERENCES:

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REV	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
COORDINATE SYSTEM: GDA 2020		HEIGHT DATUM: AHD		

SCALE: AS SHOWN

1 : 100 FULL SIZE A1

1 : 500 FULL SIZE A1

CLIENT:

NSW GOVERNMENT | Transport for NSW

PREPARED FOR:

NSW GOVERNMENT | EnergyCo

NETWORK COMPLEX CODE: -

DESIGNED: K. MACKIE 18/02/2025

DRG CHECK: A. GOSPER 18/02/2025

DESIGN CHECK: A. GOSPER 18/02/2025

PROJ/DES MNGR: -

APPROVED: -

MID-WESTERN REGIONAL COUNCIL

WOLLAR ROAD

INTERSECTION UPGRADE

BARINGA ROAD INTERSECTION

SAFE INTERSECTION SIGHT DISTANCE - SHEET 1

DRAWING SET No: -

STATUS: SUBSTANTIAL DETAILED DESIGN

DRG No. MWN-300-CIV-SKT-201004

PART: -

SHEET: 6 OF 5

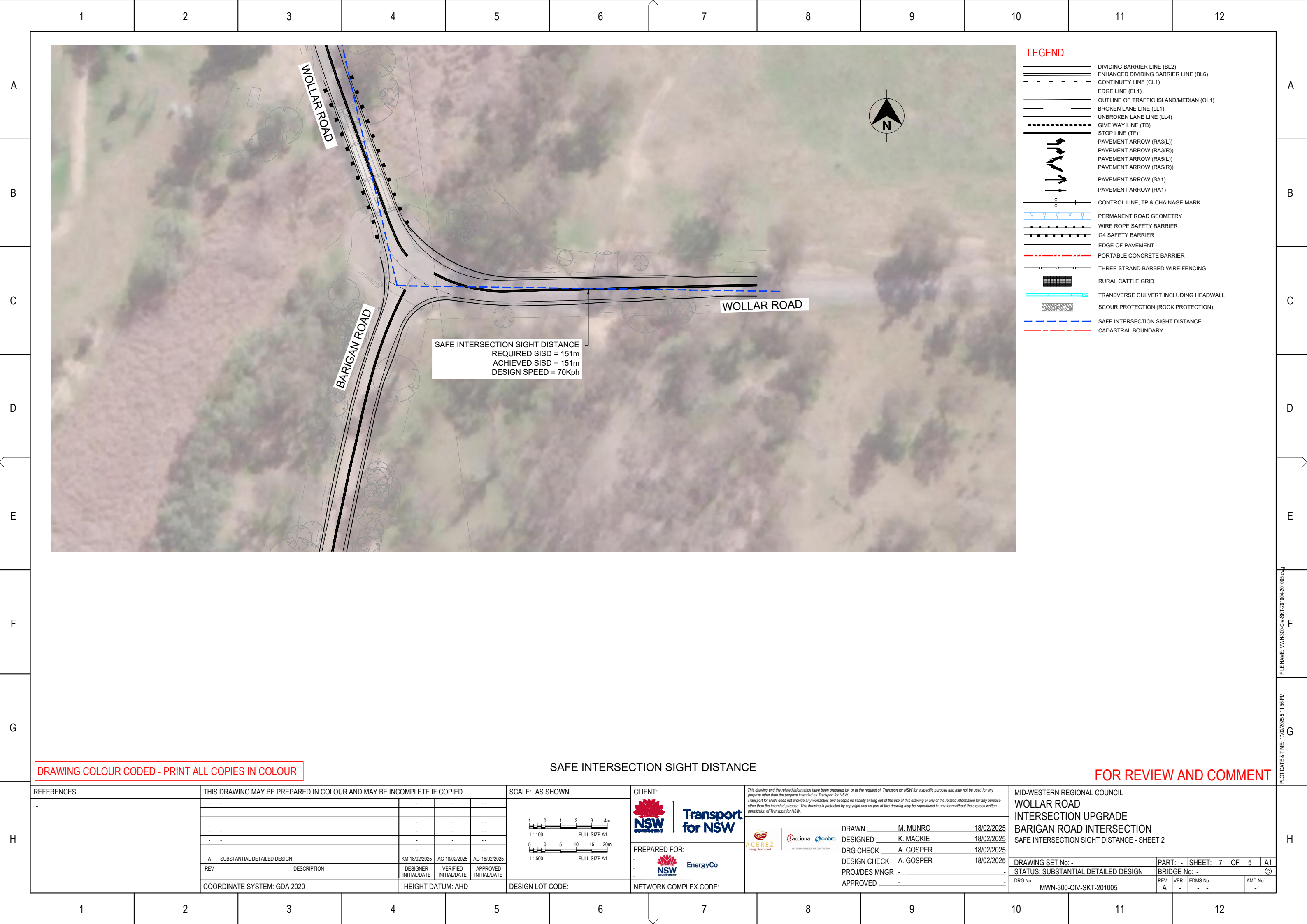
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EDMS No. -

AMD No. -



Appendix G: Barigan Creek Existing Access Drawings

Appendix H: Road Upgrade Refinement Checklist

Refinement of Access Point Checklist

This checklist is to be used where there is a changed location to an access point, or a new access point required as compared to those within the Stage 3-A Transport Strategy.

Access Point Number:	
Nearest tower (and transmission line):	
Gazetted road on which access point is located:	

Item	Y/N	Details	Guidance Notes
<i>Traffic and Transport</i>			
1	A	Is consultation underway with the relevant road authority in relation to the changed access point (through the Road Occupancy Permit process)?	
	B	Have Traffic Control Plans (TCPs) been developed for the installation of the access point?	
<i>Heritage</i>			
2	A	Is the access point located within the existing heritage survey boundary (EIS or additional survey completed for the Transport Strategy)?	If 'yes', no further heritage queries required. Installation of access point can occur subject to the implementation of all appropriate mitigation measures. If 'no', proceed to question 2B.
	B	Has additional heritage survey been undertaken to cover the access point?	If 'yes', proceed to question 2C. If 'no', arrange additional heritage survey via the ACERZ Environmental and Sustainability Manager (or delegate).
	C	Is the access point within a Potential Archaeological Deposit (PAD)?	If 'yes', proceed to question 2E. If 'no', proceed to question 2D.
	D	If additional survey was required, has a heritage 'clearance letter' been prepared OR has the Aboriginal Cultural Heritage Assessment Report been amended, consulted upon and approved by DPHI?	If 'yes' and no impacts will occur to any recorded sites, no further heritage queries required. Installation of access point can occur subject to the implementation of all appropriate mitigation measures. If 'no', discuss with the ACERZ Environmental and Sustainability Manager to arrange a heritage 'clearance letter' is possible or wait for the amended ACHAR to be prepared, consulted on and approved by DPHI.

Item		Y/N	Details	Guidance Notes
	E		Has the Aboriginal Cultural Heritage Assessment Report (ACHAR) been prepared, consulted upon, and approved by DPHI?	If 'yes', proceed to question 2F. If 'no', discuss with ACERZ Environmental and Sustainability Manager to understand timing of ACHAR.
	F		Is salvage a required mitigation measure identified in the ACHAR?	If 'yes', proceed to question 2G. If 'no', no further heritage queries required. Installation of access point can occur subject to the implementation of all appropriate mitigation measures
	G		Has salvage been completed in the location of the access point?	If 'yes', installation of access point can occur subject to the implementation of all appropriate mitigation measures. If 'no', discuss with ACERZ Environmental and Sustainability Manager to understand the timing for relevant salvage activities.
Biodiversity				
3	A		Are there any threatened flora species or threatened ecological communities present at the location of the proposed access point?	If 'yes', any impact resulting from the access point must be in accordance with the clearing limits associated with MCoA B21 of the approval. If this cannot occur, the access point must be relocated.
Noise and Vibration				
4	A		Are there any sensitive receivers within 500m of the proposed access point?	If 'yes', proceed to question 4B. If 'no', proceed to question 5.
	B		What is the predicted noise/vibration levels that the sensitive receivers may experience during the installation of the access point? Are there predicted exceedances of the noise management levels (NMLs)?	If 'yes', proceed to question 4C. If 'no', proceed to question 5.
	C		If exceedances of the NMLs are predicted, what management measures are proposed?	
Air quality				
5	A		Is there potential for dust impact to any nearby sensitive receivers?	If 'yes', consider mitigation measures which may be required.