

Mologa Solar Hybrid Project

Transport Impact Assessment

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23 July 2026

Prepared for: Potentia Energy

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Project Code	P0058365
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Acknowledgment of Country

Urbis acknowledges the Traditional Custodians of the lands we operate on. We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years. We pay our respects to First Nations Elders, past and present.

Urbis is committed to incorporating our respect for First Nations cultures, peoples and storytelling in our work across the Country. We are proud to have partnered with Darug Nation artist, **Hayley Pigram**, and to profile her artwork – **Sacred River Dreaming**.



The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

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1 Introduction

1.1 Overview

Urbis are engaged by Potentia Energy to undertake a Transport Impact Assessment (TIA) for a proposed solar farm and Battery Energy Storage System (BESS) development located on several parcels of land in Mologa, Victoria. The proposed development is known as the Mologa Solar Hybrid project.

This TIA presents an assessment of:

- The existing transport conditions near the site, including a review of historical casualty crash data.
- The design of internal roadways and site access points, and their capability to accommodate construction, operational and emergency vehicles.
- The proposed construction haulage routes.
- The construction traffic impacts associated with the development and recommended mitigation measures.
- The operational traffic impacts associated with the development.

The purpose of this report is to document the traffic and transport impacts and the associated management measures associated with the proposed development.

1.2 Head, Transport for Victoria's Information Request

In a letter dated 16 February 2026, the Head Transport for Victoria (HTfV) provided a pre-application enquiry response relating to documentation for the proposed Mologa Solar Hybrid Project. **Table 1** summarises the "required information to be included with any planning process application" and the relevant location within this report where each item is addressed.

Table 1 HTfV Information Request register

HTfV Information Request	Section Addressed
1. A revised Transport Impact Assessment (in accordance with the relevant guidelines). This report must address traffic and access issues arising from the proposed development on this site, predicted traffic generation and the impact of the development on the existing arterial road network in all relevant peak periods. In particular its impact on Bendigo-Pyramid Road/Mologa-Durham Ox Road, Bendigo-Pyramid Road/Boort-Mitiamo Road and Loddon Valley Highway/Boort-Mitiamo Road intersections. The report must also include the following and identify any mitigation works required:	Section 7 and Section 8
a. Turn lane warrant assessments and SIDRA analysis for each intersection and identify any mitigation works required.	Section 7.3
b. If Echuca is confirmed as the preferred worker accommodation, then further analysis at the intersection of Bendigo-Pyramid Road/ Bendigo-Pyramid Road needs to be undertaken.	Section 7.3
c. The impacts on four identified bridges along the Loddon Valley Highway/Boort-Mitiamo Road.	Section 7.3.2

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2 Existing Conditions

2.1 Site Location

Mologa Solar Hybrid project is located approximately 65km north of Bendigo and 51km west of Echuca. The site is located to the east of Bendigo–Pyramid Road and south of Mologa–Durham Ox Road, in Mologa. The site extends across approximately 591 hectares and is currently used predominantly for dryland cropping and some grazing.

The subject site is described by the following Certificates of Title:

- Crown Allotment 6 Section A Parish of Mologa.
 - Volume: 9056 & Folio: 961
- Crown Allotment 7 Section A Parish of Mologa
 - Volume: 2429 & Folio: 740
- Crown Allotment 8 Section A Parish of Mologa
 - Volume: 7628 & Folio: 185
- Crown Allotment 17 Section A Parish of Mologa
 - Volume: 9056 & Folio: 962
- Crown Allotment 17A, 18A, & 18 Section A Parish of Mologa
 - Volume: 10991 & Folio: 175
- Crown Allotment 17B Section A Parish of Mologa
 - Volume: 2667 & Folio: 397
- Crown Allotment 17C Section A Parish of Mologa
 - Volume: 10407 & Folio: 536

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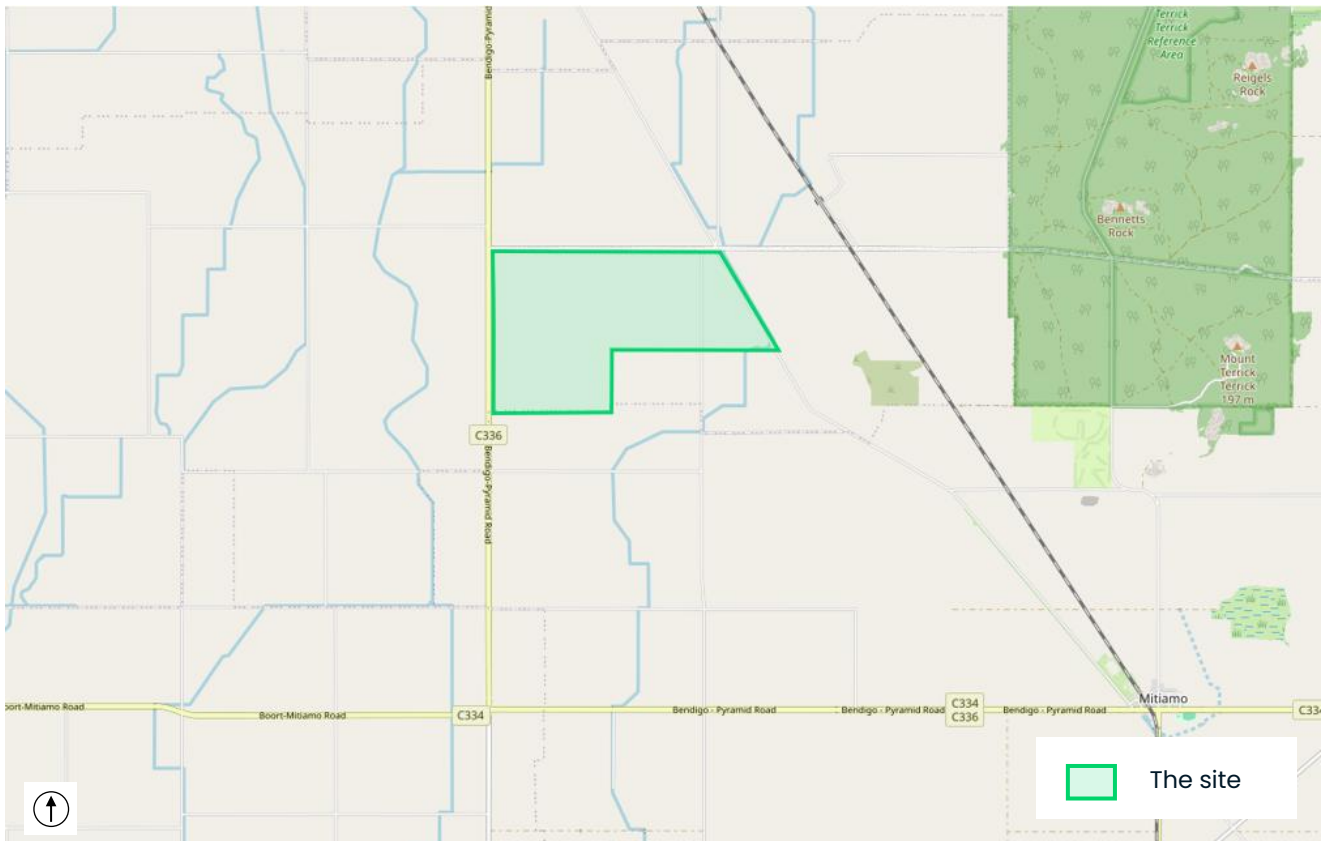
The site is bounded by Bendigo–Pyramid Road, Mologa–Durham Ox Road, and Mitiamo–Kerang Road.

The surrounding adjacent properties are predominantly agricultural land. Blind Creek runs through the site in a north–south alignment as well as Channel No 3/1, a water channel that forms part of the Goulburn Murray Irrigation District (GMID).

The location of the site and the surrounding road network is shown in **Figure 1**.

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Figure 1 Site location and surrounds



Source: OpenStreetMaps (modified by Urbis)

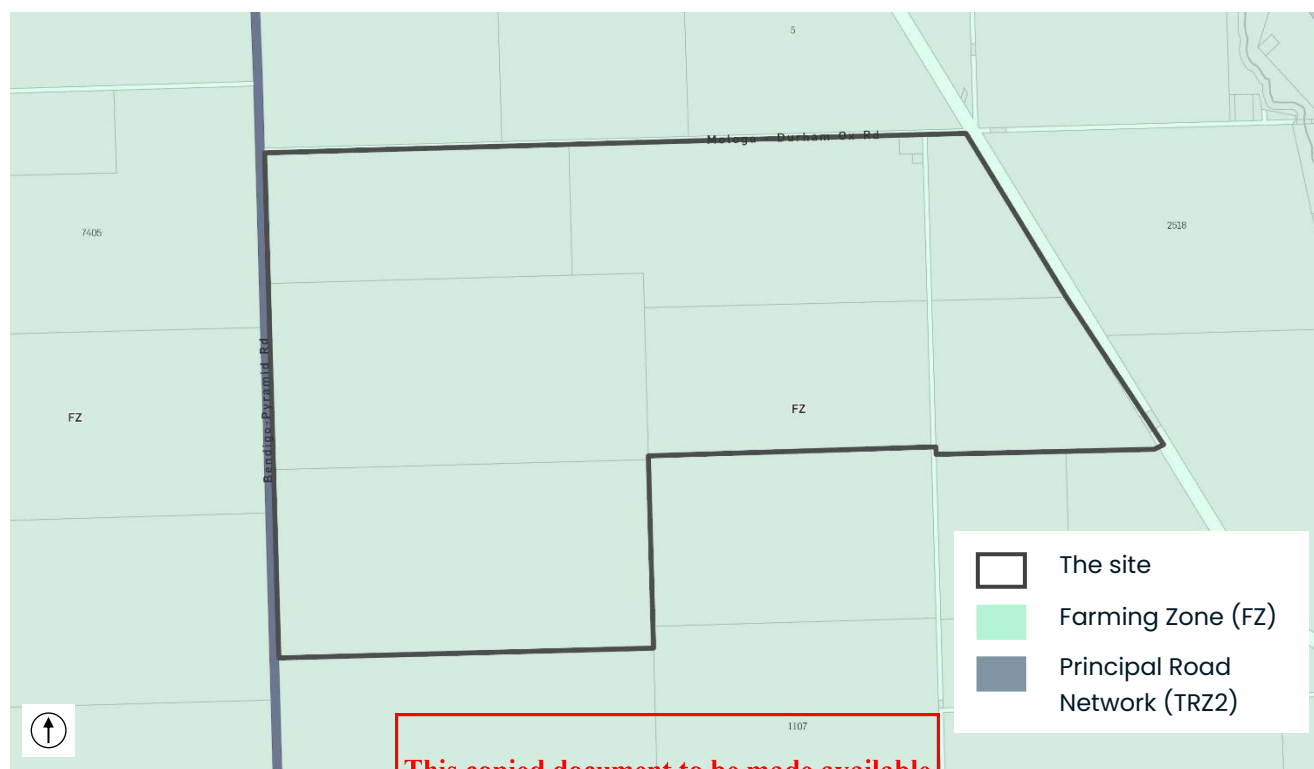
The site and immediate surrounding area are located within a Farming Zone (FZ) and subject to the Inundation Overlay (LSIO), Specific Controls Overlay (SCO), areas of cultural sensitivity, and bushfire-prone areas. Bendigo-Pyramid Road fronts the site to the west and is classified as a Principal Road Network (TR22).

The land use zones for the subject site and the immediate vicinity of the site are presented in **Figure 2**.

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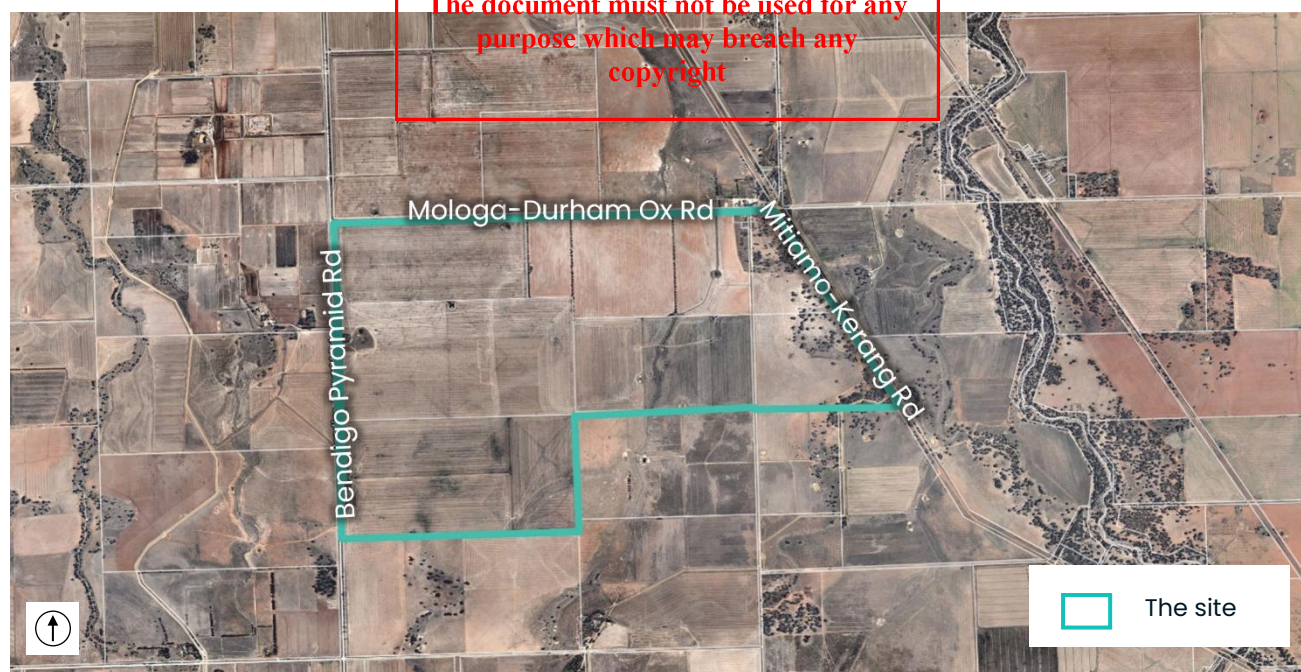
Figure 2 Land Use in the immediate vicinity of the site



Source: VicPlan.com (modified by Urbis)

An aerial image of the site and the surrounding road network is provided in **Figure 3**.

Figure 3 Aerial view of the site



Source: Nearmap Imagery (modified by Urbis)

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2.2 Sustainable Transport

2.2.1 Public Transport

There are no public transport infrastructure provision or services that provide connection to the site.

2.2.2 Walking and Cycling Network

There is limited active transport infrastructure surrounding the site. No designated footpaths are present on the surrounding network near the site that enable walking. Cycling is permitted on the shoulder of roads however, the nature of these roads (often being unsealed or having an unsealed shoulder) typically makes cycling unattractive and unsafe to users.

2.3 Existing Road Network

2.3.1 Surrounding Roads

The characteristics of the surrounding road network in proximity to the site are detailed in **Table 2**.

Table 2 Characteristics of roads surrounding the site

Road	Bendigo-Pyramid Road	Mologa-Durham Ox Road	Mitiamo-Kerang Road	Old Church Road
Classification/Function	Arterial	Local	Local	Local
Sealed (Yes/No)	Yes	No	No	No
Approximate carriageway width (metres)	6.1	6.5	6.3	3.5
Signposted speed (kilometres per hour)	100	Rural default (100)	Rural default (100)	Rural default (100)
Line marking/divided lanes	Yes	No	No	No
Pedestrian pathways	No	No	No	No

Source: Nearmap Imagery, Google Street View

2.3.2 Nearby Intersections

The Bendigo-Pyramid Road / Mologa-Durham Ox Road intersection is located approximately 650 metres west of the site's proposed primary access location. The unsignalised T-intersection allows for full turning movements on all legs with priority given to Bendigo-Pyramid Road.

An image of the intersection in relation to the site is presented in **Figure 4**.

Figure 4 Bendigo–Pyramid Road / Mologa–Durham Ox Road intersection



Source: Veris (modified by Urbis)

2.4 Existing Traffic Volumes

Urbis commissioned a series of intersection turning movement counts and automatic tube counts at the following intersections near the site:

- Bendigo–Pyramid Road / Mologa–Durham Ox Road
- Bendigo–Pyramid Road / Boort–Mitiamo Road / Pyramid–Yarraberb Road
- Loddon Valley Highway / Boort–Mitiamo Road

The intersection turning movement counts were undertaken on Thursday 19 May 2026 between 6am to 8am and 2pm to 6pm. The results of these surveys are provided in **Appendix A**.

Given the remote nature of the intersections, 7-day automatic tube counts were also undertaken on all approach legs of the above intersections. This provided a weekly profile of for traffic approaching each leg of each intersection, allowing for the turning movement count surveys to be scaled upwards if they did not capture the “busiest” period. The results of the automatic tube count surveys are provided in **Appendix A**.

Based on the approach volumes for each leg of each intersection, the turning movement data has been appropriately scaled to represent the highest peak hour observed across the surveyed week. These scaling factors are provided in **Appendix B**.

The scaled AM and PM peak hour turning movement counts are summarised in **Figure 5** and **Figure 6**. These results highlight very low background traffic volumes particularly at the Bendigo–Pyramid Road / Mologa–Durham Ox Road and the Bendigo–Pyramid Road / Boort–Mitiamo Road / Pyramid–Yarraberb Road intersections.

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Figure 5 Existing AM peak hour intersection turning movement volumes (scaled)

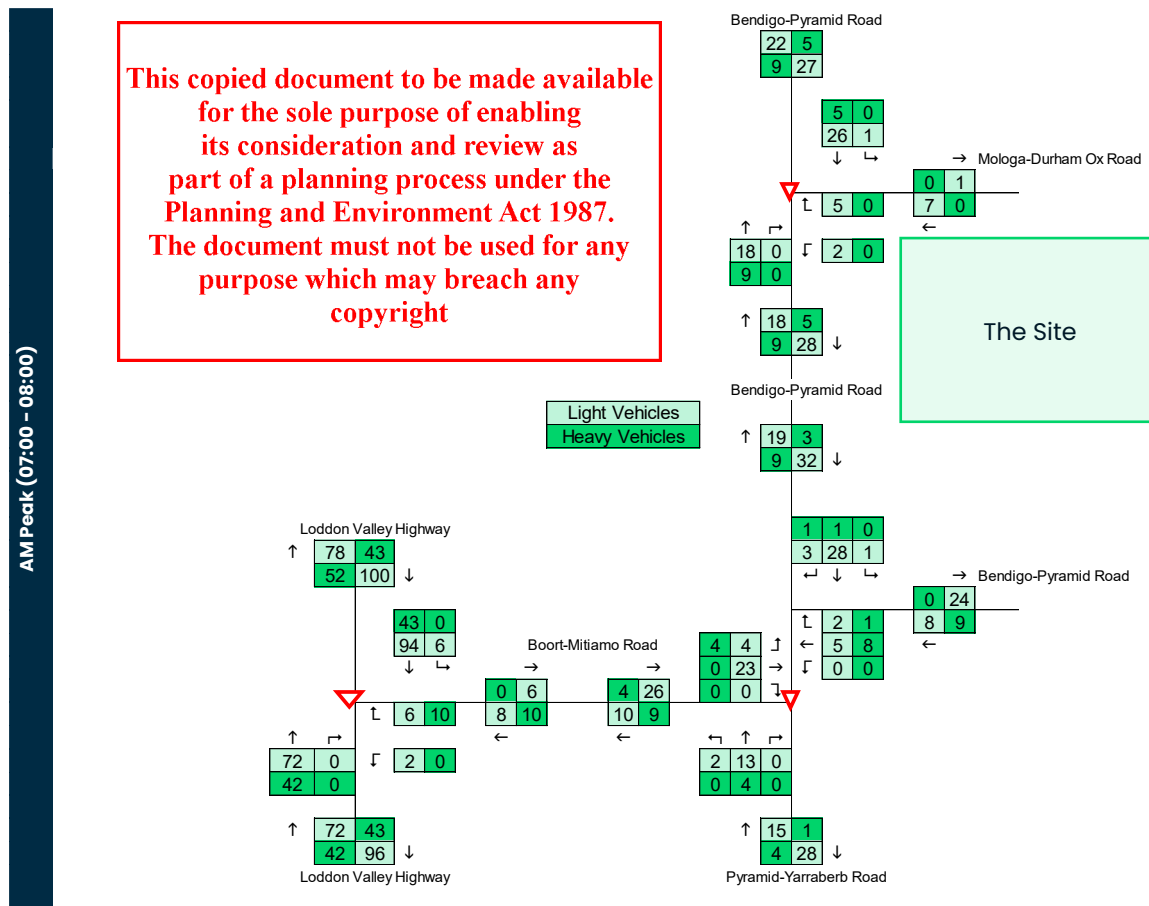
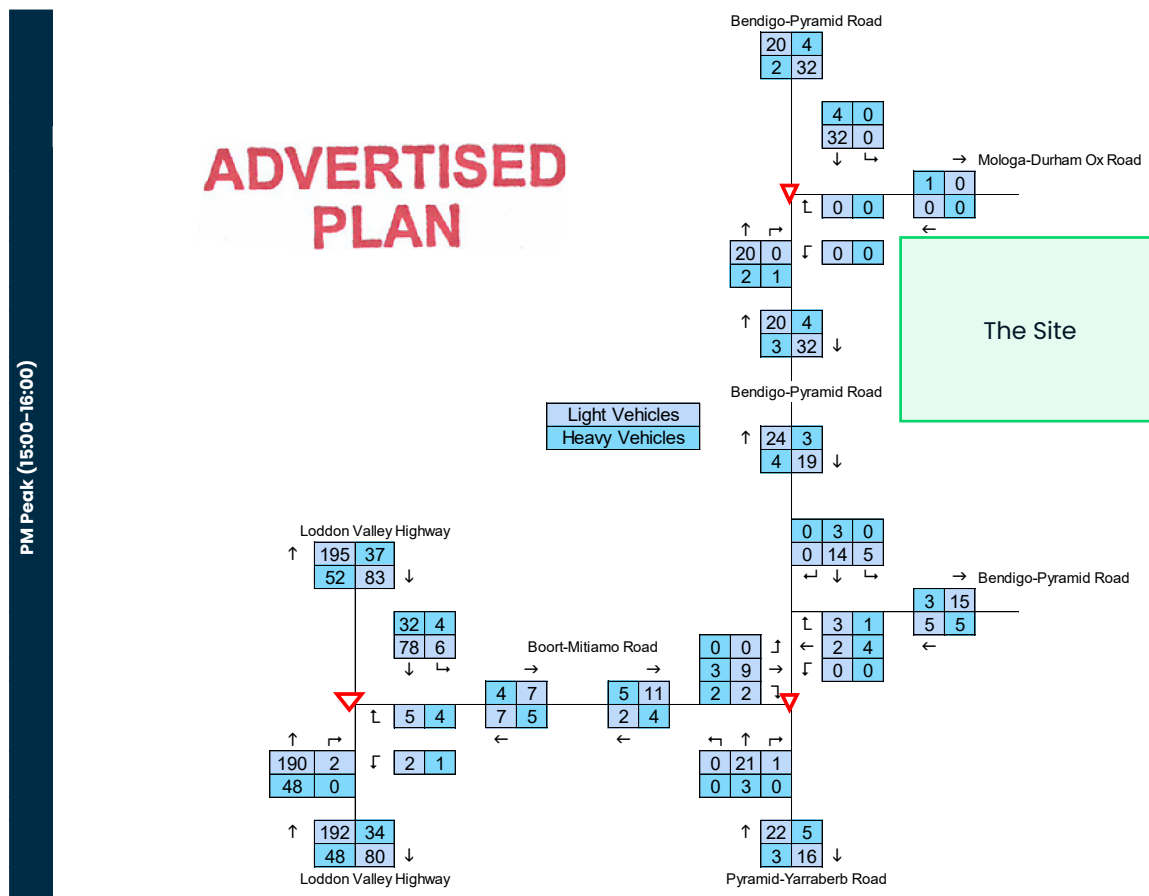


Figure 6 Existing PM peak hour intersection turning movement volumes (scaled)

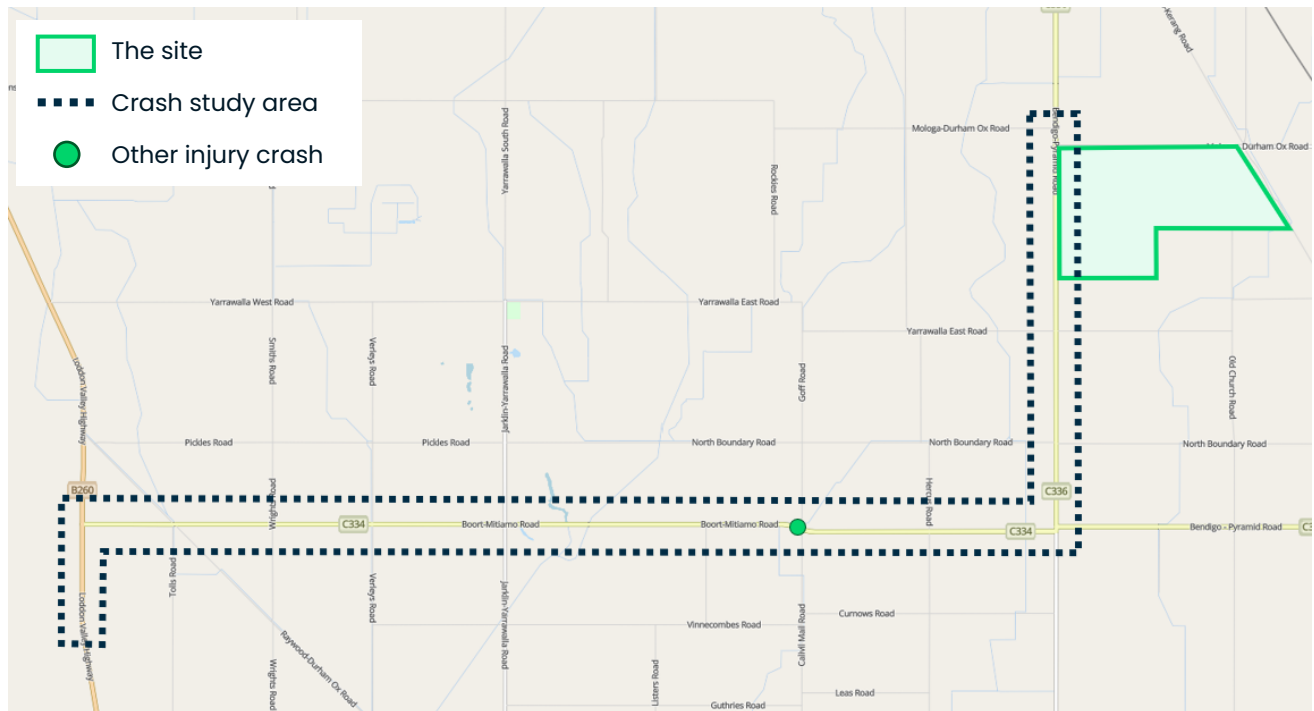


2.5 Crash History

Urbis reviewed road crash history from the DTP open-source database. Data was extracted from between April 2020 to March 2025, the most recent 5-year period available.

The crash study area was determined based on the proposed construction haulage route (discussed in **Section 6.2**) and the expected route taken by construction workers to and from the site (discussed in **Section 7.2**). The crash study area reviews an approximate distance of 24 kilometres, with the extent of this area and recorded crashes illustrated in **Figure 7**.

Figure 7 Crashes within the study area



Source: Department of Transport and Planning Open Data

A singular crash was recorded within the study area between April 2020 and March 2025. This crash occurred at the Boort-Mitiamo Road / Calivil Mill Road intersection, located to the southwest of the site. The crash occurred at on Monday 14 November 2022 and involved 2 passenger vehicles colliding at the existing cross intersection. It resulted in an 'other injury' severity.

Based on this investigation there are no crash trends or apparent road safety concerns with the existing road network near the site, or along the proposed construction haulage route near the site.

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3 Development Proposal

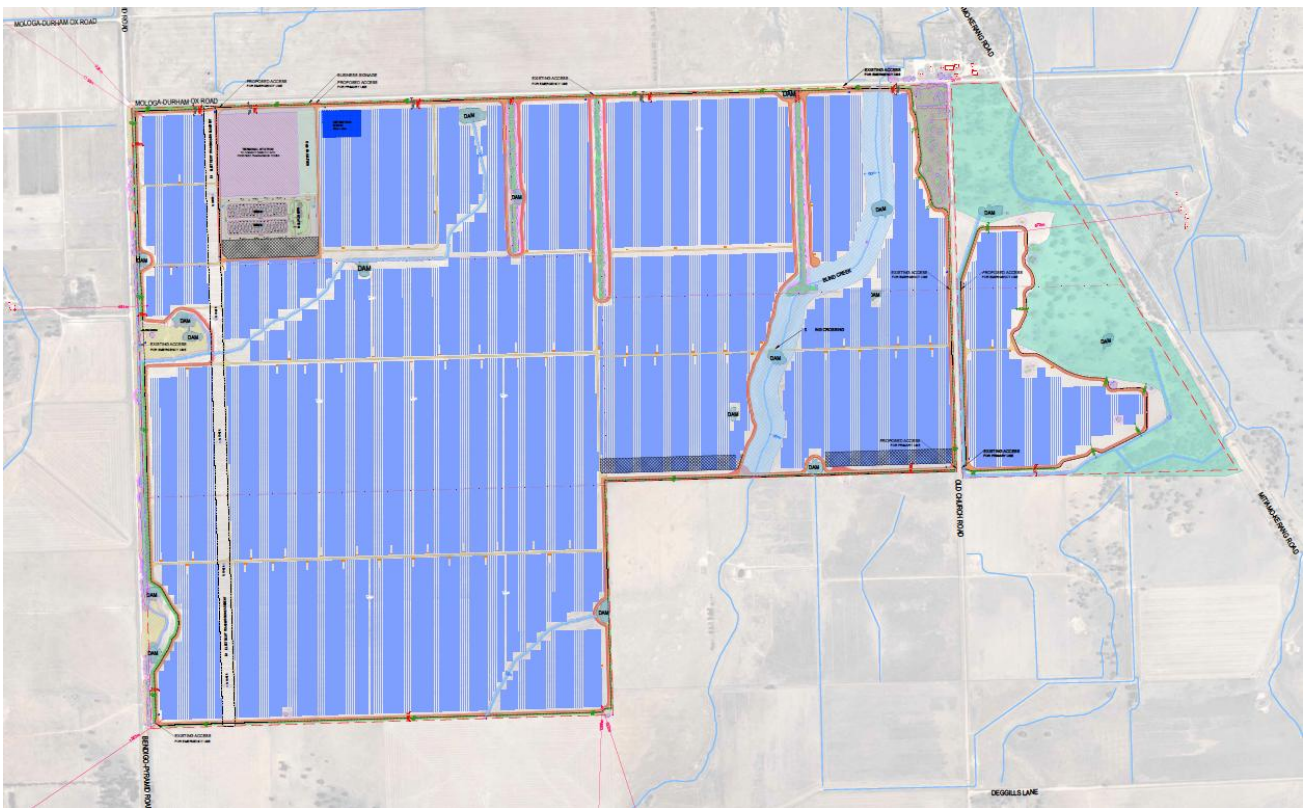
The proposed Mologa Solar Hybrid development comprises:

- 250 MW solar farm
- 250 MW 4-hour BESS
- Substation
- Terminal station

A 220 kV transmission line easement runs north–south through the western side of the site. The proposed BESS and substation will connect directly to this existing line, enabling efficient integration with the grid.

Figure 8 shows the site plan for the proposed development, with **Figure 9** illustrating a zoomed-in view of the BESS substation compound and the proposed Mologa–Durham Ox Road primary access point.

Figure 8 Extract of proposed site plan



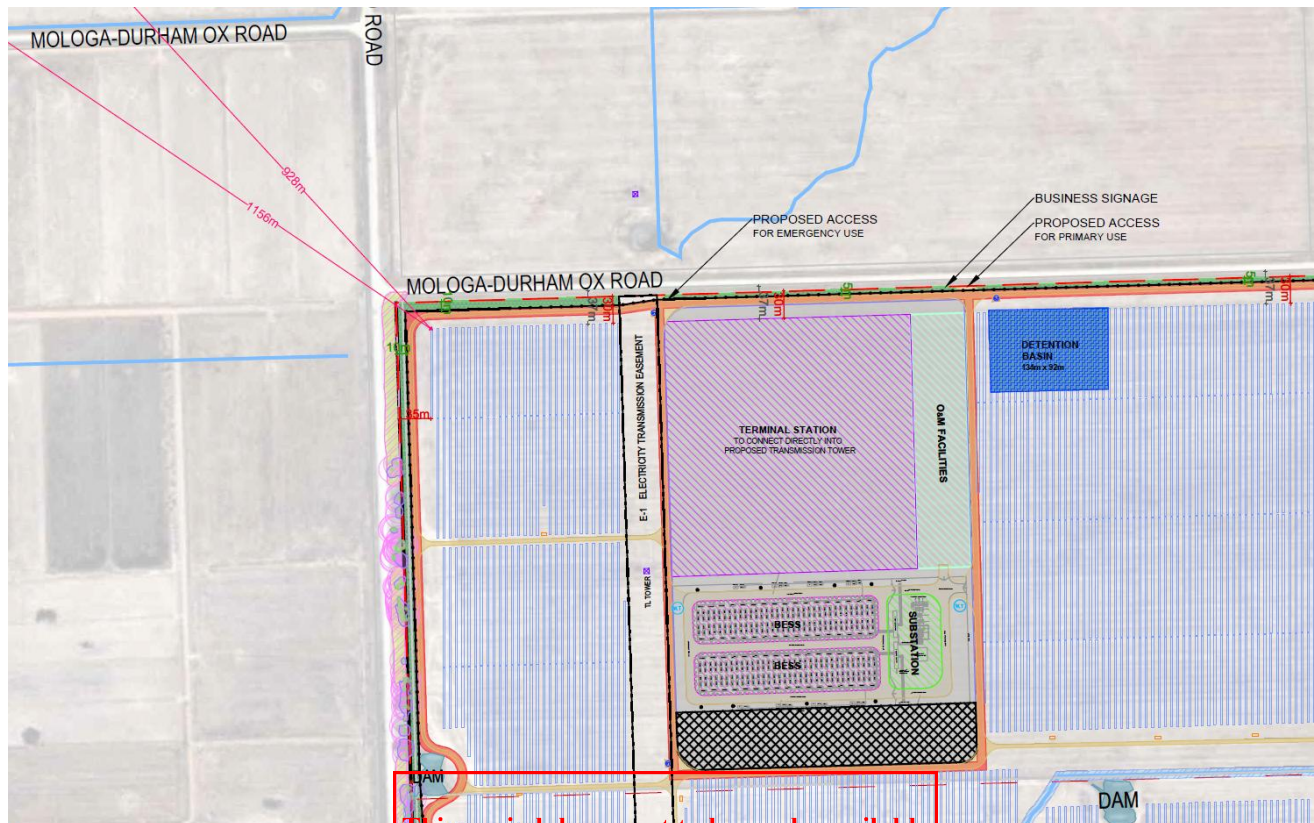
Source: Prepared by Urbis (Revision K dated 22/07/2026)

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Figure 9 Extract of proposed site plan – Mologa–Durham Ox Road access and BESS area



Source: Prepared by Urbis (Revision K dated 22/07/2020)

3.1 Vehicle Access

There are currently proposed to be approximately ten (10) vehicle access points to the site in order to comply with the Country Fire Authority (CFA) requirements.

Of the approximately ten (10) site access points, three (3) are proposed to be used for primary access (i.e., during construction, operation and decommissioning) and seven (7) are proposed to be used for emergency access:

- Two (2) points providing site access from the west via Bendigo–Pyramid Road (TR22). Of the access points located along Bendigo–Pyramid Road:
 - Two (2) existing emergency access points proposed:
 - The southernmost existing access point proposed for emergency use is located approximately 2.18 km south of the intersection of Bendigo–Pyramid Road and Mologa–Durham Ox Road at the southwestern corner of the project area.
 - The northernmost existing access point proposed for emergency use is located approximately 840 m south of the intersection of Bendigo–Pyramid Road and Mologa–Durham Ox Road.
- Four (4) points providing site access from the north via Mologa–Durham Ox Road. Of the access points located along Mologa–Durham Ox Road:
 - One (1) proposed primary access point:
 - The proposed primary access point is located approximately 600 m east of the intersection of Mologa–Durham Ox Road and Bendigo–Pyramid Road.
 - One (1) proposed emergency access point:
 - The proposed emergency access point is located at the eastern edge of the transmission tower easement running north–south through the western portion of the project area, approximately 310 m east of the intersection of Mologa–Durham Ox Road and Bendigo–Pyramid Road.

- Two (2) existing emergency access points:
 - The centrally located existing access point proposed for emergency use is located approximately 1.64 km east of the intersection of Mologa-Durham Ox Road and Bendigo-Pyramid Road.
 - The easternmost existing access point proposed for emergency use is located approximately 600 m west of the intersection of Mitiamo-Kerang Road and Mologa-Durham Ox Road.
- Four (4) points for accessing the site via Old Church Road. Of the access points located along Old Church Road:
 - One (1) proposed primary access point:
 - The proposed primary access point is located approximately 1.37 km south of the intersection of Mologa-Durham Ox Road and Old Church Road, at the southernmost extent of Old Church Road within the project area. This would provide primary access to the project area west of Old Church Road.
 - One (1) existing primary access point:
 - The existing access point proposed for primary use is located approximately 1.37 km south of the intersection of Mologa-Durham Ox Road and Old Church Road, at the southernmost extent of Old Church Road within the project area. This would provide primary access to the eastern portion of the project area, east of Old Church Road.
 - One (1) proposed emergency access point:
 - The proposed emergency access point is located approximately 720 m south of the intersection of Mologa-Durham Ox Road and Old Church Road and would provide access to the project area east of Old Church Road
 - One (1) existing emergency access point:
 - The existing access point proposed for emergency use is located approximately 720 m south of the intersection of Mologa-Durham Ox Road and Old Church Road and would provide access to the project area west of Old Church Road.

Old Church Road passes from north to south through the eastern portion of the project area from Mologa-Durham Ox Road in the north and is accessible from the east from Degills Lane via Kerang-Mitiamo Road and is accessible from the west from Yarrawalla East Road via Bendigo-Pyramid Road.

All entry points will be designed to accommodate a CFA firefighting vehicle at a minimum.

Relevant construction traffic management measures will be implemented during construction to maintain the safety and operation of the surrounding road network. This is discussed further in **Section 7.4**.

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4 Construction Details

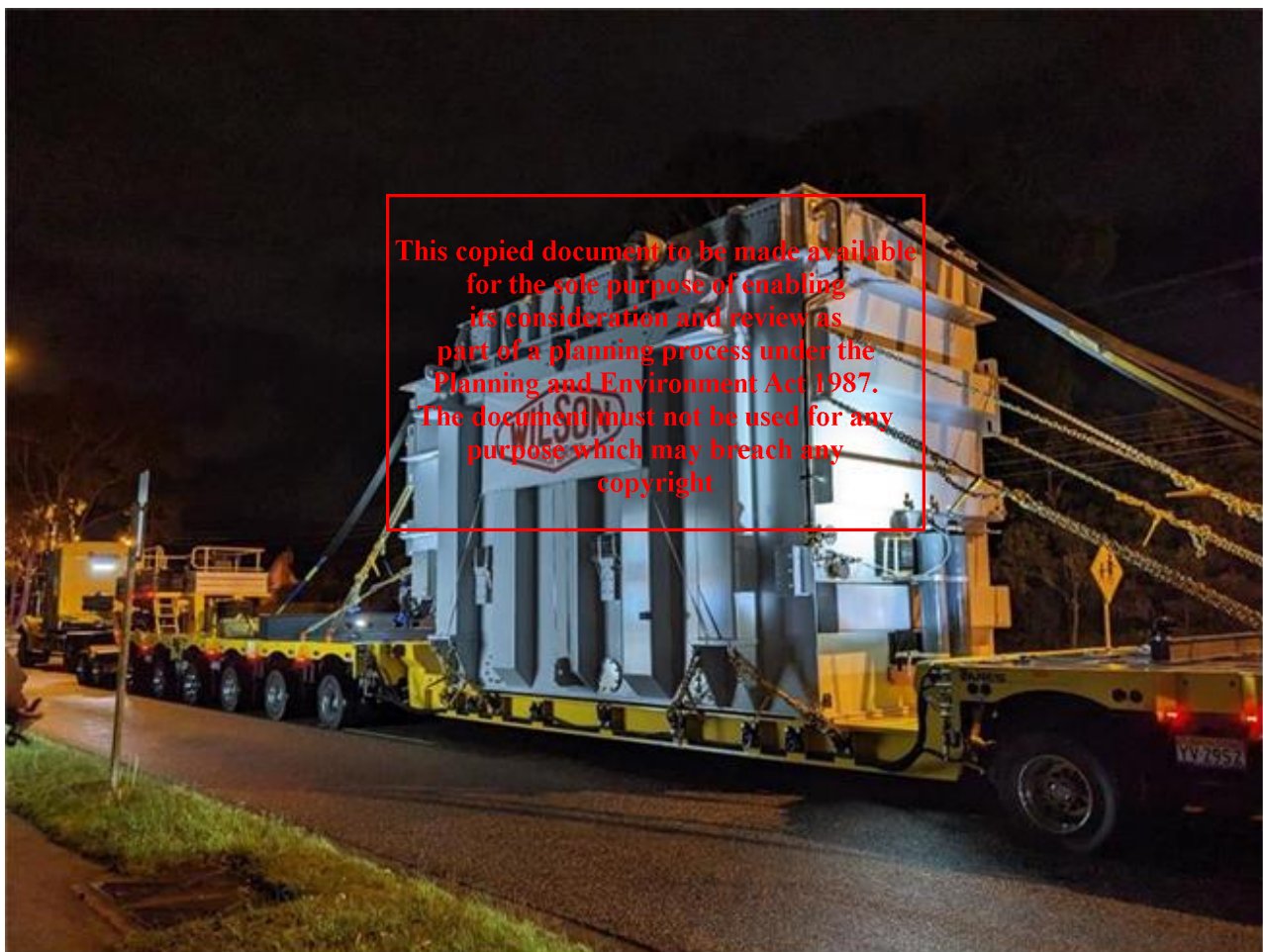
4.1 Construction Vehicle Sizes

A range of construction vehicles are expected to be required to transport the various materials and plant required throughout the construction of the development.

4.1.1 Oversized Overmass Vehicle

The largest construction vehicles expected to access the site will be needed to transport 1 transformer and 1 switchroom unit. These vehicle loads are oversized and indivisible. An Oversized Overmass (OSOM) vehicle is therefore required. The exact OSOM configuration is dependent on the dimensions and mass of the specific transformer unit and switchroom selected. Whilst this information is not currently available, the client has advised that a platform trailer combination in a “low-boy” configuration will be used. An image of the type of OSOM vehicle likely to be used is provided in **Figure 10**.

Figure 10 Example of OSOM vehicle combination

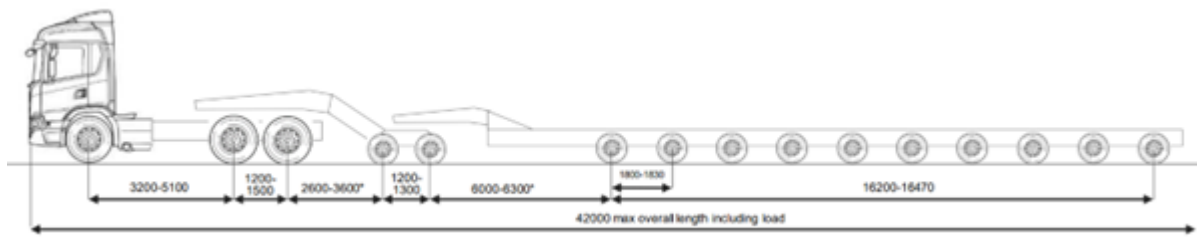


Source: Provided by Potentia Energy

For the purpose of this transport impact assessment, conservative assumptions regarding the OSOM vehicle configuration, dimensions, and mass have been made to assist in establishing a preliminary haulage route. It is expected that the OSOM vehicle combination will fall within the dimensional and mass restrictions of “Reference Vehicle 8” under the DTP Platform Trailer Network. This reference vehicle is shown in **Figure 11**.

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Figure 11 Victorian Platform Trailer Network reference vehicle 8



Source: Transport Victoria

While this reference vehicle does not include a “low-boy” component, its horizontal performance and axle mass distribution is expected to be generally reflective of the OSOM vehicle combination in **Figure 10**. This provides a basis for the preliminary OSOM vehicle haulage route which is discussed further in **Section 6.1**.

4.1.2 Other construction vehicles

Other construction trucks expected to be required during construction include:

- 26 metre long Quad Axle Low Loader OSOM combination (for transporting large plant to and from the site)
- Shorter low loader combinations (for transporting plant to and from the site)
- 26 metre long Truck and Dog combinations (for earthworks)
- 26 metre long B-doubles (for delivering modules and tracker components)
- 20 metre long Semis (for delivering most larger components)
- Rigid trucks up to 12.5 metres long (for general construction deliveries)

Section 6 proposes the haulage route for these construction vehicles and provides a preliminary route assessment. **Section 7** provides an assessment of the impact of these construction vehicles on the safety and operation of the surrounding road network.

4.2 Construction Workforce Size

Potentia Energy have advised Urbis that up to 300 construction workers would be on-site at any given time during the peak construction period. Whilst worker accommodation arrangements are yet to be established, it is expected that Bendigo or Echuca would be used.

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5 Design Review

5.1 Site Access

Vehicle access to the site is proposed via a primary access point to Mologa–Durham Ox Road. An additional 2 crossovers are proposed on Old Church Road near the southeastern boundary of the site. These crossovers will not be used by construction vehicles and are intended to provide a connection between the eastern and western portion of the site. Further detail on construction vehicle haulage routes is provided in **Section 6**.

A number of existing crossovers across the site will be retained for emergency vehicle access only.

5.2 Sight Distance

A preliminary review of sight distances at Mologa–Durham Ox Road / Bendigo–Pyramid Road intersection has been carried out using aerial imagery and Google Street View. This intersection will be used by all construction vehicles to enter and exit the development, as discussed further in **Section 6**.

5.2.1 Sight Distance Requirements

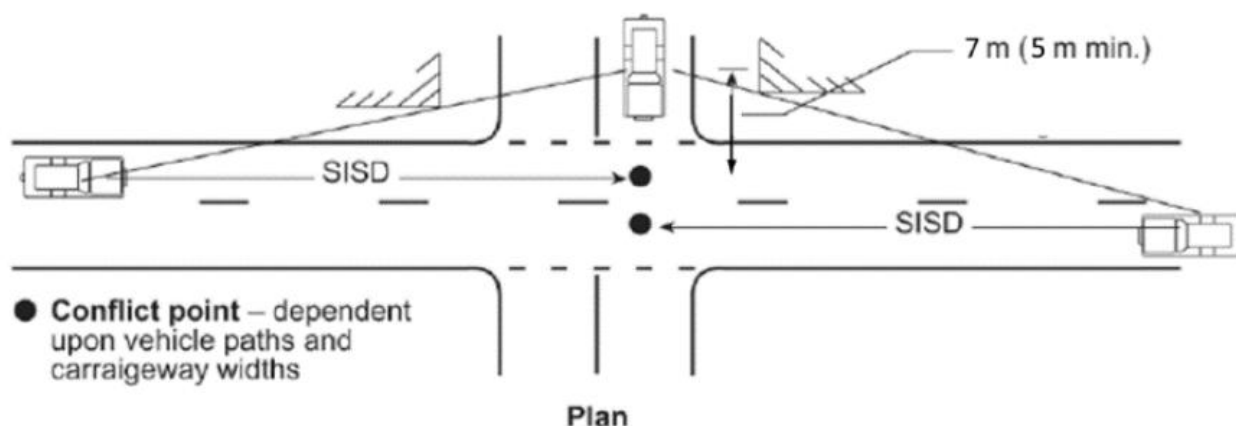
Sight distance requirements are set out in Austroads Guide to Road Design (AGRD) Part 4A: *Unsignalised and Signalised Intersections*.

5.2.1.1 Safe Intersection Sight Distance

AGRD Part 4A specifies that SISD is the minimum distance that should be provided on the major road at any intersection.

Figure 12 provides an excerpt from AGRD 4A depicting how SISD is measured. The formula for calculating SISD is provided in **Figure 13**.

Figure 12 SISD diagram for intersections



Source: Austroads Guide to Road Design Part 4A (2023)

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Figure 13 SISD formula for intersections

$$SISD = \frac{D_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$

where

- SISD = safe intersection sight distance (m)
- D_T = decision time (sec) = observation time (3 sec) + reaction time (sec) – refer to *AGRD Part 3* (Austroads 2016a) for a guide to values
- V = operating (85th percentile) speed (km/h)
- d = coefficient of deceleration – refer to Table 3.3 and *AGRD Part 3* for a guide to values
- a = longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade)

Source: *Austroads Guide to Road Design Part 4A* (2023)

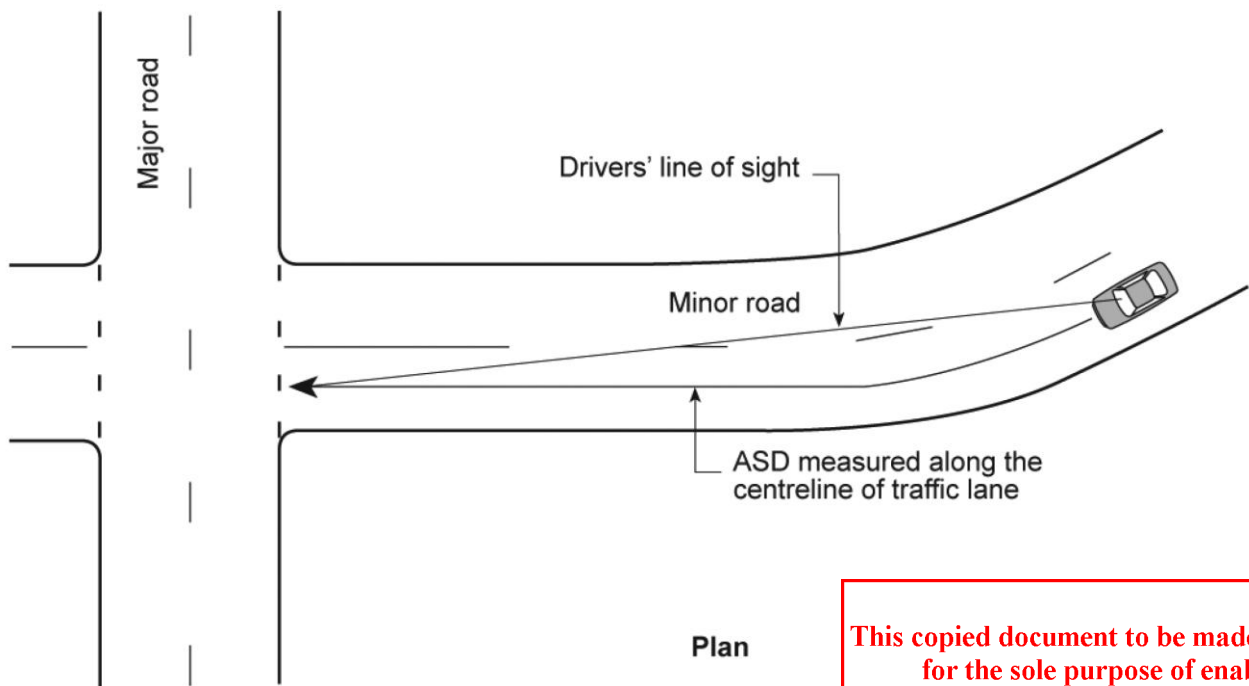
The intersection has a minimum SISD requirement of **317 metres** for heavy vehicles. This is based on an operating speed of 100 km/h, reaction time of 2.5 seconds and a coefficient of deceleration of 0.24.

5.2.1.2 Approach Sight Distance

Similarly, *AGRD Part 4A* recommends that ASD is the minimum level of sight distance that must be available on the minor road approaches to all intersections.

Figure 14 provides a diagram of the application of ASD on the minor road approach to intersections. **Figure 15** provides the formula used to calculate ASD.

Figure 14 ASD diagram for intersections



Source: *Austroads Guide to Road Design Part 4A* (2023)

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Figure 15 ASD formula for intersections

$$ASD = \frac{R_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$

where

- ASD = approach sight distance (m)
- R_T = reaction time (sec), refer to *AGRD Part 3* (Austroads 2016a) for guidance on values
- V = operating (85th percentile) speed (km/h)
- d = coefficient of deceleration, refer to Table 3.1. Refer also to *AGRD Part 3*, Table 5.3 for further information on coefficient selection
- a = a longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade)

Source: Austroads Guide to Road Design Part 4A (2023)

The intersection has a minimum ASD requirement of **233 metres** for heavy vehicles. This is based on an operating speed of 100 kilometres per hour, a reaction time of 2.5 seconds and a deceleration coefficient of 0.24.

5.2.2 Sight Distance Assessment

5.2.2.1 Safe Intersection Sight Distance

Figure 16 demonstrates the required SISD at the Bendigo-Pyramid Road / Mologa-Durham Ox Road intersection. Based on available aerial imagery and Google Street view, there is ample sight distance to meet the minimum SISD requirement.

Figure 16 SISD assessment



Source: Google Earth (modified by Urbis)

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5.2.2.2 Approach Sight Distance

Figure 17 demonstrates the required ASD at the Bendigo–Pyramid Road / Mologa–Durham Ox Road intersection. Based on available aerial imagery and Google Streetview, there is ample sight distance to meet the minimum ASD requirement. It is further noted that the proposed site access is located approximately 650 metres to the east of Bendigo–Pyramid Road, confirming the ASD requirement is also met for vehicles exiting the site.

Figure 17 ASD assessment



Source: Google Earth (modified by Urbis)

5.3 Access Design

The Mologa–Durham Ox Road access is designed to accommodate a 38 metre long OSOM vehicle and 26 metre long B-doubles. These are the largest vehicles that will be required during construction.

Following this, the access is expected to be able to readily accommodate any other heavy vehicles required to access the site during ongoing operation, maintenance and emergency purposes.

Appendix A provides a swept path assessment for the site access on Mologa–Durham Ox Road.

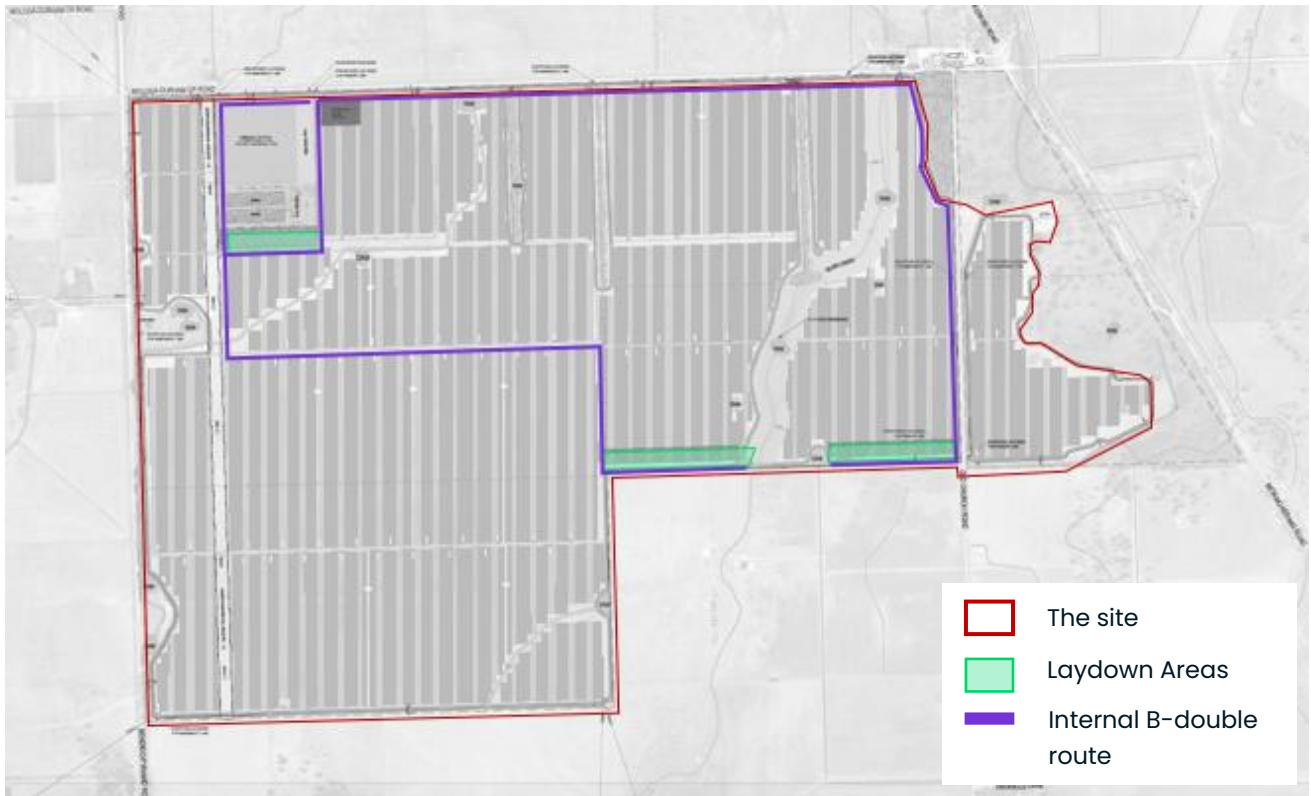
5.4 Internal Road Network

The proposed internal road network is designed in accordance with the Country Fire Authority *Design Guidelines and Model Requirements for Renewable Energy Facilities (Version 4, 2023)*. All internal roads are at least 6 metres in width facilitating two-way vehicle movement. One of the internal roads terminates in a court-bowl arrangement and has been designed with a minimum radius greater than 8 metres. The internal road network also features emergency vehicle access points at existing crossovers, enabling responding emergency services to access all areas of the facility.

Specific routes along the internal road network have been designed to accommodate 26 metre B-double vehicle circulation for construction deliveries. **Figure 18** illustrates the B-double internal routes for access to the 3 laydown areas that are proposed during the construction phase.

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Figure 18 B-double internal routes to laydown areas



Source: Prepared by Urbis (Revision K dated 22/07/2026)

5.5 Vehicle Parking

The site provides a total supply of at least 8 parking spaces for use during the operational phase. These car parking spaces are designed in accordance with the Loddon Planning Scheme.

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6 Haulage Route Assessment

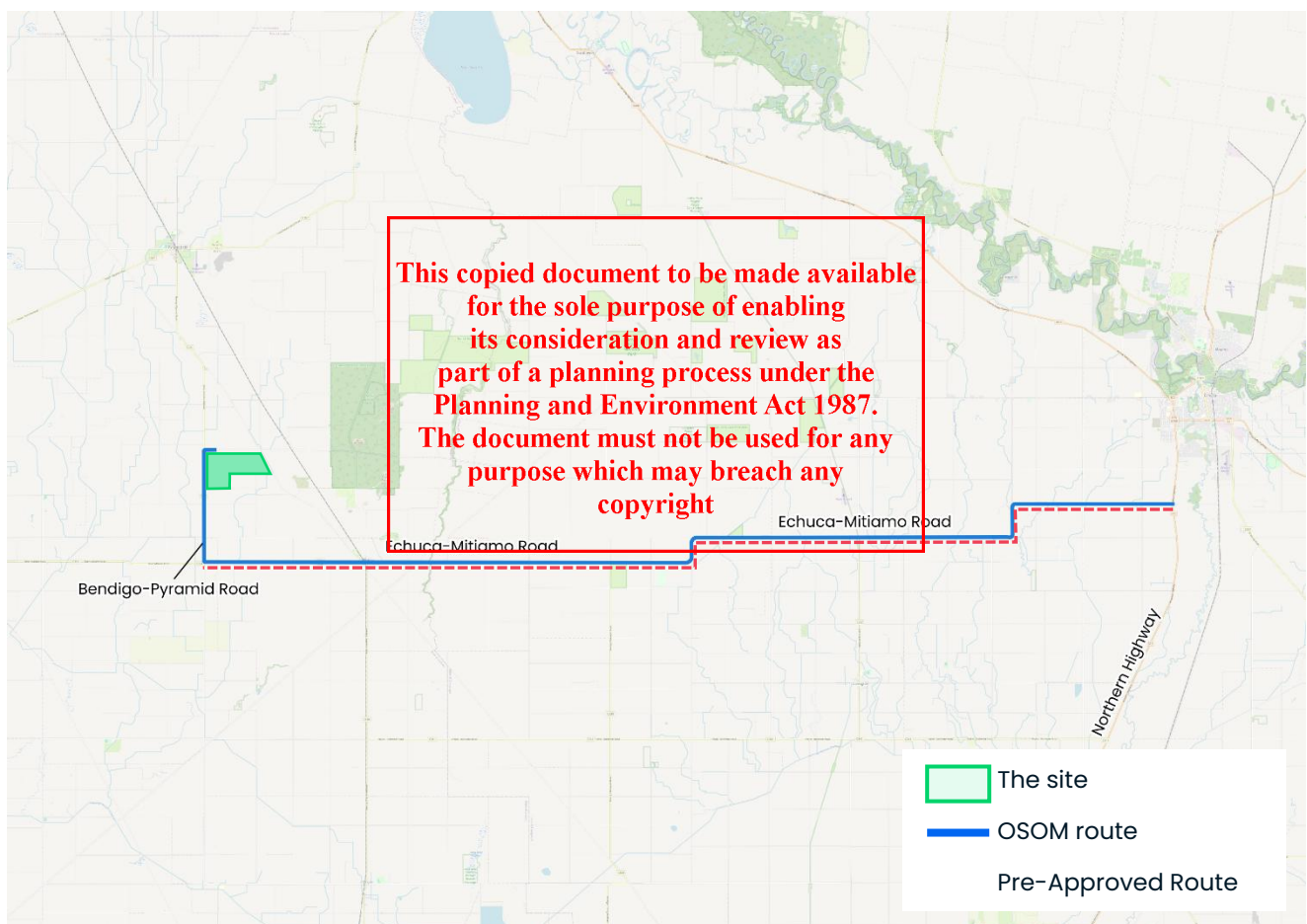
6.1 OSOM Vehicle Route

It is expected that 2 OSOM vehicle movements will be required to transport the transformer element and switchroom to the site. As highlighted in **Section 4.1**, the OSOM vehicle combination is expected to generally align with the dimensions and mass of Reference Vehicle 8 under the Victorian Platform Trailer Scheme.

The origin point for the OSOM deliveries has not been finalised, however the preliminary route between the site and the Northern Highway is shown in **Figure 19**. The Northern Highway is also pro-approved for the reference OSOM combination and provides good connections to other pre-approved routes including the Hume Freeway, Goulburn Valley Freeway and Murray Valley Highway (pending confirmation of the OSOM origin point).

The unladen OSOM vehicle will use the same preliminary route to exit the site to the Northern Highway.

Figure 19 Preliminary OSOM haulage route



Source: OpenStreetMap modified by Urbis

The route is conditionally pre-approved between the Northern Highway and the Boort-Mitiamo Road / Bendigo-Pyramid Road intersection (approximately eight kilometres south of the site). The conditions along the route typically relate to speed restrictions on load-bearing structures. The heavy vehicle operator will be responsible for obtaining a relevant permit through the National Heavy Vehicle Regulator (NHVR) prior to commencement of OSOM vehicle haulage operations. The NHVR is responsible for assessing the application and referring to relevant road authorities, noting that the route mostly uses roads managed by DTP, except for the short section along Mologa-Durham Road adjacent to the site.

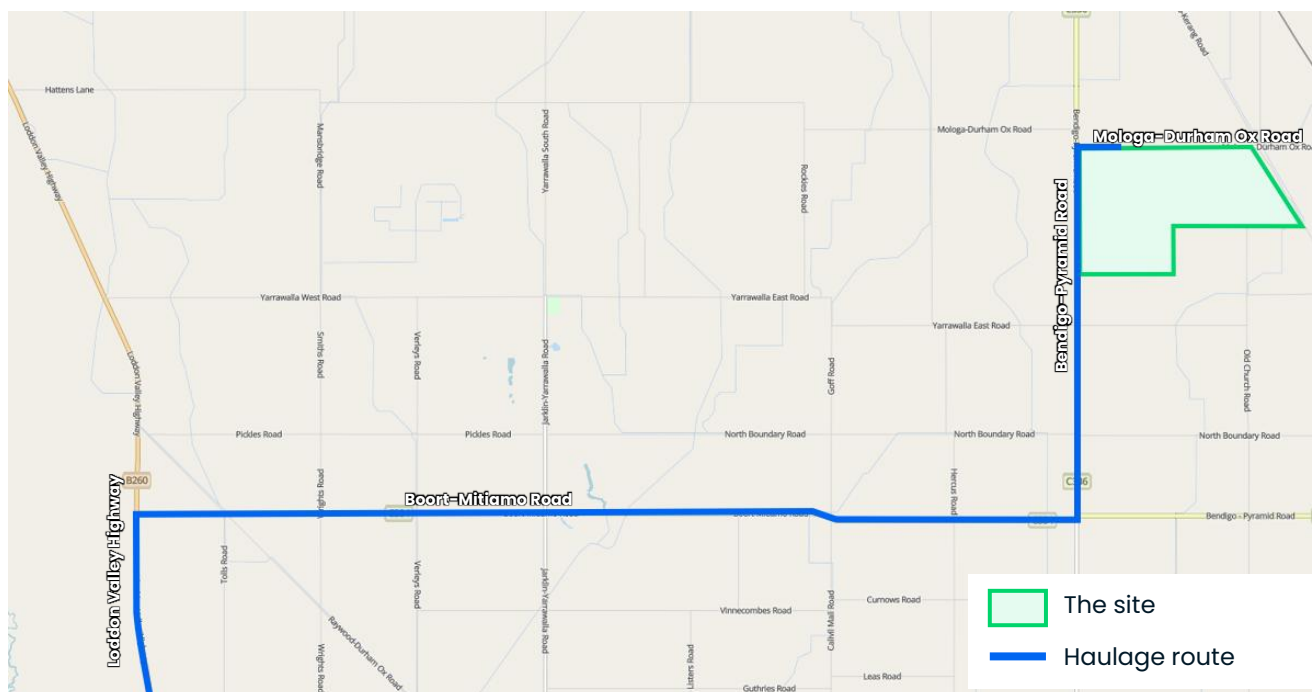
Due to the size of the OSOM delivery vehicle, this delivery will require specific traffic control measures (for example a pilot vehicle escort), which will be finalised and implemented through the heavy vehicle operator obtaining the relevant permit through the NHVR.

Manoeuvrability of the OSOM vehicle at the Bendigo–Pyramid Road / Mologa–Durham Ox Road intersection near the site is discussed in **Section 7.3.3**.

6.2 General Construction Vehicle Route

Potentia Energy has indicated that most construction materials will be sourced from the Port of Melbourne, subject to supplier selection. Regardless, it is expected that construction vehicles will approach the site from the south, likely along the Loddon Valley Highway, and from there construction vehicles would use Boort–Mitiamo Road and Bendigo–Pyramid Road to access the site. A map of the anticipated construction haulage route (within the local context) is provided in **Figure 20**.

Figure 20 General construction haulage route



Source: OpenStreetMap modified by Urbis

Confirmation of construction routes will be provided post-planning approval, within a Transport Management Plan or similar document.

6.2.1 Preliminary Route Assessment

The haulage route shown in **Figure 20** is based on construction vehicles originating toward the south of the site (i.e. towards metropolitan Melbourne or Bendigo).

Loddon Valley Highway, Boort–Mitiamo Road and Bendigo–Pyramid Road are pre-approved for use by all other truck types expected to be required for construction of the development. The relevant NHVR networks are listed in **Table 3** against their truck type.

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Table 3 Pre-approved networks for haulage route

Construction truck type	Relevant NHVR network	Portion of route on network
26m low loader	Victorian 77t Low Loader Network	Loddon Valley Highway, Boort-Mitiamo Road, Bendigo-Pyramid Road
26m B-double	Victorian Gazetted B-Double Network	
26m truck and dog	PBS Level 2A Cubic Network	
20m semis and 12.5m rigid trucks	General access	Entire route

Source: maps.nhvr.gov.au (as at December 2025)

The haulage route includes an approximately 650 metre long stretch of Mologa-Durham Ox Road between Bendigo-Pyramid Road and the proposed site access point. This portion of road is not pre-approved under existing NHVR networks for the proposed construction vehicles. Use of this road would therefore require a permit to be issued by the NHVR. Preliminary measures to mitigate the impact of heavy vehicle movements on Mologa-Durham Ox Road are discussed in **Section 7.4**.

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7 Construction Traffic Impact Assessment

7.1 Construction Traffic Generation

Urbis has prepared a summary of construction traffic generation based on information provided by Potentia Energy. This information is intended to inform any potential safety or operational impacts associated with construction of the proposed development and the subsequent mitigation measures.

7.1.1 Construction Worker Vehicles

Potentia Energy has advised that up to 300 construction workers will be on-site at any given time during peak construction activities. Given the location of the site and typical workforce arrangements for rural renewables projects, and with consideration of car pooling amongst workers, it is expected that:

- 80 per cent of workers will arrive via minibus, with an average occupancy of 10 people,
- 20 per cent will arrive via construction light vehicles, with an average occupancy of 3 people.

It is expected that up to 88 vehicle trips (44 inbound and 44 outbound) will be generated by construction staff per day at peak times. Conservatively assuming that all workers arrive and depart the site in the same hour, this results in:

- Up to 24 inbound minibus movements and 20 inbound light vehicle movements during the AM peak hour,
- Up to 24 outbound minibus movements and 20 outbound light vehicle movements during the PM peak hour.

7.1.2 Construction Heavy Vehicles

Potentia Energy have advised that the peak construction period will see the following heavy vehicle types being required to access the site:

- 26 metre long B-doubles (for delivering modules and tracker components)
- 20 metre long Semi trailers (for delivering most larger components)
- Rigid trucks up to 12.5 metres long (for general construction deliveries)

Additional construction heavy vehicle types (discussed in **Section 4**) are expected to be required across non-peak construction traffic generating periods, including low loaders for transporting plant to and from the site, or truck and dogs for earthworks. For the purposes of this traffic impact assessment, the peak construction period traffic volumes have been considered. An assessment of the suitability of the proposed haulage route to cater for all required vehicle types is provided in **Section 6**.

The expected construction peak period daily and peak hour heavy vehicle volumes by truck type are summarised in **Table 4**.

Table 4 Peak traffic generation – construction heavy vehicles

Heavy vehicle type	Total daily movements	Peak hour movements
26m B-doubles	80 trips (40 in and 40 out)	12 trips (6 in and 6 out)
20m Semis	180 trips (90 in and 90 out)	28 trips (14 in and 14 out)
Rigid trucks	180 trips (90 in and 90 out)	28 trips (14 in and 14 out)
Total	440 trips (220 in and 220 out)	68 trips (34 in and 34 out)

7.1.3 Total Traffic Generation

Conservatively assuming that construction light vehicle and heavy vehicle peak hours align, the total traffic generation for the peak construction period is summarised in **Table 5**.

Table 5 Total peak hour construction traffic generation

Movement	AM peak hour	PM peak hour
Inbound movements	78 vehicles per hour	34 vehicles per hour
Outbound movements	34 vehicles per hour	78 vehicles per hour
Total movements	112 vehicles per hour	112 vehicles per hour

7.2 Construction Traffic Distribution

All construction heavy vehicles will approach the site from the south along Bendigo–Pyramid Road (and depart in the same direction). The proposed haulage route was previously shown in **Figure 20**.

Whilst worker accommodation arrangements are yet to be finalised, given the size of the workforce they are likely to be based in Bendigo or Echuca. If based in Bendigo, it is likely that workers will approach the site from the south via Bendigo–Pyramid Road, Boort–Mitiamo Road and the Loddon Valley Highway. If workers were based in Echuca they would likely arrive at the site via Echuca–Mitiamo Road and Bendigo–Pyramid Road.

This means that the majority of construction-related traffic is expected to arrive to the site via Bendigo–Pyramid Road and perform a right turn onto Mologa–Durham Ox Road. Construction traffic departing the site would perform a left turn onto Bendigo–Pyramid Road from Mologa–Durham Ox Road.

7.3 Construction Traffic Impact

Based on the expected construction traffic distribution, impacts at the following intersections have been assessed:

- Bendigo–Pyramid Road / Mologa–Durham Ox Road
- Bendigo–Pyramid Road / Boort–Mitiamo Road
- Loddon Valley Highway / Boort–Mitiamo Road

Traffic impacts on Mologa–Durham Ox Road and the four bridges along Boort–Mitiamo Road (at the request of HTfV) have also been considered.

Given worker accommodation arrangements are yet to be finalised between Bendigo or Echuca, two traffic impact scenarios have been prepared and assessed.

Figure 21 and **Figure 22** provide the peak hour traffic movements (background plus construction traffic) at the analysis intersections for Scenario 1 – Bendigo Workforce Accommodation.

Figure 23 and **Figure 24** provide the peak hour construction traffic movements (background plus construction traffic) at the analysis intersections for Scenario 2 – Echuca Workforce Accommodation.

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Figure 21 Total peak hour traffic volumes at analysis intersections - Scenario 1 (Bendigo Workforce Accommodation) - AM peak hour

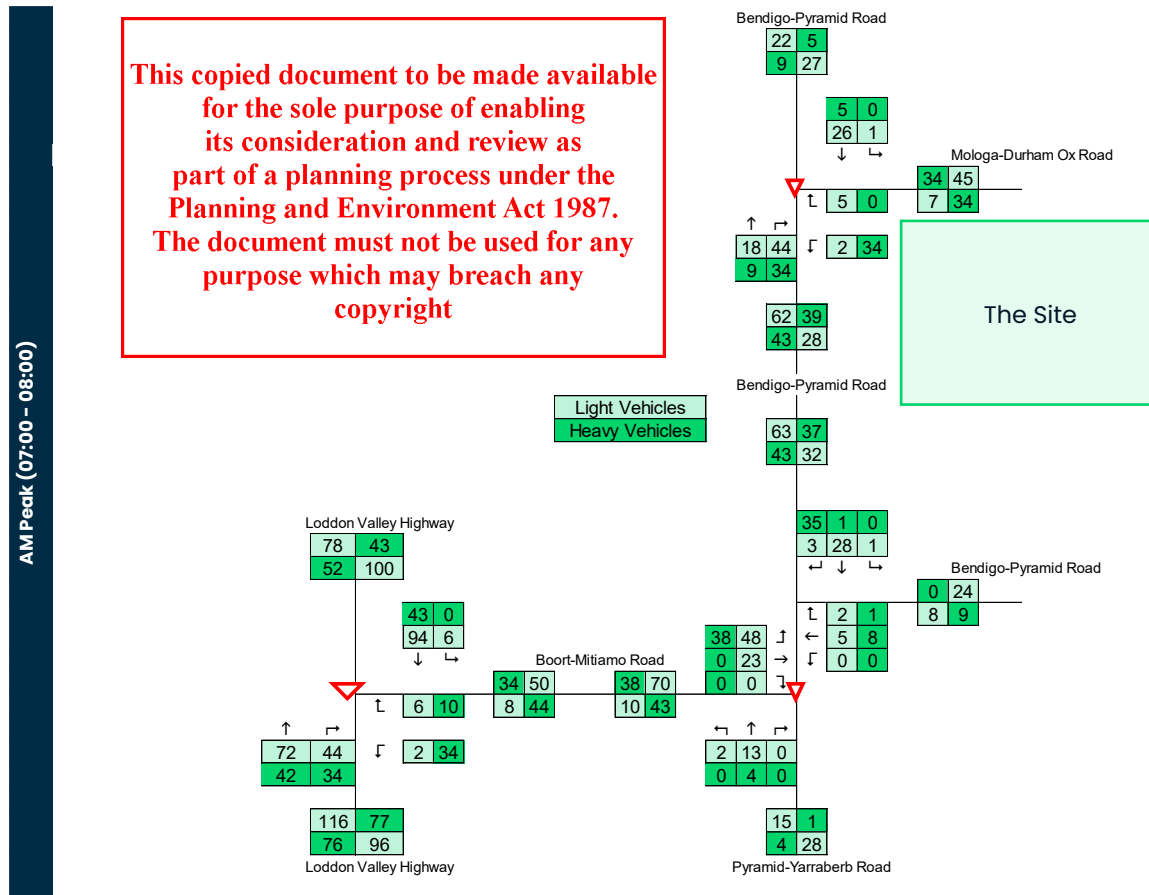


Figure 22 Total peak hour traffic volumes at analysis intersections - Scenario 1 (Bendigo Workforce Accommodation) - PM peak hour

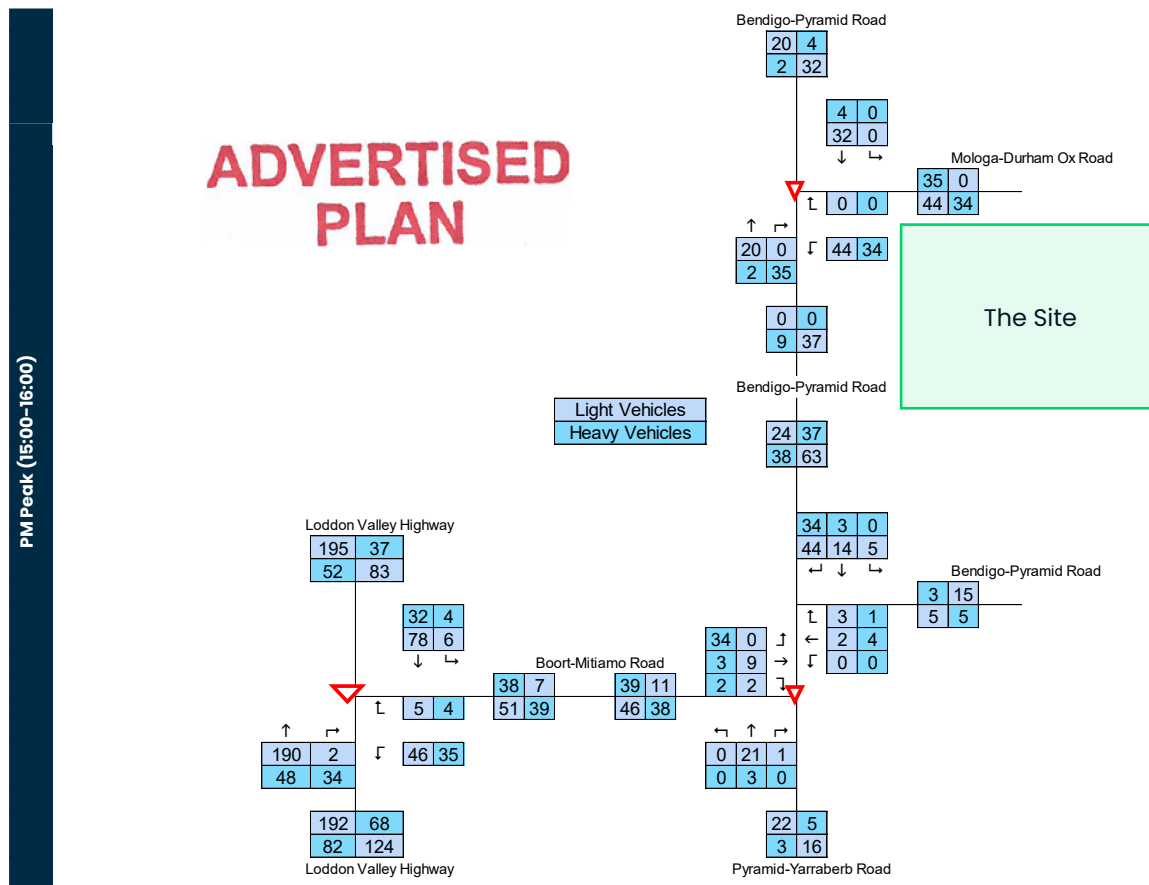


Figure 23 Total peak hour traffic volumes at analysis intersections - Scenario 2 (Echuca Workforce Accommodation) - AM peak hour

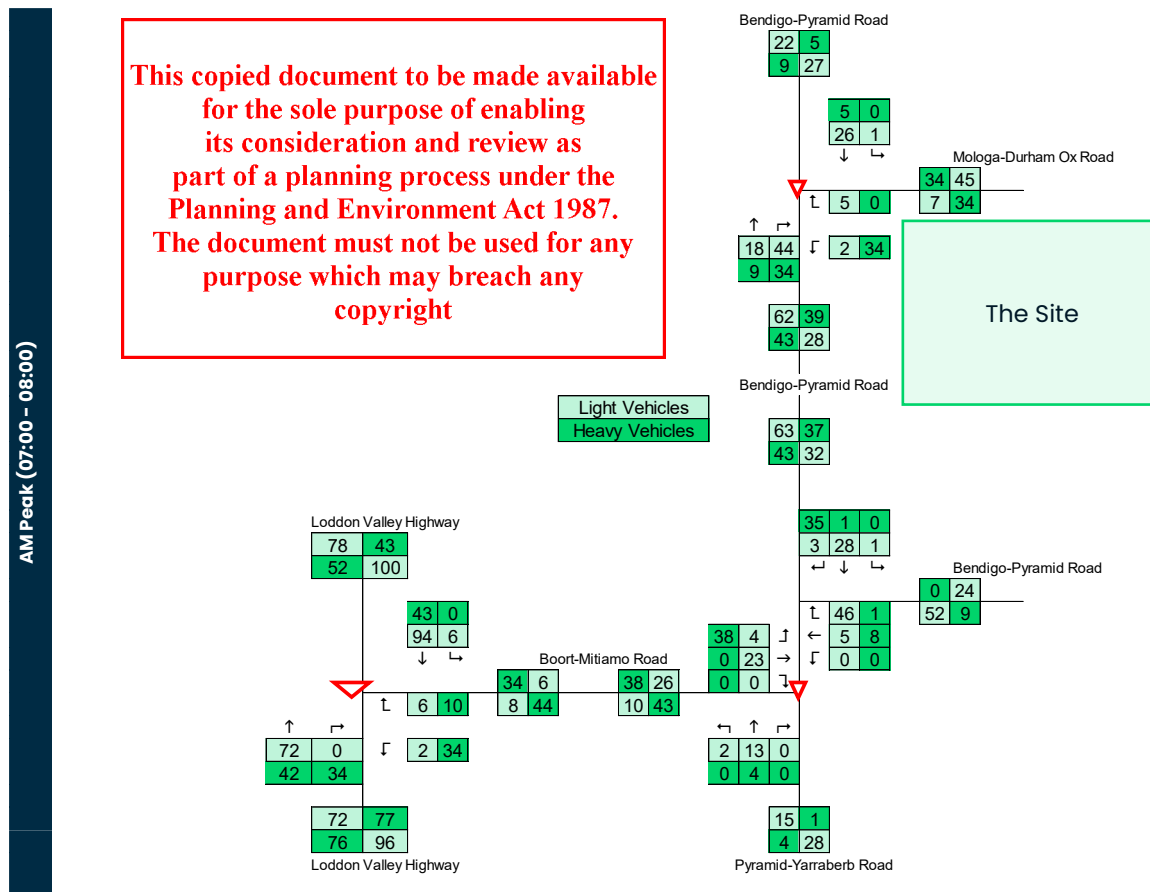
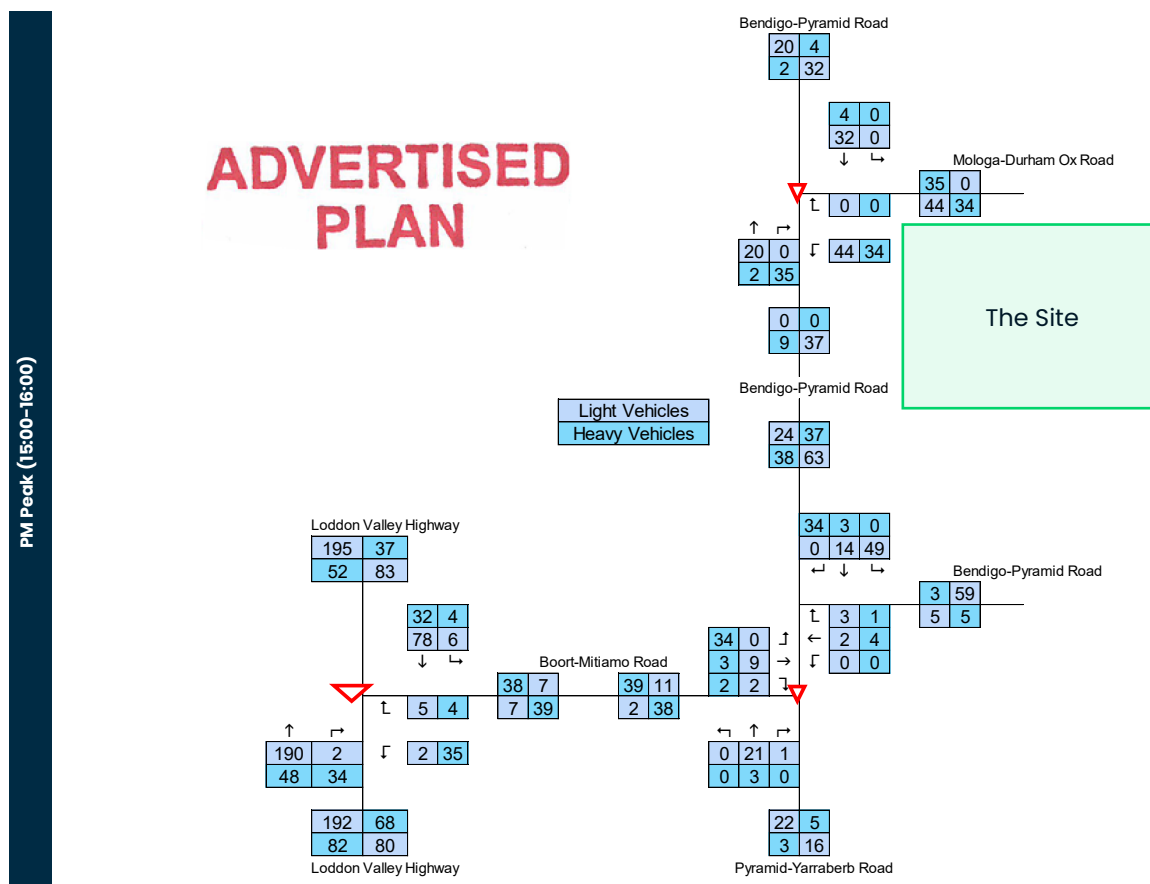


Figure 24 Total peak hour traffic volumes at analysis intersections - Scenario 2 (Echuca Workforce Accommodation) - PM peak hour



7.3.1 Mologa–Durham Ox Road

As shown in **Figure 21** to **Figure 24**, it is expected that up to 120 vehicles (including 112 construction vehicles) would use Mologa–Durham Ox Road across the peak construction hours. The road has a carriageway width of approximately 6.5 metres which is sufficient to allow two vehicles to pass. Given the temporary nature of construction traffic, retaining the existing Mologa–Durham–Ox Road carriageway is considered acceptable. Further information on recommended traffic management measures are provided in **Section 7.4**, including detail of dilapidation surveys.

7.3.2 Boort–Mitiamo Road – Bridges

As discussed in **Section 6.2.1** the proposed haulage route along Boort–Mitiamo Road will cater for a range of construction heavy vehicles, including:

- 26 metre long low-loaders
- 26 metre long B-doubles
- 26 metre long truck and dogs
- 20 metre long semis and 12.5 metre long rigid trucks

As shown in **Table 3**, these vehicles are pre-approved for use on the Boort–Mitiamo Road section of the proposed haulage route. This includes approval under the respective NHVR networks for the following four bridge structures:

- SN7301
- SN4743
- SN4744
- SN4748

On this basis the four bridges on Boort–Mitiamo Road are considered appropriate for use as they are all NHVR pre-approved.

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7.3.3 Bendigo–Pyramid Road / Mologa–Durham Ox Road

Bendigo–Pyramid Road / Mologa–Durham Ox Road will cater for all construction traffic entering and exiting the site. It also provides access to the DTP-managed state road network.

As shown in **Figure 21** to **Figure 24**, the intersection experiences the same construction-generated traffic under each workforce accommodation scenario.

7.3.3.1 Turn Lane Warrants Assessment

To assess the ability of the intersection to cater for construction-generated traffic associated with the site, an assessment of the intersection was undertaken against the warrants for intersection turn treatments specified in Austroads Guide to Traffic Management Part 6: *Intersections, Interchanges and Crossings Management* (2020).

The results of this turn lane warrant assessment (applicable to both scenarios) is provided in **Appendix E**. The warrants assessment indicates that the intersection should be upgraded with a Basic Right-turn Treatment (BAR) to support the peak hour volumes during construction.

7.3.3.2 Proposed Intersection Treatment

Based on **Section 7.3.3.1** it is proposed to upgrade the Bendigo–Pyramid Road / Mologa–Durham Ox Road intersection to include a Rural Basic Right-turn Treatment (BAR).

The proposed BAR treatment aligns with the warrants triggered by the peak construction period generated traffic volumes. It is also considered appropriate given the very low background traffic volumes present on Bendigo–Pyramid Road and Mologa–Durham Ox Road and given there is no casualty crash history in the vicinity.

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A preliminary concept design for the proposed Bendigo-Pyramid Road / Mologa-Durham Ox Road intersection is provided in **Appendix B**. The design was developed in accordance with the Austroads Guide to Road Design Part 4A: *Unsignalised and Signalised Intersections (2023)*. The swept path assessment provided in **Appendix B** demonstrates that:

- the indicative OSOM vehicle can navigate the proposed intersection (per the haulage route in **Section 6.1**)
- a 26 metre long B-double can navigate the proposed intersection (per the haulage route in **Section 6.2**)
- a 26 metre long B-double can readily pass a stationary B-double waiting to turn right from Bendigo-Pyramid Road into Mologa-Durham Ox Road.

7.3.3.3 Intersection Performance

At the request of HTfV, SIDRA INTERSECTION 10 modelling was undertaken to assess the operational performance of the proposed BAR treatment and overall Bendigo-Pyramid Road / Mologa-Durham Ox Road intersection during construction of the proposed solar farm. The key parameters used to determine the operational performance of an intersection are the 95th percentile queue length, average delay and degree of saturation (DOS).

The operational performance of the proposed BAR intersection treatment (discussed in **Section 7.3.3.2**) is summarised in **Table 6**. Detailed SIDRA outputs are provided in **Appendix F**.

Table 6: Bendigo-Pyramid Road / Mologa-Durham Ox Road – key SIDRA performance metrics

	Weekday AM Peak			Weekday PM Peak		
	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹
Existing	0.02	6	0.2	0.02	7	0.1
Scenario 1	0.06	7	2.8	0.06	7	2.5
Scenario 2	0.06	7	2.8	0.06	7	2.5

¹ Average Delay and 95th percentile Queue Length taken for the critical movement

As shown, the intersection readily caters for construction traffic with negligible delay and queuing. There is an inconsequential increase in average delay for the intersection's critical movement that will be imperceptible to the majority of road users. The DOS and queuing expected at the intersection during construction does not indicate any operational inefficiency with a significant amount of excess capacity expected to be available at the intersection.

On this basis, the proposed BAR treatment is considered suitable to mitigate the expected construction traffic impacts associated with the proposed development.

7.3.4 Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid Yarraberb Road

HTfV requested a turn lane warrant assessment and SIDRA analysis for the Bendigo-Pyramid Road / Boort-Mitiamo / Pyramid-Yarraberb Road intersection.

7.3.4.1 Turn Lane Warrants Assessment

To assess the ability of the intersection to cater for construction-generated traffic associated with the site, an assessment of the intersection was undertaken against the warrants for intersection turn treatments specified in Austroads Guide to Traffic Management Part 6: *Intersections, Interchanges and Crossings Management (2020)*.

The intersection is configured as a "staggered-T", and hence separate warrants for each "T" component of the intersection was undertaken. The results of this turn lane warrant assessment for both Scenario 1 (workers

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accommodated in Bendigo) and Scenario 2 (workers accommodated in Echuca) is provided in **Appendix E**. The warrants assessment indicates that the intersection should be upgraded with a Basic Right-turn Treatment (BAR) to support the peak hour volumes during construction under both scenarios.

7.3.4.2 Proposed Intersection Treatment

It is proposed to upgrade the Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road intersection to include a Rural Basic Right-turn Treatment (BAR) catering to right turning vehicles from Bendigo-Pyramid Road into Boort-Mitiamo Road.

The proposed BAR treatment aligns with the warrants triggered by the peak construction period generated traffic volumes. It is also considered appropriate given the very low background traffic volumes present on Bendigo-Pyramid Road and Boort-Mitiamo Road and given there is no casualty crash history in the vicinity.

A preliminary concept design for the proposed Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road intersection is provided in **Appendix D**. The design is generally developed in accordance with the Austroads Guide to Road Design Part 4A: *Unsignalised and Signalised Intersections (2023)* with consideration also given to the existing “staggered-T” configuration of the intersection and the ample approach sight distance for southbound vehicles approaching the intersection to perceive and react to any vehicles stopped waiting to turn right from Bendigo-Pyramid Road into Boort-Mitiamo Road.

7.3.4.3 Intersection Performance

At the request of HTfV, SIDRA INTERSECTION 10 modelling was undertaken to assess the operational performance of the proposed BAR treatment and overall Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road intersection during construction of the proposed solar farm.

The operational performance of the proposed BAR intersection treatment (discussed in **Section 7.3.4.2**) is summarised in **Table 7**. Detailed SIDRA outputs are provided in **Appendix F**.

Table 7: Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road - Key SIDRA performance metrics

	Weekday AM Peak			Weekday PM Peak		
	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹
Existing	0.03	7	0.4	0.02	7	0.3
Scenario 1	0.08	8	1.3	0.07	8	1.1
Scenario 2	0.07	7	1.1	0.05	8	0.9

¹ Average Delay and 95th percentile Queue Length taken for the critical movement

As shown, the intersection can readily cater for construction traffic with negligible delay and queuing. There is an inconsequential increase in average delay for the intersection’s critical movement that will be imperceptible to the majority of road users. The DOS and queuing expected at the intersection during construction does not indicate any operational inefficiency with a large amount of excess capacity available at the intersection.

On this basis, the proposed BAR treatment is considered suitable to mitigate the expected construction traffic impacts associated with the proposed development.

7.3.5 Loddon Valley Highway / Boort-Mitiamo Road

HTfV requested a turn lane warrant assessment and SIDRA analysis for the Loddon Valley Highway / Boort-Mitiamo Road intersection.

7.3.5.1 Turn Lane Warrants Assessment

To assess the ability of the intersection to cater for construction-generated traffic associated with the site, an assessment of the intersection was undertaken against the warrants for intersection turn treatments

specified in Austroads Guide to Traffic Management Part 6: *Intersections, Interchanges and Crossings Management* (2020).

The results of this turn lane warrant assessment for both Scenario 1 (workers accommodated in Bendigo) and Scenario 2 (workers accommodated in Echuca) is provided in **Appendix E**. The warrants assessment indicates that the intersection could be upgraded with a Channelised Right Turn (CHR) treatment to support the peak hour volumes during construction under both scenarios.

7.3.5.2 Proposed Intersection Treatment

It is proposed to upgrade the Loddon Valley Highway / Boort-Mitiamo Road intersection to include a Rural Basic Right-turn Treatment (BAR) rather than a Channelised Right Turn (CHR) treatment.

This treatment is considered suitable to cater for the peak hour construction-generated traffic through the intersection based on the following grounds:

- The turn lane warrants in Austroads Guide to Traffic Management Part 6: *Intersections, Interchanges and Crossings Management* (2020) are guidance only (as specified in Section 1.3). The guidance can readily be varied with “sound engineering judgement” if warranted.
- The traffic volumes which trigger the requirement for a CHR treatment are solely based on construction-generated vehicles. The temporary nature of this traffic must be considered when applying warrants which were developed for permanent upgrades to existing intersections or when planning new intersections. Following the completion of construction works associated with the proposal, the background traffic volumes do not warrant the construction of a CHR treatment. Given the intersection’s remote location, there is also no nexus for the intersection to be upgraded to facilitate future growth or development in the area.
- Temporary construction impacts can be mitigated via traffic management measures if required.
- The SIDRA INTERSECTION modelling results discussed in **Section 7.3.5.3** highlight that the construction-generated traffic volume has a negligible impact on the average delay and queuing experienced at the intersection, removing any operational grounds for provision of a CHR treatment.
- The Loddon Valley Highway is straight and flat near the intersection, facilitating excellent sight distance for vehicles approaching the intersection. This would provide ample opportunity for northbound vehicles to perceive and react to a stationary vehicle on Loddon Valley Highway waiting to turn right into Boort-Mitiamo Road.
- Ample lateral shift distance is provided for trucks (including B-doubles) to merge around a stationary B-double waiting to turn right into Boort-Mitiamo Road, mitigating any operational concerns in providing a BAR treatment versus a CHR treatment

On this basis, a preliminary concept design for the proposed Loddon Valley Highway / Boort-Mitiamo Road intersection is provided in **Appendix D**. The design has been prepared in accordance with the Austroads Guide to Road Design Part 4A: *Unsignalised and Signalised Intersections* (2023).

7.3.5.3 Intersection Performance

At the request of HTfV, SIDRA INTERSECTION 10 modelling was undertaken to assess the operational performance of the proposed BAR treatment and overall Loddon Valley Highway / Boort-Mitiamo Road intersection during construction of the proposed solar farm.

The operational performance of the proposed BAR intersection treatment (discussed in **Section 7.3.5.2**) is summarised in **Table 8**. Detailed SIDRA outputs are provided in **Appendix F**.

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Table 8: Loddon Valley Highway / Boort-Mitiamo Road – key SIDRA performance metrics

	Weekday AM Peak			Weekday PM Peak		
	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹	DOS	Average Delay (sec) ¹	95 th %ile Queue (m) ¹
Existing	0.09	10	1.2	0.12	10	0.7
Scenario 1	0.13	12	6.0	0.16	12	4.1
Scenario 2	0.09	10	3.4	0.16	12	4.1

¹ Average Delay and 95th percentile Queue Length taken for the critical movement

As shown, the intersection readily caters for construction traffic with negligible delay and queuing. There is an inconsequential increase in average delay for the intersection's critical movement that will be imperceptible to the majority of road users. This increase in delay is not anticipated to result in aggressive gap acceptance or other safety hazards. The DOS and queuing observed at the intersection during construction does not indicate any operational inefficiency with a large amount of excess capacity available at the intersection.

On this basis, the proposed BAR treatment is considered suitable to mitigate the expected construction traffic impacts associated with the proposed development.

7.4 Additional Traffic Management Measures

To further mitigate the construction traffic impact detailed in **Section 7.3**, a number of preliminary traffic management measures are proposed for implementation during construction. These items can be further detailed post-planning permit approval in a Transport Management Plan or similar document.

7.4.1 Dilapidation Survey

Before commencing construction, the Contractor must conduct a dilapidation survey of the following roads used as haulage routes for construction:

- Mologa-Durham Ox Road between the site access and Bendigo-Pyramid Road
- Bendigo-Pyramid Road between Mologa-Durham Ox Road and Boort-Mitiamo Road

This survey will involve creating a written report and taking photos of any existing damage to public infrastructure. The report will cover the condition of table drains, gravel road surfaces, seals, signs, and other public infrastructure in front of the property, neighbouring properties, and along the designated haulage route.

During and immediately after construction, continued monitoring of the road conditions can be undertaken by the Contractor, site management team, or a nominated representative. If any significant damage is caused by the Contractor or its subcontractors, the site manager can engage a contractor to repair the roads.

The log of photographic evidence can be used as a reference in determining the extent of road dilapidation. Unless identified in the written report, any damage to infrastructure identified post construction can be attributed to the development.

It should be noted that the ultimate nature of the dilapidation surveys will be subject to agreement with Loddon Shire Council and DTP. A copy of the road dilapidation report shall be submitted to Council/DTP prior to the commencement of works and once construction works are completed.

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7.4.2 Construction Vehicle Management

During construction, all vehicles and machinery associated with the construction of the site will be contained within the site. Vehicles associated with construction works, including the delivery and removal of materials will use the haulage route identified in **Section 6**.

Appropriate traffic control measures can be implemented to notify other road users of large vehicles entering and exiting the site. Support and escort vehicles will also accompany the OSOM vehicle in alignment with DTP and NHVR requirements.

To minimise disruptions and congestion, the project can schedule the movement of oversized vehicles outside of peak traffic periods.

7.4.3 Nature of Loads and Monitoring

Traffic monitoring during the construction phase can include daily pre-start visual inspections of vehicles to ensure that the vehicles are in good working order and follow manufacturer specifications. Noise controls (efficient silencers, low-noise mufflers, etc.) can be installed and maintained (where reasonable and practicable).

Deliveries to the site can be tracked in a register to ensure that allowable mass limit adherence.

Street sweeping can be undertaken following sediment tracking from the site if required. All trucks removing soil and material from the construction work site can also be covered to prevent dirt and dust from escaping.

No building materials, waste, machinery, or related matter shall be stored externally to the site. All loading and unloading of vehicles shall occur within the boundaries of the site.

The construction contractor is obligated to maintain and minimise damage to roads in which vehicles associated with construction travel. Mitigation measures such as sediment tracking, dust suppression and wheel cleaning can be implemented to ensure debris from the site is managed.

All drivers will be obliged to attend a pre-start briefing covering driver safety before the commencement of the project.

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7.4.4 Community Consultation

The Project Manager and Stakeholder Engagement team will consult with and notify the surrounding property owners and any affected businesses of the proposed works and the proposed traffic management strategy.

A project-specific communication strategy will be developed by the project to determine the most effective way of notifying all affected parties. Where required, consultation will also be undertaken with the responsible road authority to determine suitable communication methods.

Possible communication methods that could be utilised are as follows:

- Mail drop to local residents.
- Email lists.
- Variable Message Signage.
- Noticeboard/Poster signage.
- Media advertisement (radio/newspaper).
- Website.

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7.4.5 Environmental Impacts

Monitoring of the project site for environmental impacts such as noise, dust and drainage will occur throughout the project. Mitigation measures for these issues will be identified in the contractor's management plans.

7.4.6 Hazardous Goods

When transporting dangerous goods, compliance with the *Australian Code for Transport of Dangerous Goods by Road and Rail* needs to be achieved by the contractor.

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8 Operational Traffic Impact Assessment

During its operation phase, the site will operate with up to 8 staff personnel and generate up to 16 regular daily traffic movements.

After the initial construction period, the operational level of development-generated traffic is anticipated to have a negligible impact on the local road network. It is noted that the proposed BAR treatment at Bendigo-Pyramid Road / Mologa-Durham Ox Road (discussed in **Section 7.3.3**) will enhance the safety of right turn movements during the operation of the solar farm.

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9 Conclusion

This TIA report assesses the proposed Mologa Solar Hybrid development located within the Shire of Loddon Shire Local Government Area (LGA), approximately 65 kilometres north of Bendigo and 51 kilometres west of Echuca, Victoria. The proposed Mologa Solar Hybrid Project comprises a 250 MW solar farm and a 250 MW four-hour Battery Energy Storage System (BESS).

There are no transport-related grounds to prevent the approval of the proposed development, subject to the recommendations and mitigation measures provided in this TIA.

Design Review

Vehicle access to the site will be provided via a primary access point on Mologa–Durham Ox Road. The Mologa–Durham Ox Road access point has been designed to accommodate the relevant design vehicles required during construction and operation phases. An additional crossover is proposed to Old Church Road near the southeastern boundary of the site, which will provide a connection between the eastern and western portion of the site (i.e. vehicles will not enter or exit the site via Old Church Road). Existing crossovers will be retained for emergency vehicle access only.

Construction Haulage

All construction traffic will access the site to and from the south via Bendigo–Pyramid Road. The proposed construction haulage route is discussed in **Section 6.2** and uses Bendigo–Pyramid Road and Boort–Mitiamo Road to connect to the Loddon Valley Highway. This route is fully pre-approved in accordance with the NHVR for all non-OSOM construction vehicles, except for the short 650 metre section along Mologa–Durham Ox Road adjacent to the site. Use of this road will require a permit issued by the NHVR.

Section 6.1 also provides a preliminary haulage route for the OSOM vehicle. The route is conditionally pre-approved between the Northern Highway and the Boort–Mitiamo Road / Bendigo–Pyramid Road intersection (approximately eight kilometres south of the site). The heavy vehicle operator will be responsible for obtaining a relevant permit through the NHVR prior to commencement of OSOM vehicle haulage operations.

Construction Traffic Impacts and Mitigation

During construction, up to 112 vehicle movements are expected in the peak hour. These movements include heavy construction vehicles delivering items to/from the site, and construction worker light vehicles (car and minibus). To manage construction-related traffic movements, it is proposed that minor upgrades be undertaken at the following intersections to incorporate a BAR treatment:

- Bendigo–Pyramid Road / Mologa–Durham Ox Road
- Bendigo–Pyramid Road / Boort–Mitiamo Road
- Loddon Valley Highway / Boort–Mitiamo Road

These minor upgrades will enable through traffic to safely pass any stationary construction traffic waiting to undertake a right turn from the “major road” into the “minor road”. Further information on the proposed intersection treatments are provided in **Section 7.3**.

Further mitigation measures are also proposed to be implemented during construction. These are detailed in **Section 7.4**.

Operational Traffic Impacts

Section 8 confirms that the operation of the proposed solar farm will have a negligible impact on the safety and operation of the surrounding road network.

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Disclaimer

This report is dated 23 July 2026 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Potentia Energy (**Instructing Party**) for the purpose of TIA (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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Appendix A: Traffic Survey Results

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A.1 Bendigo–Pyramid Road / Mologa–Durham Ox Road

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Location: Bendigo-Pyramid Road / Mologa-Durham Ox Road

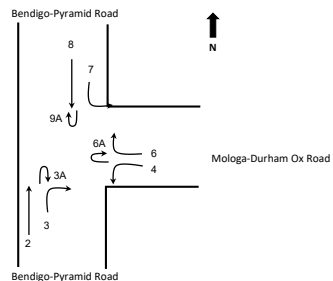
Weather: Fine

Date: Thursday, 19 March 2026

Survey Period: 6am - 8am and 2pm - 6pm

AM Peak: 7am - 8am

PM Peak: 3:45pm - 4:45pm



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TIME	2			3			3A			4			6			6A			7			8			9A			AM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total
6:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	6:00 - 7:00	25
6:15	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	6:15 - 7:15	27
6:30	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	6:30 - 7:30	32
6:45	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	6:45 - 7:45	39
7:00	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	7:00 - 8:00	49
7:15	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	2	5	0	0	0	AM PEAK	49
7:30	4	1	5	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	9	0	9	0	0	0		
7:45	5	2	7	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	7	2	9	0	0	0		
TOTAL	20	9	29	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0	1	0	1	37	4	41	0	0	0		
AM PEAK	12	6	18	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0	1	0	1	23	4	27	0	0	0		

2

5

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PLAN

TIME	2			3			3A			4			6			6A			7			8			9A			PM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total			
14:00	5	2	7	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	11	0	11	0	0	0	14:00 - 15:00	57			
14:15	8	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	14:15 - 15:15	49			
14:30	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	14:30 - 15:30	49			
14:45	7	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	4	0	0	0	14:45 - 15:45	48			
15:00	7	1	8	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	15:00 - 16:00	53			
15:15	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	10	0	0	0	15:15 - 16:15	59			
15:30	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	15:30 - 16:30	62			
15:45	9	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	8	0	0	0	15:45 - 16:45	71			
16:00	9	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	8	0	0	0	16:00 - 17:00	70			
16:15	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	16:15 - 17:15	70			
16:30	10	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	1	5	0	0	0	16:30 - 17:30	67		
16:45	8	1	9	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	7	0	7	0	0	0	0	16:45 - 17:45	66		
17:00	12	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	17:00 - 18:00	65		
17:15	13	0	13	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0				
17:30	11	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0				
17:45	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0				
TOTAL	139	12	151	0	1	1	0	0	0	1	2	3	2	0	2	0	0	3	75	10	85	0	0	0					
PM PEAK	41	4	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	20	5	25	0	0	0			

Data Audit Systems
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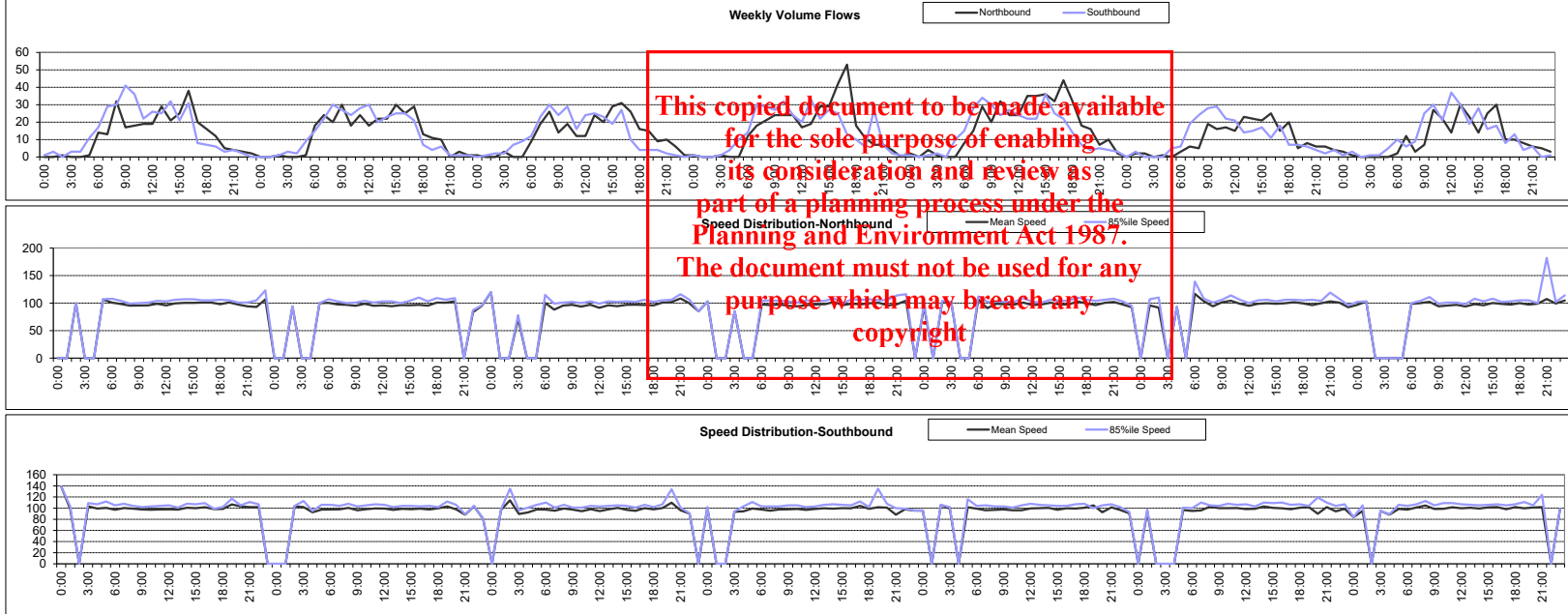
Start Date: Thursday, March 19, 2026

ADVERTISED PLAN

5 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	1718			
Southbound	1709	685 vpd	344 vpd	342 vpd
Peak Hr AM	8:00	56 vpd	26 vpd	31 vpd
Peak Hr PM	16:00	60 vpd	34 vpd	27 vpd
Speeds	85th%	104.5 km/h	104.2 km/h	104.9 km/h
	Average	98.0 km/h	97.7 km/h	98.4 km/h
Commercial Vehicles %		20.1%	17.5%	22.8%

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
Northbound	2214	Bidirectional	Northbound	Southbound
Southbound	2263	640 vpd	316 vpd	323 vpd
Peak Hr AM	10:00	51 vpd	22 vpd	29 vpd
Peak Hr PM	16:00	54 vpd	31 vpd	26 vpd
Speeds	85th%	104.9 km/h	104.5 km/h	105.4 km/h
	Average	98.3 km/h	97.9 km/h	98.7 km/h
Commercial Vehicles %		17.5%	15.4%	19.6%

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional
Light Vehicle - Class 1 to 2	249	267	516	256	244	500	249	232	481	298	281	579	365	296	661	224	243	467	233	256	489
Medium Vehicle - Class 3 to 5	38	61	99	37	56	93	39	49	88	33	57	90	42	47	89	14	16	30	14	25	39
Long Vehicle - Class 6 to 12	22	33	55	27	25	52	14	17	31	30	27	57	19	17	36	3	3	6	8	11	19
7am-7pm Vol	267	308	575	275	282	557	248	254	502	318	292	610	358	308	666	204	225	429	217	247	464
24Hr Vol	309	361	670	320	325	645	302	298	600	361	365	726	426	360	786	241	262	503	255	292	547
85%ile Speed	104	105	105	104	105	104	103	104	103	105	105	105	105	105	105	106	107	106	105	107	106
Mean Speed	98.7	99.2	99.0	96.8	98.4	97.6	96.2	97.3	96.7	97.6	98.5	98.1	98.7	98.3	98.5	99.7	99.4	99.5	97.8	99.9	98.9
AM Pk Hr Vol	32	41	62	30	30	57	26	30	56	24	32	56	32	34	63	19	29	47	27	30	57
AM Hr Factor	0.10	0.11	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.07	0.09	0.08	0.08	0.09	0.08	0.08	0.11	0.09	0.11	0.10	0.10
AM Peak 85%	99	102	101	101	108	102	101	106	104	103	105	103	102	103	103	106	108	105	101	109	105
AM Peak Time	8:00	9:00	8:00	9:00	8:00	9:00	8:00	8:00	8:00	9:00	10:00	10:00	10:00	8:00	8:00	9:00	10:00	9:00	10:00	10:00	10:00
PM Pk Hr Vol	38	32	69	30	30	55	31	27	58	53	33	67	44	36	72	25	21	38	30	37	60
PM Hr Factor	0.12	0.09	0.10	0.09	0.09	0.09	0.10	0.09	0.10	0.15	0.09	0.09	0.10	0.10	0.09	0.10	0.08	0.08	0.12	0.13	0.11
PM Peak 85%	105	108	107	104	106	104	102	101	102	106	106	106	110	104	104	106	107	106	108	107	107
PM Peak Time	16:00	14:00	16:00	15:00	12:00	15:00	16:00	16:00	16:00	17:00	13:00	16:00	17:00	15:00	15:00	16:00	12:00	15:00	13:00	12:00	13:00

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One Page Summary [Back to Menu](#)

Street: Bendigo-Pyramid Road

Suburb: Mologa

Location: South of Mologa-Durham Ox Road

Count No.: 2

Speed Limit: 100 km/h

Start Date: Thursday, March 19, 2026

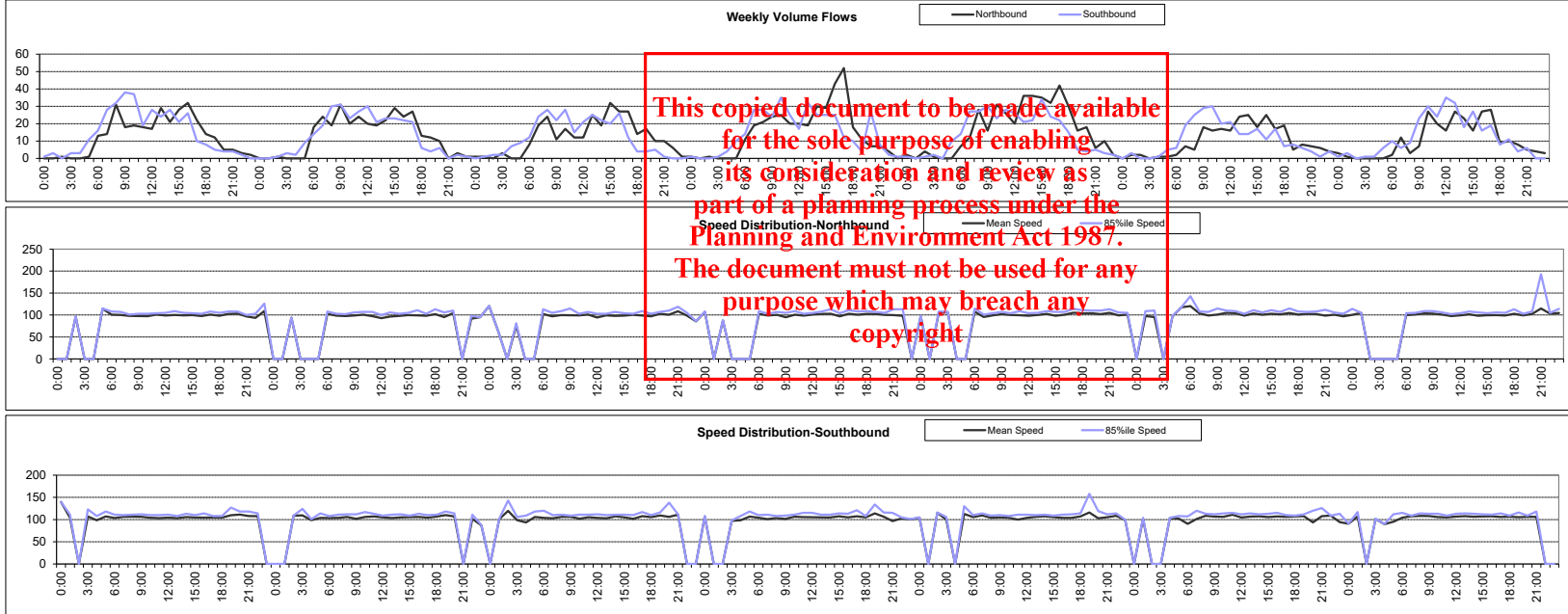


ADVERTISED PLAN

5 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	1690			
Southbound	1663	671 vpd	338 vpd	333 vpd
Peak Hr AM	8:00	54 vpd	25 vpd	29 vpd
Peak Hr PM	16:00	56 vpd	32 vpd	25 vpd
Speeds	85th%	109.2 km/h	106.5 km/h	112.0 km/h
	Average	102.4 km/h	99.9 km/h	104.9 km/h
Commercial Vehicles %		32.7%	23.2%	42.4%

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
Northbound	2186	Bidirectional	Northbound	Southbound
		629 vpd	312 vpd	316 vpd
Southbound	2215			
		52 vpd	22 vpd	29 vpd
Peak Hr AM	10:00			
		51 vpd	31 vpd	25 vpd
Peak Hr PM	16:00			
		109.6 km/h	107.0 km/h	112.2 km/h
Speeds	85th			
		102.7 km/h	100.2 km/h	105.2 km/h
	Average			
		30.2%	20.5%	39.6%
Commercial Vehicles %				

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional
Data Record Interval = 1Hr																					
Light Vehicle - Class 1 to 2	236	200	436	243	180	423	216	165	381	266	196	462	337	217	554	219	192	411	220	187	407
Medium Vehicle - Class 3 to 5	46	105	151	49	109	158	63	103	166	58	125	183	52	103	155	21	59	80	21	78	99
Long Vehicle - Class 6 to 12	23	46	69	25	29	54	17	22	39	38	37	75	21	26	47	5	11	16	10	25	35
7am-7pm Vol	263	299	562	272	276	548	239	247	486	320	286	606	344	299	643	207	224	431	215	247	462
24Hr Vol	305	351	656	317	318	635	296	290	586	362	358	720	410	346	756	245	262	507	251	290	541
85%ile Speed	105	112	109	105	112	109	106	112	109	108	112	110	108	112	110	109	113	111	108	113	110
Mean Speed	105.4	105.2	102.5	98.6	104.8	101.7	99.2	104.3	101.7	100.5	104.7	102.6	101.3	105.3	103.1	102.1	105.6	103.9	100.5	106.2	103.6
AM Pk Hr Vol	31	38	63	31	31	62	24	28	52	25	35	60	31	30	55	18	30	47	27	30	57
AM Hr Factor	0.10	0.11	0.10	0.10	0.10	0.10	0.08	0.10	0.09	0.07	0.10	0.08	0.08	0.09	0.07	0.07	0.11	0.09	0.11	0.10	0.11
AM Peak 85%	101	112	106	106	112	109	109	111	110	109	111	110	104	110	106	115	114	113	106	113	110
AM Peak Time	8:00	9:00	8:00	9:00	9:00	9:00	8:00	8:00	8:00	10:00	10:00	10:00	10:00	9:00	8:00	9:00	10:00	9:00	10:00	10:00	10:00
PM Pk Hr Vol	32	28	58	29	30	52	32	26	53	52	32	68	42	34	69	25	21	39	28	35	59
PM Hr Factor	0.10	0.08	0.09	0.09	0.09	0.08	0.11	0.09	0.09	0.14	0.09	0.09	0.10	0.10	0.09	0.10	0.08	0.08	0.11	0.12	0.11
PM Peak 85%	103	111	108	105	109	107	104	110	106	108	111	112	114	109	108	106	112	108	105	113	111
PM Peak Time	16:00	12:00	16:00	15:00	12:00	15:00	15:00	16:00	16:00	17:00	13:00	16:00	17:00	15:00	15:00	14:00	12:00	14:00	17:00	12:00	13:00

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Data Audit Systems
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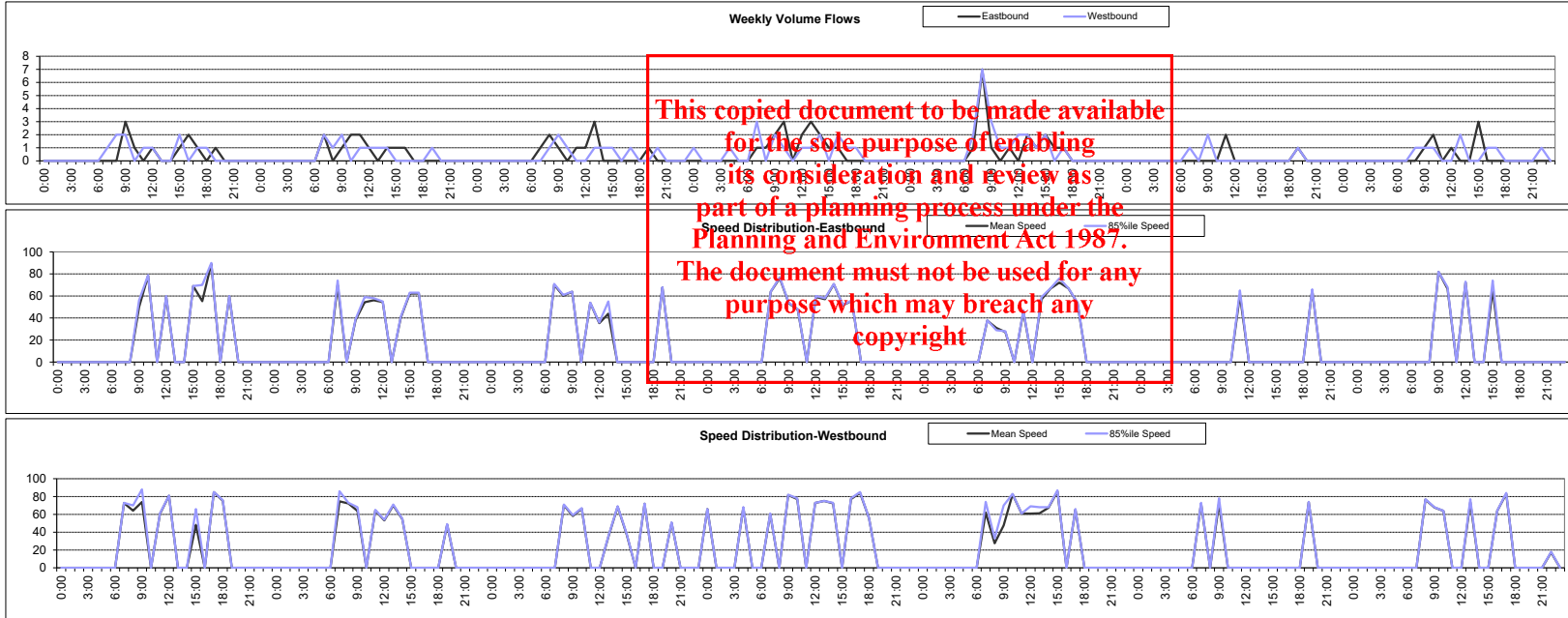
Start Date: Thursday, March 19, 2026

ADVERTISED PLAN

5 day Speed & Volume Data					
Direction	Total Volume	Travel Direction			
		Bidirectional	Eastbound	Westbound	
Eastbound	64				
Westbound	68	26 vpd	13 vpd	14 vpd	
Peak Hr AM	8:00	4 vpd	2 vpd	2 vpd	
Peak Hr PM	12:00	3 vpd	2 vpd	1 vpd	
Speeds	Average	61.3 km/h	56.3 km/h	66.0 km/h	
	85th	58.1 km/h	54.3 km/h	61.7 km/h	
Commercial Vehicles %		15.2%	18.8%	11.8%	

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Eastbound	Westbound
Eastbound	74			
Westbound	80	22 vpd	11 vpd	11 vpd
Peak Hr AM	9:00	3 vpd	1 vpd	2 vpd
Peak Hr PM	13:00	2 vpd	1 vpd	1 vpd
Speeds	85th%	62.5 km/h	58.2 km/h	66.5 km/h
	Average	59.5 km/h	56.1 km/h	62.6 km/h
Commercial Vehicles %		13.0%	16.2%	10.0%

Data Record Interval = 1Hr	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional
Light Vehicle - Class 1 to 2	8	10	18	9	10	19	9	8	17	11	14	25	15	18	33	3	4	7	7	8	15
Medium Vehicle - Class 3 to 5	2	1	3	2	0	2	0	0	0	3	2	5	1	2	3	0	0	0	0	0	0
Long Vehicle - Class 6 to 12	0	0	0	0	0	0	1	1	2	2	0	2	1	2	3	0	0	0	0	0	0
7am-7pm Vol	9	11	20	11	9	20	9	8	17	16	14	30	17	22	39	2	3	5	7	7	14
24Hr Vol	10	11	21	11	10	21	10	9	19	16	16	32	17	22	39	3	4	7	7	8	15
85%ile Speed	67	75	71	58	68	63	58	58	58	59	72	65	46	60	54	65	76	71	73	66	69
Mean Speed	61.6	67.9	64.9	56.2	64.0	59.9	54.3	57.5	55.8	58.0	71.4	64.7	45.5	52.3	49.3	62.4	72.7	68.3	69.2	64.9	66.9
AM Pk Hr Vol	3	2	5	2	2	4	2	2	3	3	3	4	7	7	14	2	2	2	2	1	3
AM Hr Factor	0.30	0.18	0.24	0.18	0.20	0.19	0.20	0.22	0.16	0.19	0.19	0.13	0.41	0.32	0.36	0.67	0.50	0.29	0.29	0.13	0.20
AM Peak 85%	56	70	69	74	86	80	61	59	64	48	61	62	29	33	31	65	78	78	68	77	67
AM Peak Time	9:00	8:00	9:00	7:00	7:00	7:00	8:00	9:00	8:00	10:00	7:00	7:00	8:00	8:00	8:00	11:00	9:00	9:00	10:00	8:00	10:00
PM Pk Hr Vol	2	2	3	1	1	2	3	1	4	3	2	4	2	2	4	1	1	2	3	2	3
PM Hr Factor	0.20	0.18	0.14	0.09	0.10	0.10	0.30	0.11	0.21	0.19	0.13	0.13	0.12	0.09	0.10	0.33	0.25	0.29	0.43	0.25	0.20
PM Peak 85%	70	66	67	55	54	55	55	37	51	58	73	62	59	69	64	66	74	70	74	77	74
PM Peak Time	16:00	15:00	15:00	12:00	12:00	12:00	13:00	13:00	13:00	13:00	14:00	13:00	13:00	12:00	13:00	19:00	19:00	19:00	15:00	13:00	15:00

[illegible]

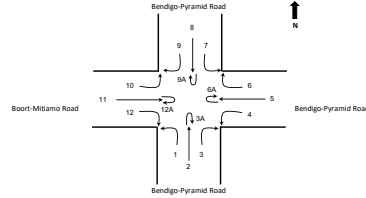
A.2 Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road

**ADVERTISED
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Location: Boort-Mitiamo Road / Bendigo-Pyramid Road
Weather: Fine
Date: Thursday, 19 March 2026
Survey Period: 6am - 8am and 2pm - 6pm

AM Peak: 7am - 8am
PM Peak: 3:45pm - 4:45pm



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TIME	1			2			3			3A			4			5			6			6A			7			8			9			9A			10			11			12			12A			AM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total									
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6:00 - 7:00	44						
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6:15 - 7:15	48				
6:30	2	0	2	2	2	0	2	0	0	0	0	0	3	1	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6:30 - 7:30	48				
6:45	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6:45 - 7:45	52				
7:00	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7:00 - 8:00	66				
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	AM PEAK	66				
7:30	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
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AM PEAK	2	0	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

TIME	1			2			3			3A			4			5			6			6A			7			8			9			9A			10			11			12			12A			PM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total									
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17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PM PEAK	89				
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
TOTAL	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
PM PEAK	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							

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PLAN

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Suburb: Calivil

Count No.: 4

Start Date: Thursday, March 19, 2026



7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
Northbound	2222			
Southbound	2454			
		Bidirectional	Northbound	Southbound
		668 vpd	317 vpd	351 vpd
Peak Hr AM	10:00	52 vpd	21 vpd	31 vpd
Peak Hr PM	13:00	54 vpd	29 vpd	29 vpd
Speeds	85th	104.4 km/h	105.6 km/h	103.3 km/h
	Average	96.7 km/h	97.2 km/h	96.2 km/h
Commercial Vehicles %		19.9%	22.5%	17.5%

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Suburb: Calivil

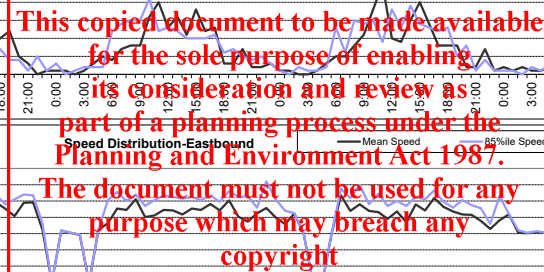
Count No.: 5

Start Date: Thursday, March 19, 2026

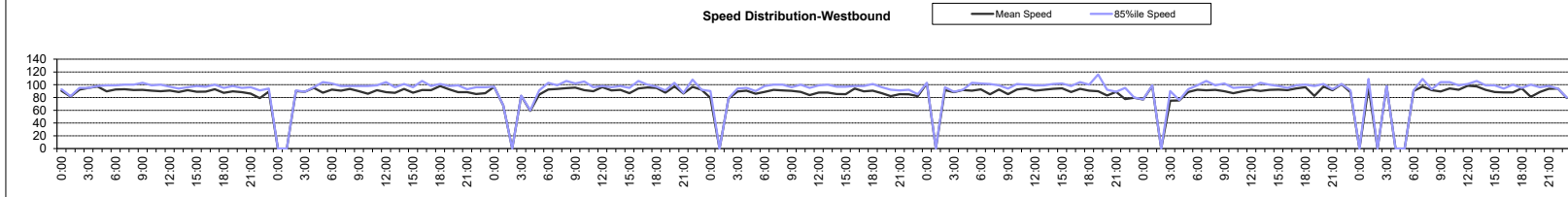


7 day Speed & Volume Data					
Direction	Total Volume	Travel Direction			
		Bidirectional	Eastbound	Westbound	
Eastbound	1120				
Westbound	1168	330 vpd	160 vpd	170 vpd	
Peak Hr AM	10:00	29 vpd	15 vpd	15 vpd	
Peak Hr PM	12:00	24 vpd	13 vpd	12 vpd	
Speeds	85th%	100.3 km/h	102.0 km/h	98.7 km/h	
	Average	88.8 km/h	87.0 km/h	90.4 km/h	
Commercial Vehicles %		41.3%	45.7%	37.1%	

Weekly Volume Flows



— Mean Speed — 85%ile Speed

[illegible]

One Page Summary

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Street: Pyramid-Yarraberb Road

Suburb: Calivil

Location: South of Boort-Mitiamo Road

Count No.: 7

Speed Limit: 100 km/h

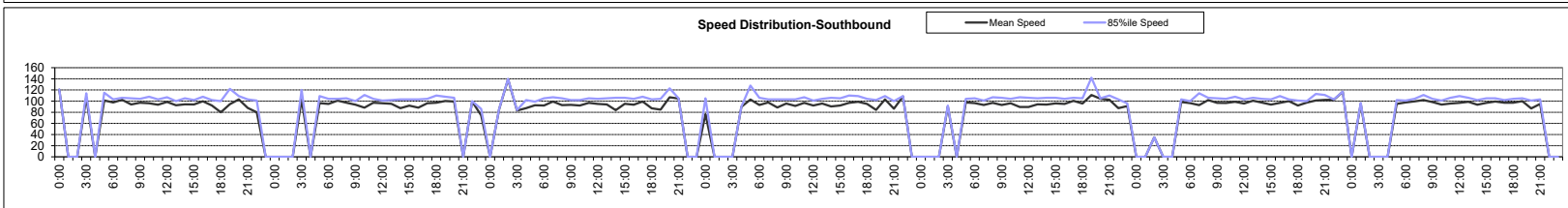
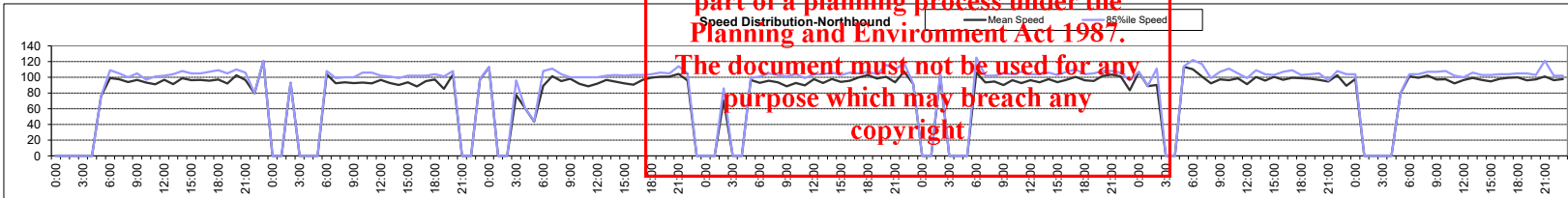
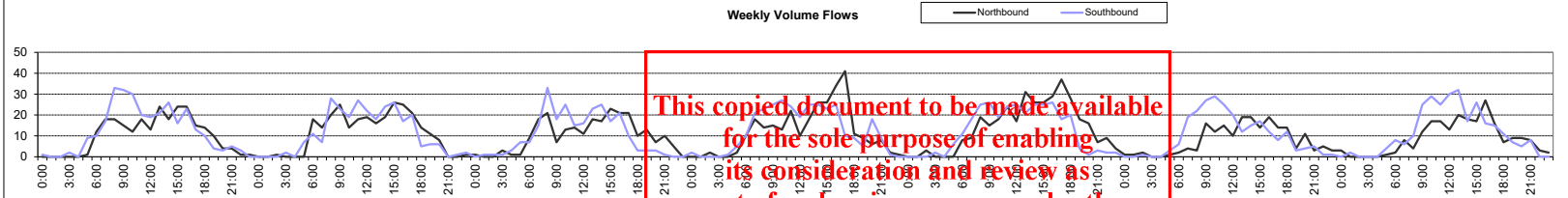
Start Date: Thursday, March 19, 2026

ADVERTISED PLAN

5 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	1392			
Southbound	1426	564 vpd	278 vpd	285 vpd
Peak Hr AM	8:00	47 vpd	18 vpd	28 vpd
Peak Hr PM	16:00	49 vpd	27 vpd	22 vpd
Speeds	85th	104.6 km/h	104.2 km/h	105.0 km/h
	Average	94.8 km/h	95.2 km/h	94.4 km/h
Commercial Vehicles %		21.1%	16.7%	25.4%

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	1797			
Southbound	1944	534 vpd	257 vpd	278 vpd
Peak Hr AM	11:00	41 vpd	18 vpd	25 vpd
Peak Hr PM	16:00	46 vpd	26 vpd	22 vpd
Speeds	85th%	104.7 km/h	104.4 km/h	105.0 km/h
	Average	95.4 km/h	95.8 km/h	95.1 km/h
Commercial Vehicles %		18.3%	14.5%	21.8%

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional
Light Vehicle - Class 1 to 2	204	226	430	219	201	420	197	183	380	238	214	452	301	240	541	180	220	400	198	237	435
Medium Vehicle - Class 3 to 5	22	44	64	28	52	80	26	48	74	28	66	94	27	48	75	9	16	25	7	25	32
Long Vehicle - Class 6 to 12	22	27	49	23	18	41	21	17	38	22	27	49	16	15	31	3	6	9	8	14	22
7am-7pm Vol	213	260	473	231	236	467	194	221	415	248	256	504	279	272	551	159	218	377	176	242	418
24Hr Vol	246	297	543	270	271	541	244	248	492	288	307	595	344	303	647	192	242	434	213	276	489
85%ile Speed	104	105	105	102	104	103	103	103	105	104	104	105	105	106	106	106	106	105	106	105	105
Mean Speed	95.5	95.5	95.5	93.8	94.0	93.9	94.8	93.4	94.1	95.4	94.2	94.8	96.4	94.7	95.6	97.7	97.0	97.3	97.3	96.8	97.0
AM Pk Hr Vol	18	33	51	25	28	48	21	33	54	22	27	46	24	26	48	16	29	43	17	29	46
AM Hr Factor	0.07	0.11	0.09	0.09	0.10	0.09	0.09	0.13	0.11	0.08	0.09	0.08	0.07	0.09	0.07	0.08	0.12	0.10	0.08	0.11	0.09
AM Peak 85%	105	105	103	100	105	103	104	105	105	99	103	103	107	106	107	107	104	106	108	101	104
AM Peak Time	7:00	8:00	8:00	9:00	8:00	8:00	8:00	8:00	8:00	11:00	10:00	11:00	11:00	9:00	11:00	9:00	10:00	9:00	10:00	10:00	10:00
PM Pk Hr Vol	24	26	47	26	26	52	23	25	42	41	25	59	37	26	55	19	20	34	27	32	52
PM Hr Factor	0.10	0.09	0.09	0.10	0.10	0.10	0.09	0.10	0.09	0.14	0.08	0.10	0.11	0.09	0.09	0.10	0.08	0.08	0.13	0.12	0.11
PM Peak 85%	104	105	106	102	103	103	102	106	105	105	104	108	110	104	106	109	103	104	104	106	106
PM Peak Time	13:00	14:00	16:00	15:00	15:00	15:00	15:00	14:00	14:00	17:00	13:00	16:00	17:00	16:00	16:00	13:00	12:00	14:00	16:00	13:00	13:00

[illegible]

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Suburb: Calivil

Count No.: 6

Start Date: Thursday, March 19, 2026



7 day Speed & Volume Data					
Direction	Total Volume	Travel Direction			
		Bidirectional	Eastbound	Westbound	
Eastbound	1582				
Westbound	1638	460 vpd	226 vpd	234 vpd	
Peak Hr AM	10:00	42 vpd	22 vpd	20 vpd	
Peak Hr PM	14:00	38 vpd	21 vpd	17 vpd	
Speeds	85th%	69.7 km/h	74.2 km/h	65.4 km/h	
	Average	64.9 km/h	65.7 km/h	56.1 km/h	
Commercial Vehicles %		24.0 %	23.7 %	26.1 %	

[illegible]

A.3 Loddon Valley Highway / Boort-Mitiamo Road

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Location: Loddon Valley Highway / Boort-Mitiamo Road

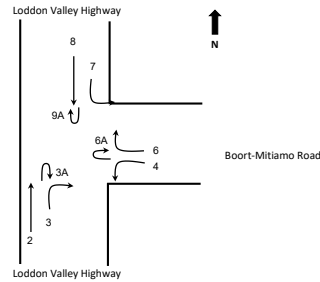
Weather: Fine

Date: Thursday, 19 March 2026

Survey Period: 6am - 8am and 2pm - 6pm

AM Peak: 7am - 8am

PM Peak: 3pm - 4pm



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TIME	2			3			3A			4			6			6A			7			8			9A			AM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total
6:00	4	6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	6	10	0	0	0	6:00 - 7:00	81
6:15	3	6	9	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	5	4	9	0	0	0	6:15 - 7:15	78
6:30	5	4	9	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	5	1	6	0	0	0	6:30 - 7:30	100
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7:00	8	3	11	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	5	1	6	0	0	0	7:00 - 8:00	121
7:15	12	12	24	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	2	0	2	8	5	13	0	0	0	AM PEAK	121
7:30	8	7	15	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	9	5	14	0	0	0		
7:45	13	2	15	0	0	0	0	0	0	0	0	1	0	3	3	0	0	0	0	0	0	9	3	12	0	0	0		
TOTAL	59	42	101	2	0	2	0	0	0	1	0	1	3	8	11	0	0	0	4	1	5	56	26	82	0	0	0		
AM PEAK	41	24	65	0	0	0	0	0	0	1	0	1	3	5	8	0	0	0	2	0	2	31	14	45	0	0	0		

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PLAN

TIME	2			3			3A			4			6			6A			7			8			9A			PM PEAK	
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Hour	Total
14:00	21	4	25	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	1	1	2	17	8	25	0	0	0	14:00 - 15:00	208
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15:00	26	8	34	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	1	3	11	6	17	0	0	0	15:00 - 16:00	225
15:15	25	5	30	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	10	5	15	0	0	0	15:15 - 16:15	218
15:30	29	5	34	0	0	0	0	0	0	1	1	2	2	0	2	0	0	0	1	2	3	20	5	25	0	0	0	15:30 - 16:30	213
15:45	23	8	31	0	0	0	0	0	0	1	0	1	1	1	2	0	0	0	1	0	1	14	7	21	0	0	0	15:45 - 16:45	195
16:00	16	3	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	21	8	29	0	0	0	16:00 - 17:00	174
16:15	20	4	24	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	11	5	16	0	0	0	16:15 - 17:15	175
16:30	25	2	27	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	16	3	19	0	0	0	16:30 - 17:30	172
16:45	14	3	17	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	2	0	2	11	3	14	0	0	0	16:45 - 17:45	161
17:00	18	3	21	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	22	5	27	0	0	0	17:00 - 18:00	172
17:15	19	2	21	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	15	1	16	0	0	0		
17:30	20	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7	6	13	0	0	0		
17:45	19	4	23	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	17	5	22	0	0	0		
TOTAL	339	72	411	2	0	2	0	0	0	2	3	5	11	10	21	0	0	0	15	7	22	234	84	318	0	0	0		
PM PEAK	103	26	129	1	0	1	0	0	0	2	1	3	4	3	7	0	0	0	4	3	7	55	23	78	0	0	0		

One Page Summary

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Street: Loddon Valley Highway

Suburb: Jarklin

Location: North of Boort-Mitiamo Road

Count No.: 8

Speed Limit: 100 km/h

Start Date: Thursday, March 19, 2026

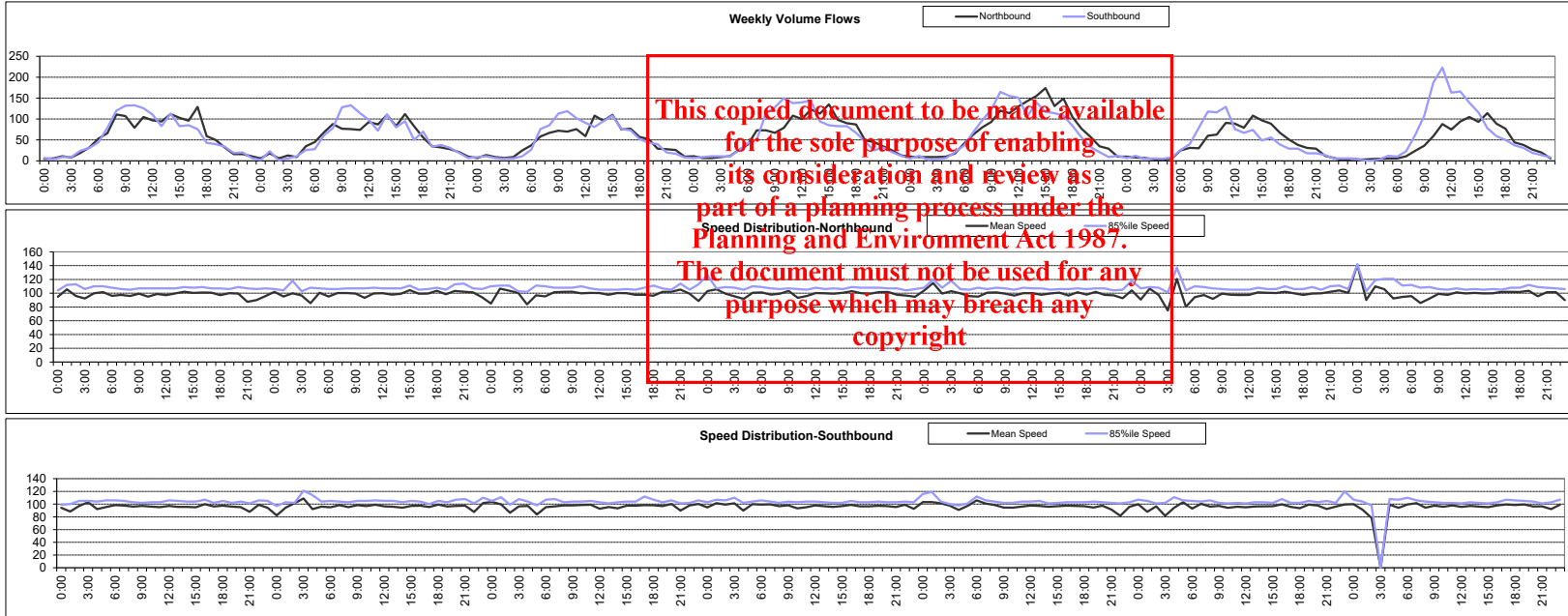


ADVERTISED PLAN

5 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	7055			
Southbound	7199	2,851 vpd	1,411 vpd	1,440 vpd
Peak Hr AM	10:00	225 vpd	85 vpd	140 vpd
Peak Hr PM	14:00	228 vpd	117 vpd	111 vpd
Speeds	85th	105.5 km/h	107.1 km/h	103.9 km/h
	Average	97.9 km/h	99.2 km/h	96.7 km/h
Commercial Vehicles %		29.3%	30.3%	28.4%

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	9119			
Southbound	9747			
Peak Hr AM	11:00	2,695 vpd	1,363 vpd	1,392 vpd
Peak Hr PM	14:00	224 vpd	114 vpd	143 vpd
Speeds	85th%	105.3 km/h	107.0 km/h	103.7 km/h
	Average	97.9 km/h	99.3 km/h	96.6 km/h
Commercial Vehicles %		26.6%	28.2%	25.1%

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
Data Record Interval = 1Hr	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional
Light Vehicle - Class 1 to 2	952	1025	1977	864	912	1776	794	882	1676	997	1052	2049	1307	1287	2594	824	864	1688	814	1275	2089
Medium Vehicle - Class 3 to 5	208	113	321	199	118	317	181	139	320	190	151	341	222	142	364	128	84	212	129	106	235
Long Vehicle - Class 6 to 12	257	294	551	202	286	488	203	254	457	236	324	560	243	220	463	82	78	160	87	141	228
7am-7pm Vol	1158	1184	2342	1007	1090	2097	925	1071	1996	1146	1276	2422	1457	1429	2886	855	872	1727	865	1374	2239
24Hr Vol	1417	1432	2849	1265	1316	2581	1178	1275	2453	1423	1527	2950	1772	1649	3421	1034	1026	2060	1030	1522	2552
85%ile Speed	107	104	106	107	105	106	107	105	106	107	103	105	107	103	105	107	103	105	107	103	104
Mean Speed	98.7	96.3	97.5	99.4	96.8	100.1	99.5	96.8	98.1	99.4	96.7	98.0	99.2	96.7	98.0	99.0	96.1	97.6	100.0	96.8	98.1
AM Pk Hr Vol	111	133	239	88	133	209	76	119	189	108	150	246	120	165	285	91	129	220	88	223	311
AM Hr Factor	0.08	0.09	0.08	0.07	0.10	0.08	0.06	0.09	0.08	0.08	0.10	0.08	0.07	0.10	0.08	0.09	0.13	0.11	0.09	0.15	0.12
AM Peak 85%	105	103	104	107	105	106	106	107	104	106	105	103	104	105	102	103	105	102	103	107	102
AM Peak Time	8:00	10:00	9:00	8:00	10:00	10:00	11:00	10:00	10:00	11:00	10:00	11:00	10:00	10:00	10:00	11:00	11:00	11:00	11:00	11:00	11:00
PM Pk Hr Vol	129	113	225	112	111	221	110	108	218	135	144	267	174	151	295	108	76	182	114	166	260
PM Hr Factor	0.09	0.08	0.08	0.09	0.08	0.09	0.09	0.08	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.10	0.07	0.09	0.11	0.11	0.10
PM Peak 85%	107	104	106	105	103	105	106	104	105	106	103	104	106	104	103	106	101	105	105	103	104
PM Peak Time	17:00	14:00	14:00	16:00	14:00	14:00	15:00	15:00	15:00	15:00	13:00	13:00	15:00	12:00	14:00	14:00	12:00	14:00	16:00	13:00	13:00

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Street: Loddon Valley Highway

Suburb: Jarklin

Location: North of Boort-Mitiamo Road

Count No.: 9

Speed Limit: 100 km/h

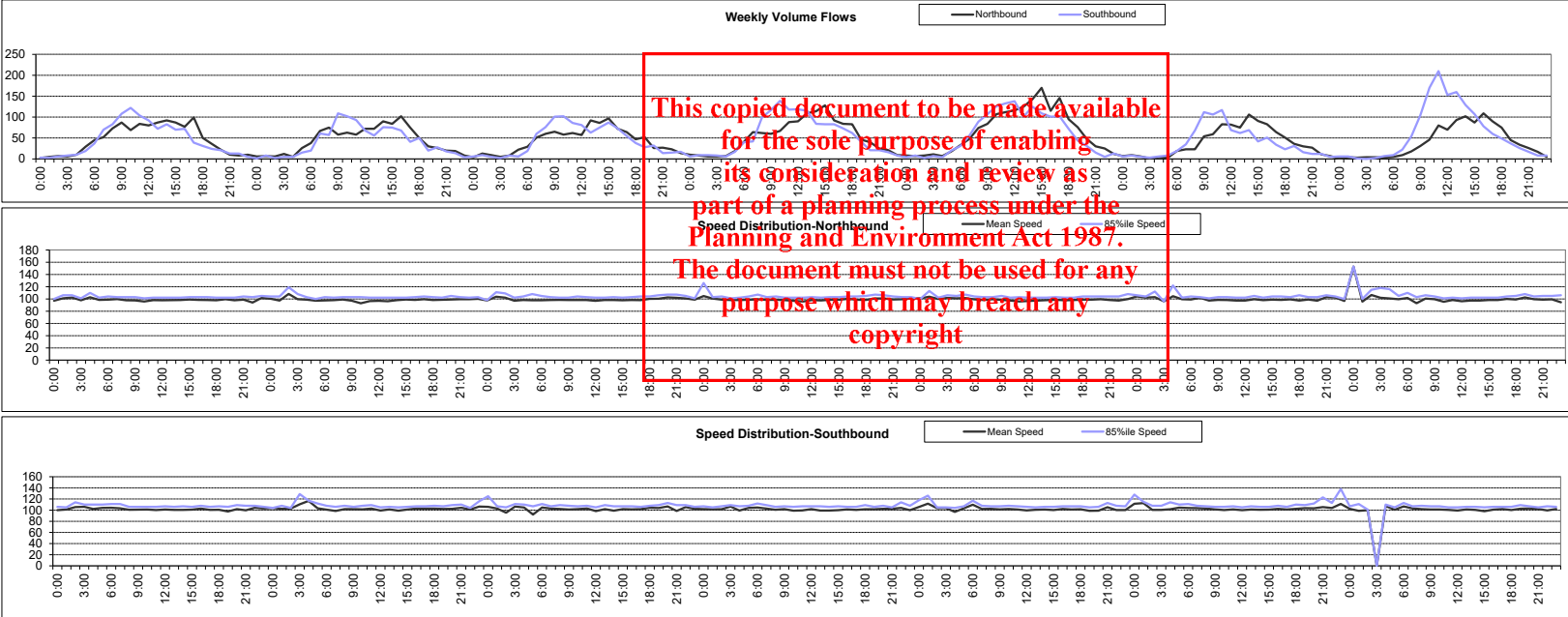
Start Date: Thursday, March 19, 2026

ADVERTISED PLAN

5 day Speed & Volume Data					
Direction	Total Volume	Travel Direction			
		Bidirectional	Northbound	Southbound	
Northbound	6136				
Southbound	5941	2,415 vpd	1,227 vpd	1,188 vpd	
Peak Hr AM	10:00	191 vpd	73 vpd	118 vpd	
Peak Hr PM	15:00	198 vpd	113 vpd	85 vpd	
Speeds	85th%	105.1 km/h	103.1 km/h	107.2 km/h	
	Average	99.8 km/h	98.2 km/h	101.4 km/h	
Commercial Vehicles %		32.5%	28.0%	37.1%	

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Northbound	Southbound
Northbound	8051			
Southbound	8284	2,334 vpd	1,159 vpd	1,183 vpd
Peak Hr AM	11:00	204 vpd	81 vpd	124 vpd
Peak Hr PM	14:00	196 vpd	106 vpd	103 vpd
Speeds	85th%	105.1 km/h	103.1 km/h	107.0 km/h
	Average	99.8 km/h	98.3 km/h	101.3 km/h
Commercial Vehicles %		28.5%	24.0%	32.8%

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional	Northbound	Southbound	Bidirectional
Data Record Interval = 1 Hr																					
Light Vehicle - Class 1 to 2	753	662	1415	718	589	1307	723	653	1376	914	823	1737	1308	1008	2316	856	720	1578	844	1109	1953
Medium Vehicle - Class 3 to 5	112	160	272	109	158	267	100	186	286	123	217	340	107	219	326	53	132	185	53	176	228
Long Vehicle - Class 6 to 12	262	286	548	242	249	491	220	219	439	242	296	538	203	216	419	45	67	112	64	139	203
7am-7pm Vol	937	946	1883	866	856	1722	811	897	1708	1041	1134	2175	1335	1259	2594	794	788	1582	810	1297	2107
24Hr Vol	1127	1108	2235	1069	996	2065	1043	1058	2101	1279	1336	2615	1618	1443	3061	954	919	1873	961	1424	2385
85%ile Speed	103	107	105	103	107	105	103	108	106	104	107	105	103	107	105	103	108	105	103	106	105
Mean Speed	98.2	101.3	99.7	97.8	101.6	99.6	98.6	101.8	100.2	98.5	100.9	99.7	98.1	101.4	99.7	98.7	101.8	100.2	98.4	100.8	99.8
AM Pk Hr Vol	87	122	195	75	109	167	65	102	166	88	139	206	112	133	245	83	117	200	80	210	290
AM Hr Factor	0.08	0.11	0.09	0.07	0.11	0.08	0.06	0.10	0.08	0.07	0.10	0.08	0.07	0.09	0.08	0.09	0.13	0.11	0.08	0.15	0.12
AM Peak 85%	103	106	105	103	106	105	102	107	106	102	106	105	103	107	105	102	107	105	102	105	104
AM Peak Time	9:00	10:00	9:00	8:00	9:00	9:00	9:00	10:00	9:00	11:00	10:00	10:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
PM Pk Hr Vol	99	92	175	102	76	170	97	87	184	128	119	224	170	138	279	106	69	175	109	160	253
PM Hr Factor	0.09	0.08	0.08	0.10	0.08	0.08	0.09	0.08	0.09	0.10	0.09	0.09	0.11	0.10	0.09	0.11	0.08	0.09	0.11	0.11	0.11
PM Peak 85%	103	107	104	103	105	105	102	107	104	103	107	105	103	106	104	102	105	104	102	106	105
PM Peak Time	17:00	12:00	14:00	16:00	14:00	16:00	15:00	15:00	15:00	15:00	12:00	13:00	15:00	12:00	15:00	14:00	12:00	14:00	16:00	13:00	13:00

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Suburb: Jarklin

Count No.: 10

Start Date: Thursday, March 19, 2026

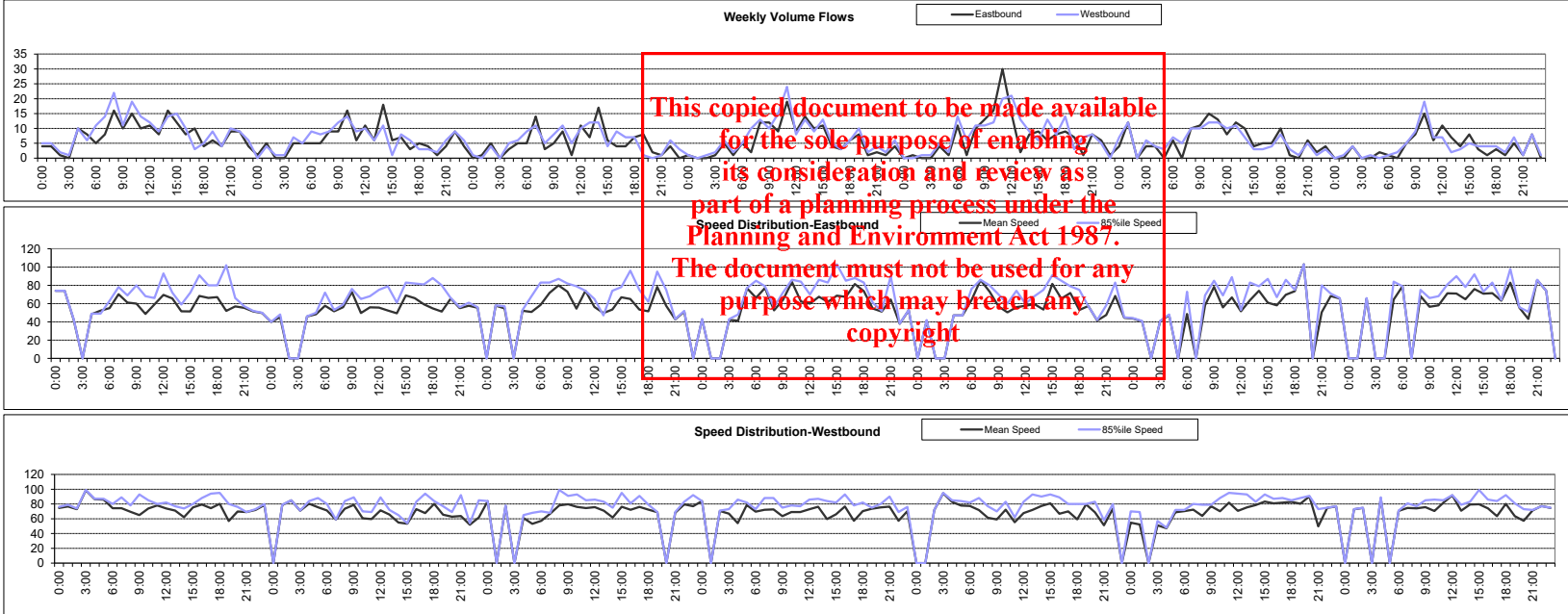
Data Audit Systems
FOR INFORMED DECISION MAKING
TRAFFIC SURVEYS

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5 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Eastbound	Westbound
Eastbound	765			
Westbound	873	328 vpd	153 vpd	175 vpd
Peak Hr AM	11:00	28 vpd	13 vpd	14 vpd
Peak Hr PM	14:00	25 vpd	14 vpd	11 vpd
Speeds	88th%	76.1 km/h	71.1 km/h	80.4 km/h
	Average	64.8 km/h	59.1 km/h	69.8 km/h
Commercial Vehicles %		33.0%	28.4%	37.0%

7 day Speed & Volume Data				
Direction	Total Volume	Travel Direction		
		Bidirectional	Eastbound	Westbound
Eastbound	1004			
Westbound	1117	303 vpd	143 vpd	160 vpd
Peak Hr AM	10:00	28 vpd	14 vpd	15 vpd
Peak Hr PM	12:00	22 vpd	12 vpd	11 vpd
Speeds	85th%	76.4 km/h	71.5 km/h	80.8 km/h
	Average	65.3 km/h	59.9 km/h	70.2 km/h
Commercial Vehicles %		32.1%	27.2%	36.4%

	Monday, 23 Mar 26			Tuesday, 24 Mar 26			Wednesday, 25 Mar 26			Thursday, 19 Mar 26			Friday, 20 Mar 26			Saturday, 21 Mar 26			Sunday, 22 Mar 26		
	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional	Eastbound	Westbound	Bidirectional
Light Vehicle - Class 1 to 2	148	152	300	97	90	187	84	80	164	98	100	198	121	128	249	119	100	219	64	60	124
Medium Vehicle - Class 3 to 5	18	18	36	14	11	25	17	19	36	26	20	46	22	15	39	12	14	26	16	11	27
Long Vehicle - Class 6 to 12	26	56	82	33	49	82	21	38	59	16	50	66	24	47	69	15	33	48	13	26	39
7am-7pm Vol	128	148	276	101	97	198	88	101	189	111	129	240	127	144	271	103	95	198	71	71	142
24Hr Vol	192	226	418	144	150	294	122	137	259	140	170	310	167	190	357	146	147	293	93	97	190
85%ile Speed	70	81	76	67	77	72	73	81	77	77	81	79	71	80	76	71	81	76	75	84	80
Mean Speed	58.2	73.1	66.3	55.1	67.0	61.2	59.9	70.7	65.6	63.3	69.3	66.6	59.2	67.6	63.7	60.2	69.7	65.0	66.0	74.5	70.3
AM Pk Hr Vol	16	22	38	16	14	30	14	11	25	19	24	43	30	20	50	15	12	27	15	19	34
AM Hr Factor	0.08	0.10	0.09	0.11	0.09	0.10	0.10	0.08	0.10	0.14	0.14	0.14	0.18	0.11	0.14	0.10	0.08	0.09	0.16	0.20	0.18
AM Peak 85%	69	78	74	65	70	67	83	68	76	84	77	80	74	62	69	69	69	77	68	86	78
AM Peak Time	8:00	8:00	8:00	10:00	10:00	10:00	7:00	7:00	7:00	11:00	11:00	11:00	11:00	11:00	11:00	10:00	1:00	10:00	10:00	10:00	10:00
PM Pk Hr Vol	16	15	30	18	11	29	17	12	29	14	13	27	15	21	36	12	11	23	11	8	18
PM Hr Factor	0.08	0.07	0.07	0.13	0.07	0.10	0.14	0.09	0.11	0.10	0.08	0.09	0.09	0.11	0.10	0.08	0.07	0.08	0.12	0.08	0.09
PM Peak 85%	59	80	66	61	65	63	74	83	74	86	87	86	60	83	73	83	93	88	90	77	91
PM Peak Time	14:00	15:00	14:00	14:00	14:00	14:00	14:00	13:00	14:00	13:00	13:00	13:00	12:00	12:00	12:00	13:00	13:00	13:00	12:00	22:00	12:00

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Appendix B: Traffic Volume Scaling Factors

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ADVERTISED PLAN

Scaling factors from tube counts to apply to turning movement counts

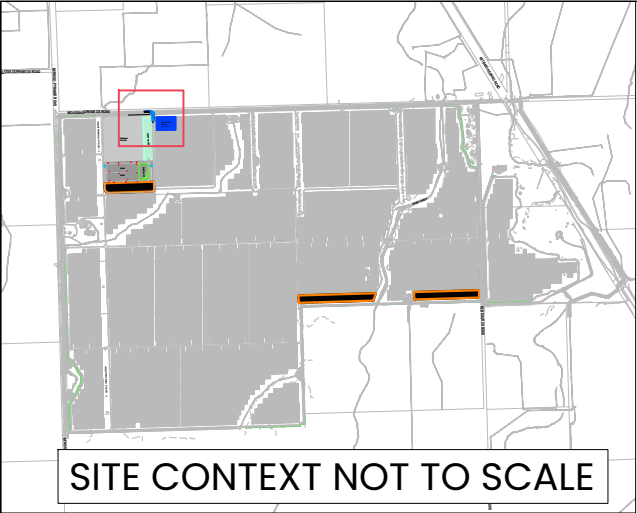
		AM Peak			PM Peak		
Intersection		Turning Movement Counts	Tube Counts	Scaling Factor	Turning Movement Counts	Tube Counts	Scaling Factor
Bendigo-Pyramid Road / Mologa-Durham Ox Road	Peak Hour Time	Thursday 7:00-8:00	Friday 8:00-9:00	-	Thursday 15:45-16:45	Friday 15:00-16:00	-
	Approach Volume - North	30 vph	34 vph	1.13	25 vph	36 vph	1.44
	Approach Volume - South	19 vph	28 vph	1.47	43 vph	35 vph	0.81
	Approach Volume - East	3 vph	7 vph	2.33	2 vph	2 vph	1.00
Bendigo-Pyramid Road / Boort-Mitiamo Road	Peak Hour Time	Thursday 7:00-8:00	Friday 8:00-9:00	-	Thursday 15:45-16:45		
	Approach Volume - North	22 vph	31 vph	1.41	Tube count results confirm Thursday afternoon as busiest PM peak. No scaling to turning movement survey results required - peak hour across week already captured.		
	Approach Volume - West	8 vph	30 vph	3.75			
	Approach Volume - South	18 vph	19 vph	1.06			
	Approach Volume - East	14 vph	15 vph	1.07			
Loddon Valley Highway / Boort-Mitiamo Road	Peak Hour Time	Thursday 7:00-8:00	Friday 11:00-12:00	-	Thursday 15:45-16:45	Friday 15:00-16:00	-
	Approach Volume - North	51 vph	155 vph	3.04	83 vph	117 vph	1.41
	Approach Volume - South	64 vph	112 vph	1.75	92 vph	170 vph	1.85
	Approach Volume - East	2 vph	30 vph	15.00	4 vph	9 vph	2.25

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Appendix C: Swept Path Analysis – Site Access and Internal Road Network

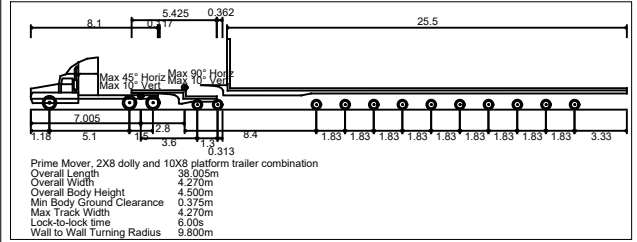
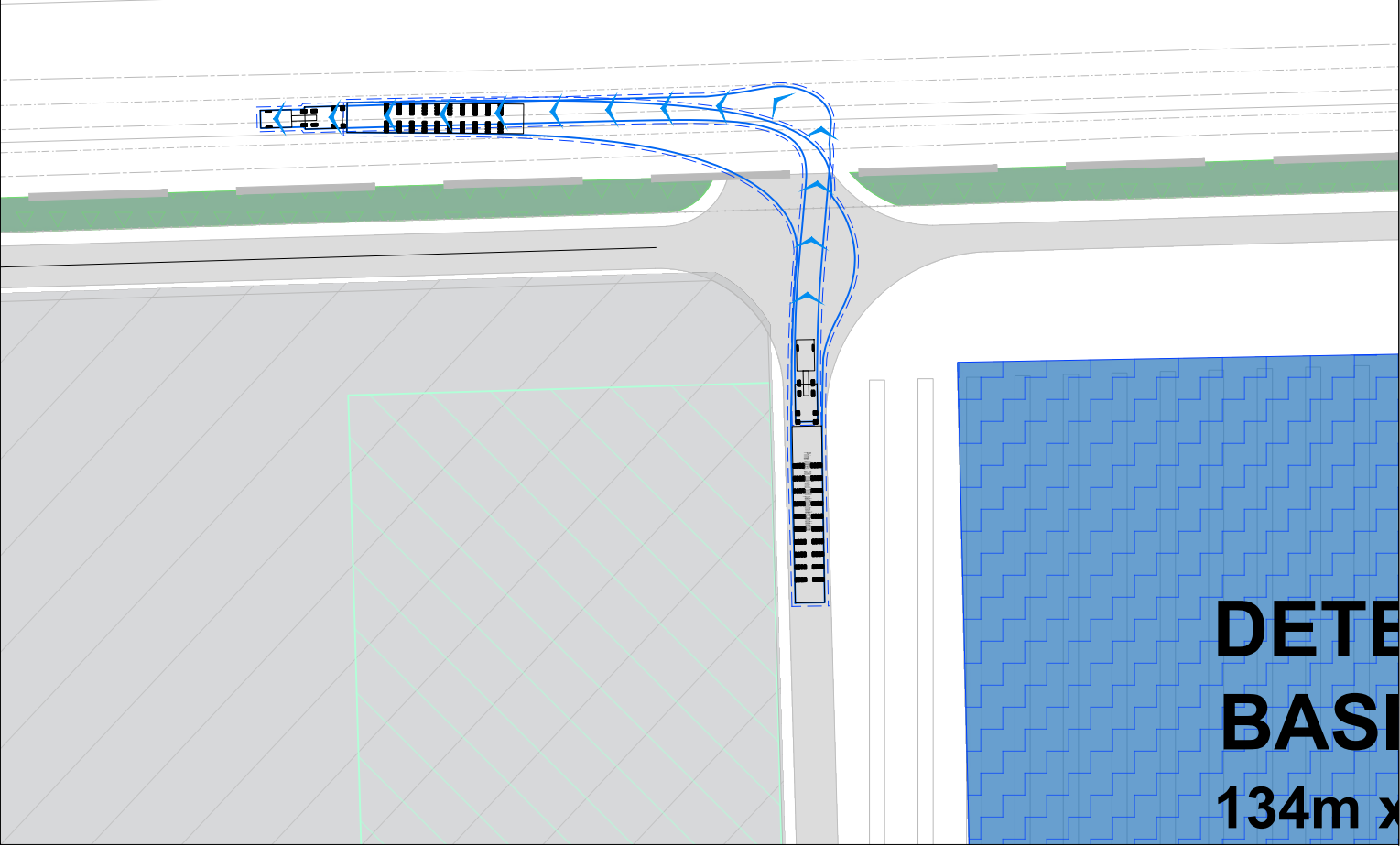
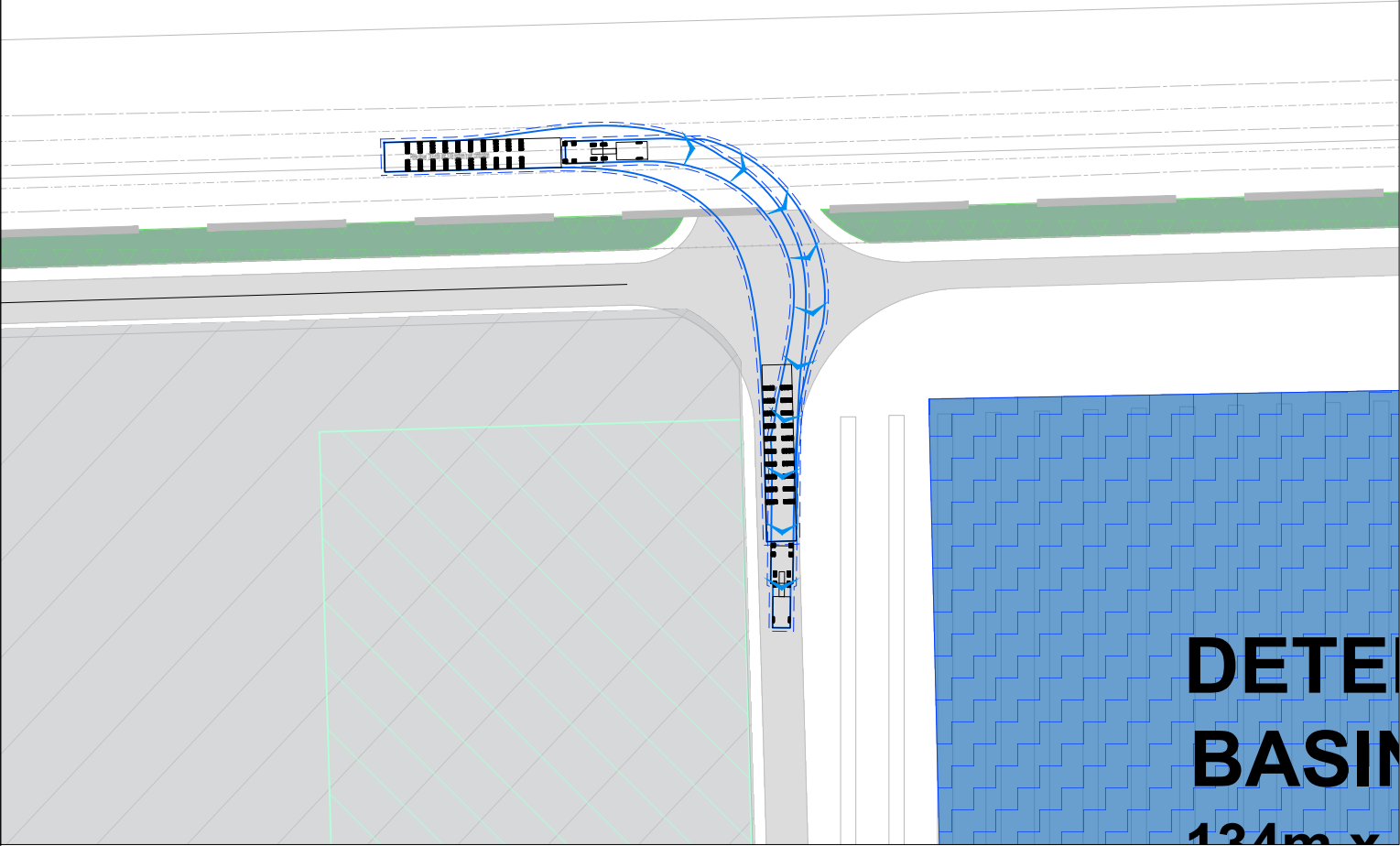
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LEGEND:
--- 500mm BODY CLEARANCE
— VEHICLE BODY - FORWARD

38m LONG OSOM SITE ACCESS

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Mologa Solar Hybrid Project
Internal Layout Circulation Swept Paths

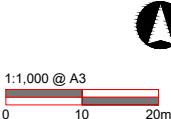
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DWG NAME: P0058365_Mologa Solar Farm & BESS_DES
DATE: 5.05.2026

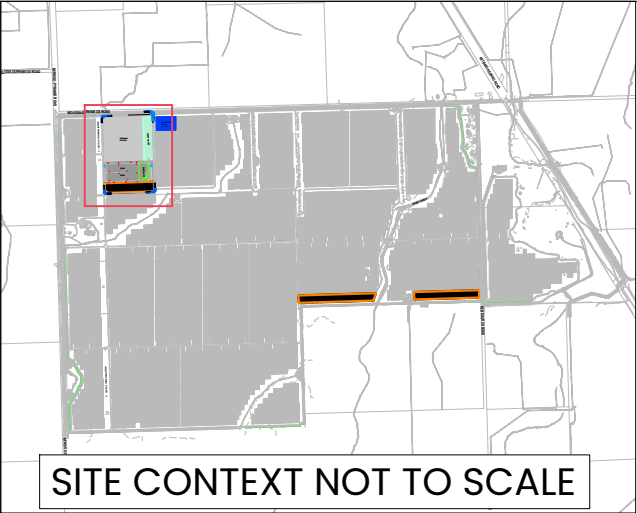
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E	Updated for Revised Internal Road Width	JR	MR	08/05/26
D	Updated for Additional Emergency Access	JR	MR	04/05/26
C	Updated for Lodgement Site Layout Plan	JR	MR	27/04/26
B	Updated Site Layout Plan	JR	MR	23/01/26
A	Preliminary Issue	JT	MR	02/12/25

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CLIENT
Potentia Energy
100 Barangaroo Ave, Barangaroo
NSW 2000



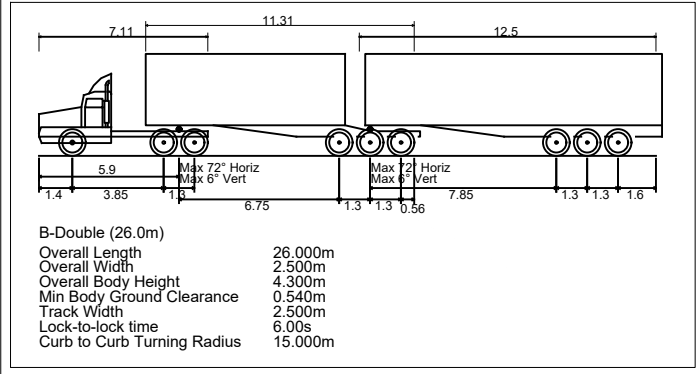
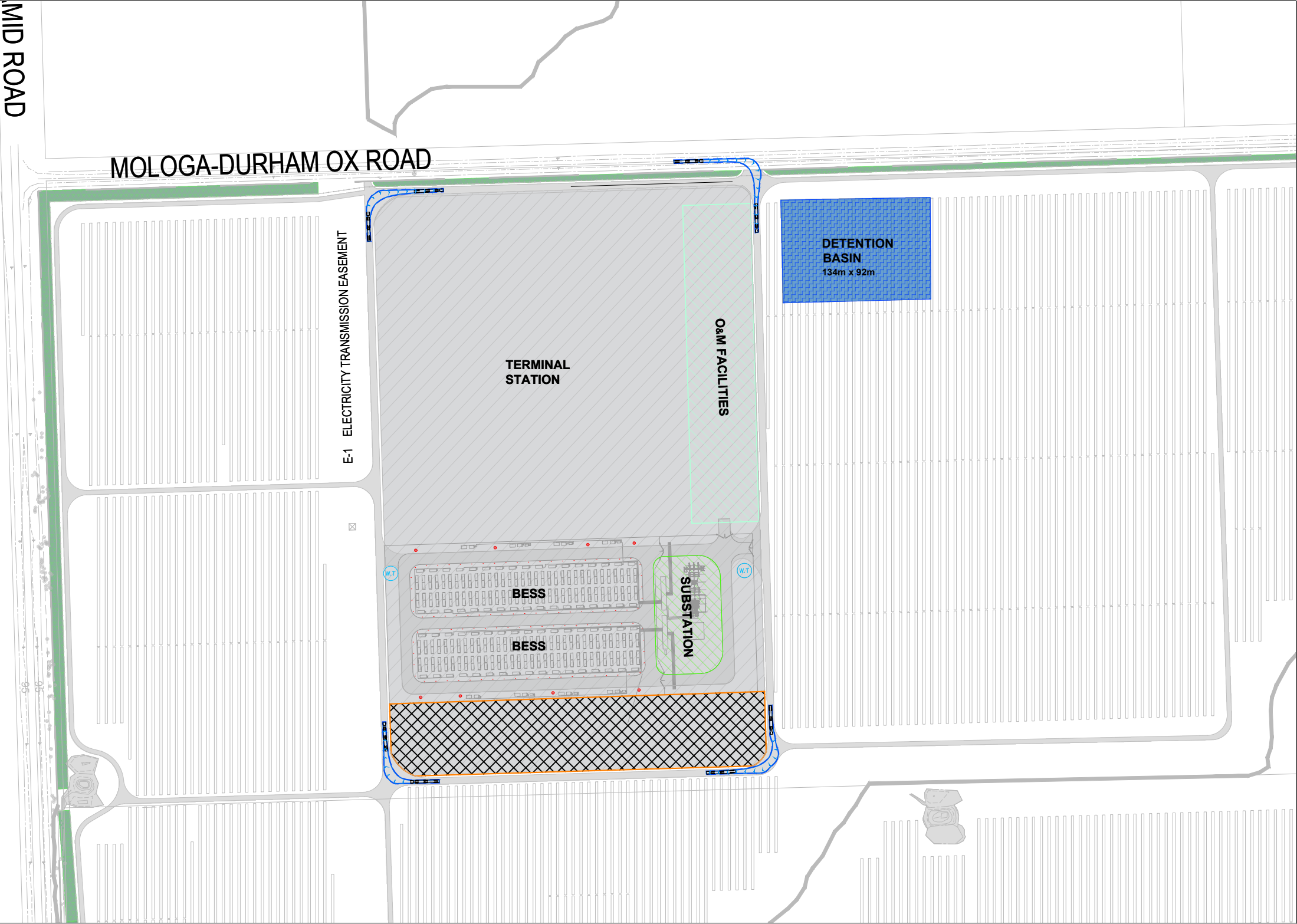
PROJECT NO. P0058365
SHEET NO. 01 OF 04
DATE 8/05/2026
REVISION E



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ADVERTISED PLAN



LEGEND:
500mm BODY CLEARANCE
VEHICLE BODY - FORWARD

26m LONG B-DOUBLE SITE CIRCULATION

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Mologa Solar Hybrid Project
Internal Layout Circulation Swept Paths

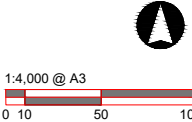
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DWG NAME: P0058365_Mologa Solar Farm & BESS_DES
DATE: 5.05.2026

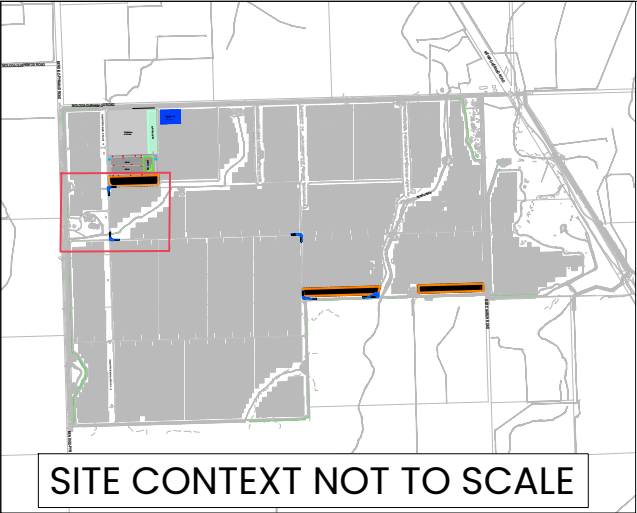
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E	Updated for Revised Internal Road Width	JR	MR	08/05/26
D	Updated for Additional Emergency Access	JR	MR	04/05/26
C	Updated for Lodgement Site Layout Plan	JR	MR	27/04/26
B	Updated Site Layout Plan	JR	MR	23/01/26
A	Preliminary Issue	JT	MR	02/12/25

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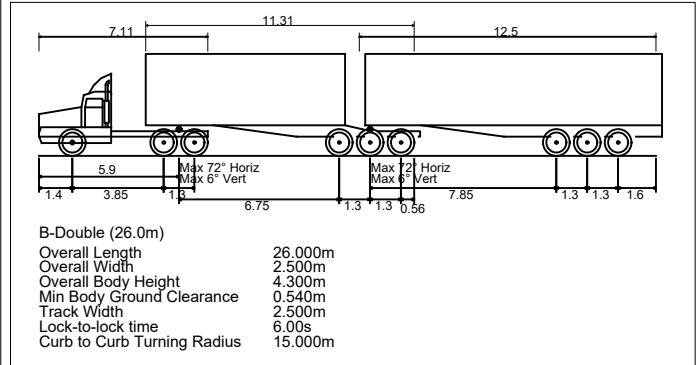
PROJECT NO. P0058365
SHEET NO. 02 OF 04
DATE 8/05/2026
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- LEGEND:
- 500mm BODY CLEARANCE
 - VEHICLE BODY - FORWARD

26m LONG B-DOUBLE SITE CIRCULATION

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Mologa Solar Hybrid Project
Internal Layout Circulation Swept Paths

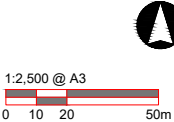
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ARCHITECTURAL DRAWING REF
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DATE: 5.05.2026

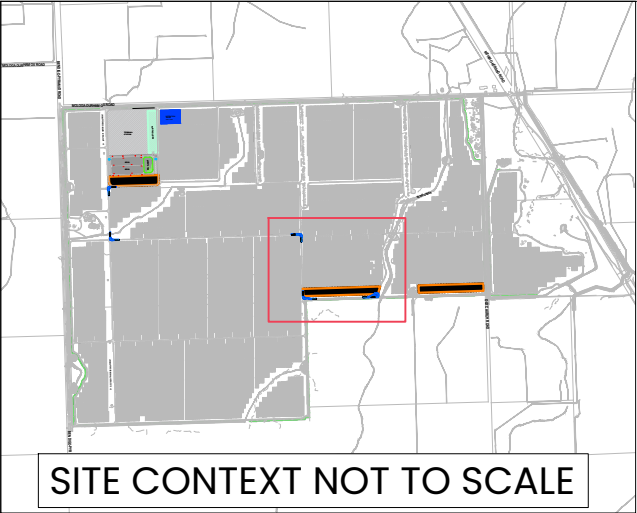
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D	Updated for Additional Emergency Access	JR	MR	04/05/26
C	Updated for Lodgement Site Layout Plan	JR	MR	27/04/26
B	Updated Site Layout Plan	JR	MR	23/01/26
A	Preliminary Issue	JT	MR	02/12/25
REV	DESCRIPTION	DWN	CHK	DATE

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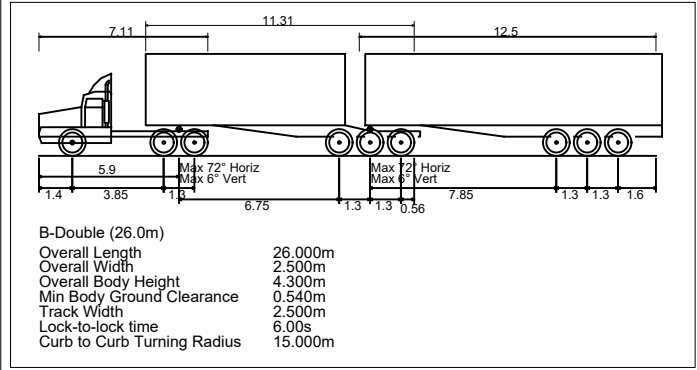
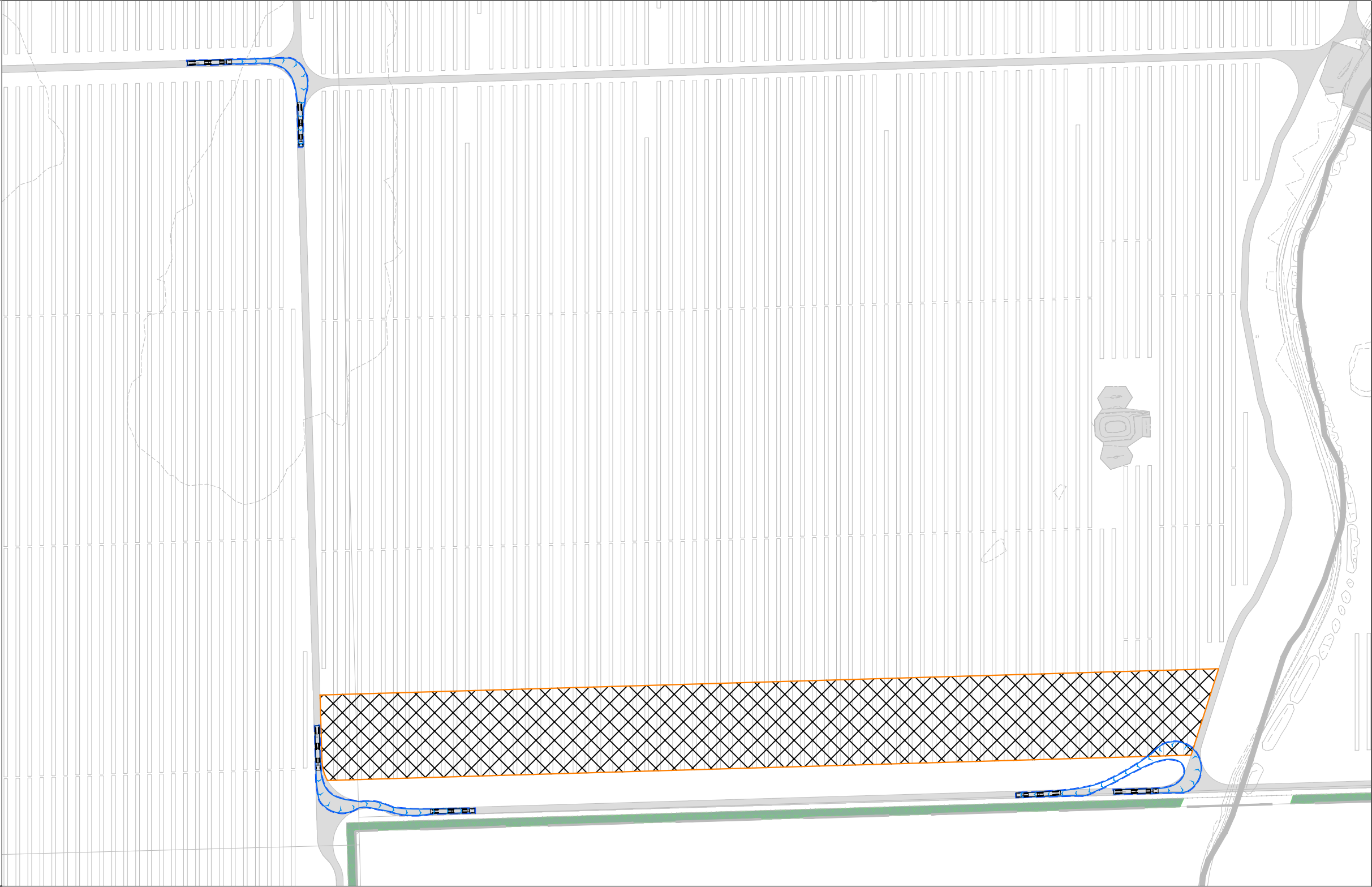
PROJECT NO. P0058365
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LEGEND:
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VEHICLE BODY - FORWARD

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Mologa Solar Hybrid Project
Internal Layout Circulation Swept Paths

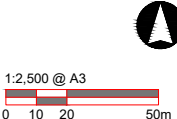
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ARCHITECTURAL DRAWING REF
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DATE: 5.05.2026

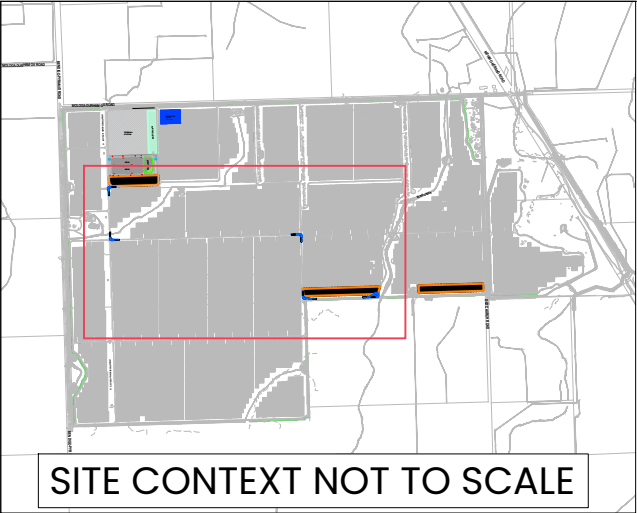
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D	Updated for Additional Emergency Access	JR	MR	04/05/26
C	Updated for Lodgement Site Layout Plan	JR	MR	27/04/26
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A	Preliminary Issue	JT	MR	02/12/25

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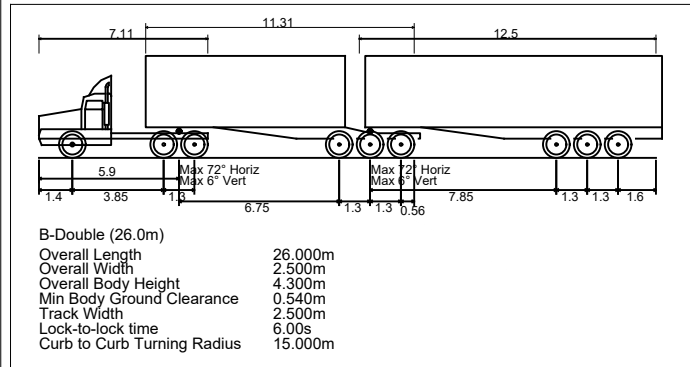
PROJECT NO. P0058365
SHEET NO. 04 OF 04
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LEGEND:

- 500mm BODY CLEARANCE
- VEHICLE BODY - FORWARD

26m LONG B-DOUBLE SITE CIRCULATION

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Mologa Solar Farm & BESS

Internal Layout Circulation Swept Paths

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ARCHITECTURAL DRAWING REF

DWG NAME:
DATE:

NEARMAP IMAGE

DATE:

REV	DESCRIPTION	DTWN	CHK	DATE
B	Final Issue	JT	MR	02/12/25
A	Preliminary Issue	JT	MR	02/12/25

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COMPANY NAME
ADDRESS 1
ADDRESS 2

1:6,000 @ A3
0 50 100m



PROJECT NO.

P0058365

SHEET NO.

SS OF 04

DATE

02/12/25

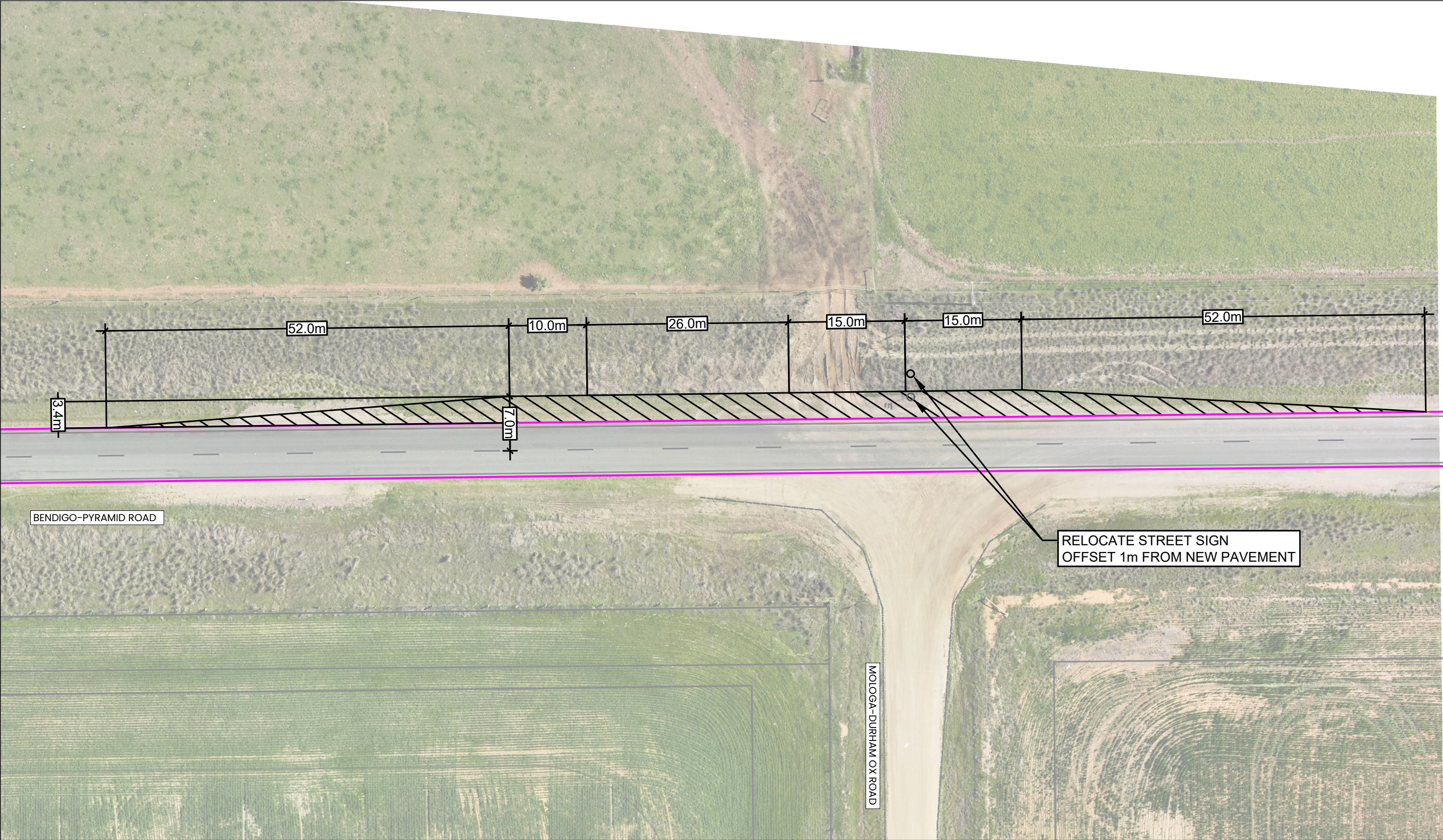
REVISION

A

Appendix D: Preliminary Concept Layout Plans – Intersection Upgrades

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2. INTERSECTION DESIGN BASED ON AGTM PART 6.
3. TREATMENT DESIGNED TO AGRD PART 4A, BASED ON DESIGN SPEED OF 110km/h AND 26m D-DOUBLE DESIGN VEHICLE.
4. WIDENED SHOULDER TO BE SEALED.
5. LINE MARKING TO BE DESIGNED TO AS1742.2 AND ANY OTHER RELEVANT STANDARDS.
6. RECOMMENDED THAT BARRIER LINE BE INSTALLED ON BENDIGO-PYRAMID ROAD THROUGH INTERSECTION

LEGEND:

-  NEW PAVEMENT
-  EXISTING ROAD EDGE

**ADVERTISED
PLAN**

**RURAL BASIC RIGHT-TURN TREATMENT (BAR)
PRELIMINARY CONCEPT LAYOUT PLAN**

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Mologa Solar Hybrid Project
Bendigo-Pyramid Rd/Mologa-Durham Ox Rd Preliminary Concept Layout Plan

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ARCHITECTURAL DRAWING REF
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DATE: 26.11.2025
AERIAL IMAGE
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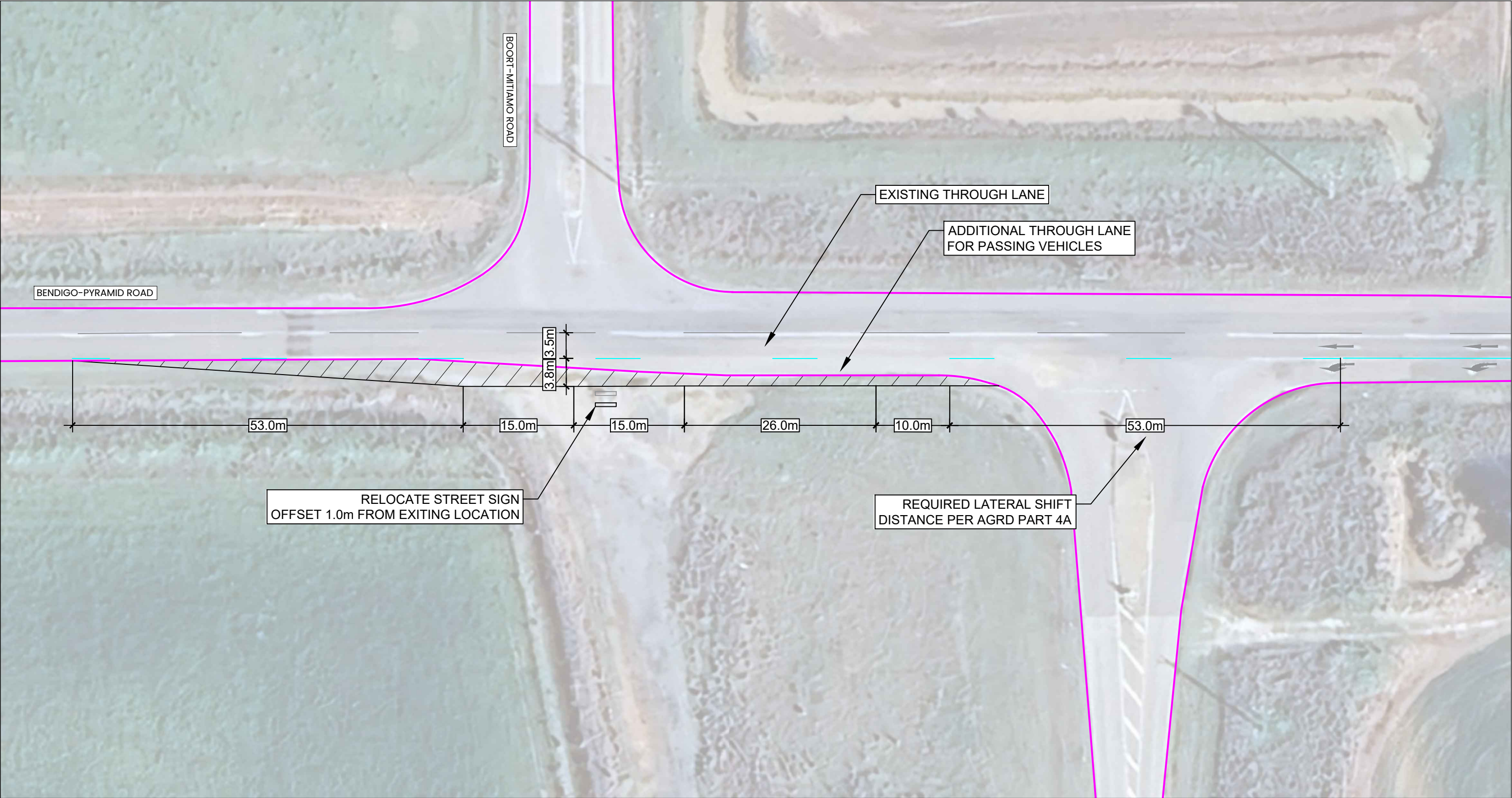
A	Preliminary Issue	JT	MR	09/12/25
REV	DESCRIPTION	DWN	CHK	DATE

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PROJECT NO. P0058365
SHEET NO. 01 OF 4
DATE 09/12/25
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1:500 @ A3
0 5 10m



- NOTES:**
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 - INTERSECTION DESIGN BASED ON AGTM PART 6.
 - TREATMENT DESIGNED TO AGRD PART 4A, BASED ON DESIGN SPEED OF 110km/h AND 26m D-DOUBLE DESIGN VEHICLE.
 - WIDENED SHOULDER TO BE SEALED.
 - LINE MARKING TO BE DESIGNED TO AS1742.2 AND ANY OTHER RELEVANT STANDARDS.
 - RECOMMENDED THAT BARRIER LINE BE INSTALLED ON BENDIGO-PYRAMID ROAD THROUGH INTERSECTION

- LEGEND:**
- NEW PAVEMENT
 - EXISTING ROAD EDGE
 - INDICATIVE LANE LINE MARKING

ADVERTISED PLAN

RURAL BASIC RIGHT-TURN TREATMENT (BAR)
PRELIMINARY CONCEPT LAYOUT PLAN

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Mologa Solar Hybrid Project
Boort-Mitiamo Rd / Bengido-Pyramid Rd Preliminary Concept Layout Plan
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ARCHITECTURAL DRAWING REF
DWG NAME: N/A
DATE: N/A
AERIAL IMAGE
NAME: BendigoPyramid-BoortMitiamo

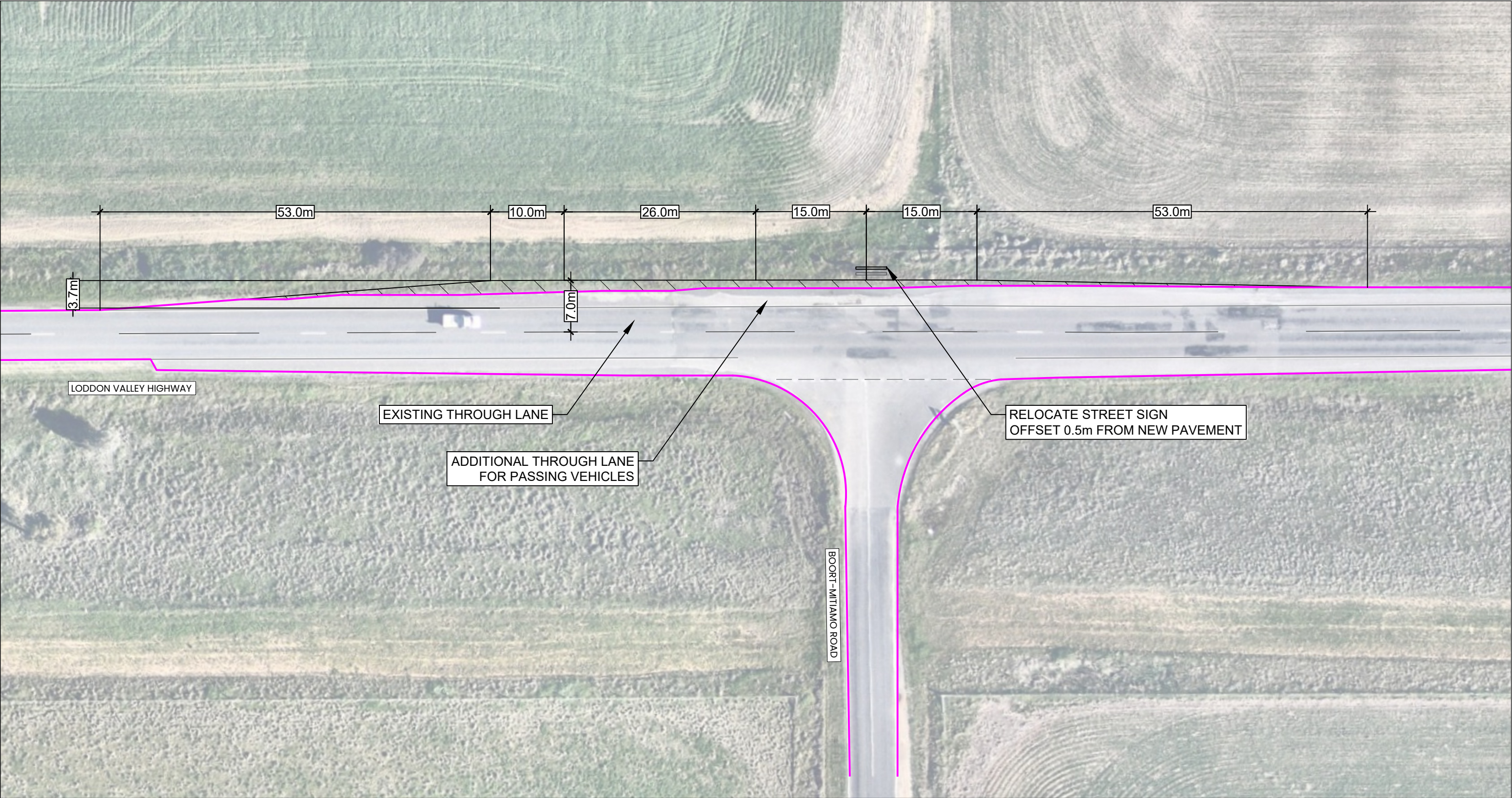
A	Preliminary Issue	JT	MR	31/03/26
REV	DESCRIPTION	DWN	CHK	DATE

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SHEET NO. 1 OF 1
DATE 31/03/26
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1:500 @ A3
0 5 10m



NOTES:

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2. INTERSECTION DESIGN BASED ON AGTM PART 6.
3. TREATMENT DESIGNED TO AGRD PART 4A, BASED ON DESIGN SPEED OF 110km/h AND 26m D-DOUBLE DESIGN VEHICLE.
4. WIDENED SHOULDER TO BE SEALED.
5. LINE MARKING TO BE DESIGNED TO AS1742.2 AND ANY OTHER RELEVANT STANDARDS.
6. RECOMMENDED THAT BARRIER LINE BE INSTALLED ON BENDIGO-PYRAMID ROAD THROUGH INTERSECTION

LEGEND:

-  NEW PAVEMENT
-  EXISTING ROAD EDGE

**ADVERTISED
PLAN**

**RURAL BASIC RIGHT-TURN TREATMENT (BAR)
PRELIMINARY CONCEPT LAYOUT PLAN**

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Mologa Solar Hybrid Project
Loddon Valley Hwy / Boort-Mitiamo Rd Preliminary Concept Layout Plan

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ARCHITECTURAL DRAWING REF
DWG NAME: N/A
DATE: N/A
AERIAL IMAGE
NAME: LoddonValley-BoortMitiamo

A	Preliminary Issue	JT	MR	31/03/26
REV	DESCRIPTION	DWN	CHK	DATE

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PROJECT NO. P0058365
SHEET NO. 01 OF 01
DATE 31/03/26
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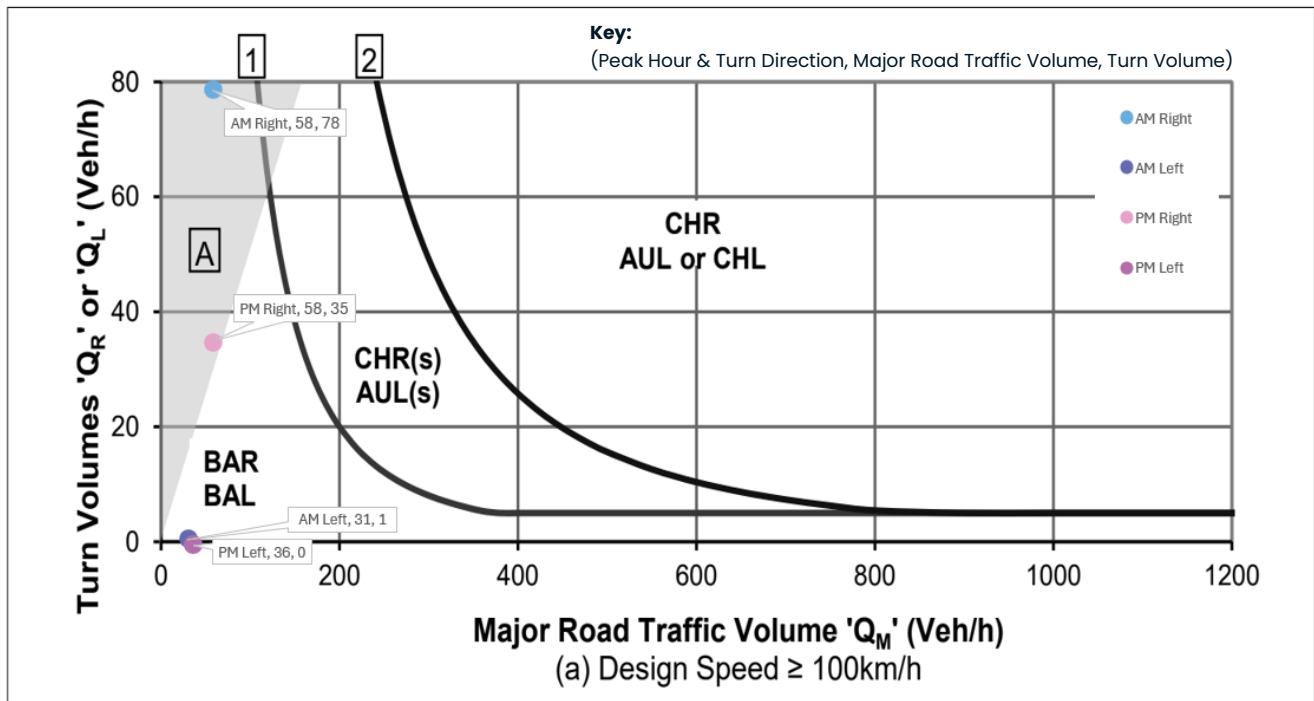
Appendix E: Turn Lane Warrant Assessments

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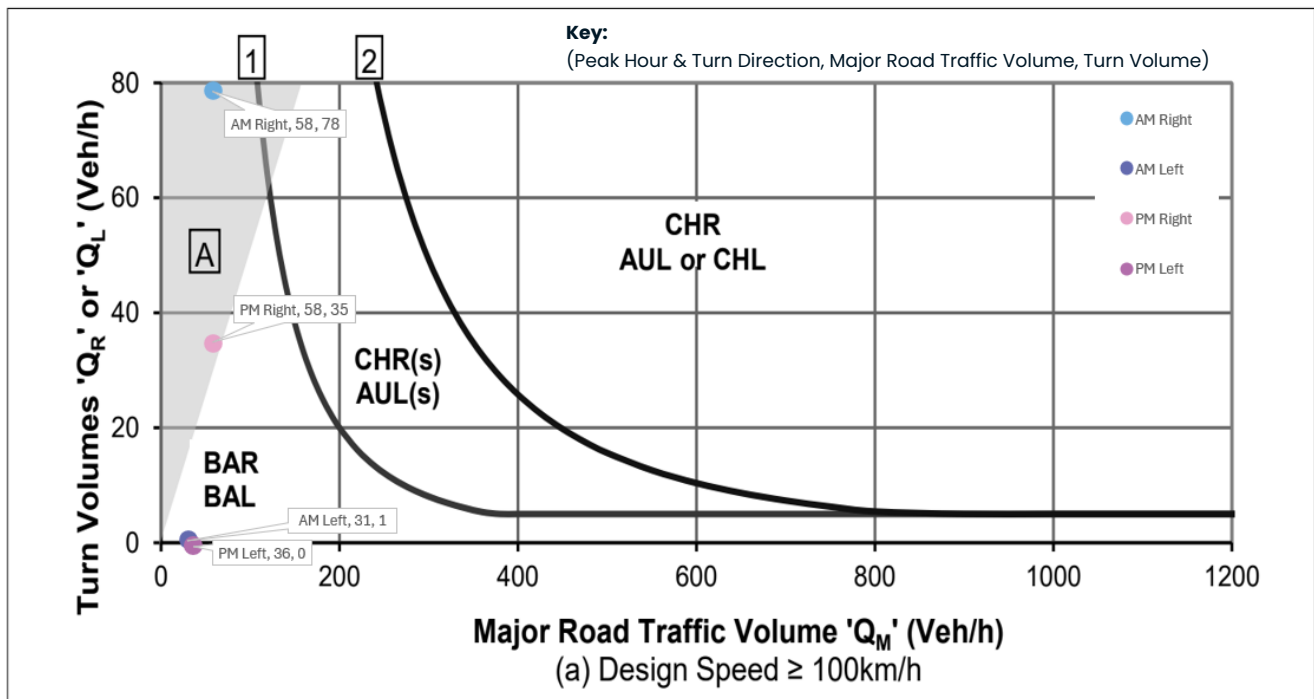
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E.1 Bendigo-Pyramid Road / Mologa-Durham Ox Road

E.1.1 Scenario 1



E.1.2 Scenario 2

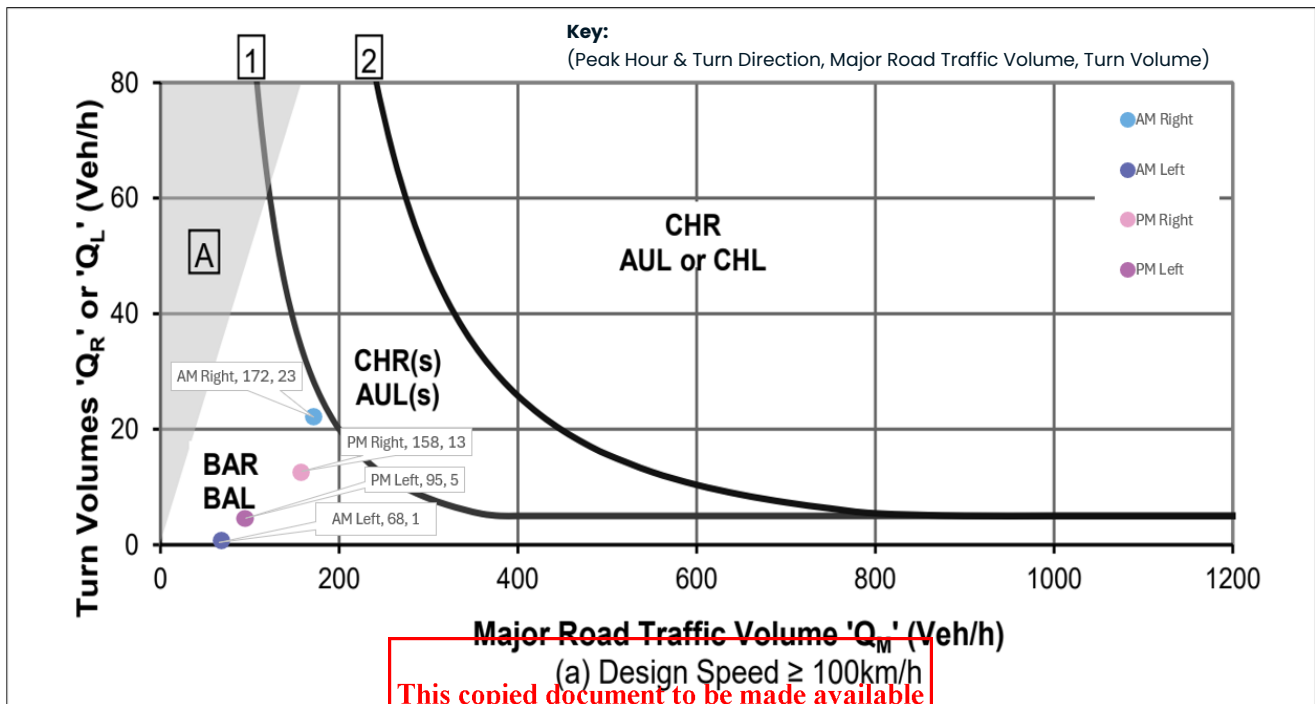


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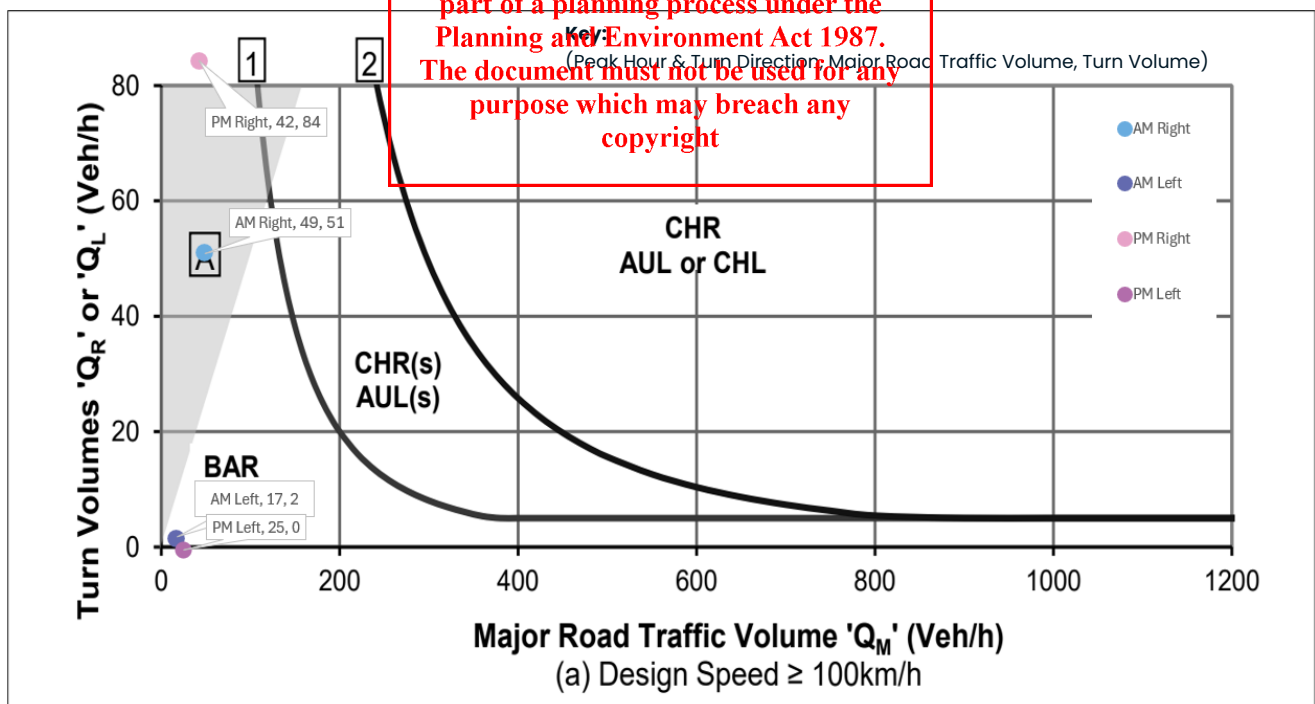
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E.2 Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road

E.2.1 Scenario 1 – Bendigo-Pyramid Road / Pyramid-Yarraberb Road

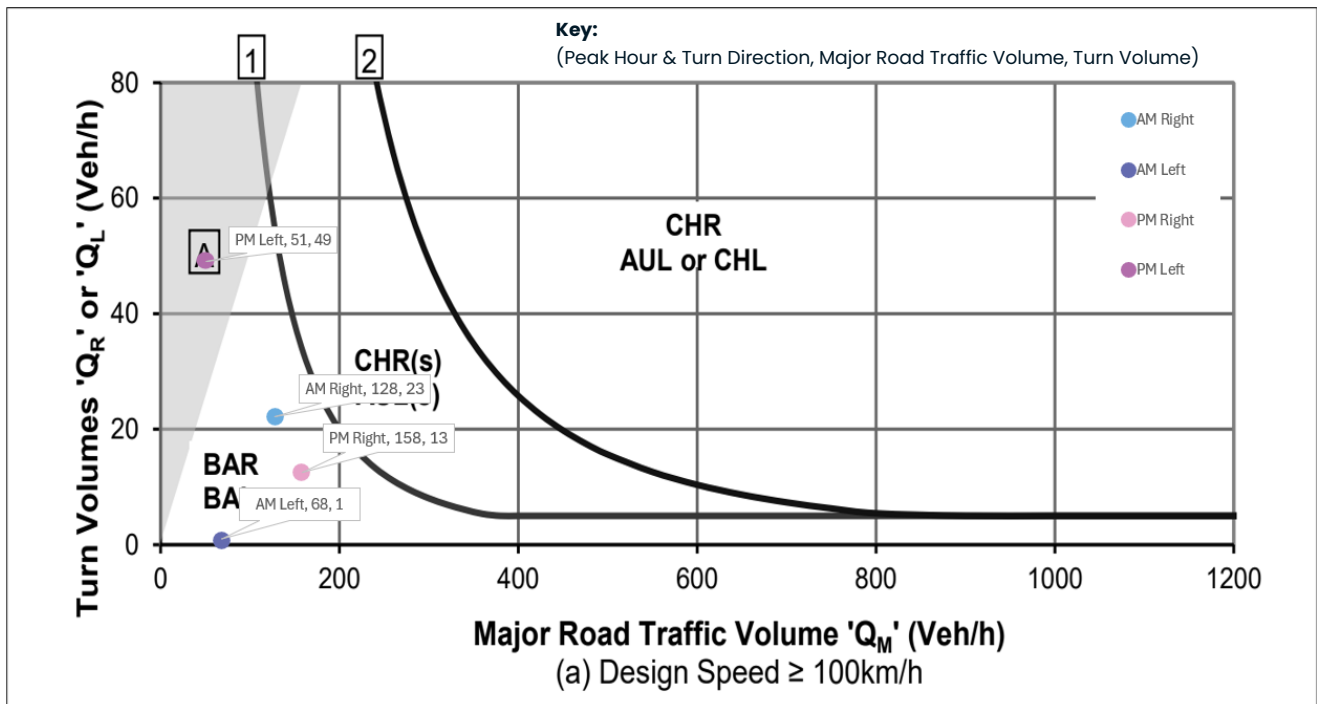


E.2.2 Scenario 1 – Pyramid-Yarraberb Road / Boort-Mitiamo Road

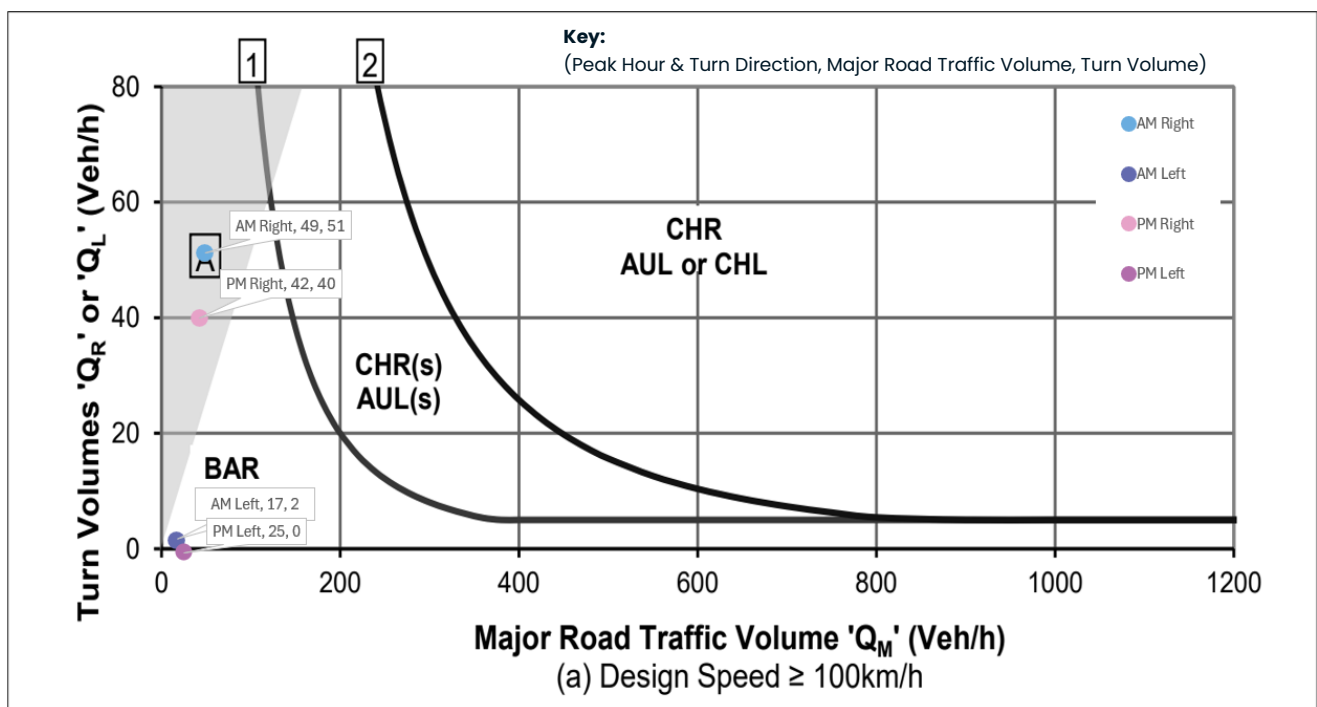


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E.2.3 Scenario 2 – Bendigo–Pyramid Road / Pyramid–Yarraberb Road



E.2.4 Scenario 2 – Pyramid–Yarraberb Road / Boort–Mitiamo Road

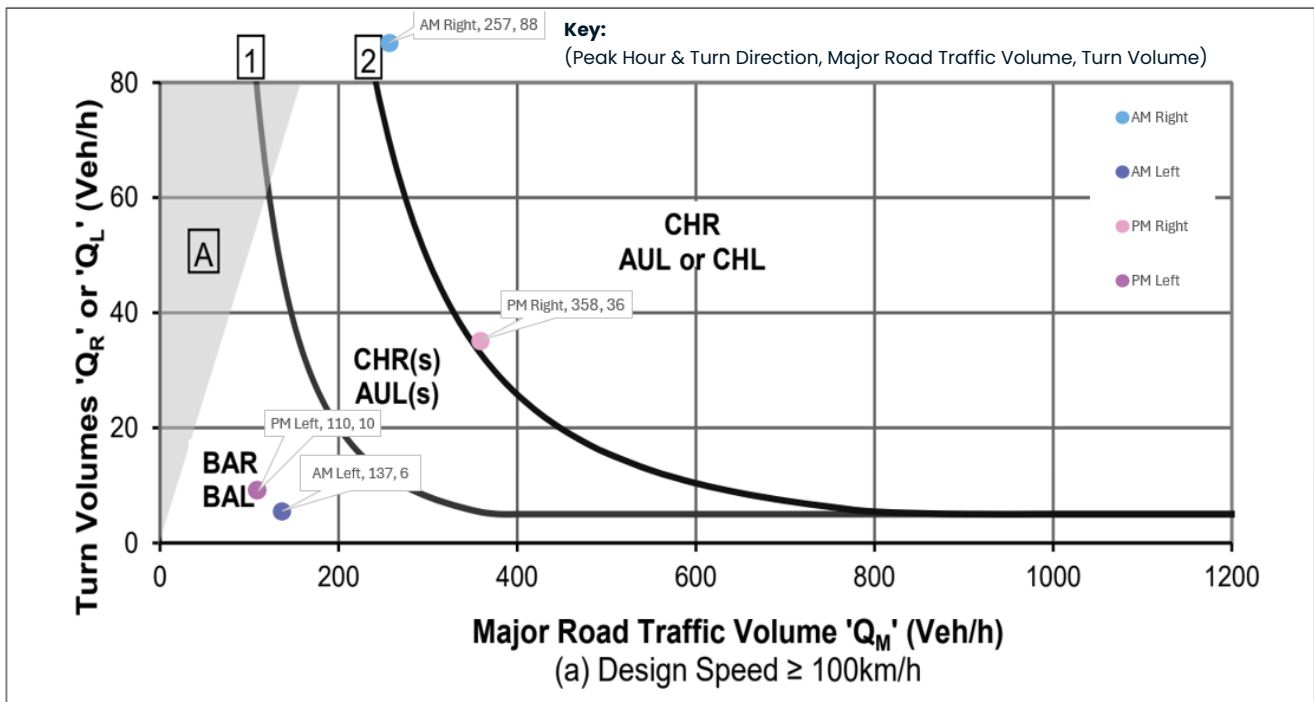


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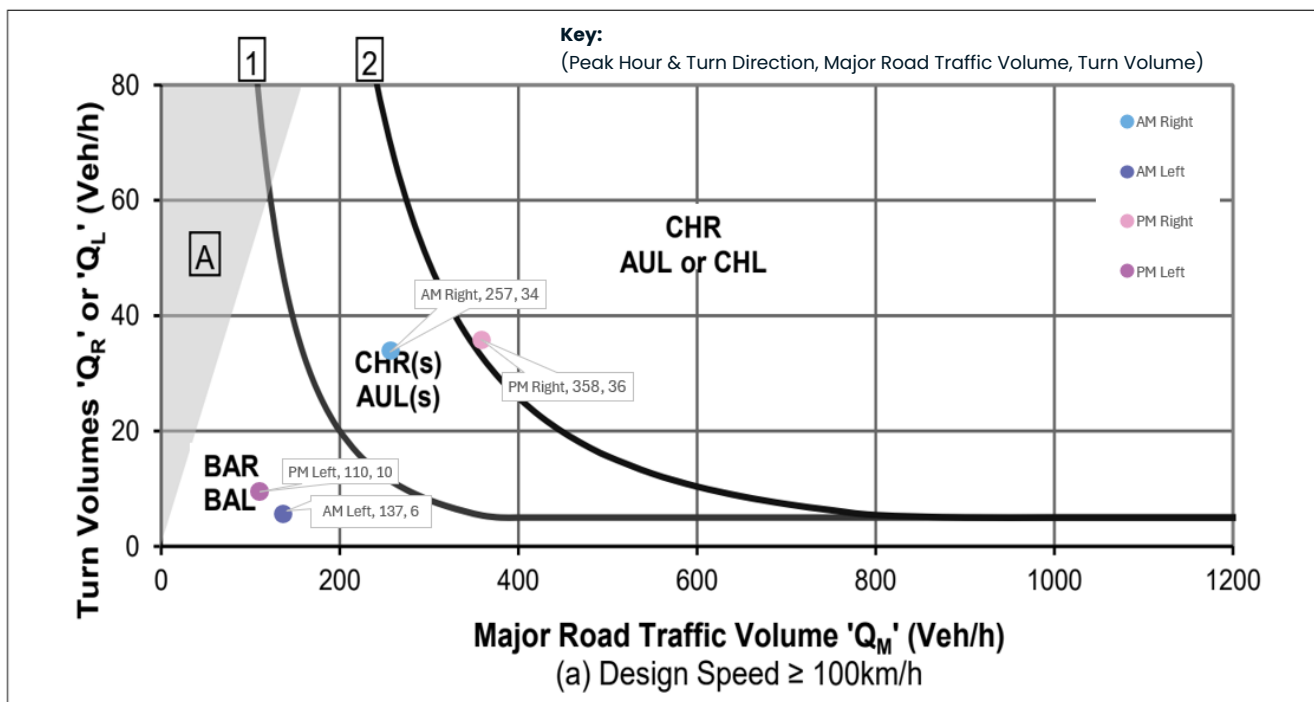
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E.3 Loddon Valley Highway / Boort-Mitiamo Road

E.3.1 Scenario 1



E.3.2 Scenario 2



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Appendix F: SIDRA Modelling Results

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F.1 Bendigo–Pyramid Road / Mologa–Durham Ox Road

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SITE LAYOUT

▽ Site: [1AM] Ex_BendigoPyramid_MologaDurhamOx_AM
(Folder1)

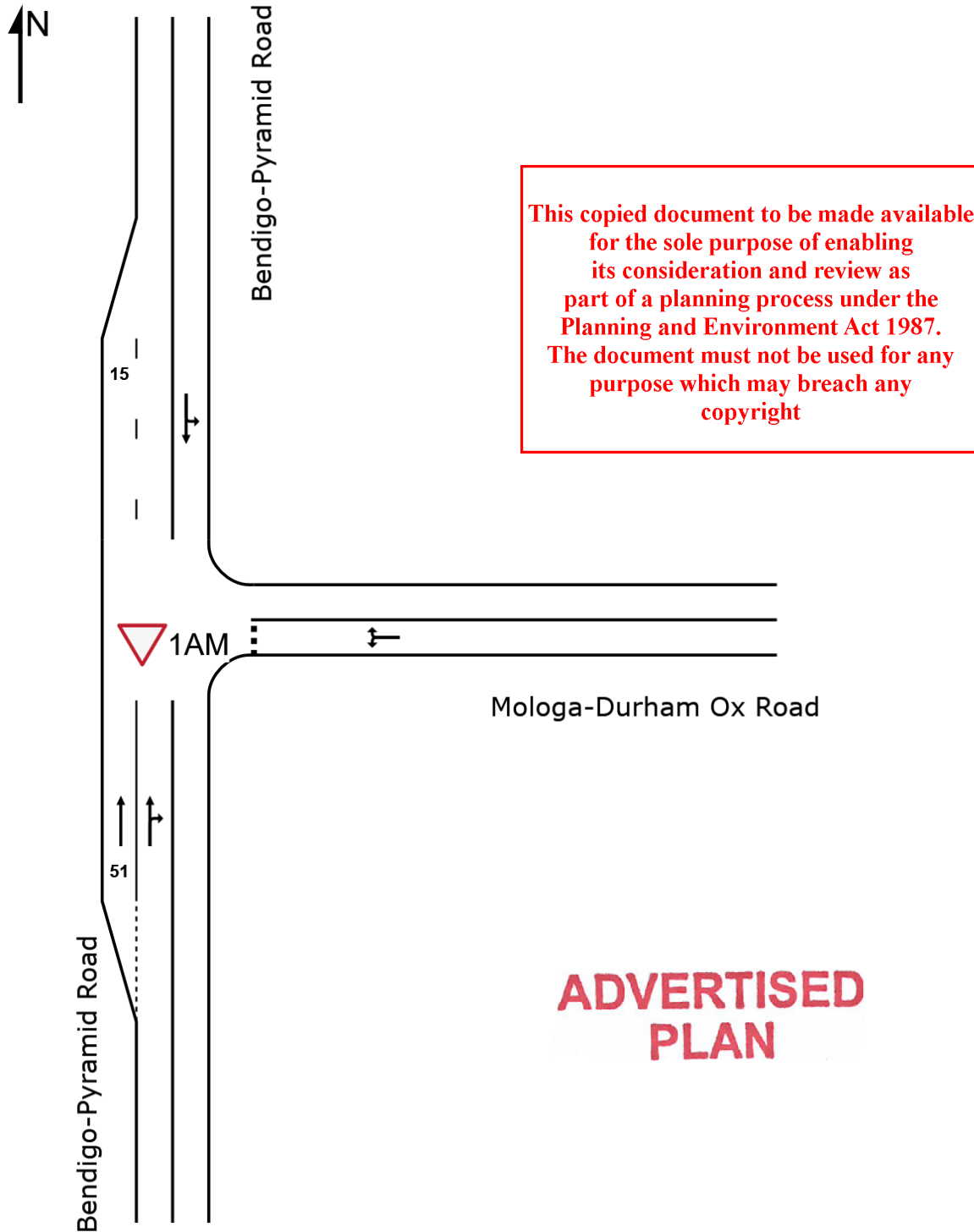
Bendio-Pyramid Road / Mologa-Durham Ox Road - Existing AM Peak

Site Category: (None)

Give-Way (Two-Way)

Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: [1AM] Ex_BendigoPyramid_MologaDurhamOx_AM (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Existing AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]	[Total HV]						[Veh.]	[Dist]		Rate to Depart		
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bendigo-Pyramid Road															
2	T1	All MCs	28	33.3	28	33.3	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	0	0.0	0	0.0	0.015	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
Approach			29	33.2	29	33.2	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
East: Mologa-Durham Ox Road															
4	L2	All MCs	2	0.0	2	0.0	0.006	5.6	LOS A	0.0	0.2	0.14	0.55	0.14	52.5
6	R2	All MCs	5	0.0	5	0.0	0.006	5.8	LOS A	0.0	0.2	0.14	0.55	0.14	52.3
Approach			7	0.0	7	0.0	0.006	5.7	LOS A	0.0	0.2	0.14	0.55	0.14	52.3
North: Bendigo-Pyramid Road															
7	L2	All MCs	1	0.0	1	0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	57.3
8	T1	All MCs	33	16.1	33	16.1	0.019	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach			34	15.6	34	15.6	0.019	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles			70	21.2	70	21.2	0.019	0.7	NA	0.0	0.2	0.02	0.07	0.02	58.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Organisation: URBIS | Licence: NETWORK / 1PC | Processed: Wednesday, April 8, 2026 3:27:20 PM
Project: C:\Users\bandersson\Urbis Ltd\P0058365 Potentia Energy - Mologa Solar Farm & BESS - Documents\General\03_Workspace\03_Transport\01_Analysis\06_SIDRA analysis\CALC_P0058365_SIDRA intersection analysis_V2_260407.sipx

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MOVEMENT SUMMARY

Site: [1PM] Ex_BendigoPyramid_MologaDurhamOx_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Existing PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]	[Dist]		Rate to Depart		
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bendigo-Pyramid Road															
2	T1	All MCs	23	9.1	23	9.1	0.011	0.0	LOS A	0.0	0.1	0.02	0.03	0.02	59.6
3	R2	All MCs	1	100.0	1	100.0	0.011	6.7	LOS A	0.0	0.1	0.02	0.03	0.02	52.0
Approach			24	13.0	24	13.0	0.011	0.3	NA	0.0	0.1	0.02	0.03	0.02	59.2
East: Mologa-Durham Ox Road															
4	L2	All MCs	0	0.0	0	0.0	0.000	5.6	LOS A	0.0	0.0	0.13	0.53	0.13	52.5
6	R2	All MCs	0	0.0	0	0.0	0.000	5.7	LOS A	0.0	0.0	0.13	0.53	0.13	52.3
Approach			0	0.0	0	0.0	0.000	5.7	LOS A	0.0	0.0	0.13	0.53	0.13	52.4
North: Bendigo-Pyramid Road															
7	L2	All MCs	0	0.0	0	0.0	0.021	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.5
8	T1	All MCs	38	11.1	38	11.1	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			38	11.1	38	11.1	0.021	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			62	11.8	62	11.8	0.021	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [1AM_S1] S1_BendigoPyramid_MologaDurhamOx_AM (Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Scenario 1 AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]						[Veh.]	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bendigo-Pyramid Road															
2	T1	All MCs	28	33.3	28	33.3	0.063	0.1	LOS A	0.3	2.8	0.04	0.15	0.04	58.5
3	R2	All MCs	82	43.6	82	43.6	0.063	6.1	LOS A	0.3	2.8	0.13	0.51	0.13	50.9
Approach			111	41.0	111	41.0	0.063	4.6	NA	0.3	2.8	0.10	0.42	0.10	52.7
East: Mologa-Durham Ox Road															
4	L2	All MCs	38	94.4	38	94.4	0.041	6.8	LOS A	0.2	2.0	0.14	0.53	0.14	48.9
6	R2	All MCs	5	0.0	5	0.0	0.041	6.4	LOS A	0.2	2.0	0.14	0.53	0.14	52.3
Approach			43	82.9	43	82.9	0.041	6.8	LOS A	0.2	2.0	0.14	0.53	0.14	49.3
North: Bendigo-Pyramid Road															
7	L2	All MCs	1	0.0	1	0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	57.3
8	T1	All MCs	33	16.1	33	16.1	0.019	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach			34	15.6	34	15.6	0.019	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles			187	46.1	187	46.1	0.063	4.3	NA	0.3	2.8	0.09	0.37	0.09	52.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [1PM_S1] S1_BendigoPyramid_MologaDurhamOx_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Scenario 1 PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bendigo-Pyramid Road															
2	T1	All MCs	23	9.1	23	9.1	0.039	0.1	LOS A	0.2	2.2	0.06	0.17	0.06	57.8
3	R2	All MCs	37	100.0	37	100.0	0.039	6.9	LOS A	0.2	2.2	0.15	0.46	0.15	48.1
Approach			60	64.9	60	64.9	0.039	4.3	NA	0.2	2.2	0.11	0.35	0.11	51.5
East: Mologa-Durham Ox Road															
4	L2	All MCs	82	43.6	82	43.6	0.064	6.2	LOS A	0.3	2.5	0.13	0.54	0.13	50.8
6	R2	All MCs	0	0.0	0	0.0	0.064	6.1	LOS A	0.3	2.5	0.13	0.54	0.13	52.3
Approach			82	43.5	82	43.5	0.064	6.2	LOS A	0.3	2.5	0.13	0.54	0.13	50.8
North: Bendigo-Pyramid Road															
7	L2	All MCs	0	0.0	0	0.0	0.021	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.5
8	T1	All MCs	38	11.1	38	11.1	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			38	11.1	38	11.1	0.021	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			180	43.8	180	43.8	0.064	4.3	NA	0.3	2.5	0.10	0.36	0.10	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [1AM_S2] S2_BendigoPyramid_MologaDurhamOx_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Scenario 2 AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]	Eff. Stop of Cycles	Number of Cycles
			veh/h	%	veh/h	%	v/c	sec		veh	m	Rate to Depart	km/h
South: Bendigo-Pyramid Road													
2	T1	All MCs	28 33.3	28 33.3	0.063	0.1	LOS A	0.3	2.8	0.04	0.15	0.04	58.5
3	R2	All MCs	82 43.6	82 43.6	0.063	6.1	LOS A	0.3	2.8	0.13	0.51	0.13	50.9
Approach			111 41.0	111 41.0	0.063	4.6	NA	0.3	2.8	0.10	0.42	0.10	52.7
East: Mologa-Durham Ox Road													
4	L2	All MCs	38 94.4	38 94.4	0.041	6.8	LOS A	0.2	2.0	0.14	0.53	0.14	48.9
6	R2	All MCs	5 0.0	5 0.0	0.041	6.4	LOS A	0.2	2.0	0.14	0.53	0.14	52.3
Approach			43 82.9	43 82.9	0.041	6.8	LOS A	0.2	2.0	0.14	0.53	0.14	49.3
North: Bendigo-Pyramid Road													
7	L2	All MCs	1 0.0	1 0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	57.3
8	T1	All MCs	33 16.1	33 16.1	0.019	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach			34 15.6	34 15.6	0.019	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles			187 46.1	187 46.1	0.063	4.3	NA	0.3	2.8	0.09	0.37	0.09	52.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [1PM_S2] S2_BendigoPyramid_MologaDurhamOx_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendio-Pyramid Road / Mologa-Durham Ox Road - Scenario 2 PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]		Rate to Depart		
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bendigo-Pyramid Road															
2	T1	All MCs	23	9.1	23	9.1	0.039	0.1	LOS A	0.2	2.2	0.06	0.17	0.06	57.8
3	R2	All MCs	37	100.0	37	100.0	0.039	6.9	LOS A	0.2	2.2	0.15	0.46	0.15	48.1
Approach			60	64.9	60	64.9	0.039	4.3	NA	0.2	2.2	0.11	0.35	0.11	51.5
East: Mologa-Durham Ox Road															
4	L2	All MCs	82	43.6	82	43.6	0.064	6.2	LOS A	0.3	2.5	0.13	0.54	0.13	50.8
6	R2	All MCs	0	0.0	0	0.0	0.064	6.1	LOS A	0.3	2.5	0.13	0.54	0.13	52.3
Approach			82	43.5	82	43.5	0.064	6.2	LOS A	0.3	2.5	0.13	0.54	0.13	50.8
North: Bendigo-Pyramid Road															
7	L2	All MCs	0	0.0	0	0.0	0.021	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.5
8	T1	All MCs	38	11.1	38	11.1	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			38	11.1	38	11.1	0.021	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			180	43.8	180	43.8	0.064	4.3	NA	0.3	2.5	0.10	0.36	0.10	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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F.2 Bendigo-Pyramid Road / Boort-Mitiamo Road / Pyramid-Yarraberb Road

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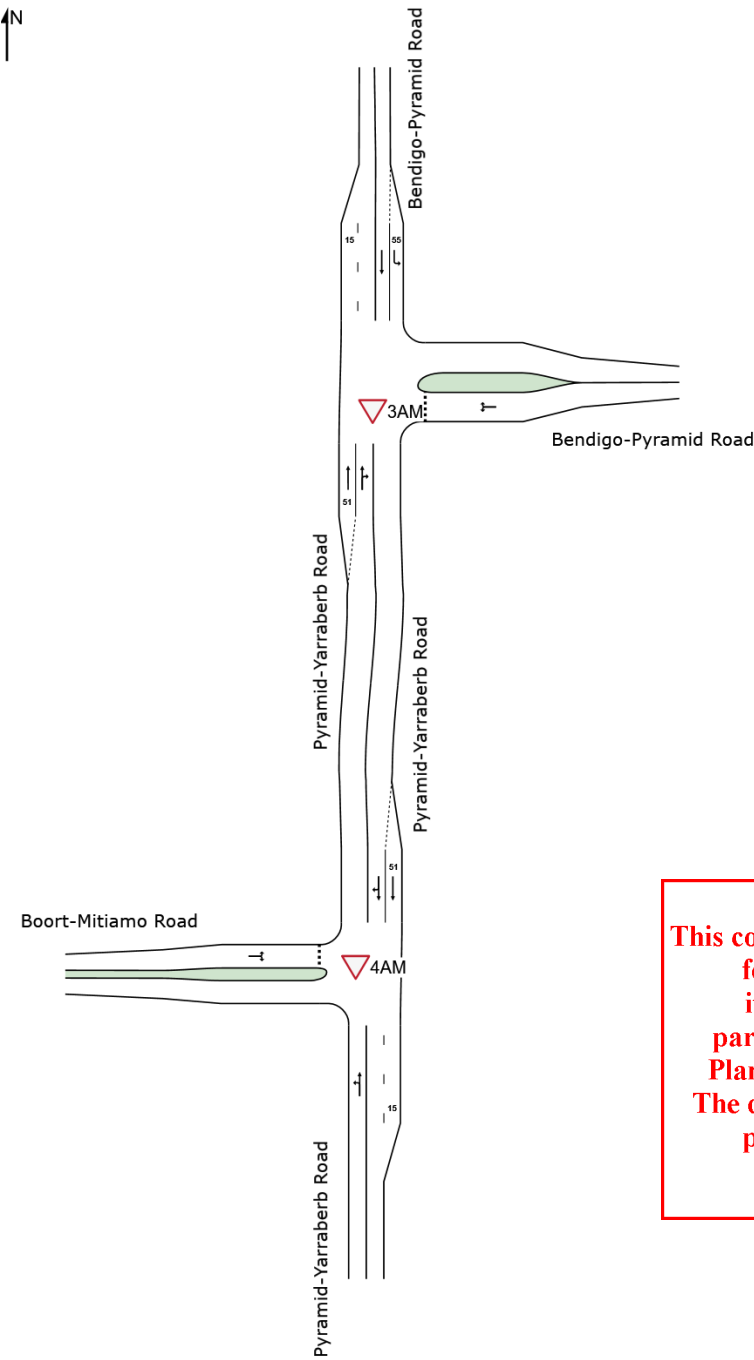
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NETWORK LAYOUT

Network: [1]
Ex_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

New Network
Network Category: (None)
Network Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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SITES IN NETWORK		
Site ID	CCG ID	Site Name
▽3AM	NA	Ex_BendigoPyramid_PyramidYarraberb_AM
▽4AM	NA	Ex_PyramidYarraberb-BoortMitiamo_AM

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MOVEMENT SUMMARY

Site: [3AM] Ex_BendigoPyramid_PyramidYarraberb_AM
(Folder1)

Network: [1]

Ex_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Existing AM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Prop. Queued Dist] m	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Pyramid-Yarraberb Road												
2	T1	All MCs	25 33.3	25 33.3	0.026	0.1	LOS A	0.0	0.3	0.07	0.21	56.1
3	R2	All MCs	23 0.0	23 0.0	0.026	5.1	LOS A	0.0	0.3	0.11	0.32	51.2
Approach			48 17.4	48 17.4	0.026	2.5	NA	0.0	0.3	0.09	0.26	53.7
East: Bendigo-Pyramid Road												
4	L2	All MCs	14 61.5	14 61.5	0.018	6.5	LOS A	0.0	0.3	0.14	0.53	50.1
6	R2	All MCs	3 33.3	3 33.3	0.018	6.7	LOS A	0.0	0.3	0.14	0.53	51.4
Approach			17 56.2	17 56.2	0.018	6.5	LOS A	0.0	0.3	0.14	0.53	50.5
North: Bendigo-Pyramid Road												
7	L2	All MCs	1 0.0	1 0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	52.9
8	T1	All MCs	36 8.8	36 8.8	0.020	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach			37 8.6	37 8.6	0.020	0.2	NA	0.0	0.0	0.00	0.02	59.6
All Vehicles			102 20.6	102 20.6	0.026	2.3	NA	0.0	0.3	0.06	0.22	54.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4AM] Ex_PyramidYarraberb-BoortMitiamo_AM
(Folder1)

Network: [1]

Ex_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Pyramid-Yarraberb Road / Boort-Mitiamo Road - Existing AM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m		
South: Pyramid-Yarraberb Road													
1	L2	All MCs	2	0.0	2	0.0	0.012	5.5	LOS A	0.0	0.0	0.06	56.8
2	T1	All MCs	18	23.5	18	23.5	0.012	0.0	LOS A	0.0	0.0	0.06	58.6
Approach			20	21.1	20	21.1	0.012	0.6	NA	0.0	0.0	0.06	58.3
North: Pyramid-Yarraberb Road													
8	T1	All MCs	31	3.4	31	3.4	0.026	0.1	LOS A	0.0	0.4	0.17	58.0
9	R2	All MCs	18	52.9	18	52.9	0.026	5.0	LOS A	0.0	0.4	0.25	50.0
Approach			48	21.7	48	21.7	0.026	1.9	NA	0.0	0.4	0.20	54.7
West: Boort-Mitiamo Road													
10	L2	All MCs	32	13.3	32	13.3	0.021	5.7	LOS A	0.0	0.3	0.55	50.5
12	R2	All MCs	0	0.0	0	0.0	0.021	5.8	LOS A	0.0	0.3	0.55	52.7
Approach			32	13.3	32	13.3	0.021	5.7	LOS A	0.0	0.3	0.55	50.5
All Vehicles			100	18.9	100	18.9	0.026	2.8	NA	0.0	0.4	0.28	54.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [3PM] Ex_BendigoPyramid_PyramidYarraberb_PM
(Folder1)

Network: [2]

Ex_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Existing PM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Number Stop of Cycles	Aver. Speed
			[Total HV]		[Total HV]				[Veh. Dist]			Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec	veh	m			
South: Pyramid-Yarraberb Road													
2	T1	All MCs	25	12.5	25	12.5	0.021	0.1	LOS A	0.0	0.3	0.06	57.4
3	R2	All MCs	14	23.1	14	23.1	0.021	5.1	LOS A	0.0	0.3	0.08	51.5
Approach			39	16.2	39	16.2	0.021	1.8	NA	0.0	0.3	0.06	55.2
East: Bendigo-Pyramid Road													
4	L2	All MCs	6	66.7	6	66.7	0.011	6.4	LOS A	0.0	0.2	0.11	50.3
6	R2	All MCs	4	25.0	4	25.0	0.011	6.3	LOS A	0.0	0.2	0.11	51.8
Approach			11	50.0	11	50.0	0.011	6.4	LOS A	0.0	0.2	0.11	51.1
North: Bendigo-Pyramid Road													
7	L2	All MCs	5	0.0	5	0.0	0.003	5.5	LOS A	0.0	0.0	0.00	52.9
8	T1	All MCs	18	17.6	18	17.6	0.010	0.0	LOS A	0.0	0.0	0.00	60.0
Approach			23	13.6	23	13.6	0.010	1.3	NA	0.0	0.0	0.00	57.2
All Vehicles			73	20.3	73	20.3	0.021	2.3	NA	0.0	0.3	0.05	55.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4PM] Ex_PyramidYarraberb-BoortMitiamo_PM
(Folder1)

Network: [2]

Ex_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Pyramid-Yarraberb Road / Boort-Mitiamo Road - Existing PM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m		
South: Pyramid-Yarraberb Road													
1	L2	All MCs	0	0.0	0	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	57.5
2	T1	All MCs	26	12.0	26	12.0	0.014	0.0	LOS A	0.0	0.0	0.00	59.9
Approach			26	12.0	26	12.0	0.014	0.0	NA	0.0	0.0	0.00	59.9
North: Pyramid-Yarraberb Road													
8	T1	All MCs	18	17.6	18	17.6	0.013	0.1	LOS A	0.0	0.2	0.06	58.6
9	R2	All MCs	6	66.7	6	66.7	0.013	5.0	LOS A	0.0	0.2	0.08	49.9
Approach			24	30.4	24	30.4	0.013	1.4	NA	0.0	0.2	0.06	56.1
West: Boort-Mitiamo Road													
10	L2	All MCs	13	25.0	13	25.0	0.014	5.9	LOS A	0.0	0.2	0.11	50.3
12	R2	All MCs	4	50.0	4	50.0	0.014	6.5	LOS A	0.0	0.2	0.11	50.6
Approach			17	31.2	17	31.2	0.014	6.1	LOS A	0.0	0.2	0.11	50.4
All Vehicles			67	23.4	67	23.4	0.014	2.0	NA	0.0	0.2	0.05	55.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [3AM_S1] S1_BendigoPyramid_PyramidYarraberb_AM
(Folder1)

Network: [3]
S1_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Scenario 1 AM Peak
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Prop. Queued Dist] m	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Pyramid-Yarraberb Road												
2	T1	All MCs	107 41.2	107 41.2	0.070	0.1	LOS A	0.1	0.5	0.07	0.12	57.5
3	R2	All MCs	23 0.0	23 0.0	0.070	5.3	LOS A	0.1	0.5	0.09	0.15	53.6
Approach			131 33.9	131 33.9	0.070	1.0	NA	0.1	0.5	0.07	0.12	56.8
East: Bendigo-Pyramid Road												
4	L2	All MCs	14 61.5	14 61.5	0.020	6.8	LOS A	0.0	0.3	0.23	0.54	49.6
6	R2	All MCs	3 33.3	3 33.3	0.020	8.3	LOS A	0.0	0.3	0.23	0.54	51.1
Approach			17 56.2	17 56.2	0.020	7.1	LOS A	0.0	0.3	0.23	0.54	50.0
North: Bendigo-Pyramid Road												
7	L2	All MCs	1 0.0	1 0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	52.9
8	T1	All MCs	72 54.4	72 54.4	0.051	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach			73 53.6	73 53.6	0.051	0.1	NA	0.0	0.0	0.00	0.01	59.7
All Vehicles			220 42.1	220 42.1	0.070	1.2	NA	0.1	0.5	0.06	0.12	57.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4AM_S1] S1_PyramidYarraberb-BoortMitiamo_AM
(Folder1)

Network: [3]

S1_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

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Pyramid-Yarraberb Road / Boort-Mitiamo Road - Scenario 1 AM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[Total HV]		[Total HV]					[Veh. veh	Dist]			km/h	
			veh/h	%	veh/h	%	v/c	sec			m				
South: Pyramid-Yarraberb Road															
1	L2	All MCs	2	0.0	2	0.0	0.012	5.5	LOS A	0.0	0.0	0.00	0.06	0.00	56.8
2	T1	All MCs	18	23.5	18	23.5	0.012	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	58.6
Approach			20	21.1	20	21.1	0.012	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.3
North: Pyramid-Yarraberb Road															
8	T1	All MCs	31	3.4	31	3.4	0.052	0.0	LOS A	0.1	1.1	0.04	0.15	0.04	58.5
9	R2	All MCs	54	84.3	54	84.3	0.052	5.0	LOS A	0.1	1.1	0.10	0.42	0.10	47.2
Approach			84	55.0	84	55.0	0.052	3.2	NA	0.1	1.1	0.08	0.32	0.08	50.7
West: Boort-Mitiamo Road															
10	L2	All MCs	114	35.2	114	35.2	0.083	6.0	LOS A	0.1	1.3	0.08	0.54	0.08	50.4
12	R2	All MCs	0	0.0	0	0.0	0.083	6.2	LOS A	0.1	1.3	0.08	0.54	0.08	52.6
Approach			114	35.2	114	35.2	0.083	6.0	LOS A	0.1	1.3	0.08	0.54	0.08	50.4
All Vehicles			218	41.5	218	41.5	0.083	4.4	NA	0.1	1.3	0.07	0.41	0.07	51.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [3PM_S1] S1_BendigoPyramid_PyramidYarraberb_PM
(Folder1)

Network: [4]

S1_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Scenario 1 PM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Prop. Queued Dist] m	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Pyramid-Yarraberb Road												
2	T1	All MCs	61 63.8	61 63.8	0.045	0.2	LOS A	0.0	0.4	0.09	0.13	57.0
3	R2	All MCs	14 23.1	14 23.1	0.045	5.6	LOS A	0.0	0.4	0.12	0.16	51.5
Approach			75 56.3	75 56.3	0.045	1.2	NA	0.0	0.4	0.10	0.13	56.0
East: Bendigo-Pyramid Road												
4	L2	All MCs	6 66.7	6 66.7	0.013	7.1	LOS A	0.0	0.2	0.29	0.54	49.2
6	R2	All MCs	4 25.0	4 25.0	0.013	7.7	LOS A	0.0	0.2	0.29	0.54	51.2
Approach			11 50.0	11 50.0	0.013	7.3	LOS A	0.0	0.2	0.29	0.54	50.3
North: Bendigo-Pyramid Road												
7	L2	All MCs	5 0.0	5 0.0	0.003	5.5	LOS A	0.0	0.0	0.00	0.58	52.9
8	T1	All MCs	100 38.9	100 38.9	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach			105 37.0	105 37.0	0.066	0.3	NA	0.0	0.0	0.00	0.03	59.2
All Vehicles			191 45.3	191 45.3	0.066	1.0	NA	0.0	0.4	0.05	0.10	57.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4PM_S1] S1_PyramidYarraberb-BoortMitiamo_PM
(Folder1)

Network: [4]

S1_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Pyramid-Yarraberb Road / Boort-Mitiamo Road - Scenario 1 PM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue Prop.		Eff. Stop of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m		
South: Pyramid-Yarraberb Road													
1	L2	All MCs	0	0.0	0	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	57.5
2	T1	All MCs	26	12.0	26	12.0	0.014	0.0	LOS A	0.0	0.0	0.00	59.9
Approach			26	12.0	26	12.0	0.014	0.0	NA	0.0	0.0	0.00	59.9
North: Pyramid-Yarraberb Road													
8	T1	All MCs	18	17.6	18	17.6	0.010	0.0	LOS A	0.0	0.0	0.00	60.0
9	R2	All MCs	88	45.2	88	45.2	0.062	5.0	LOS A	0.1	1.1	0.11	46.5
Approach			106	40.6	106	40.6	0.062	4.2	NA	0.1	1.1	0.09	48.3
West: Boort-Mitiamo Road													
10	L2	All MCs	48	80.4	48	80.4	0.048	6.6	LOS A	0.1	0.9	0.12	50.2
12	R2	All MCs	4	50.0	4	50.0	0.048	7.5	LOS A	0.1	0.9	0.12	50.5
Approach			53	78.0	53	78.0	0.048	6.7	LOS A	0.1	0.9	0.12	50.3
All Vehicles			185	47.1	185	47.1	0.062	4.3	NA	0.1	1.1	0.09	50.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [3AM_S2] S2_BendigoPyramid_PyramidYarraberb_AM
(Folder1)

Network: [5]

S2_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Scenario 2 AM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Prop. Queued Dist] m	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Pyramid-Yarraberb Road												
2	T1	All MCs	61 72.4	61 72.4	0.049	0.1	LOS A	0.1	0.5	0.09	0.17	55.6
3	R2	All MCs	23 0.0	23 0.0	0.049	5.3	LOS A	0.1	0.5	0.12	0.21	51.4
Approach			84 52.5	84 52.5	0.049	1.6	NA	0.1	0.5	0.10	0.18	54.4
East: Bendigo-Pyramid Road												
4	L2	All MCs	14 61.5	14 61.5	0.073	6.9	LOS A	0.1	0.9	0.31	0.57	49.1
6	R2	All MCs	49 2.1	49 2.1	0.073	7.0	LOS A	0.1	0.9	0.31	0.57	52.0
Approach			63 15.0	63 15.0	0.073	7.0	LOS A	0.1	0.9	0.31	0.57	51.6
North: Bendigo-Pyramid Road												
7	L2	All MCs	1 0.0	1 0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	52.9
8	T1	All MCs	72 54.4	72 54.4	0.051	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach			73 53.6	73 53.6	0.051	0.1	NA	0.0	0.0	0.00	0.01	59.7
All Vehicles			220 42.1	220 42.1	0.073	2.6	NA	0.1	0.9	0.13	0.23	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4AM_S2] S2_PyramidYarraberb-BoortMitiamo_AM
(Folder1)

Network: [5]

S2_BendigoPyramid_PyramidYarrberb_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Pyramid-Yarraberb Road / Boort-Mitiamo Road - Scenario 2 AM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed	
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			km/h	
South: Pyramid-Yarraberb Road															
1	L2	All MCs	2	0.0	2	0.0	0.012	5.5	LOS A	0.0	0.0	0.00	0.06	0.00	56.8
2	T1	All MCs	18	23.5	18	23.5	0.012	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	58.6
Approach			20	21.1	20	21.1	0.012	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.3
North: Pyramid-Yarraberb Road															
8	T1	All MCs	31	3.4	31	3.4	0.052	0.0	LOS A	0.1	1.1	0.04	0.15	0.04	58.5
9	R2	All MCs	54	84.3	54	84.3	0.052	5.0	LOS A	0.1	1.1	0.10	0.42	0.10	47.2
Approach			84	55.0	84	55.0	0.052	3.2	NA	0.1	1.1	0.08	0.32	0.08	50.7
West: Boort-Mitiamo Road															
10	L2	All MCs	67	59.4	67	59.4	0.055	6.3	LOS A	0.1	1.0	0.09	0.54	0.09	50.4
12	R2	All MCs	0	0.0	0	0.0	0.055	6.2	LOS A	0.1	1.0	0.09	0.54	0.09	52.6
Approach			67	59.3	67	59.3	0.055	6.3	LOS A	0.1	1.0	0.09	0.54	0.09	50.4
All Vehicles			172	52.7	172	52.7	0.055	4.1	NA	0.1	1.1	0.07	0.38	0.07	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [3PM_S2] S2_BendigoPyramid_PyramidYarraberb_PM
(Folder1)

Network: [6]
S2_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Bendigo-Pyramid Road / Pyramid-Yarraberb Road - Scenario 2 PM Peak
Site Category: (None)
Give-Way (Two-Way)
Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %	Arrival Flows [Total HV] veh/h %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Prop. Queued Dist] m	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed km/h
South: Pyramid-Yarraberb Road												
2	T1	All MCs	61 63.8	61 63.8	0.045	0.2	LOS A	0.0	0.4	0.09	0.13	57.0
3	R2	All MCs	14 23.1	14 23.1	0.045	5.6	LOS A	0.0	0.4	0.12	0.16	51.5
Approach			75 56.3	75 56.3	0.045	1.1	NA	0.0	0.4	0.10	0.13	56.0
East: Bendigo-Pyramid Road												
4	L2	All MCs	6 66.7	6 66.7	0.013	6.8	LOS A	0.0	0.2	0.23	0.53	49.5
6	R2	All MCs	4 25.0	4 25.0	0.013	7.5	LOS A	0.0	0.2	0.23	0.53	51.4
Approach			11 50.0	11 50.0	0.013	7.0	LOS A	0.0	0.2	0.23	0.53	50.6
North: Bendigo-Pyramid Road												
7	L2	All MCs	52 0.0	52 0.0	0.029	5.5	LOS A	0.0	0.0	0.00	0.58	52.9
8	T1	All MCs	54 72.5	54 72.5	0.041	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach			105 37.0	105 37.0	0.041	2.7	NA	0.0	0.0	0.00	0.28	55.2
All Vehicles			191 45.3	191 45.3	0.045	2.3	NA	0.0	0.4	0.05	0.24	55.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [4PM_S2] S2_PyramidYarraberb-BoortMitiamo_PM
(Folder1)

Network: [6]

S2_BendigoPyramid_PyramidYarrberb_BoortMitiamo_PM
(Folder1)

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Pyramid-Yarraberb Road / Boort-Mitiamo Road - Scenario 2 PM Peak

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	Aver. Back Of Queue	Prop. Qued	Eff. Stop of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. Dist]		Rate to Depart	km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m		
South: Pyramid-Yarraberb Road													
1	L2	All MCs	0	0.0	0	0.0	0.014	5.5	LOS A	0.0	0.0	0.00	57.5
2	T1	All MCs	26	12.0	26	12.0	0.014	0.0	LOS A	0.0	0.0	0.00	59.9
Approach			26	12.0	26	12.0	0.014	0.0	NA	0.0	0.0	0.00	59.9
North: Pyramid-Yarraberb Road													
8	T1	All MCs	18	17.6	18	17.6	0.039	0.0	LOS A	0.1	0.9	0.03	59.1
9	R2	All MCs	42	95.0	42	95.0	0.039	5.0	LOS A	0.1	0.9	0.12	46.8
Approach			60	71.9	60	71.9	0.039	3.5	NA	0.1	0.9	0.09	49.9
West: Boort-Mitiamo Road													
10	L2	All MCs	48	80.4	48	80.4	0.048	6.6	LOS A	0.1	0.9	0.12	50.2
12	R2	All MCs	4	50.0	4	50.0	0.048	7.0	LOS A	0.1	0.9	0.12	50.5
Approach			53	78.0	53	78.0	0.048	6.7	LOS A	0.1	0.9	0.12	50.3
All Vehicles			139	62.8	139	62.8	0.048	4.1	NA	0.1	0.9	0.08	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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F.3 Loddon Valley Highway / Boort-Mitiamo Road

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SITE LAYOUT

▽ Site: [2AM] Ex_LoddonValley_BoortMitiamo_AM (Folder1)

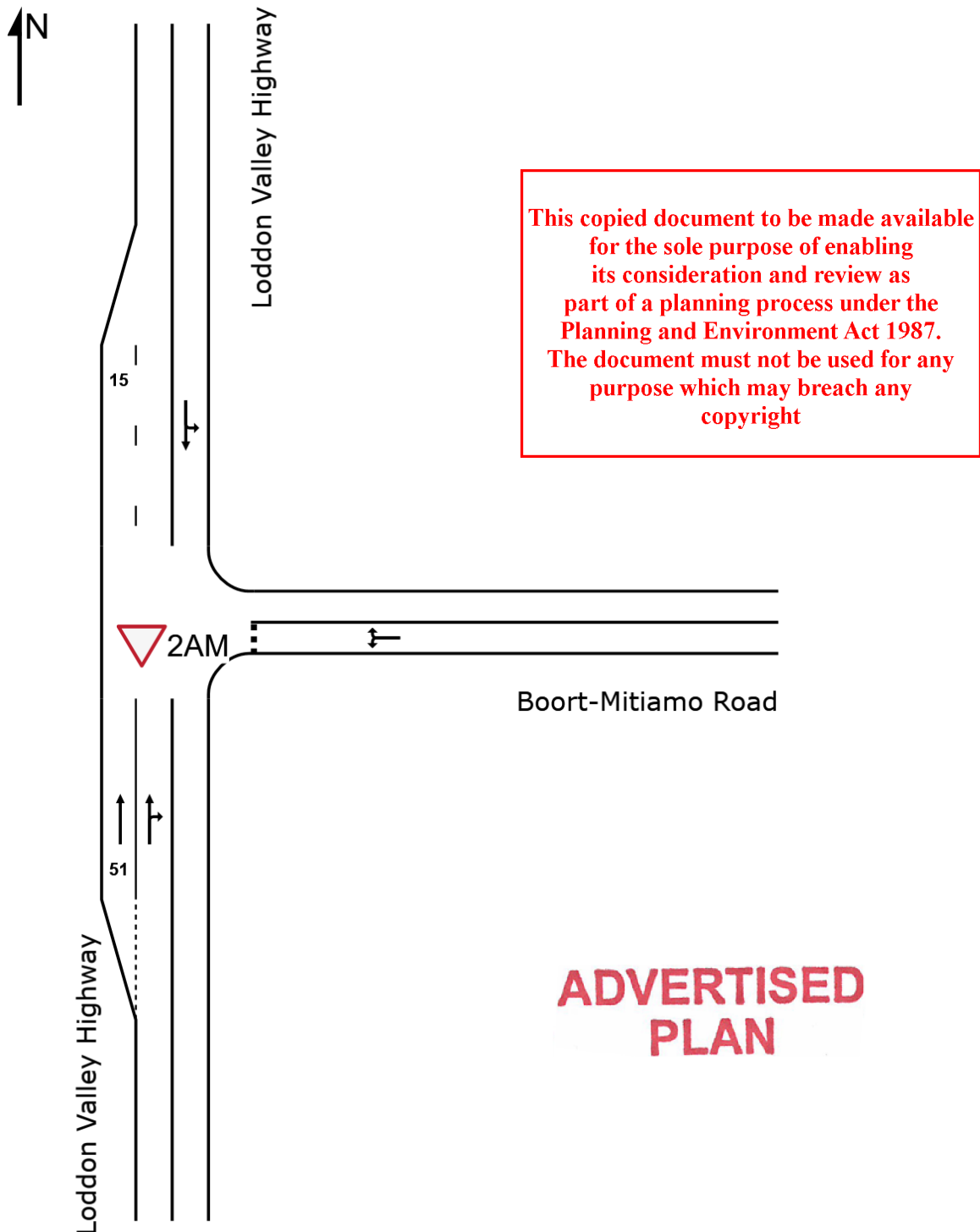
Loddon Valley Highway / Boort-Mitiamo Road - Existing AM Peak

Site Category: (None)

Give-Way (Two-Way)

Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

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Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Loddon Valley Highway / Boort-Mitiamo Road - Existing AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]			km/h
			veh/h		veh/h					veh	m			
South: Loddon Valley Highway														
2	T1	All MCs	120	36.8	120	36.8	0.063	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
3	R2	All MCs	0	0.0	0	0.0	0.063	5.5	LOS A	0.0	0.0	0.00	0.00	57.2
Approach			120	36.8	120	36.8	0.063	0.0	NA	0.0	0.0	0.00	0.00	60.0
East: Boort-Mitiamo Road														
4	L2	All MCs	2	0.0	2	0.0	0.032	6.0	LOS A	0.1	1.2	0.44	0.64	50.7
6	R2	All MCs	17	62.5	17	62.5	0.032	9.6	LOS A	0.1	1.2	0.44	0.64	48.0
Approach			19	55.6	19	55.6	0.032	9.2	LOS A	0.1	1.2	0.44	0.64	48.3
North: Loddon Valley Highway														
7	L2	All MCs	6	0.0	6	0.0	0.091	5.6	LOS A	0.0	0.0	0.00	0.03	57.2
8	T1	All MCs	144	31.4	144	31.4	0.091	0.0	LOS A	0.0	0.0	0.00	0.03	59.6
Approach			151	30.1	151	30.1	0.091	0.3	NA	0.0	0.0	0.00	0.03	59.5
All Vehicles			290	34.5	290	34.5	0.091	0.7	NA	0.1	1.2	0.03	0.06	58.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2PM] Ex_LoddonValley_BoortMitiamo_PM (Folder1)
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Loddon Valley Highway / Boort-Mitiamo Road - Existing PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]	[Dist]			
			veh/h	%	veh/h	%	v/c	sec		veh	m			km/h
South: Loddon Valley Highway														
2	T1	All MCs	251	20.2	251	20.2	0.120	0.0	LOS A	0.0	0.1	0.01	0.01	59.9
3	R2	All MCs	2	0.0	2	0.0	0.120	5.5	LOS A	0.0	0.1	0.01	0.01	57.1
Approach			253	20.0	253	20.0	0.120	0.1	NA	0.0	0.1	0.01	0.01	59.9
East: Boort-Mitiamo Road														
4	L2	All MCs	3	33.3	3	33.3	0.021	6.5	LOS A	0.1	0.7	0.45	0.61	49.2
6	R2	All MCs	9	44.4	9	44.4	0.021	10.2	LOS B	0.1	0.7	0.45	0.61	48.5
Approach			13	41.7	13	41.7	0.021	9.3	LOS A	0.1	0.7	0.45	0.61	48.7
North: Loddon Valley Highway														
7	L2	All MCs	11	40.0	11	40.0	0.077	6.0	LOS A	0.0	0.0	0.00	0.05	55.2
8	T1	All MCs	116	29.1	116	29.1	0.077	0.0	LOS A	0.0	0.0	0.00	0.05	59.6
Approach			126	30.0	126	30.0	0.077	0.5	NA	0.0	0.0	0.00	0.05	59.2
All Vehicles			392	23.9	392	23.9	0.120	0.5	NA	0.1	0.7	0.02	0.04	59.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2AM_S1] S1_LoddonValley_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Loddon Valley Highway / Boort-Mitiamo Road - Scenario 1 AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Loddon Valley Highway															
2	T1	All MCs	120	36.8	120	36.8	0.132	0.5	LOS A	0.6	6.0	0.20	0.27	0.20	57.6
3	R2	All MCs	93	50.0	93	50.0	0.132	7.0	LOS A	0.6	6.0	0.31	0.41	0.31	51.6
Approach			213	42.6	213	42.6	0.132	3.4	NA	0.6	6.0	0.25	0.33	0.25	54.8
East: Boort-Mitiamo Road															
4	L2	All MCs	38	94.4	38	94.4	0.079	7.8	LOS A	0.3	3.7	0.40	0.61	0.40	47.6
6	R2	All MCs	17	62.5	17	62.5	0.079	11.8	LOS B	0.3	3.7	0.40	0.61	0.40	48.3
Approach			55	84.6	55	84.6	0.079	9.0	LOS A	0.3	3.7	0.40	0.61	0.40	47.8
North: Loddon Valley Highway															
7	L2	All MCs	6	0.0	6	0.0	0.091	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.2
8	T1	All MCs	144	31.4	144	31.4	0.091	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach			151	30.1	151	30.1	0.091	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			418	43.6	418	43.6	0.132	3.0	NA	0.6	6.0	0.18	0.26	0.18	55.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2PM_S1] S1_LoddonValley_BoortMitiamo_PM (Folder1)
Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Loddon Valley Highway / Boort-Mitiamo Road - Scenario 1 PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	[Dist m]				km/h
South: Loddon Valley Highway															
2	T1	All MCs	251	20.2	251	20.2	0.159	0.3	LOS A	0.5	4.1	0.12	0.13	0.12	59.4
3	R2	All MCs	38	94.4	38	94.4	0.159	7.7	LOS A	0.5	4.1	0.15	0.16	0.15	52.0
Approach			288	29.9	288	29.9	0.159	1.3	NA	0.5	4.1	0.12	0.13	0.12	58.3
East: Boort-Mitiamo Road															
4	L2	All MCs	85	43.2	85	43.2	0.093	6.7	LOS A	0.4	3.6	0.29	0.56	0.29	50.3
6	R2	All MCs	9	44.4	9	44.4	0.093	11.7	LOS B	0.4	3.6	0.29	0.56	0.29	49.9
Approach			95	43.3	95	43.3	0.093	7.2	LOS A	0.4	3.6	0.29	0.56	0.29	50.3
North: Loddon Valley Highway															
7	L2	All MCs	11	40.0	11	40.0	0.077	6.0	LOS A	0.0	0.0	0.00	0.05	0.00	55.2
8	T1	All MCs	116	29.1	116	29.1	0.077	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
Approach			126	30.0	126	30.0	0.077	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.2
All Vehicles			509	32.4	509	32.4	0.159	2.2	NA	0.5	4.1	0.12	0.19	0.12	56.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2AM_S2] S2_LoddonValley_BoortMitiamo_AM
(Folder1)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

Loddon Valley Highway / Boort-Mitiamo Road - Scenario 2 AM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]	[Total HV]						[Veh.]	[Dist]		Rate to Depart		
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Loddon Valley Highway															
2	T1	All MCs	120	36.8	120	36.8	0.063	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	All MCs	0	0.0	0	0.0	0.063	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
Approach			120	36.8	120	36.8	0.063	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
East: Boort-Mitiamo Road															
4	L2	All MCs	38	94.4	38	94.4	0.072	7.8	LOS A	0.3	3.4	0.37	0.60	0.37	48.0
6	R2	All MCs	17	62.5	17	62.5	0.072	9.8	LOS A	0.3	3.4	0.37	0.60	0.37	48.7
Approach			55	84.6	55	84.6	0.072	8.4	LOS A	0.3	3.4	0.37	0.60	0.37	48.2
North: Loddon Valley Highway															
7	L2	All MCs	6	0.0	6	0.0	0.091	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.2
8	T1	All MCs	144	31.4	144	31.4	0.091	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach			151	30.1	151	30.1	0.091	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			325	41.7	325	41.7	0.091	1.5	NA	0.3	3.4	0.06	0.11	0.06	57.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: [2PM_S2] S2_LoddonValley_BoortMitiamo_PM (Folder1)
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Loddon Valley Highway / Boort-Mitiamo Road - Scenario 2 PM Peak
Site Category: (None)
Give-Way (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]						[Veh.]	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Loddon Valley Highway															
2	T1	All MCs	251	20.2	251	20.2	0.159	0.3	LOS A	0.5	4.1	0.12	0.13	0.12	59.4
3	R2	All MCs	38	94.4	38	94.4	0.159	7.7	LOS A	0.5	4.1	0.15	0.16	0.15	52.0
Approach			288	29.9	288	29.9	0.159	1.3	NA	0.5	4.1	0.12	0.13	0.12	58.3
East: Boort-Mitiamo Road															
4	L2	All MCs	39	94.6	39	94.6	0.062	7.5	LOS A	0.2	2.9	0.33	0.57	0.33	48.1
6	R2	All MCs	9	44.4	9	44.4	0.062	11.5	LOS B	0.2	2.9	0.33	0.57	0.33	49.5
Approach			48	84.8	48	84.8	0.062	8.3	LOS A	0.2	2.9	0.33	0.57	0.33	48.3
North: Loddon Valley Highway															
7	L2	All MCs	11	40.0	11	40.0	0.077	6.0	LOS A	0.0	0.0	0.00	0.05	0.00	55.2
8	T1	All MCs	116	29.1	116	29.1	0.077	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
Approach			126	30.0	126	30.0	0.077	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.2
All Vehicles			463	35.7	463	35.7	0.159	1.8	NA	0.5	4.1	0.11	0.16	0.11	57.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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