PROPOSED TERMINAL STATION

1005 BOUNDARY ROAD, TARNEIT

TRAFFIC IMPACT ASSESSMENT

PROPOSED TERMINAL STATION 1005 BOUNDARY ROAD, TARNEIT
Client: Mecone Group Pty Ltd
Report Reference: 25661TREP01
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Thursday, February 05, 2026

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CONTENTS

LIST OF FIGURES

1 INTRODUCTION

SALT has been engaged by Mecone Group Pty Ltd to undertake a traffic engineering assessment of the proposed terminal station to be located at 1005 Boundary Road in Tarneit.

In the course of preparing this report, the following has been undertaken:

- The development plans and background information have been reviewed;
- Design advice has been provided to the project team;
- Concept plans have been prepared for the access arrangements; and
- The traffic and parking implications of the proposal have been assessed.

The following sets out SALT's findings with respect to the traffic engineering matters of the proposal.

2 EXISTING CONDITIONS

2.1 LOCATION AND LAND USE

The subject site is located at 1005 Boundary Road in Tarneit. It has frontage to Boundary Road in the north, Derrimut Road to the east, and Tarneit Road to the west.

The proposal relates to development toward the eastern portion of the site, at the south-western corner of Boundary Road / Derrimut Road / Hopkins Road. The western portion of the site is under construction for a new industrial/warehouse development (Tarneit Logistics Hub).

Surrounding land is largely undeveloped or industrial or residential in nature.

Figure 1 depicts the location of the site with respect to the surrounding road network and land uses. An aerial view of the subject portion of the site is provided in Figure 2. The location of the development site (Lot 4) in relation to the larger site is depicted in Figure 3.

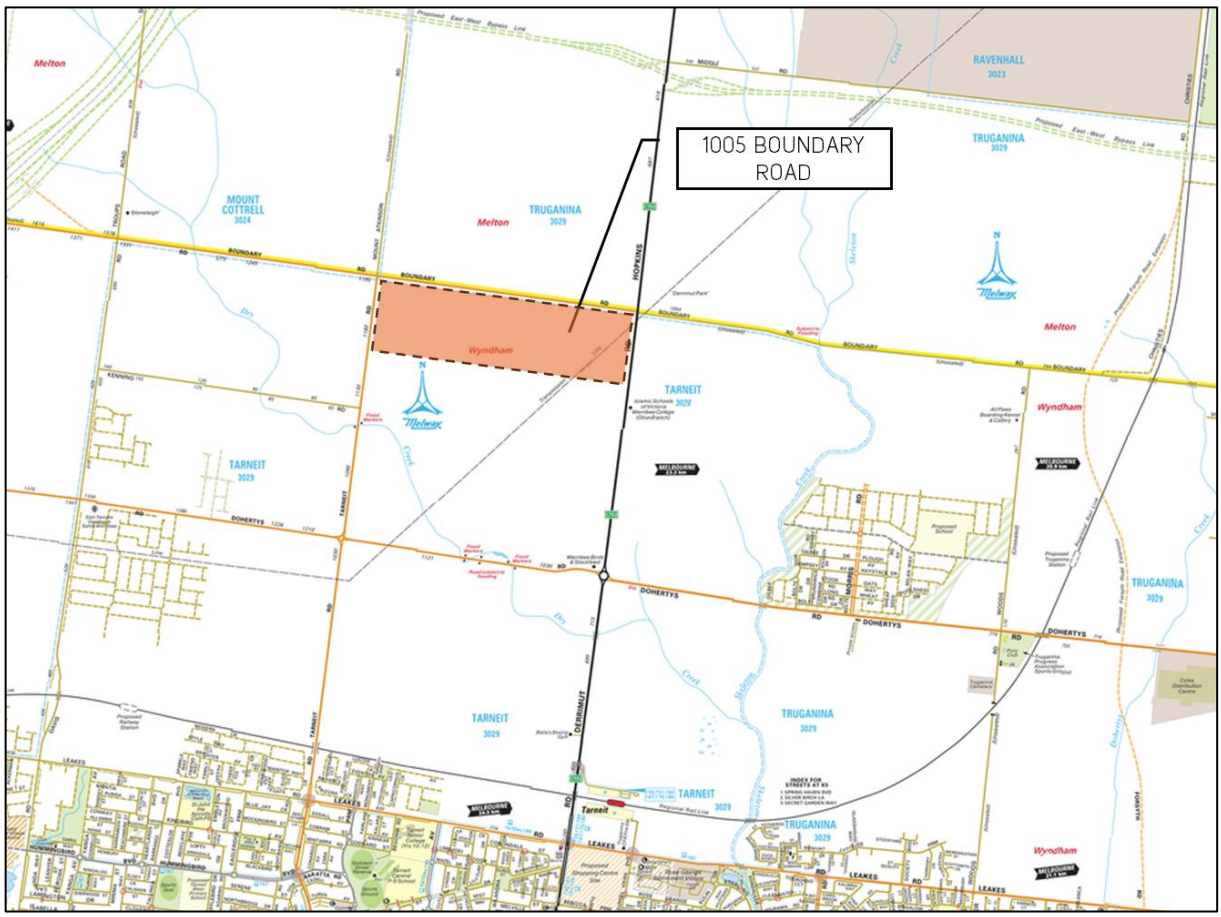


Figure 1 Subject site location

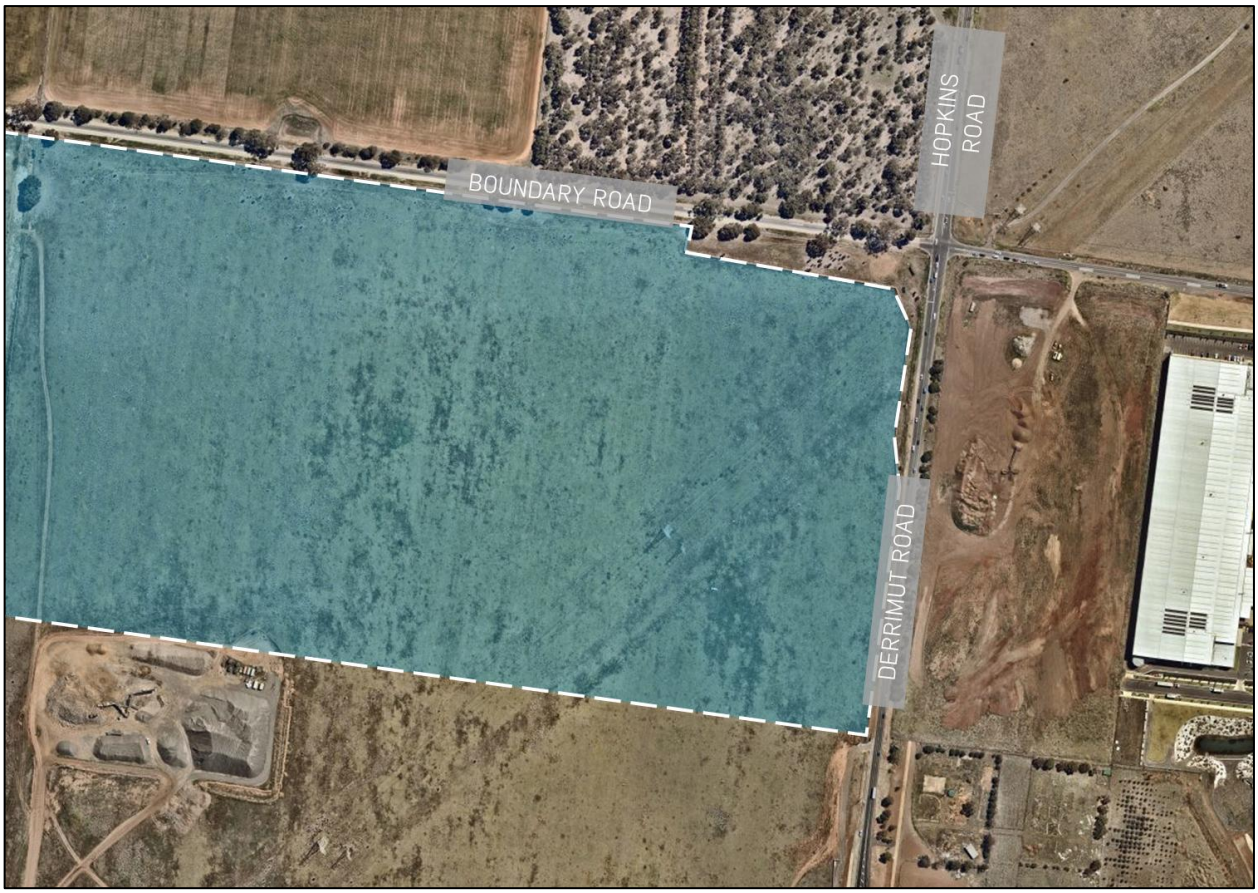


Figure 2 Aerial view of development site

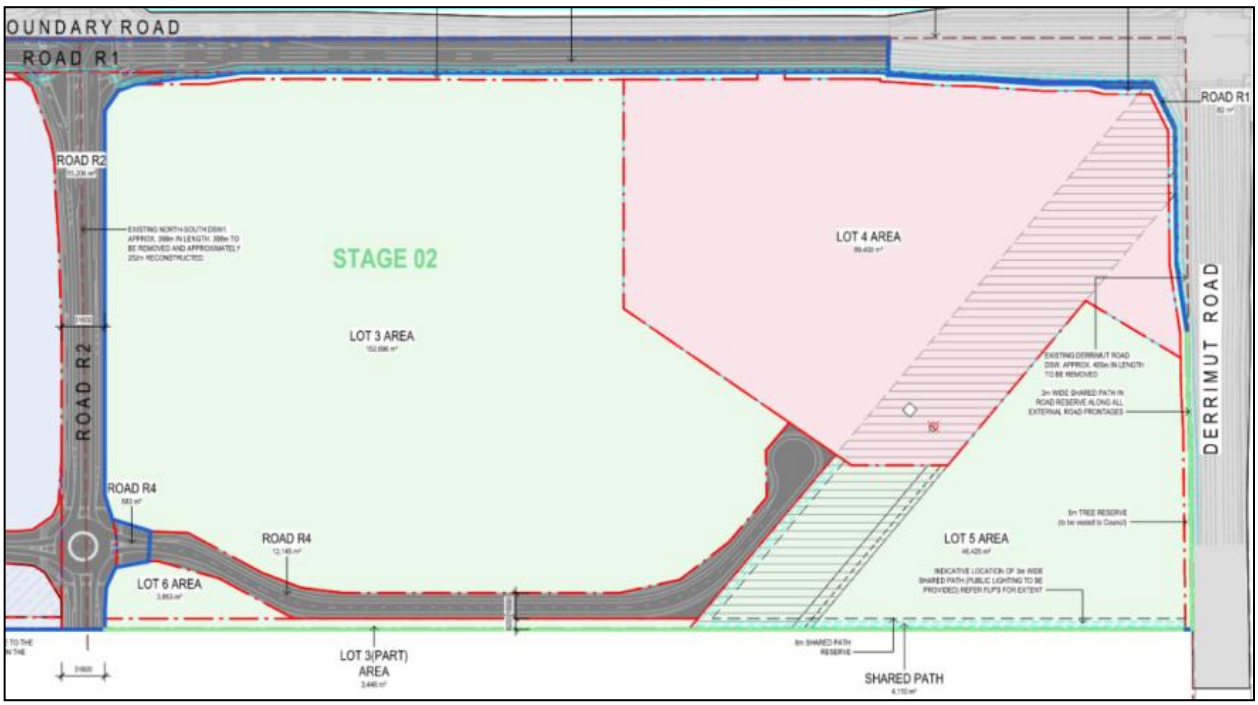


Figure 3 Development site context

2.2 ZONING AND PLANNING

The subject site lies within an Urban Growth Zone – Schedule 13 (UGZ), with sections of Special Use Zone – Schedule 7 (SUZ7) and Transport Network Zone 2 – Principal Road Network (TRZ2) under the Wyndham Planning Scheme, as depicted in Figure 4.

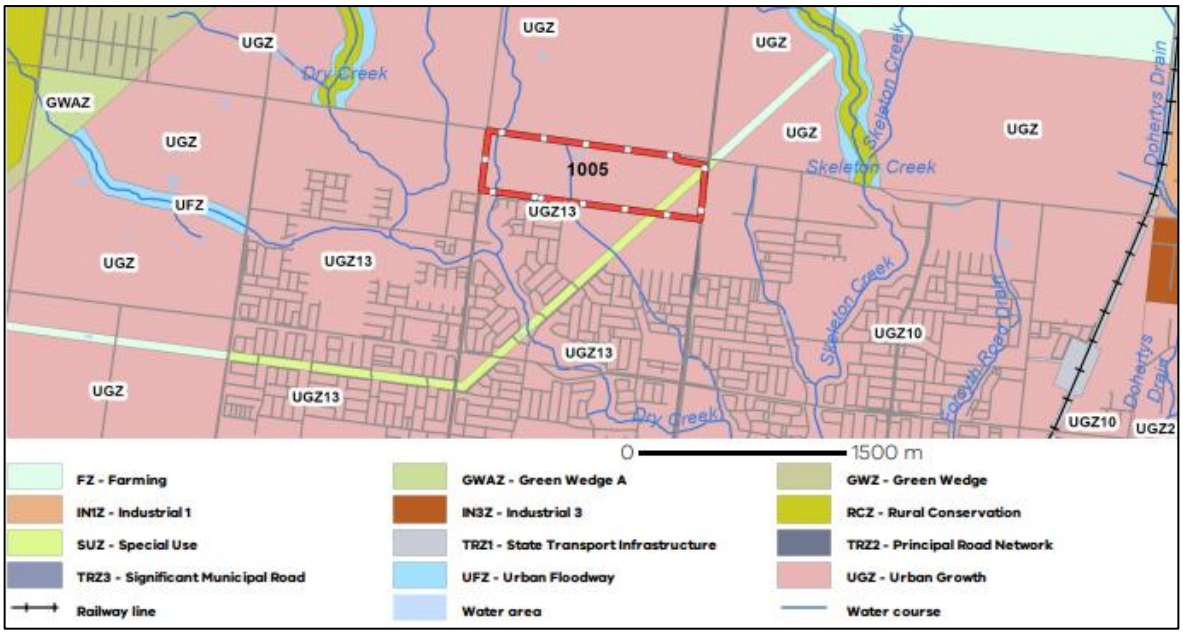


Figure 4 Local planning map

UGZ7 relates to the site being located within the Tarneit North Precinct Structure Plan, as depicted in Figure 5. Clause 3.3 of Schedule 13 to Clause 37.07 Urban Growth Zone requests the following:

An application that proposes to create or change access to a primary or secondary arterial road must be accompanied by a Traffic Impact Assessment Report (TIAR). The TIAR, including functional layout plans and a feasibility / concept road safety audit, must be to the satisfaction of VicRoads or Wyndham City Council, as required.

This report provides the requested TIAR including concept layout plans. A Road Safety Audit will be undertaken separately.

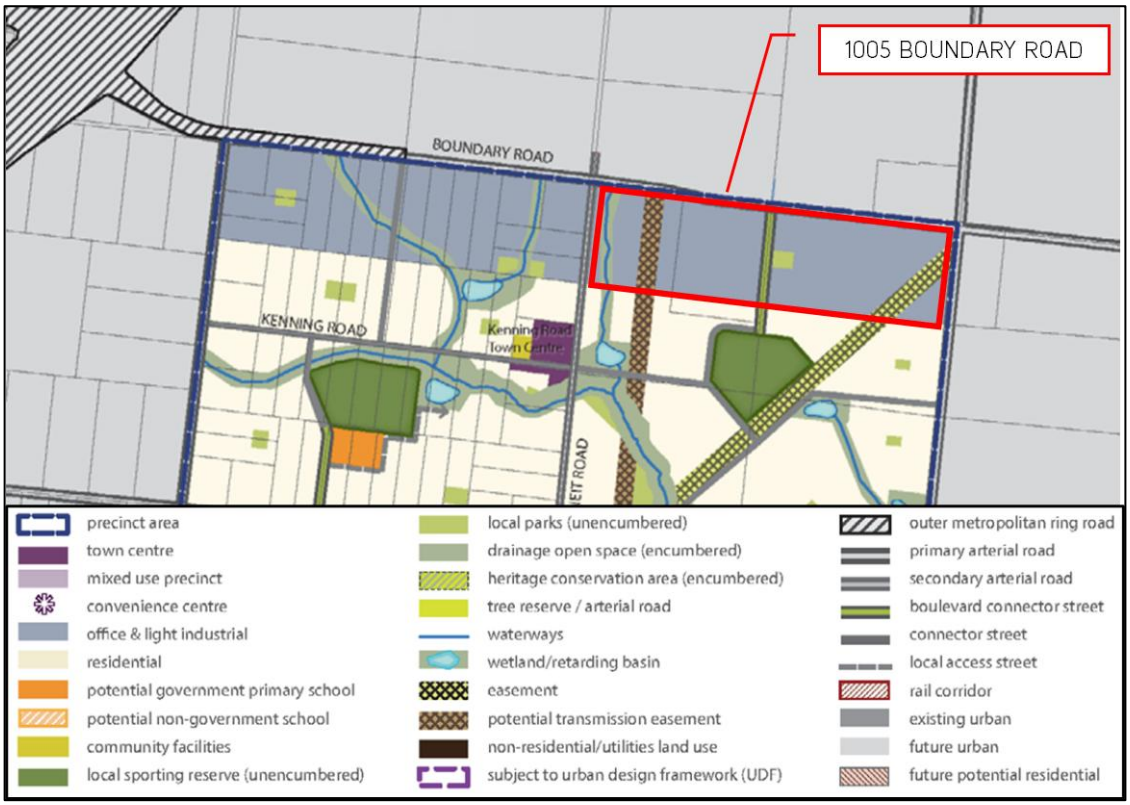


Figure 5 Tarneit North PSP land use diagram

It is also subject to the following overlays:

- Development Contributions Plan Overlay – Schedule 13 (DCPO13)
- Design and Development Overlay – Schedule 11 (DDO11)
- Public Acquisition Overlay – PS Map Ref PA01 (PAO1)
- Public Acquisition Overlay – PS Map Ref PA02 (PAO2)

Schedule 11 to Clause 43.02 Design and Development Overlay specifies the following, relevant from a traffic engineering perspective.

Car parking, vehicle access and loading

A new development should be planned to achieve the following:

- Car parking and loading facilities to the side or rear of any buildings, with limited visitor parking incorporated in frontage areas.
- Encourage shared parking areas for large developments.
- Include trees spaced evenly throughout the car park at a ratio of 1 every 6 bays.
- Clear pedestrian paths that are separated from main vehicle access ways.
- Minimisation of vehicle crossovers.
- Loading and servicing should generally be located away/out of view from street, residential interface or creek/public realm interface.

Application requirements

The following application requirements apply to an application for a permit under Clause 43.02, in addition to those specified elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- A Traffic Management Report that addresses traffic movements, traffic management measures and parking requirements and provisions, bicycle parking provisions and pedestrian and vehicle circulation.

SALT has prepared a separate Traffic Management Report (refer 25661TRE002F01).

2.3 ROAD NETWORK

2.3.1 BOUNDARY ROAD

At the site frontage, Boundary Road is under the jurisdiction of Wyndham City Council. It extends in a generally east-west alignment and provides one traffic lane in each direction. On-street parking is not facilitated. Pedestrian footpaths are not currently provided on either side of Boundary Road.

A posted speed limit of 60km/hr applies.

2.3.2 DERRIMUT ROAD

At the site frontage, Derrimut Road is under the jurisdiction of Department of Transport and Planning (DTP). North of Boundary Road, it continues as Hopkins Road.

Derrimut Road extends in a generally north-south alignment and generally provides one traffic lane in each direction. An additional lane is provided on the northern and southern approaches to the intersection with Boundary Road. On-street parking is not facilitated. Pedestrian footpaths are not currently provided on either side of Boundary Road.

A posted speed limit of 60km/hr applies.

2.3.3 FUTURE ROAD UPGRADES

Within the Tarneit North PSP, both Boundary Road and Derrimut Road are identified as 6 lane arterial roads, as depicted in Figure 6, with the cross-section provided in Figure 7.

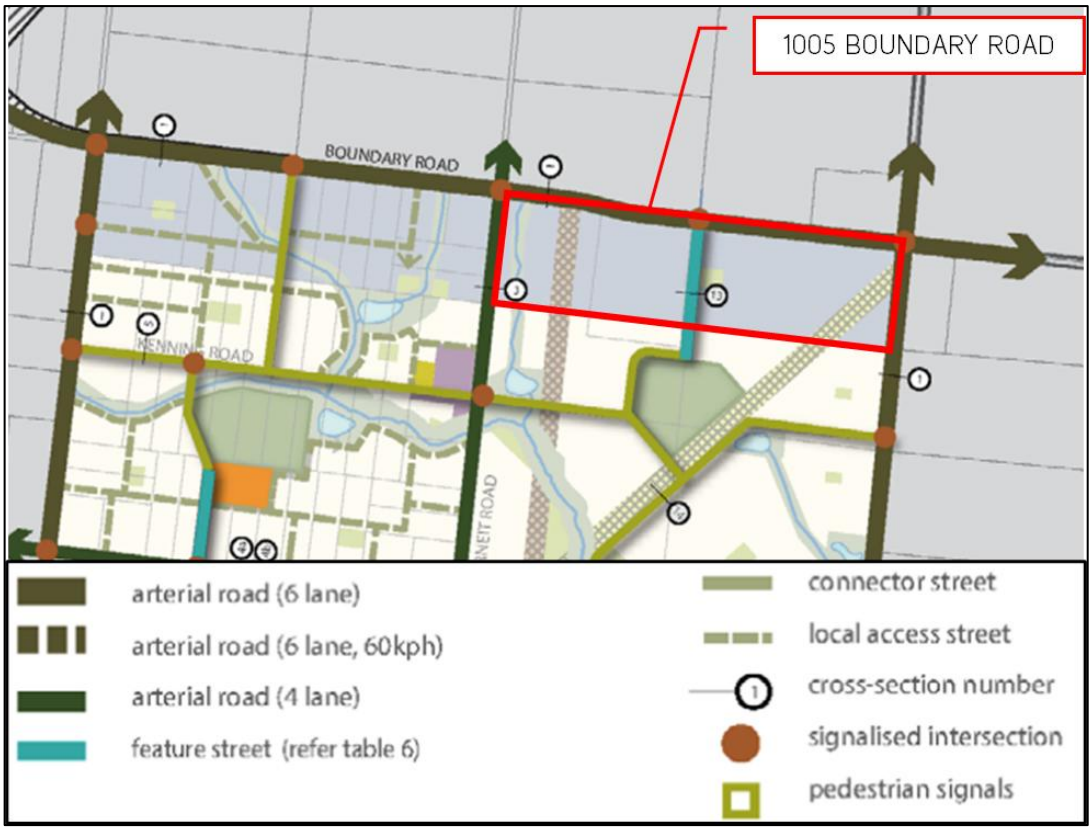


Figure 6 Tarneit North PSP road network

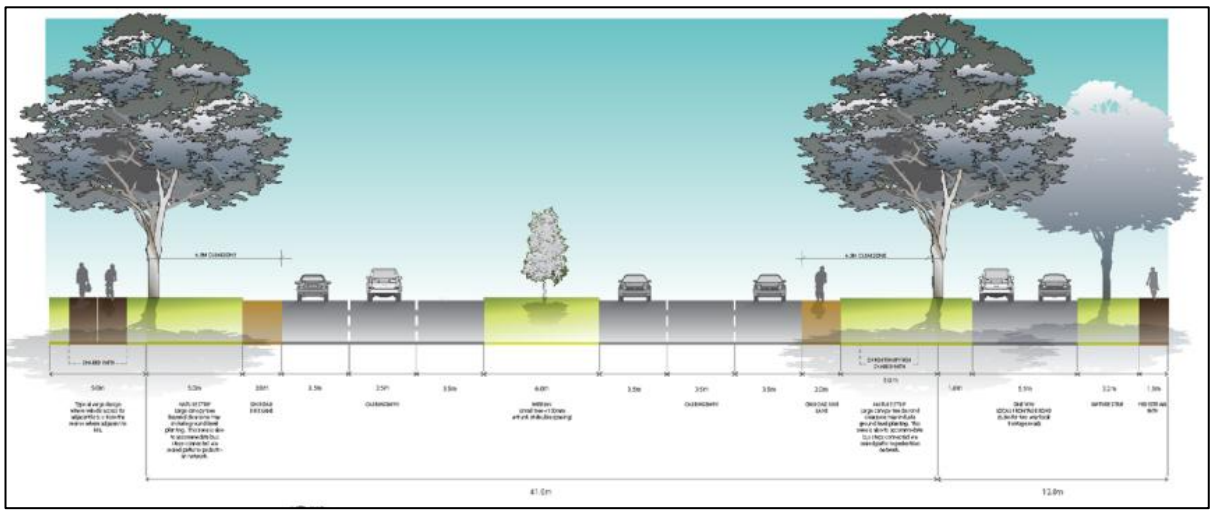


Figure 7 Tarneit North PSP arterial road cross section

The intersection of Boundary Road and Derrimut Road is to be signalised, as identified in the PSP in Figure 6.

Boundary Road is set to be upgraded in stages, in the vicinity of the site, including:

- A new signalised intersection with the Charter Hall estate road to the west of the subject site. This is currently under design development.
- A signalised intersection with Hopkins Road / Derrimut Road to be delivered by MRVP/DTP. At the time of writing, this is in planning (refer Figure 8), with site investigations underway. The intersection is currently provided with temporary traffic lights. Reduced speed limits of 40km/hr are provided on all approaches to the temporary signals.

Figure 9 depicts the future road upgrades in the vicinity of the subject site and the proposed access.

Figure 8 Boundary Road / Derrimut Road upgrade diagram (source: Transport Victoria)

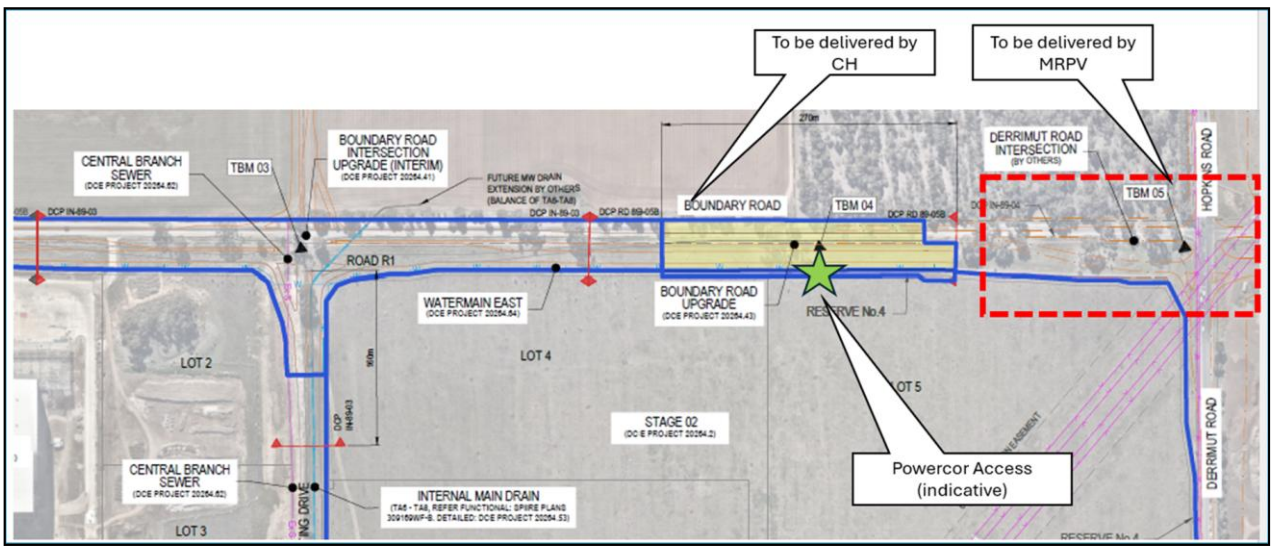


Figure 9 Road upgrade diagram

2.4 SUSTAINABLE TRANSPORT

The site currently has limited sustainable transport opportunities, with no train or bus routes operating within walking distance, and no formal pedestrian or cycling facilities.

Tarneit train station is situated approximately 3.5km to the south.

The Tarneit North PSP shows future sustainable transport improvements, as depicted in Figure 10, including:

- Boundary Road and Derrimut Road to be bus capable arterial roads
- On-road bike lanes and shared paths on Boundary Road and Derrimut
- New Tarneit West train station (set to open in 2026)

Figure 10 Tarneit North PSP sustainable transport

2.5 TRAFFIC VOLUMES

The Department of Transport (DTP) Open Data Hub provides traffic volume information for both Boundary Road and Derrimut Road.

The Annual Average Daily Traffic (AADT) volumes and percentage of heavy vehicles (% HV) on Boundary Road and Derrimut Road in both directions are depicted in Figure 11.

Figure 11 Traffic volumes (source: DTP Open Data Hub)

3 PROPOSAL

It is proposed to develop the site to provide a terminal station (utility installation). This is to be situated to the north-eastern corner of the property at 1005 Boundary Road.

Vehicular access is proposed from both Boundary Road and an internal road connecting to the western portion of the wider property (Road R4 in Figure 3). Access from Boundary Road is proposed to function as the main access in the short-term and during construction. In the long-term, the access from Road R4 is proposed to be the main access (following upgrade of Boundary Road).

The terminal station is expected to attract very little vehicular traffic on a day-to-day basis. There is expected to be two (2) attendances to the site each month for the purpose of operations and maintenance. Under usual circumstances, a maximum of two (2) staff may attend the site at any one time, and no visitors are expected. Vehicular traffic may be increased only in the circumstance that items need to be replaced or if there is a significant fault.

Typically, vehicle types attending the site will be light truck or utility vehicles.

A parking area is proposed adjacent the control room, which can accommodate trucks and staff cars. This would have capacity for five (5) staff cars parked at 90-degrees, with potential for another five (5) cars to park in tandem. Alternatively, it could store vehicles up to 15m in length without encroaching into the accessway.

The development plans assessed by this report are provided in APPENDIX 1.

SALT has prepared Concept Layout Plans for the access arrangement, as provided in APPENDIX 2.

4 TRAFFIC CONSIDERATIONS

4.1 TRAFFIC GENERATION

The proposed terminal station is expected to generate minimal traffic movements. As per the above indicated operations, the station may see attendance of up to two (2) staff members at any one time.

Conservatively, if these staff members were to arrive and depart in the same peak hour, the terminal station may generate up to four (4) vehicle movement in an hour (2 arriving and 2 departing).

4.2 TRAFFIC DISTRIBUTION

The distribution of traffic can be estimated based on the layout of the surrounding road network, locations of nearby employment and residential precincts and existing distribution of traffic.

The critical point of access to assess in this case is the entry/exit from Boundary Road, being the main entrance in the interim arrangement.

As per the existing traffic volume information for Boundary Road., traffic volumes are approximately equal in both directions on Boundary Road. Applying this to the proposed peak traffic generation, the terminal station may generate one (1) vehicle turning both right and left into the site, and one (1) vehicle turning both right and left out of the site.

The resulting estimated traffic distribution is depicted in Figure 12.

Figure 12 Estimated traffic distribution

4.3 TRAFFIC IMPACTS

The level of traffic anticipated to be generated by the proposal is negligible and is not expected to have any adverse impact on the operation of the surrounding road network.

The addition of up to four (4) vehicles entering or exiting the site in an hour equates to one vehicle arriving or departing every 15 minutes on average.

It is expected that this can be readily accommodated by the surrounding road network.

It is further reiterated that the access on Boundary Road will provide the main site access during the short-term interim arrangement only. In the long term, when road upgrades are completed and the southern internal road is constructed, the Boundary Road access will provide restricted, secondary access only.

5 VEHICLE ACCESS ARRANGEMENTS

The terminal station is proposed to be provided with vehicle access from Boundary Road, and an internal road connecting to the western portion of the site (Road R4). The access on Boundary Road will provide an interim access arrangement (and construction access). Ultimately, the access to the south will form the main site access, with the Boundary Road access providing limited access.

The following section assesses the design and function of the Boundary Road access.

5.1 ACCESS CONCEPT DESIGN

SALT has prepared a Concept Layout Plan for the proposed interim site access on Boundary Road, as depicted in Figure 13 and provided in APPENDIX 2.

Considering the very low traffic volumes anticipated to enter and exit the site on a day-to-day basis, and relatively low peak hour traffic along the site frontage on Boundary Road, it is not deemed necessary to provide turn treatments to the site access.

The access has been designed to accommodate key vehicles expected to require access to the site including light trucks/utility vehicles and two passenger vehicles entering and exiting simultaneously, as demonstrated by swept path analysis, with diagrams provided in APPENDIX 3.

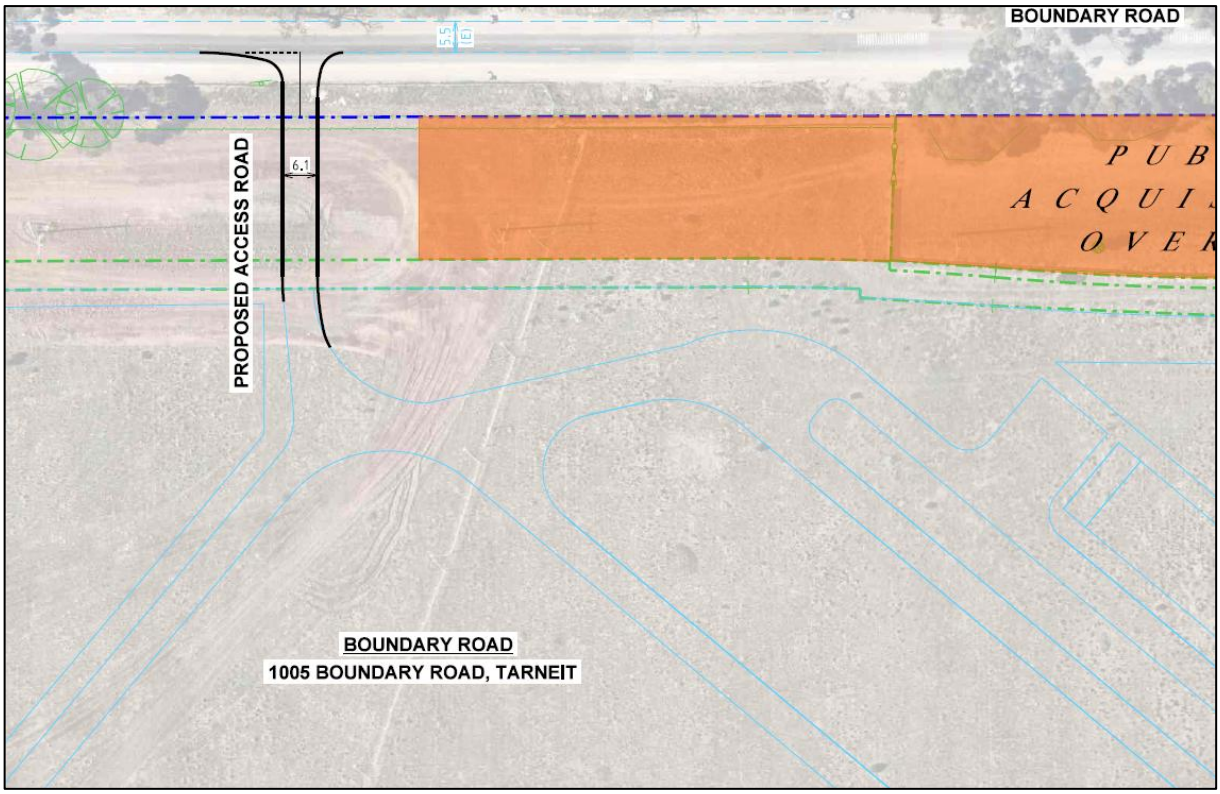


Figure 13 Access concept design

5.2 ACCESS LOCATION AND SIGHT DISTANCES

The access on Boundary Road has been situated outside of the Public Acquisition Overlay (PAO) and suitably distanced approximately 320m from the nearby intersection with Derrimut Road / Hopkins Road.

The Austroads Guide to Road Design Part 4A specifies the minimum required Safe Intersection Sight Distance (SISD) as presented in the following diagrams. This is more applicable to road intersections rather than property access driveways, however, is applied here as a conservative assessment.

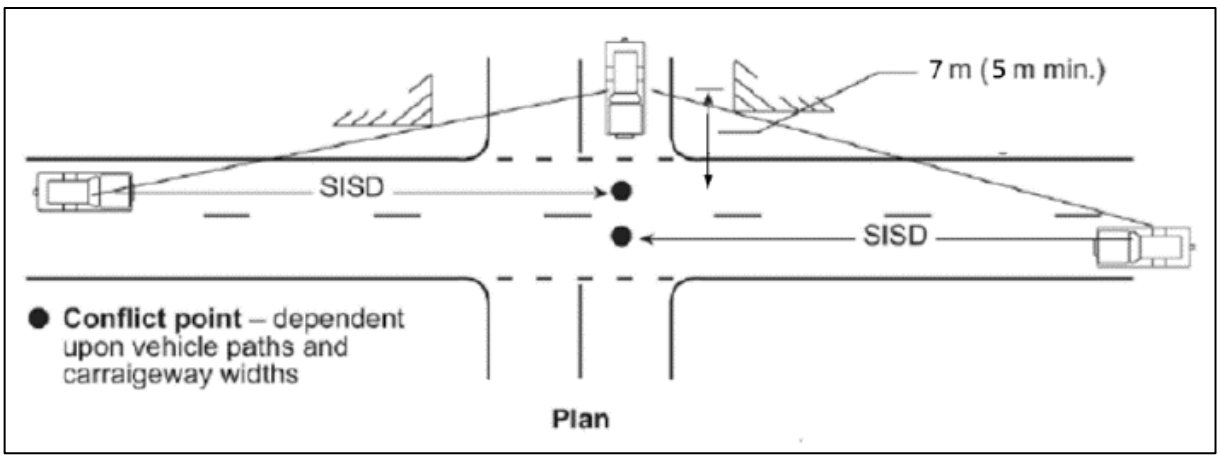


Figure 14 Austroads sight distance diagram

Table 3.2: Safe intersection sight distance (SISD) and corresponding minimum crest vertical curve size for sealed roads (S < L)

Design speed (km/h)	Based on safe intersection sight distance for cars[1] h_1 = 1.1; h_2 = 1.25, d = 0.36[2]; Observation time = 3 sec					
	R_T = 1.5 sec[3]		R_T = 2.0 sec		R_T = 2.5 sec	
	SISD (m)	K	SISD (m)	K	SISD (m)	K
40	67	4.9	73	6	–	–
50	90	8.6	97	10	–	–
60	114	14	123	16	–	–
70	141	22	151	25	–	–
80	170	31	181	35	–	–
90	201	43	214	49	226	55
100	234	59	248	66	262	74
110	–	–	285	87	300	97
120	–	–	324	112	341	124
130	–	–	365	143	383	157

Figure 15 Austroads sight distance requirements

The required sight distances are presented in Figure 16 with the red lines showing the lines of sight for vehicles turning out of the site. This shows that there are no major obstructions within the required sight lines. The sight lines do not extend through any property boundaries so, will not be inhibited by development.

Figure 16 Sight distance diagram

6 CAR PARKING ASSESSMENT

6.1 STATUTORY REQUIREMENTS

Table 1 of Clause 52.06 of the Planning Scheme specifies the car parking requirements applicable for various development types. No parking rate is provided for a utility installation land use; rather parking is to be provided to the satisfaction of the responsible authority.

The following outlines the likely car parking demands and adequacy of the proposed parking provisions.

6.2 ADEQUACY OF CAR PARKING PROVISIONS

The proposed terminal station is expected to accommodate up to two (2) staff members on-site at any one time under most circumstances. A parking area is proposed adjacent the control room which has more than sufficient capacity to accommodate the two (2) staff vehicles, as well as a servicing/maintenance vehicle.

In the rare circumstance that items need to be replaced or there is a significant fault, more staff may be required on-site. In this case, up to 10 cars can park in tandem adjacent the control room, with additional capacity along the accessway in front of the control room.

7 BICYCLE PARKING

Table 1 of Clause 52.34 of the Planning Scheme specifies the bicycle parking requirements applicable to various developments. No bicycle parking rate is provided for a utility installation land use; rather bicycle parking is to be provided to the satisfaction of the responsible authority.

Considering the proposed land use and location with no cycling facilities within the direct vicinity, it is considered unlikely that any staff or visitors would cycle to the site. It is therefore not considered necessary to provide formal on-site bicycle parking facilities.

8 SERVICING AND MAINTENANCE

The site may require access by commercial vehicles for servicing and maintenance, including light trucks and utility vehicles. These can suitably enter and exit the site in a forward direction and circulate the internal road network.

Swept path analysis has been conducted to demonstrate servicing and maintenance vehicle movements, with diagrams provided in APPENDIX 3.

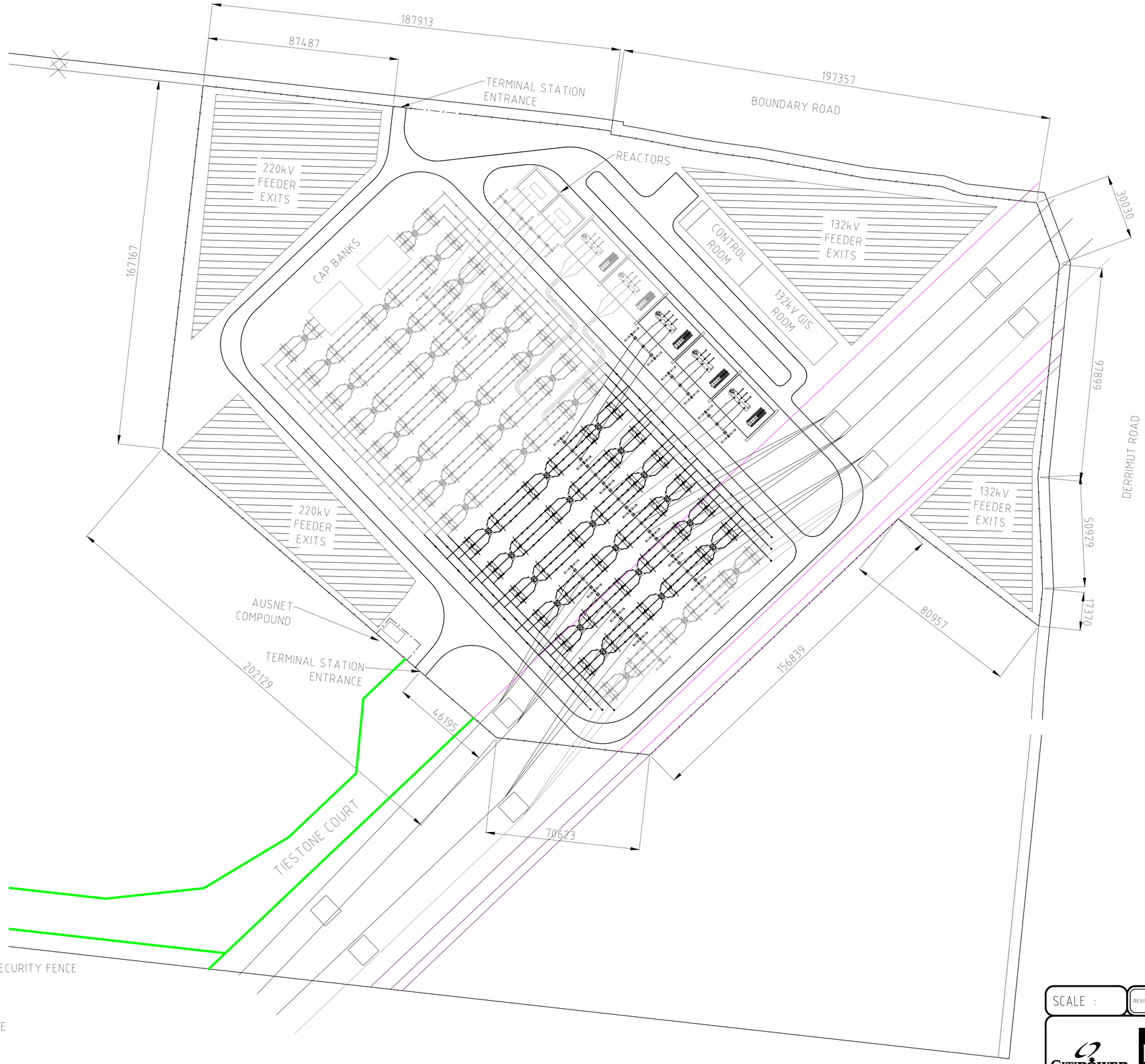
9 CONCLUSION

Based on the preceding assessment, the following can be concluded:

- It is proposed to use the north-eastern portion of the site at 1005 Boundary Road, Tarneit for a new terminal station (utility installation).
- The proposal is expected to generate minimal traffic on a day-to-day basis, with up to four (4) staff members on-site under normal circumstances.
- The level of traffic generated is not anticipated to have any significant impact on the surrounding road network, nor warrant the need for turn lane treatments at the site access on Boundary Road.
- The site access arrangements have been designed to accommodate key design vehicles, are suitably distanced from the nearby intersection and achieves sufficient sight distances.
- The Boundary Road access will provide the main site access during the short-term interim arrangement. In the long-term, this will provide restricted access, with the access to the south being the main entrance.
- There are no statutory car parking requirements applicable to the development, rather parking is to be provided to the satisfaction of the responsible authority. Adequate space is provided next to the control room to accommodate the rare occurrence of staff or maintenance vehicles on-site.
- There are no statutory bicycle parking requirements applicable to the development. No formal bicycle parking spaces are proposed, as is appropriate considering the site location and proposed land use.
- Suitable provisions have been made for commercial vehicles for servicing and maintenance.

Therefore, the proposal is supported from a traffic engineering perspective.

APPENDIX 1 DEVELOPMENT PLANS



LEGEND:

- PERIMETER SECURITY FENCE
- EASEMENTS
- ROAD OUTLINE
- FUTURE

REFERENCE	
-	
-	
-	
-	
-	
-	

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE :

REVISION	02/02/26	UPDATED SUB-DIVISION PLAN (303831-ST02)	DT

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Powercor AUSTRALIA

Electricity Networks
Locked Bag 14090
Melbourne 8001
www.citipower.com.au
www.powercor.com.au

DRAWING NUMBER	6057342-SKT-PRI-052-06	-.1	

TERMINAL STATION
220/132kV
GENERAL ARRANGEMENT (STAGE 1)

DRAWN	DRAFTING CHECK	DESIGNER	DESIGN APPROVAL	PROJECT MANAGER
D.TROMBETTA 02/02/26				

Electricity Networks - Zone Substations A0 - V1.0

801x1133

A0

APPENDIX 2 ACCESS DESIGN PLANS

BOUNDARY ROAD

PUBLIC ACQUISITION OVERLAY

PROPOSED ACCESS ROAD

6.1

5.5

LEG

DERRIMUT ROAD

PROPOSED RESERVE

BOUNDARY ROAD

1005 BOUNDARY ROAD, TARNEIT

DRAFT CONCEPT PLAN

FOR DISCUSSION PURPOSES ONLY

This draft plan has been prepared to show a concept for discussion purposes only and has no formal or official status.

MECONE

MOUNT COTTRELL TERMINAL STATION

1005 BOUNDARY ROAD, TARNEIT

PROPOSED ACCESS ROAD

CONCEPT LAYOUT PLAN

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MELWAY MAP REF 359 G6

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DRAWING NUMBER	REVISION
SALT-25661-SK-003	2

BY: chris.santoupet

DATE: 01/19/26 16:18:48

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APPENDIX 3 SWEPT PATH DIAGRAMS

BY: chris.santoupet
DATE: 01/19/26 16:24:15

BOUNDARY ROAD

5.2m PASSENGER SWEPT PATH
(0.5m CLEARANCE SHOWN)
EGRESS

5.2m PASSENGER SWEPT PATH
(0.5m CLEARANCE SHOWN)
INGRESS

5.5 (E)

MATCH INTO EXISTING (TYP.)

50.0R

4.0R

4.0R

20.0R

EXISTING PROPERTY BOUNDARY

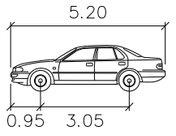
PROPOSED ACCESS ROAD

6.1

47.0R

PUBLIC ACQUISITION OVERLAY

DESIGN VEHICLE:



PASSENGER–CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

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MECONE

MOUNT COTTRELL TERMINAL STATION

1005 BOUNDARY ROAD, TARNEIT

CONCEPT LAYOUT PLAN

5.2m PASSENGER CAR SWEPT PATH ANALYSIS

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MELWAY MAP REF
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SALT-25661-SK-001		2

BY: chris.santoupet
DATE: 01/19/26 16:26:36

8.8m MRV SWEPT PATH
(0.5m CLEARANCE SHOWN)
INGRESS

BOUNDARY ROAD

8.8m MRV SWEPT PATH
(0.5m CLEARANCE SHOWN)
INGRESS

5.5

MATCH INTO EXISTING (TYP.)

8.8m MRV SWEPT PATH
(0.5m CLEARANCE SHOWN)
EGRESS

EXISTING PROPERTY BOUNDARY

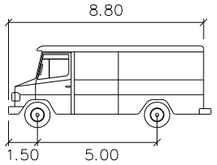
PROPOSED ACCESS ROAD

6.1

PUBLIC ACQUISITION OVERLAY

CHECKING VEHICLE:

8.80



1.50 5.00

SERVICE VEHICLE

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

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MOUNT COTTRELL TERMINAL STATION

1005 BOUNDARY ROAD, TARNEIT

CONCEPT LAYOUT PLAN

8.8m MRV SWEPT PATH ANALYSIS

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SCALE: 1:250 @ A3

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