Gove Drive/Blyth Court/ Wild Avenue, Moama

Truck service depot

Traffic Impact Assessment Report

Client:

AG Bulktrans Pty Ltd

Project No. 220148

FINAL Report – 02/12/22

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EXECUTIVE SUMMARY

AG Bulktrans Pty Ltd has engaged Trafficworks to undertake a traffic impact assessment for the proposed truck service depot in Moama at the following locations:

- 23 Wild Avenue, Lot 45 of DP1175457
- 25 Wild Avenue, Lot 46 of DP1175457
- 17 Gove Drive, Lot 47 of DP1175457
- 2 Blyth Court, Lot 48 of DP1175457.

The development on the subject site will be used to service, repair and maintain trucks. The subject site is currently vacant and located within an industrial zone (IN1: general industrial) approximately 3 km northwest of the Moama CBD.

This report outlines the estimated traffic volume and parking demand the proposed development will generate and the impact on the surrounding road network.

A summary of the subject site and the proposed development is shown below.

Address	• 23 Wild Avenue, Moama Lot 45 of DP1175457 • 25 Wild Avenue, Moama Lot 46 of DP1175457 • 17 Gove Drive, Moama Lot 47 of DP1175457 • 2 Blyth Court, Moama Lot 48 of DP1175457
Zoning	Industrial zone (IN1: general industrial)
Proposed development	Truck service depot
Road network	Blyth Court, Gove Drive and Wild Avenue • 50 km/h speed limits • local roads
Recommendations	It is recommended that: • **Recommendation 1:** ensure that trucks can enter the warehouse, park at the fuel tank, and exit the subject site in a forward direction • **Recommendation 2:** the security gates should be setback such that a B-triple truck can stop at the gate without obstructing the road • **Recommendation 3:** ensure a minimum height clearance of 5 m is provided within the warehouse for loading.

Referenced documents

References used in the preparation of this report include the following:

- *RTA Guide to Traffic Generating Developments – Version 2.2A 2002*
- *Austroads Guide to Road Design*
  - *Part 4: Intersections and Crossings - General*
  - *Part 4A: Unsignalised and Signalised Intersections*
- *Murray River Council:*
  - *Local Environmental Plan 2011*
  - *Development Control Plans*

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1 INTRODUCTION

AG Bulktrans Pty Ltd has engaged Trafficworks to undertake a traffic impact assessment for the proposed truck service depot in Moama.

This report outlines the estimated traffic volume and parking demand the proposed development will generate and the impact on the surrounding road network.

2 EXISTING CONDITIONS

2.1 Subject site

The proposed transport depot development is located on the following lots in Moama:

- 23 Wild Avenue, Lot 45 of DP1175457
- 25 Wild Avenue, Lot 46 of DP1175457
- 17 Gove Drive, Lot 47 of DP1175457
- 2 Blyth Court, Lot 48 of DP1175457.

The subject site is currently vacant and located approximately 3 km northwest of Moama CBD. The subject site is within an industrial zone (IN1: general industrial) surrounded by farmland (to the north, west and south) and other industrial businesses (to the east).

The subject site and the surrounding environment are shown in Figures 1 and 2.

Figure 1: Location Plan (source: google.com/map)

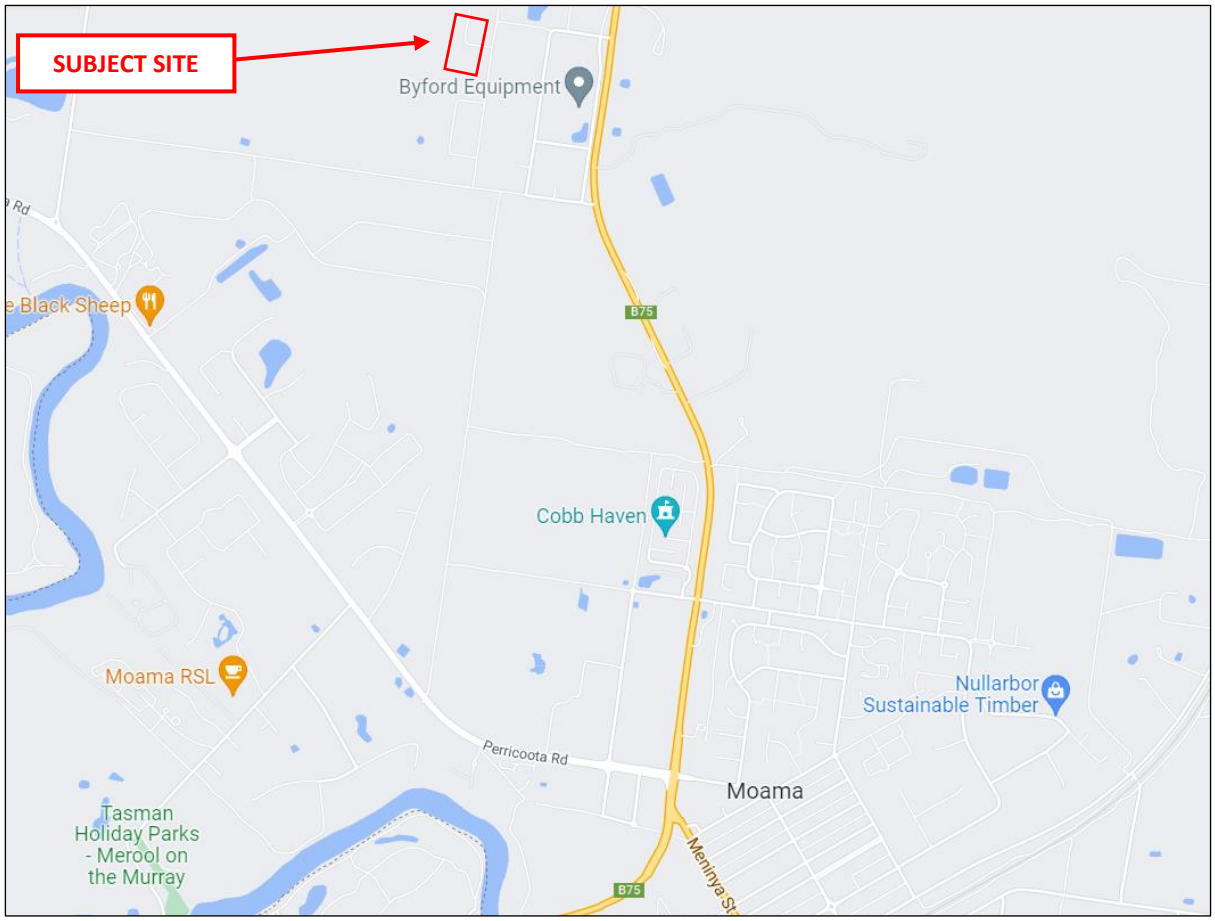
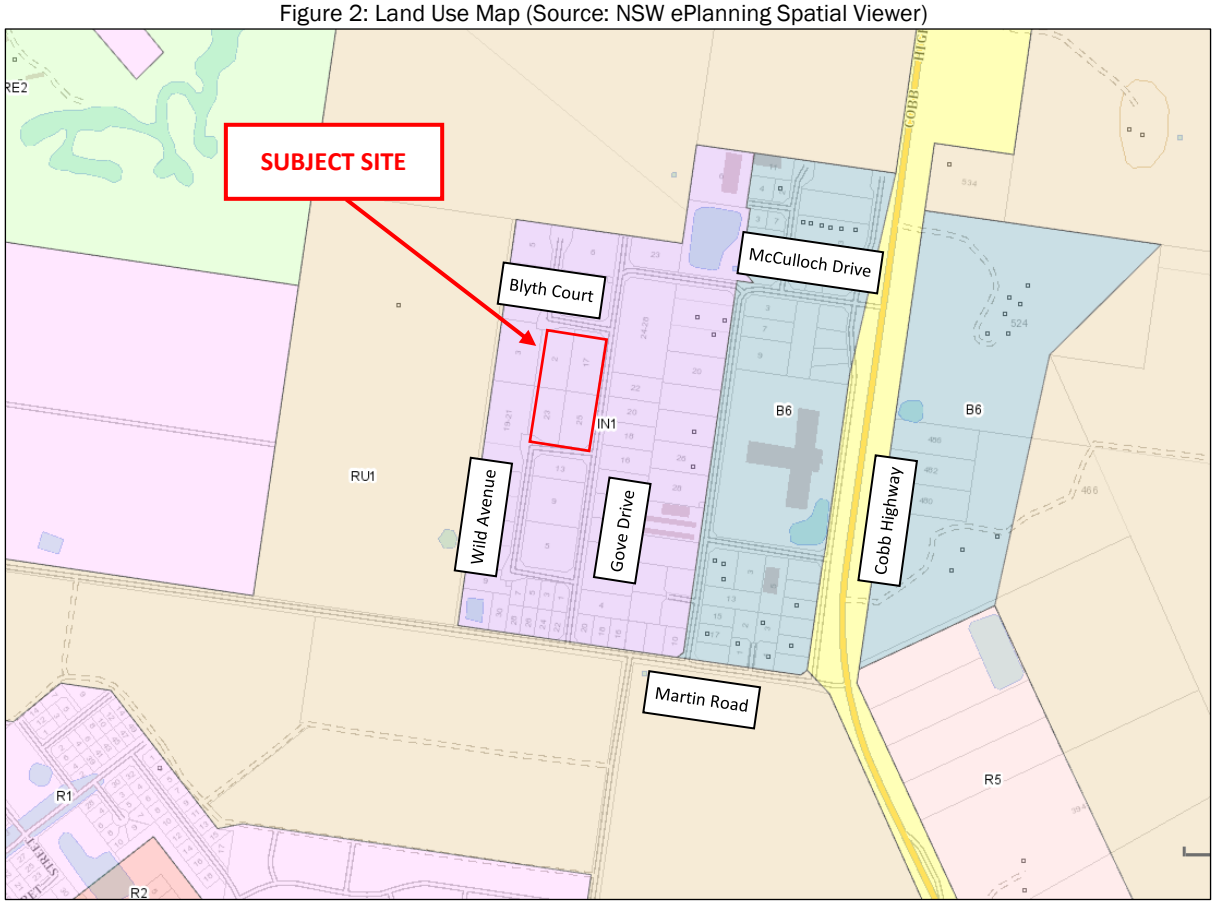


Figure 2: Land Use Map (Source: NSW ePlanning Spatial Viewer)



2.2 Road network

Gove Drive is a local street providing access to McCulloch Drive to the north and Martin Road (Beer Road) to the south. Gove Drive is a 10.5 m wide two-way two-lane undivided carriageway. The default urban speed limit of 50 km/h applies to Gove Drive.

Figure 3: Gove Drive at Blyth Court – facing south

Figure 4: Gove Drive at Wild Avenue - facing north

Blyth Court is a local street providing access to Gove Drive to the south and ends with a court bowl to the north. Blyth Court is a 10.5 m wide two-way two-lane undivided carriageway. The default urban speed limit of 50 km/h applies to Blyth Court.

Figure 5: Blyth Court – facing east

Figure 6: Blyth Court – facing west

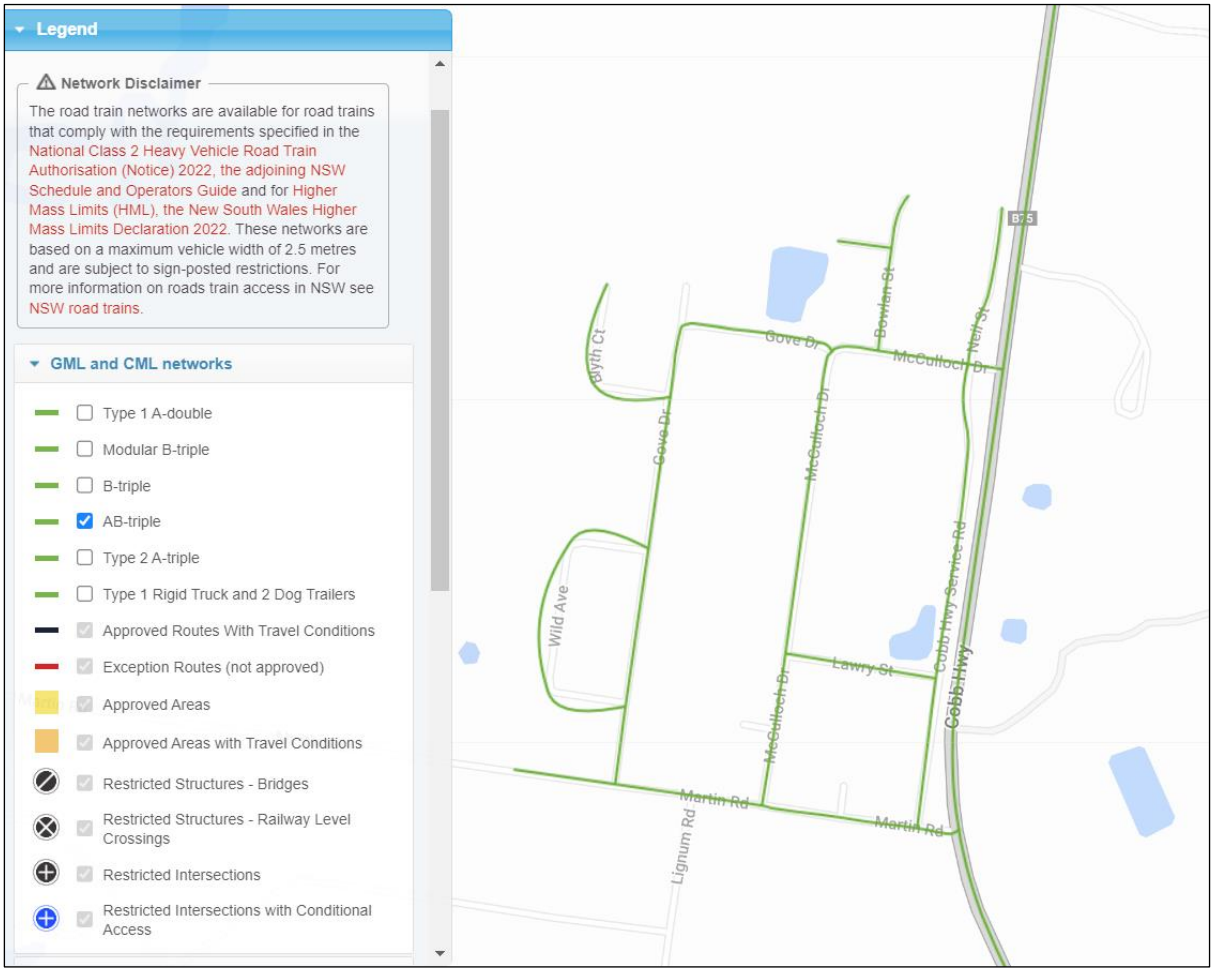
Wild Avenue is a local street connecting Gove Drive to the south and north. Wild Avenue is a 10.5 m wide two-way two-lane undivided carriageway. Wild Avenue has a default urban speed limit of 50 km/h.

Figure 7: Wild Avenue – facing east

Figure 8: Wild Avenue – facing west

Other nearby roads that will be used to access the development include McCulloch Drive, Martin Road, and Cobb Highway. McCulloch Drive and Martin Road are local streets, and Cobb Highway is an arterial road. Cobb Highway is a B-triple approved route. All roads discussed in Section 2.2 are approved AB-triple routes, as shown in Figure 9.

Figure 9: AB-triple approved roads (source: TfNSW road train network map)



At the intersection of Cobb Highway and McCulloch Drive, there are the following turn lane treatments:

- auxiliary right turn lane (AUR)
- channelised left turn lane (CHL)

- auxiliary acceleration lane.

At the intersection of Cobb Highway and Martin Road, there are the following turn lane treatments:

- short channelised right turn lane (CHRs)
- CHL

The Cobb Highway turn lane treatments below are in Figure 10 and Figure 11.

Figure 10: Intersection of Cobb Highway and McCulloch Drive

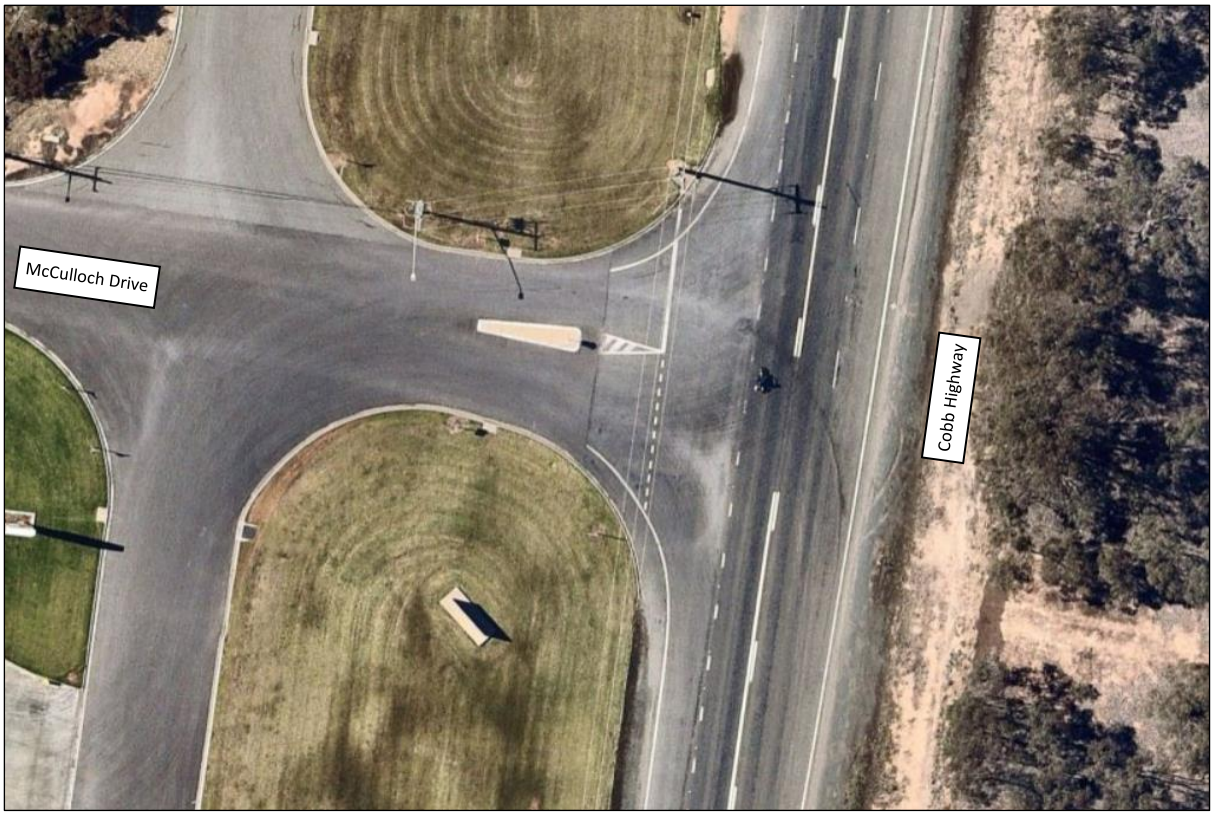
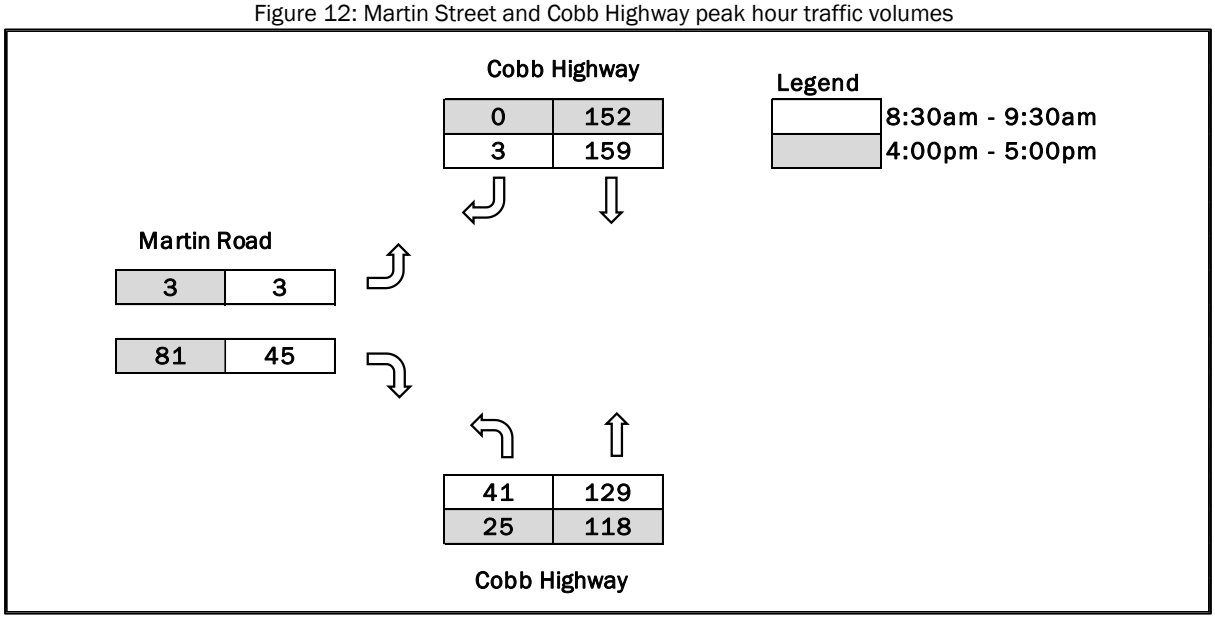


Figure 11: Intersection of Cobb Highway and Martin Road

2.3 Traffic volumes

A traffic survey was undertaken at Martin Street and Cobb Highway intersection on Wednesday, 7 July 2021, by Real Time Traffic for Council. The peak-hour traffic volumes are shown below in Figure 12.

Figure 12: Martin Street and Cobb Highway peak hour traffic volumes



On Martin Road, the survey recorded:

- 92 vehicles during the AM peak hour

- 109 vehicles during the PM peak hour.

Traffic volumes on the roads near the development (i.e., McCulloch Drive, Blyth Court, Wild Avenue and Gove Drive) will be lower than on Martin Road. There is minimal development on the abutting roads.

2.4 Crash history

The Transport for New South Wales (TfNSW) Centre for Road Safety's Crash and Casualty Statistics database was interrogated. No casualty crashes have occurred near the subject site in the last five years; that data is available.

Conclusion 1: no crashes have occurred near the subject site in the last five-year period. Therefore, there are no traffic safety problems that require urgent remedial action.

2.5 Pedestrians and cyclists

There are no dedicated pedestrian or cyclist facilities near the subject site.

2.6 Public transport

There are no public transport services located near the subject site.

3 PROPOSED DEVELOPMENT

3.1 Proposed development summary

It is proposed to develop a truck service depot and consolidate the four land parcels into a single title. The development will service, repair and maintain trucks, with the largest trucks serviced being AB-triple and B-triple trucks (36.5 m length road trains).

The development will be constructer in five stages (including timing) as follows:

- Stage 1
    - Diesel storage tanks to be powered and concrete slab
    - to be completed by the end of 2022
- Stage 2
    - Shed 1 (daily servicing), office, landscaping lighting around the permitter & car parking
    - to be completed by the end of 2023
- Stage 3
    - Shed 2 (trailer servicing)
    - to be completed by the end of 2024
- Stage 4
    - Shed 3 (tyre fitting)
    - to be completed by the end of 2025
- Stage 5
    - Shed 4 (long-term service)
    - to be completed by the end of 2026

The four areas within the subject site will each include the following:

- Shed 1 (Lot 46 of DP1175457 – 25 Wild Avenue)
    - 900 m^2 warehouse
    - 58 m^2 office
    - new access to Grove Drive
    - eight car parking spaces, including one disabled access space with a shared area
- Site 2 (Lot 47 of DP1175457 – 17 Grove Drive()
    - 900 m^2 warehouse
- Site 3 (Lot 48 of DP1175457 – 2 Blyth Court)
    - 900 m^2 warehouse

- new emergency access to Blyth Court
- 27 car parking spaces

- Site 4 (Lot 45 of DP1175457 – 23 Wild Avenue)
  - 900 m^2 warehouse
  - fuel tank at the rear of the property
  - new access to Wild Avenue
  - 20 car parking spaces

Trucks accessing the subject site will travel from other New South Wales (NSW) townships. Higher Mass Limit (HML) Authorisation Permits[1] have been acquired to access the proposed development for A-double, A-triple and AB-triple road trains.

The subject site will be operated with a maximum of the following staff at any given time:

- Office:
  - two admin staff
- Sheds
  - six mechanics (per shed)

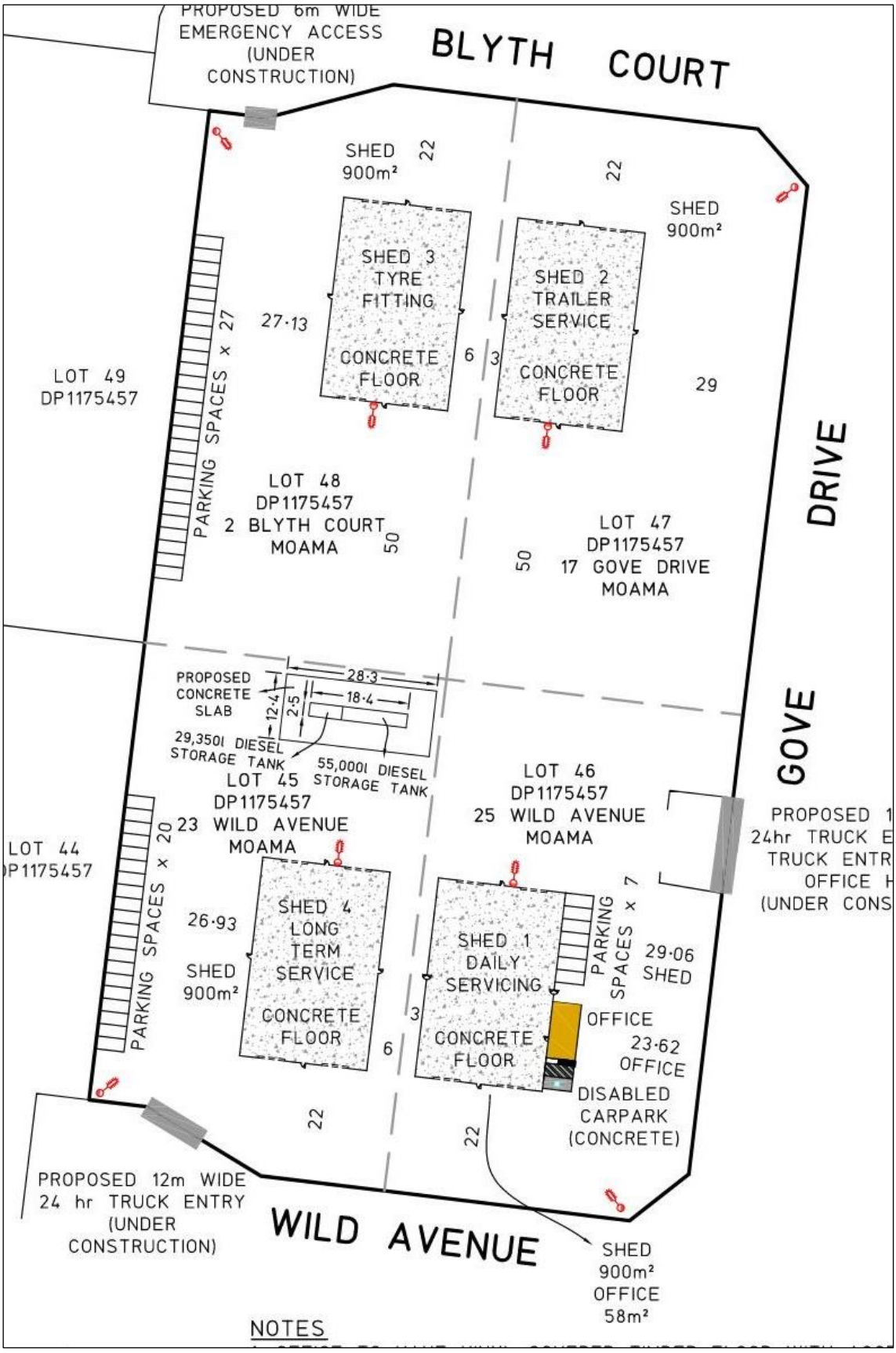
The subject site can be operational anytime, with staff primarily onsite during the day. There will be minimal activity onsite between midnight to 4 am.

At most, two trucks will be onsite at each shed, servicing, on average, six trucks a day. In addition, the proposed fuel tank is expected to be used on average six times a day, based on other fuel tanks operated by the client.

Deliveries to the subject site will be undertaken with vans at most daily. An extract of the subject site plan is provided in Figure 13 below and attached in Attachment B.

[1] Issued by the National Heavy Vehicle Regulator (NHVR)

Figure 13: Site plan extract



3.2 Trip generation and distribution

3.2.1 Traffic generation

The traffic generation for new developments can be estimated using the *RTA Guide to Traffic Generating Developments – Version 2.2A 2002*. The RTA specifies the traffic generation rates for 'road transport terminals.' The traffic generation of the development using RTA rates is shown below in Table 1.

Table 1: Traffic generation – using RTA rates

	Traffic generation rate	Gross floor area	Traffic generation
Daily vehicle trips	5 per 100 m^2 gross floor area	4x 900 m^2 warehouses 1x 350 m^2 refuelling area	198 trips
Peak-hour vehicle trips	1 per 100 m^2 gross floor area		40 trips

An empirical assessment was also undertaken. The daily traffic generation is shown below in Table 2.

Table 2: Daily traffic generation – an empirical assessment

User	Vehicle	Traffic generation rate (per shed)		Traffic generation (subject site)	
		Arrive	Depart	Arrive	Depart
Trucks for service	HV[2]	6	6	24	24
Admin staff	LV[2]	2	2	2	2
Mechanics	LV	6	6	24	24
Visitors and truck drivers are commuting.	LV	6	6	24	24
Trucks for refuelling	HV	Not applicable		6	6
Deliveries	LV	Not applicable		1	1
Sub-total	HV	6	6	30	30
	LV	14	14	51	51
Total	**Both**	**40**		**162**	

The development's peak hour will be when mechanics are arriving or departing. Admin staff arrive and depart at different hours to the mechanics.

Trucks deliver goods during the day and are not expected to be accessing nor departing the development during the subject site's peak hours or commuter peak hours. Mechanics will likely arrive and depart outside the commuter's peak hours due to the nature of the work.

[2] HV = Heavy Vehicle (trucks) and LV = Light Vehicle (cars/vans)

The peak hour traffic generation is shown below in Table 3.

Table 3: Site peak hour traffic generation

User	Traffic generation rate (per shed)	Traffic generation (subject site)
Mechanics	6 trips	24 trips

Conclusion 2: The development will generate 162 daily and 24 peak-hour vehicle trips.

3.2.2 Traffic distribution

Peak-hour traffic flows for the proposed development would generally be distributed, as shown in Table 4 below.

Table 4: Traffic distribution splits

Period	Entry	Exit
AM Peak	90%	10%
PM Peak	10%	90%

Cars will generally travel to and from the south towards the Moama township via Martin Road. Trucks arrive and depart onsite outside the peak hours and will mostly travel to and from the north to other NSW townships.

Trucks will access the development via either Martin Road or McCulloch Drive. The HML Authorisation Permits allow trucks to access the subject site via Martin Road, McCulloch Drive, Gove Drive and Cobb Highway.

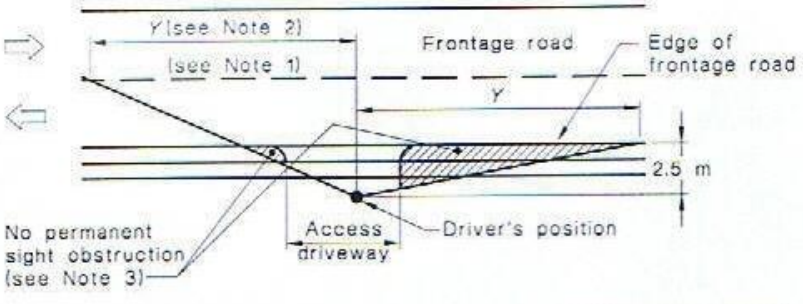
4 ASSESSMENT

4.1 Sight distance

Section 3.2.4 in AS/NZS 2980.1 *Parking Facilities – Part 1: Off-street car parking* sets out Entering Sight Distance (ESD) criteria for a driver exiting an access driveway to traffic on the frontage road and sight distance to pedestrians as outlined below.

Entering sight distance: Unsignalised access driveways shall be located so that the intersection sight distance along the frontage road available to drivers leaving the driveway is at least that shown in Figure 3.2 of AS/NZS 2890.1 (reproduced in Figure 14 below).

Figure 14: Sight distance requirements at driveways (Source: Figure 3.2 from AS/NZS 2890. 1)



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

The proposed locations of the driveways will meet the desirable sight distance requirement of 69 m.

Conclusion 3: The location of the proposed driveways to the depot provides satisfactory sight distance.

4.2 Turn provisions

Section 3.2 discussed that the development would have minimal traffic impacts on the surrounding road network. The traffic surveys (refer to Figure 12) recorded approximately 100 vehicles on Martin Street during peak hours.

The HML Authorisation Permits have approved the use of Cobb Highway, Martin Road, McCulloch Drive and Gove Drive to access the development for trucks. Left and right turn lane treatments are available on Cobb Highway to turn into Martin Road and McCulloch Drive.

Conclusion 4: No upgrades to the road network will be required to facilitate the development.

4.3 Parking

It is recommended that additional car parking is provided.

The Murray River Council Development Control Plan (DCP) specifies the following minimum car parking rates for industrial developments:

- *Warehouse/storage component: 1 space per 100 m² gross floor area*
- *Office/showroom components: 1 space per 40m² of gross floor area or part thereof*
- *Disabled access: minimum of 1 space per the Building Code of Australia.*

The statutory car parking requirements of the subject site are shown below in Table 5

.Table 5: Car parking requirements

Component	Carparking rate	Area	Carparking requirement
Shed 1			
Warehouse	1 space per 100 m²	900 m²	9 spaces
Office	1 space per 40 m²	58 m²	1 space
Shed 2			
Warehouse	1 space per 100 m²	900 m²	9 spaces
Shed 3			
Warehouse	1 space per 100 m²	900 m²	9 spaces
Shed 4			
Warehouse	1 space per 100 m²	900 m²	9 spaces
TOTAL			37

A provision for 55 car parking spaces, including one disabled access space with a shared area, is proposed for the subject site. This is more than the statutory car parking requirement of 37 car parking spaces.

Conclusion 5: the proposed development satisfies the statutory car parking requirement

4.4 Internal carpark layout

The largest trucks that will access the subject site will be AB-triple and B-triple trucks (36.5 m in length). The development plan with swept paths (prepared by others) shows that the trucks can

enter, circulate and exit the subject site in a forward direction. Swept paths have yet to be undertaken for trucks entering warehouses or parking while refuelling at the fuel tank.

Recommendation 1: ensure that trucks can enter the warehouse, park at the fuel tank, and exit the subject site in a forward direction.

4.5 Truck operation and loading

Up to two trucks will be onsite at each shed at a time. There is abundant space onsite to accommodate the storage of 2 B-triple trucks at each shed.

The RTA guide states the following regarding the parking area and internal road design for road transport terminals:

- *Trucks must travel a minimum distance of 30 metres from the road before being required to stop. This distance must be increased if necessary to ensure that drivers are not forced or encouraged to stand their vehicles on a public road.*
- *A minimum height clearance of 5 metres is recommended for all loading areas to assist in the efficient load/unloading of goods.*

The development proposes security gates that restrict access for pedestrians and traffic. At most, one truck is expected to queue at the gate at a time.

Recommendation 2: the security gates should be setback such that a B-triple truck can stop at the gate without obstructing the road.

Recommendation 3: ensure a minimum height clearance of 5 m is provided within the warehouse for loading.

4.6 Waste collection

Contractors will collect waste onsite from a front lift skip bin. Standard bins will be stored within the warehouse and wheeled out to the frontage local street for weekly collection.

5 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are drawn from the assessment of traffic impacts resulting from the proposed truck service depot at Blyth Court in Moama:

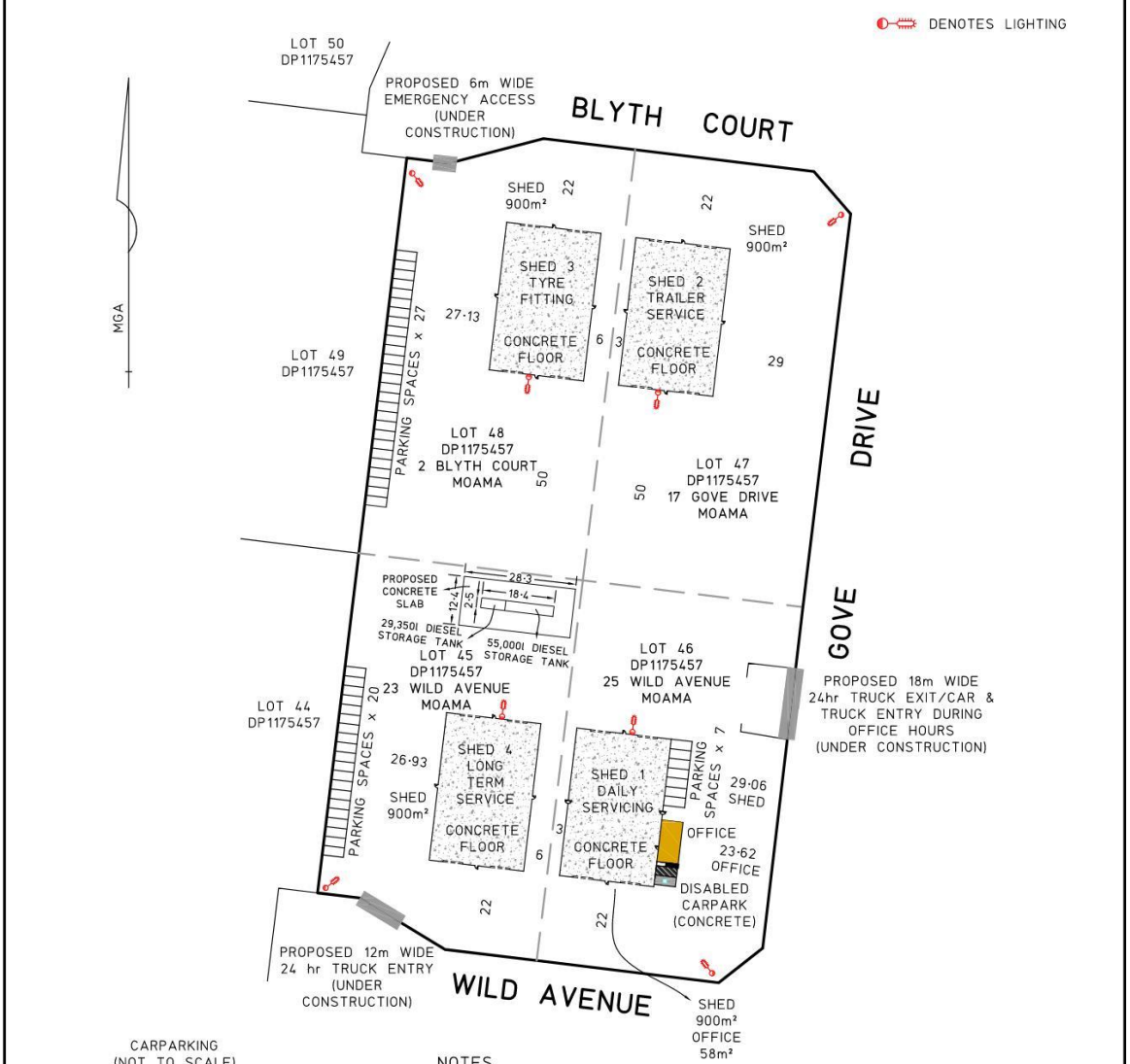
- no crashes have occurred near the subject site in the last five-year period. Therefore, there are no traffic safety problems that require urgent remedial action.
- the development will generate 174 daily and 24 peak-hour vehicle trips
- the location of the proposed driveways to the depot provides satisfactory sight distance for both cars and trucks
- no upgrades to the road network will be required to facilitate the development
- the proposed development satisfies the statutory car parking requirement.

The following is recommended to accompany the Planning Permit Application:

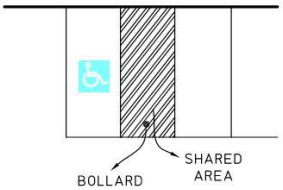
- **Recommendation 1:** ensure that trucks can enter the warehouse, park at the fuel tank, and exit the subject site in a forward direction
- **Recommendation 2:** the security gates should be setback such that a B-triple truck can stop at the gate without obstructing the road
- **Recommendation 3:** ensure a minimum height clearance of 5 m is provided within the warehouse for loading.

ATTACHMENT A – DEVELOPMENT PLAN

Figure B1 – Development Plan



CARPARKING (NOT TO SCALE)



NOTES

1. OFFICE TO HAVE VINYL COVERED TIMBER FLOOR WITH ACCESS RAMP BUILT TO AS1428
2. ALL PARKING SPACES/SHARED AREA 2·40M WIDE X 5·40M LONG
3. CARPARK SPACES CALCULATED IN ACCORDANCE WITH CHAPTER 3.4 OF THE MURRAY DEVELOPMENT CONTROL PLAN 2012 – PARKING & ACCESS CONTROLS:
   - INDUSTRY COMPONENT: 1 SPACE PER 70m² OF GROSS FLOOR AREA OR PART THEREOF (52 REQUIRED).
   - OFFICE COMPONENT: 1 SPACE PER 40m² OF GROSS FLOOR AREA OR PART THEREOF (2 REQUIRED).
   - DISABLED: MINIMUM OF 1 SPACE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA

55 CAR SPACES PROVIDED IN TOTAL ON SITE.

STAGING DETAILS

STAGE 1: DIESEL STORAGE TANKS & CONCRETE SLAB
STAGE 2: SHED 1 & CARPARKING & OFFICE
STAGE 3: SHED 2
STAGE 4: SHED 3 & CARPARKING
STAGE 5: SHED 4 & CARPARKING

IDEAS INTO ACTION PLANRIGHT
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SCALE OF METRES
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ORIGINAL DRAWING SCALE 1: 1000

SITE PLAN
PARISH OF TATAILA
COUNTY OF CADELL
LOTS 45-48 (INCL) IN DP1175457

FILE No.	DRAWN	CHECKED	DATE	SHEET NUMBER	VER	SHEET SIZE
S7494	RS	MS	13/7/2022	1 OF 1	5	A3

VER	DATE	DETAILS OF AMENDMENTS	DRN	CHK
5	4/10/2022	SHED LOCATIONS & CAR SPACES AMENDED	RS	MS
4	12/9/2022	SHED LOCATIONS AMENDED & CAR SPACES REDUCED	MT	MS
3	20/7/2022	CAR SPACES ADDED	MT	MS
2	19/7/2022	FUEL TANK ADDED AND VEHICLE TURNING MOVEMENTS AMENDED	MT	MS

FILE NAME: S7494 shed plans V5.dwg

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