

This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987.  
The document must not be used for any purpose which may breach copyright legislation



# Traffic Engineering Assessment

Proposed Service Station Redevelopment  
5 Mill Road, Lara

Prepared for  
APCO Service Stations Pty Ltd

March 2026

G37355R-01C



# Traffic Engineering Assessment

5 Mill Road, Lara

## Document Control

Our Reference: [REDACTED]

Issue No.	Type	Date	Prepared By
A	Initial Issue	20/10/2025	R. J.
B	Updated Issue	22/10/2025	R. J.
C	Updated Issue	05/03/2026	R. J.
D	Updated Issue	25/03/2026	R. J.

[REDACTED]

# Traffic Engineering Assessment

5 Mill Road, Lara

## Table of Contents

<b>1.</b>	<b>Introduction.....</b>	<b>4</b>
<b>2.</b>	<b>Existing Conditions.....</b>	<b>4</b>
2.1.	<i>Subject Site.....</i>	4
2.2.	<i>Road Network.....</i>	7
<b>3.</b>	<b>Proposal.....</b>	<b>8</b>
<b>4.</b>	<b>Traffic Engineering Assessment.....</b>	<b>9</b>
4.1.	<i>Statutory Car Parking Requirement.....</i>	9
4.2.	<i>Car Parking Demand Assessment.....</i>	10
4.3.	<i>Car Parking Layout and Access Arrangements.....</i>	10
4.3.1.	<i>Car Park Layout.....</i>	10
4.3.2.	<i>Drive Through Coffee Queuing Assessment.....</i>	11
<b>5.</b>	<b>Bicycle Considerations.....</b>	<b>14</b>
<b>6.</b>	<b>Loading Arrangements.....</b>	<b>14</b>
6.1.	<i>Loading.....</i>	14
6.2.	<i>Refuelling Activities.....</i>	15
<b>7.</b>	<b>Conclusion.....</b>	<b>16</b>

## List of Figures

Figure 1: Aerial Photograph	4
Figure 2: Land Use Zoning Map	5
Figure 3: Mill Road – existing service station	6
Figure 4: Mill Road – existing crossover	6
Figure 5: McClelland Avenue – existing western crossover	6
Figure 6: McClelland Avenue – existing eastern crossover	6
Figure 7: McClelland Avenue - View west	7
Figure 8: McClelland Avenue - View east	7
Figure 9: Mill Road - View north-east	8
Figure 10: Mill Road - View south-west	8
Figure 11: Queue Storage Requirement	12

## List of Appendices

**Appendix A**    **Development Plan**

**Appendix B**    **Swept Path Diagrams**

# Traffic Engineering Assessment

5 Mill Road, Lara

## 1. Introduction

██████████ has been engaged by APCO Service Stations Pty Ltd to undertake a traffic engineering assessment for the proposed service station redevelopment at 5 Mill Road, Lara.

This report provides a detailed traffic engineering assessment of the internal layout and access arrangements, parking and the likely impacts on the surrounding road network of the proposed development.

## 2. Existing Conditions

### 2.1. Subject Site

The site comprises of an existing APCO service station located on the north-eastern corner of the Mill Road/McClelland Avenue intersection near the centre of the Lara township.

There are three vehicle access points to the site including two access points to McClelland Avenue on the south-western site boundary and one access point to Mill Road along the north-western boundary. The western access to McClelland Avenue is restricted to left turn entry movements and the eastern access to McClelland Avenue is restricted to left turn exit movements. There are no access restrictions on the site access at Mill Road with all entry and exit movements permitted.

An aerial photograph of the subject site and its surrounds is presented at Figure 1.



Figure 1: Aerial Photograph

Source: Nearmap

# Traffic Engineering Assessment

5 Mill Road, Lara

The subject site is zoned 'State Transport Infrastructure (TRZ1)' under the Greater Geelong Planning Scheme as indicated in Figure 2.

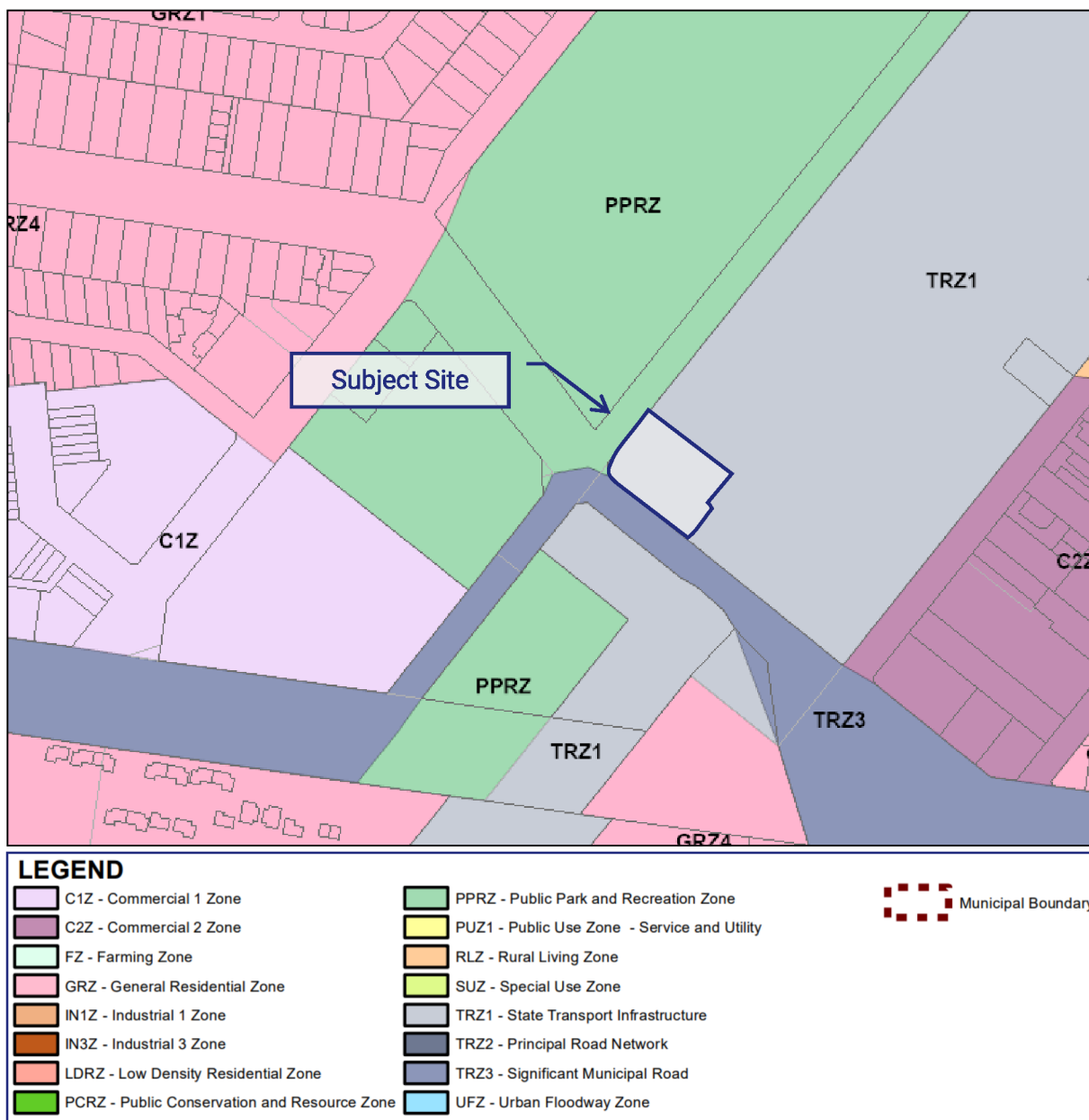


Figure 2: Land Use Zoning Map

Source: VicPlan

The Victorian Government’s Carparking Requirement Maps show the subject site being located within a Category 2 area.

Photographs of the site and its existing access points are presented at Figure 3 to Figure 6 below.



# Traffic Engineering Assessment

5 Mill Road, Lara



Figure 3: Mill Road – existing service station



Figure 4: Mill Road – existing crossover



Figure 5: McClelland Avenue – existing western crossover



Figure 6: McClelland Avenue – existing eastern crossover



## Traffic Engineering Assessment

5 Mill Road, Lara

### 2.2. Road Network

**McClelland Avenue** is a major Council road which runs in a predominantly east-west direction through the town of Lara between the roundabout at Mill Road at its western end and Perkins Road to the east where it continues as Old Melbourne Road providing a link through to Little River to the north-east.

McClelland Avenue provides one of the main access routes into Lara from Melbourne, with an interchange with the Princes Freeway located near the eastern end of the road. It also contains one of only a limited number of crossings of the Melbourne to Geelong Railway Line within the Lara township where a level crossing is provided.

In the section adjacent to the subject site between the Mill Road roundabout and the railway level crossing McClelland Avenue contains one eastbound lane and two westbound lanes with a narrow rubber strip with upright elements installed along the centreline to prevent right turn and U-turn movements. McClelland Avenue has a posted speed limit of 60km/h. A bus stop is located on the north side of McClelland Avenue adjacent to the subject site.

McClelland Avenue, in the vicinity of the site, is shown at Figure 7 and Figure 8.



*Figure 7: McClelland Avenue - View west*



*Figure 8: McClelland Avenue - View east*

**Mill Road** is also a major road managed by Council. It runs in a north-east to south-west direction continuing as Station Lakes Road to the south-west of the McClelland Avenue roundabout and continuing as Farrars Road to the north-east of the Lara township.

Mills Road is an undivided road with one traffic lane in each direction, widening to two south-westbound lanes on the approach to the McClelland Avenue roundabout. It has a posted speed limit of 60km/h.

Mill Road, in the vicinity of the site, is shown at Figure 9 and Figure 10.

## Traffic Engineering Assessment

5 Mill Road, Lara



Figure 9: Mill Road - View north-east



Figure 10: Mill Road - View south-west

### 3. Proposal

The proposed development involves replacing the existing convenience shop building with a new building containing a larger footprint, with the size of the convenience shop increasing from 243m<sup>2</sup> to 605m<sup>2</sup>. The larger building will replace the existing manual car wash bays, with vacuum bays relocated elsewhere within the site. A new automatic car wash bay is to be constructed adjacent to the existing automatic car wash bay to the north of the proposed shop building.

The new larger convenience shop building will operate with an expanded food offering compared to the existing convenience shop. A drive-through coffee facility is also proposed around the north, east and southern sides of the shop building, with vehicles entering the queue from the area between the northern end of the shop building and the automatic car wash bays and exiting near the site egress to McClelland Avenue. A separate queuing lane will be provided around the back of the main shop building for the drive-through coffee facility from the exit lane from the automatic car wash bays.

It is proposed to provide 21 car spaces on the site as part of the proposed redevelopment including:

- 10 new car spaces including 1 disabled space directly in front of the convenience shop building,
- 5 spaces located on the western side of the site, to the south of the Mill Road access, which replace an existing parking area,
- 3 new spaces located in the north-western corner of the site including 2 vacuum pump bays to the east of the Mill Road access, and
- 3 existing parking spaces, including one space adjacent to the air hose towards the northern edge of the site.

The existing 16 fuel pump bays and existing canopy are to be retained as part of the development.

## Traffic Engineering Assessment

5 Mill Road, Lara

A copy of the proposed development plan, prepared by [REDACTED], is attached at Appendix A.

### 4. Traffic Engineering Assessment

#### 4.1. Statutory Car Parking Requirement

Clause 52.06 of the Planning Scheme sets out the statutory requirements for car parking. The purpose of Clause 52.06 is:

- *To ensure that car parking is provided in accordance with the State Planning Policy Framework and Local Planning Policy Framework.*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The land use term that applies to both the existing and proposed use of the site is 'Service Station'. This term is defined in Clause 73.03 of the Greater Geelong Scheme as follows:

*'Land used to sell motor vehicle fuel from bowsers or charge electric vehicles. It may include the:*

- a) Selling of motor vehicle lubricants, accessories or parts;*
- b) Selling of food, drinks and other convenience goods;*
- c) Hiring of trailers;*
- d) Servicing or washing of motor vehicles; and*
- e) Installing of motor vehicle accessories or parts.'*

There is no car parking requirement for a service station use outlined in Clause 52.06 of the Greater Geelong Planning Scheme and accordingly, car parking spaces must be provided to the satisfaction of the responsible authority.

We note that as per the above definition, the selling of food, drinks and other convenience goods which are proposed as part of the current planning application are an expansion of the existing service station use and are not considered as part of a separate use for a 'Food and Drink Premises' or a 'Convenience Shop'.

## Traffic Engineering Assessment

5 Mill Road, Lara

### 4.2. Car Parking Demand Assessment

Although there is no parking requirement specified for a 'service station' use, the activity that occurs within the fuel shop building is similar to what might also be experienced at a shop or food and drink premises. Both of these uses, within a Category 2 area, have a parking requirement for 2 car spaces per 100m<sup>2</sup> of leasable floor area. Based on the proposed 605m<sup>2</sup> fuel shop building, this would result in a minimum requirement for 12 parking spaces.

With 21 formal parking spaces marked on the site and a further 16 parking spaces available adjacent to the fuel pumps, this results in the overall parking provided on the site exceeding the anticipated parking demand. Accordingly, there is no requirement to obtain a permit to reduce the parking provision on the site.

### 4.3. Car Parking Layout and Access Arrangements

Traffic Group has provided design advice to the project architect to achieve a satisfactory car parking and access layout. The proposed parking layout has been assessed under the following guidelines:

- Clause 52.06-9 of the Planning Scheme (Design standards for car parking), and
- The relevant Australian Standards.

Key elements of the design are discussed following.

#### 4.3.1. Car Park Layout

- Standard car parking spaces are provided at dimensions of 2.6m wide, 5.4m long and a minimum aisle width of 6.4m which exceed Clause 52.06-9 of the Planning Scheme (Design Standard 2).
- The disabled parking space is provided at a width of 2.4m and length of 5.4m, with an adjacent shared area of the same dimensions, in accordance with AS2890.6:2022.

#### 4.3.2. Site Access Arrangements

Access to the site is proposed to be via the three existing crossovers, which are to be retained in their existing locations. This includes a bi-directional access point on Mill Road and separate left in ingress and left out egress points on McClelland Avenue. Right turn movements on McClelland Avenue are prevented by a separator kerb located along the centreline.

All access points are located on straight and flat sections of road with good sight lines available in accordance with relevant standards.

Sight lines are also available between motorists existing the drive-through/carwash and vehicles exiting the service station portion of the carpark.

## Traffic Engineering Assessment

5 Mill Road, Lara

### 4.3.3. Pedestrian Access Arrangements

A footpath is proposed along the frontage of the shop and café to allow pedestrians parked to access the shop and café clear of traffic. A pedestrian crossing is proposed across the egress from the drive-through to connect this path to the public path network along McClelland Avenue.

As is standard for service stations, the remainder of the site will operate as a low-speed shared environment for pedestrians and vehicles, with pedestrians walking between vehicles parked at the pumps and parking spaces located around the outer areas of the site directly without following marked walkways.

Due to the nature of how service stations operate it is not feasible to provide a marked walkway to all parking spaces, as any path provided clear of traffic would be indirect and would not follow pedestrian desire lines. We note that the majority of pedestrian movements are expected to be short distance movements between the parking spaces adjacent to the building or between the pumps and the building. We expect that pedestrian movements to the spaces located around the outer areas of the site will be infrequent due to lower demand for these spaces.

### 4.3.4. Drive Through Coffee Queuing Assessment

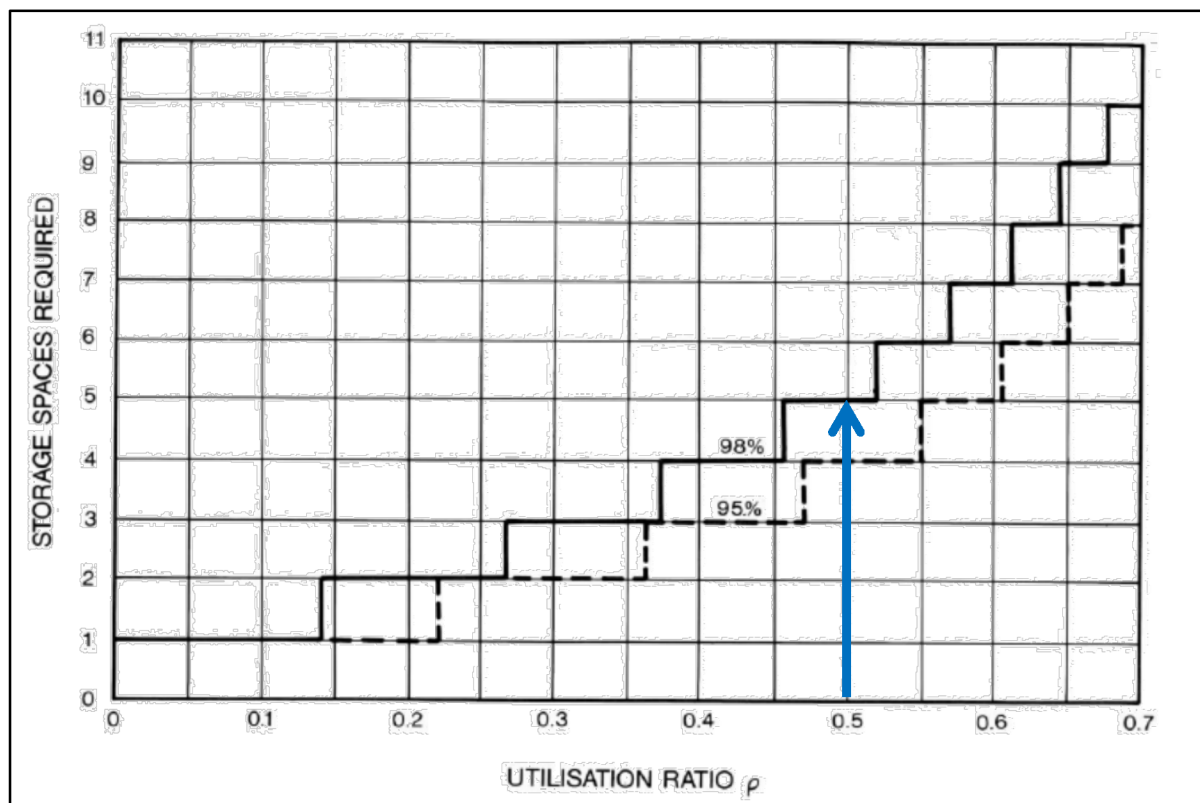
A first principles analysis has been undertaken to determine the likely queue for the proposed drive-through coffee facility, based on the following assumptions:

- Coffee facility to generate in the order of 120-150 daily customers on the busiest days.
- Coffee facility to generate in the order of 30 vehicles during the AM peak hour, which is the overall peak period for such uses, which would occur between 6am and 9am.
- Have a turnaround time for customers of approximately 30-90 seconds from the placement of an order to receiving the coffee and driving away.
- Generate in the order of 67% of the peak weekday traffic on a Saturday (Sunday would be quieter again).

This would produce a peak utilisation rate of 0.5, based on an average turnaround time of 60 seconds, and would result in a 95% probability of a queue during the peak hour of no more than 4 vehicles and a 98% probability of a queue of no more than 5 vehicles during the same period as shown in the diagram at Figure 11.

## Traffic Engineering Assessment

5 Mill Road, Lara



Source: Austroads Guide to Traffic Management Part 3, Figure 6.5

Figure 11: Queue Storage Requirement – Drive Through

With a distance of over 60m between the proposed coffee order point and the coffee collection point this will be more than sufficient to accommodate the 98<sup>th</sup> percentile traffic queue of 5 vehicles during the peak hour without resulting in the queue extending into other locations within the service station.

Swept path diagrams have been prepared for a B99 vehicle towing a standard 6' by 4' trailer and a dual cab ute towing an 8'x5' trade trailer using the drive-through coffee facility. These are attached at Appendix B. The diagrams suggests that the proposed dimensions of the access road will be sufficient to allow both vehicle combinations to circulate around the building.

The B99 vehicle towing a standard 6' by 4' trailer able to navigate the drive through without encroaching into the adjacent exit lane from the car wash bays, whilst the larger dual cab ute towing an 8'x5' trade trailer will only need to encroach into the adjacent lane momentarily in order to pull up adjacent to the pickup window. This does not result in any safety issues, noting that a vehicle exiting the car wash would only be delayed momentarily on infrequent occasions whilst a driver of a dual cab ute towing an 8'x5' trade trailer picks up their coffee.

### 4.3.5. Carwash Queuing Assessment

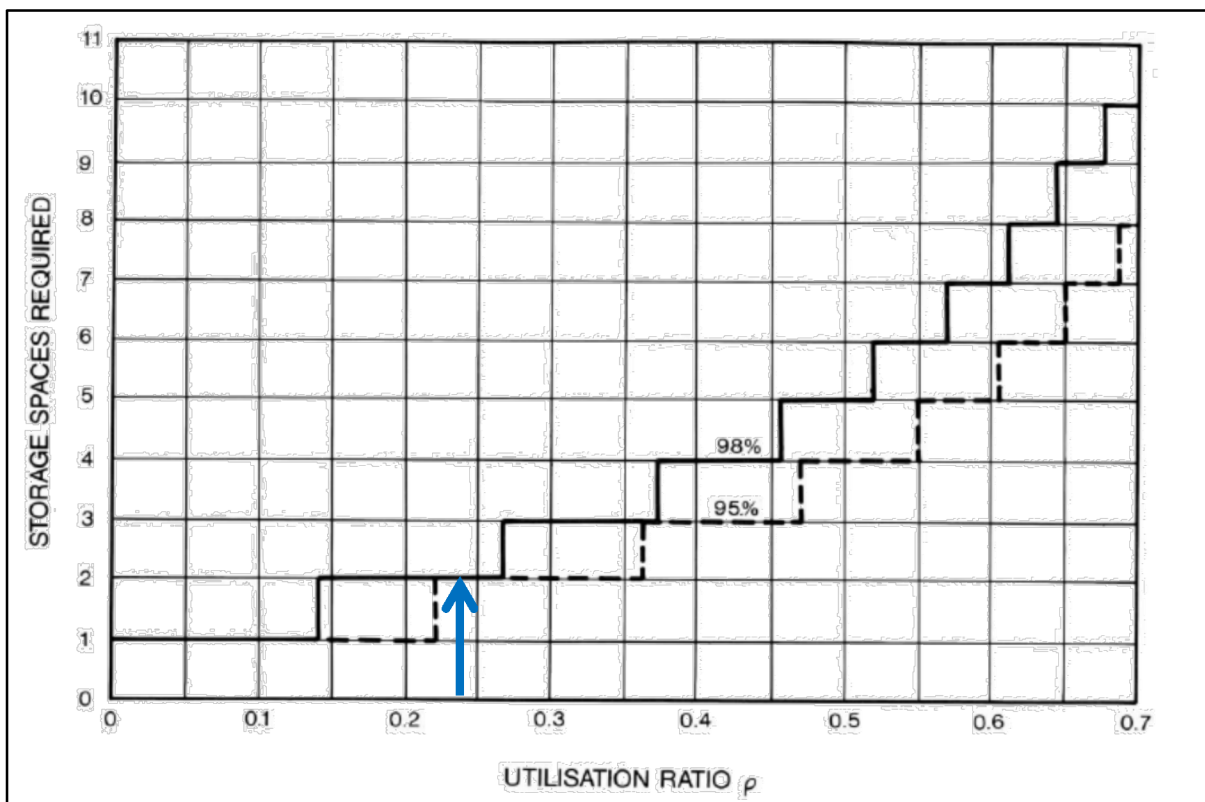
Similarly, a first principles analysis has been undertaken to determine the likely queue for the automatic car wash bays, based on the following assumptions from carwash usage data provided by APCO:

## Traffic Engineering Assessment

5 Mill Road, Lara

- Future demand for the carwashes will be similar to the demand for the existing carwashes.
- The average daily demand for the existing Auto-bay Carwash on the site is approximately 45 vehicles per day.
- The average daily demand for the two existing manual car wash-bays on the site is approximately 12 vehicles per day, based on an average daily combined operation time of two hours per day and assumed average wash time of 10 minutes per vehicle.
- The total demand for car wash on the site is estimated to be 57 vehicles per day.
- 10% of the daily demand for the auto carwash is expected to occur during the peak hour, around the middle of the day, based on analysis of data from a different APCO site in North Geelong.
- The total anticipated demand for the carwashes at this location during the peak hour is anticipated to be six (6) vehicles per hour.
- The typical cycle time of the auto-bay car washes is assumed to be 5 minutes per vehicle.

This would produce a peak utilisation rate of 0.24, based on an average turnaround time of 5 minutes, and would result in a 98% probability of a queue of no more than two (2) vehicles, or one (1) vehicle per bay, during the peak period as shown in the diagram at Figure 12.



Source: Austroads Guide to Traffic Management Part 3, Figure 6.5

Figure 12: Queue Storage Requirement – Car Wash

## Traffic Engineering Assessment

5 Mill Road, Lara

The anticipated queue lengths for the carwashes will not impact on the ability of other vehicles to circulate around the site or access parking areas, as shown in the swept path assessment attached at Appendix B

## 5. Bicycle Considerations

Clause 52.34 of the Greater Geelong Planning Scheme outlines the bicycle parking requirements for new developments. Where a use is not listed under Clause 52.34 of the Planning Scheme, no bicycle parking requirements apply. There is no use specifically listed in Table 1 of Clause 52.34 which relates specifically to a service station or a convenience shop. Accordingly, adopting the broader definition of a shop use would be most representative of the extent of bicycle parking that could be considered.

The bicycle parking requirements for a 'shop' use is presented in Table 1 below.

Table 1: Statutory Bicycle Parking Assessment - Clause 52.34

Use	Size/No.	Statutory Bicycle Parking Requirement		No. Bicycle spaces required
		Residents or Employees	Visitors or Customers	
Shop	605.4m <sup>2</sup>	1 space to each 600m <sup>2</sup> LFA if the LFA exceeds 1000m <sup>2</sup>	1 space to each 500m <sup>2</sup> LFA if the LFA exceeds 1000m <sup>2</sup>	0 employee 0 customer

As the leasable floor area of the proposed service station shop is less than 1,000m<sup>2</sup> there is no requirement to provide bicycle parking on the site. Notwithstanding this, the development provides a small number of bicycle parking rails near the entrance to the shop to accommodate bicycle customers.

Based on the above, we are satisfied that the provision of bicycle parking accords with the requirements of Clause 52.34.

## 6. Loading Arrangements

### 6.1. Loading

Clause 65.01 of the Planning Scheme states that the responsible authority must consider a number of matters as appropriate including:

*The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*

It is proposed to provide a designated loading bay at dimensions of 7.6m length by 3.6m adjacent to the northern corner of the shop building. This bay is designed to accommodate a 5-tonne rigid truck which is required for loading and waste collection associated with the convenience shop.

A swept path diagram illustrating a larger 8.8m medium rigid truck is attached at Appendix B. The diagram shows that the vehicle will be able to manoeuvre into the loading bay. It is noted

## Traffic Engineering Assessment

5 Mill Road, Lara

that in order to enter or exit the loading zone a truck of this size may need to wait until two of the fuel pump bays are unoccupied or occupied by shorter vehicles that have not pulled as far forward relative to the pump. This is not considered to be an issue, noting that a truck will be able to wait safely within the site, clear of the fuel pumps, whilst fuelling activity is completed. Further, during the time when a truck is occupying the loading bay, the ability for vehicles to exit the fuel pump bays will not be impacted. We note that smaller trucks would also be able to access the loading bay without needing to wait for the adjacent fuel pump bays to be vacant.

Based on the above, we are satisfied that the proposed arrangements can suitably accommodate all loading activity associated with the use.

### 6.2. Refuelling Activities

It is understood that refuelling of the service station generally occurs with a 20m b-double tanker incorporating two articulations. Swept path diagrams illustrating this vehicle entering and exiting the site to access the fill point via the McClelland Avenue crossovers are attached at Appendix B. The diagram shows that this vehicle will have no difficulty manoeuvring around the site subject to the northern most fuel pump being unoccupied. We note there is ample space for the petrol tanker to wait at the fuel point for the northern most fuel pump bay to become vacant and therefore have no concerns with the proposed arrangement.

However, we also understand that the site is at times served by a 23.5m B-double tanker that has rear-axle steering on each trailer. On-site observations have been that the rear-wheel steering allows this tanker to obtain swept paths similar to that of a conventional 20m b-double tanker.

This tanker is understood to currently exit the site via the Mill Road. A swept path assessment showing the 23.5m tanker exiting onto Mill Road via a left turn movement is also provided at Appendix B. This swept path is considered to be conservative, and we note that the tankers exiting onto Mill Road is required to give way to traffic travelling in both-directions on Mill Road prior to commencing the turn as occurs currently.

## 7. Conclusion

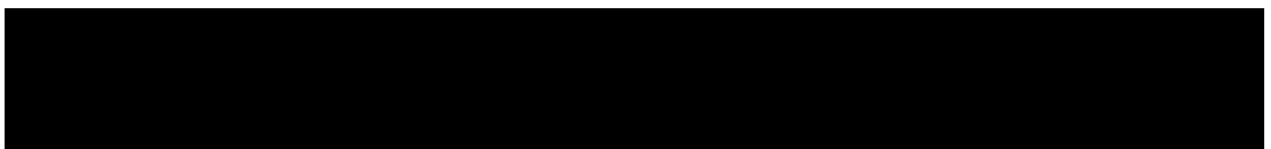
Having undertaken a detailed Traffic Engineering Assessment for the Proposed Service Station Redevelopment at 5 Mill Road, Lara, we are of the opinion that:

- a) The provision of 21 formal car parking spaces and 16 additional spaces at the fuel bowsers exceeds the anticipated parking demand of 12 spaces based on a shop use and accordingly a permit is not required to reduce the parking requirement,
- b) The proposed parking layout and access arrangements accord with the requirements of the Planning Scheme, relevant Australian standard and current practice,
- c) The layout of the drive-through coffee facility is appropriate with sufficient room for vehicles to queue for over 98% of the critical AM peak hour without impacting vehicle circulation around the remainder of the site and for 95% of this period without impacting on the ability for other vehicles to navigate the site,
- d) The location of the car wash bays are appropriate with sufficient room for vehicles to queue for over 98% of the critical peak hour without impacting vehicle circulation around the remainder of the site,
- e) The proposed location of the loading bay on the site is appropriate and will allow trucks to conveniently access the loading bay without impacting other vehicles circulating through the site,
- f) A 20m articulated petrol tanker is able to safely enter and exit the site via the access points to McClelland Avenue and safely circulate through the site to access the fill point without the need to reverse,
- g) A 23.5m articulated tanker with rear-wheel steering is able to safely exit the site via the Mill Road egress as occurs currently, and
- h) There are no traffic engineering reasons why a planning permit for the proposed service station redevelopment at 5 Mill Road, Lara should be refused.



# Appendix A

## Development Plan



**SITE PLAN**

**DEVELOPMENT DATA**

SITE AREA: 4,391M<sup>2</sup>

PROPOSED CANOPY:  
 MAIN FUEL CANOPY: 607M<sup>2</sup>  
 DRIVE THRU CANOPIES: 44M<sup>2</sup>  
 GROSS AREA: 651M<sup>2</sup>

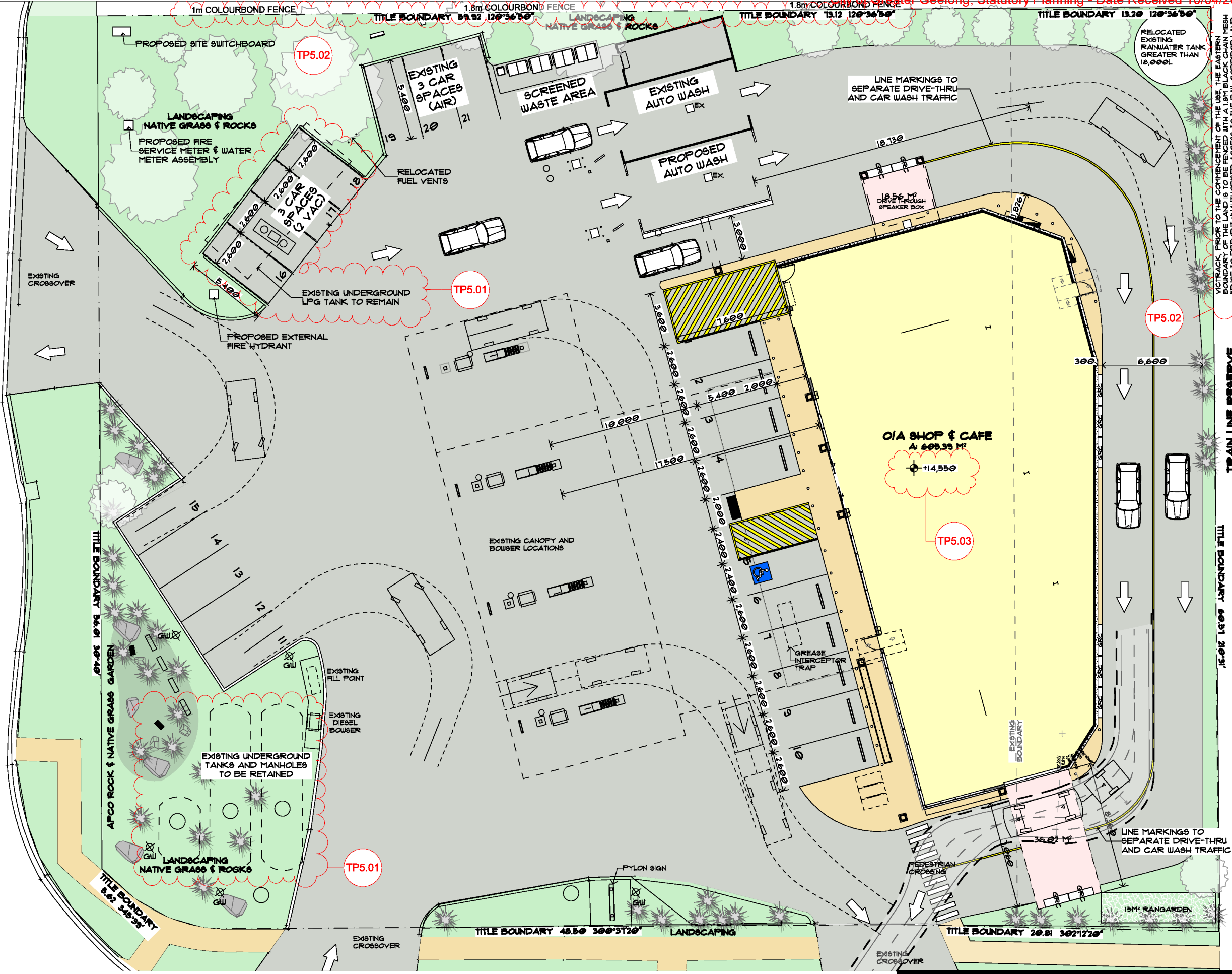
PROPOSED SERVICE STATION:  
 GROSS AREA: 536M<sup>2</sup>

PROPOSED CARPARKING:  
 SERVICES STATION, CAFE & SHOP:  
 21 CARS

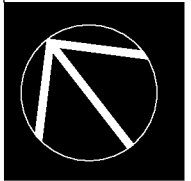
CARPARKING LAYOUT DESIGNED IN ACCORDANCE WITH AS/NZ 2890.1 : 2004 PARKING FACILITIES PART 1: OFF STREET CARPARKING & CLAUSE 52.08 CAR PARKING GEELONG PLANNING SCHEME

**SUMMARY OF INITIATIVES**

CATEGORY	REQUIREMENT
<b>MANAGEMENT</b>	80% OF ALL CONSTRUCTION AND DEMOLITION WASTE TO BE DIVERTED FROM LANDFILL SEPARATE UTILITY METER
<b>WATER EFFICIENCY</b>	MINIMUM WELS RATING OF FITTINGS AND FIXTURES: 4 STAR TOILETS / 5 STAR TAPS 18,000L TANKS COLLECTING WATER FROM PART OF THE ROOF OF THE NEW BUILDING - WATER TO BE USED FOR TOILET FLUSHING
<b>ENERGY EFFICIENCY</b>	NCC 2022 SECTION J COMMITMENT TO MEET REQUIREMENT ILLUMINATION POWER DENSITIES TO MEET NCC 2022 SECTION J D3 REQUIREMENTS SENSORS (MOTION, DAYLIGHT, TIMERS) FOR EXTERNAL AND COMMON AREA LIGHTING ELECTRIC SYSTEM CHOSEN WITHIN ONE STAR OF THE BEST AVAILABLE PRODUCT IN THE RANGE AT THE TIME OF PURCHASE OR 15% MOST EFFICIENT AVAILABLE PRODUCTS IF NO STAR RATING IS AVAILABLE HVAC SYSTEM CHOSEN WITHIN ONE STAR OF THE BEST AVAILABLE PRODUCT IN THE RANGE AT THE TIME OF PURCHASE OR 15% MOST EFFICIENT AVAILABLE PRODUCTS IF NO STAR RATING IS AVAILABLE 3KW SOLAR PV ON DEVELOPMENT
<b>STORMWATER</b>	15M <sup>2</sup> OF RAINGARDEN TO TREAT 150M <sup>3</sup> OF DRIVEWAY
<b>EQ</b>	MECHANICAL VENTILATION TO PROVIDE FRESH AIR RATES 50% HIGHER THAN MINIMUM FROM AS1668 OR TO MAINTAIN CO2 LEVEL BELOW 800PPM ALL PAINT, ADHESIVES, SEALANTS AND FLOORING TO BE LOW VOC - REFER TO APPENDIX 2 FOR LIMITS ALL ENGINEERED WOOD WILL BE LOW FORMALDEHYDE WITH E0 OR BETTER CERTIFICATION
<b>TRANSPORT</b>	BIKE SPACES FOR VISITORS WITH MINIMUM 50% INCREASE ON MINIMUM STATUTORY OR 1 SPACE FOR VISITOR IF THERE IS NO REQUIREMENT.
<b>WASTE</b>	3-BIN SYSTEM (RUBBISH, RECYCLING, FOGO) + PROVISION OF SPACE FOR FUTURE GLASS WASTE
<b>URBAN ECOLOGY</b>	AT LEAST 1% OF THE SITE IS COVERED WITH VEGETATION
<b>MATERIALS</b>	TIMBER FRAMING IF USED TO BE CERTIFIED PEFC, AF5 OR F5C - NO RAINFOREST TIMBER TO BE USED STEEL TO BE SOURCED FROM STEEL MAKER WITH ISO 14001 FACILITY A MEMBER OF THE WORLD STEEL ASSOCIATION'S (WSA) CLIMATE ACTION PROGRAM (CAP), CARPET AND UNDERLAY WITH THIRD-PARTY SUSTAINABLE CERTIFICATION (GEGA, CARPET INSTITUTE EC6 ETC.)



**SITE PLAN - PROPOSED**  
1:250



**SITE PLAN - PROPOSED**

AT: 5 MILL RD LARA 3212  
 FOR: APCO SERVICE STATIONS PTY. LTD.

DATE: FRIDAY, 13 MARCH 2026  
 REV: TP5  
 SCALE: 1:250

**TOWN PLANNING**

**TP103**

**APCO LARA**

THIS DRAWING AND THE IDEAS CONTAINED HEREIN ARE PROTECTED BY COPYRIGHT. NO LICENCE IS IMPLIED EXPRESSED OR ASSIGNED UNLESS ACKNOWLEDGED SEPARATELY IN WRITING



# Appendix B

## Swept Path Diagrams



VEHICLE PROFILE

**VEHICLE USED IN SIMULATION**

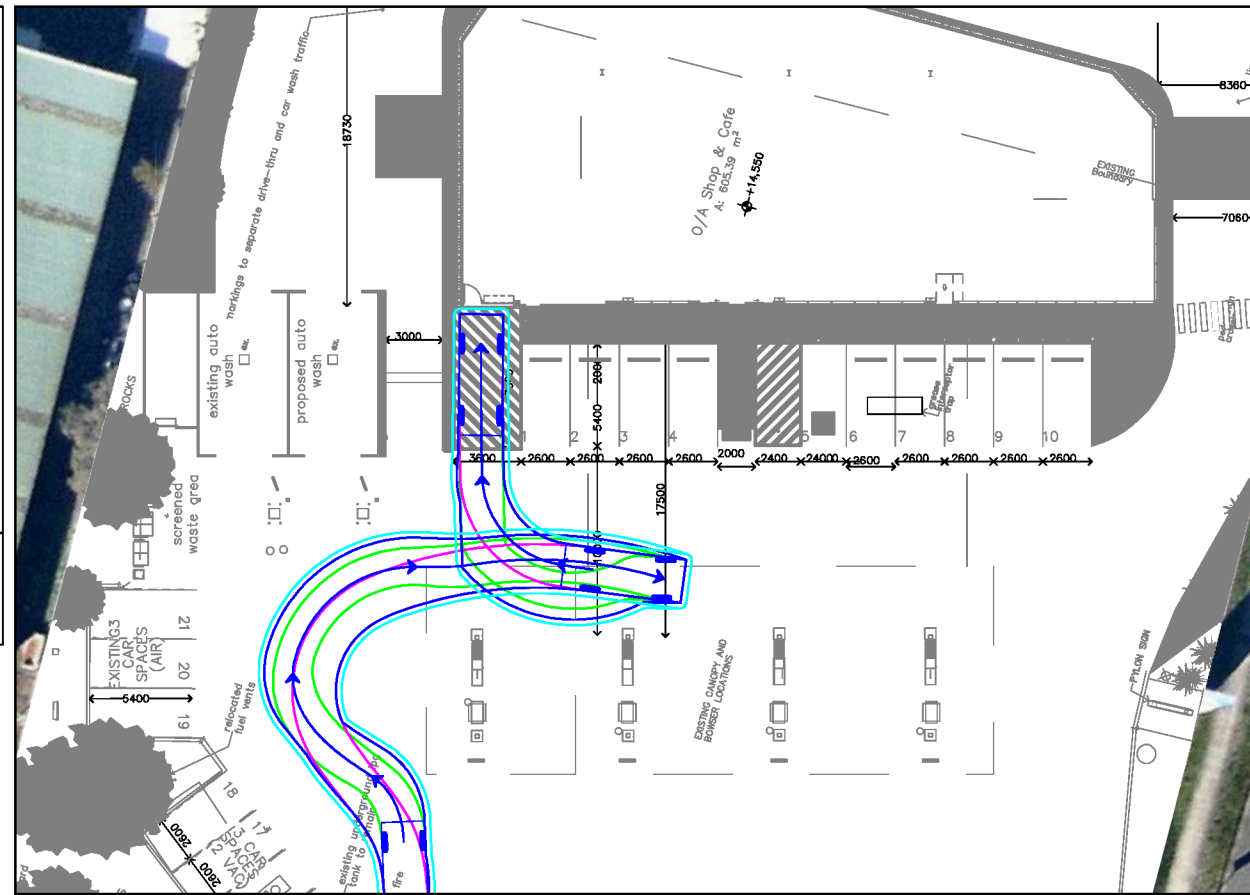
**MRV (AS 2890.2)** mm

Width : 2500  
 Track : 2500  
 Lock to Lock Time : 6.0  
 Steering Angle : 34.0

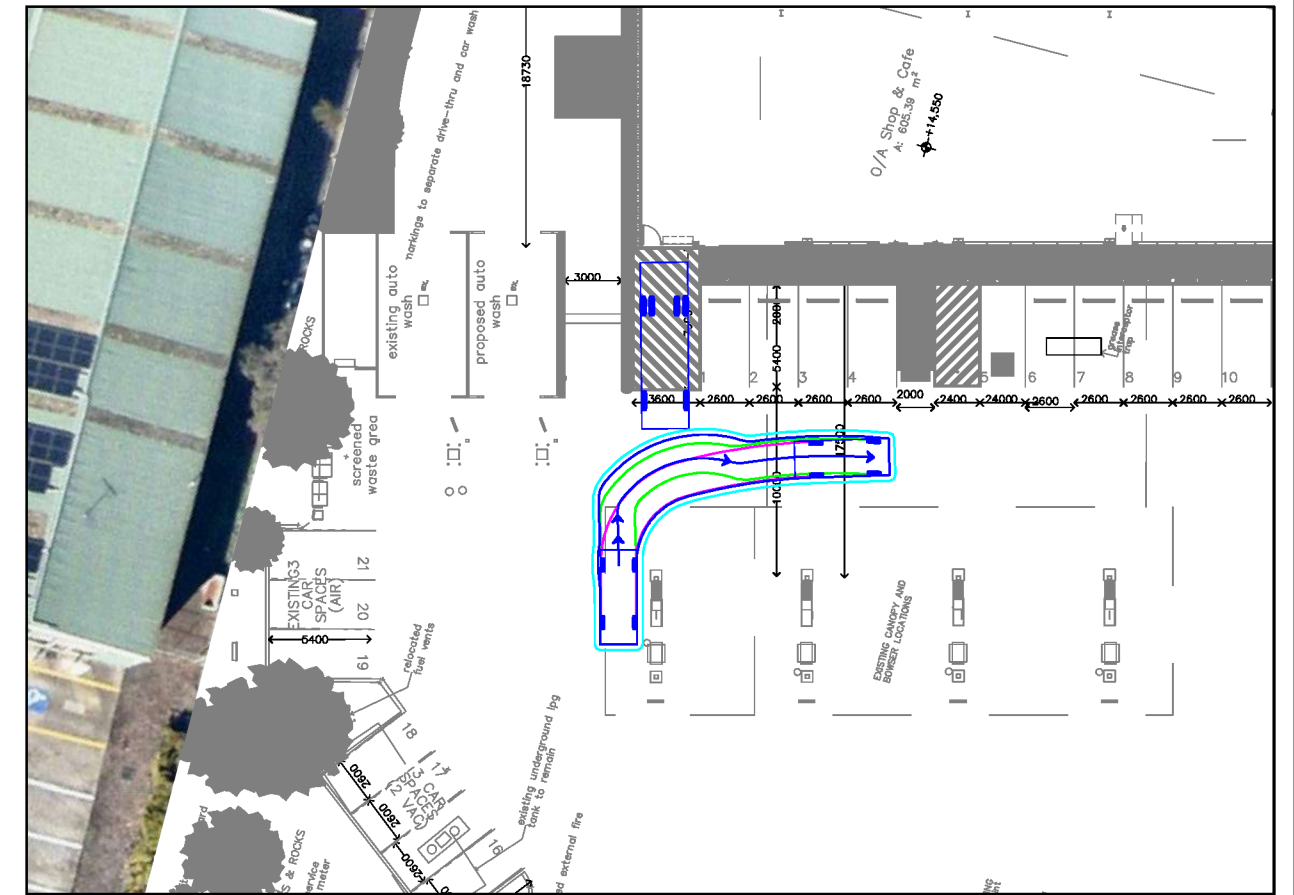
**LEGEND**

- REAR WHEELS (pink line)
- FRONT WHEELS (green line)
- VEHICLE BODY (blue line)
- BODY CLEARANCE (cyan line)

8.8m INGRESS



B99 PASSING PARKED 8.8m



6.4m SRV INGRESS

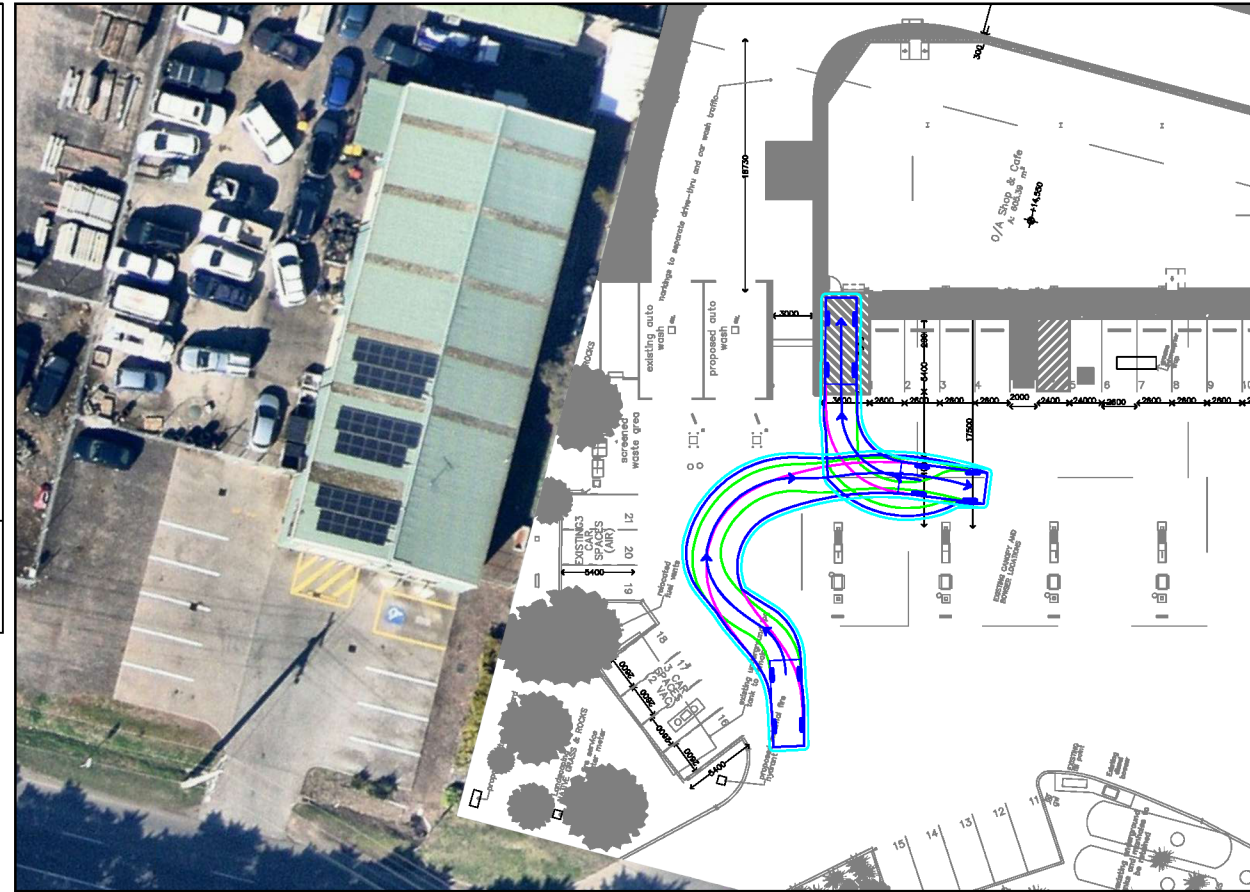
**VEHICLE USED IN SIMULATION**

**SRV (AS 2890.2)** mm

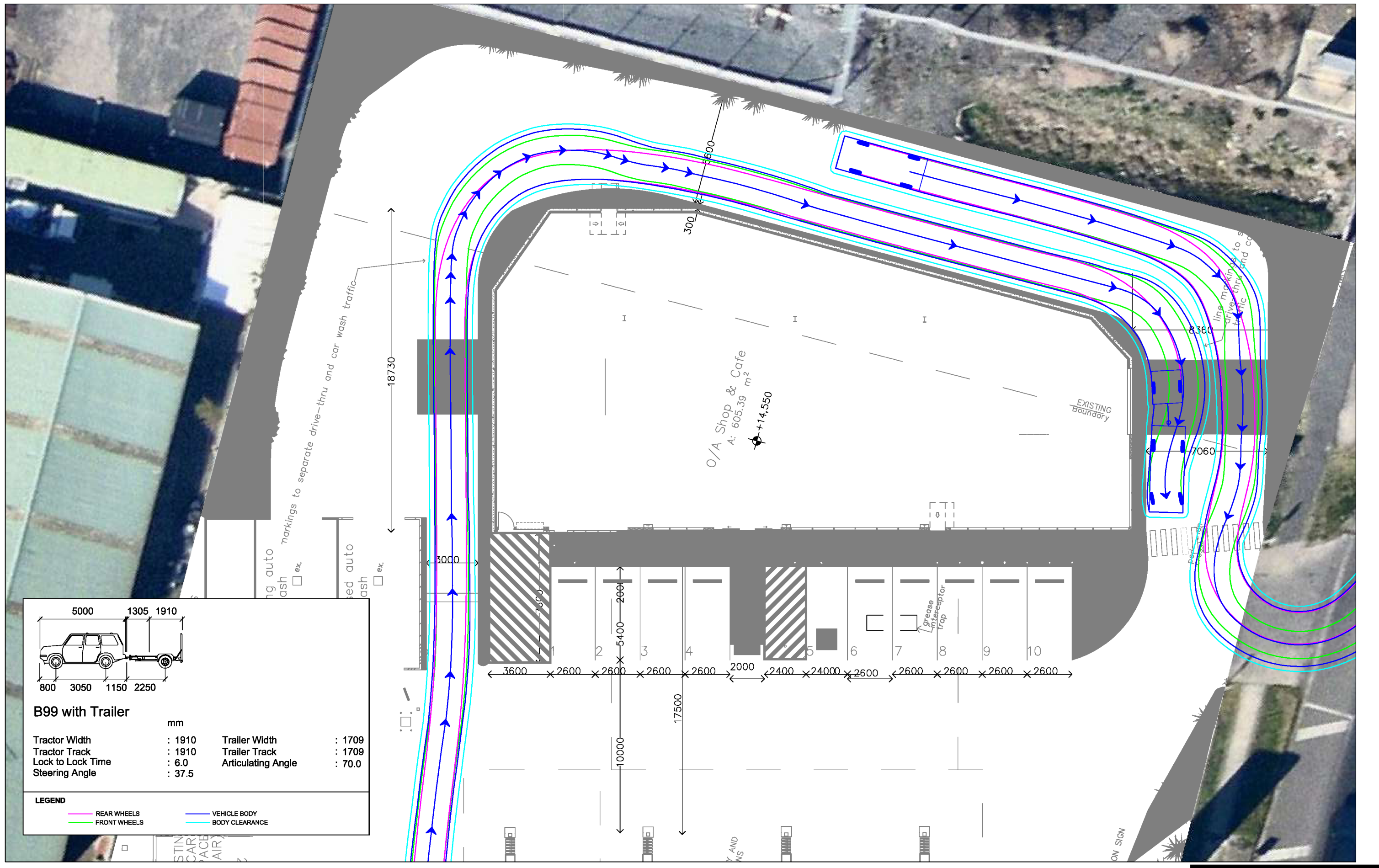
Width : 2300  
 Track : 2300  
 Lock to Lock Time : 6.0  
 Steering Angle : 38.0

**LEGEND**

- REAR WHEELS (pink line)
- FRONT WHEELS (green line)
- VEHICLE BODY (blue line)
- BODY CLEARANCE (cyan line)



B99 PASSING B99 AND TRAILER



REV	DATE	NOTES
A	06/10/2025	TOWN PLANNING
B	20/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

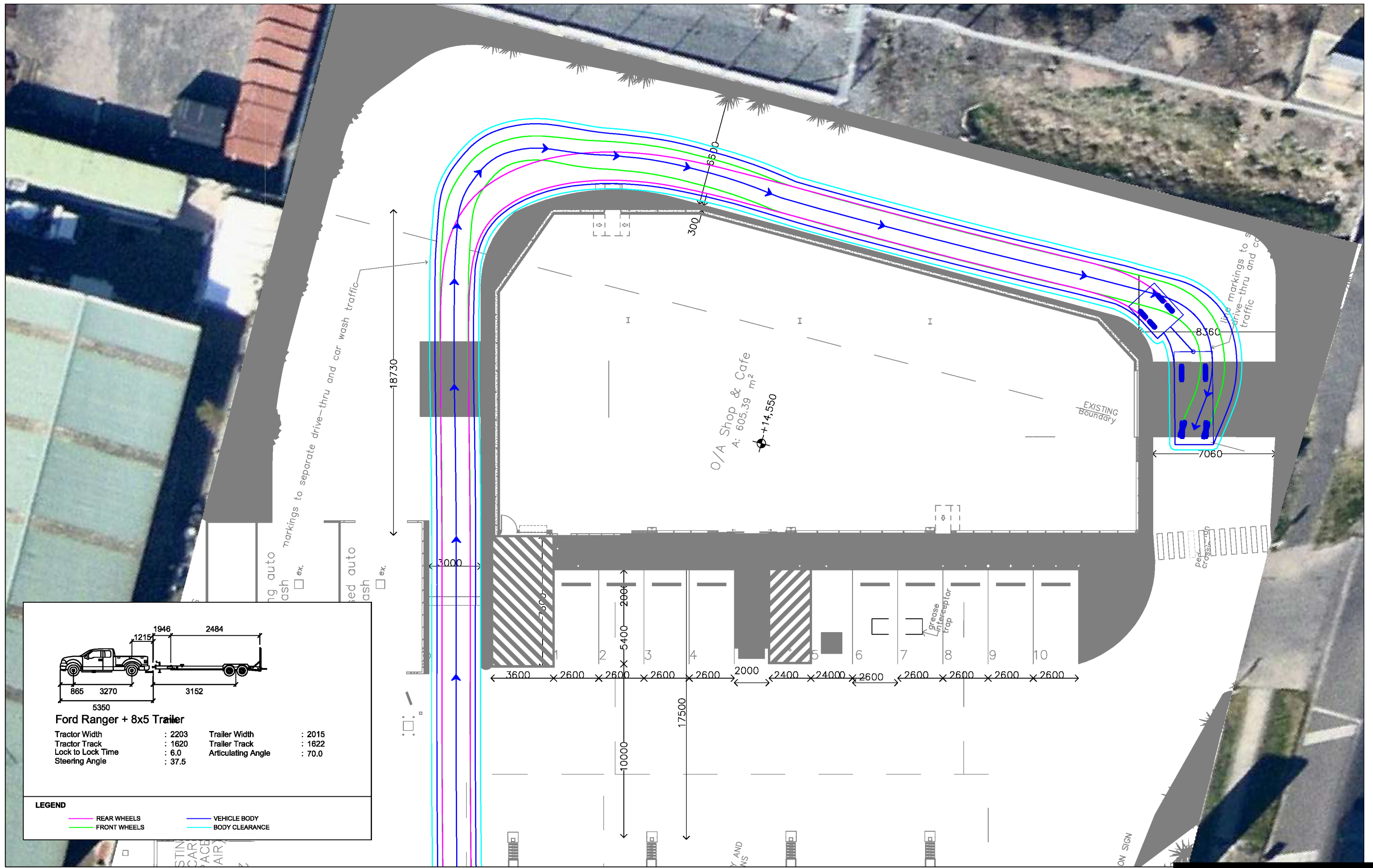
**5 MILL ROAD, LARA**  
**SERVICE STATION REDEVELOPMENT**

**GENERAL NOTES:**  
 BASE INFORMATION FROM: TP103 SITE PLAN  
 - PROPOSED.dwg

FILE NAME: G37355-01D.dwg  
 SHEET NO.: 02

SCALE: 1:200 (A3)

FORD RANGER AND 8x5 TRADE TRAILER



**Ford Ranger + 8x5 Trailer**

Tractor Width	: 2203	Trailer Width	: 2015
Tractor Track	: 1620	Trailer Track	: 1822
Lock to Lock Time	: 6.0	Articulating Angle	: 70.0
Steering Angle	: 37.5		

**LEGEND**

- REAR WHEELS (Pink line)
- FRONT WHEELS (Green line)
- VEHICLE BODY (Blue line)
- BODY CLEARANCE (Cyan line)

REV	DATE	NOTES
A	14/10/2025	TOWN PLANNING
B	20/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

**5 MILL ROAD, LARA**  
SERVICE STATION REDEVELOPMENT

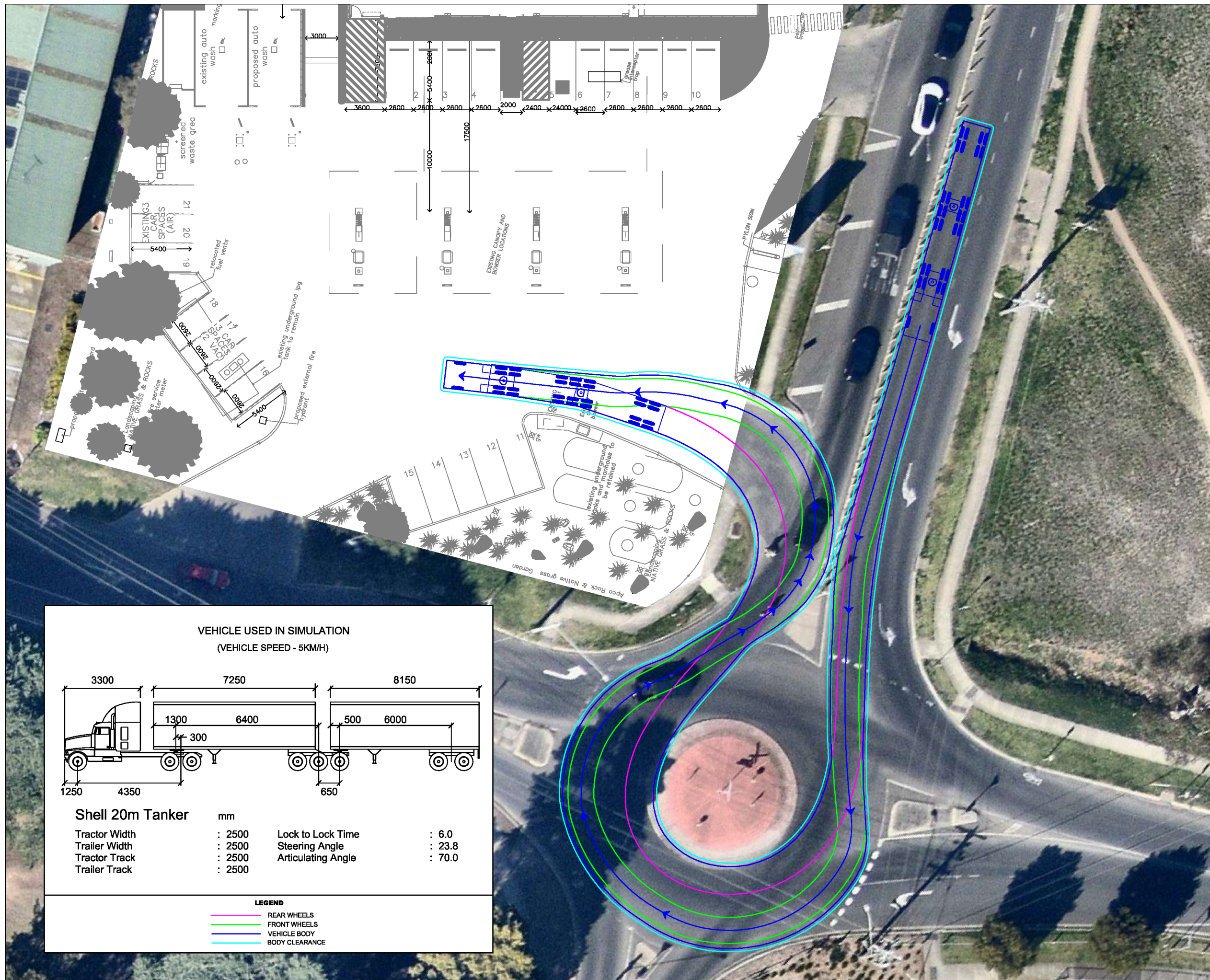
**GENERAL NOTES:**  
BASE INFORMATION FROM: TP103 SITE PLAN - PROPOSED.dwg

FILE NAME: G37355-01D.dwg  
SHEET NO.: 03



SCALE: 1:200 (A3)

**SHELL 20M TANKER ENTRY**



**VEHICLE USED IN SIMULATION**  
(VEHICLE SPEED - 5KM/H)

Shell 20m Tanker		mm	
Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 23.8
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

**LEGEND**

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

**5 MILL ROAD, LARA**  
SERVICE STATION REDEVELOPMENT



REV	DATE	NOTES
A	17/10/2025	TOWN PLANNING
B	20/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

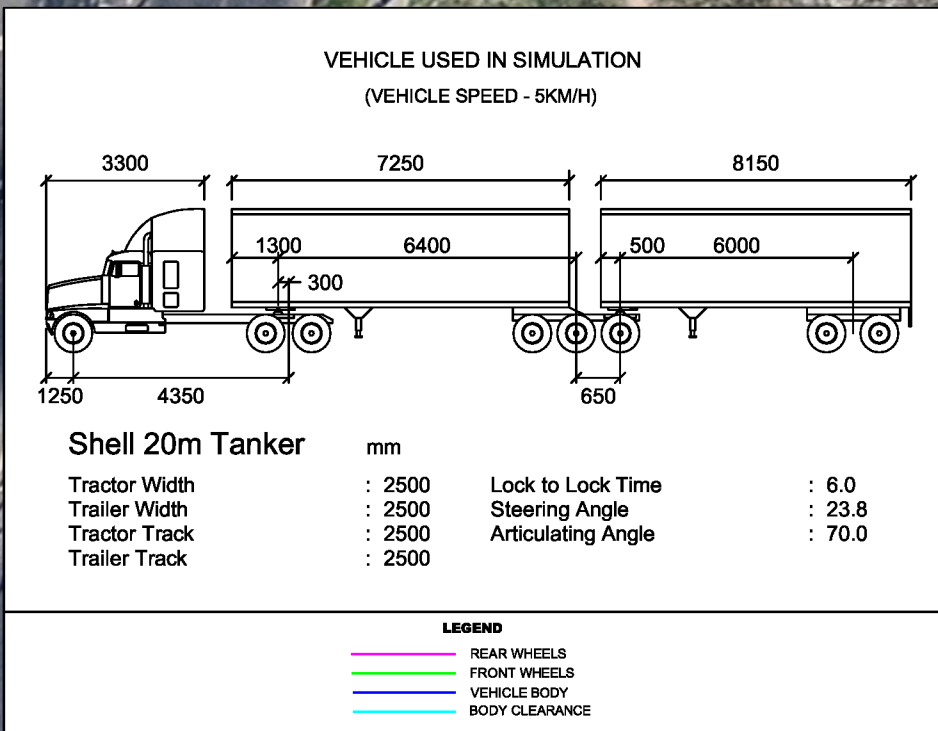
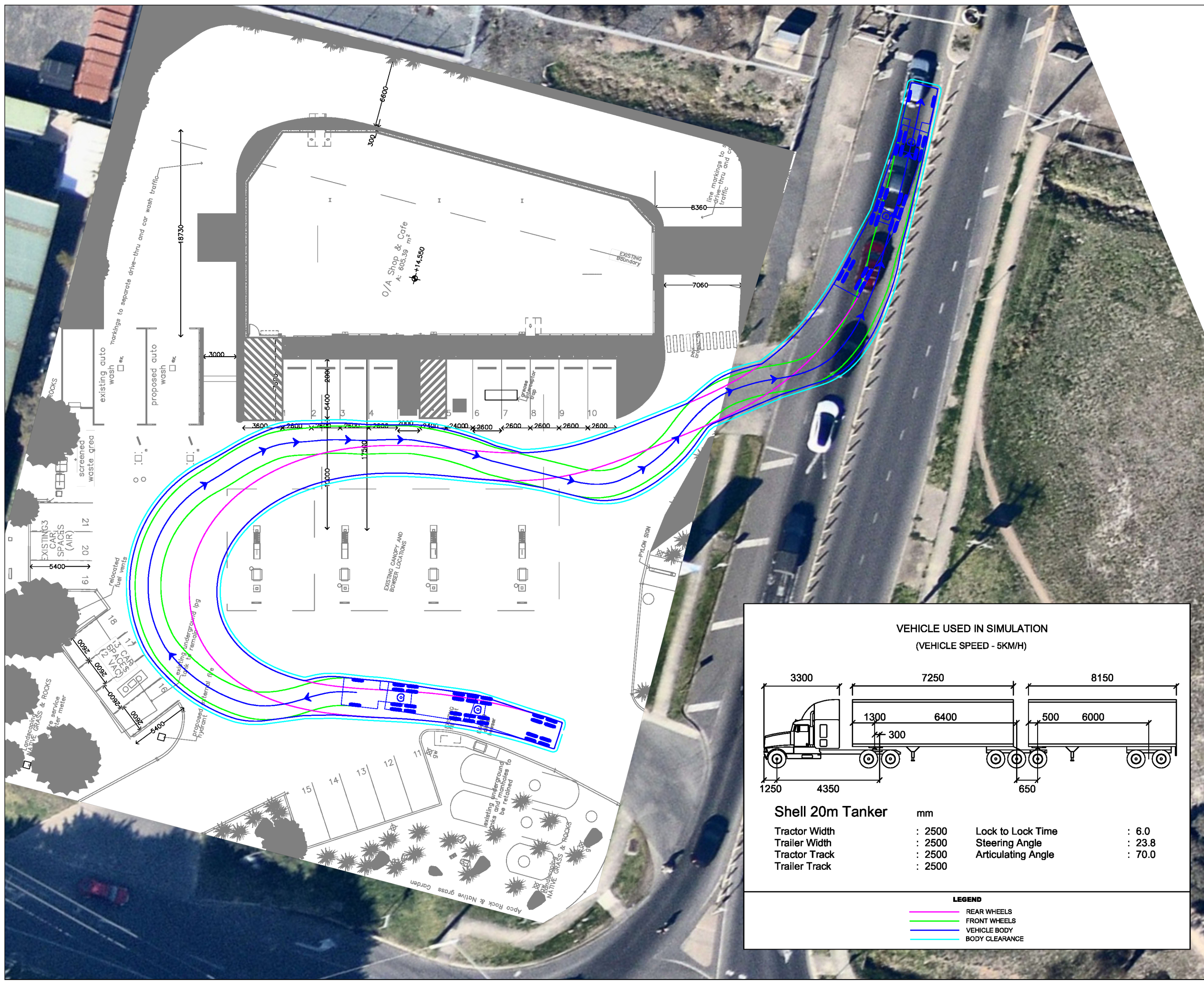
FILE NAME: G37355-01D.dwg  
SHEET NO.: 4



SCALE: 1:200 (A3)

COPYRIGHT: The ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

**SHELL 20M TANKER EXIT**



**5 MILL ROAD, LARA**  
SERVICE STATION REDEVELOPMENT

DESIGNED BY  
R. BANDARA

CHECKED BY  
J. DUNSTONE

REV	DATE
A	17/10/20
B	20/10/20
C	04/03/20
D	25/03/20

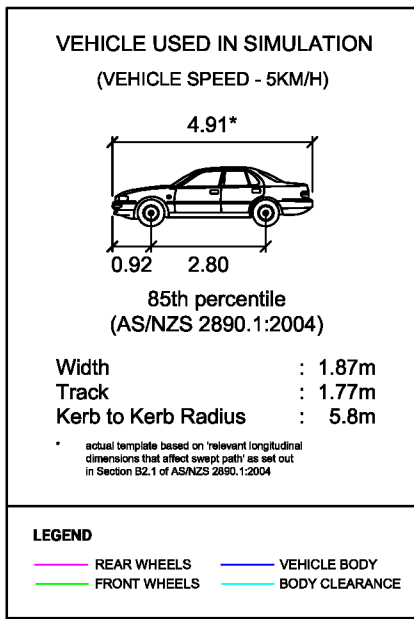
FILE NAME: G37355-01D.dwg  
SHEET NO.: 5

SCALE: 1:200 (A3)

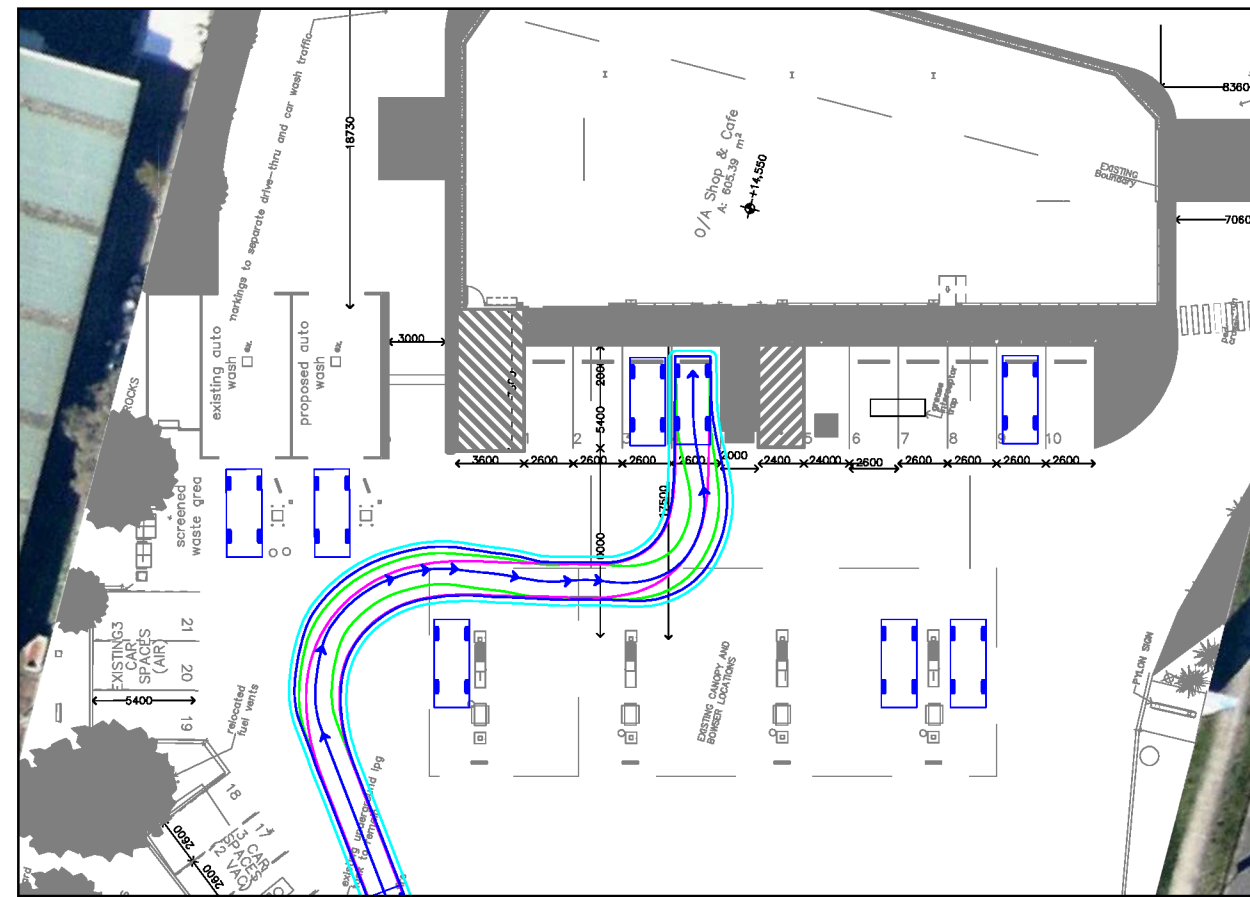
COPYRIGHT: The ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.



VEHICLE PROFILE



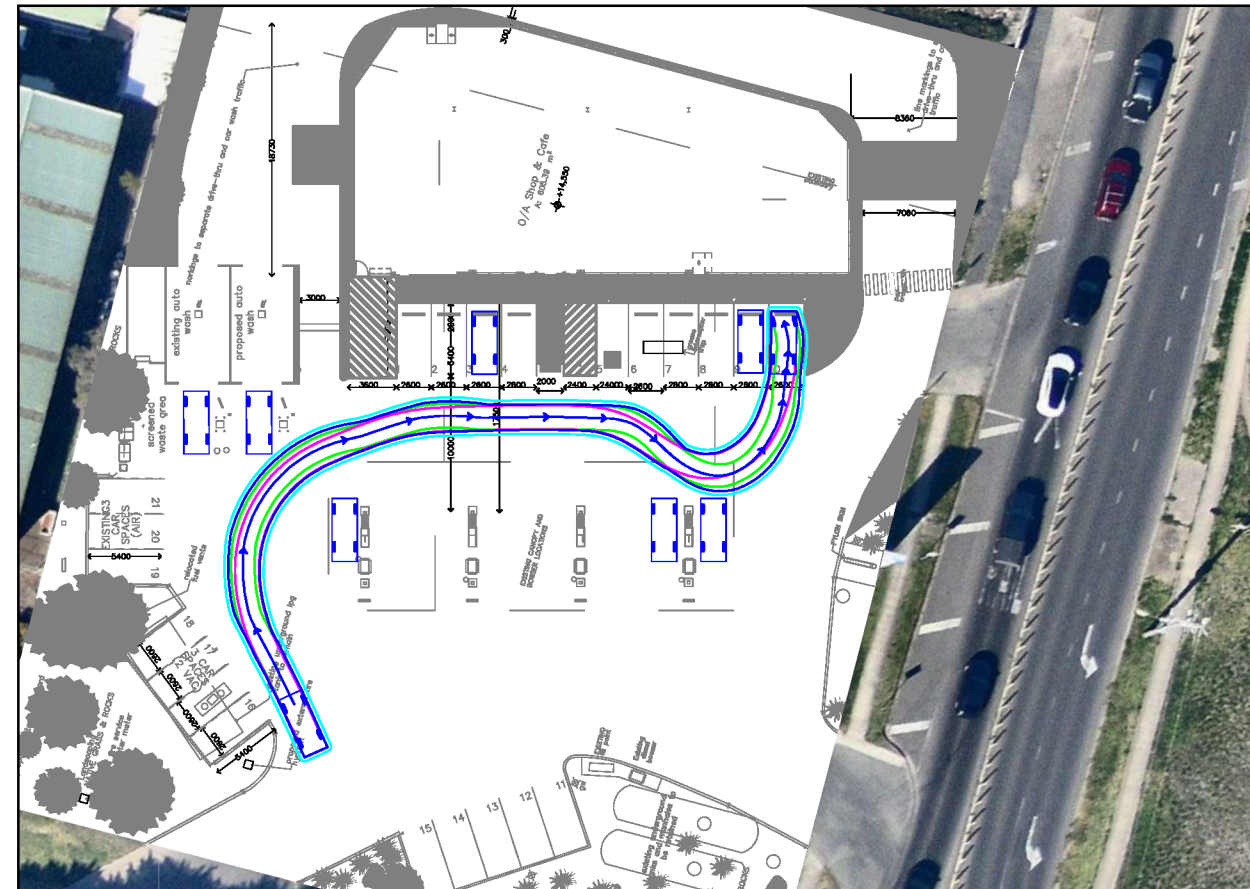
CAR SPACE INGRESS



CAR SPACE EGRESS



CAR SPACE INGRESS



CAR SPACE EGRESS



REV	DATE	NOTES
A	06/10/2025	TOWN PLANNING
B	22/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

MILL ROAD, LARA  
SERVICE STATION REDEVELOPMENT

GENERAL NOTES:  
BASE INFORMATION FROM: TP103 SITE PLAN  
- PROPOSED.dwg

FILE NAME: G37355-01D.dwg  
SHEET NO.: 06

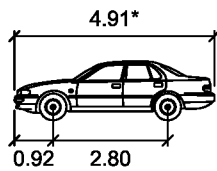


SCALE: 1:400 (A3)  
0 4 8

VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



85th percentile  
(AS/NZS 2890.1:2004)

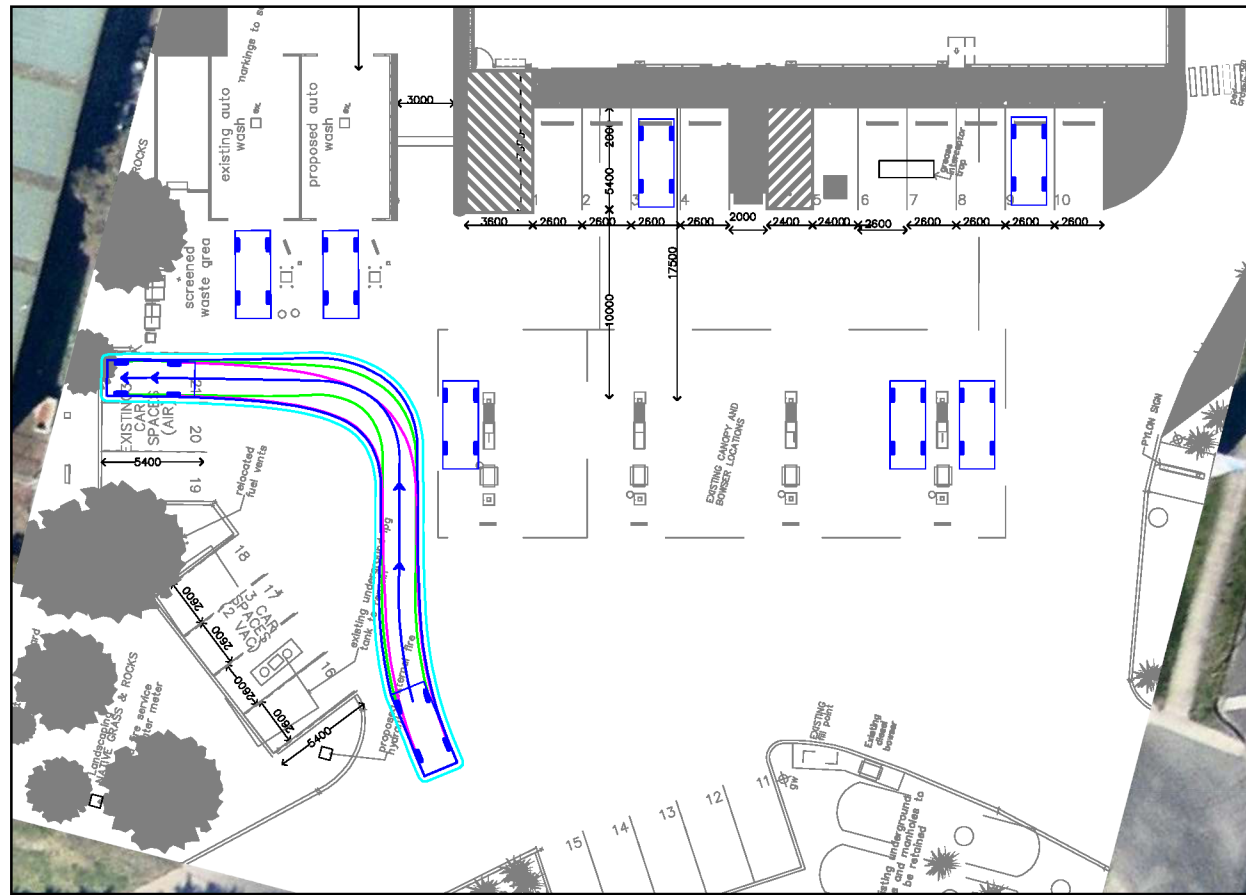
Width : 1.87m  
Track : 1.77m  
Kerb to Kerb Radius : 5.8m

\* actual template based on relevant longitudinal dimensions that affect swept path\* as set out in Section B2.1 of AS/NZS 2890.1:2004

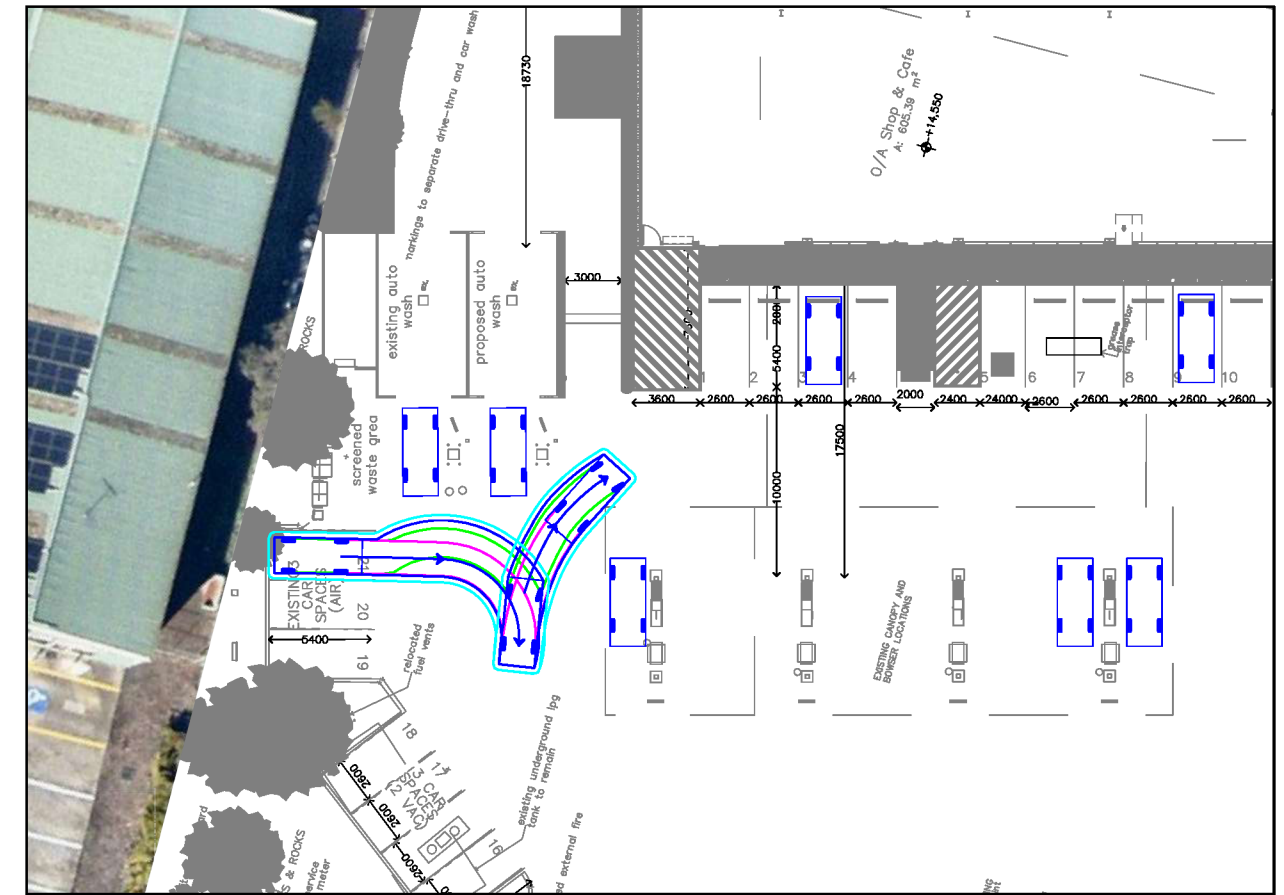
LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

CAR SPACE INGRESS



CAR SPACE EGRESS



REV	DATE	NOTES
A	06/10/2025	TOWN PLANNING
B	22/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

5 MILL ROAD, LARA  
SERVICE STATION REDEVELOPMENT

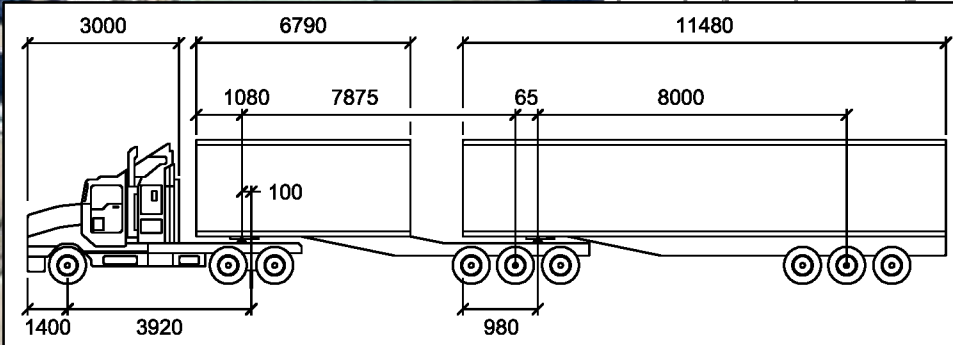
GENERAL NOTES:  
BASE INFORMATION FROM: TP103 SITE PLAN  
- PROPOSED.dwg

FILE NAME: G37355-01D.dwg  
SHEET NO.: 07



SCALE: 1:400 (A3)

23M B-DOUBLE ENTRY AND EXIT

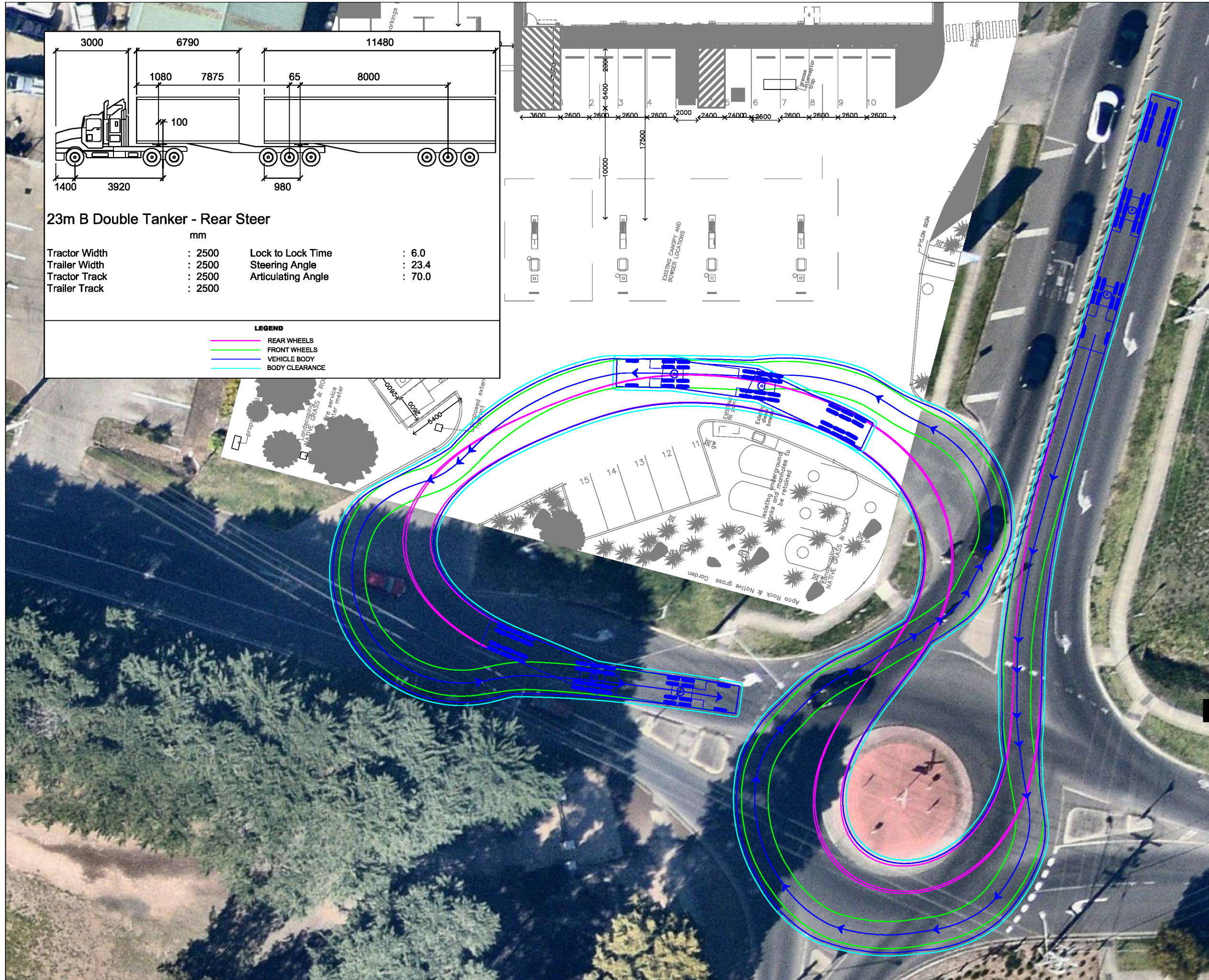
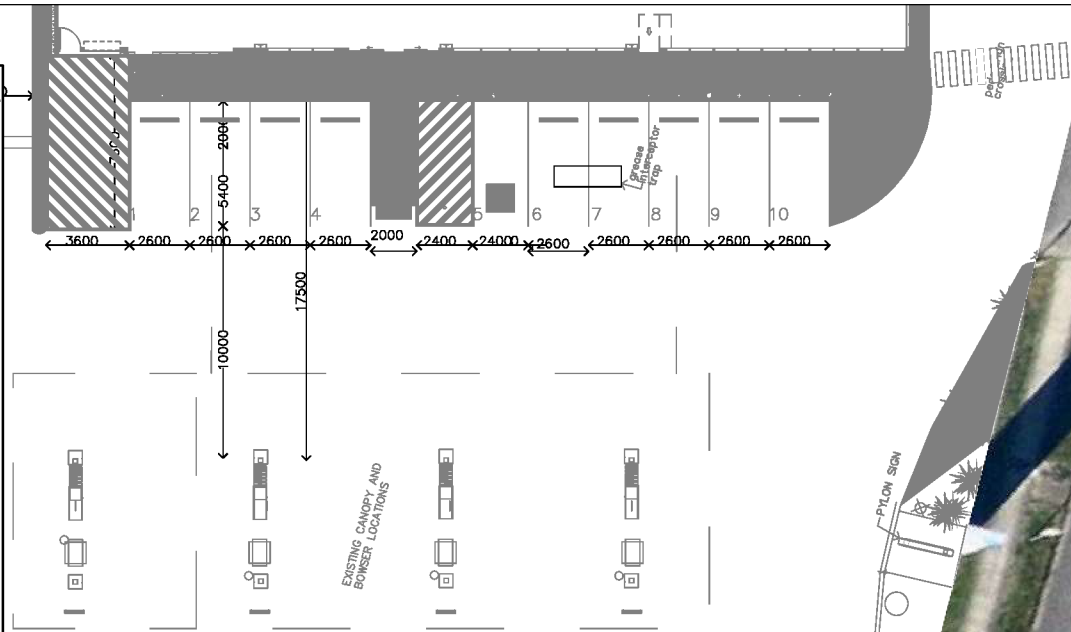


23m B Double Tanker - Rear Steer

mm			
Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 23.4
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE



5 MILL ROAD, LARA  
SERVICE STATION REDEVELOPMENT

GENERAL NOTES:  
BASE INFORMATION FROM: TP103 SITE PLAN - PROPOSED

REV	DATE	NOTES
A	17/10/2025	TOWN PLANNING
B	20/10/2025	TOWN PLANNING
C	04/03/2026	TOWN PLANNING
D	25/03/2026	TOWN PLANNING

FILE NAME: G37355-01D.dwg  
SHEET NO.: 8



SCALE: 1:200 (A3)  
0 2 4