

**TRAFFIC AND PARKING IMPACT ASSESSMENT OF THE
PROPOSED SUPERMARKET, CAFE & DRIVE-THROUGH BOTTLE SHOP
AT 35-37 QUONDOLA STREET, PAMBULA**



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Development Type: Proposed Supermarket, Cafe & Drive-through Bottle Shop

Site Address: 35-37 Quondola Street, Pambula

Prepared for: PLANNED - Town Planning Solutions

Document reference: 200630.03FB

Status	Issue	Prepared By	Checked By	Date
Draft	A	SI/DW	MM	25 th May 2021
Final	A	DW	MM	28 th May 2021
Final	B	MM		20 October 2022

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1 INTRODUCTION

McLaren Traffic Engineering was commissioned by *PLANNED - Town Planning Solutions* to provide a Traffic and Parking Impact Assessment of the Proposed Supermarket, Cafe & Drive-through Bottle Shop at 35-37 Quondola Street, Pambula as depicted by reduced plans provided in **Annexure A** for reference.

1.1 Description and Scale of Development

The proposed development has the following characteristics relevant to traffic and parking:

- 1,263m² GFA supermarket;
- 205m² GFA café;
- 300m² GFA drive through bottle shop;
- 82m² GFA ancillary office;
- Basement / Ground level car park comprising of:
 - 98 car parking spaces including two (2) disabled parking spaces;
 - One (1) loading bay sufficient to accommodate a 20m long Articulated Vehicle.
- Hours of operation:
 - Supermarket:
 - Monday to Sunday – 7am to 7pm (standard)
 - Monday to Sunday – 7am to 9pm (summer trade)
 - Bottle Shop:
 - Monday to Friday – 8am to 9pm
 - Saturday – 9am to 8pm
 - Sunday – 10am to 7pm

Vehicular access to the site is proposed via one two-way driveway from Merimbola Street and an exit only drive-through bottle shop from Quondola Street. All servicing vehicles will enter and exit the site via Merimbola Street, with the exception of deliveries to the bottle shop which will enter via Merimbola Street and egress via Quondola Street.

The loading operations will be managed under an operational plan of management and Traffic Management Plan including traffic control plan which will permit the following operations:

- Loading and Unloading between 7am to 8am by 20m length Articulated Vehicles and 12.5m length Heavy Rigid Vehicles.
- Outside 7am to 8am, the loading dock on-site will be restricted to a maximum of 8.8m length Medium Rigid Vehicles.

The detailed Draft Operational Traffic Management Plan is reproduced in **Annexure D**.

1.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development has frontage to a classified road and therefore qualifies as such with reference to *Clause 101 of SEPP (Infrastructure) 2007*. The development therefore must satisfy that:

The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that –

- (a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and*
- (b) the safety, efficiency, and ongoing operation of the classified road will not be adversely affected by the development as a result of:*
 - i. the design of the vehicular access to the land.*
 - ii. the emission of smoke or dust from the development*
 - iii. the nature, volume or frequency of vehicles using the classified road to gain access to the land.*

An assessment of the proposal against the criteria provided in Clause 101 of SEPP (Infrastructure) is undertaken in **Section 4.4**.

The proposed development does qualify as a development of relevant size and capacity under *Clause 104 of the SEPP (Infrastructure) 2007* and is to be referred to *Transport for New South Wales (TfNSW)*, as the proposed development exceeds the minimum Gross Floor Area guidelines that has its primary access less than 90m from Princes Highway (a State Road). Accordingly, formal referral to TfNSW is necessary.

1.3 Site Description

The subject site is currently zoned *B2 – Local Centre* under the *Bega Valley Local Environmental Plan 2013* and is currently occupied by ‘*Royal Willows Hotel*’ and a drive through bottle shop. The site has frontages to Quondola Street (Princes Highway) to the west and Merimbola Street to the east and a private road to the north which accommodates a bus stop. Vehicular access to the site is provided via two (2) 5m wide driveways from Quondola Street and a single 5m wide driveway from Merimbola Street.

The site is generally surrounded by retail developments and low density residential dwellings with ‘*United Petroleum*’ service station located directly south of the site.

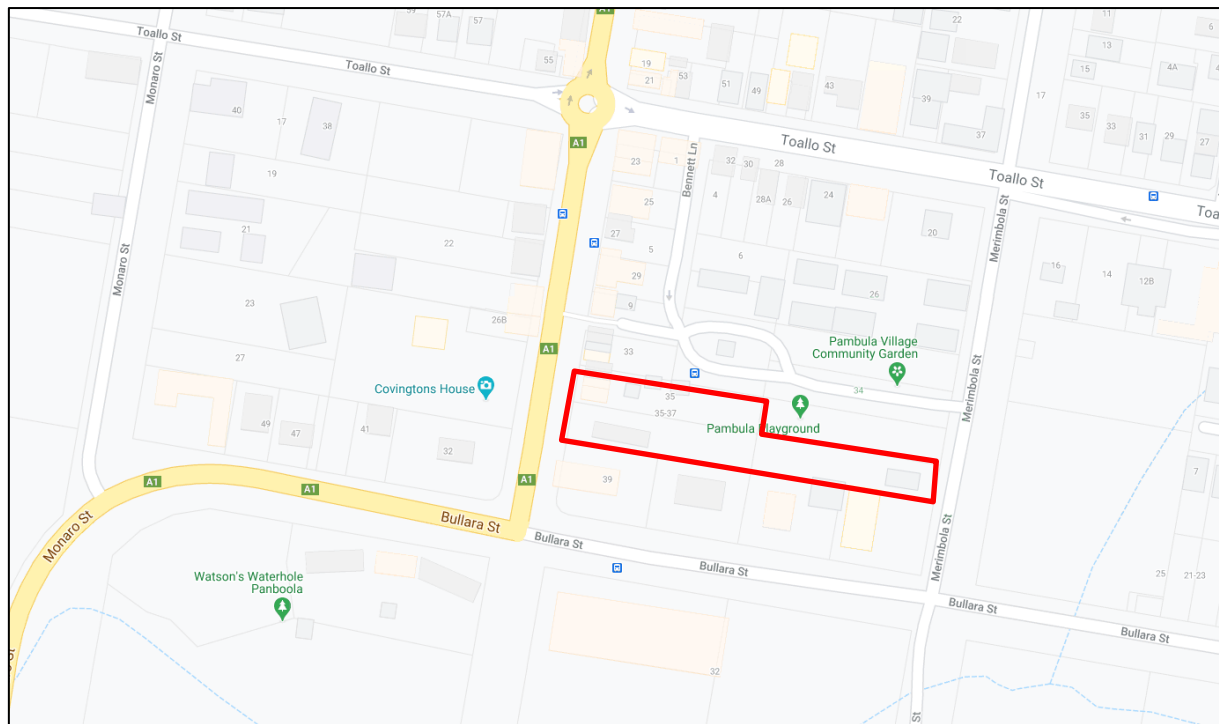
1.4 Site Context

The location of the site is shown on an aerial photo and a street map in **Figure 1** and **Figure 2** respectively.



— Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



— Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 *Road Hierarchy*

The road network servicing the site has characteristics within close proximity of the site as described in the following sub-sections.

2.1.1 Quondola Street (Princes Highway)

- TfNSW Classified STATE Highway (No. 1);
- Approximately 18m wide two-way carriageway facilitating one traffic flow lane in both directions and kerbside parking along both sides of the road;
- Signposted 50km/h speed limit;
- 1-hour restricted and line-marked kerbside parking (8:30_{AM}-6:00_{PM}, Monday to Friday & 8:30_{PM} – 12:30_{PM}, Saturday).

2.1.2 Merimbola Street

- Unclassified LOCAL Road;
- Approximately 6m wide two-way carriageway with unsealed shoulders to the south of the subject site and 10m wide two-way carriageway with unsealed shoulders to the north of the subject site. The road facilitates one traffic flow in both directions;
- No speed limit signposted, 50km/h speed limit applies;
- No kerbside parking permitted due to unsealed road shoulders.

2.1.3 Bullara Street

- Unclassified LOCAL Road;
- Approximately 10m wide two-way carriageway facilitating one traffic flow lane in both directions and kerbside parking along the southern side of the road;
- Signposted 50km/h speed limit;
- Unrestricted kerbside parking permitted along the southern side of the road.

2.1.4 Toallo Street

- TfNSW Unclassified REGIONAL Road (No. 7622);
- Approximately 18m wide two-way carriageway facilitating one traffic flow lane in both direction and kerbside parking along both sides of the road;
- Signposted 50km/h speed limit;
- Signposted 2-hour restricted parking (8:30_{AM}-6:00_{PM}, Monday to Friday & 8:30_{PM} – 12:30_{PM} Saturday) along both sides of the road.

2.2 Existing Traffic Management

- 'Give Way' controlled intersection of Merimbola Street / Toallo Street;
- Roundabout controlled intersection of Toallo Street / Quondola Street;
- 'Give Way' controlled intersection of Quondola Street / Bullara Street;
- 'Give Way' controlled intersection of Merimbola Street / Bullara Street;
- 'Give Way' controlled intersection of Merimbola Street / Bennet Lane.
- Pedestrian refuge crossing on Quondola Street located approximately 20m to the north of the subject site.

2.3 Existing Traffic

2.3.1 Traffic Surveys

Intersection traffic surveys were conducted at the intersections of Quondola Street / Bullara Street, Toallo Street / Quondola Street, Merimbola Street / Toallo Street and Merimbola Street / Bullara Street from 7:00 AM to 10:00 AM and 4:00 PM to 7:00 PM on Thursday 17th of September 2020 representing a typical operating weekday. The full survey results are shown in **Annexure B** for reference.

2.3.2 Existing Road Performance

The performance of the surrounding intersections under the existing traffic conditions has been assessed using SIDRA INTERSECTION 9.0, **Table 1** summarises the resultant intersection performance data, with full SIDRA results reproduced in **Annexure C**.

TABLE 1: EXISTING INTERSECTION PERFORMANCES (SIDRA INTERSECTION 9.0)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/veh)	Level of Service ⁽³⁾⁽⁴⁾	Control Type	Worst Movement
EXISTING PERFORMANCE						
Toallo St /Quondola St	AM	0.32	6.6 (Worst: 10.7)	A (Worst: A)	Roundabout	UT from Toallo St
	PM	0.27	6.1 (Worst: 9.9)	A (Worst: A)		UT from Toallo St
Bullara St /Quondolla St	AM	0.40	4.7 (Worst: 9.7)	NA (Worst: A)	Give Way	RT from Quondolla St
	PM	0.32	4.1 (Worst: 8.1)	NA (Worst: A)		RT from Quondolla St
Bullara St /Merimbola St	AM	0.16	1.6 (Worst: 8.6)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.13	1.6 (Worst: 7.3)	NA (Worst: A)		RT from Merimbola St
Merimbola St /Toallo St	AM	0.17	2.3 (Worst: 8.9)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.15	2.1 (Worst: 7.9)	NA (Worst: A)		RT from Merimbola St

NOTES:

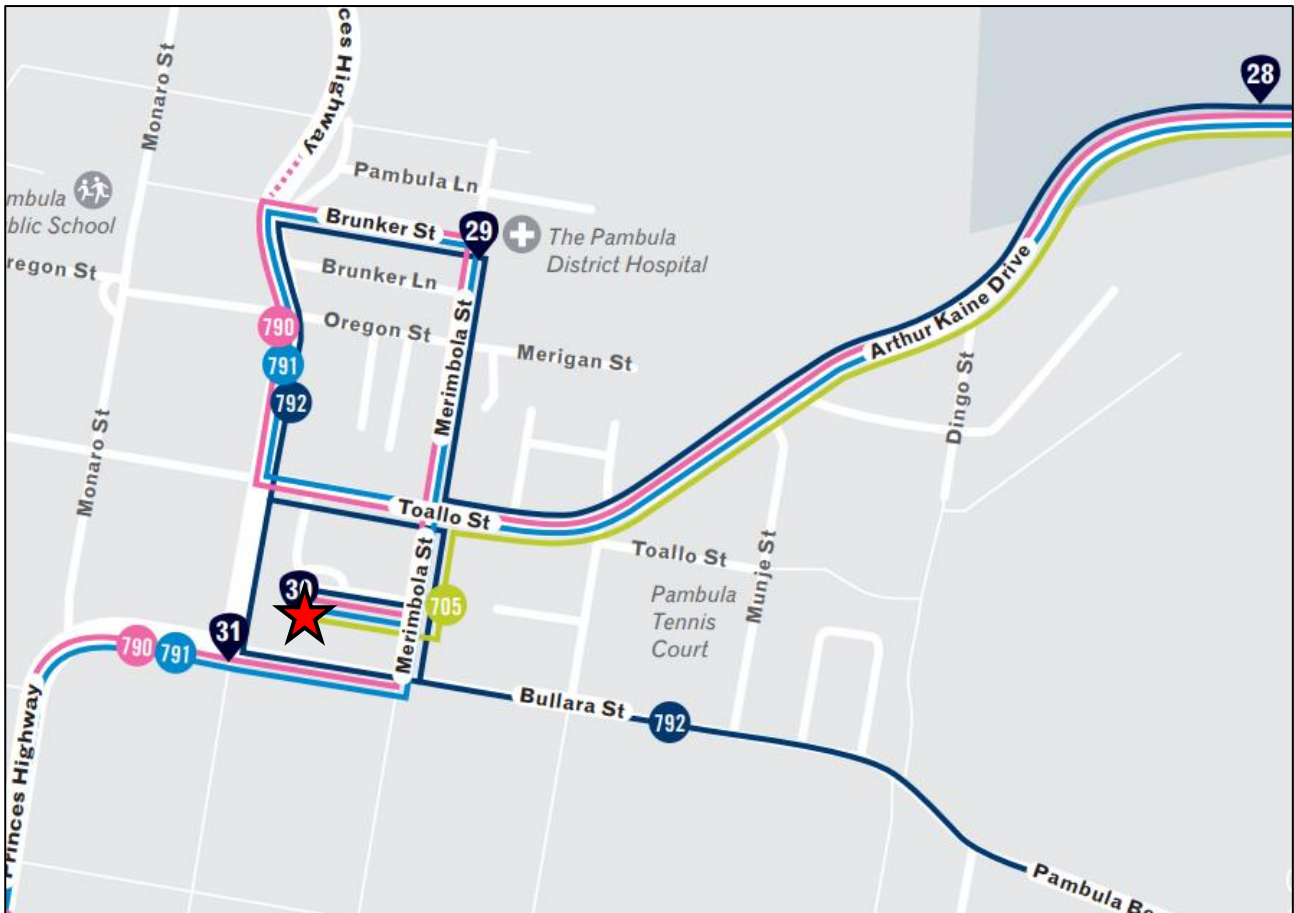
- (1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
- (2) Average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
- (3) Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.
- (4) No overall Level of Service is provided for Give Way and Stop controlled intersections as the low delays associated with the dominant movements skew the average delay of the intersection. The Level of Service of the worst approach is an indicator of the operation of the intersection, with a worse Level of Service corresponding to long delays and reduced safety outcomes for that approach.

As shown above, the relevant surrounding intersections are currently performing at a high level of efficiency, with level of service (LoS) “A” conditions in both the AM & PM peak hour periods. The LoS “A” performance is characterised by low approach delays and spare capacity.

2.4 Public Transport

The subject site has access to the existing bus stop (ID: 254918) located to the north of site at the end of Bennett Lane. The bus stop services existing bus route 890 (Bega to Eden via Wolumla & Merimbula), 891 (Bega to Eden via Kalaru & Tura Beach) and 892 (Merimbula to Pambula Beach via Pambula) provided by *Sapphire Coast Buslines*.

The location of the site subject to the surrounding public transport network is shown in **Figure 3**.



Site Location

Note: Bus Route Numbers have since changed to 890, 891 & 892.

FIGURE 3: PUBLIC TRANSPORT NETWORK MAP

2.5 Future Road and Infrastructure Upgrades

From Bega Valley Shire Council Development Application tracker and TfNSW Projects website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site.

3 **PARKING ASSESSMENT**

3.1 **Council's DCP Parking Requirement**

Reference is made to *Bega Valley Development Control Plan 2013 – August 2020 – Table 5.5: Car and bicycle parking requirements* which outlines the following car parking requirements for the proposed development:

Commercial premises – including business, office and retail premises

1 parking space per 25m² gross floor area ground floor, 1 parking space per 40m² gross floor area above ground floor except for retail which will be 1 space for 25m²

Restaurant or café

1 parking space per 25m² gross floor area

Calculations must be rounded upwards to the nearest whole number e.g. if the calculation determines that 2.3 spaces are required then 3 spaces would be required.

It should be noted that Council's DCP does not provide drive-through bottle shop car parking requirements and as such the retail rate has been adopted. The resulting parking requirements are outlined in **Table 1** below.

TABLE 2: COUNCIL DCP PARKING REQUIREMENTS

Land Use	Scale	Rate	Parking Required	Parking Provided
Supermarket ⁽¹⁾	1,263m ²	1 per 25m ²	50.5	98
Restaurant or Café	205m ²	1 per 25m ²	8.2	
Drive-through bottle shop ⁽¹⁾	300m ²	1 per 25m ²	12	
Ancillary Office	82m ²	1 per 25m ²	3.3	
Total	-	-	74	98

Note: (1) Retail parking rate adopted.

As shown above, strict application of the DCP requires the provision of **74** car parking spaces. The proposed plans detail **98** car parking spaces, representing a numerical surplus of some **24** car parking spaces.

3.2 **Disabled Parking**

Reference is made to *Bega Valley DCP 2013 – Section 5.9.2.4 Commercial Developments* which outlines the following disabled parking requirements relevant to the proposed development.

Of the car parking spaces required a minimum of one disabled persons space is to be provided per development, plus 1 per 25 spaces designed in accordance with the Australian Standard 2890.6

In medium and larger sized developments a minimum of 2 per 50 car parking spaces are to be designated for people using wheelchairs, 3 in 50 car spaces are to be designated for Seniors, and 2 in 50 car parking spaces are for parents with prams.

If the proposed development is considered to be a medium-large development than the site would require four (4) disabled car parking spaces, six (6) seniors car parking spaces and four (4) car parking spaces for parents with prams. The site provides two (2) disabled car parking spaces, nil (0) seniors car parking spaces and nil (0) car parking spaces for parents with prams. The addition and allocation of disabled, seniors and parent parking spaces can be easily achieved within the car park considering the excess parking provided if required by council.

Reference is also made to the BCA which classifies the development as a Class 6 building and as such outlines the following disabled parking requirements for the proposed site:

Class 6

1 space for every 50 carparking spaces or part thereof

As shown above, strict application of the BCA development requires two (2) disabled parking spaces. The proposed plans detail two (2) disabled parking spaces designed in accordance with AS2890.6, satisfying the BCA disabled parking requirements.

3.3 Bicycle and Motorcycle Parking Requirements

Reference is made to *Bega Valley DCP 2013 - Table 5.5: Car and bicycle parking requirements* which outlines the following bicycle parking requirements for the subject development:

Commercial premises – including business, office and retail premises

Bicycle Parking

1 space per 200sqm of gross floor area for development or redevelopment of over 1000m² floor space.

The resulting parking requirements are outlined in **Table 2** below.

TABLE 3: COUNCIL DCP BICYCLE REQUIREMENTS

Land Use	Scale	Rate	Required Bicycle Spaces	Proposed Bicycle Spaces
Supermarket	1,263m ²	1 per 200m ²	6.3	0
Drive-through bottle shop	300m ²	1 per 200m ²	1.5	
Ancillary Office	82m ²	1 per 200m ²	0.4	
Total	-	-	8.2 (9)	0

As shown above, the proposed development requires the provision of nine (9) bicycle parking spaces. The site proposes nil (0) bicycle parking spaces, however, there is sufficient

area on-site to accommodate bicycle parking. As such, the plans should be amended to reflect the provision of nine (9) bicycle spaces.

It should be noted that the DCP does not outline any bicycle parking requirement for cafés and does not provide any motorcycle parking requirements. As such no bicycle parking for the cafe or motorcycle parking are required. Nevertheless, the proposed plans detail one (1) motorcycle parking space within the car park.

3.4 Servicing & Loading

Servicing and loading requirements for the proposed development are not outlined in the DCP. The proposed development will include one (1) loading bay on the eastern side of the building for the supermarket and one (1) loading bay on the western side of the building for the bottle shop.

The maximum size vehicle proposed to use the supermarket loading bay is a 20m long Articulated Vehicle which will access and egress the site via Merimbola Street and the only time available for vehicles in excess of an 8.8m length Medium Rigid Vehicle to utilise the loading supermarket loading dock will be limited to between 7am to 8am daily.

The manoeuvre of vehicles larger than an 8.8m length Medium Rigid Vehicle in the loading dock are required to utilise some car parking spaces and hence access into the loading dock during the 7am to 8am period shall be managed under a Plan of Management (PoM) and Traffic Management Plan.

Service vehicles smaller than an 8.8m length Medium Rigid Vehicle will also access and egress the supermarket loading dock via Merimbola Street at any time during the day. The manoeuvre of vehicles up to an 8.8m length Medium Rigid Vehicle can be undertaken within the available circulation area and shall be monitored by the loading dock manager at all times under a PoM. It is recommended that a condition of consent be provided to require a Operational Traffic Management Plan.

The maximum size vehicle proposed to use the bottle shop loading bay is a 12.5m long Heavy Rigid Vehicle which will access the site via Merimbola Street and leave via Quondola Street.

A draft Operational Traffic Management Plan is presented in **Annexure D** for reference, with an example of the Traffic Control Plan provided in **Annexure F**.

Swept path testing of loading dock operations of the site is shown in **Annexure E**.

The draft Traffic Management Operations between 7am to 8am are outlined below:

- A total of 14 car parking spaces are to be vacant during the delivery operations between 7:00am to 8:00am:
 - This is only required when deliveries arrive in the morning.
- Access to car parking spaces 27 to 40 are to be restricted from public use the night prior to the AV delivery and are to be vacant the morning of delivery.
- Public vehicle access over the existing Council drain is to be restricted upon arrival of the delivery vehicle (any service vehicle over 8.8m length Medium Rigid Vehicle), such that all public parking will occur within the 50 spaces provided to the east of the existing Council drain:
 - This will be enforced by a temporary barrier (including a staff member):
 - A turning area will be provided in the event that all spaces are occupied, so that a vehicle can turn around.
- Pedestrian access between the car parking to the east of the Council drain and the supermarket will be retained and permitted but will operate under the supervision of staff so to ensure pedestrian safety during service vehicle manoeuvring. It is more than likely that some inconvenience will be caused to pedestrians, who will have to wait at most a minute for the service vehicle to park:
 - This is considered acceptable, as the time frame for deliveries will be between 7:00am to 8:00am, when the supermarket is not operating at its peak and the bottle shop is not open.
- Public vehicle access into the underground parking spaces (spaces 1 – 26) will be restricted and public vehicle egress from the underground parking spaces will be restricted towards Merimbola street:
 - This will be enforced by a temporary barrier (including staff member);
 - Alternative vehicle egress from the underground car park will be available via Quondola Street.

Once the service vehicle has manoeuvred into the loading bay, which may take up to 2 minutes, access into the underground car park and spaces 27 to 40 will be restricted from use during the unloading time period. During this time all visitors to the site will be required to use the parking east of the Council drain. During the unloading period, the only access to the bottle shop will be reserved for service vehicles. Once the supermarket service vehicle has left the site which will occur prior to 8am, all access to the underground car parking spaces and spaces 27 to 40 will be made available, with all temporary barriers removed.

The reduction of 14 car parking spaces (spaces that are required to be vacant during service vehicle entry) and the temporary nil access to spaces 1 – 26 is not expected to result in insufficient parking for the operation of the proposed development. There will be 50 car parking spaces remaining that can be utilised by the public. To determine the number of car parking spaces that would be required during the 7:00am to 8:00am period, a shopping centre parking profile has been developed based upon the results of the *RTA Land Use Data – Shopping Centres 1991* by Arup Transportation Planning. The parking profile results for the Friday and Saturday periods for a shopping centre adopting the parking requirements of the proposed developed (being 74 based upon the submitted Traffic Report) are shown in **Figure 1** and **2** below.

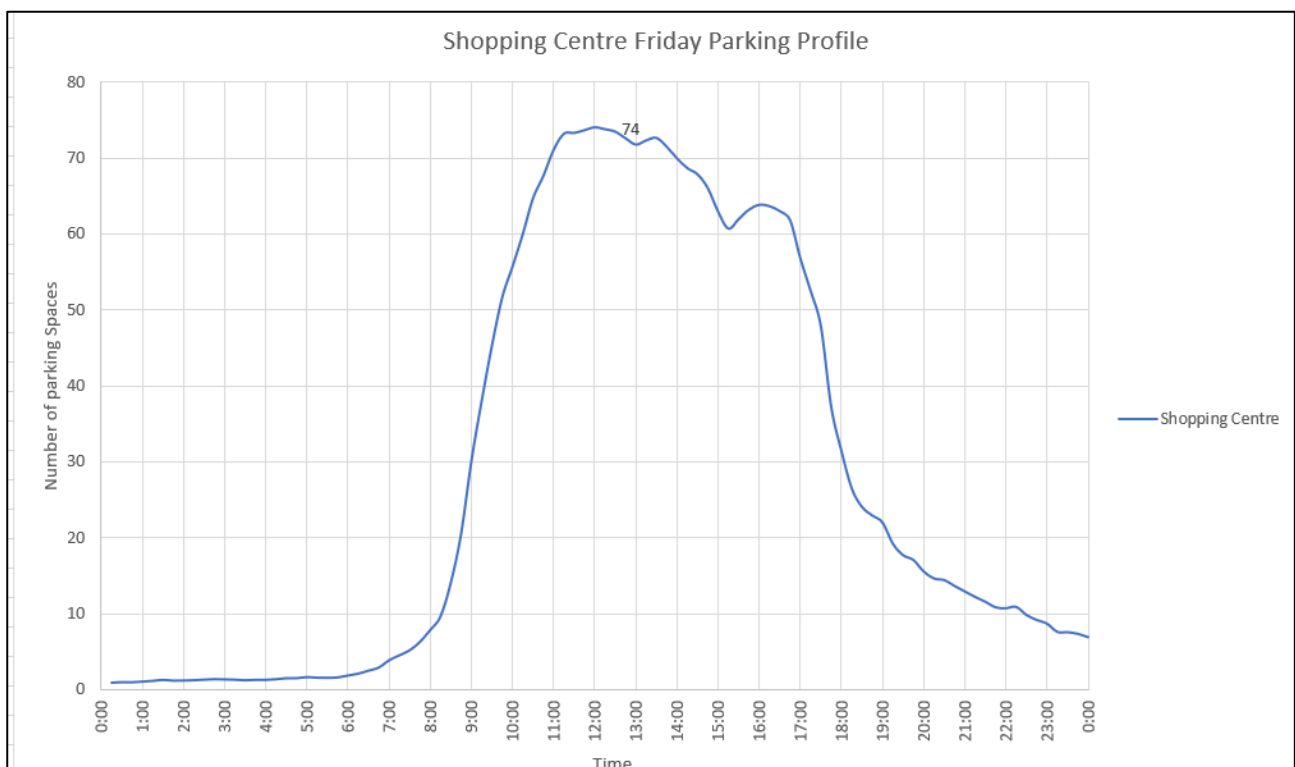


FIGURE 4: FRIDAY PEAK PARKING PROFILE (SHOPPING CENTRE)



FIGURE 5: SATURDAY PEAK PARKING PROFILE (SHOPPING CENTRE)

As shown above, between 7:00am to 8:00am, there is expected to be very limited activity at the proposed development. The anticipated parking demand during 7:00am to 8:00am is expected to be in the range of 5 - 10 vehicles, which is likely to be largely associated with staff of the developed.

3.5 Car Park Design & Compliance

The car parking layout for the subject site as depicted in **Annexure A**, have been assessed to achieve the relevant clauses and objectives of AS2890.1:2004, AS2890.2:2002 and AS2890.6:2009 with the exception of the required changes presented in Error! Reference source not found.. Swept path testing has been undertaken and the results are presented within **Annexure E**.

The proposed car park design achieves:

- 24m width two-way driveway facilitating access to Merimbola Street and 13m wide exit only driveway only Quondola Street;
- Minimum headroom of 2.2m for general circulation and 2.5m headroom clearance provided over disabled parking areas;
- Compliant ramp grades not exceeding 25% and no grade change greater than 12.5%;
- Minimum 6.2m width parking aisles;
- Minimum 5.4m length, 2.6m width car parking spaces;
- Minimum 5.4m length, 2.4m width disabled spaces with adjacent associated 5.4m length, 2.4m width shared space.

Whilst the plans have been assessed to comply with the relevant standards, it is usual and expected that a design certificate be required at the Construction Certificate stage to account for any changes following the development application.

3.5.1 Drive-Thru Bottle Shop

Reference is made to *RTA Guide to Traffic Generating Developments – Section 5.7.6 Drive-in liquor stores* which outlines the following ‘general design principles’ for drive-thru bottle shops (shown italicised).

The drive-in facility (if a component of a large development) must be integrated with the overall development so as to limit the number of access points.

The entry for the bottle shop is accessed via the driveway from Merimbola Street in conjunction with the access for the overall development. The egress driveway for the bottle shop is provided onto Quondola Street as a left out only driveway to limit the impact on Quondola Street.

The internal roadway must be a minimum of 2 lanes wide, each lane being at least 3 metres wide, with one way circulation. Off-street parking spaces for browse-room customers and employees must also be provided which must not inhibit the free flow of vehicles.

The approach lane for the bottle shop is a single lane that widens to 6.3m to accommodate two (2) lanes and four (4) customer loading spaces at a time. Off-street parking spaces are also incorporated at the rear of the site for browse-room customers and employees.

An adequate holding area must be provided to ensure that vehicles are not forced to park on the street. Vehicles must travel a minimum distance of 30 metres before reaching the serving area.

More than adequate queuing area is provided on-site to accommodate the bottle shop and sufficient parking is provided on-site such that customers will not be forced to park on street.

Separate entry / exit driveways are recommended, each with a minimum width of 4 metres and with a minimum separation of 1 metre.

Separate entry and exit driveways are provided for the bottle shop.

All loading and unloading must take place off-street. If this is to take place from a service area adjacent to the customer driveway, it must not inhibit the free flow of vehicles. The minimum height clearance of this service area must be 3.6 metres.

The loading area for the bottle shop is separate from the circulation area. In any case the operation of the loading dock will be organised under a plan of management to operate prior to 8am (the opening time of the bottle shop).

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 *Traffic Generation and Impact*

Traffic generation rates for the relevant land uses are provided in the *RTA Guide to Traffic Generating Developments (2002)* and recent supplements and are as follows:

RTA Guide

3.6 Retail.

3.6.1 Shopping centres.

For Thursdays and Fridays, the models are for the vehicle trips in the evening peak hour - V(P) – where this period has been taken as 4.30-5.30 pm.

For Saturday morning, the peak vehicle hour has been used - PVT. This is typically 11.00 am-12.00 pm. Localised variations in these peak hours can occur.

*Thursday: $V(P) = 20 A(S) + 51 A(F) + 155 A(SM) + 46 A(SS) + 22 A(OM)$
(vehicle trips per 1000m²).*

*Friday: $V(P) = 11 A(S) + 23 A(F) + 138 A(SM) + 56 A(SS) + 5 A(OM)$
(vehicle trips per 1000m²).*

where:

A(SM): Supermarket GLFA - includes stores such as Franklins and large fruit markets.

3.7 Refreshments

3.7.2 Restaurants.

Evening peak hour vehicle trips = 5 per 100 m² gross floor area.

The office component of the bottle shop and supermarket is considered ancillary to the development and as such, is not expected to be a traffic generator. Additionally, it is considered that only the selling floor area of the supermarket is considered a traffic generator such that the total selling area for the supermarket is 896m². Applying these site-specific traffic generation rates to the subject development results in the estimated traffic generation as summarised in **Table 4**.

TABLE 4: RMS ESTIMATED PEAK HOUR TRAFFIC GENERATION

Land Use	Scale	Day	Peak Hour	Rate	Traffic Generation	Trip Distribution ⁽¹⁾	
						IN	OUT
Drive Through Bottle-Shop ⁽²⁾	300m ²	Thursday	AM	5.2 per 100m ²⁽³⁾	16	8	8
			PM	15.5 per 100m ²	47	23	24
Retail – Supermarket	896m ²	Thursday	AM	5.2 per 100m ²⁽³⁾	47	23	24
			PM	15.5 per 100m ²	139	69	70
Restaurant ⁽⁴⁾	205m ²	N/A	AM	5 per 100m ²	10	5	5
			PM	5 per 100m ²	10	5	5
Total	-	Thursday V(P)	AM	-	73	36	37
			PM	-	196	97	99

Notes: (1) Retail trip generation assumed to be 50% in, 50% out for all peak periods.
 (2) Drive-through bottle shop GFA has been considered as Supermarket GFA.
 (3) AM peak hour traffic generation assumed to be 1/3 PM peak hour traffic generation.
 (4) Café has been considered as Restaurant.

As shown above the traffic generation estimated to be generated by the proposed development is in the order of **73** vehicle trips (36 IN, 37 OUT) and **196** vehicle trips (97 IN, 99 OUT) during the Thursday AM and PM peak, respectively.

4.2 Trip Assignment

The traffic generation of the site is expected to arrive and depart the site as per the existing distribution within the local road network and return from the direction they arrived from. Therefore, the following traffic assignment has been assumed:

- The direction that inbound and outbound vehicles travel as per the following:
 - 30% to / from southwest;
 - 20% to / from southeast;
 - 20% to / from northeast;
 - 30% to / from northwest.
- 100% of arriving vehicles enter from the Merimbola Street;
- Egressing vehicles utilising the following driveways:

- 100% of drive-through bottle shop users exiting onto Quondola Street;
- All other egressing vehicles departing via Merimbola Street driveway.

4.3 Traffic Impact

Since there is an existing bottle shop on-site, the traffic generated from the proposed bottle shop would have already been captured within the surrounding road network. As such, further modelling of intersections will only account for the supermarket, café and redistributed trips due to left out only driveway restrictions on Quondola Street at nearby surrounding intersections, whilst the site driveway will include the traffic generated by the whole development.

The traffic generation outlined in **Section 4.1 & 4.2** have been added to the existing traffic volumes recorded. SIDRA INTERSECTION 9.0 was used to assess the intersections performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario under the increased traffic load. The results of this assessment are shown in **Table 5** with detailed SIDRA outputs shown in **Annexure C** for reference.

TABLE 5: INTERSECTION PERFORMANCE (SIDRA INTERSECTION 9.0)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay (sec/veh) ⁽²⁾	Level of Service ⁽³⁾⁽⁴⁾	Control Type	Worst Movement
EXISTING PERFORMANCE						
Toallo St /Quondola St	AM	0.32	6.6 (Worst: 10.7)	A (Worst: A)	Roundabout	UT from Toallo St
	PM	0.27	6.1 (Worst: 9.9)	A (Worst: A)		UT from Toallo St
Bullara St /Quondola St	AM	0.40	4.7 (Worst: 9.7)	NA (Worst: A)	Give Way	RT from Quondola St
	PM	0.32	4.1 (Worst: 8.1)	NA (Worst: A)		RT from Quondola St
Bullara St /Merimbola St	AM	0.16	1.6 (Worst: 8.6)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.13	1.6 (Worst: 7.3)	NA (Worst: A)		RT from Merimbola St
Merimbola St /Toallo St	AN	0.17	2.3 (Worst: 8.9)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.15	2.1 (Worst: 7.9)	NA (Worst: A)		RT from Merimbola St
FUTURE PERFORMANCE						
Toallo St /Quondola St	AM	0.32	6.7 (Worst: 10.7)	A (Worst: A)	Roundabout	UT from Toallo St
	PM	0.28	6.2 (Worst: 10)	A (Worst: A)		UT from Toallo St
Bullara St /Quondolla St	AM	0.42	4.8 (Worst: 10.1)	NA (Worst: A)	Give Way	RT from Quondolla St
	PM	0.36	4.2 (Worst: 8.9)	NA (Worst: A)		RT from Quondolla St
Bullara St /Merimbola St	AM	0.17	1.9 (Worst: 8.7)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.16	2.4 (Worst: 7.7)	NA (Worst: A)		RT from Merimbola St
Merimbola St /Toallo St	AM	0.18	2.6 (Worst: 9)	NA (Worst: A)	Give Way	RT from Merimbola St
	PM	0.17	2.9 (Worst: 8.5)	NA (Worst: A)		RT from Merimbola St
Site Driveway /Quondolla St	AM	0.19	0.1 (Worst: 5.6)	NA (Worst: A)	Give Way	LT from Site Driveway
	PM	0.16	0.3 (Worst: 5.4)	NA (Worst: A)		LT from Site Driveway
Merimbola St /Site Driveway	AM	0.05	1.6 (Worst: 5.2)	NA (Worst: A)	Give Way	RT from Site Driveway
	PM	0.08	2.9 (Worst: 5.4)	NA (Worst: A)		RT from Site Driveway

NOTES: See Table Table 1.

As shown above the surrounding intersection all maintain a LoS “A” representing low approach delays and spare capacity. Additionally, the site driveways to Quondola Street and Merimbola Street operate with a high level of efficiency with both performing at LoS “A”. It is evident that there will be no adverse traffic impact on the existing road network as a result of the proposed development.

4.4 SEPP (Infrastructure) Clause 101

The proposed development has frontage to Quondola Street, a classified road (No. 1) and as such an assessment against the criteria in *Clause 101 of SEPP (Infrastructure)* is presented below. The relevant items raised in Clause 101 are presented below (italicised) with MTE response thereafter.

(a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and

MTE Response: The main access for the development is provided via Merimbola Street with a driveway connection provided to Quondola Street for the drive-thru bottle shop. The drive-thru bottle shop when used by visitors will be restricted to a left out only driveway and restricted to bottle shop users via a median.

(b) the safety, efficiency, and ongoing operation of the classified road will not be adversely affected by the development as a result of:

i. the design of the vehicular access to the land.

MTE Response: The proposed access onto Quondola Street will be limited to left out only via a median. A left out only driveway is the most efficient design and as such, limits impacts to the traffic flow efficiency of Quondola Street. **Section 4.3** demonstrates the proposed driveway will have no adverse traffic impact along Quondola Street.

ii. the emission of smoke or dust from the development

MTE Response: For others to address.

iii. the nature, volume or frequency of vehicles using the classified road to gain access to the land.

MTE Response: **Section 4** outlines the expected peak hour traffic generation and impact on the surrounding intersections. The traffic generation of the site will have no adverse traffic impact on the surrounding intersections.

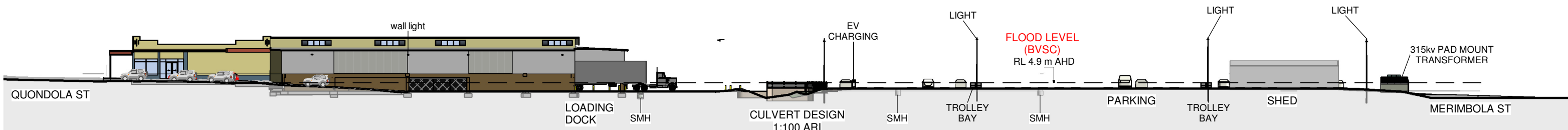
5 CONCLUSION

In view of the foregoing, the subject Proposed Supermarket, Cafe & Drive-through Bottle Shop proposal at 35-37 Quondola Street, Pambula (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts. The following outcomes of this traffic impact assessment are relevant to note:

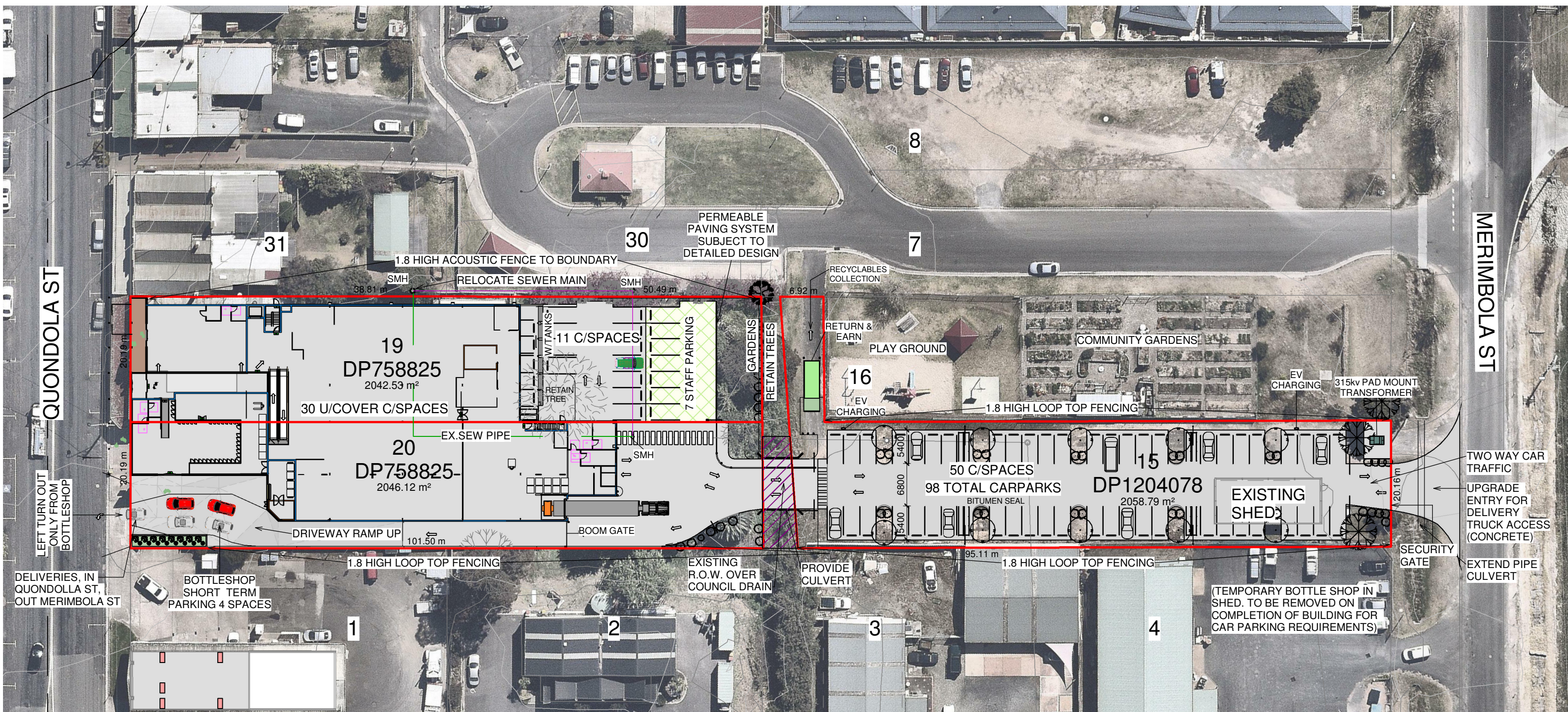
- The proposal includes the provision of **98** car parking spaces within a proposed carpark, exceeding Council's DCP requirements.
- Council's DCP requires the provision of nine (**9**) bicycle parking spaces and nil (**0**) motorcycle parking spaces. Sufficient room on-site is available to provide formalised bicycle parking spaces and should be detailed on the plans. One (**1**) motorcycle parking space has been provided within the car park.
- The proposed development will include one (1) loading bay on the eastern side of the building for the supermarket and one (1) loading bay on the western side of the building for the bottle shop. The supermarket loading bay will accommodate vehicles up to 20m long Articulated Vehicles and the loading bay for the bottle shop will accommodate vehicles up to 12.5m long Heavy Rigid Vehicles. The operations of the loading docks will be managed under a plan of management to ensure safe and efficient vehicle movements.
- The access to the site is proposed to be via a two-way driveway from Merimbola Street and a left out only driveway onto Quondola Street for bottle shop customers only via a median.
- The parking areas of the site have been assessed against the relevant sections of AS2890.1:2004, AS2890.2:2018 and AS2890.6:2009 and have been found to satisfy the objectives of each standard. Swept path testing has been undertaken and is reproduced within **Annexure E**.
- The traffic generation of the proposed development has been estimated to be some **73** vehicle trips (36 IN, 37 OUT) and **196** vehicle trips (97 IN, 99 OUT) during the Thursday AM and PM peak, respectively. The impacts of the traffic generation have been modelled using SIDRA INTERSECTION 9.0, indicating that there will be no detrimental impact to the performance of the intersections as a result of the generated traffic.



ANNEXURE A: PROPOSED PLAN
(2 SHEETS)



SITE LONG SECTION



GORDON BUILDING DESIGN P/L

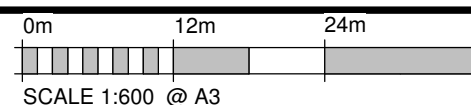
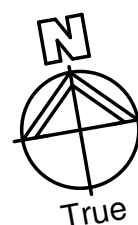


BUILDING DESIGNERS ASSOCIATION OF AUSTRALIA

10/05/2021 12:00:24 PM\NAS-01-9E-2A\media\COMBINED CLIENTS\STOLZENHEIN 1860\DRW\STOLZENHEIN 1860 DA APPROVALS 20210427.rvt

1 : 600

SITE PLAN



DA APPROVALS 20210510

SITE PLAN

07/20

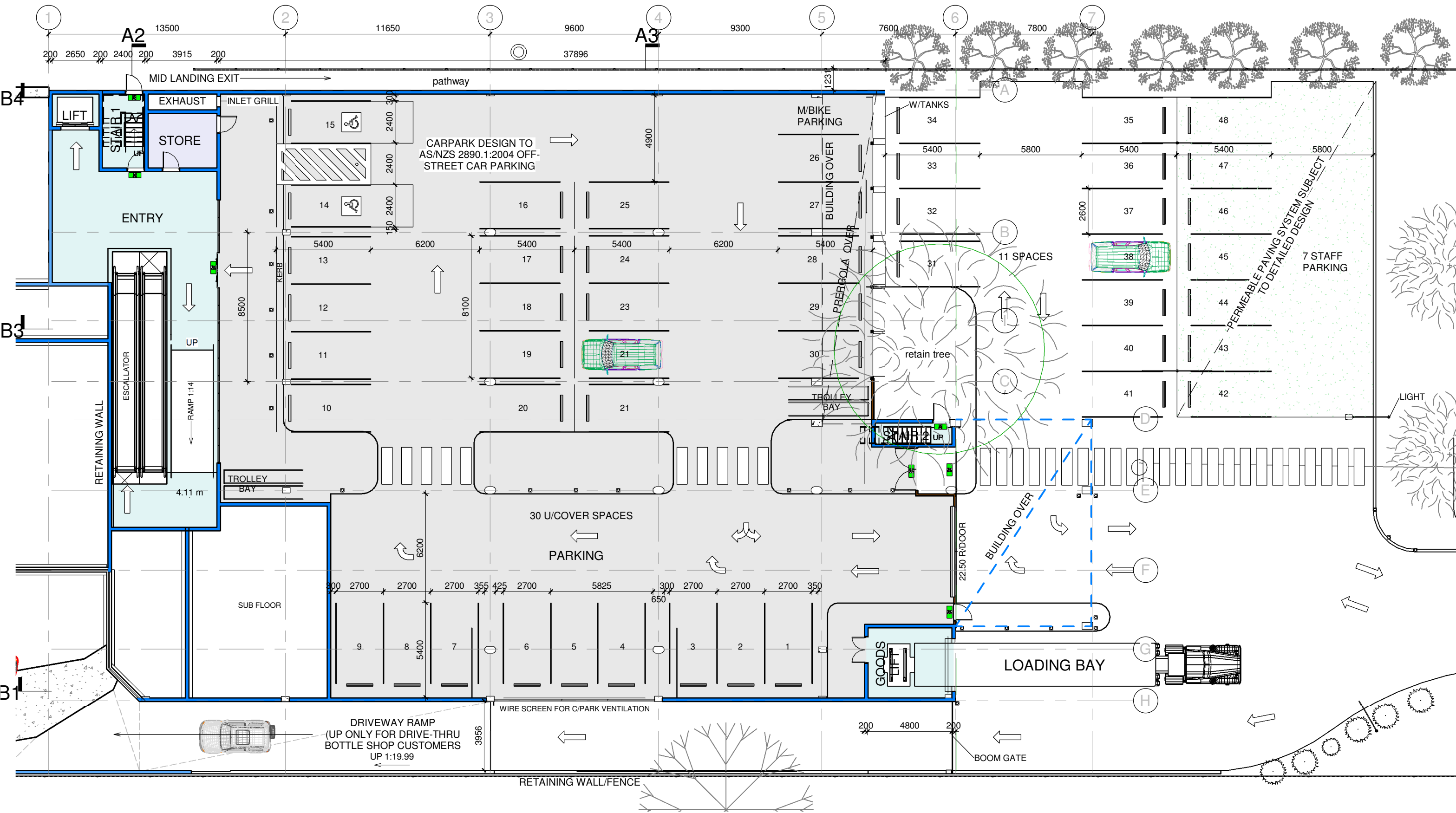
DWG NO.

1860

Design & Drawn by: S.L.G

SHEET

A-002



GORDON BUILDING DESIGN P/L

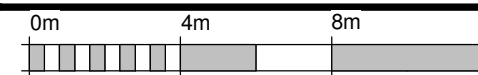
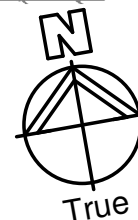


BUILDING DESIGNERS
ASSOCIATION OF AUSTRALIA

1 : 200

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DA APPROVALS 20210510

PARKING LEVEL

07/20

DWG NO.

1860

Design &
Drawn by: S.L.G

SHEET

A-102



ANNEXURE B: TRAFFIC SURVEYS
(4 SHEETS)

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

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Intersection of Toallo St and Quondola St, Pambula

GPS -36.92924, 149.8746

Date:	Thu 17/09/20
Weather:	Overcast
Suburban:	Pambula
Customer:	McLaren

North:	Quondola St
East:	Toallo St
South:	Quondola St
West:	Toallo St

Survey	AM:	7:00 AM-10:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:30 AM-9:30 AM
Peak	PM:	4:15 PM-5:15 PM

All Vehicles

Time		North Approach Quondola St				East Approach Toallo St				South Approach Quondola St				West Approach Toallo St				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	2	1	26	10	0	3	2	20	1	15	19	2	0	4	7	3	568	
7:15	7:30	0	4	29	7	0	11	4	19	0	19	38	5	1	1	7	0	634	
7:30	7:45	0	1	22	11	0	6	9	13	3	22	29	4	0	5	5	3	682	
7:45	8:00	0	5	31	14	2	8	8	24	1	28	36	2	0	2	8	6	767	
8:00	8:15	0	4	31	22	1	17	10	19	4	18	35	4	0	5	7	4	841	
8:15	8:30	0	4	33	16	2	9	13	22	5	26	33	6	0	11	11	2	916	
8:30	8:45	3	7	37	17	1	9	10	24	2	36	39	7	0	10	9	7	977	Peak
8:45	9:00	0	12	44	18	4	11	17	17	2	46	25	13	0	11	22	7	962	
9:00	9:15	0	11	33	17	0	7	27	22	4	32	25	16	0	19	29	14	896	
9:15	9:30	0	3	33	17	3	20	16	22	5	38	40	3	0	22	28	4		
9:30	9:45	1	3	36	15	1	14	3	23	5	30	30	8	0	8	16	10		
9:45	10:00	0	1	33	13	5	15	4	31	4	37	21	3	0	1	9	6		
16:00	16:15	1	5	32	12	1	21	11	19	5	38	38	3	0	6	13	7	830	
16:15	16:30	3	7	32	10	2	12	5	29	2	34	31	4	0	8	12	8	836	Peak
16:30	16:45	0	4	41	27	0	24	14	19	1	32	41	6	0	8	9	6	821	
16:45	17:00	1	2	35	18	1	16	6	20	1	30	25	4	0	4	17	7	720	
17:00	17:15	0	6	36	13	2	17	13	14	2	29	39	8	0	10	23	6	652	
17:15	17:30	0	5	30	10	2	19	14	20	1	30	25	8	0	11	6	3	561	
17:30	17:45	0	4	32	11	0	8	5	9	0	22	15	4	0	5	13	3	446	
17:45	18:00	0	8	19	10	0	11	8	13	0	19	17	4	0	3	5	2	380	
18:00	18:15	0	2	24	5	0	8	3	12	2	21	17	4	0	6	16	7	324	
18:15	18:30	0	0	13	5	0	5	6	10	0	17	11	1	0	0	1	0		
18:30	18:45	0	1	7	4	0	6	7	14	7	8	5	0	0	1	2	3		
18:45	19:00	0	1	10	4	0	6	5	5	3	16	5	3	0	0	4	1		

Peak Time		North Approach Quondola St				East Approach Toallo St				South Approach Quondola St				West Approach Toallo St				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:30	9:30	3	33	147	69	8	47	70	85	13	152	129	39	0	62	88	32	977
16:15	17:15	4	19	144	68	5	69	38	82	6	125	136	22	0	30	61	27	836

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

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Intersection of Bullara St and Quondola St, Pambula

GPS -36.93129, 149.87415

Date:	Thu 17/09/20
Weather:	Overcast
Suburban:	Pambula
Customer:	McLaren

North:	Quondola St
East:	Bullara St
South:	N/A
West:	Bullara St

Survey	AM:	7:00 AM-10:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:30 AM-9:30 AM
Peak	PM:	4:00 PM-5:00 PM

All Vehicles

Time		North Approach Quondola St			East Approach Bullara St			West Approach Bullara St			Hourly Total	
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	Hour	Peak
7:00	7:15	0	40	10	0	11	14	0	20	26	622	
7:15	7:30	0	35	14	0	8	21	0	21	54	672	
7:30	7:45	0	30	10	0	14	34	0	16	44	709	
7:45	8:00	0	41	16	0	11	41	0	35	56	788	
8:00	8:15	2	39	14	0	22	37	0	20	37	832	
8:15	8:30	0	48	18	0	17	36	0	18	53	916	
8:30	8:45	0	46	25	0	25	30	0	42	59	955	Peak
8:45	9:00	0	47	25	0	33	43	0	43	53	924	
9:00	9:15	0	59	15	0	33	51	0	53	44	881	
9:15	9:30	0	49	28	0	25	39	0	27	61		
9:30	9:45	0	45	22	0	24	31	0	25	49		
9:45	10:00	0	44	21	0	17	47	0	24	48		
16:00	16:15	0	41	16	0	21	45	0	26	63	847	Peak
16:15	16:30	0	55	14	0	18	46	0	37	53	838	
16:30	16:45	0	55	13	0	18	51	0	27	62	802	
16:45	17:00	0	41	18	0	20	33	0	34	40	716	
17:00	17:15	0	51	9	0	21	37	0	28	57	627	
17:15	17:30	0	48	13	0	12	34	0	28	52	545	
17:30	17:45	0	39	7	0	12	35	0	18	29	438	
17:45	18:00	0	27	8	0	10	15	0	7	30	358	
18:00	18:15	0	31	11	0	12	20	0	15	32	318	
18:15	18:30	0	20	3	0	6	17	0	11	23		
18:30	18:45	0	17	5	0	13	16	0	2	7		
18:45	19:00	0	10	5	0	5	10	0	5	22		

Peak Time		North Approach Quondola St			East Approach Bullara St			West Approach Bullara St			Peak total
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	
8:30	9:30	0	201	93	0	116	163	0	165	217	955
16:00	17:00	0	192	61	0	77	175	0	124	218	847

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

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Intersection of Bullara St and Merimbola St, Pambula

GPS -36.93163, 149.87667

Date:	Thu 17/09/20
Weather:	Overcast
Suburban:	Pambula
Customer:	McLaren

North:	Merimbola St
East:	Bullara St
South:	Merimbola St
West:	Bullara St

Survey	AM:	7:00 AM-10:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:30 AM-9:30 AM
Peak	PM:	4:00 PM-5:00 PM

All Vehicles

Time		North Approach Merimbola St				East Approach Bullara St				South Approach Merimbola St				West Approach Bullara St				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	3	0	1	1	3	22	0	0	0	0	0	0	0	24	6	326	
7:15	7:30	0	5	0	4	0	3	24	0	0	0	0	0	0	0	29	6	369	
7:30	7:45	0	7	1	1	0	4	41	0	0	0	0	0	0	0	24	2	402	
7:45	8:00	0	5	0	9	0	3	47	0	0	0	0	0	0	0	43	8	454	
8:00	8:15	0	3	0	3	0	7	56	0	0	0	0	0	0	1	25	8	513	
8:15	8:30	0	8	0	5	0	10	45	0	0	0	0	0	0	0	31	5	577	
8:30	8:45	0	6	0	7	0	2	49	1	0	0	0	0	0	1	60	6	607	Peak
8:45	9:00	0	7	1	11	0	16	69	2	0	0	0	0	0	1	60	7	605	
9:00	9:15	0	13	1	6	0	6	69	2	0	0	0	2	0	2	53	13	555	
9:15	9:30	0	11	0	10	0	5	52	0	0	0	0	1	0	0	42	13		
9:30	9:45	0	10	1	16	0	10	45	0	0	0	1	0	0	0	37	10		
9:45	10:00	0	12	0	11	0	4	52	0	0	0	0	0	0	0	31	14		
16:00	16:15	0	19	0	3	0	4	47	0	0	0	0	0	0	0	36	6	485	Peak
16:15	16:30	0	9	0	9	0	5	55	0	0	0	0	0	0	0	43	8	480	
16:30	16:45	0	11	0	7	0	3	58	0	0	0	0	0	0	0	34	6	444	
16:45	17:00	0	7	0	12	0	5	46	0	0	0	0	0	0	0	44	8	399	
17:00	17:15	0	13	0	15	0	0	45	0	0	0	0	0	0	0	33	4	322	
17:15	17:30	0	7	0	3	0	3	39	0	0	0	0	0	0	0	39	2	271	
17:30	17:45	0	6	0	1	0	1	41	0	0	0	0	0	0	0	24	1	216	
17:45	18:00	0	5	0	2	0	3	20	0	0	0	0	0	0	0	15	0	180	
18:00	18:15	0	3	0	1	0	0	29	0	0	0	0	0	0	0	23	3	164	
18:15	18:30	0	3	0	0	0	1	20	0	0	0	0	0	0	0	13	1		
18:30	18:45	0	2	0	0	0	2	27	0	0	0	0	0	0	0	7	0		
18:45	19:00	0	0	0	2	0	2	15	0	0	0	0	0	0	0	9	1		
Peak Time		North Approach Merimbola St				East Approach Bullara St				South Approach Merimbola St				West Approach Bullara St				Peak total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L		
8:30	9:30	0	37	2	34	0	29	239	5	0	0	0	3	0	4	215	39	607	
16:00	17:00	0	46	0	31	0	17	206	0	0	0	0	0	0	0	157	28	485	

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Toallo St and Merimbola St, Pambula

GPS -36.92958, 149.87715

Date:	Thu 17/09/20
Weather:	Overcast
Suburban:	Pambula
Customer:	McLaren

North:	Merimbola St
East:	Toallo St
South:	Merimbola St
West:	Toallo St

Survey	AM:	7:00 AM-10:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:45 AM-9:45 AM
Peak	PM:	4:15 PM-5:15 PM

All Vehicles

Time		North Approach Merimbola St				East Approach Toallo St				South Approach Merimbola St				West Approach Toallo St				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	0	1	1	0	2	23	3	0	0	1	2	0	5	21	1	358	
7:15	7:30	0	1	2	3	0	2	30	6	0	2	1	7	0	4	28	2	426	
7:30	7:45	0	0	1	0	0	2	26	7	0	4	0	5	0	7	32	1	472	
7:45	8:00	0	0	2	2	0	7	41	13	0	5	0	5	0	8	38	4	516	
8:00	8:15	0	2	2	3	0	8	28	8	0	9	4	19	0	9	33	3	572	
8:15	8:30	0	2	4	8	0	8	47	4	0	4	3	2	0	3	42	7	628	
8:30	8:45	0	3	2	1	0	5	34	10	0	7	1	5	0	3	52	6	673	
8:45	9:00	0	5	3	5	0	10	47	11	0	5	3	10	0	6	70	6	683	Peak
9:00	9:15	0	3	1	5	0	6	57	14	0	13	2	8	0	15	53	7	663	
9:15	9:30	0	0	2	6	0	6	48	14	0	4	1	15	0	9	69	5		
9:30	9:45	0	1	3	4	0	0	38	15	0	12	0	7	0	7	47	5		
9:45	10:00	0	1	4	5	0	5	40	19	0	7	3	13	0	6	57	1		
16:00	16:15	0	1	5	5	0	4	43	23	0	6	2	13	0	3	58	0	614	
16:15	16:30	0	1	4	6	0	5	34	14	0	11	1	12	0	4	53	5	615	Peak
16:30	16:45	0	2	1	8	0	4	49	11	0	3	0	9	0	5	63	4	581	
16:45	17:00	0	2	4	3	0	6	31	10	0	11	4	5	0	2	60	4	504	
17:00	17:15	0	2	3	16	0	10	39	9	0	10	0	6	0	2	67	0	441	
17:15	17:30	0	1	3	5	0	4	41	6	0	2	1	6	0	4	42	1	353	
17:30	17:45	0	2	0	3	0	4	18	4	0	0	0	2	0	2	46	1	285	
17:45	18:00	0	0	0	5	0	4	27	4	0	2	1	1	0	2	33	0	251	
18:00	18:15	0	1	2	1	0	1	24	2	0	3	0	0	0	1	39	2	216	
18:15	18:30	0	0	0	2	0	1	18	1	0	1	0	2	0	1	21	1		
18:30	18:45	0	1	0	0	0	2	29	1	0	3	0	0	0	0	11	1		
18:45	19:00	0	0	0	0	0	2	14	0	0	1	0	3	0	1	22	1		

Peak Time		North Approach Merimbola St				East Approach Toallo St				South Approach Merimbola St				West Approach Toallo St				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
8:45	9:45	0	9	9	20	0	22	190	54	0	34	6	40	0	37	239	23	683
16:15	17:15	0	7	12	33	0	25	153	44	0	35	5	32	0	13	243	13	615



ANNEXURE C: SIDRA RESULTS

(20 SHEETS)

MOVEMENT SUMMARY

 **Site: 101 [Quondola St / Toallo St EX AM (Site Folder: Existing)]**

Quondola Street / Toallo Street
Existing conditions
AM peak period
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondola St (S)														
1	L2	39	8	41	20.5	0.319	5.1	LOSA	2.0	15.3	0.44	0.59	0.44	43.1
2	T1	129	15	136	11.6	0.319	4.9	LOSA	2.0	15.3	0.44	0.59	0.44	44.3
3	R2	152	3	160	2.0	0.319	8.0	LOSA	2.0	15.3	0.44	0.59	0.44	41.0
3u	U	13	0	14	0.0	0.319	9.5	LOSA	2.0	15.3	0.44	0.59	0.44	42.1
Approach		333	26	351	7.8	0.319	6.5	LOSA	2.0	15.3	0.44	0.59	0.44	42.9
East: Toallo St (E)														
4	L2	85	9	89	10.6	0.229	5.6	LOSA	1.3	9.8	0.51	0.63	0.51	40.1
5	T1	70	2	74	2.9	0.229	5.4	LOSA	1.3	9.8	0.51	0.63	0.51	44.7
6	R2	47	3	49	6.4	0.229	8.8	LOSA	1.3	9.8	0.51	0.63	0.51	44.4
6u	U	8	0	8	0.0	0.229	10.1	LOSA	1.3	9.8	0.51	0.63	0.51	42.5
Approach		210	14	221	6.7	0.229	6.4	LOSA	1.3	9.8	0.51	0.63	0.51	43.1
North: Quondola St (N)														
7	L2	69	2	73	2.9	0.288	6.0	LOSA	1.7	12.6	0.57	0.65	0.57	43.6
8	T1	147	13	155	8.8	0.288	6.1	LOSA	1.7	12.6	0.57	0.65	0.57	44.5
9	R2	33	2	35	6.1	0.288	9.3	LOSA	1.7	12.6	0.57	0.65	0.57	45.8
9u	U	3	0	3	0.0	0.288	10.6	LOSA	1.7	12.6	0.57	0.65	0.57	46.4
Approach		252	17	265	6.7	0.288	6.5	LOSA	1.7	12.6	0.57	0.65	0.57	44.5
West: Toallo St (W)														
10	L2	32	1	34	3.1	0.216	6.0	LOSA	1.2	9.2	0.57	0.67	0.57	44.9
11	T1	88	2	93	2.3	0.216	6.0	LOSA	1.2	9.2	0.57	0.67	0.57	44.2
12	R2	62	10	65	16.1	0.216	9.7	LOSA	1.2	9.2	0.57	0.67	0.57	43.7
12u	U	1	0	1	0.0	0.216	10.7	LOSA	1.2	9.2	0.57	0.67	0.57	46.1
Approach		183	13	193	7.1	0.216	7.3	LOSA	1.2	9.2	0.57	0.67	0.57	44.2
All Vehicles		978	70	1029	7.2	0.319	6.6	LOSA	2.0	15.3	0.51	0.63	0.51	43.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [Quondola St / Toallo St EX PM (Site Folder: Existing)]**

Quondola Street / Toallo Street
Existing conditions
PM peak period
Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondola St (S)														
1	L2	22	3	23	13.6	0.265	4.7	LOSA	1.6	11.8	0.38	0.56	0.38	43.5
2	T1	136	10	143	7.4	0.265	4.6	LOSA	1.6	11.8	0.38	0.56	0.38	44.6
3	R2	125	1	132	0.8	0.265	7.7	LOSA	1.6	11.8	0.38	0.56	0.38	41.5
3u	U	6	0	6	0.0	0.265	9.3	LOSA	1.6	11.8	0.38	0.56	0.38	42.5
Approach		289	14	304	4.8	0.265	6.1	LOSA	1.6	11.8	0.38	0.56	0.38	43.4
East: Toallo St (E)														
4	L2	82	5	86	6.1	0.198	5.1	LOSA	1.1	8.2	0.45	0.60	0.45	40.3
5	T1	38	1	40	2.6	0.198	5.0	LOSA	1.1	8.2	0.45	0.60	0.45	44.7
6	R2	69	3	73	4.3	0.198	8.3	LOSA	1.1	8.2	0.45	0.60	0.45	44.5
6u	U	5	0	5	0.0	0.198	9.7	LOSA	1.1	8.2	0.45	0.60	0.45	42.6
Approach		194	9	204	4.6	0.198	6.3	LOSA	1.1	8.2	0.45	0.60	0.45	43.1
North: Quondola St (N)														
7	L2	68	2	72	2.9	0.247	5.2	LOSA	1.4	10.5	0.47	0.57	0.47	44.1
8	T1	144	15	152	10.4	0.247	5.3	LOSA	1.4	10.5	0.47	0.57	0.47	45.0
9	R2	19	2	20	10.5	0.247	8.6	LOSA	1.4	10.5	0.47	0.57	0.47	46.1
9u	U	4	0	4	0.0	0.247	9.9	LOSA	1.4	10.5	0.47	0.57	0.47	46.8
Approach		235	19	247	8.1	0.247	5.6	LOSA	1.4	10.5	0.47	0.57	0.47	44.9
West: Toallo St (W)														
10	L2	27	1	28	3.7	0.134	5.8	LOSA	0.7	5.1	0.52	0.63	0.52	45.2
11	T1	61	0	64	0.0	0.134	5.7	LOSA	0.7	5.1	0.52	0.63	0.52	44.6
12	R2	30	1	32	3.3	0.134	9.0	LOSA	0.7	5.1	0.52	0.63	0.52	44.3
12u	U	1	0	1	0.0	0.134	10.5	LOSA	0.7	5.1	0.52	0.63	0.52	46.3
Approach		119	2	125	1.7	0.134	6.6	LOSA	0.7	5.1	0.52	0.63	0.52	44.7
All Vehicles		837	44	881	5.3	0.265	6.1	LOSA	1.6	11.8	0.44	0.58	0.44	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Quondolla St / Bullara St EX AM (Site Folder: Existing)]

Quondolla Street / Bullara Street
Existing conditions
AM peak period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bullara St (E)														
5	T1	163	14	172	8.6	0.204	1.4	LOS A	1.0	7.7	0.43	0.28	0.43	46.7
6	R2	116	11	122	9.5	0.204	6.7	LOS A	1.0	7.7	0.43	0.28	0.43	42.6
Approach		279	25	294	9.0	0.204	3.6	NA	1.0	7.7	0.43	0.28	0.43	45.4
North: Quondolla St (N)														
7	L2	93	3	98	3.2	0.399	6.0	LOS A	2.0	15.6	0.46	0.75	0.59	38.6
9	R2	201	29	212	14.4	0.399	9.7	LOS A	2.0	15.6	0.46	0.75	0.59	41.7
Approach		294	32	309	10.9	0.399	8.5	LOS A	2.0	15.6	0.46	0.75	0.59	41.0
West: Bullara St (W)														
10	L2	217	15	228	6.9	0.221	4.7	LOS A	0.0	0.0	0.00	0.30	0.00	46.8
11	T1	165	9	174	5.5	0.221	0.1	LOS A	0.0	0.0	0.00	0.30	0.00	47.6
Approach		382	24	402	6.3	0.221	2.7	NA	0.0	0.0	0.00	0.30	0.00	47.1
All Vehicles		955	81	1005	8.5	0.399	4.7	NA	2.0	15.6	0.27	0.43	0.31	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Quondolla St / Bullara St EX PM (Site Folder: Existing)]

Quondolla Street / Bullara Street
Existing conditions
PM peak period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Bullara St (E)														
5	T1	175	11	184	6.3	0.164	0.8	LOS A	0.7	4.8	0.31	0.19	0.31	47.6
6	R2	77	1	81	1.3	0.164	6.1	LOS A	0.7	4.8	0.31	0.19	0.31	44.1
Approach		252	12	265	4.8	0.164	2.4	NA	0.7	4.8	0.31	0.19	0.31	46.8
North: Quondolla St (N)														
7	L2	61	2	64	3.3	0.321	5.3	LOS A	1.4	10.5	0.40	0.70	0.45	39.6
9	R2	192	20	202	10.4	0.321	8.1	LOS A	1.4	10.5	0.40	0.70	0.45	42.5
Approach		253	22	266	8.7	0.321	7.5	LOS A	1.4	10.5	0.40	0.70	0.45	42.0
West: Bullara St (W)														
10	L2	218	13	229	6.0	0.197	4.7	LOS A	0.0	0.0	0.00	0.34	0.00	46.6
11	T1	124	4	131	3.2	0.197	0.1	LOS A	0.0	0.0	0.00	0.34	0.00	47.3
Approach		342	17	360	5.0	0.197	3.0	NA	0.0	0.0	0.00	0.34	0.00	46.8
All Vehicles		847	51	892	6.0	0.321	4.1	NA	1.4	10.5	0.21	0.41	0.22	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Bullara St EX AM (Site Folder: Existing)]

Merimbola Street / Bullara Street
 Existing conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	3	0	3	0.0	0.006	5.3	LOS A	0.0	0.1	0.37	0.54	0.37	44.3
2	T1	1	0	1	0.0	0.006	5.8	LOS A	0.0	0.1	0.37	0.54	0.37	44.5
3	R2	1	0	1	0.0	0.006	7.9	LOS A	0.0	0.1	0.37	0.54	0.37	45.4
Approach		5	0	5	0.0	0.006	5.9	LOS A	0.0	0.1	0.37	0.54	0.37	44.6
East: Bullara St (E)														
4	L2	5	0	5	0.0	0.164	5.6	LOS A	0.3	2.2	0.11	0.07	0.11	48.8
5	T1	239	22	252	9.2	0.164	0.2	LOS A	0.3	2.2	0.11	0.07	0.11	49.0
6	R2	29	3	31	10.3	0.164	5.8	LOS A	0.3	2.2	0.11	0.07	0.11	47.5
Approach		273	25	287	9.2	0.164	0.9	NA	0.3	2.2	0.11	0.07	0.11	48.9
North: Merimbola St (N)														
7	L2	34	2	36	5.9	0.099	5.4	LOS A	0.3	2.6	0.41	0.64	0.41	43.5
8	T1	2	0	2	0.0	0.099	6.0	LOS A	0.3	2.6	0.41	0.64	0.41	43.7
9	R2	37	3	39	8.1	0.099	8.6	LOS A	0.3	2.6	0.41	0.64	0.41	39.3
Approach		73	5	77	6.8	0.099	7.0	LOS A	0.3	2.6	0.41	0.64	0.41	41.8
West: Bullara St (W)														
10	L2	39	2	41	5.1	0.146	4.7	LOS A	0.0	0.3	0.02	0.09	0.02	47.5
11	T1	215	10	226	4.7	0.146	0.0	LOS A	0.0	0.3	0.02	0.09	0.02	49.2
12	R2	4	0	4	0.0	0.146	5.6	LOS A	0.0	0.3	0.02	0.09	0.02	47.9
Approach		258	12	272	4.7	0.146	0.8	NA	0.0	0.3	0.02	0.09	0.02	49.0
All Vehicles		609	42	641	6.9	0.164	1.6	NA	0.3	2.6	0.11	0.15	0.11	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Bullara St EX PM (Site Folder: Existing)]

Merimbola Street / Bullara Street
 Existing conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	1	0	1	0.0	0.003	5.2	LOS A	0.0	0.1	0.37	0.53	0.37	44.5
2	T1	1	0	1	0.0	0.003	5.0	LOS A	0.0	0.1	0.37	0.53	0.37	44.7
3	R2	1	0	1	0.0	0.003	6.9	LOS A	0.0	0.1	0.37	0.53	0.37	45.5
Approach		3	0	3	0.0	0.003	5.7	LOS A	0.0	0.1	0.37	0.53	0.37	45.0
East: Bullara St (E)														
4	L2	1	0	1	0.0	0.127	5.2	LOS A	0.1	1.0	0.06	0.05	0.06	49.1
5	T1	206	9	217	4.4	0.127	0.1	LOS A	0.1	1.0	0.06	0.05	0.06	49.4
6	R2	17	0	18	0.0	0.127	5.2	LOS A	0.1	1.0	0.06	0.05	0.06	48.1
Approach		224	9	236	4.0	0.127	0.5	NA	0.1	1.0	0.06	0.05	0.06	49.3
North: Merimbola St (N)														
7	L2	31	2	33	6.5	0.096	5.2	LOS A	0.3	2.5	0.35	0.61	0.35	44.0
8	T1	1	0	1	0.0	0.096	5.2	LOS A	0.3	2.5	0.35	0.61	0.35	44.1
9	R2	46	3	48	6.5	0.096	7.3	LOS A	0.3	2.5	0.35	0.61	0.35	40.0
Approach		78	5	82	6.4	0.096	6.4	LOS A	0.3	2.5	0.35	0.61	0.35	42.0
West: Bullara St (W)														
10	L2	28	1	29	3.6	0.104	4.6	LOS A	0.0	0.1	0.01	0.08	0.01	47.7
11	T1	157	5	165	3.2	0.104	0.0	LOS A	0.0	0.1	0.01	0.08	0.01	49.3
12	R2	1	0	1	0.0	0.104	5.3	LOS A	0.0	0.1	0.01	0.08	0.01	48.0
Approach		186	6	196	3.2	0.104	0.7	NA	0.0	0.1	0.01	0.08	0.01	49.1
All Vehicles		491	20	517	4.1	0.127	1.6	NA	0.3	2.5	0.09	0.15	0.09	48.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

Queue Model: SIDRA Standard.

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

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

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Project: \\192.168.1.107\mte storage\Jobs\2020\200630\MTE SIDRA\21 01 12 - intersections\21 01 12.sip9

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Toallo St EX AM (Site Folder: Existing)]

Merimbola Street / Toallo Street
 Existing conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	40	2	42	5.0	0.105	5.3	LOS A	0.4	2.8	0.38	0.62	0.38	40.3
2	T1	6	0	6	0.0	0.105	6.2	LOS A	0.4	2.8	0.38	0.62	0.38	43.8
3	R2	34	3	36	8.8	0.105	8.9	LOS A	0.4	2.8	0.38	0.62	0.38	43.1
Approach		80	5	84	6.3	0.105	6.9	LOS A	0.4	2.8	0.38	0.62	0.38	42.1
East: Toallo St (E)														
4	L2	54	1	57	1.9	0.152	4.9	LOS A	0.3	1.8	0.10	0.15	0.10	47.7
5	T1	190	5	200	2.6	0.152	0.2	LOS A	0.3	1.8	0.10	0.15	0.10	48.4
6	R2	22	0	23	0.0	0.152	5.6	LOS A	0.3	1.8	0.10	0.15	0.10	47.9
Approach		266	6	280	2.3	0.152	1.6	NA	0.3	1.8	0.10	0.15	0.10	48.2
North: Merimbola St (N)														
7	L2	20	0	21	0.0	0.045	5.4	LOS A	0.2	1.1	0.39	0.60	0.39	45.7
8	T1	9	0	9	0.0	0.045	6.1	LOS A	0.2	1.1	0.39	0.60	0.39	44.3
9	R2	9	0	9	0.0	0.045	8.2	LOS A	0.2	1.1	0.39	0.60	0.39	43.6
Approach		38	0	40	0.0	0.045	6.2	LOS A	0.2	1.1	0.39	0.60	0.39	45.0
West: Toallo St (W)														
10	L2	23	0	24	0.0	0.173	5.3	LOS A	0.4	2.7	0.14	0.11	0.14	48.0
11	T1	239	5	252	2.1	0.173	0.2	LOS A	0.4	2.7	0.14	0.11	0.14	48.6
12	R2	37	1	39	2.7	0.173	5.6	LOS A	0.4	2.7	0.14	0.11	0.14	45.7
Approach		299	6	315	2.0	0.173	1.3	NA	0.4	2.7	0.14	0.11	0.14	48.3
All Vehicles		683	17	719	2.5	0.173	2.3	NA	0.4	2.8	0.17	0.21	0.17	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Toallo St EX PM (Site Folder: Existing)]

Merimbola Street / Toallo Street
Existing conditions
PM peak period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	32	3	34	9.4	0.090	5.2	LOS A	0.3	2.3	0.34	0.61	0.34	40.5
2	T1	5	0	5	0.0	0.090	5.6	LOS A	0.3	2.3	0.34	0.61	0.34	44.1
3	R2	35	0	37	0.0	0.090	7.9	LOS A	0.3	2.3	0.34	0.61	0.34	43.5
Approach		72	3	76	4.2	0.090	6.5	LOS A	0.3	2.3	0.34	0.61	0.34	42.5
East: Toallo St (E)														
4	L2	44	2	46	4.5	0.129	5.0	LOS A	0.3	1.9	0.13	0.16	0.13	47.5
5	T1	153	5	161	3.3	0.129	0.2	LOS A	0.3	1.9	0.13	0.16	0.13	48.2
6	R2	25	0	26	0.0	0.129	5.6	LOS A	0.3	1.9	0.13	0.16	0.13	47.8
Approach		222	7	234	3.2	0.129	1.8	NA	0.3	1.9	0.13	0.16	0.13	48.0
North: Merimbola St (N)														
7	L2	33	0	35	0.0	0.054	5.4	LOS A	0.2	1.4	0.37	0.58	0.37	45.9
8	T1	12	0	13	0.0	0.054	5.6	LOS A	0.2	1.4	0.37	0.58	0.37	44.6
9	R2	7	0	7	0.0	0.054	7.6	LOS A	0.2	1.4	0.37	0.58	0.37	43.9
Approach		52	0	55	0.0	0.054	5.7	LOS A	0.2	1.4	0.37	0.58	0.37	45.5
West: Toallo St (W)														
10	L2	13	0	14	0.0	0.150	5.0	LOS A	0.1	1.0	0.05	0.05	0.05	48.7
11	T1	243	2	256	0.8	0.150	0.1	LOS A	0.1	1.0	0.05	0.05	0.05	49.4
12	R2	13	1	14	7.7	0.150	5.5	LOS A	0.1	1.0	0.05	0.05	0.05	46.6
Approach		269	3	283	1.1	0.150	0.6	NA	0.1	1.0	0.05	0.05	0.05	49.3
All Vehicles		615	13	647	2.1	0.150	2.1	NA	0.3	2.3	0.14	0.20	0.14	47.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

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

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

 Site: 101 [Quondola St / Toallo St FU AM (Site Folder: Future)]

Quondola Street / Toallo Street
 Future conditions
 AM peak period
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondola St (S)														
1	L2	39	8	41	20.5	0.324	5.2	LOSA	2.1	15.5	0.46	0.60	0.46	43.1
2	T1	129	15	136	11.6	0.324	5.0	LOSA	2.1	15.5	0.46	0.60	0.46	44.2
3	R2	152	3	160	2.0	0.324	8.1	LOSA	2.1	15.5	0.46	0.60	0.46	41.0
3u	U	13	0	14	0.0	0.324	9.6	LOSA	2.1	15.5	0.46	0.60	0.46	42.0
Approach		333	26	351	7.8	0.324	6.6	LOSA	2.1	15.5	0.46	0.60	0.46	42.8
East: Toallo St (E)														
4	L2	83	9	87	10.8	0.238	5.6	LOSA	1.4	10.2	0.51	0.63	0.51	40.0
5	T1	73	2	77	2.7	0.238	5.4	LOSA	1.4	10.2	0.51	0.63	0.51	44.6
6	R2	54	3	57	5.6	0.238	8.7	LOSA	1.4	10.2	0.51	0.63	0.51	44.3
6u	U	8	0	8	0.0	0.238	10.1	LOSA	1.4	10.2	0.51	0.63	0.51	42.4
Approach		218	14	229	6.4	0.238	6.5	LOSA	1.4	10.2	0.51	0.63	0.51	43.1
North: Quondola St (N)														
7	L2	76	2	80	2.6	0.293	5.9	LOSA	1.7	12.8	0.57	0.65	0.57	43.6
8	T1	145	13	153	9.0	0.293	6.1	LOSA	1.7	12.8	0.57	0.65	0.57	44.5
9	R2	33	2	35	6.1	0.293	9.3	LOSA	1.7	12.8	0.57	0.65	0.57	45.8
9u	U	3	0	3	0.0	0.293	10.6	LOSA	1.7	12.8	0.57	0.65	0.57	46.4
Approach		257	17	271	6.6	0.293	6.5	LOSA	1.7	12.8	0.57	0.65	0.57	44.5
West: Toallo St (W)														
10	L2	32	1	34	3.1	0.214	6.1	LOSA	1.2	9.1	0.58	0.67	0.58	44.9
11	T1	84	2	88	2.4	0.214	6.0	LOSA	1.2	9.1	0.58	0.67	0.58	44.2
12	R2	62	10	65	16.1	0.214	9.7	LOSA	1.2	9.1	0.58	0.67	0.58	43.7
12u	U	1	0	1	0.0	0.214	10.7	LOSA	1.2	9.1	0.58	0.67	0.58	46.0
Approach		179	13	188	7.3	0.214	7.3	LOSA	1.2	9.1	0.58	0.67	0.58	44.2
All Vehicles		987	70	1039	7.1	0.324	6.7	LOSA	2.1	15.5	0.52	0.63	0.52	43.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [Quondola St / Toallo St FU PM (Site Folder: Future)]**

Quondola Street / Toallo Street
 Future conditions
 PM peak period
 Site Category: (None)
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondola St (S)														
1	L2	22	3	23	13.6	0.279	5.0	LOSA	1.7	12.5	0.44	0.59	0.44	43.3
2	T1	136	10	143	7.4	0.279	4.9	LOSA	1.7	12.5	0.44	0.59	0.44	44.5
3	R2	125	1	132	0.8	0.279	8.0	LOSA	1.7	12.5	0.44	0.59	0.44	41.3
3u	U	6	0	6	0.0	0.279	9.5	LOSA	1.7	12.5	0.44	0.59	0.44	42.2
Approach		289	14	304	4.8	0.279	6.4	LOSA	1.7	12.5	0.44	0.59	0.44	43.3
East: Toallo St (E)														
4	L2	77	5	81	6.5	0.228	5.1	LOSA	1.3	9.7	0.45	0.61	0.45	40.1
5	T1	50	1	53	2.0	0.228	5.0	LOSA	1.3	9.7	0.45	0.61	0.45	44.6
6	R2	94	3	99	3.2	0.228	8.2	LOSA	1.3	9.7	0.45	0.61	0.45	44.3
6u	U	5	0	5	0.0	0.228	9.7	LOSA	1.3	9.7	0.45	0.61	0.45	42.3
Approach		226	9	238	4.0	0.228	6.5	LOSA	1.3	9.7	0.45	0.61	0.45	43.3
North: Quondola St (N)														
7	L2	88	2	93	2.3	0.264	5.2	LOSA	1.5	11.4	0.48	0.58	0.48	44.1
8	T1	139	15	146	10.8	0.264	5.4	LOSA	1.5	11.4	0.48	0.58	0.48	45.0
9	R2	19	2	20	10.5	0.264	8.7	LOSA	1.5	11.4	0.48	0.58	0.48	46.1
9u	U	4	0	4	0.0	0.264	10.0	LOSA	1.5	11.4	0.48	0.58	0.48	46.8
Approach		250	19	263	7.6	0.264	5.7	LOSA	1.5	11.4	0.48	0.58	0.48	44.8
West: Toallo St (W)														
10	L2	27	1	28	3.7	0.146	6.0	LOSA	0.8	5.7	0.55	0.64	0.55	45.1
11	T1	71	0	75	0.0	0.146	5.9	LOSA	0.8	5.7	0.55	0.64	0.55	44.5
12	R2	28	1	29	3.6	0.146	9.2	LOSA	0.8	5.7	0.55	0.64	0.55	44.2
12u	U	1	0	1	0.0	0.146	10.6	LOSA	0.8	5.7	0.55	0.64	0.55	46.3
Approach		127	2	134	1.6	0.146	6.7	LOSA	0.8	5.7	0.55	0.64	0.55	44.6
All Vehicles		892	44	939	4.9	0.279	6.2	LOSA	1.7	12.5	0.47	0.60	0.47	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Quondolla St / Bullara St FU AM (Site Folder: Future)]

Quondolla Street / Bullara Street
 Future conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
East: Bullara St (E)														
5	T1	172	14	181	8.1	0.211	1.4	LOS A	1.1	7.9	0.43	0.27	0.43	46.8
6	R2	116	11	122	9.5	0.211	6.7	LOS A	1.1	7.9	0.43	0.27	0.43	42.7
Approach		288	25	303	8.7	0.211	3.6	NA	1.1	7.9	0.43	0.27	0.43	45.5
North: Quondolla St (N)														
7	L2	99	3	104	3.0	0.415	6.1	LOS A	2.2	16.6	0.48	0.76	0.63	38.3
9	R2	203	29	214	14.3	0.415	10.1	LOS A	2.2	16.6	0.48	0.76	0.63	41.6
Approach		302	32	318	10.6	0.415	8.8	LOS A	2.2	16.6	0.48	0.76	0.63	40.8
West: Bullara St (W)														
10	L2	215	15	226	7.0	0.226	4.7	LOS A	0.0	0.0	0.00	0.29	0.00	46.9
11	T1	176	9	185	5.1	0.226	0.1	LOS A	0.0	0.0	0.00	0.29	0.00	47.6
Approach		391	24	412	6.1	0.226	2.6	NA	0.0	0.0	0.00	0.29	0.00	47.2
All Vehicles		981	81	1033	8.3	0.415	4.8	NA	2.2	16.6	0.27	0.43	0.32	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Quondolla St / Bullara St FU PM (Site Folder: Future)]

Quondolla Street / Bullara Street
 Future conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Bullara St (E)														
5	T1	204	11	215	5.4	0.181	0.8	LOS A	0.7	5.1	0.30	0.17	0.30	47.7
6	R2	77	1	81	1.3	0.181	6.3	LOS A	0.7	5.1	0.30	0.17	0.30	44.3
Approach		281	12	296	4.3	0.181	2.3	NA	0.7	5.1	0.30	0.17	0.30	47.1
North: Quondolla St (N)														
7	L2	78	2	82	2.6	0.364	5.7	LOS A	1.7	13.0	0.44	0.73	0.53	39.0
9	R2	199	20	209	10.1	0.364	8.9	LOS A	1.7	13.0	0.44	0.73	0.53	42.1
Approach		277	22	292	7.9	0.364	8.0	LOS A	1.7	13.0	0.44	0.73	0.53	41.5
West: Bullara St (W)														
10	L2	211	13	222	6.2	0.209	4.7	LOS A	0.0	0.0	0.00	0.31	0.00	46.8
11	T1	153	4	161	2.6	0.209	0.1	LOS A	0.0	0.0	0.00	0.31	0.00	47.5
Approach		364	17	383	4.7	0.209	2.7	NA	0.0	0.0	0.00	0.31	0.00	47.1
All Vehicles		922	51	971	5.5	0.364	4.2	NA	1.7	13.0	0.22	0.40	0.25	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Bullara St FU AM (Site Folder: Future)]

Merimbola Street / Bullara Street
 Future conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	3	0	3	0.0	0.006	5.3	LOS A	0.0	0.1	0.38	0.54	0.38	44.3
2	T1	1	0	1	0.0	0.006	6.0	LOS A	0.0	0.1	0.38	0.54	0.38	44.4
3	R2	1	0	1	0.0	0.006	8.0	LOS A	0.0	0.1	0.38	0.54	0.38	45.4
Approach		5	0	5	0.0	0.006	6.0	LOS A	0.0	0.1	0.38	0.54	0.38	44.6
East: Bullara St (E)														
4	L2	5	0	5	0.0	0.168	5.7	LOS A	0.4	2.7	0.14	0.08	0.14	48.7
5	T1	237	22	249	9.3	0.168	0.3	LOS A	0.4	2.7	0.14	0.08	0.14	48.8
6	R2	36	3	38	8.3	0.168	5.9	LOS A	0.4	2.7	0.14	0.08	0.14	47.4
Approach		278	25	293	9.0	0.168	1.1	NA	0.4	2.7	0.14	0.08	0.14	48.6
North: Merimbola St (N)														
7	L2	40	2	42	5.0	0.121	5.4	LOS A	0.4	3.2	0.42	0.65	0.42	43.4
8	T1	2	0	2	0.0	0.121	6.2	LOS A	0.4	3.2	0.42	0.65	0.42	43.6
9	R2	46	3	48	6.5	0.121	8.7	LOS A	0.4	3.2	0.42	0.65	0.42	39.2
Approach		88	5	93	5.7	0.121	7.2	LOS A	0.4	3.2	0.42	0.65	0.42	41.7
West: Bullara St (W)														
10	L2	54	2	57	3.7	0.155	4.7	LOS A	0.0	0.4	0.02	0.11	0.02	47.2
11	T1	217	10	228	4.6	0.155	0.0	LOS A	0.0	0.4	0.02	0.11	0.02	49.0
12	R2	4	0	4	0.0	0.155	5.6	LOS A	0.0	0.4	0.02	0.11	0.02	47.7
Approach		275	12	289	4.4	0.155	1.0	NA	0.0	0.4	0.02	0.11	0.02	48.7
All Vehicles		646	42	680	6.5	0.168	1.9	NA	0.4	3.2	0.13	0.18	0.13	47.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Merimbola St / Bullara St FU PM (Site Folder: Future)]

Merimbola Street / Bullara Street
 Future conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	1	0	1	0.0	0.004	5.2	LOS A	0.0	0.1	0.38	0.53	0.38	44.4
2	T1	1	0	1	0.0	0.004	5.3	LOS A	0.0	0.1	0.38	0.53	0.38	44.5
3	R2	1	0	1	0.0	0.004	7.1	LOS A	0.0	0.1	0.38	0.53	0.38	45.4
Approach		3	0	3	0.0	0.004	5.9	LOS A	0.0	0.1	0.38	0.53	0.38	44.8
East: Bullara St (E)														
4	L2	1	0	1	0.0	0.139	5.4	LOS A	0.3	2.1	0.13	0.09	0.13	48.7
5	T1	201	9	212	4.5	0.139	0.2	LOS A	0.3	2.1	0.13	0.09	0.13	48.8
6	R2	36	0	38	0.0	0.139	5.5	LOS A	0.3	2.1	0.13	0.09	0.13	47.5
Approach		238	9	251	3.8	0.139	1.0	NA	0.3	2.1	0.13	0.09	0.13	48.6
North: Merimbola St (N)														
7	L2	51	2	54	3.9	0.160	5.2	LOS A	0.6	4.3	0.37	0.63	0.37	43.8
8	T1	1	0	1	0.0	0.160	5.6	LOS A	0.6	4.3	0.37	0.63	0.37	43.9
9	R2	75	3	79	4.0	0.160	7.7	LOS A	0.6	4.3	0.37	0.63	0.37	39.7
Approach		127	5	134	3.9	0.160	6.7	LOS A	0.6	4.3	0.37	0.63	0.37	41.8
West: Bullara St (W)														
10	L2	69	1	73	1.4	0.129	4.6	LOS A	0.0	0.1	0.00	0.16	0.00	46.8
11	T1	162	5	171	3.1	0.129	0.0	LOS A	0.0	0.1	0.00	0.16	0.00	48.7
12	R2	1	0	1	0.0	0.129	5.3	LOS A	0.0	0.1	0.00	0.16	0.00	47.4
Approach		232	6	244	2.6	0.129	1.4	NA	0.0	0.1	0.00	0.16	0.00	48.3
All Vehicles		600	20	632	3.3	0.160	2.4	NA	0.6	4.3	0.13	0.24	0.13	47.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Toallo St FU AM (Site Folder: Future)]

Merimbola Street / Toallo Street
 Future conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	50	2	53	4.0	0.128	5.3	LOS A	0.5	3.4	0.38	0.63	0.38	40.3
2	T1	6	0	6	0.0	0.128	6.4	LOS A	0.5	3.4	0.38	0.63	0.38	43.8
3	R2	42	3	44	7.1	0.128	9.0	LOS A	0.5	3.4	0.38	0.63	0.38	43.0
Approach		98	5	103	5.1	0.128	6.9	LOS A	0.5	3.4	0.38	0.63	0.38	42.0
East: Toallo St (E)														
4	L2	61	1	64	1.6	0.155	4.9	LOS A	0.3	1.8	0.10	0.16	0.10	47.7
5	T1	188	5	198	2.7	0.155	0.2	LOS A	0.3	1.8	0.10	0.16	0.10	48.3
6	R2	22	0	23	0.0	0.155	5.6	LOS A	0.3	1.8	0.10	0.16	0.10	47.8
Approach		271	6	285	2.2	0.155	1.7	NA	0.3	1.8	0.10	0.16	0.10	48.1
North: Merimbola St (N)														
7	L2	20	0	21	0.0	0.046	5.4	LOS A	0.2	1.1	0.39	0.60	0.39	45.6
8	T1	9	0	9	0.0	0.046	6.2	LOS A	0.2	1.1	0.39	0.60	0.39	44.2
9	R2	9	0	9	0.0	0.046	8.4	LOS A	0.2	1.1	0.39	0.60	0.39	43.5
Approach		38	0	40	0.0	0.046	6.3	LOS A	0.2	1.1	0.39	0.60	0.39	44.9
West: Toallo St (W)														
10	L2	23	0	24	0.0	0.181	5.4	LOS A	0.5	3.4	0.17	0.12	0.17	47.8
11	T1	239	5	252	2.1	0.181	0.3	LOS A	0.5	3.4	0.17	0.12	0.17	48.4
12	R2	48	1	51	2.1	0.181	5.6	LOS A	0.5	3.4	0.17	0.12	0.17	45.4
Approach		310	6	326	1.9	0.181	1.5	NA	0.5	3.4	0.17	0.12	0.17	48.0
All Vehicles		717	17	755	2.4	0.181	2.6	NA	0.5	3.4	0.18	0.23	0.18	47.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Merimbola St / Toallo St FU PM (Site Folder: Future)]

Merimbola Street / Toallo Street
 Future conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	79	3	83	3.8	0.171	5.1	LOS A	0.6	4.6	0.33	0.61	0.33	40.6
2	T1	5	0	5	0.0	0.171	6.1	LOS A	0.6	4.6	0.33	0.61	0.33	44.0
3	R2	60	0	63	0.0	0.171	8.5	LOS A	0.6	4.6	0.33	0.61	0.33	43.4
Approach		144	3	152	2.1	0.171	6.6	LOS A	0.6	4.6	0.33	0.61	0.33	42.2
East: Toallo St (E)														
4	L2	63	2	66	3.2	0.137	4.9	LOS A	0.3	2.0	0.13	0.19	0.13	47.3
5	T1	148	5	156	3.4	0.137	0.2	LOS A	0.3	2.0	0.13	0.19	0.13	47.9
6	R2	25	0	26	0.0	0.137	5.6	LOS A	0.3	2.0	0.13	0.19	0.13	47.6
Approach		236	7	248	3.0	0.137	2.0	NA	0.3	2.0	0.13	0.19	0.13	47.7
North: Merimbola St (N)														
7	L2	33	0	35	0.0	0.056	5.4	LOS A	0.2	1.4	0.38	0.58	0.38	45.8
8	T1	12	0	13	0.0	0.056	6.0	LOS A	0.2	1.4	0.38	0.58	0.38	44.5
9	R2	7	0	7	0.0	0.056	8.3	LOS A	0.2	1.4	0.38	0.58	0.38	43.8
Approach		52	0	55	0.0	0.056	5.9	LOS A	0.2	1.4	0.38	0.58	0.38	45.4
West: Toallo St (W)														
10	L2	13	0	14	0.0	0.172	5.3	LOS A	0.4	2.8	0.13	0.10	0.13	48.0
11	T1	243	2	256	0.8	0.172	0.2	LOS A	0.4	2.8	0.13	0.10	0.13	48.7
12	R2	43	1	45	2.3	0.172	5.5	LOS A	0.4	2.8	0.13	0.10	0.13	45.8
Approach		299	3	315	1.0	0.172	1.2	NA	0.4	2.8	0.13	0.10	0.13	48.4
All Vehicles		731	13	769	1.8	0.172	2.9	NA	0.6	4.6	0.19	0.26	0.19	46.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▼ Site: 101 [Quondolla St / Site Driveway FU AM (Site Folder: Future)]

Quondolla Street / Site Driveway
 Future conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondolla St (S)														
2	T1	333	26	351	7.8	0.189	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		333	26	351	7.8	0.189	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Site Driveway (E)														
4	L2	8	0	8	0.0	0.007	5.6	LOS A	0.0	0.2	0.37	0.53	0.37	45.8
Approach		8	0	8	0.0	0.007	5.6	LOS A	0.0	0.2	0.37	0.53	0.37	45.8
North: Quondolla St (N)														
8	T1	294	32	309	10.9	0.170	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		294	32	309	10.9	0.170	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles		635	58	668	9.1	0.189	0.1	NA	0.0	0.2	0.00	0.01	0.00	49.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Quondolla St / Site Driveway FU PM (Site Folder: Future)]

Quondolla Street / Site Driveway
 Future conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Quondolla St (S)														
2	T1	295	14	311	4.7	0.164	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		295	14	311	4.7	0.164	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
East: Site Driveway (E)														
4	L2	24	0	25	0.0	0.020	5.4	LOS A	0.1	0.5	0.34	0.54	0.34	45.8
Approach		24	0	25	0.0	0.020	5.4	LOS A	0.1	0.5	0.34	0.54	0.34	45.8
North: Quondolla St (N)														
8	T1	253	22	266	8.7	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		253	22	266	8.7	0.144	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles		572	36	602	6.3	0.164	0.3	NA	0.1	0.5	0.01	0.02	0.01	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Merimbola St / Site Driveway FU AM (Site Folder: Future)]

Merimbola Street / Site Driveway
 Future conditions
 AM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV] veh/h	[Total veh/h]	[HV] %				[Veh. veh]	[Dist] m				
South: Merimbola St (S)														
1	L2	22	0	23	0.0	0.051	4.6	LOS A	0.0	0.0	0.00	0.13	0.00	48.7
2	T1	68	5	72	7.4	0.051	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	49.2
Approach		90	5	95	5.6	0.051	1.1	NA	0.0	0.0	0.00	0.13	0.00	49.1
North: Merimbola St (N)														
8	T1	71	5	75	7.0	0.049	0.1	LOS A	0.1	0.7	0.07	0.09	0.07	49.3
9	R2	14	0	15	0.0	0.049	4.8	LOS A	0.1	0.7	0.07	0.09	0.07	48.3
Approach		85	5	89	5.9	0.049	0.9	NA	0.1	0.7	0.07	0.09	0.07	49.1
West: Site Driveway (W)														
10	L2	14	0	15	0.0	0.024	4.8	LOS A	0.1	0.6	0.17	0.52	0.17	46.2
12	R2	15	0	16	0.0	0.024	5.2	LOS A	0.1	0.6	0.17	0.52	0.17	45.8
Approach		29	0	31	0.0	0.024	5.0	LOS A	0.1	0.6	0.17	0.52	0.17	46.0
All Vehicles		204	10	215	4.9	0.051	1.6	NA	0.1	0.7	0.05	0.17	0.05	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Merimbola St / Site Driveway FU PM (Site Folder: Future)]

Merimbola Street / Site Driveway
 Future conditions
 PM peak period
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Merimbola St (S)														
1	L2	48	0	51	0.0	0.064	4.6	LOS A	0.0	0.0	0.00	0.23	0.00	48.2
2	T1	67	1	71	1.5	0.064	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	48.7
Approach		115	1	121	0.9	0.064	1.9	NA	0.0	0.0	0.00	0.23	0.00	48.5
North: Merimbola St (N)														
8	T1	77	5	81	6.5	0.075	0.2	LOS A	0.3	2.0	0.17	0.21	0.17	48.3
9	R2	49	0	52	0.0	0.075	4.9	LOS A	0.3	2.0	0.17	0.21	0.17	47.4
Approach		126	5	133	4.0	0.075	2.0	NA	0.3	2.0	0.17	0.21	0.17	48.0
West: Site Driveway (W)														
10	L2	50	0	53	0.0	0.083	4.8	LOS A	0.3	2.1	0.18	0.54	0.18	46.2
12	R2	49	0	52	0.0	0.083	5.4	LOS A	0.3	2.1	0.18	0.54	0.18	45.8
Approach		99	0	104	0.0	0.083	5.1	LOS A	0.3	2.1	0.18	0.54	0.18	46.0
All Vehicles		340	6	358	1.8	0.083	2.9	NA	0.3	2.1	0.12	0.31	0.12	47.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



**ANNEXURE D: DRAFT OPERATIONAL TRAFFIC
MANAGEMENT PLAN
(9 SHEETS)**

P L A N N E D

DRAFT OPERATIONAL TRAFFIC MANAGEMENT PLAN

Project: Proposed Pambula Supermarket

Description: Development Application

Property: Lots 19 & 20 Section 33 DP758825 and Lot 15 DP1204078 Quondola Street Pambula

This Operational Traffic Management Plan comprises:

- Existing delivery operations; and
- Proposed delivery operations and Loading Dock Management.

VEHICLE INDEX

- Articulated Vehicle (**AV**) 20m long (refer Fig. 1).
- Heavy Rigid Vehicle (**HRV**) 12.5m long (14 pallet) - Fig. 2.
- Small Rigid Vehicle (**SRV**), 6.4m long (6-8 pallet) - Fig. 3.
- Small Van (eg. Toyota HiAce van).

EXISTING DELIVERY OPERATIONS

Existing Supermarket Delivery Details

- The existing Supermarket ("Foodworks" at 19 Quondola Street) currently has no dedicated loading dock and as such, deliveries occur within the adjoining Pambula Medical Centre car park or on Quondola Street (via double parking with any parked cars).
- The majority of the deliveries occur prior to 8am, except for independent deliveries (i.e., Bega Valley Eggs, In the Mix Bakery, Tilba Milk) which may occur during the early afternoon.
- The following schedule demonstrates a typical week.

Day	Delivery	Type of Vehicle
MONDAY	Dairy Farmers	SRV
	Norco	SRV
	Buttercup Bakeries	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
TUESDAY	Grocery/Perishable/Freezer	HRV
	Buttercup Bakeries	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
	Baiada Chickens	SRV
	Produce	Toyota HiAce van
WEDNESDAY	Dairy Farmers	SRV
	Norco	SRV

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Day	Delivery	Type of Vehicle
	Buttercup Bakeries	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
	Tilba Milk	Toyota HiAce van
THURSDAY	Dairy Farmers	SRV
	Buttercup Bakeries	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
	Bega Valley Eggs	Toyota HiAce van
FRIDAY	Dairy Farmers	SRV
	Norco	SRV
	Buttercup Bakeries	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
	Baiada Chickens	SRV
SATURDAY	Dairy Farmers	SRV
	Tip Top	SRV
	In the Mix Bakery	Toyota HiAce van
SUNDAY	Buttercup Bakeries	SRV
	Tip Top	SRV

- The Grocery/Perishable/Freezer delivery occurs once a week on a Tuesday morning via a 12.5m long HRV (refer example image at Fig. 2). The duration of the delivery is approximately 15 – 20 minutes (maximum) utilising a fork-lift.
- The bread and milk deliveries are via a SRV (refer example image at Fig. 3), except for the independent bread and milk deliveries (i.e., In the Mix Bakery and Tilba Milk), which utilise a Toyota HiAce Van (or similar). The deliveries are wheeled in by hand using hand trolleys / dolly carts. The duration of each delivery is approximately 5 – 10 minutes (maximum).
- Additional independent grocery deliveries occur every 3-4 weeks and only when direct orders are placed (maximum 10 cartons). These independent groceries are from small, specialised providers that Foodworks cannot get through their regular suppliers. The direct orders are placed so as to ensure that they are delivered at the same time (i.e., within the same week). These deliveries are made via a SRV typically during the early afternoon. At a maximum there would be two (2) independent truck deliveries every 3 – 4 weeks. The duration of each delivery is approximately 10 – 15 minutes (maximum).
- There is currently no need for deliveries via a 20m long AV as the Supermarket operates as per the above set schedule. The current freight company brings the goods down from Sydney and stores the goods at a local depot prior to delivery to the supermarket on a HRV prior to 8am.
- The deliveries are tightly managed, and no two deliveries occur at the same time.

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Existing Bottle Shop (35 Quondola St) Delivery Details

- Bottle Shop deliveries are via an independent contractor and occur once a week on a Thursday morning prior to 9am.

Existing Waste/Recycling Servicing for the Supermarket and Bottle Shop

- The existing Supermarket utilises three (3) waste and (4) recycling bins supplied by Bega Valley Shire Council.
- The existing Bottle Shop utilises seven (7) waste and seven (7) recycling bins supplied by Bega Valley Shire Council. Waste and recycling generation is minimal on the basis that empty wine boxes are utilised by customers when purchasing unpackage bottles (i.e., wine and spirits). As such, only one to two recycling bins and one waste bin are utilised in any given week.
- As and if required, additional waste generated by the Supermarket that cannot be accommodated in the allocated bins is transferred to the empty Bottle Shop bins.
- Collection of the bins is weekly as per Council's existing collection schedule for Pambula Town Centre (Fridays).

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PROPOSED DELIVERY OPERATIONS AND LOADING DOCK MANAGEMENT

Proposed Hours of Operation

- Supermarket:
 - Monday to Sunday – 7am to 7pm (standard)
 - Monday to Sunday – 7am to 9pm (summer trade)
- Bottle Shop:
 - Monday to Friday – 8am to 9pm
 - Saturday – 9am to 8pm
 - Sunday – 10am to 7pm
- Licenced Premises
 - Unknown – subject to future DA.

Proposed Loading Dock Management

Proposed Supermarket

- The existing Supermarket (“Foodworks” at 19 Quondola Street) and Bottle Shop (at 35 Quondola Street) delivery program is transferred to the new Supermarket, Café & drive-through Bottle Shop premises at 35-37 (Quondola Street).
- All delivery vehicles associated with the Supermarket are required to enter and exit the site in a forward direction via Merimbola Street. No vehicles are permitted to enter or exit via Quondola Street.
- The proposed loading dock has been designed to cater for a 20m long AVk – similar to a ‘Bonaccord’ truck that services the locally based Woolworths/Coles stores (refer example image at Fig. 1).
- The maximum size vehicle that would be required to access the loading dock is a 20m long AV.
- Based on the proposed larger floor plate, it is expected that a 20m long articulated vehicle would deliver standard grocery products to the Supermarket once week on a Tuesday. Notwithstanding, it should be assumed that at least 1 x 20m long articulated vehicle will access the site 2 – 3 times per week to accommodate future demand (as needed).
- Other trucks that are required to access the loading dock include a 12.5m long HRV and a smaller 6.4m long SRV (refer example images at Fig. 2 and Fig. 3). Local and independent suppliers frequently use these types of trucks for existing delivery arrangements.
- The operating capacity of the loading dock will be one truck at a time.
- The Loading Dock Manager would co-ordinate the Supermarket delivery times and would supervise the unloading and loading trucks. The Loading Dock Manager would be responsible for securing access to the site and ensuring that the site is safe for truck access. The Manager would also be responsible for accepting the delivery, the storage of pallets safely and ensuring that the site is safe for the truck to egress.
- Deliveries to the Supermarket are expected to comprise:
 - Monday to Friday – up to 6 x deliveries per day. This would include 1 x delivery from a 20m long AV between 7am and 8am on a Tuesday (likely maximum of three deliveries per week, with the initial demand upon opening requiring one per week). The other deliveries would be via a mixture of HRV, SRV or small van. The HRV would deliver between 7am and 8am (with an

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occurrence of less than one per day) and the smaller SRV/Toyota HiAce vans would deliver at any time during the Supermarket trading hours.

- Saturday – up to 3 x deliveries per day via HRV or SRV/Toyota HiAce vans. Any deliveries via a HRV would be restricted to between 7am and 8am. The smaller SRV/Toyota HiAce vans would deliver at any time during the Supermarket trading hours.
- Sunday – up to 2 x deliveries (bread only) via a SRV. These deliveries would deliver at any time during the Supermarket trading hours – typically during the morning.
- A typical delivery from the largest delivery vehicle (i.e., 20m long AV) takes a maximum of 30 minutes. Deliveries from the smaller trucks take less time (typically anywhere between 5 – 20 minutes).

Proposed Bottle Shop

- Deliveries for the proposed Bottle Shop would be via the delivery bay adjacent to the Bottle Shop. Delivery trucks would enter the site via Merimbola Street and exit the site via Quondola Street.
- The Bottle Shop delivery bay has been designed to cater for a 12.5m long HRV. This vehicle would deliver to the Bottle Shop once a week on a Thursday morning between 7am and 8am – prior to the Bottle Shop trading hours.
- The Manager of the Bottle Shop would supervise the unloading and loading of delivery trucks. The Manager would be responsible for securing access to the delivery bay and ensuring that the area is safe for truck access. The Manager would also be responsible for accepting deliveries, the storage of pallets safely and ensuring that the area is safe for the truck to egress.

Proposed Licenced Premises

- Deliveries for the licenced premises is likely to be via a small 'Toyota HiAce' commercial delivery van (or similar) and/or a small SRV.
- It is expected that these vehicles would use the loading dock (if available) and/or park in one of the parking spaces underneath or to the rear of the building.
- The licenced premises would rely on the adjoining Supermarket for standard grocery items and the Bottle Shop for liquor. The Bottle Shop would be able to 'order in' liquor products for the licenced premises as needed. On this basis, the deliveries for the licenced premises are expected to be sporadic and minimal and associated with 'specialty items/products' only.

Proposed Site Access

- Vehicular access to the site for all delivery vehicles associated with the Supermarket and Bottle Shop is to be via Merimbola Street only. All Supermarket delivery/service vehicles are to exit via Merimbola Street. The delivery trucks associated with the Bottle Shop will be permitted to exit the site via a left-turn onto Quondolo Street.
- Due to the configuration of the site, the 20m long AV and 12.5m long HRV are required to reverse into the loading dock so that they may exit via Merimbola Street in a forward direction. As per the advice provided by McLaren's Traffic Engineering, the manoeuvring of the vehicles into the loading dock would take no more than 2 minutes.
- The Applicant proposes to install electronic gates to Merimbola Street, which can be opened via a keypad or remotely operated. The gates will secure the site after hours. All gates will remain open during the trading hours for the Supermarket and Bottle Shop and will be closed and secured after hours.
- The Manager of the Bottle Shop will be responsible for closing and securing the gates after hours.

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- The delivery plan will require truck drivers to contact the Loading Dock Manager/Bottle Shop Manager prior to delivery to ensure availability at the loading dock/delivery bay and that they can access the site.
- The delivery plan will discourage trucks from waiting in the vicinity of the site (i.e., parked on-street) if they arrive early or can't access the site.

Proposed Loading Zone Coordination

- The existing Supermarket operates under a delivery plan, which allocates specific times and days for each of the delivery companies. The delivery plan works well and will be transferred across to the new Supermarket (subject to minor scheduling changes/updates). The delivery plan will also detail the access/egress arrangements for the site and will clearly state that no delivery vehicle is to enter or exit the site via Quondola Street (the exception will be for the Bottle Shop delivery truck only, which will be able to exit onto Quondola Street).
- The delivery plan will ensure that there is only one delivery within the loading dock at one time.
- The delivery times for the 20m long AV trucks and HRV trucks will be restricted to between 7am and 8am and will be required to exit the site by 8am.
- The delivery plan will discourage trucks from arriving early and prior to their scheduled delivery window. No trucks will be permitted to stand idle within the site if they arrive early. No trucks will be permitted to stand (partly or wholly) within the Quondola Street or Merimbola Street verges.
- The use of the loading dock by small SRV during trading hours is not expected to create an unreasonable pedestrian safety risk and will be monitored closely by the Loading Dock Manager.
- The Toyota HiAce vans are able to park within a standard car parking space. As such, they need not rely on the loading dock if unavailable at the time of delivery/service.
- The delivery plan will be provided to all truck drivers/delivery companies and will detail the expected operations of the loading zone (as required).

Proposed Operation/Management of the Loading Zone

A Draft Traffic Control Plan (TCP) has been prepared and is attached to the supplementary traffic advice provided by McLaren's Traffic Engineering (dated 8 November 2021). The TCP should ultimately form part of the formal Operational Management Plan / Loading Dock Management Plan.

The operation of delivery/service vehicles during 7am to 8am is as follows:

- The ten (10) staff car parking spaces within and adjacent to the swept path of the delivery vehicle are to be removed from the DA plans (namely spaces numbered 31 – 40). This is in accordance with Council's Assessment Report, whereby the removal of the spaces was recommended as the development would still provide a total of eighty (80) car parking spaces, which exceeds Council's DCP car parking requirements.
- Parking spaces numbered 27 – 30 are to be restricted from public use the night prior to the 20m long AV and HRV deliveries and are to be vacant the morning of delivery.
- Public vehicle access over the existing Council drain is to be restricted upon arrival of the delivery/service vehicle (i.e., any vehicle over 6.4m length SRV), such that all public parking will occur within the 50 spaces provided to the east of the existing Council drain. This will be enforced by a temporary barrier (including a staff member).
- Pedestrian access between the car parking to the east of the Council drain and the supermarket will be retained and permitted but will operate under the supervision of staff to ensure pedestrian safety during

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delivery/service vehicle manoeuvring. It is expected that some pedestrians will be inconvenienced, who will have to wait at most a minute or two for the delivery/service vehicle to reverse park into the loading dock.

This is considered acceptable, as the time frame for deliveries will be between 7am to 8am, when the supermarket is not operating at its peak and the bottle shop is not open.

- Public vehicle access into the undercover parking spaces (spaces numbered 1 – 26) will be restricted and public vehicle egress from the undercover parking spaces will be restricted towards Quondolo Street.
 - This will be enforced by a temporary barrier (including staff member)
- Once the delivery/service vehicle has manoeuvred into the loading bay, which may take up to 2 minutes, access into the undercover car park and spaces 27 to 40 will be restricted from use during the unloading time period. During this time all visitors to the site will be required to use the parking east of the Council drain. During the unloading period, the only access to the bottle shop will be reserved for delivery/service vehicles. Once the supermarket delivery/service vehicle has exited the site, which will occur prior to 8am, all access to the undercover car parking spaces and spaces 27 to 30 will be made available, with all temporary barriers removed.

Appropriate signage would be provided on site warning that the site is secured after hours (i.e., gates secured) and that vehicles would be towed if/as required.

Proposed Waste Management

- It is expected that an Operational Waste Management Plan be prepared and implemented. This would include investigation into possible participation in Council's commercial FOGO (Food Organics Garden Organics) scheme.
- A waste storage area is proposed to be contained within a dedicated area in the loading dock to ensure convenient servicing by waste collection vehicles.
- Council waste collection within the Pambula Town Centre occurs every Friday and is unlikely to impact on scheduled deliveries, which are likely to be via SRV/Toyota HiAce vans (during the Supermarket trading hours), which can park elsewhere on site if the loading dock is occupied by a waste collection vehicle. If continual conflicts occur in the future, Friday deliveries can be scheduled to not coincide with the waste service vehicle. Alternatively, a private waste contractor can be engaged to service the site at a specific time and frequency.

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Figure 1: AV - 'Bonaccord' Truck (example of 20m AV)



Figure 2: HRV - 'PFD Food Services' Truck (example of 14-pallet HRV)

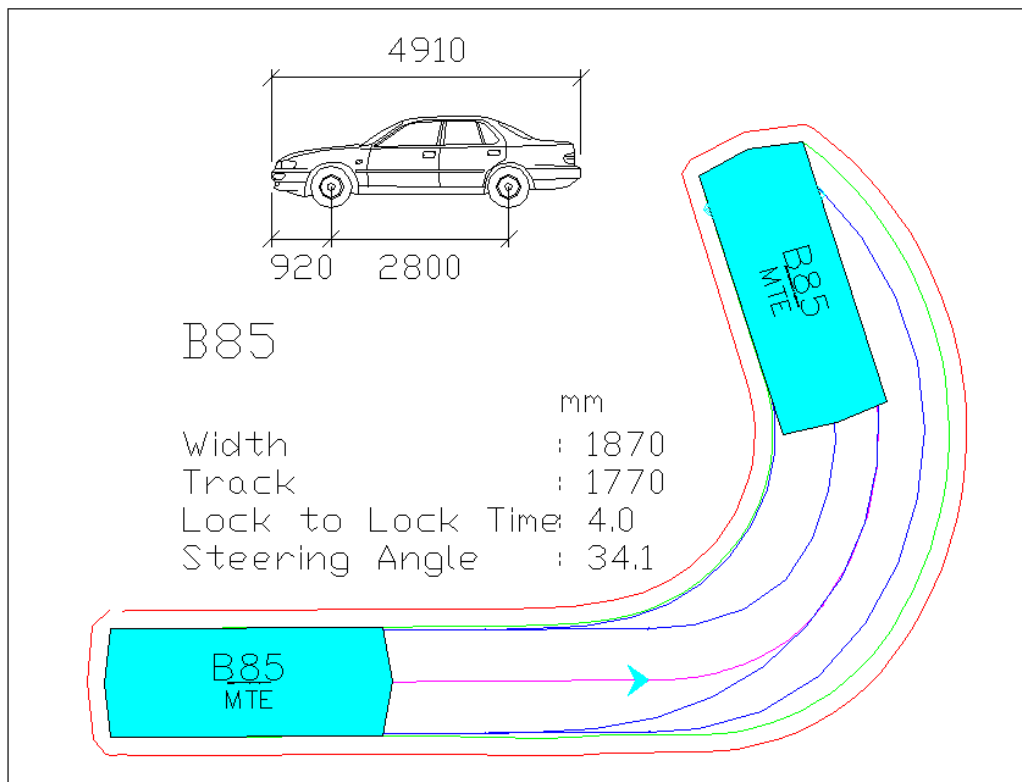
P L A N N E D



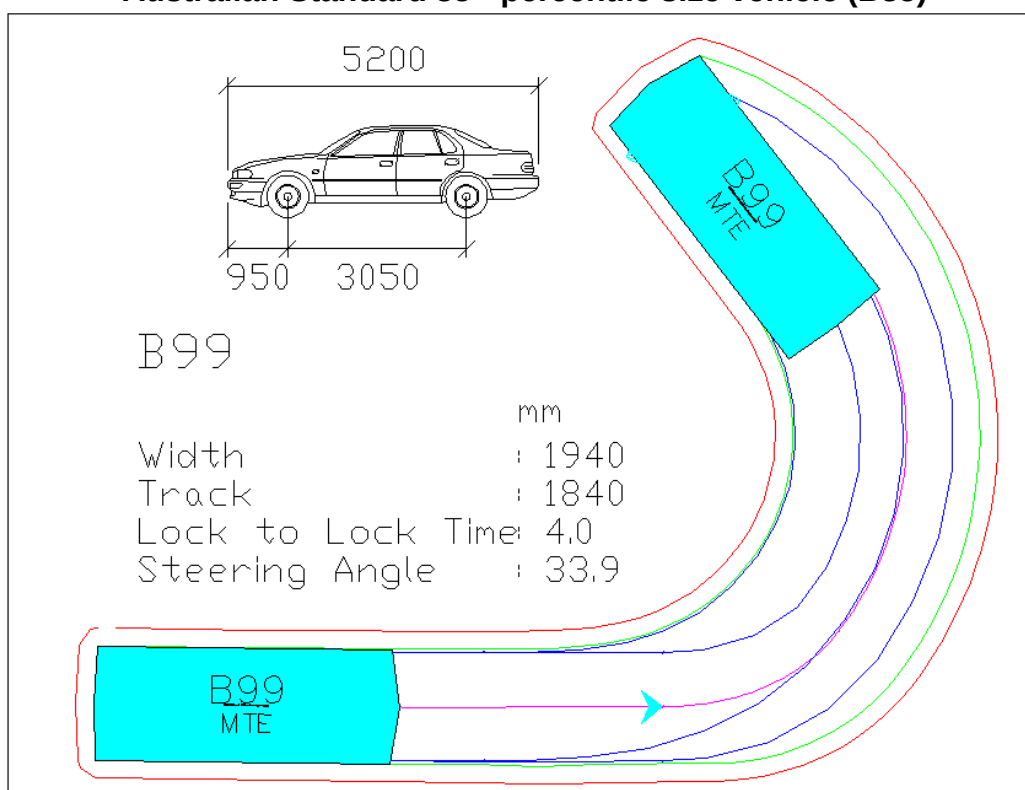
Figure 3: SRV - 'Woolworths Online' Delivery Truck (example of SRV (6-8 pallet delivery truck))



ANNEXURE E: SWEEP PATH TESTS
(7 SHEETS)

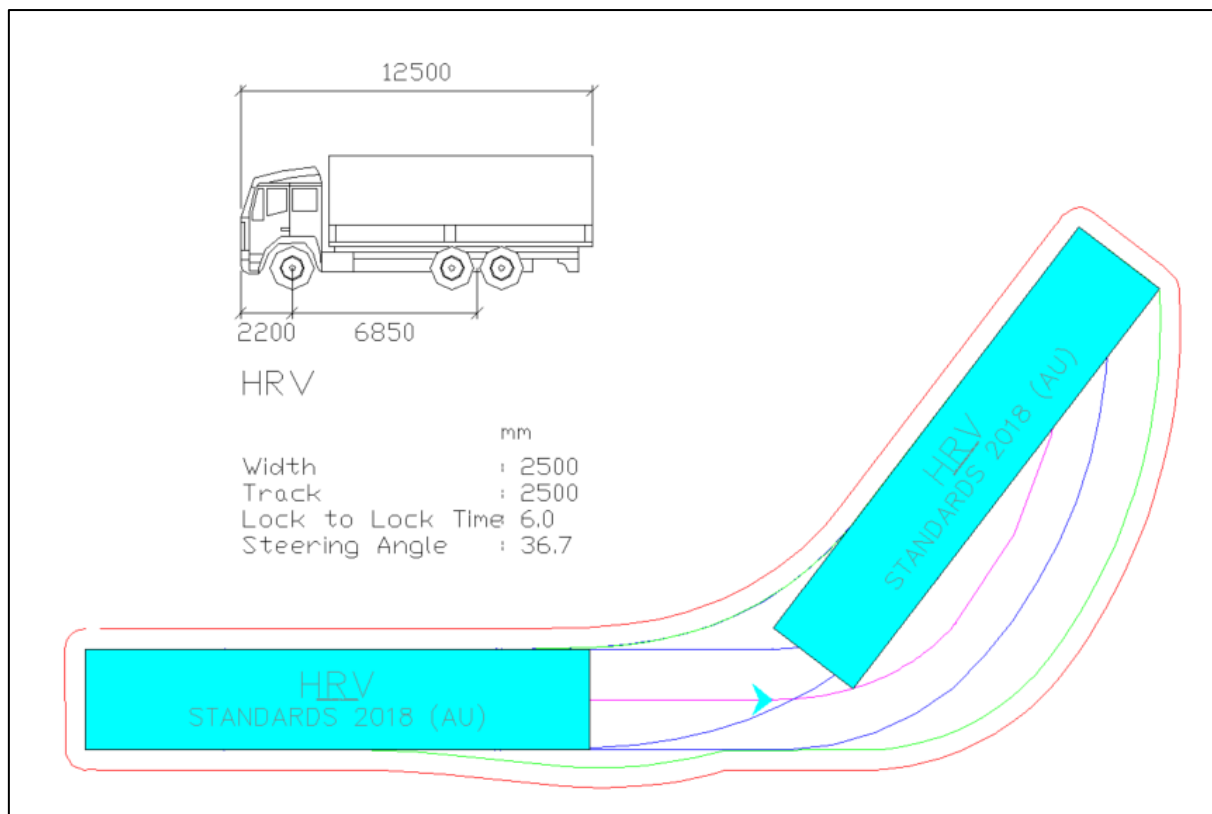


Australian Standard 85th percentile size vehicle (B85)

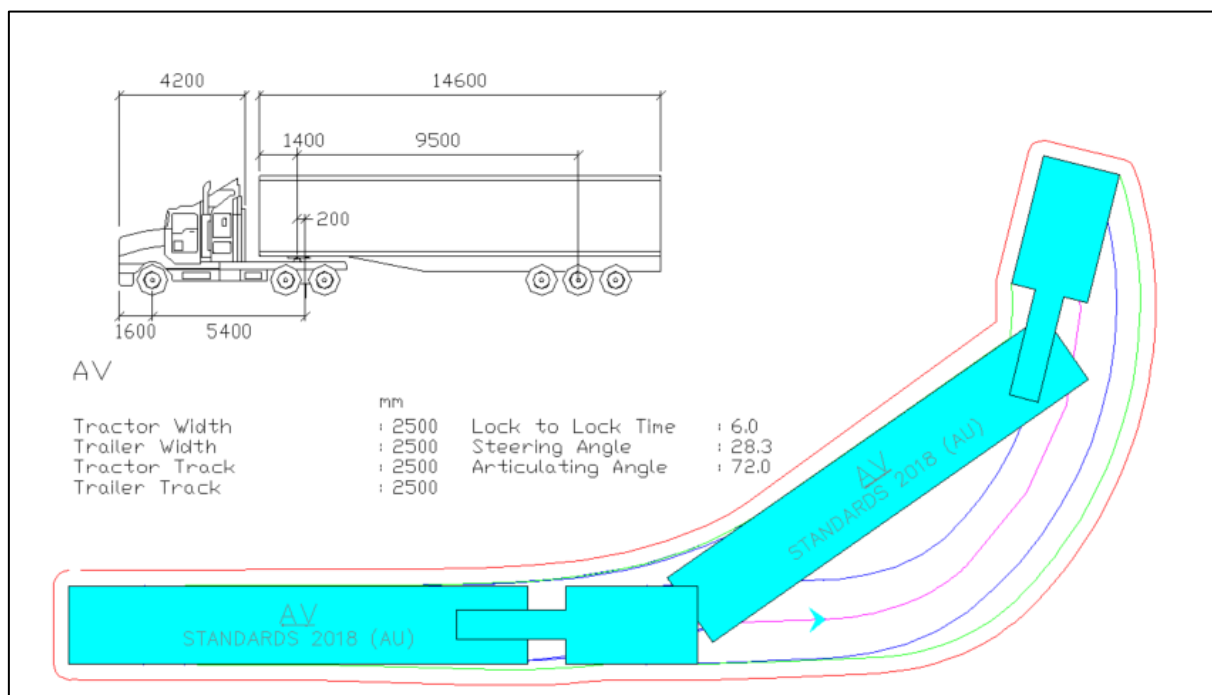


Australian Standard 99.8th percentile size vehicle (B99)

Blue – Tyre Path
 Green – Vehicle Body
 Red – 300mm Clearance

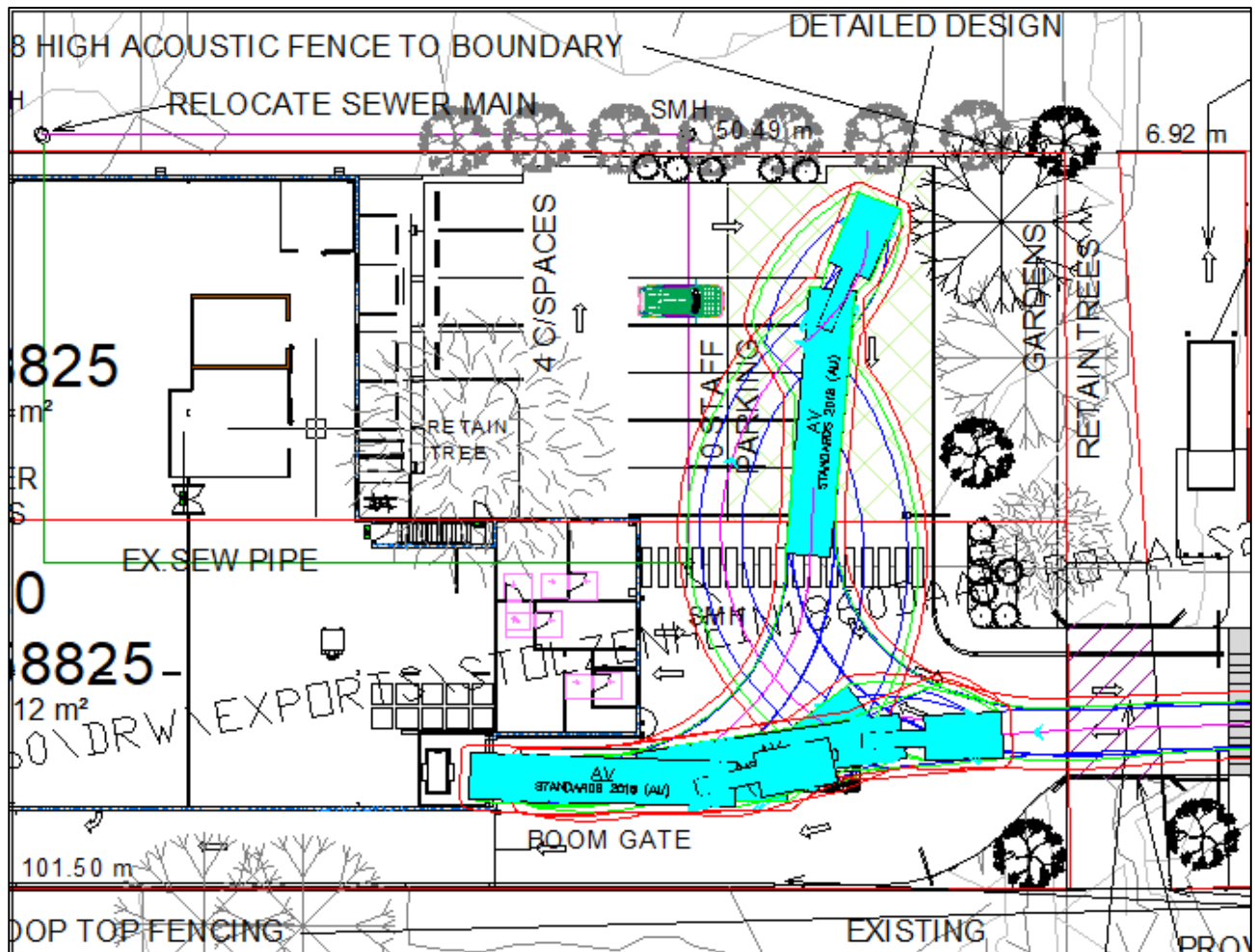


AUSTRALIAN STANDARD HEAVY RIGID VEHICLE (HRV)



Australian Standard Articulated Vehicle (AV)

Blue – Tyre Path
 Green – Vehicle Body
 Red – 500mm Clearance



20m length AV into loading bay from Merimbola Street

Tested @ 5km/h

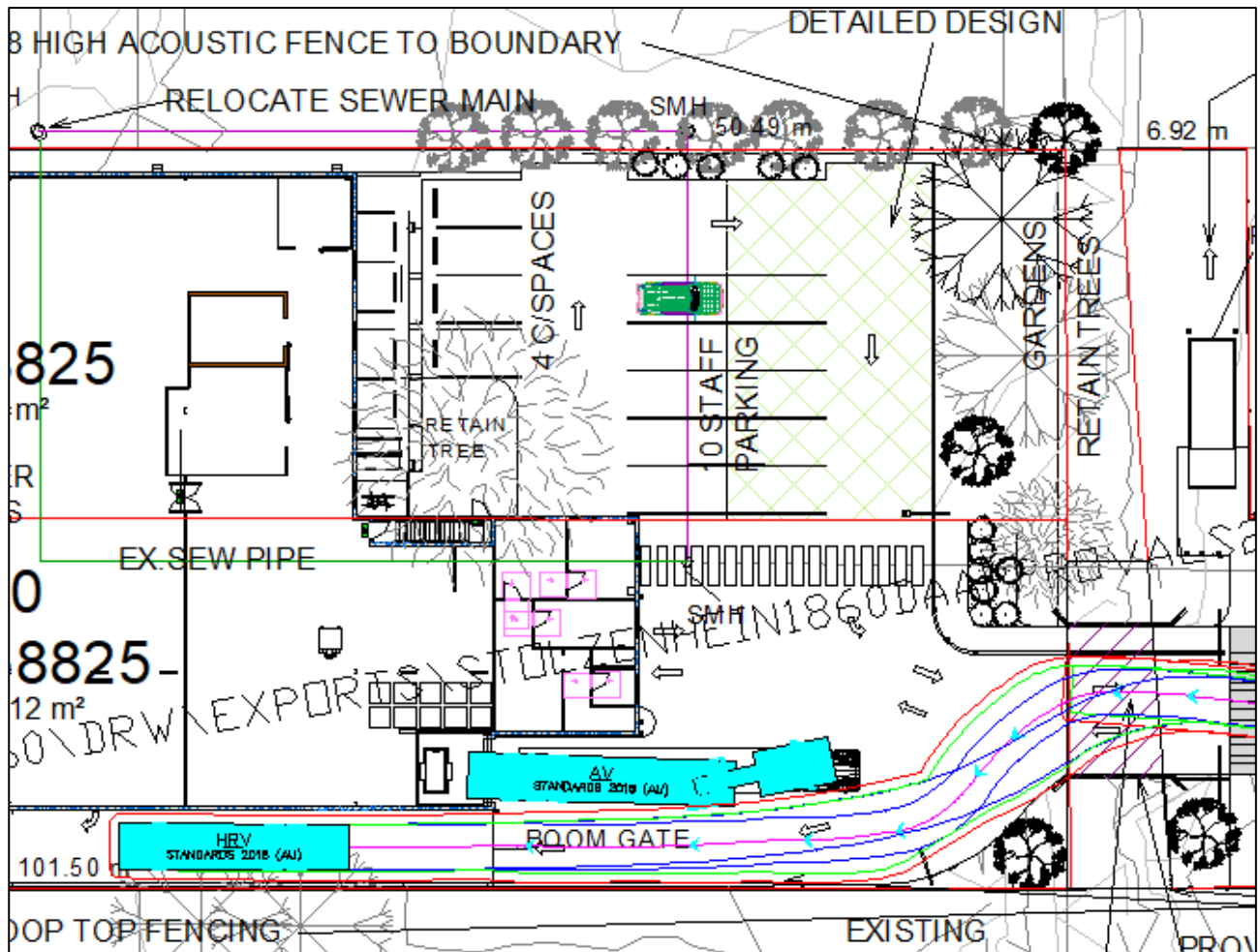
Successful – subject to access operated under an Traffic Management Plan

Blue – Vehicle Tyres

Green – Vehicle Body

Red – 500mm Clearance

It should be noted that it is likely the AV can enter the loading dock within 1 reverse movement. But due to the limitation of the swept path testing program it is not possible to show it as such.



12.5m length HRV passing 20m AV in the loading dock

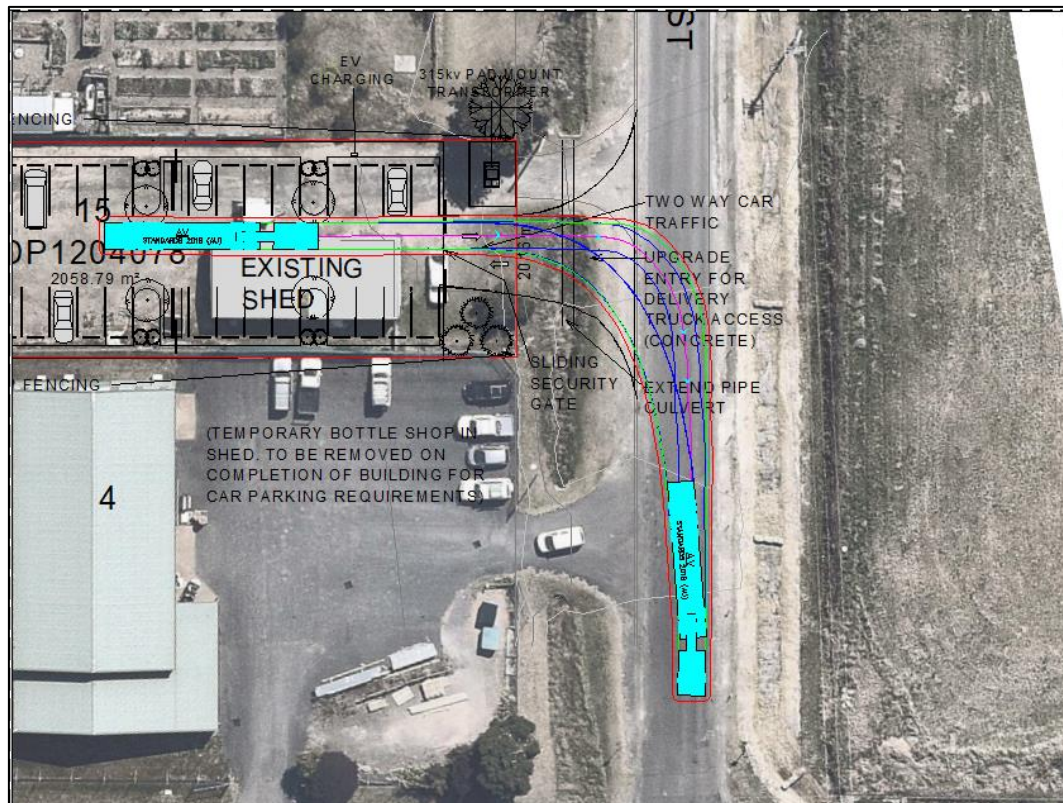
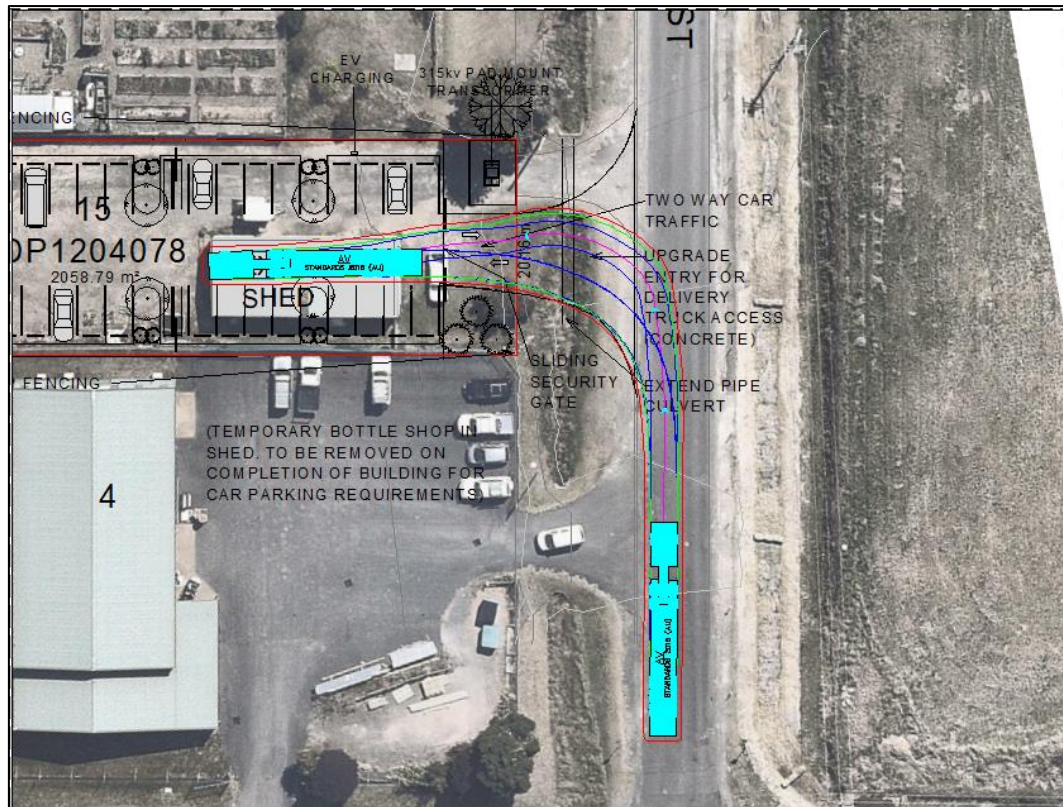
Tested @ 5km/h

Successful

Blue – Vehicle Tyres

Green – Vehicle Body

Red – 500mm Clearance



20m length AV into & out of site driveway along Merimbola Street (left in / right out)

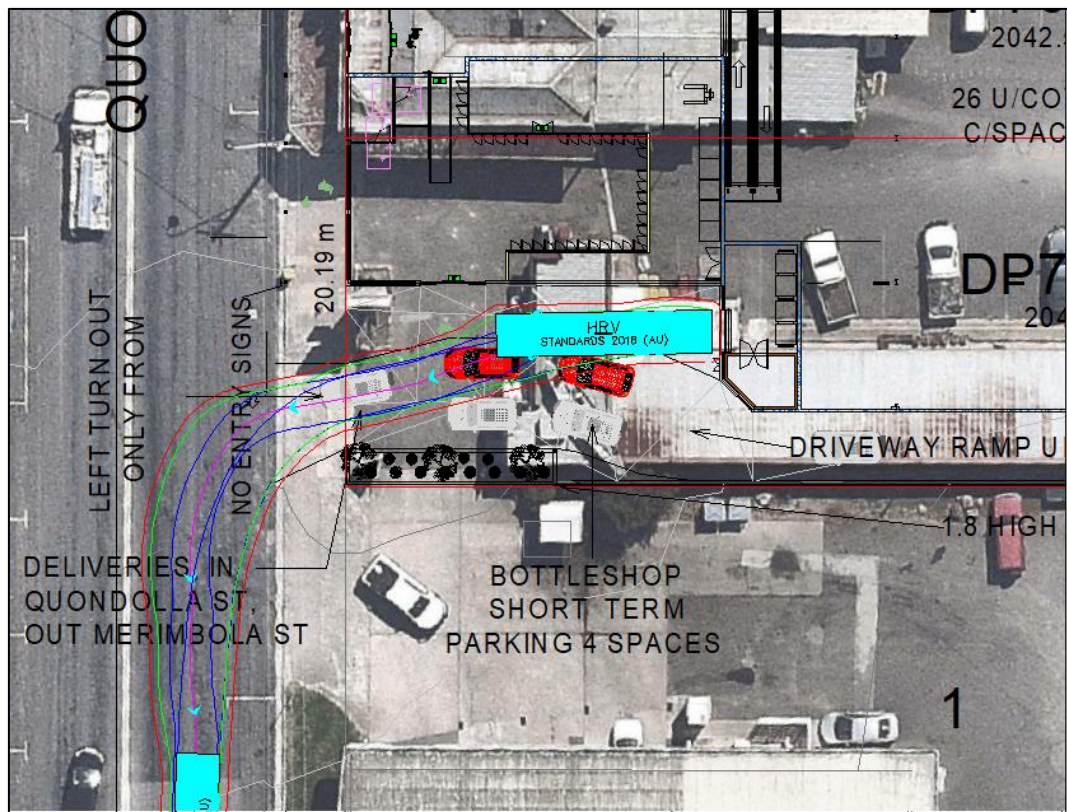
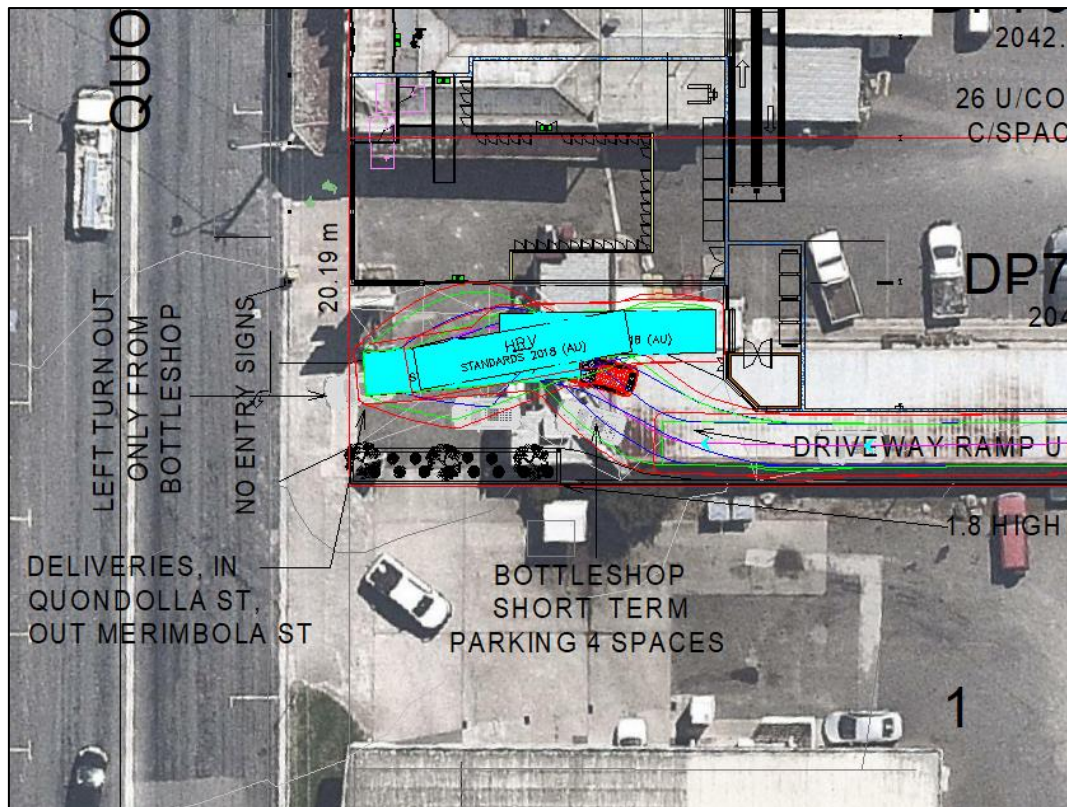
Tested @ 5km/h

Successful

Blue – Vehicle Tyres

Green – Vehicle Body

Red – 500mm Clearance



12.5m length HRV into bottle shop loading area and left turn exit onto Quondola Road.

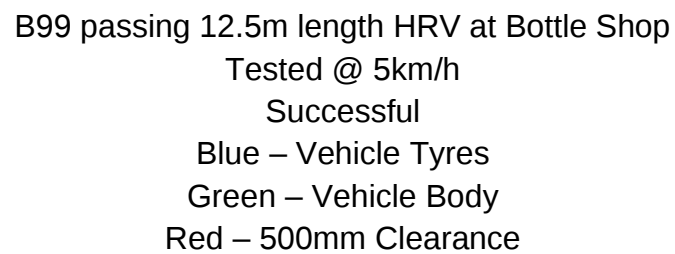
Tested @ 5km/h

Successful

Blue – Vehicle Tyres

Green – Vehicle Body

Red – 500mm Clearance



Red – 500mm Clearance



**ANNEXURE C: DRAFT TRAFFIC CONTROL PLAN
(1 SHEET)**

