TRAFFIC IMPACT ASSESSMENT

PROPOSED REZONING & SUBDIVISION

63 YARRAGON-LEONGATHA ROAD, YARRAGON

19 MARCH 2021

63 YARRAGON-LEONGATHA ROAD, YARRAGON

CLIENT: Millar Merrigan

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STUDY TEAM

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CONTENTS

1 INTRODUCTION

O'Brien Traffic has been engaged by Millar Merrigan to undertake a traffic impact assessment of a proposed rezoning and residential subdivision at 63 Yarragon-Leongatha Road, Yarragon.

In the course of preparing this report:

- Plans and relevant documentation have been examined;
- The site and surrounding area have been inspected; and
- The traffic implications of the proposal have been assessed.

2 THE PROPOSAL

It is proposed to:

(i) rezone the 45.53 hectare site at 63 Yarragon-Leongatha Road from Farm Zone to Residential Zone; and

(ii) subdivide the site into 304 residential lots (of average size 792 sqm), plus one lot for a possible aged care facility or lifestyle village (3.2 hectares).

Access is proposed via a number of new intersections with Rollo Street and Yarragon-Leongatha Road.

The proposed development plans are provided in **Appendix A**.

3 EXISTING CONDITIONS

3.1 LOCATION AND LAND USE

63 Yarragon-Leongatha Road is predominately zoned *Farming Zone* and is subject to a *Development Contributions Plan Overlay – Schedule 1*. The site is currently used primarily for farming activities.

The location of the subject site is shown in **Figure 1** and a recent aerial photograph is shown in **Figure 2**. The existing zoning of the sites is shown in **Figure 3**.

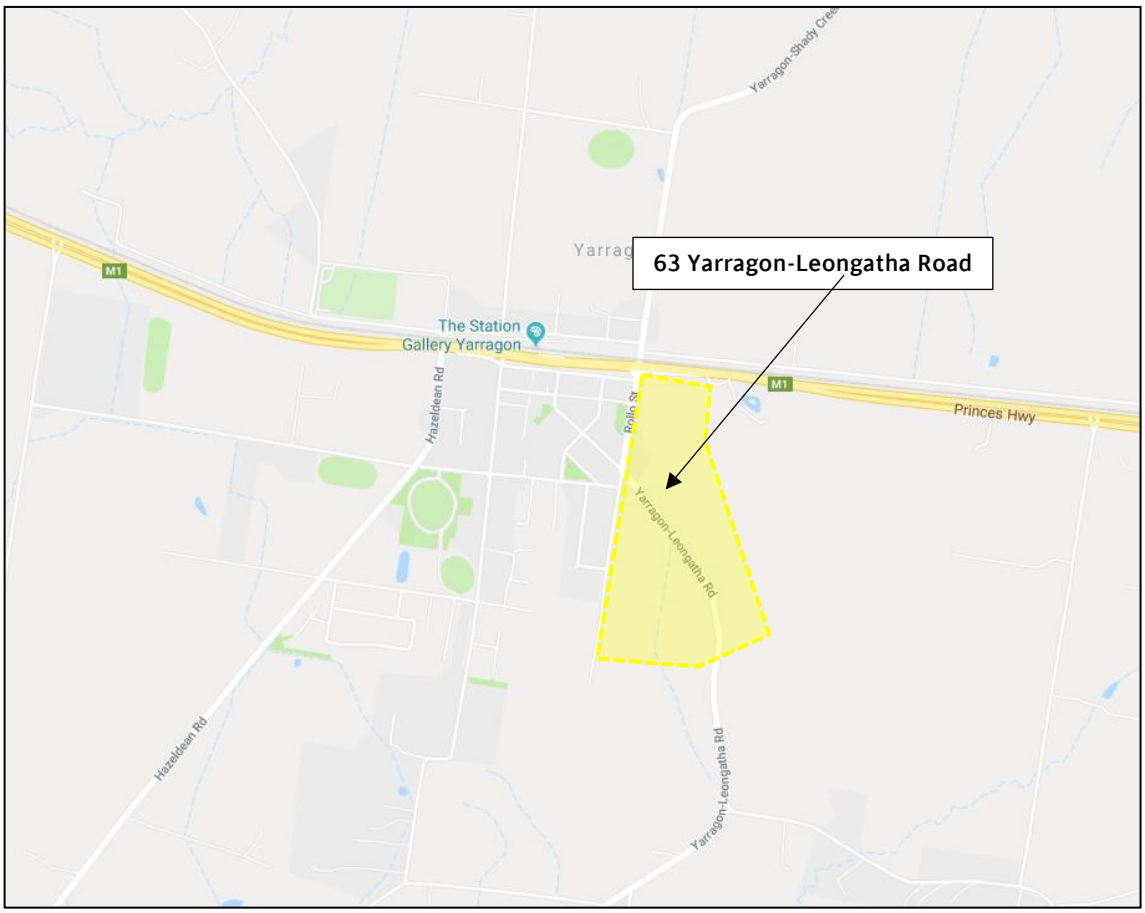

FIGURE 1: LOCATION OF SUBJECT SITE

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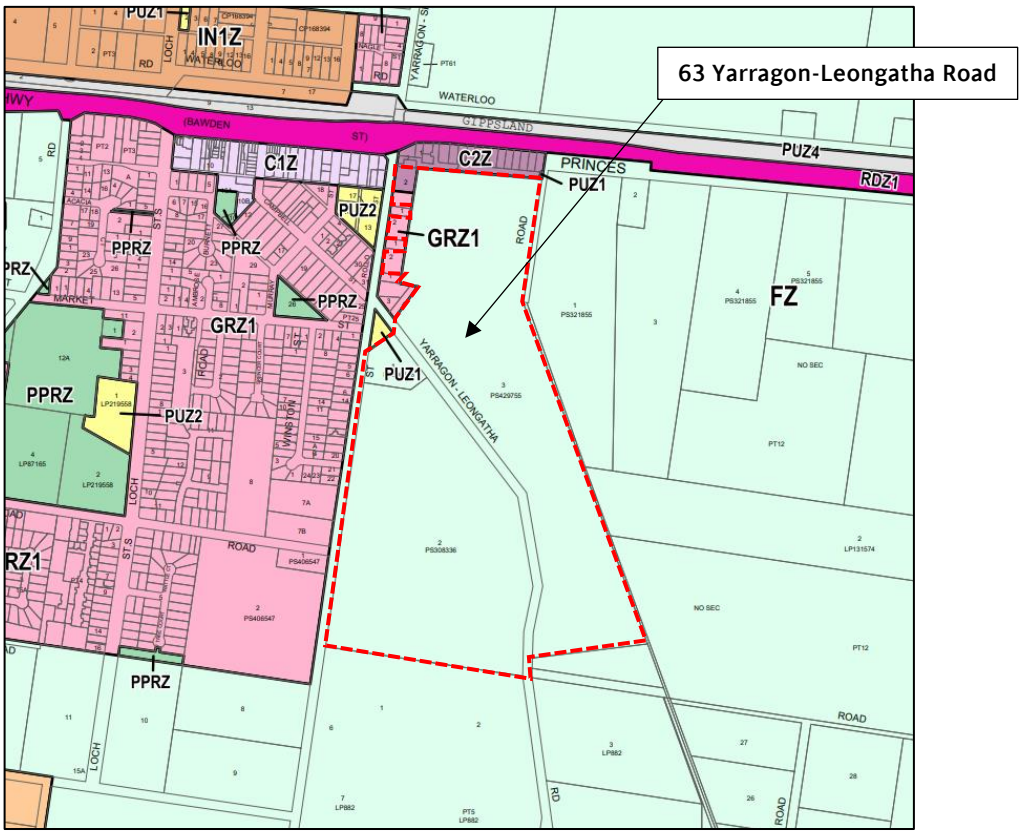
FIGURE 2: AERIAL PHOTO OF SUBJECT SITE



SOURCE: PLANNING MAPS ONLINE

FIGURE 3: ZONING MAP

3.2 SURROUNDING LAND USE

Land to the north of 63 Yarragon-Leongatha Road is zoned Commercial 2 and includes a hotel (i.e. pub), a petrol station and various other commercial uses. Land to the south and east of the site is used for farming.

Land on the west side of Rollo Street is zoned GRZ1 and has been developed for residential purposes.

3.3 ROAD NETWORK

Yarragon-Leongatha Road is a local street under the care and maintenance of Council. It provides a sealed carriageway approximately 6 metres wide, providing one traffic lane in each direction. A gravel shared path is provided on the eastern side of Yarragon-Leongatha Road along the length of the site boundary of 63 Yarragon-Leongatha Road.

In the vicinity of the site, Yarragon-Leongatha Road is subject to a posted speed limit of 80km/h. It is recommended that this be reconsidered and potentially lowered following the development of the subject site.

Views of Yarragon-Leongatha Road in the vicinity of the subject site are shown in **Figure 4** and **Figure 5.**

FIGURE 4: YARRAGON-LEONGATHA ROAD FACING NORTH

FIGURE 5: YARRAGON-LEONGATHA ROAD FACING SOUTH

Rollo Street is a local street under the care and maintenance of Council. It runs in a north-south orientation south of Princes Highway and currently terminates approximately 700m south of Yarragon-Leongatha Road, although this is anticipated to be extended as development proceeds to the south.

The section of Rollo Street north of Yarragon-Leongatha Road provides a sealed carriageway width of approximately 9.4m with gravel shoulders on each side. It is proposed that this section of Rollo Street will be reconstructed to provide a 3m traffic lane and 2.1m parking lane in each direction.

The section of Rollo Street south of Yarragon-Leongatha Road provides a sealed carriageway width of 6.5m with no shoulders which reduces to a 4 – 5m gravel road south of Winston Street.

In the vicinity of the subject site, Rollo Street is subject to a posted speed limit of 50km/h.

A view of Rollo Street south of Yarragon-Leongatha Road is shown in **Figure 6**.

FIGURE 6: ROLLO STREET SOUTH OF YARRAGON-LEONGATHA ROAD

The intersection of Yarragon-Leongatha Road and Rollo Street is shown in an aerial photo in **Figure 7**. It is currently controlled by STOP signs facing Rollo Street traffic. The layout of this intersection will need to be reconsidered as traffic in the area increases.

FIGURE 7: ROLLO STREET / YARRAGON-LEONGATHA ROAD INTERSECTION

The intersection of Rollo Street and the Princes Highway is signalised and provides for all direction movements. An aerial photo of the intersection is shown in **Figure 8.**

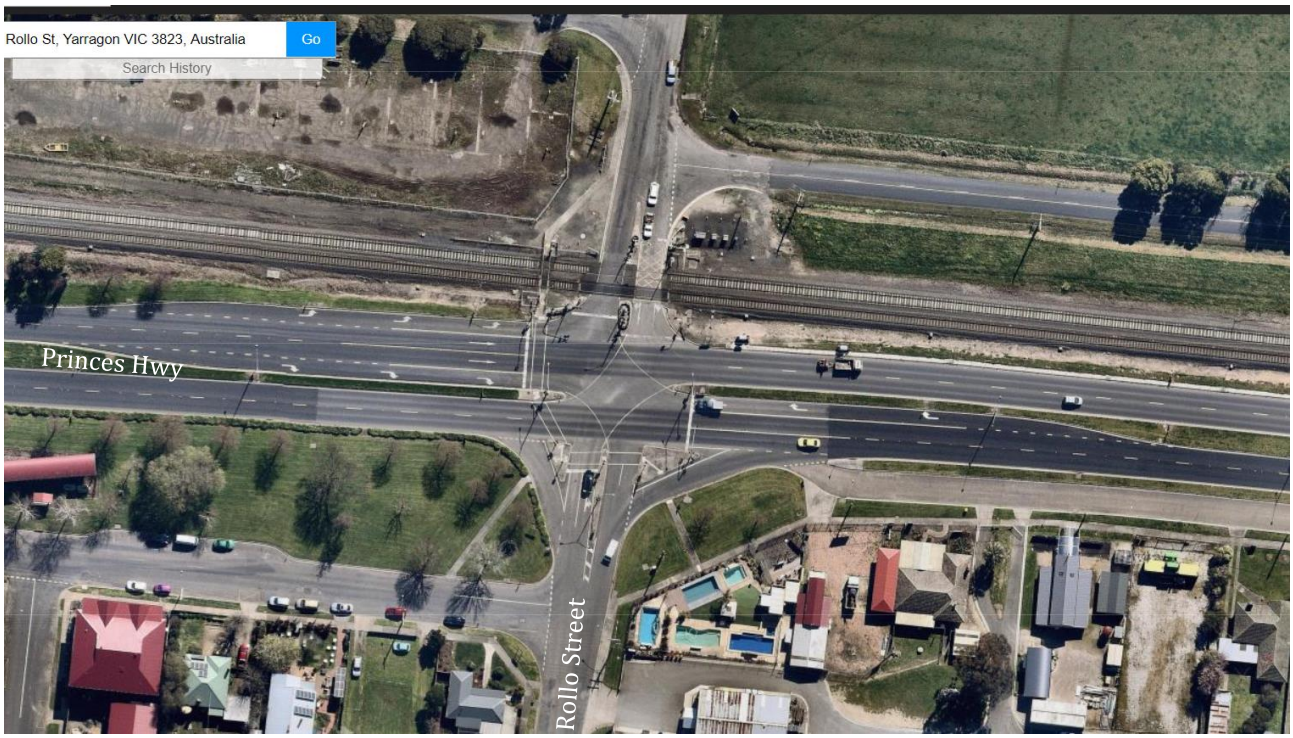


FIGURE 8: PRINCES HIGHWAY / ROLLO STREET SIGNALISED INTERSECTION

3.4 EXISTING TRAFFIC VOLUMES

Council provided 2016 traffic volumes recorded on Rollo Street between Princes Highway and Campbell Street as shown in **Table 1**. These figures are likely to have risen only slightly since 2016 given that there is only a small amount of additional development that has occurred in the area over the past 5 years.

SECTION OF ROAD	DATE	VEHICLES PER DAY	85TH %ILE SPEED
Rollo Street between Princes Hwy and Campbell St	12 February 2016	928vpd	59km/h

TABLE 1: TRAFFIC VOLUMES

Council also provided traffic count data collected on Yarragon Leongatha Road some distance south of the subject site. This data indicated traffic volumes on Yarragon Leongatha Road of less than 100 vehicles per day.

To confirm the data a short traffic count was undertaken at the intersection of Rollo Street / Yarragon-Leongatha Road on Thursday 6 September 2018 for the 30 minutes between 9:40am and 10:10am. The results of this survey are shown in **Table 2**.

LEG	30-MINUTE VOL
Rollo Street (North)	93 veh
Rollo Street (South)	39 veh
Yarragon-Leongatha Road	38 veh

TABLE 2: TRAFFIC VOLUME DATA - THURSDAY 6 SEPTEMBER 2018 (9:40AM-10:10AM)

Following the initial submission of this application, DoT requested additional information about the operation of the Princes Highway / Rollo Street intersection.

Existing traffic volume data (SCATS data Wednesday 10 March 2021) is provided in **Figure 9**, and discussed later in this report. To confirm that this data is representative of typical conditions, SCATS data from Wednesday 16 October 2019 (i.e. pre-Covid-19) is provided in **Figure 10**.

Wednesday 10 March 2021

Approach	Daily Traffic Volume (veh/d)
Princes Hwy westbound	12069
Princes Hwy eastbound	11892
Rollo Street	1074
Total traffic volume (all approaches)	25846

FIGURE 9: PRINCES HIGHWAY / ROLLO STREET - TRAFFIC VOLUMES WEDNESDAY 10 MARCH 2021

Wednesday 16 October 2019

Approach	Daily Traffic Volume (veh/d)	AM PEAK (veh/h)	PM Peak (veh/h)
Princes Hwy westbound	11747	882 8-9am	1016 5-6pm
Princes Hwy eastbound	11981	1014 8-9am	932 5-6pm
Rollo Street	942	86 8-9am	87 2-3pm
Total traffic volume (all approaches)	25418	2059 8-9am	2062 5-6pm

FIGURE 10: PRINCES HIGHWAY / ROLLO STREET - TRAFFIC VOLUMES WEDNESDAY 16 OCTOBER 2019

3.5 CASUALTY CRASH HISTORY

A review of the crash history indicates that there have been no recorded casualty crashes in the vicinity of the subject sites within the last 5 years of available data.

3.6 PUBLIC TRANSPORT

Yarragon Railway Station is located on the Princes Highway approximately 400m west of Rollo Street and is serviced by the Marlo – Lake Tyers Beach and the Paynesville – Melbourne V-Line trains. The nearest bus stop is located on Princes Highway at the Railway Station and provides access to various rural bus lines.

4 TRAFFIC GENERATION, DISTRIBUTION & IMPACT

4.1 TRAFFIC GENERATION

Based on the generally accepted trip generation rate of 10 vehicle trips per day per dwelling, the proposed subdivision of 304 lots will generate 3,040 trips per day. Note that this does not include traffic generated by the potential aged care or lifestyle village at the northern end of the site, as this will be subject to separate planning approvals. However, it is noted that aged care and lifestyle villages typically do not generate significant amounts of traffic at peak on-road times.

As it is typical that 10% of daily trips are recorded each peak hour, this equates to 304 trips each peak hour generated by the subject site. A small number of these trips will be generated directly to Rollo Street, with the remainder using the proposed internal road network to access Rollo Street and Yarragon Leongatha Road.

Based on an earlier, very similar, layout that proposed 377 lots (i.e. 73 lots more than the current proposal), the estimated peak hour trips generated via each access to the external road network is shown in **Figure 11**. As there are now 73 fewer lots proposed the volumes shown on **Figure 11** should be considered a very conservative assessment.

It has been assumed that in the AM peak hour, 80% of trips will be generated away from the subdivision and 20% of trips will be to the subdivision, and in the PM peak hour, 40% of trips will be generated away from the subdivision and 60% of trips will be to the subdivision.

FIGURE 11: TRAFFIC GENERATION TO EXTERNAL ROAD NETWORK

4.2 TRAFFIC DISTRIBUTION

Based on the layout of the surrounding road network and the location of surrounding development, it has been assumed that 95% of traffic will travel to and from the north (using the Princes Highway / Rollo Street intersection), and 5% of traffic will travel to and from the south.

Applying the above assumptions to the earlier proposal (i.e. with 377 lots rather than the current 304 lots), the AM and PM traffic distributions are shown in **Figure 12** and **Figure 13** respectively. These are very conservative given the recent reduction in the number of lots proposed.

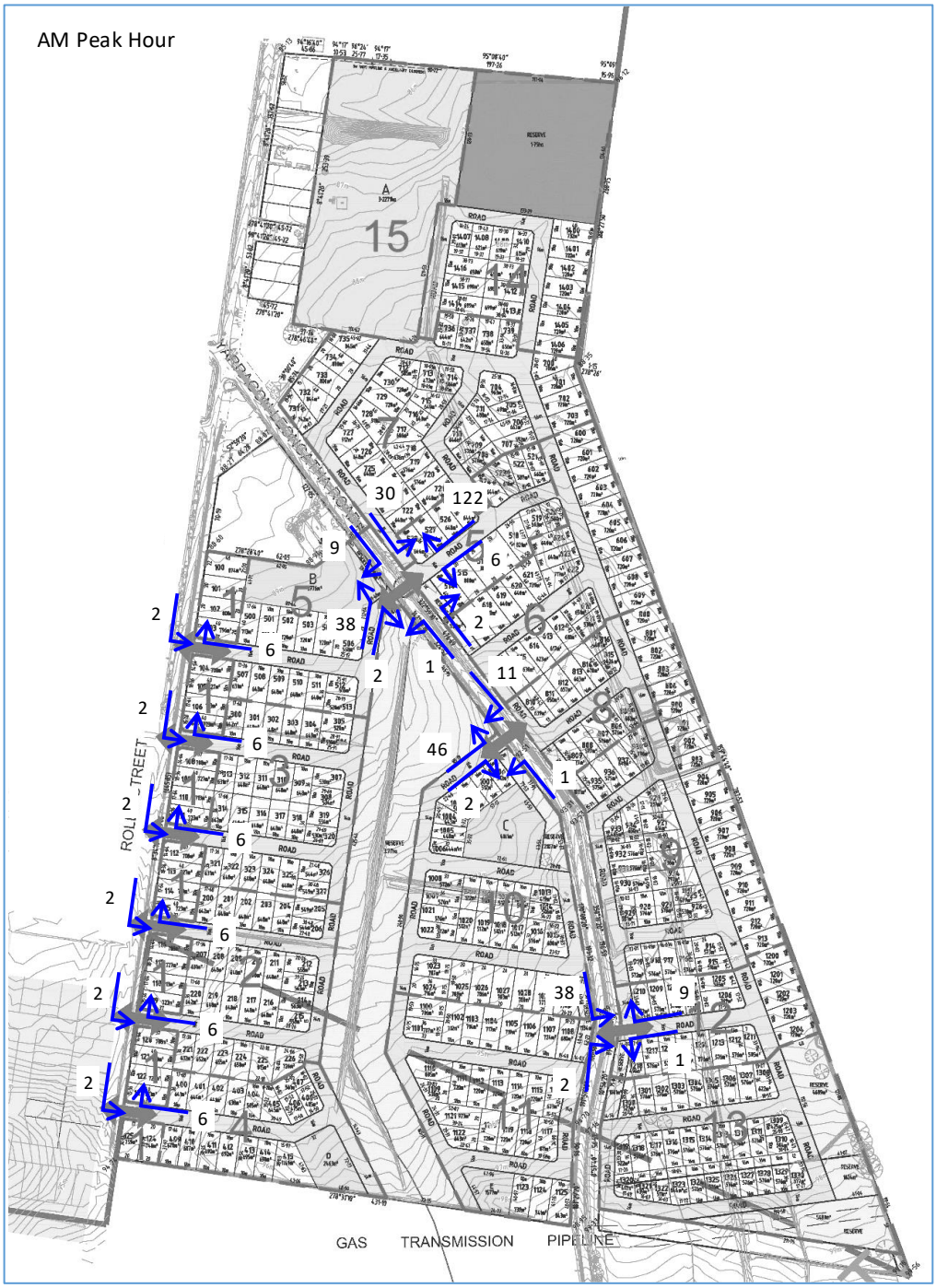


FIGURE 12: ANTICIPATED TRAFFIC DISTRIBUTION - AM PEAK HOUR

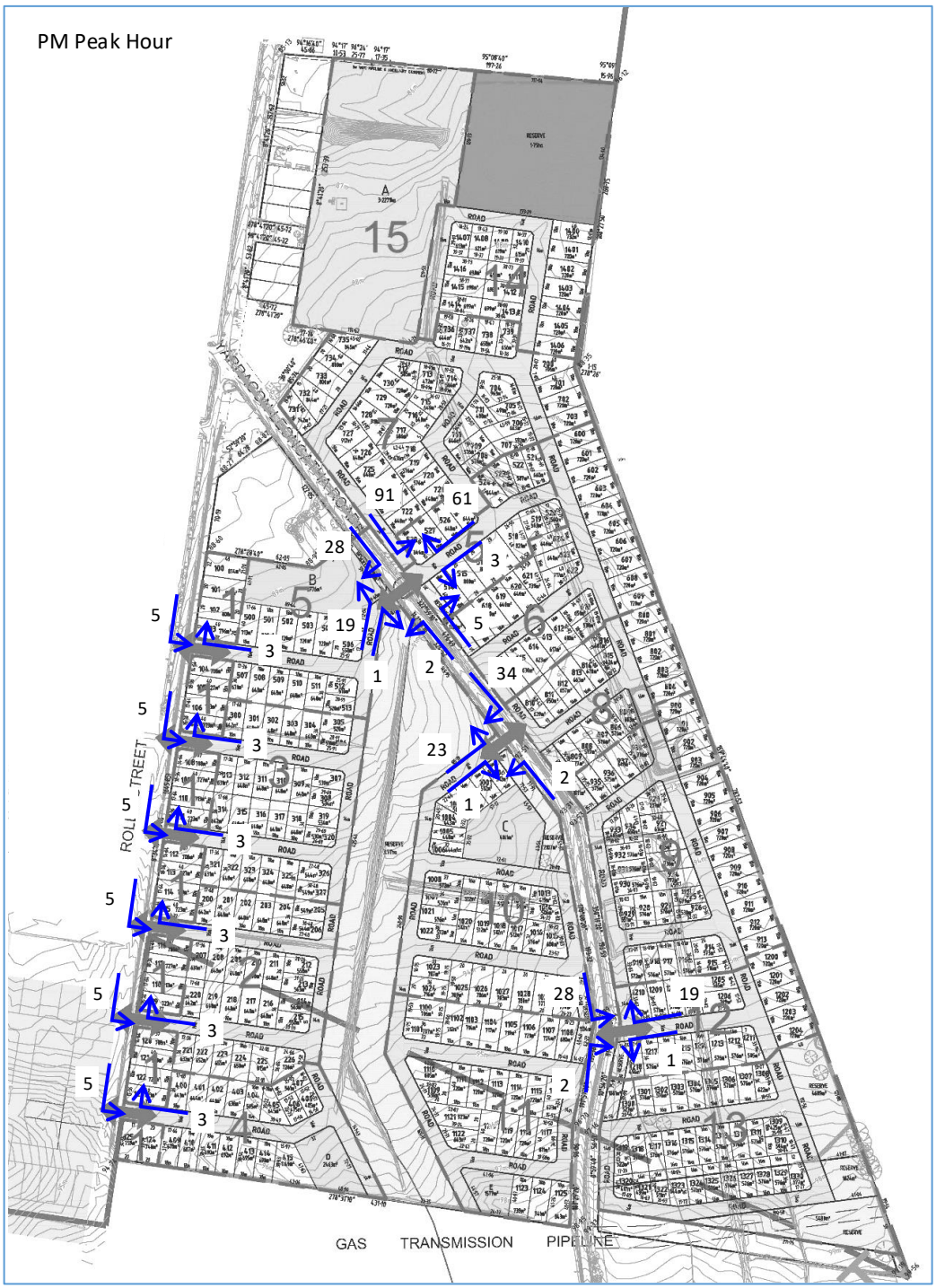


FIGURE 13: ANTICIPATED TRAFFIC DISTRIBUTION - PM PEAK HOUR

This level of traffic generation will be catered for by the proposed internal road network and the intersections of the internal road network with Rollo Street and Yarragon-Leongatha Road.

The reduced total of 304 lots will result in a total daily generation of 3,040 trips, with 304 trips each peak hour. Of these 304 trips 95% (i.e. 290 trips) will be to and from the north (i.e. via the Princes Highway / Rollo Street intersection) and the remaining 5% will be to and from the south.

In the AM peak hour 80% of these 290 trips (i.e. 232 trips) will travel away from the site to the north along Rollo Street to the Princes Highway intersection, and 20% (i.e. 58 trips) will travel towards the site to the south along Rollo Street.

In the PM peak hour 60% of these 290 trips (i.e. 174 trips) will travel towards the site from the north along Rollo Street (i.e. from the intersection of Princes Highway / Rollo Street) and 40% (i.e. 116 trips) will travel away from the site to the north along Rollo Street to the Princes Highway intersection.

Given the location of the site midway between Warragul and Moe, as shown in **Figure 14**, it has been assumed that 50% of traffic will travel to and from the west, and 50% to and from the east.

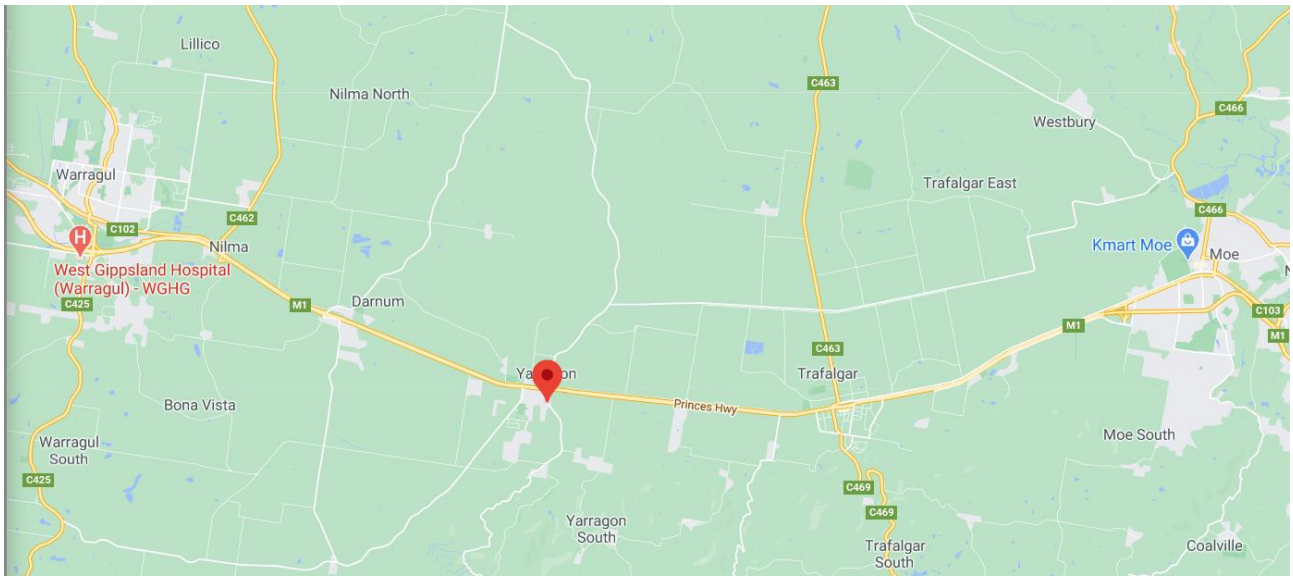


FIGURE 14: SITE LOCATION IN RELATION TO WARRAGUL AND MOE

This means that in the AM peak hour there will be 116 trips away from the site to the west and 116 trips away from the site to the east generated by the subdivision. It is considered that the addition of this number of trips in the AM peak hour (which will equate to approximately 4 trips to the west and 4 trips to the east per cycle assuming a 2 minute cycle time) to the existing signalised intersection of Prince Highway / Rollo Street will not require any mitigation works.

In the PM peak hour there will be 87 trips towards the site from the west and 87 trips towards the site from the east. It is considered that the addition of this number of trips in the PM peak hour (which will equate to approximately 3 trips from the west and 3 trips from the east per cycle assuming a 2 minute cycle time) to the existing signalised intersection of Princes Highway / Rollo Street will not require any mitigation works.

4.3 TRAFFIC IMPACT

Based on the assessment above, it is concluded that Princes Highway, Rollo Street, Yarragon Leongatha Road and the intersections of these roads will not be significantly impacted by the additional traffic generated by the subject site.

5 INTERSECTION DESIGN

It is recommended that the existing 80km/h speed limit on Yarragon Leongatha Road be reduced to 60km/h once traffic volumes increase in the area (whether or not this increase is related to the proposed subdivision).

It is intended that a roundabout be constructed at the cross-road of Yarragon Leongatha Road with the internal roadway, with all other intersections of internal streets with Rollo Street and Yarragon Leongatha Road being T-intersections.

6 INTERNAL SUBDIVISION DESIGN

6.1 ROAD HIERARCHY

Streets within the subdivisions that have dwellings on both sides have reservations of 16 metres shown on the proposed subdivision plan. Streets with development on only one side have reservations of 14 metres, with the exception of the street next to the easement reserve at 71 Rollo Street, which is 16 metres in width.

6.2 SPEED LIMITS

It is recommended that all streets within the two subdivisions (with the exception of Yarragon Leongatha Road) be covered by the 50km/h general urban speed limit.

6.3 PEDESTRIAN FACILITIES

Footpaths or shared paths should be provided on at least one side of all proposed streets.

6.4 PUBLIC TRANSPORT

There are no public transport services proposed within the subdivisions. However, buses would be able to use Rodier Road, Rollo Street and Yarragon Leongatha Road should such a service be provided in the future.

6.5 LOCAL AREA TRAFFIC MANAGEMENT

It is recommended that internal streets longer than 250 metres include speed humps or other LATM treatments to regulate vehicle speed.

7 CONCLUSION

Based on the investigations made during the preparation of this report, it is concluded that there are no traffic related grounds that should prevent the proposed rezoning and subdivision of 63 Yarragon Leongatha Road from proceeding.

APPENDIX A

PROPOSED SUBDIVISION PLANS

LOT 2 ON PS308336A
Vol:10130 Fol:554

LOT 3 ON PS429755C
Vol:10526 Fol:303

LOT 1 ON TP365740G
Vol:04672 Fol:365

STAGE 1 : 25 LOTS = 100 TO 124, RESERVE
STAGE 2 : 27 LOTS = 200 TO 226
STAGE 3 : 28 LOTS = 300 TO 327
STAGE 4 : 11 LOTS = 400 TO 410
STAGE 5 : 33 LOTS = 500 TO 532, RESERVE & RESERVE (PART)
STAGE 6 : 32 LOTS = 600 TO 631
STAGE 7 : 26 LOTS = 700 TO 725, RESERVE
STAGE 8 : 33 LOTS = 800 TO 832, RESERVE
STAGE 9 : 22 LOTS = 900 TO 921, RESERVE & RESERVE (PART)
STAGE 10 : 11 LOTS = 1000 TO 1010, RESERVE (PART)
STAGE 11 : 8 LOTS = 1100 TO 1107 RESERVE (PART)
STAGE 12 : 22 LOTS = 1200 TO 1221 RESERVE (PART)
STAGE 13 : 9 LOTS = 1300 TO 1308, RESERVE (PART)
STAGE 14 : 17 LOTS = 1400 TO 1416, RESERVE & RESERVE (PART)
STAGE 15 : LOT A = AGED CARE/ LIFE STYLE VILLAGE

TOTAL NUMBER OF LOTS = 304 RESIDENTIAL AND LOT A

304 Lots @ 792m² average

LAND BUDGET			
	SITE AREA	45.53ha	
	LAND USES	AREA	% SITE
	RESERVE ENCUMBERED	*2.31ha*	5.1%
	LOCAL ROADS	*9.90ha*	21.8%
	RESERVE UNENCUMBERED	*6.05ha*	13.3%
	304 RESIDENTIAL BLOCKS	*24.06ha*	52.9%
	LOT A=AGED CARE OR LIFESTYLE VILLAGE	*3.21ha*	7.0%
	TOTAL AREA	45.53ha	100.0%
RESIDENTIAL = 9 LOTS PER ha			

TREES OUTSIDE THE SITE

TREE TO BE REMOVED

STRZELECKI GUM TO BE RETAINED

STRZELECKI GUM TO BE REMOVED

RESERVE UNENCUMBERED

ENCUMBERED RESERVE

POSSIBLE AGED CARE OR LIFESTYLE VILLAGE

STAGE BOUNDARY

RIVER

DIMENSIONS HEREON ARE SUBJECT TO SURVEY.

THIS PLAN IS SUBJECT TO THE APPROVAL OF VARIOUS STATUTORY AUTHORITIES.

FEATURES & CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM SURVEY CARRIED OUT BY MILLAR & MERRIGAN ON 18/02/2018.
REF: 21892F1

CONTOUR VERTICAL INTERVAL 0·20 METRES.

No.	Revision Description	Drawn	App'd	Date
4	Updated layout, areas, and Land Budget	AHW		19/01/2021
3	Recalculated layout	AHW	GL	2/11/2020
2	Layout updated	AHW		13/10/2020
1	Prepared for town planning purposes	AHW	ME	24.01.2019

FOR APPROVAL

Millar | Merrigan

Land Development Consultants

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Landscape Architecture
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Urban Design
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MGA2020
North

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Original sheet size A1

PROPOSED SUBDIVISION PLAN

PART 63 YARRAGON-LEONGATHA ROAD, YARRAGON
BAW BAW SHIRE COUNCIL

21892P3
VERSION 4
SHEET 1 OF 1