

Site Compatibility Certificate for Seniors Housing 25 Laitoki Road, Terrey Hills

Assessment of Road & Public Transport Infrastructure

Ref: 219/2019

Date: February 2020

Issue: B

Table of Contents

1.0	INTRODUCTION	3
2.0	ENVISAGED DEVELOPMENT SCHEME	4
2.1	Site, Context and Existing Circumstances.....	4
2.2	Envisaged Development	4
2.3	Other Development	5
3.0	ROAD NETWORK AND TRAFFIC CONDITIONS	6
3.1	Road Network.....	6
3.2	Traffic Controls	7
3.3	Traffic Conditions	7
4.0	TRANSPORT SERVICES	9
5.0	TRAFFIC	11
6.0	BUSH FIRE SAFETY	13
7.0	ACCESS, INTERNAL CIRCULATION AND SERVICING	14
7.1	Access.....	14
7.2	Internal Circulation	14
7.3	Servicing	14
8.0	CONCLUSION	15

List of Figures

Figure 1	Location
Figure 2	Site
Figure 3	Road Network
Figure 4	Traffic Controls

List of Appendices

Appendix A	Plans of Envisaged Development
Appendix B	Plans of Other Development
Appendix C	Traffic Survey Results
Appendix D	Bus Services
Appendix E	Aerial Images

1.0 Introduction

This report has been prepared to accompany an Application to DPE&I for a Site Compatibility Certificate to enable a Development Application to be submitted for an envisaged Seniors Living complex on a site in Laitoki Road at Terrey Hills (Figure 1).

There is an increasing need to provide accommodation for the aging population particularly in established urban areas. The large landholding in Laitoki Road at Terrey Hills is ideally located to provide such accommodation in quiet and peaceful surrounds with access to public transport services. The desirability and suitability of the location is confirmed by the recently completed adjacent Seniors Living complex and the recently approved development of another complex on a site in Laitoki Road.

The envisaged development comprises 54 three bedroom dwellings in extensive landscaped surrounds incorporating an integrated central access roadway with basement and garage car parking.

The purpose of this report is to:

- ❖ describe the site, its context and the envisaged development scheme
- ❖ describe the road network serving the site and the prevailing traffic conditions
- ❖ describe the public transport services available
- ❖ assess the potential traffic implications
- ❖ assess the suitability of the envisaged vehicle access, internal circulation and servicing arrangements

FIG 1

2.0 Envisaged Development Scheme

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is Lot 261 in DP 775299 which occupies a rectangular shaped area of 20,232m² with frontages to Laitoki Road and the unformed Toorong Road reservation.

The surrounding area comprises:

- ❖ the large recently completed Seniors Living complex immediately to the north
- ❖ the residential dwellings extending to the east of Laitoki Road
- ❖ the rural residential properties adjoining to the north, south and west

The site is currently a rural residential property with a large dwelling and out building.

2.2 Envisaged Development

It is envisaged that the existing buildings would be demolished and the site cleared with some earthworks undertaken to provide for basement parking, level building platforms and the access driveway. The envisaged development comprises:

54 x Three Bed townhouse style dwellings

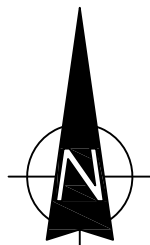
Basement and garage parking

Central access driveway connecting to Laitoki Road

Concept details of the envisaged development are provided on the plans prepared by Playoust Churcher which accompany the Application and are reproduced in part in Appendix A.



LEGEND



SITE

FIG 2

2.3 Other Development

Consent has been granted for a proposed RACF and ILU development at 58 Laitoki Road, Terrey Hills comprising:

- 90 RACF Beds
- 48 ILU's

Details of this development scheme are provided on the plans reproduced in Appendix B.

3.0 Road Network and Traffic Conditions

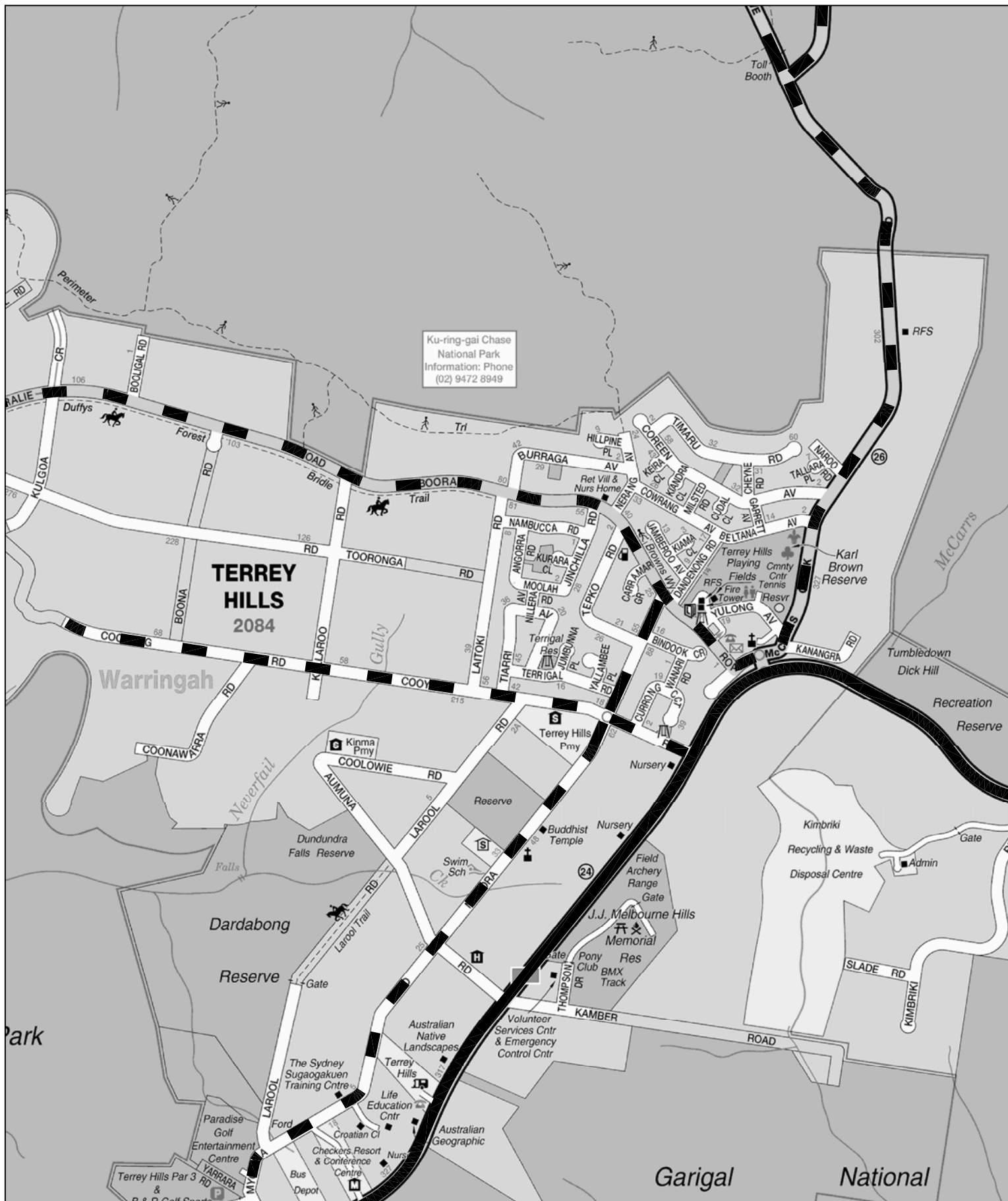
3.1 Road Network

The existing road network serving the site (Figure 3) comprises:

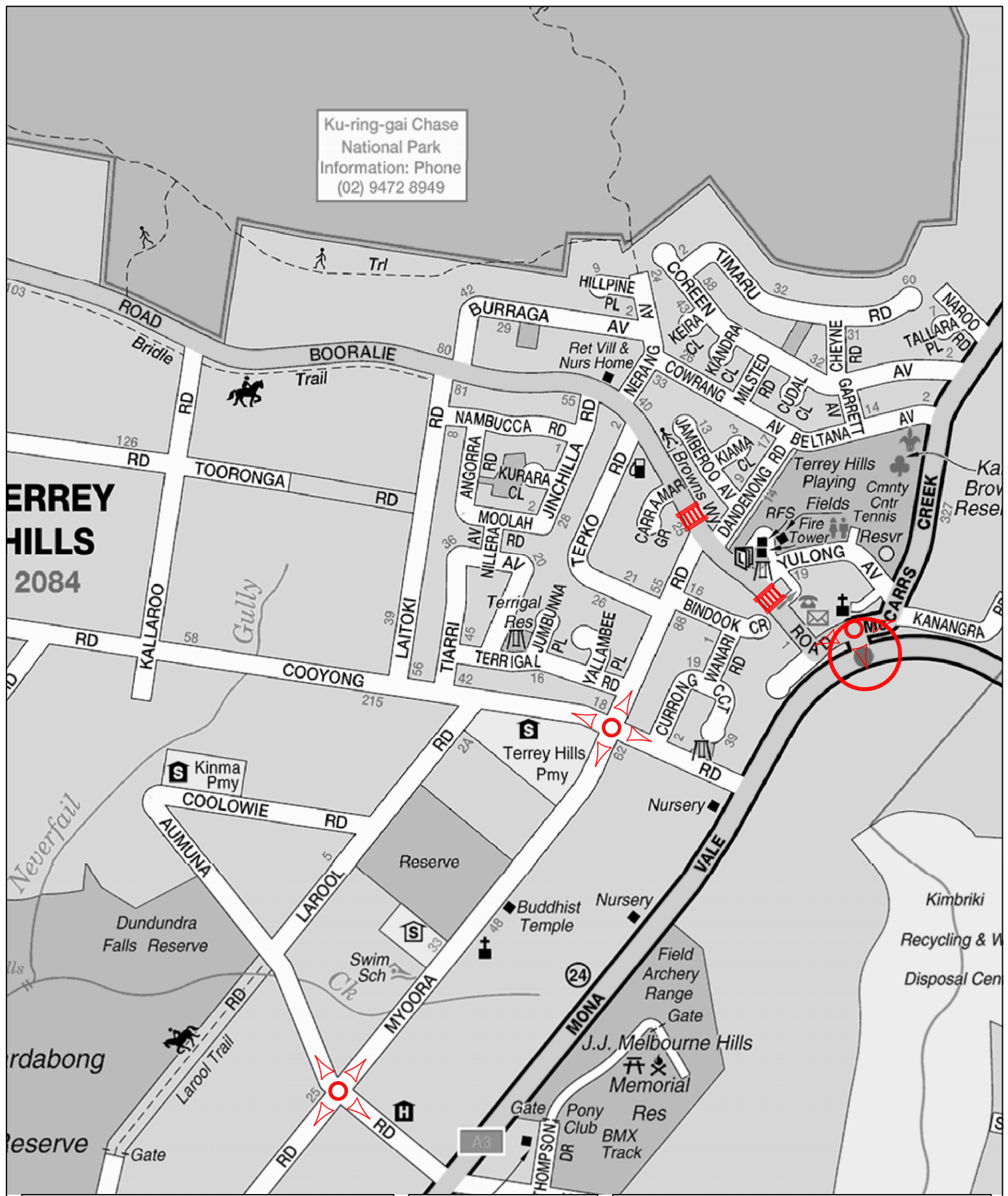
- ❖ *Mona Vale Road* – a State Road and arterial route connecting between the Pacific Highway at Gordon and Pittwater Road at Mona Vale
- ❖ *Forest Way* – a State Road and arterial route connecting between Mona Vale Road and Warringah Road
- ❖ *McCarrs Creek Road* – a State Road and major collector route linking between Terrey Hills and Church Point
- ❖ *Booralie Road* – a collector road providing access to Terrey Hills and Duffys Forest
- ❖ *Myoora Road* – a collector road connecting between Mona Vale Road at Forest Way and Booralie Road
- ❖ *Cooyong Road* – a minor collector road which runs to the west of Mona Vale Road
- ❖ *Laitoki Road* – a local access road connecting between Cooyong Road and Myora Road

Laitoki Road has a relatively straight alignment with one traffic lane in each direction.





Tooronga Road is a local access road which remains unconstructed in the section to the north of Laitoki Road.

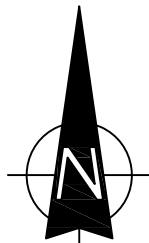


Ku-ring-gai Chase
National Park
Information: Phone
(02) 9472 8949



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT
-  PEDESTRIAN CROSSING



TRAFFIC CONTROLS

FIG 4

3.2 Traffic Controls

The existing traffic controls which have been applied to the roads in the vicinity of the site (Figure 4) include:

- ❖ traffic signals at the Mona Vale Road, Forest Way and Myoora Road intersection which incorporate the prohibition of the right-turn movement from Mona Vale Road to Myoora Road
- ❖ the traffic signals at the Mona Vale Road and McCarrs Creek Road intersection
- ❖ the roundabout at the Booralie Road and McCarrs Creek Road intersection
- ❖ the roundabout at the Myoora Road and Cooyong Road intersection
- ❖ the bus stops on both sides of Myoora Road to the north and south of Cooyong Road
- ❖ the marked pedestrian crossings on Cooyong Road and Myoora Road near the intersections of those roads
- ❖ the 50kmph speed restriction on Myoora Road, Cooyong Road and Laitoki Road with sections of 40 kph school speed zone on the two former roads at the Primary School frontage

3.3 Traffic Conditions

An indication of the existing traffic conditions in the vicinity of the site is provided by data published by the RMS and surveys undertaken as part of this assessment. The data published by the RMS is expressed in terms of Annual Average Daily Traffic (AADT) and the most recently available data is summarised in the following:

Location	AADT
Mona Vale Road west of Forest Way	32,812

Traffic surveys have been undertaken at the Cooyong Road/Laitoki Road and Laitoki Road/Booralie Road intersections during the AM and PM peak periods. The results of these surveys are provided in Appendix B and summarised in the following:

	AM	PM
<hr/>		
Cooyong		
EB	100	66
LT	-	1
WB	122	80
RT	17	28
Laitoki		
RT	-	-
LT	30	11
<hr/>		
Booralie		
EB	288	233
RT	4	2
WB	345	130
LT	7	22
Laitoki		
RT	14	18
LT	8	10

These peak traffic movements are quite minor, particularly along Laitoki Road and it is apparent that the intersections in the area operate quite satisfactorily at the present time with substantial spare capacity and an absence of any queuing or delay.

4.0 Transport Services

There are a total of 7 bus routes operating along Myora Road terminating at Booralie Road (except for 1 route which continues to Duffys Forest and 2 which continue to Mona Vale) as indicated on the route maps provided in Appendix D.

These services comprise:

		Frequency
Route 196	Mona Vale to Gordon	20 min & 60 min
Route 197	Mona Vale to Macquarie University	30 min & 60 min
Route 260	Terrey Hills to North Sydney	20 min AM & PM
Route 270	Terrey Hills to City	30 min
Route L70	Terrey Hills to City	20 min AM
Route 271	Terrey Hills to City	30 min early & late
Route 284	Duffy Forest to Chatswood	2 AM & PM

The frequency of these routes varies; however, they are arranged to provide a consistent arrival and departure (e.g. 271 is for the early morning and late evening periods only). The bus stops are located within 400m of the Laitoki Road site.

In combination however, they provide very frequent services particularly to/from the City and residents will be readily able to walk to/from the bus stops and particular features are:

- ❖ the paved footpaths along Laitoki Road and Booralie Road between the northern boundary of the site and the bus stops and this would be extended across the site frontage
- ❖ the bus shelters and seating provided at the outbound bus stops
- ❖ the marked pedestrian crossing across Booralie Road
- ❖ the kerb ramps provided at all road crossings

Transport and Traffic Planning Associates

- ❖ the “splitter” islands at the Myoora Road and Cooyong Road intersection roundabout which act as “refuge” islands for pedestrians who choose to cross at this intersection
- ❖ the good street lighting
- ❖ the speed limit is 50 kmph with 40 kmph school zone restrictions on Myoora Road and Cooyong Road

5.0 Traffic

The RMS Development Guidelines (TDT 2013-46) provide traffic generation criteria in relation to aged persons accommodation however unfortunately the data results are aggregated between the different classes of accommodation (i.e. RACF, ILU's, etc.) and do not provide an accurate definition in relation to the proposed development.

TTPA have undertaken survey and assessment of numerous Seniors Living developments particularly for the major providers (e.g. Anglicare) and the results of recent comprehensive surveys undertaken by TTPA indicate the following generation rates:

	AM	PM
Seniors Living Dwellings (separate/attached)	0.25 vtp/dwelling	0.25 vtp/dwelling

Application of this criteria to the envisaged development scheme elements would indicate the following:

	AM	PM
54 dwellings	14 vtp	14 vtp

The projected distribution of these movements during the peak periods is as follows:

AM		PM	
IN	OUT	IN	OUT
4	10	10	4

In relation to the approved development at 58 Laitoki Road the assessed traffic generation which was accepted during the Land and Environment Court process was as follows:

	AM	PM
90 beds	15 vtpd	20 vtpd
48 ILUs @ 0.40	19 vtpd	19 vtpd
Total:	34 vtpd	39 vtpd

The projected distribution of these movements during the peak periods was as follows:

AM		PM	
IN	OUT	IN	OUT
21	13	12	27

Thus, the combined (cumulative) traffic generation would be:

AM		PM	
IN	OUT	IN	OUT
25	23	22	31

These current traffic generation of development on the two sites (particularly the equestrian activity at 58 Laitoki Road) would be discounted from these volumes and the apparent additional movements would only be some 20 vtpd IN and OUT.

These projected traffic movements will not present any adverse access, delay or capacity implications and the traffic outcome would be entirely compatible with the existing road network circumstances particularly as a result of the traffic signal-controlled access intersections on Mona Vale Road (i.e. McCarr Creek Road and Myoora Road).

6.0 Bush Fire Safety

Assessment of the proposed development in relation to Clauses 27 (2) f & g of the SEPP (Housing for Seniors or People with Disability 2004) is as follows:

- (f) *the road network within the locality and the capacity of the road network to cater for traffic to and from existing development if there were a need to evacuate persons from the locality in the event of a bush fire,*

The road network serving the site includes:

- 4 access intersections on Mona Vale Road including 2 which have traffic signal control (see Appendix E aerial images)
- Roundabout controls on 3 access intersections

The site is situated only some 900m from Mona Vale Road (i.e. along either Cooyong Road or Booralie Road) and these roadways have a wide single bitumen through lane in each direction with a capacity exceeding 1,000 vph.

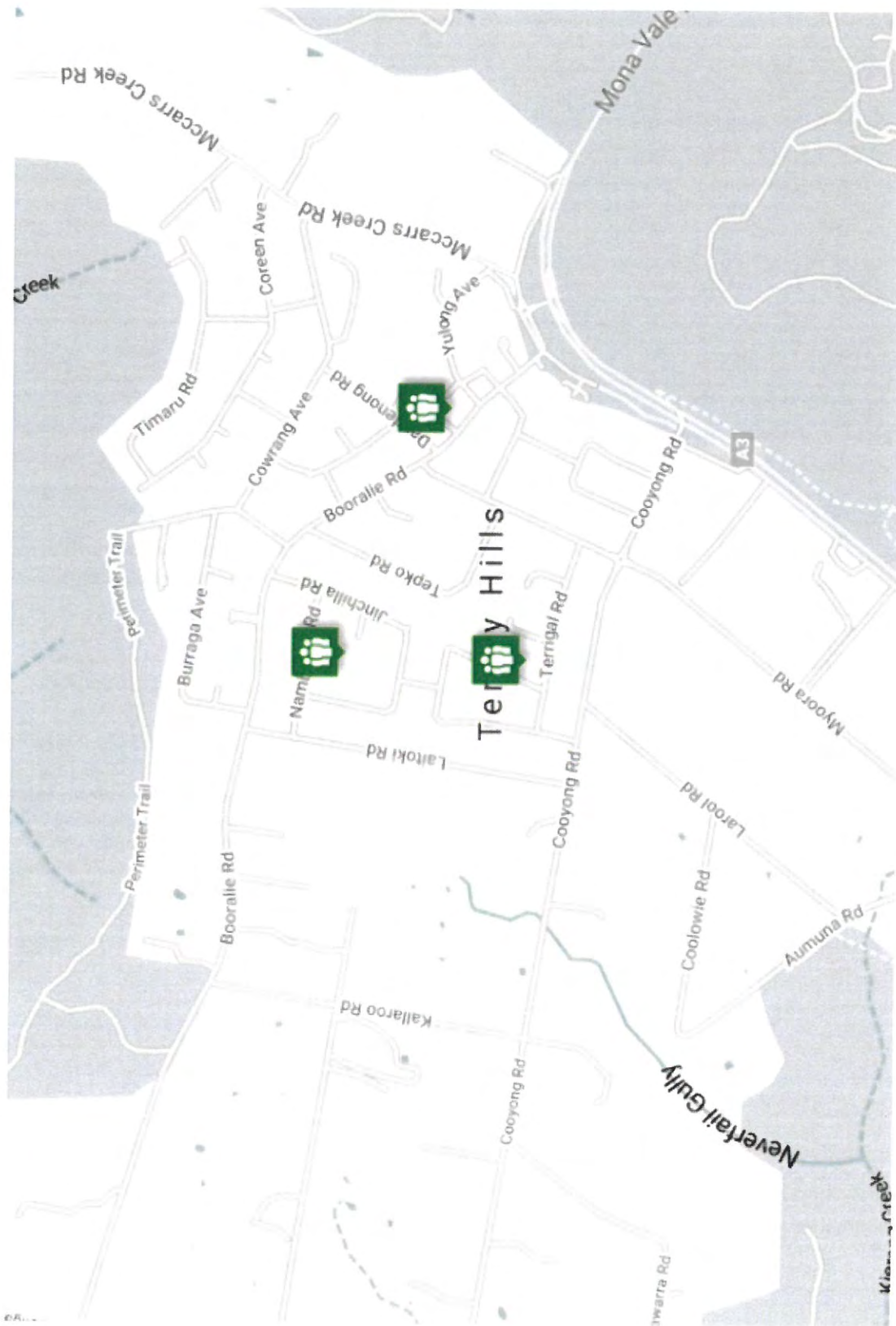
Accordingly, there is immediate ready access to the high capacity arterial road available for emergency egress in the case of a bush fire event together with ready access to the potential safety areas of Terrigal Reserve – Terrigal Road, Kurara Reserve – Kurara Close, Frank Beckman Reserve – Yulong Avenue (see details overleaf).

It is apparent that the existing road/intersection access provisions have more than adequate capacity to provide for an emergency evacuation circumstance.

- (g) *the adequacy of access to and from the site of the proposed development for emergency response vehicles,*

The availability of the existing vehicle access provisions specified in the foregoing will also ensure that adequate access will be available for emergency response vehicle to attend the site.

The road access is straight and relatively level and wide enough to accommodate Fire appliances traffic in each direction at the same time. In addition, there will be a wide access driveway on the Cooyong Road frontage with connecting internal driveways extending across the width of the site which will readily accommodate Fire appliance access.



7.0 Access, Internal Circulation and Servicing

7.1 Access

The concept plan indicates that vehicle access would be provided by a 7m wide combined ingress/egress driveway located centrally on the Laitoki Road frontage. The design of this driveway would comply with the requirements of AS2890.1 & 2 and there would be satisfactory sight distances available due to the straight alignment of the roadway.

7.2 Internal Circulation

The carparking areas would be designed to accord with AS2890.1 & 6 and the simple two-way arrangements within the carpark areas and access driveway system will provide a very flexible and accessible outcome.

7.3 Servicing

Deliveries and refuse removal will be undertaken using the wide internal driveway. Service personnel and small delivery vehicles will also be able to utilise the visitor spaces.

8.0 Conclusion

The envisaged aged persons complex at Terrey Hills will provide for the aging population in the Northern Beaches Peninsula. Assessment of the traffic and transport implications of the envisaged development has concluded that:

- ❖ there will be no adverse or unsatisfactory traffic implications even in an emergency evacuation circumstance
- ❖ the transport needs of residents, visitors and staff will be adequately catered for by the nearby bus services
- ❖ the envisaged vehicle access, internal circulation, parking and servicing provisions will be quite suitable and appropriate

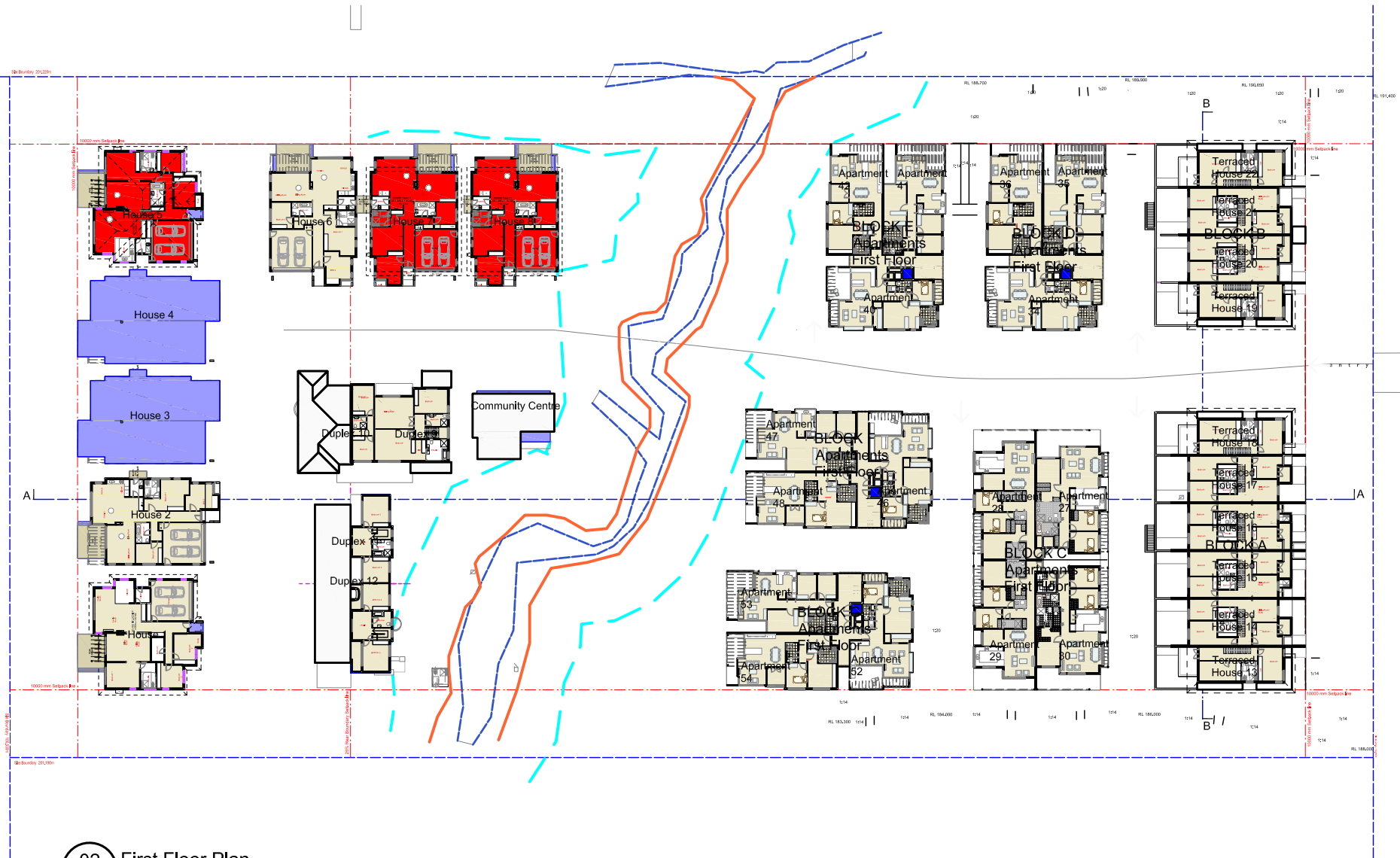
Appendix A

Plans of Envisaged Development



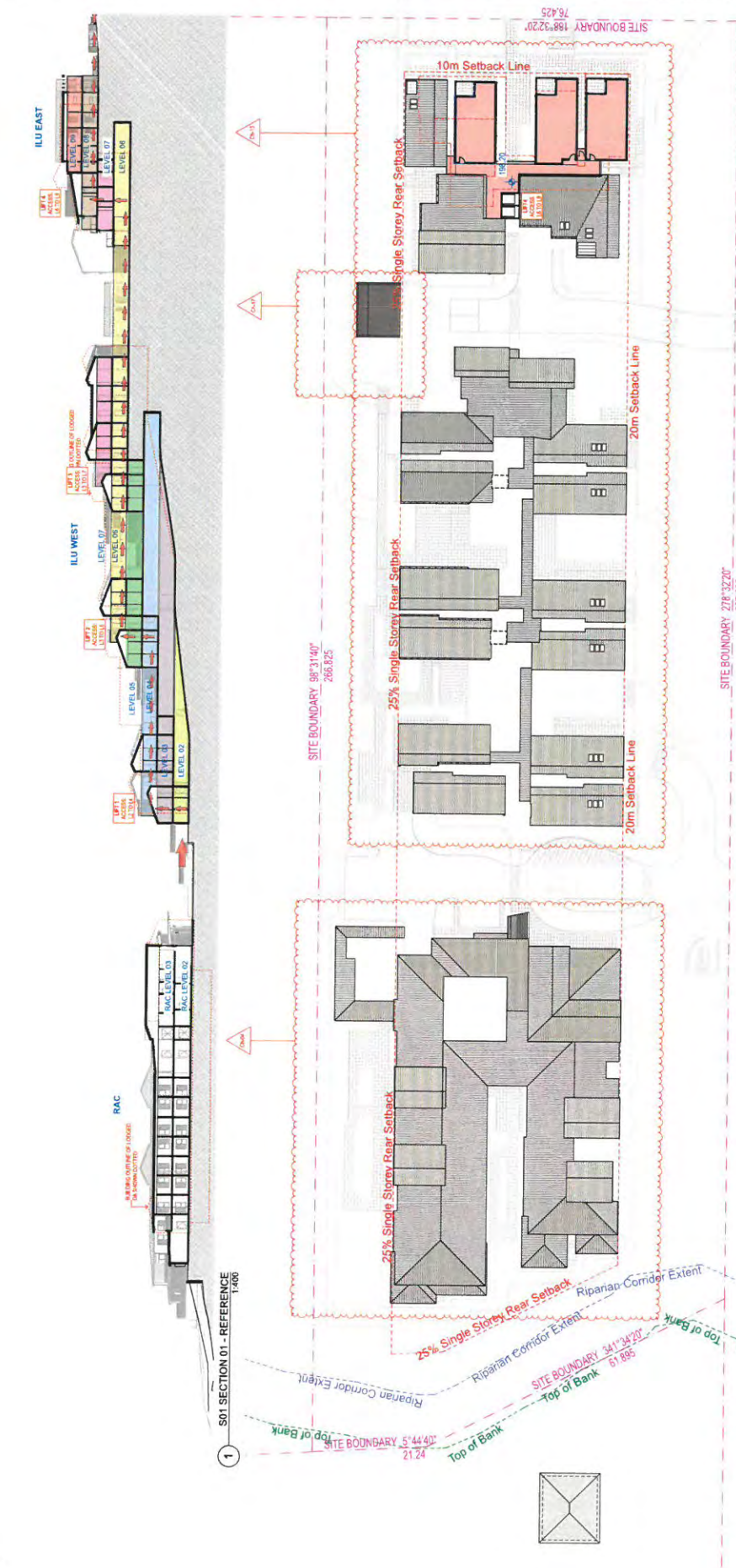
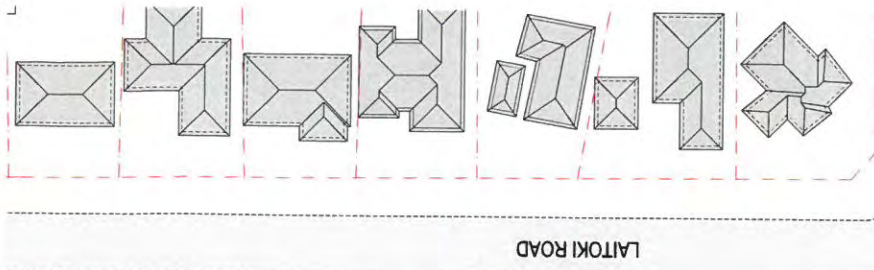
First Floor Plan

Scale: 1:500

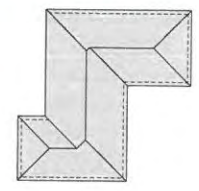


Appendix B

Plans of Other Developments



COOYONG ROAD



2 LEVEL 09 - MASTER PLAN 1:400

NO.	REVISION	DATE	BY	CHKD	APPD
1	ISSUED FOR PERMIT	2024
2	FOR CONSTRUCTION	2024

NOTES:
 - Do not scale from this drawing. Use agreed dimensions only.
 - All dimensions are in metres unless otherwise stated.
 - All dimensions are to the centre of the wall or edge of the driveway.
 - Refer to the relevant Council's Local Environmental Plan (LEP) for the relevant zone and development controls.
 - NOT FOR CONSTRUCTION

PROJECT:
 TERREY HILLS PROPOSED SENIORS COMMUNITY
 55 LATOKI ROAD TERREY HILLS, NSW 2084
DRAWING TITLE:
 SITE PLAN - MASTER PLAN LEVEL 09

Appendix C

Traffic Survey Results

Location	Duration	7:00	-	9:00
Boorallie Road		16:00	-	18:00
Lafotki Road				
Boorallie Road				
Suburb	Day/Date	Thursday, 31 October 2019		
	Weather			

[illegible][illegible]

Location		Duration	7:00 - 9:00
	Booralie Road		16:00 - 18:00
	Laitoki Road		-
	Booralie Road		
Suburb	TERREY HILLS	Day/Date Weather	Thursday, 31 October 2019 -

DATA SELECTION

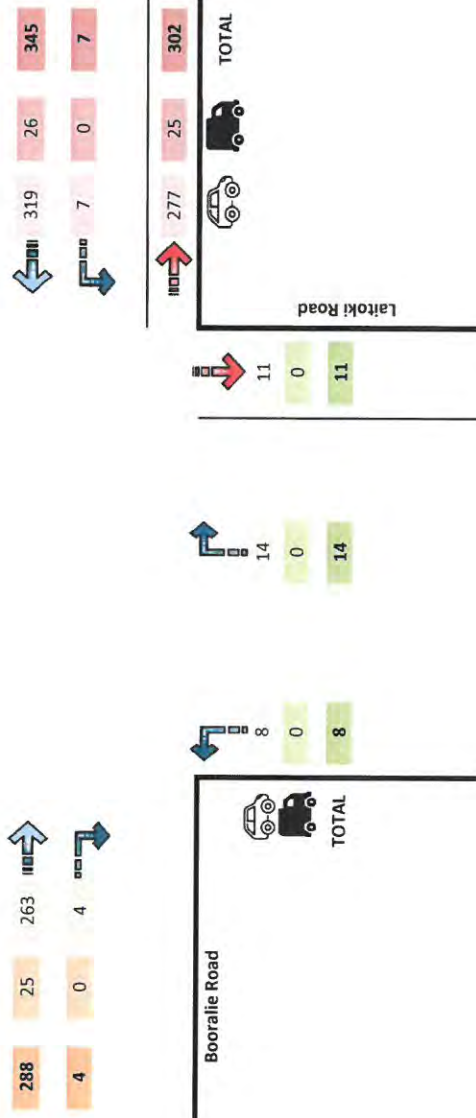
Select Time: DEAR

TIME RANGE	
PEAK	AM
PEAK	
8:00	9:00



TOTAL		
353	26	327

Booralie Road

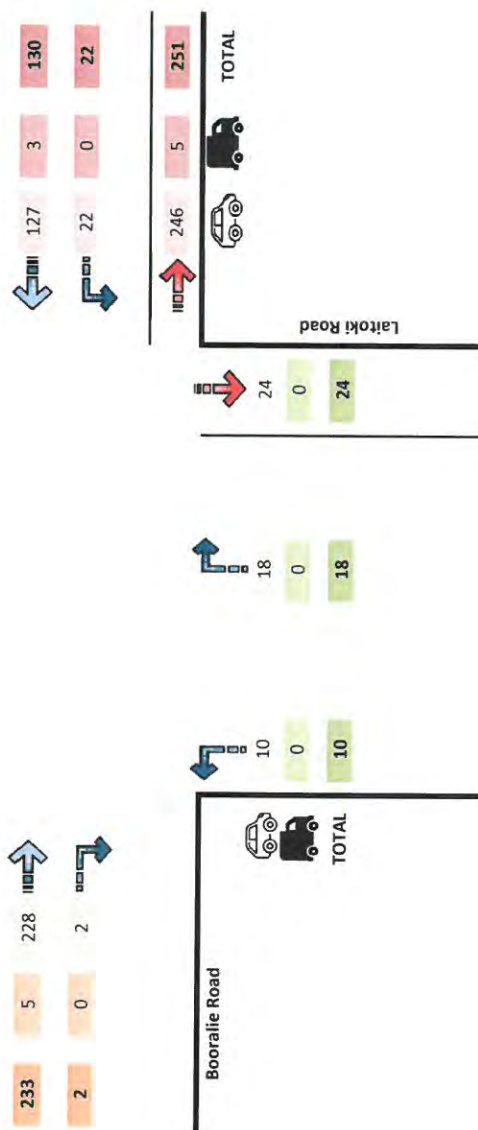


Location	Booralie Road	Duration	7:00 - 9:00
	Laitoki Road		16:00 - 18:00
	Booralie Road	Day/Date	Thursday, 31 October 2019
Suburb	TERREY HILLS	Weather	-

TIME RANGE	
PEAK	PM
16:00	17:00



TOTAL	
140	137

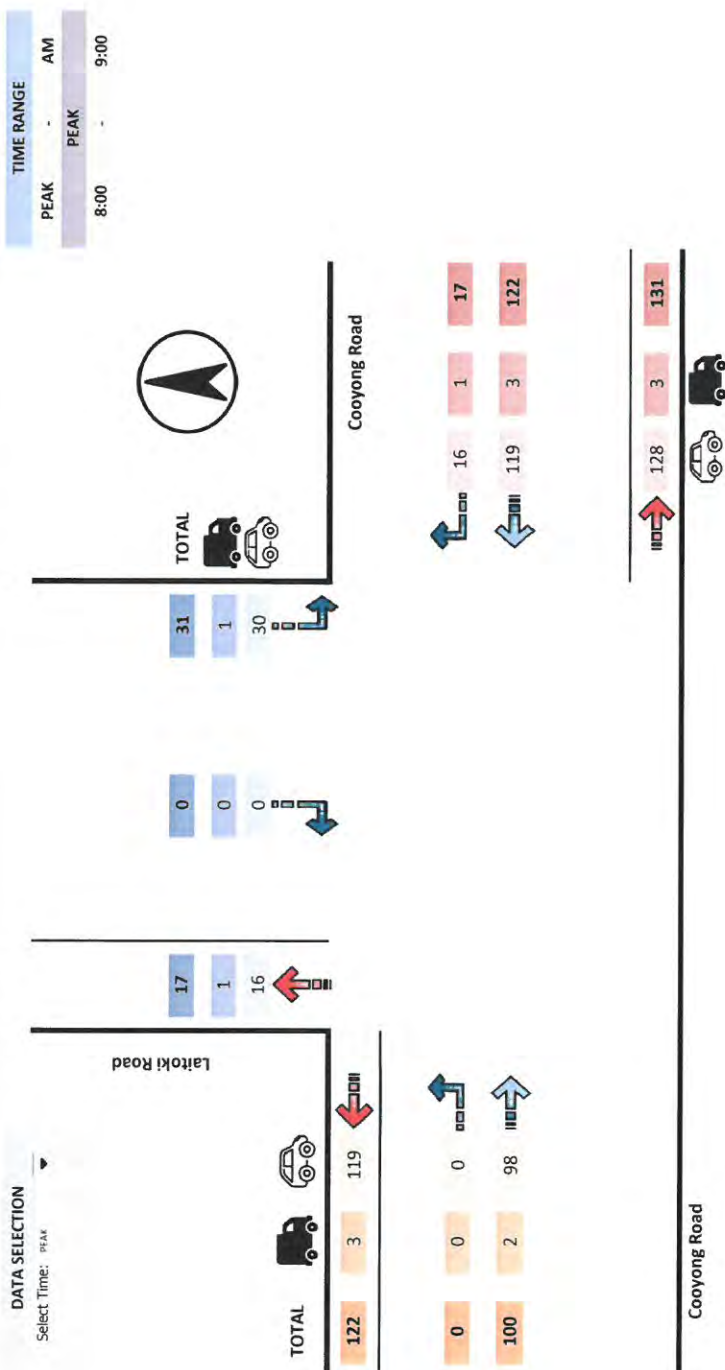


Location	Laitoki Road	Duration	7:00 - 9:00
	Cooyong Road		16:00 - 18:00
Suburb	Cooyong Road	Day/Date	Thursday, 31 October 2019
	TERREY HILLS	Weather	-

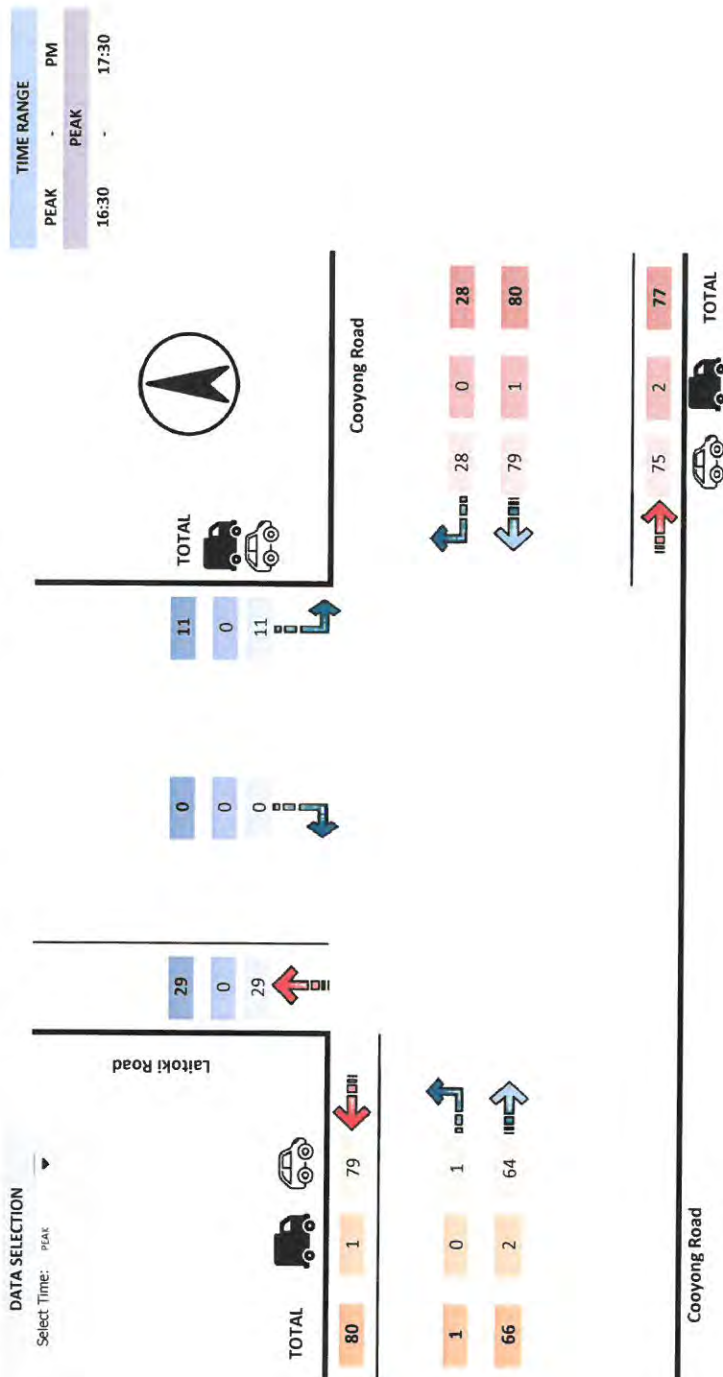
All Vehicles Time Per Hour		NORTH Laitoki Road										EAST Cooyong Road											
		L					I					R					TOTAL						
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL
7:00	- 8:00	33	2	35				1	0	1				66	1	67	9	1	10	77	157	7	164
7:15	- 8:15	32	1	33				1	0	1				83	1	84	9	1	10	94	174	5	179
7:30	- 8:30	32	2	34				1	0	1				102	0	102	11	1	12	114	203	4	207
7:45	- 8:45	28	2	30				0	0	0				124	3	127	12	1	13	140	236	6	242
8:00	- 9:00	30	1	31				0	0	0				119	3	122	16	1	17	139	263	7	270
Period End																							
16:00	- 17:00	7	1	8				0	0	0				65	2	67	28	0	28	95	176	6	182
16:15	- 17:15	8	0	8				0	0	0				67	1	68	29	0	29	97	171	5	176
16:30	- 17:30	11	0	11				0	0	0				79	1	80	28	0	28	108	183	3	186
16:45	- 17:45	12	0	12				1	0	1				75	1	76	32	0	32	108	175	3	178
17:00	- 18:00	15	0	15				1	0	1				67	0	67	31	0	31	98	168	1	169
Period End																							

All Vehicles Time Per Hour	SOUTH										WEST Cooyong Road																			
	L					I					R					L					I					R				
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	TOTAL					
7:00 - 8:00																														
7:15 - 8:15																														
7:30 - 8:30																														
7:45 - 8:45																														
8:00 - 9:00																														
Period End																														
16:00 - 17:00																														
16:15 - 17:15																														
16:30 - 17:30																														
16:45 - 17:45																														
17:00 - 18:00																														
Period End																														

Location	Laitoki Road	Duration	7:00 - 9:00
	Cooyong Road		16:00 - 18:00
Suburb	Cooyong Road	Day/Date	Thursday, 31 October 2019
	TERREY HILLS	Weather	-



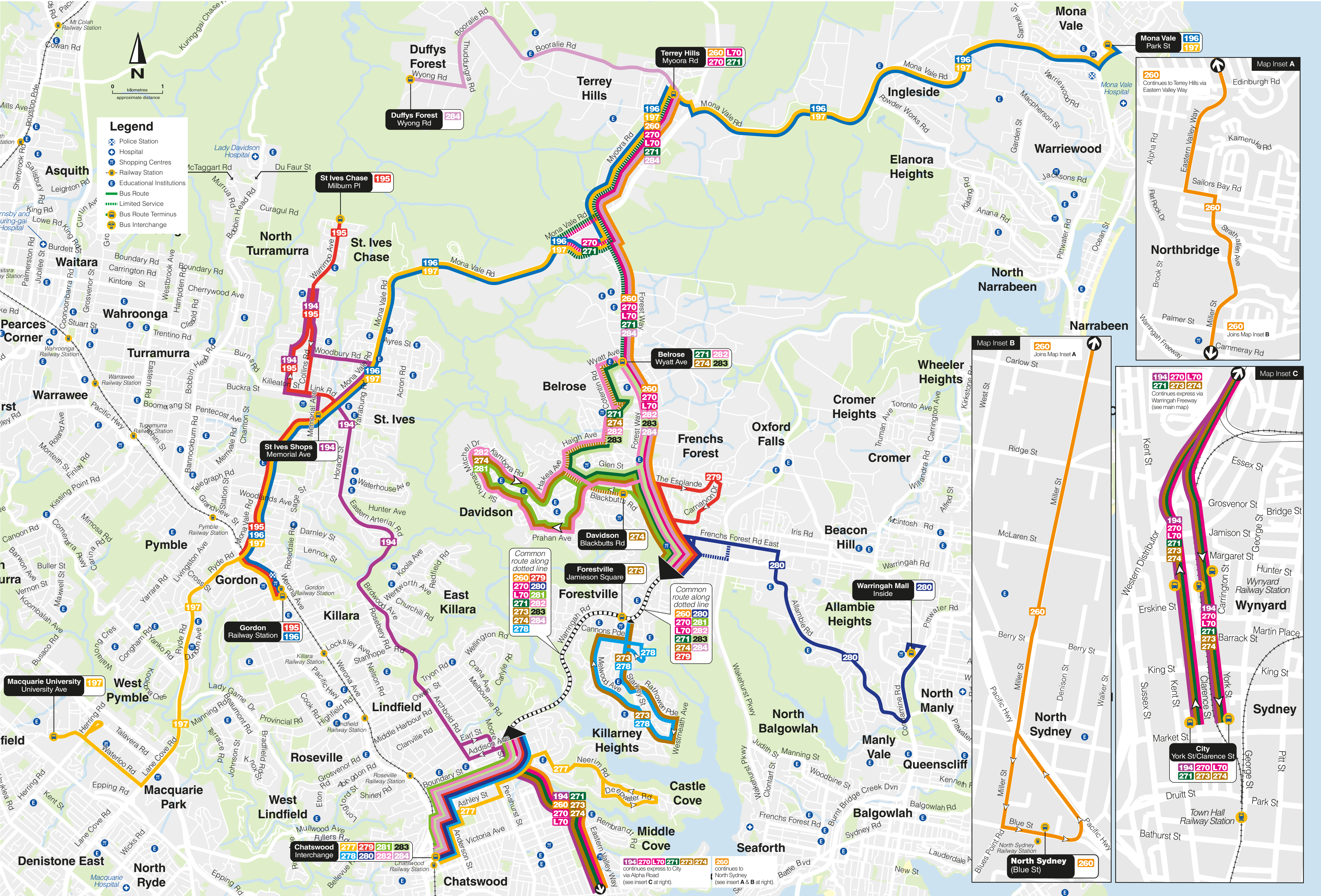
Location	Laitoki Road	Duration	7:00 - 9:00
	Cooyong Road		16:00 - 18:00
Suburb	Cooyong Road	Day/Date	Thursday, 31 October 2019
	TERREY HILLS	Weather	-



Appendix D

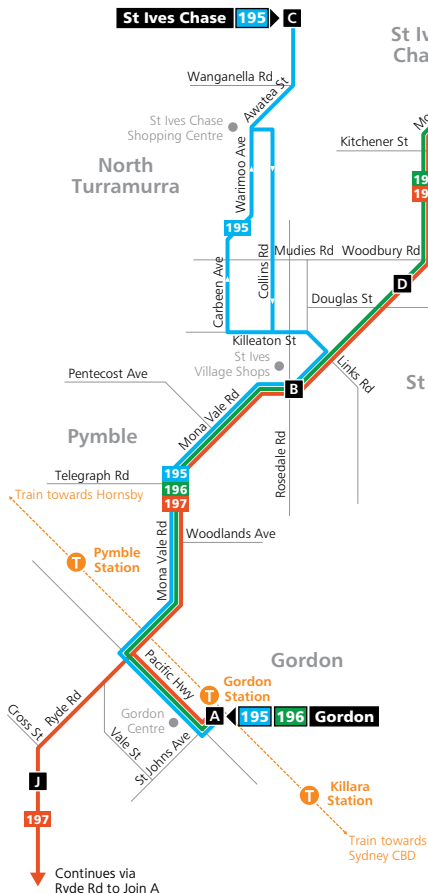
Bus Services

Network Map



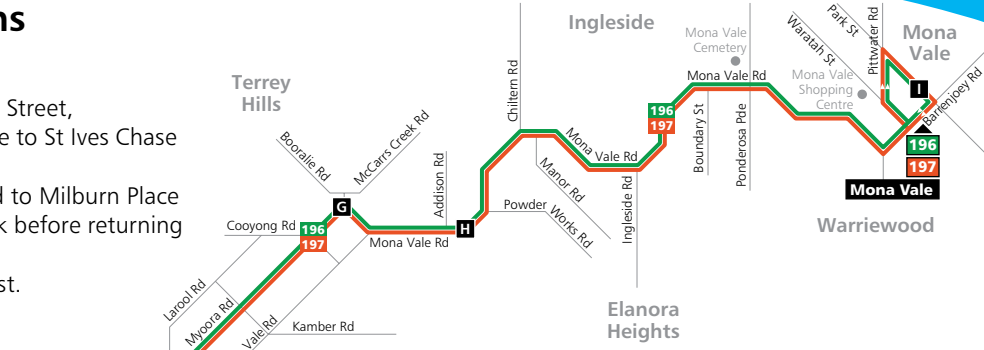
Explanation of definitions and symbols

- A Journey diverts via Link Road, Killeaton Street, Carbeen Avenue and Warrimoo Avenue to St Ives Chase before proceeding to Gordon.
- C Journey continues beyond Dalton Road to Milburn Place only if required, then travels to Austlink before returning to Gordon Station.
- D Change buses for travel to Duffys Forest.
- S Bus operates on school days only.
- X Change buses for travel to Gordon.
- ... Bus does not stop at this timing point.



Legend

- Bus route
- Bus route number
- Timing point
- Train line/station



Route 195, 196 & 197 services

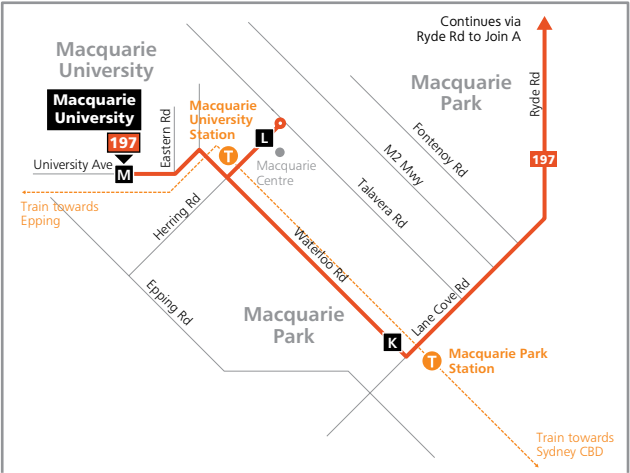
The **Routes 195, 196 & 197** service the corridor of Mona Vale Road and Ryde Road providing a link with the North Shore Railway at Gordon Station.

The **Route 195** operates between St Ives Chase and Gordon Station via St Ives Village Shops. It joins Mona Vale Road at Link Road and forms a common route with the Route 196.

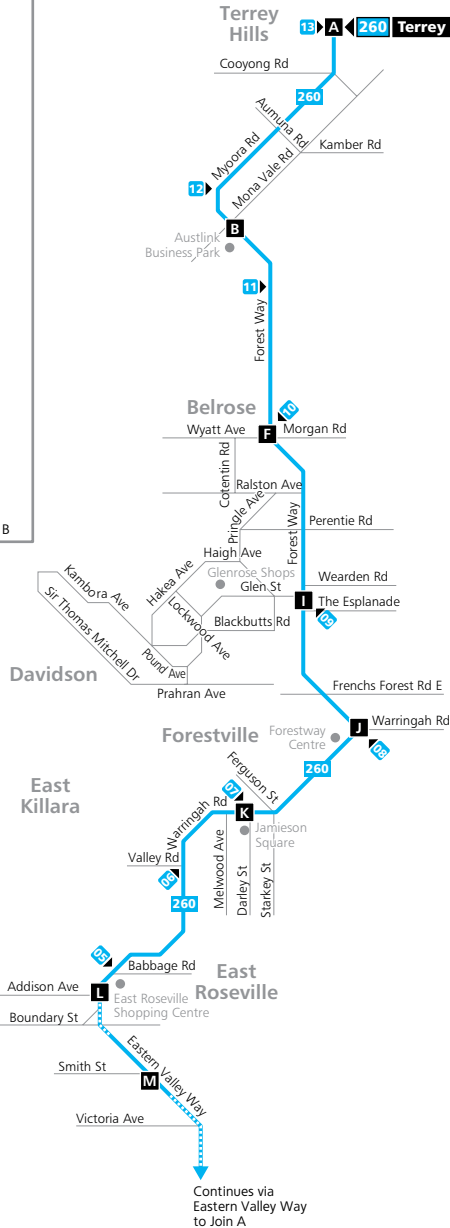
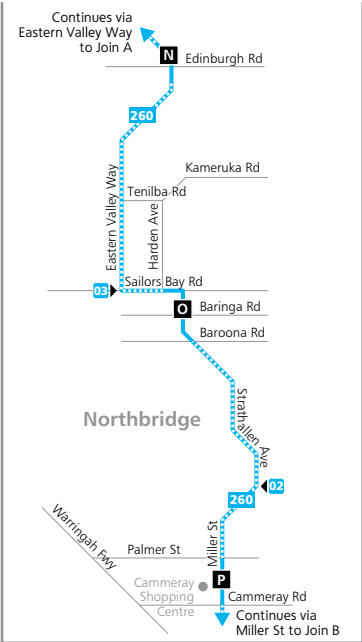
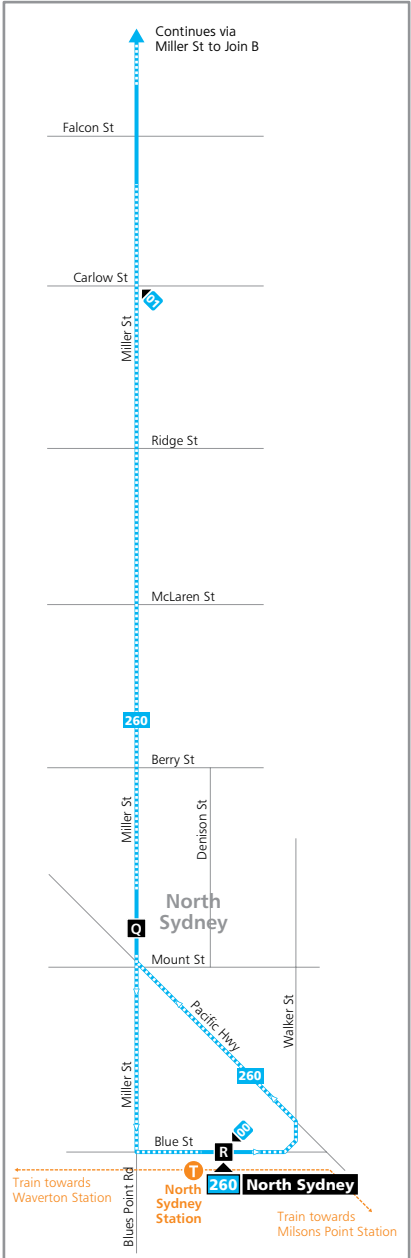
The **Route 196** operates between Mona Vale and Gordon Station via Austlink Business Park and St Ives Village Shops. Services at Mona Vale stop at a common point with State Transit services to facilitate transfers with other services along Pittwater Road.

The **Route 197** operates between Mona Vale and Macquarie University via Austlink Business Park, St Ives Village Shops and Gordon Station. Services at Mona Vale stop at a common point with State Transit services to facilitate transfers with other services along Pittwater Road.

The **Route 194** City Express information is available on a separate timetable.



Diagrammatic Map
North
Not to Scale



- Legend**
- Bus route
 - Express route
 - Connecting route
 - Bus route number
 - Timing point
 - Section point
 - Train line/station

Diagrammatic Map
Not to Scale

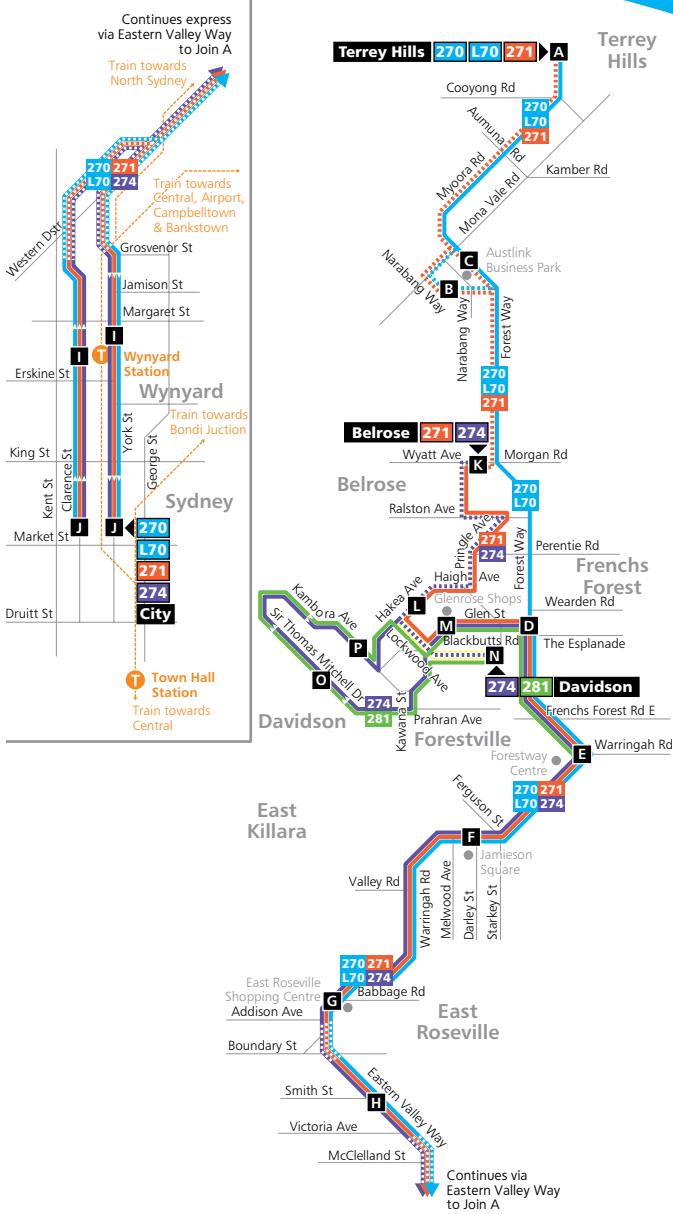


Timing Points

- A** Terrey Hills Myoora Rd & Booralie Rd
- B** Austlink Minna Close
- C** Austlink Forest Way
- D** Glen Street & Forest Way
- E** Frenchs Forest Forestway Centre
- F** Forestville Jamieson Square
- G** East Roseville Babbage Road
- H** Eastern Valley Way & Smith Street
- I** City - Wynyard
- J** City
- K** Belrose Wyatt Avenue
- L** Hakea Avenue & Haigh Avenue
- M** Glenrose Shops
- N** Blackbutts Road & Pringle Avenue
- O** Davidson Sir Thomas Mitchell Drive
- P** Frenchs Forest Cemetery

Bus route map

270, L70, 271, 274



Legend

- Bus route
- Express route
- Bus route number
- Timing point
- Train line/station
- Route 270 occasional journey, operating PM peak trips on weekdays only
- Route 271 occasional journey, operating early morning/late night only
- Route 274 occasional journey, operating AM peak trips on weekdays only
- Route 274 occasional journey, operating PM peak trips on weekdays only

Diagrammatic Map
Not to Scale





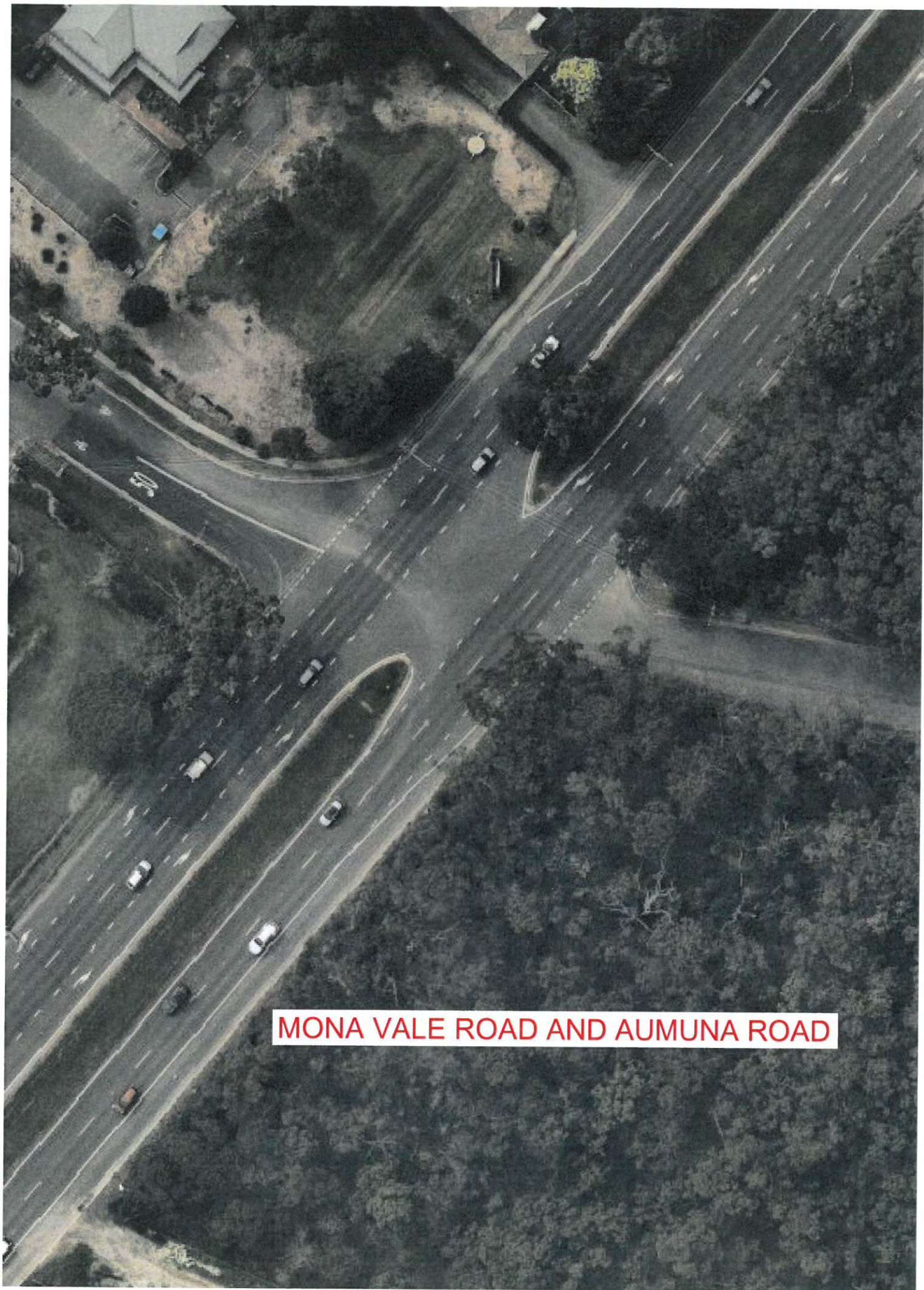
Appendix E

Aerial Images

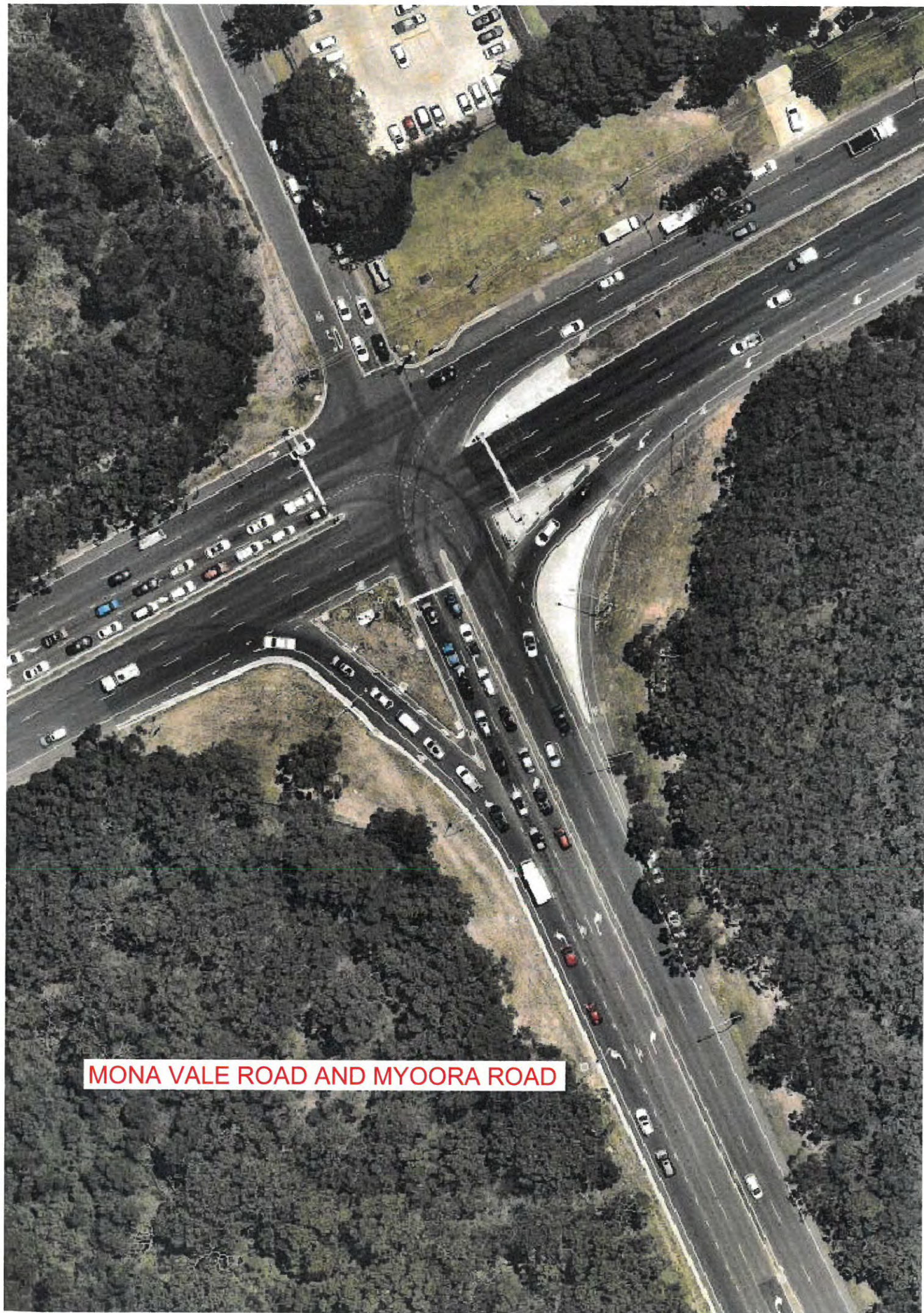


MONA VALE ROAD AND McCARRS CREEK ROAD





MONA VALE ROAD AND AUMUNA ROAD



MONA VALE ROAD AND MYOORA ROAD