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7-9 Belinda Place & 217 Great Western Highway, Mays Hills

Proposed Multi-Storey Carpark

Traffic and Parking Impact Assessment

Ref: 16019

Date: August 2020

Issue: B

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1.0 Introduction

This report has been prepared for The Saiva Manram Board (TSM) to accompany a Development Application (DA) to Cumberland Council for the construction of a 5-storey carpark for the existing Temple use on a site at 7-9 Belinda Place and 217 Great Western Highway (GWH), Mays Hill (Figure 1).

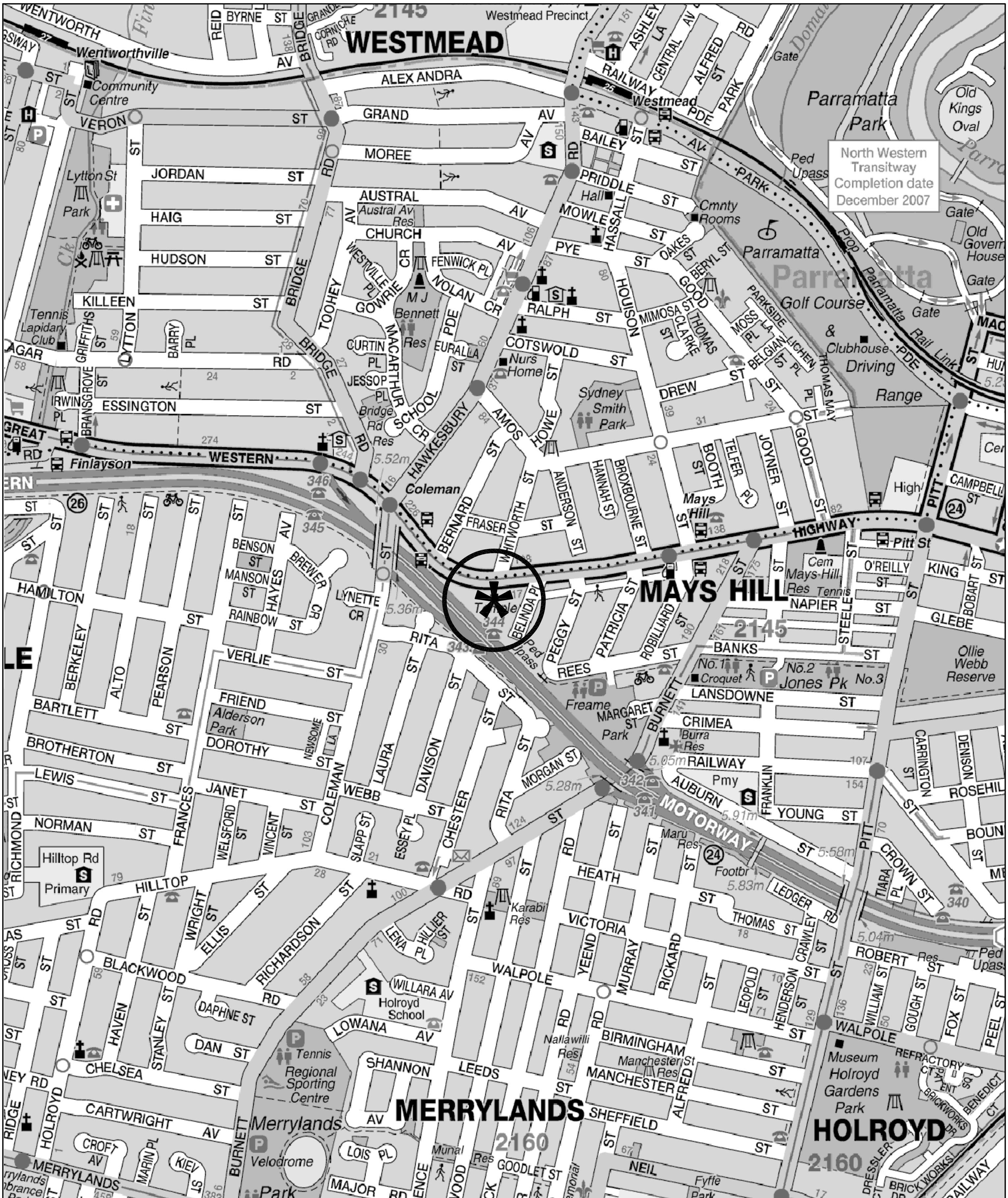
The Saiva and Hindu populations in the Sydney Metropolitan Area are concentrated in the Cumberland Council area with the number of persons born in India or Sri Lanka residing in this area has increased substantially, having tripled in number over the 10 years between 2006 (6,626 persons) and 2016 (18,147 persons).

The Sydney Murugan Temple was first established in 1995 when the existing Cultural Hall was constructed for use as the Temple. Subsequently, in 1999, a new Temple was completed, according to Saiva Agamas and inaugurated.

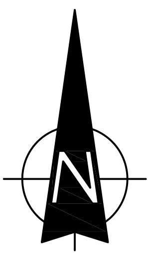
The proposed multi-storey carpark is to:

- Provide enhanced on-site parking capacity to accommodate the significant on-street parking which occurs as a result of the current Temple and Cultural Hall use, including the occasional special events
- Reduce the impact on the surrounding residential streets and maintain the availability of on-street parking spaces for the residential, retail and commercial uses, including the future intensification in the vicinity of the GWH and within the walking catchment of the Liverpool - Parramatta T-way
- Improve road safety by minimising pedestrian crossing movements and vehicular conflicts as a result of the current on-street parking activities
- Reduce unnecessary traffic congestion at times of peak parking demand on the GWH and the local roads as a result of visitors circulating to find parking.

As there will be no change to or intensification of the current Temple and Cultural Hall uses on the site, the level of traffic activity associated with the proposed multi-storey carpark will not be entirely new (additional). This is because the traffic associated with the existing Temple activities already occurs on the surrounding roads, including the GWH, due to the on-street parking activities. Specifically, the proposed carpark will



LEGEND



LOCATION

FIG 1

result in a redistribution of the existing traffic movements within the immediate road network.

The purpose of this report is to:

- describe the site, the existing uses and the proposed multi-storey carpark
- describe the road network serving the site and the prevailing traffic conditions
- assess the adequacy of the proposed parking provision
- assess the potential traffic implications
- assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements

Response to Council's Request for Information (RFI) in relation to Item 1 (Non-concurrence from Transport for NSW (former Roads & Maritime Services)), Item 6 (Traffic Management), Item 7 (Engineering) and Item 8 (Plan of Management) and the associated TTPA's response are provided in the following table:

No.	RFI Details	TTPA's Response
1	**Non-concurrence from Transport for NSW (former Roads & Maritime Services)**	
	The proposed development was referred to Transport for NSW (TfNSW) in accordance with Clause 101 & 104 of SEPP (Infrastructure) 2007. Non-concurrence is granted for the proposed development - Refer to correspondence received from TfNSW dated 2 March 2020 attached.	During TTPA's consultation with TfNSW on 24 July 2020, TTPA has been advised by TfNSW that in this case, TfNSW will accept Council's decision on the retention of the existing driveway on the GWH. As discussed in Section 6.5, the removal of the existing driveway off the GWH will compromise the environmental capacity of Belinda Place. Further justifications to retain the existing driveway is also provided in Section 9.
6	**Traffic Management**	
a	The submitted Traffic Impact Assessment (TIA) does not address traffic comments as outlined in PDA/829.	See revised report which addressed all comments outlined in PDA/829 and the RFI.
b	Section 2.3 of the SEE states that this application is to replace and improve the car parking component of DA2016/392 and that it is intended to proceed with a subsequent DA for the Auditorium. Council would like to see a combined proposal to analyse the overall parking requirements for the site. It shall be noted that there is already a parking shortfall for the existing facility and it was advised that	This traffic report has been updated to accompany a new development application for a proposed multi-storey carpark for the existing Temple and Cultural Hall uses only. The proposed carpark is to accommodate the existing shortfall of parking spaces during the Temple and Cultural Hall uses

No.	RFI Details	TTPA's Response
	the premises are to be used by the same number of patrons. In addition, the SEE identifies the peak parking demand as 133 parking spaces. Therefore, the provision of additional parking will encourage more patrons to the site. However, there are insufficient amenities provided within the site to accommodate the increased capacity. Matters such as access for emergency vehicles and services, and points of evacuation for the site, noting the anticipated increased capacity, have also not been addressed.	as well as special functions/major events. The revised parking assessment has considered a conservative approach based on the future provision of car parking spaces by applying a factor of 2.85 to address the impact of the additional parking on-site. See Section 5 for details. Access for emergency and service vehicles as well as points of evacuation for the site are proposed via the existing driveway off the GWH and the proposed driveway off Belinda Place. See Section 7 for details.
c	The proposed use that will generate the required car parking spaces as provided by the proposed multi-storey car park shall be demonstrated and clarified. An assessment of the existing and proposed car parking spaces on-site, based on existing and future uses, has not been provided to allow Council to determine the required parking spaces for all uses on site. It is noted that there is no approved masterplan for the site, therefore the future use and timing of when the site will be further redeveloped as per the masterplan is uncertain. This is a reason as to why a combined proposal as stated above, is requested.	The proposed carpark is to accommodate the car parking demand associated with the existing Temple and Cultural Hall uses. An assessment of the on-site car parking demand associated with the existing Temple Cultural Hall uses is provided in Section 5.
d	The submitted TIA states that this revised DA seeks to modify the approved basement carpark to an above ground carpark. It shall be noted that the proposal is a new development application and as such not related/modification of DA2016/392 approval.	The revised traffic report is for a new DA. Any reference to the previous DA2016/392 has been removed from this report.
e	A Road Safety Assessment of the existing and proposed entrances has not been provided.	A road safety audit prepared by J. Wyndham Prince and TTPA's associated response, are included in Appendix G.
f	TfNSW has indicated that access on Great Western Highway shall be removed and vehicular access to the site shall be from Belinda Place only. This will generate more traffic within Belinda Place which would impact on both the existing and proposed traffic flow and residential amenity of neighbouring properties.	The removal of the existing driveway off the GWH will compromise the environmental capacity of Belinda Place, as detailed in Section 6.5.

No.	RFI Details	TTPA's Response
	This impact has not been addressed in the submitted TIA.	
g	The SEE states that the additional parking will not generate any additional traffic demands and those demand come from the actual use of the site. In this regard, Council would like to know the future demand for the site with respect to the future use and the parking requirements for that use in conjunction with this proposal. This information is essential to identify the traffic impact on the surrounding road network. The submitted TIA identified the existing service levels of the road network. The report has not identified the future service level. This may be a reason that the demand has not been established. Council requires the analysis of the traffic impact of the proposed carpark to be identified as part of this application.	The parking demand associated with the proposed multi-storey carpark will not be entirely new (additional). This is because the parking demand associated with the existing Temple activities already occurs on the surrounding roads. A car parking demand assessment has been provided based on the attendance of 1,100 persons during special/major events and a vehicle occupancy of 3.3. A conservative traffic assessment has been completed based on the future car parking capacity by applying a factor of 2.85 to the existing traffic volumes. The traffic and parking assessments are based on the existing Temple and Cultural Hall uses. Assessment associated with any future use(s) on the site would be included in the future application.
h	The submitted TIA identifies the environmental absolute maximum capacity for Belinda Place as 100 and the post development will be 84, which is without any traffic generation as there is no additional traffic generation as part of this development. It shall be noted that the traffic report submitted as part of the previous development (DA2016/392), the peak traffic generation, on Belinda Place is shown to be in order of 300 vehicles per hour with the retention of Great Western Highway access. As advised by TfNSW, the removal of the GWH access will increase the traffic movements in Belinda Place significantly.	The parking and traffic impact assessments have been updated based on the future car parking provision. This is consistent with the assessment of the approved DA2016/392. Council's DCP classified Belinda Place as a collector based on the 20m road reserve. RMS Guidelines 2002 indicate environmental and absolute goals of 300 and 500 vtph, respectively for a collector. The assessment indicates that the peak-hour traffic volumes on Belinda Place will exceed the absolute maximum environmental capacity of 500 vtph, with the removal of the existing driveway off the GWH (514 vtph). As such, the existing driveway should be maintained to ensure that the environmental capacity of Belinda Place remains uncompromised (357 vtph).
i	The proposed development has not addressed Council's comments as outlined in PDA/829 in relation to the road widening of Belinda Place.	See Section 8.1 which justify why the widening of Belinda Place is not required.

No.	RFI Details	TTPA's Response
j	The proposed driveway access intrudes more into the cul-de-sac bulb due to the introduction of the median and is not supported. The driveway shall be realigned to be clear of the cul- de-sac bulb.	The median is proposed to be in accordance with AS2890.1 for a User Class 2 facility with 101 to 300 spaces. The driveway has been realigned to clear the cul-de-sac bulb. See Appendix C.
k	The submitted TIA states that the proposal uses the approved access driveway via Belinda Place. It shall be noted that the approval was granted to the previous development DA2016/392 and the proposed development is different and as such Council has assessed the vehicular access requirements based on the subject proposal on its merit. In this instance, Council is unable to support the Belinda Place access without knowing the traffic impact on the street network. If the Belinda Place access is to be provided as part of a combined development, the road widening of Belinda place as advised in the PDA/829 is to be provided.	The traffic impact assessments have been updated based on the future car parking provision. See Section 8.1 which justify why the widening of Belinda Place is not required.
7	Engineering	
a	The parking space dimensions are missing and must be shown on plans. As specified in the submitted TIA, the average vehicle occupancy is 3.3 persons, which means all car door needs to be opened. The visitor's parking space width must be 2.6 m.	The dimensions of the car parking spaces are in accordance to the DCP. The required dimensions are now shown in the architectural plans (See Appendix C).
b	The disabled car spaces are recommended to be relocated to level 1, closer to the lift or access ramp to eliminate need of using lift for safety reasons and convenience.	All disabled parking spaces are now on Level 1. A minimum of 2.5m headroom will be available for these spaces. See Appendix C.
c	Ground floor parking spaces numbered 1, 2 and 3 accessed directly from the external driveway, located outside and to the east of the car park entry/exit present sight line concerns and conflicts due to its location. Swept paths for these spaces have also not been provided.	Car spaces 1, 2 and 3 will be allocated for staff only, which will arrive in the morning before the arrivals of visitors and depart in the evening after a majority of the visitors have departed from the site. As such, the likelihood of conflicting movements with other vehicles due to the vehicle manoeuvring in and out of these 3 spaces will be very low and will not present any safety concerns to the general traffic. It should also be noted that the staff will be very familiar with the car parking layout and will manoeuvre in and out of these spaces safely. The swept path assessments associated with these 3 spaces are provided in Appendix E.
d	No details are provided in relation to the headroom clearance within the car park. The headroom clearance of the disabled car parking spaces needs to be at least 2.3 m whereas that within the disabled car space should be at least 2.5 m. The rest of area within the car park must not be lower than 2.2 m.	Headroom information are now included in the revised architectural plans (See Appendix C). A minimum headroom of 2.3m will be provided for accesses to disabled parking spaces while a minimum of 2.2m will be available for accesses to the standard spaces. In addition, a minimum of 2.5m headroom will be

No.	RFI Details	TTPA's Response
		available above all disabled spaces.
e	The long-sectional profile along the driveway/circular access way and the aisles, with the finished surface level, ceiling levels, and the level of any objects hanging lowest from the ceiling such as service conduits etc. need to be shown on plans. Plans should include the finished surface levels and ceiling levels, headroom clearance, the sectional length and associated gradients at critical locations such as at the change of gradient of the driveway/aisle surface, at the location of lowest hanging objects etc.	See Appendix C.
f	Internal swept paths along the circular aisle for the upper levels of the proposed car park are missing. The swept path for the entry into and exit from the following car spaces are required: i. Car space number 14 and 15 (on the north-eastern corner), and space 18 on ground level car park. ii. Car space 17, 18, 21 and 39 on level 1 car park. iii. Circular aisle in level 1 and above.	See Appendix E.
g	The width of the circulation way (driveway) / aisle must be wide enough to allow unobstructed movement of vehicles and manoeuvring. Swept paths submitted identify a number of conflicts where the vehicular paths overlap indicating likelihood of collision and traffic obstructions. The following issues are raised:	
i.	The swept paths for the vehicles moving in opposite direction within the circulation way (driveway) overlap with one another or with the surrounding objects such as kerbs, walls, columns etc. at several locations indicating likelihood of collision with another vehicle or the structures.	See Appendix E.
ii.	The swept paths within the internal circulation aisle and parking aisle overlap with one another or the surrounding objects including the car spaces indicating the likelihood of collision with another vehicles or objects.	See Appendix E.
iii.	Due to high volume of traffic, swept path template for standard B99 vehicle shall be used instead of B85, and that stopping to make abrupt turn must not be used in such a heavy traffic flow condition.	See Appendix E. Swept path assessments based on B99 and B85 cars are in accordance to AS2890.1.
	The width around such sections need to be widened to avoid such collisions or delete the objects/structure that falls within the swept path.	The width of the aisles and car parking configurations have been adjusted to ensure no collisions with objects/structure. See Appendix E.
8	Plan of Management In accordance with Section 8 – Operational management – Part G Places of Worship of HDCP 2013, an operational management plan is to be submitted to Council to ensure the amenity of residents within the vicinity of the place of	See Appendix F.

No.	RFI Details	TTPA's Response
	public worship, and management of traffic and amenity impacts of the proposed multi storey car park. An operational management plan has not been submitted with the application.	

2.0 Existing Site and Context

2.1 Site and Context

The site (Figure 2) is located on the south-western side of Belinda Place between the GWH and the M4 Motorway. The site comprises a number of lots (the south-east corner of Lot 1 of DP870186, SP52225 and Lot 220 of DP12899) and occupies an irregular shaped area of some 17,467m^2 with levels which fall away to the south. The site is situated in what was formerly a single dwelling area with some villa home developments. However, following the 2013 change in zoning, numerous multi-level apartments and mixed-use buildings were completed, under construction and in planning along the eastern side of Belinda Place as well as both sides of the GWH.

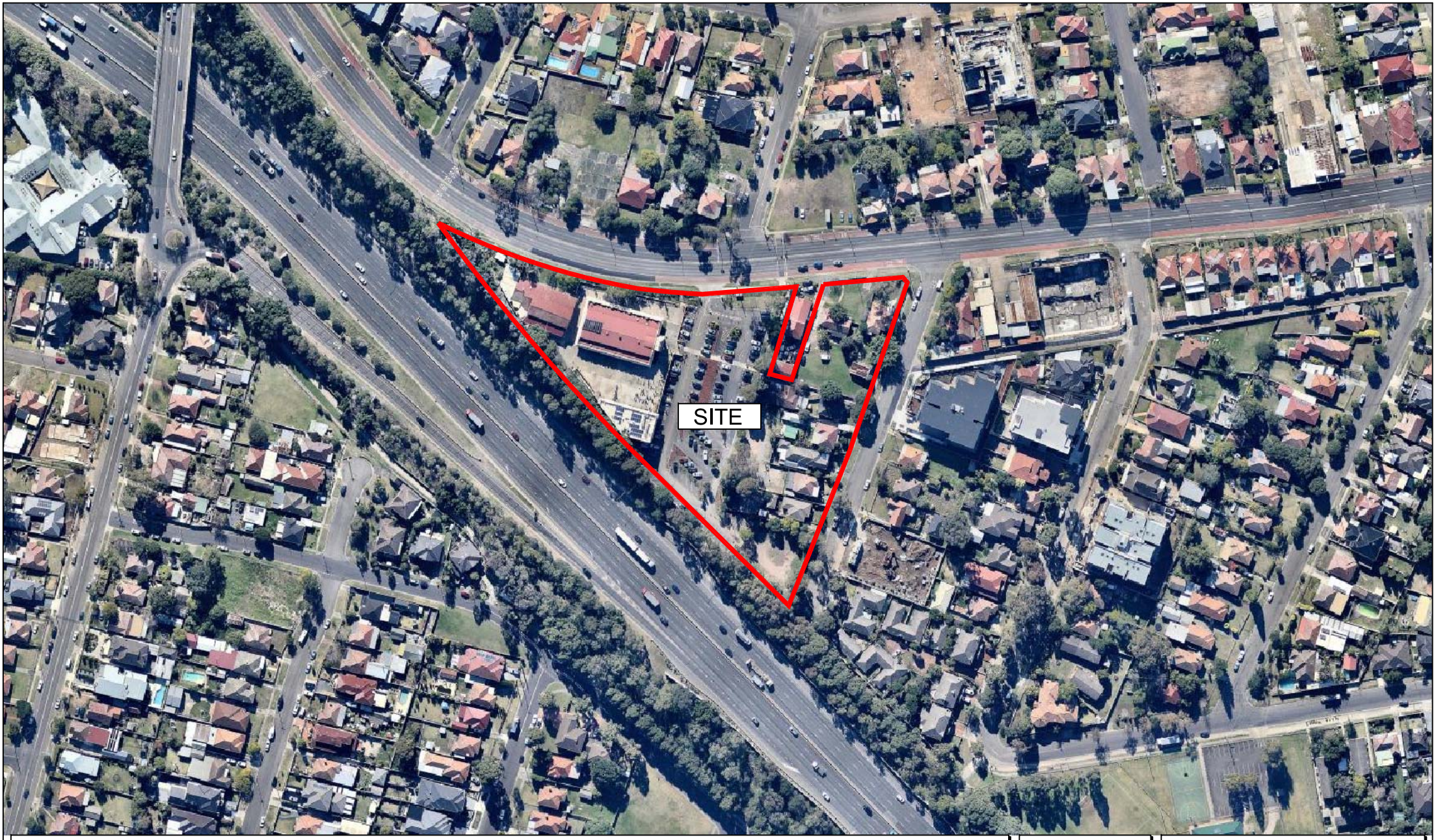
The existing development on the site comprises:

- south-east corner of Lot 1 of DP870186 –12 on-grade car parking spaces
- SP52225 – 2 single detached dwellings with one access driveway on Belinda Place
- Lot 220 of DP12899 – a single detached dwelling with one access driveway on Belinda Place

2.2 Existing Temple Use

The existing Temple comprises:

- the existing Cultural Hall on the westernmost part of the site which was the original temporary Temple with maximum seating of 300 persons (628m^2)
- the Temple which is on the western part of the site (823m^2) surrounded by a large worshipper/visitor gathering area (1,817m^2)
- the kitchen/office facilities which adjoin the Temple (312m^2)
- other associated infrastructure, religious and cultural facilities



LEGEND

SITE

FIG 2

- 114 on-grade parking spaces with vehicle access located centrally on the GWH frontage

The existing Temple's operation are detailed in the following:

Temple Opening Hours

Friday	7.00 am - 9.30 pm
All other days	7.00 am - 8.30 pm

Daily Pooja Times

Morning	7.00 am and 10.00 am
Afternoon	12.00 pm, 5.00 pm, 7:00 pm and 8:30 pm (9.30 pm on Fridays)

Kootu Valipadu

Tuesdays	8.00 pm - 8.30 pm
Fridays	8.00 pm - 9.00 pm

2.3 Existing Parking Conditions during Regular Worship Day

The satisfactory on-site parking condition during a regular worship day is demonstrated in the following Nearmap capture:

2.4 Existing Parking Conditions during Special/Major Events

The Temple also provides for Saiva/Hindu wedding s, which by custom must occur in the Grounds of a Temple as well as numerous special religious and cultural events. The special events equate to 291 hours per year (3% - 4% time in a year) and generally attract some 1,000 attendees and 100 volunteers, where demand for parking outstrips supply. See details overleaf for the days and hours when the occasional events/functions occur.

Parking request at 197 Great Western Highway and 1A Belinda Place							
		Morning		Evening			
Date	Day	From	To	From	To	Purpose	No. of hours
29-Mar	Sun	10:00am	2.00PM	6.30PM	9.30PM	Annual Festival - Day 1	7
30-Mar	Mon			6.30PM	9.30PM	Annual Festival - Day 2	3
31-Mar	Tue			6.30PM	9.30PM	Annual Festival - Day 3	3
1-Apr	Wed			6.30PM	9.30PM	Annual Festival - Day 4	3
2-Apr	Thu			6.30PM	9.30PM	Annual Festival - Day 5	3
3-Apr	Fri			6.30PM	9.30PM	Annual Festival - Day 6	3
4-Apr	Sat			6.30PM	9.30PM	Annual Festival - Day 7	3
5-Apr	Sun			6.30PM	9.30PM	Annual Festival - Day 8	3
6-Apr	Mon	10:00am	2.00PM	6.30PM	9.30PM	Annual Festival - Day 9	7
7-Apr	Tue	10:00am	2.00Pm	6.30PM	9.30PM	Annual Festival - Day 10	7
8-Apr	Wed			6.30PM	9.30PM	Annual Festival - Day 11	3
14-Apr	Tue	10.00AM	2.00PM	6.30PM	9.30PM	Tamil New Year	7
19-Sep	Sat	10:00am	2:00pm			Purataathi Sani	4
26-Sep	Sat	10:00am	2:00pm			Purataathi Sani	4
3-Oct	Sat	10:00am	2:00pm			Purataathi Sani	4
10-Oct	Sat	10:00am	2:00pm			Purataathi Sani	4
17-26 Oct	Sat-Mon			6.30PM	9.30PM	Navarathiri (10 days)	30
14-Nov	Sat	10:00am	2:00pm	6.30PM	9.30PM	Diwali	7
15-Nov	Sun			6.30PM	9.30PM	Kethara Gowri Viratham	3
20-Nov	Fri			6.30PM	9.30PM	Skanda Shashti	3
31st Dec	10.00PM	2.00AM					4
1-Jan	10.00AM	2.00PM		6.30PM	9.30PM	New Year Day	7
28-Jan	Thur	10:00am	2:00pm	6.30PM	9.30PM	Thai Poosam	7
11-Mar	Thur			6:00pm	12:00am	Maha Sivarathiri	6
	52 Fridays			6:30pm	9.30PM	All Fridays of the year	156
						Total Hours	**291**

Note: This is approximately 3-4 percent of the available hours in a year.

While the existing on-site carpark can accommodate the demand associated with the regular worship days, the lack of on-site parking has always been an issue during the special/major events. During these occasional events/functions, the resultant additional parking demand places a lot of pressure on the on-street parking within the immediate surrounding local roads such as Belinda Place, Peggy Street, Rees Street, Patricia Street, Robillard Street. It is also noted that visitors/devotees of the Temple relied on on-street parking on local roads on the north side of the GWH such as Bernard Street, Fraser Street, Whitworth Street and Anderson Street.

Due to the intensifications of developments along the GWH and Belinda Place, the on-street parking now attracts more parking demand from the residents/tenants as well as visitors that drive to/from the business premises. These users have to compete intensely with the Temple's visitors/devotees for the limited on-street spaces.

TSM has traditionally offered a free shuttle service from Westmead railway station to/from the Temple to address the lack of on-site parking spaces. In addition to the free shuttle provision, TSM has submitted a Reviews of Environmental Factors on the temporary use of a vacant site at 1A Belinda Place and 197 Great Western Highway, Mays Hill as a temporary carpark. The temporary carpark can accommodate up to 58 cars with vehicle access through a driveway which existed previously for access to/from the garage of 1A Belinda Place site.

The temporary carpark will be used to accommodate the car parking demand during the peak festival periods for a limited number of hours. It will serve as an interim arrangement for a one-year period subject to renewal by Council considering the timing for completion of the multi-storey carpark (DA0018/2020).

2.4 Existing Parking Survey

The results of an "occupancy" survey of vehicles visiting the site during a regular function at the Cultural Hall are provided in Appendix A, indicating an average vehicle occupancy of 3.3 persons. At this event, there was a peak accumulation of 440 persons. As the Temple's operation and occupancy outcome will be maintained, the previous survey will remain applicable.

3.0 Existing Road Network, Traffic Conditions and Public Transport Provision

3.1 Road Network

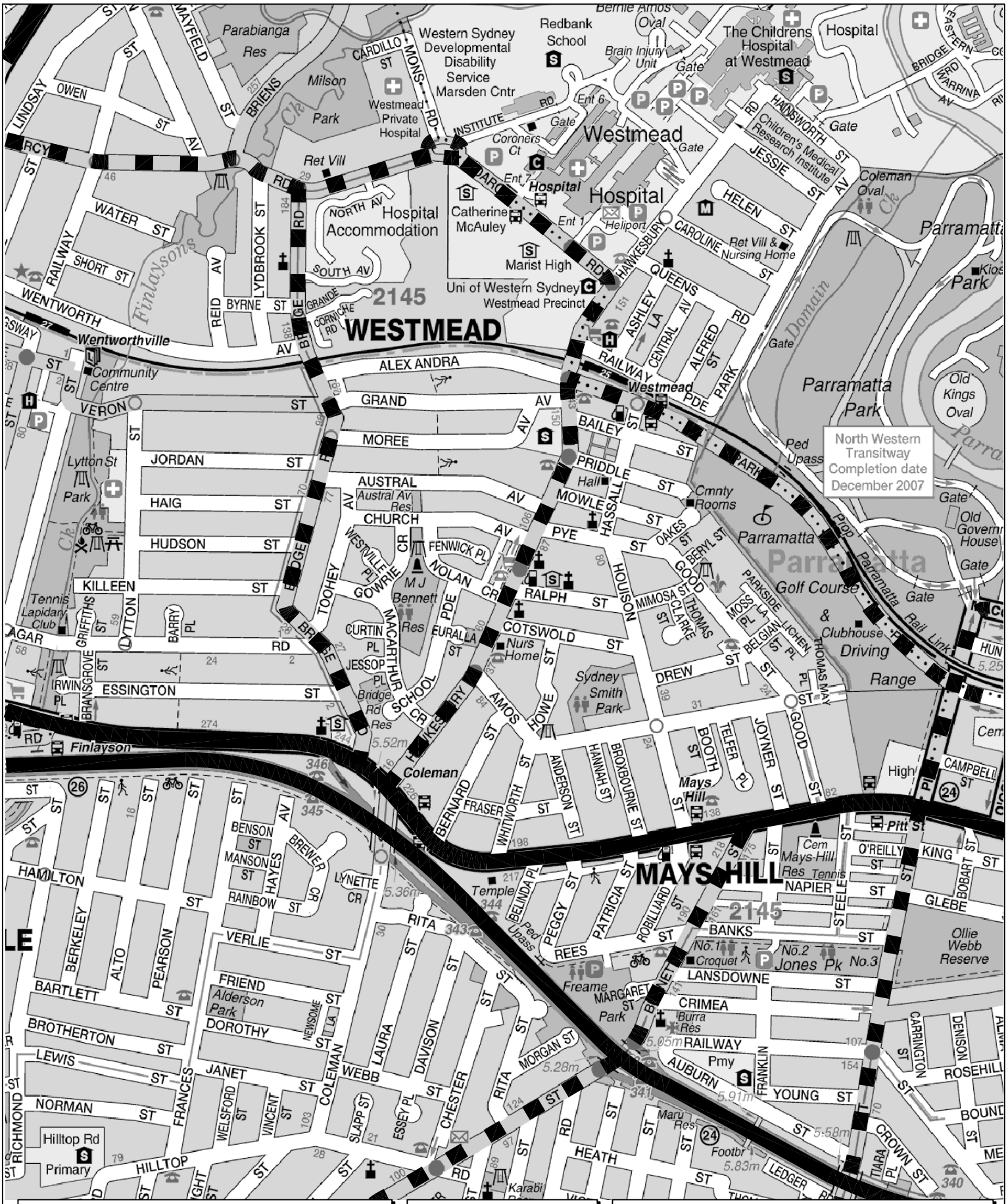
The road network serving the area in the vicinity of the site (Figure 3) comprises:

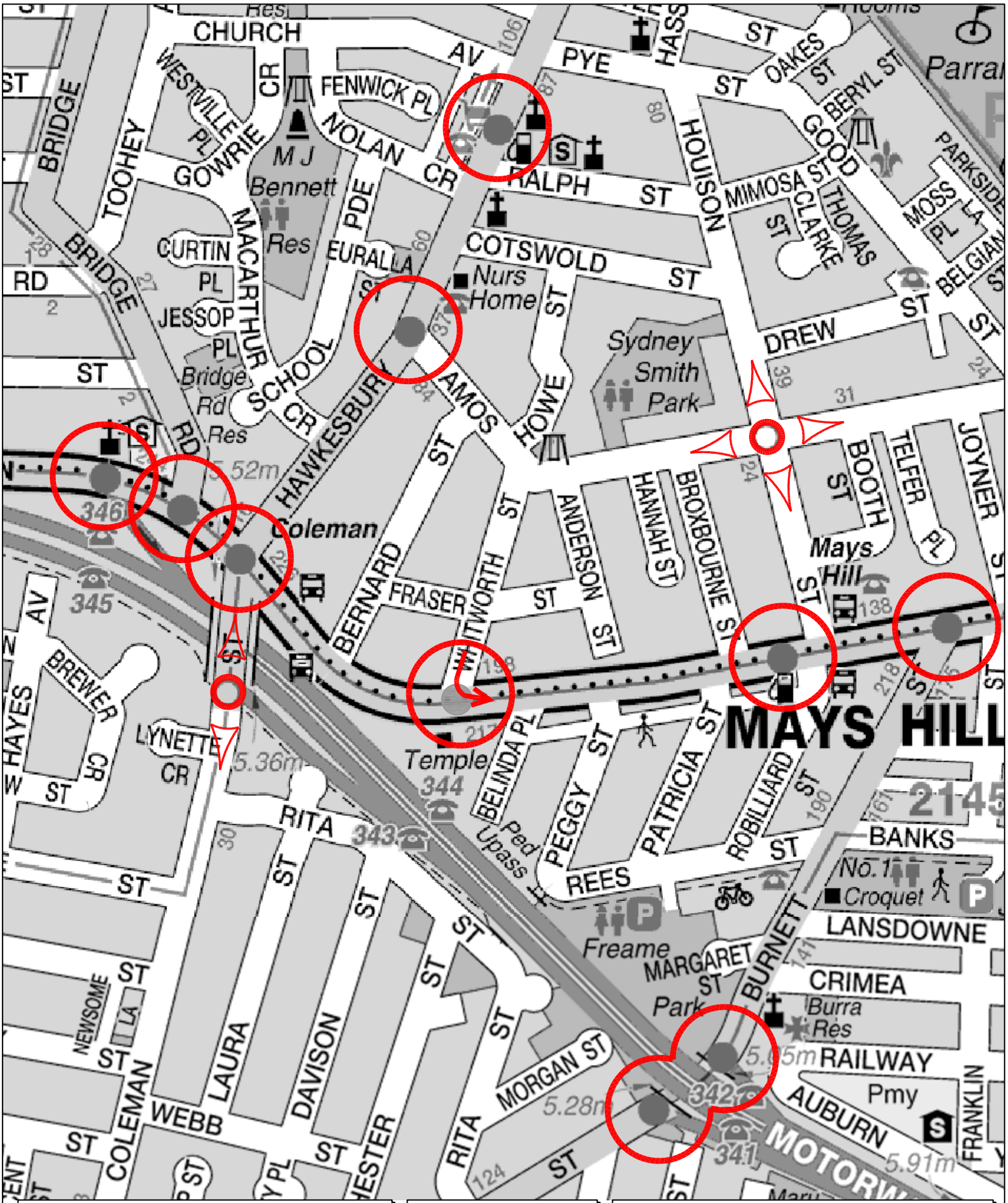
- *M4 Motorway* – a State Road and arterial motorway route linking between Concord and Penrith
- *Great Western Highway* – a State Highway and arterial route connecting between Sydney and Penrith
- *Burnett Street* – a sub-arterial road connecting through Merrylands connecting to the GWH and the M4 (east-facing ramp)
- Whitworth Street – a local road providing access to the residential area to the north of the Highway
- Belinda Place – is classified as a collector based on the width of its road reserve of 20m. It connects to the GWH to the north.

3.2 Traffic Controls

The existing traffic controls, which have been applied to the road system serving the site, (Figure 4) comprise:

- the traffic signals at the intersection of Whitworth Street and the GWH, with the prohibition of the right turn movements into and out of Whitworth Street and a pedestrian crossing across the Highway on the eastern side of the intersection
- the Liverpool-Parramatta Transitway runs along the kerbside lanes of the Highway
- the 60 kph speed limit on the Highway and the 50 kph limit on the local collectors, including Belinda Place


WESTMEAD
MAYS HILL
Westmead
Hospital
Parramatta
Parramatta Park
Finlaysons
Coleman
2145
Western Sydney Developmental Disability Service Marsden Cntr
Redbank School
The Childrens Hospital at Westmead
Westmead Private Hospital
Hospital Accommodation
Catherine McAuley
Marist High
Uni of Western Sydney Westmead Precinct
Wentworthville Community Centre
Parramatta Golf Course & Clubhouse Driving Range
Sydney Smith Park
Jones Pk
Alderson Park
Freame Park
Milson Park
Parabianga Res
Ollie Webb Reserve
Old Kings Oval
Coleman Oval
North Western Transitway Completion date December 2007
Hilltop Rd Primary
Tennis Lapidary Club
Lytton St Park
Nurs Home
Footbr
Heliport
Ped Upass
Prop Parramatta Rail Link
Parramatta Rail Link
Pitt St
Gate
Hall
Cmnty Rooms
Ret Vill
Ret Vill & Nursing Home
Children's Medical Research Institute
Brain Injury Unit
Bernie Amos Oval
Coroners Ct
Temple
Karabi
Maru Res
Burra Res
Cem
Mays Hill Res Tennis
Croquet
Pmy
Ent 1
Ent 6
Ent 7
LEGEND
ARTERIAL
SUB-ARTERIAL
COLLECTOR
N
ROAD NETWORK
FIG 3



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT

N

TRAFFIC CONTROLS

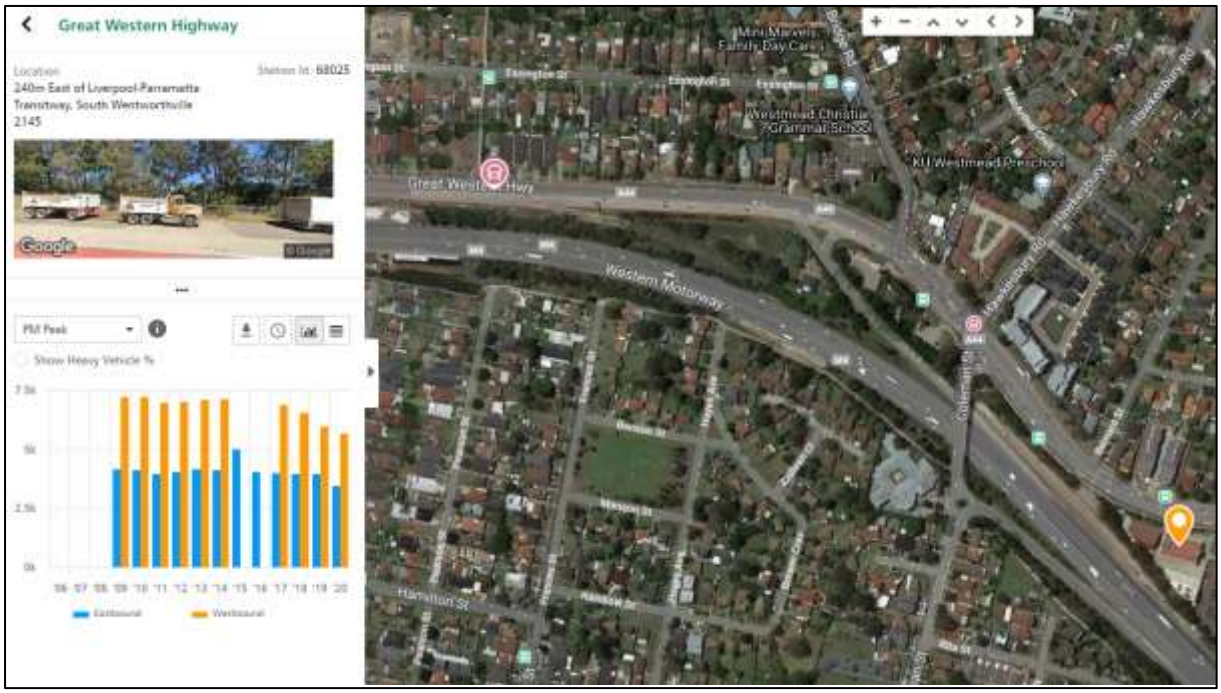
FIG 4

3.3 Traffic Conditions

The previous traffic surveys were completed during the Temple's normal worship activities on Friday, 19 August 2016 at the following intersections:

- Site Access/Great Western Highway
- Whitworth Avenue/Great Western Highway

A review of the TfNSW traffic volume data (see the following figure) indicate a reduction of up to 20% in the directional traffic volumes along the GWH. This is largely due to the widening of the M4 Motorway from Parramatta to Homebush.



Based on the above and the Temple's operation remains unchanged as part of this DA, the left-in and left-out traffic volumes at the existing Temple's driveway and Whitworth Avenue remain valid.

Further traffic surveys were completed on Friday, 20th September 2019 at the following intersections/road link:

- Belinda Place (24-hour automated traffic counts)
- Coleman Street/Great Western Highway
- Bridge Road/Great Western Highway
- Coleman Street/M4 off-ramp

- Burnett Street/Great Western Highway

In addition, a drone survey was completed on a regular worship day (Friday, 31 July 2020) to understand the traffic movements associated with the Temple and the gaps available along the westbound traffic flow on the GWH.

The drone footage indicates vehicles turning left onto the GWH are afforded with regular gaps in the westbound traffic flow due to the operation of the Whitworth Street traffic signals.

The gaps are created by the north-south pedestrian crossing generally due to accessibility to/from the bus stops along both sides of the GWH (see the following figure and traffic control signal plan provided overleaf).

The survey (as illustrated in the following figure) also indicates:

- A pedestrian phase of 26 seconds for every activation
- 20 pedestrian activations per hour

With start loss of 3 seconds and follow up headway of 2.5 seconds, 9 cars can exit via the existing driveway during each pedestrian phase.

Based on the above, it is expected some 180 cars can depart from the site during the peak hours, without affecting the westbound traffic flows including the busses on the bus lane.

DRAWN BY CADD
DO NOT AMEND MANUALLY

DATE IN SERVICE : 14/11/06

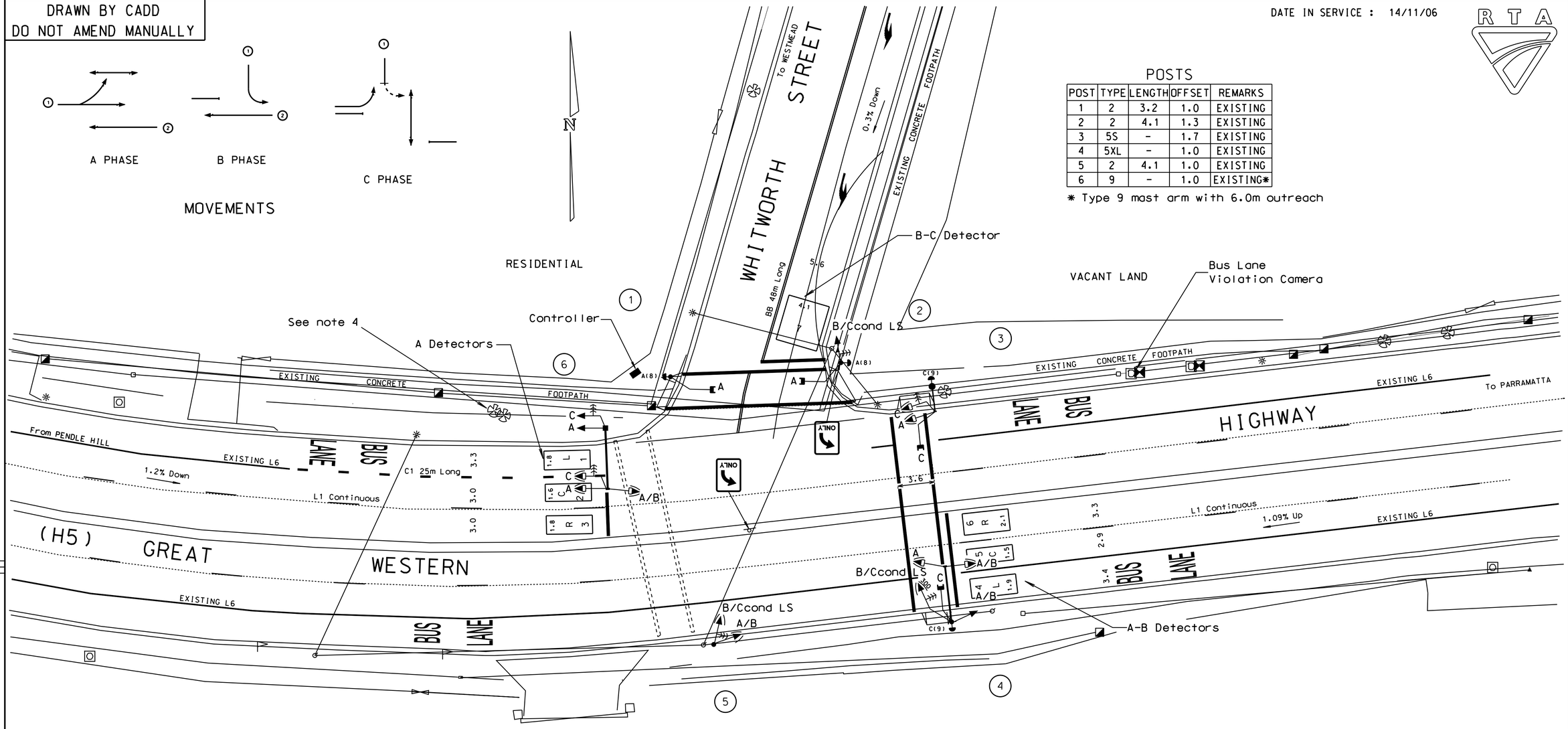
RTA

0005.205.VV.3995

POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS
1	2	3.2	1.0	EXISTING
2	2	4.1	1.3	EXISTING
3	5S	-	1.7	EXISTING
4	5XL	-	1.0	EXISTING
5	2	4.1	1.0	EXISTING
6	9	-	1.0	EXISTING*

* Type 9 mast arm with 6.0m outreach



DETECTOR SPECIFICATION

Detector	Specifications					
A	FN	A(L)	A(E1)			
	SG/PS	$\overline{A}$	A			
	DS	–	–			
A-B	FN	A(L)	A(E2)	B(E2)		
	SG/PS	$\overline{A/B}$	A	B		
	DS	–	$\overline{B(NEXT)}$	$\overline{A(NEXT)}$		
B-C	FN	B(PR)	B(CL)	B(E1)		C(E1)
	SG/PS	$\overline{B}.\overline{C}$	C	B		C
	DS	$\overline{C}$+C(PB)	B-C(NG)	$\overline{C(NEXT)}$+C(PB)		$\overline{B(NEXT)}$
A P.B.	FN	A(PB)	C(L)			
	SG/PS	$\overline{A(WALK)}$	A.$\overline{A(WALK)}$			
	DS	–	$\overline{B}.\overline{C}$			
C P.B.	FN	C(PB)	A(L)			
	SG/PS	$\overline{C(WALK)}$	C.$\overline{C(WALK)}$			
	DS	–	$\overline{A}.\overline{B}$			

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
A/B	3	—
B/C COND (LT)	15	R.A. protection for 'C' pedestrian WALK & CLEARANCE.
C (LT)	12	Timed R.A. protection for 'A' pedestrians.

NOTES:

1. This site is SCATS linked.
2. Special regulatory stop signs (R1-4) on post 2.
3. All push buttons are audio tactile .
4. Trees to be pruned back for better visibility of post 5.
5. Provision to be made in Ducting and Cabling for future pedestrian crossing across western leg of intersection.

A ORIGINAL ISSUE
B ISSUE: PLAN REVISED TO SUIT WE F.P. 17.04.07 M.M.

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6
STOP VALVE	▲	STD POSIT	VD001-5
GAS VALVE	#	DET SCHED EXP	VD018-10
SEWER MANHOLE	Ⓢ	PRES. DETECT	VC005-17
TELECOM PIT	◪	SSG DIS. SEQ.	VD018-8
ELECT LIGHT POLE	☾		
POWER POLE	○		
STAY POLE	⊘		
TELEPHONE BOX	⚿	SURVEYOR : K.PAVEN(RTA)	
TELECOM PILLAR	◕	DATE : November 2004	

U.B.D. Ref. Map210 L5
I.S.G. CO-ORDS E: 313 482 N: 1 256 018
DESIGNED K.KOUVAS
CHECKED K.IRONSIDE
K.KOUVAS SITE CHECKED
K.IRONSIDE RECOMMENDED

DESIGN APPROVAL
APPROVED
POSITION MANAGER PROJECT DESIGN SERVICES
DATE 9/8/06
DESIGN PREPARED BY
PROJECT DESIGN SERVICES RTA OPERATIONS

RTA ACCEPTANCE
RECOMMENDED
NETWORK OPERATIONS
POSITION TEAM LEADER
DATE 16.8.06
ACCEPTED
ROAD NETWORK
POSITION MANAGER
DATE

Roads and Traffic Authority.N.S.W

HOLROYD COUNCIL AREA
TRAFFIC SIGNALS AT
(H5)GREAT WESTERN HIGHWAY AND
WHITWORTH STREET,
MAYS HILL

DESIGN LAYOUT TCS No 3995

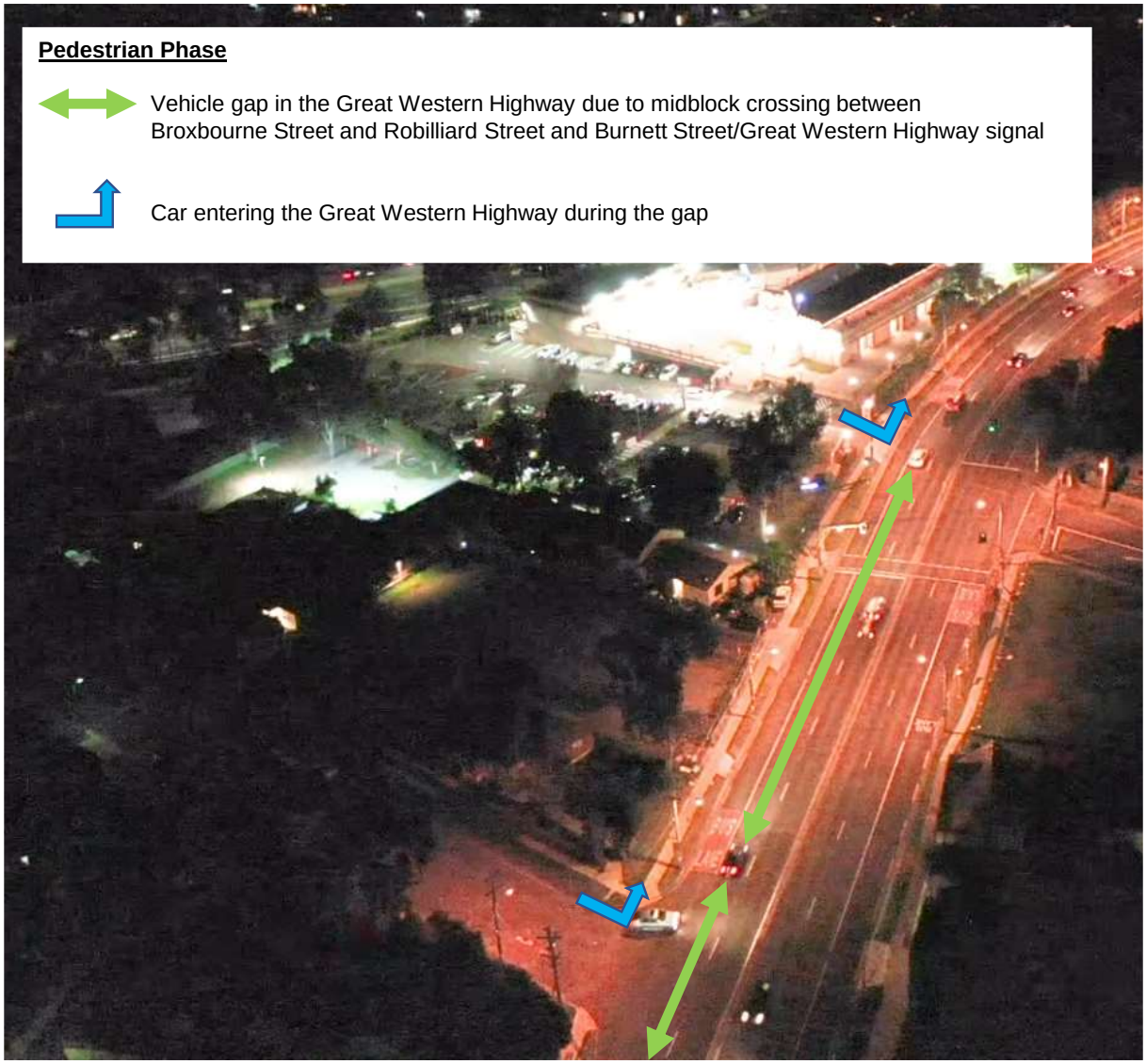
EXISTING ☒ PROPOSED ☐
CADD FILE: VV3995_1B.DGN
SCALE 5 0 (1:200) 5 10
FILE 205 TS 350
SUPERSEDES SHEET/ISSUE 1A
ISSUE B
REGN. 0005.205.VV.3995
SHEET 1

$DATE$ $TIME$ $FILEABBREV$
VV3995_1B.dgn 15/06/2009 4:07:18 PM

In addition to the ample gaps created by the pedestrian activation at the Whitworth Street/Great Western Highway intersection, vehicles turning left from the existing Temple's driveway and Belinda Place also benefitted by the westbound traffic gaps created by the operation of the traffic signals to the east.

These gaps due to the pedestrian activation at the midblock crossing on the GWH between Broxbourne Street and Robillard Street and the signals at Burnett Street/Great Western Highway intersection), are illustrated in the following figures. See traffic control signal plans provided overleaf.


Pedestrian Phase
Traffic flow held during pedestrian phase and northbound phase on Burnett Street
Car entering the Great Western Highway during the gap


Pedestrian Phase
Vehicle gap in the Great Western Highway due to midblock crossing between Broxbourne Street and Robilliard Street and Burnett Street/Great Western Highway signal
Car entering the Great Western Highway during the gap

DRAWN BY CADD
DO NOT AMEND MANUALLY

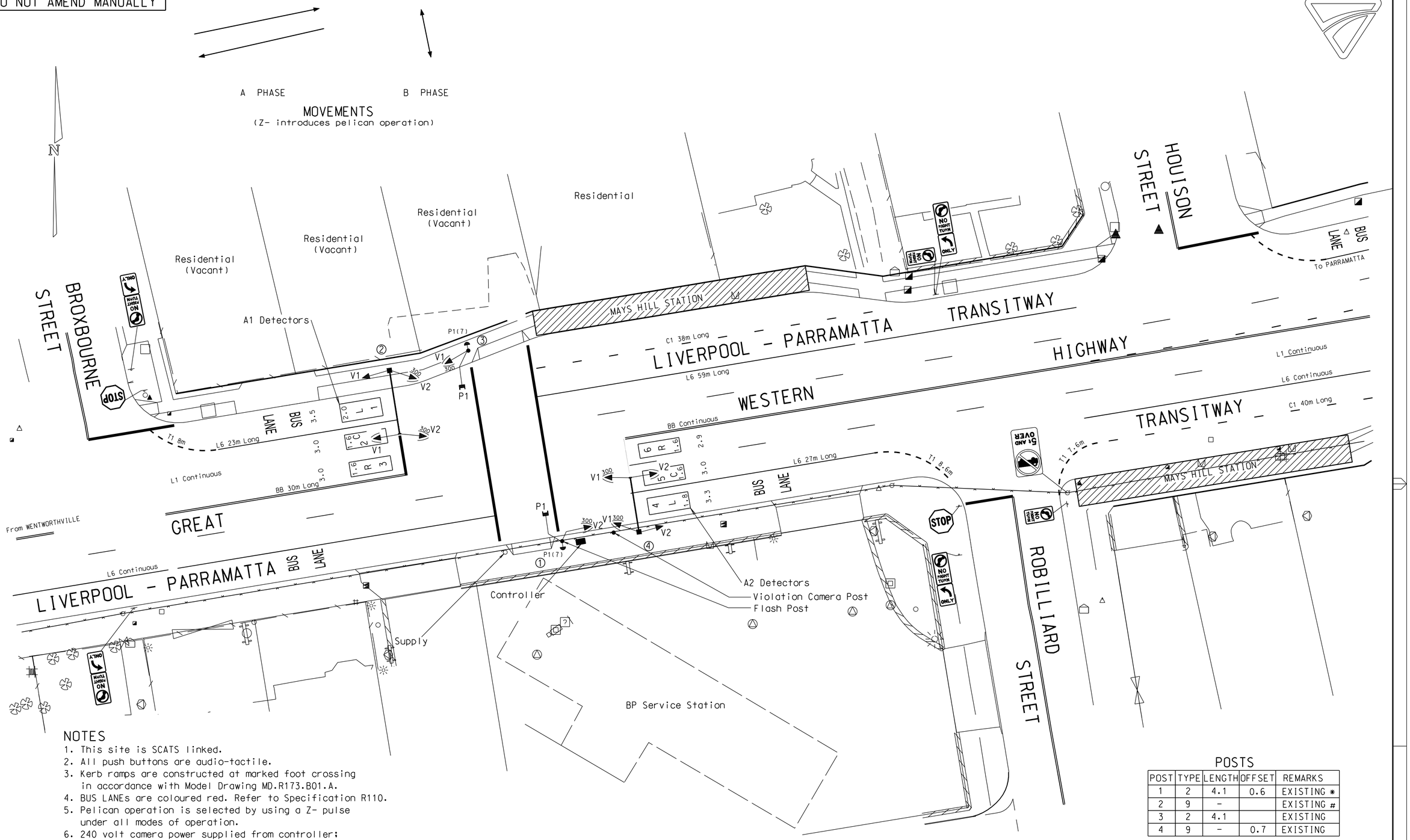
DATE IN SERVICE : 28/06/04

RTA

0005.205.VV.3771

A PHASE B PHASE

MOVEMENTS
(Z- introduces pelican operation)



NOTES

1. This site is SCATS linked.
2. All push buttons are audio-tactile.
3. Kerb ramps are constructed at marked foot crossing in accordance with Model Drawing MD.R173.B01.A.
4. BUS LANEs are coloured red. Refer to Specification R110.
5. Pelican operation is selected by using a Z- pulse under all modes of operation.
6. 240 volt camera power supplied from controller; flash is unit mounted on post 1.
7. Height of V2 lantern is adjusted to provide adequate line of sight from stop line. Bottom of target board is at least 2.0m from ground.

POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS
1	2	4.1	0.6	EXISTING *
2	9	-		EXISTING #
3	2	4.1		EXISTING
4	9	-	0.7	EXISTING

Type 9 mast arm with 7m outreach
* Flash unit mounted on post 1

A	ORIGINAL ISSUE
B	Issue. Added: Signature. Regulatory signs in Robillard St. 29.10.03 BB
C	Issue Issued for construction K.I. 5/11/2003
D	Issue as requested by Mr Neil Leitch. Network Operations Team Leader. Amended: Location of post1, flash unit and controller. K.I. 18.12.03
E	Issue as requested by Mr Doug Tetlow. Management, Blacktown. Added: Additional N.R.T sign for eastbound traffic in Gt Western Hwy. Amended: BB line in Gt Western Hwy. and Robillard Street. K.I. 13.01.04
F	Issue JI YEN 4/001 PLAN AMENDED TO SUIT WAE R.W.A. L.C. 4/06/2004
G	Issue Works As Executed Amended to suit LED upgrade by CNJ 15/10/2013. P.Quigg 24/01/2014

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6
STOP VALVE	△	STD POSIT	VD001-5
GAS VALVE	#	DET SCHED EXP	VD018-10
SEWER MANHOLE	Ⓢ	PRES. DETECT	VC005-17
TELECOM PIT	◪	SSG DIS. SEQ.	VD018-8
ELECT LIGHT POLE	☾		
POWER POLE	○		
STAY POLE	⊘		
TELEPHONE BOX	T	SURVEYOR : N/A	
TELECOM PILLAR	◍	DATE : N/A	

U.B.D. Ref. 210 N5
I.S.G. E: 298 900
CO-ORDS N: 1 256 470

DESIGNED A. HILLARD
CHECKED K. IRONSIDE
A. HILLARD
SITE CHECKED
J. J. ZOUTENDYK
RECOMMENDED

DESIGN APPROVAL
APPROVED
POSITION MANAGER, PROJECT DESIGN SERVICES
DATE 8.10.03
DESIGN PREPARED BY
PROJECT DESIGN SERVICES
RTA OPERATIONS

RTA ACCEPTANCE
RECOMMENDED
POSITION NETWORK OPERATIONS TEAM LEADER
DATE 16.10.03

RTA ACCEPTANCE
CONFIRMATION
POSITION DIRECTOR, TRAFFIC & TRANSPORT
DATE 23.10.03
ACCEPTED
POSITION
DATE

Roads and Traffic Authority.N.S.W

HOLROYD COUNCIL AREA
MID-BLOCK PEDESTRIAN CROSSING
LIVERPOOL - PARRAMATTA TRANSITWAY,
GREAT WESTERN HIGHWAY, 31.5m EAST OF
BROXBOURNE STREET, MAYS HILL
DESIGN LAYOUT TCS No 3771

EXISTING ☒ PROPOSED ☐
CADD FILE: K:/Signals/TCS/.../VV3771_1G.dgn
SCALE 5 0 (1:200) 5 10
FILE 205 TS 349
SUPERSEDES SHEET/ISSUE 1/F
REGN. 0005.205.VV.3771
ISSUE G
SHEET 1

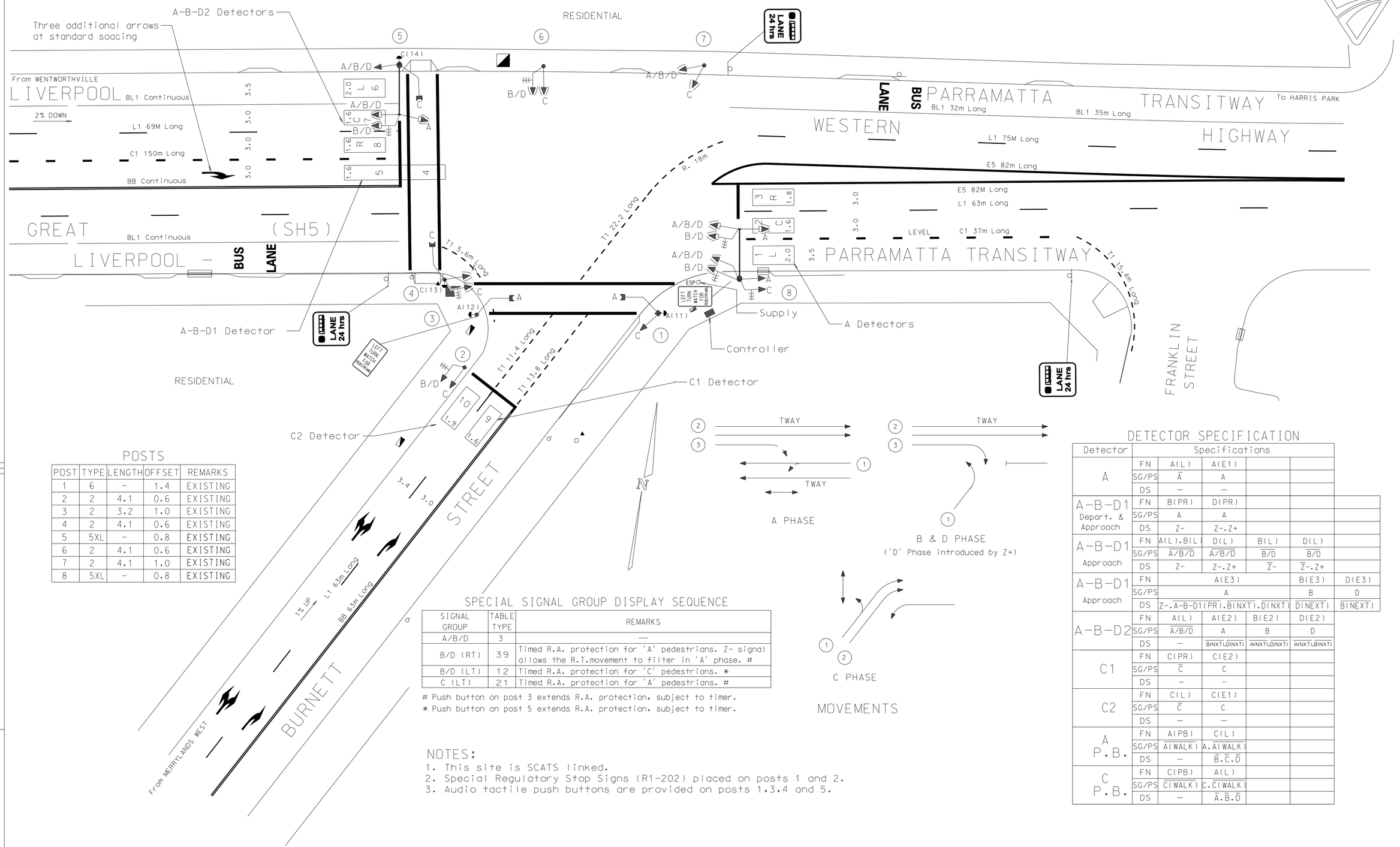
24/01/2014 10:24:20 AM.*vv3771*Drawings*vv3771_1G.dgn

DRAWN BY CADD
DO NOT AMEND MANUALLY

DATE IN SERVICE : 14/03/98

R T A

0005.205.VV.0885



POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS
1	6	–	1.4	EXISTING
2	2	4.1	0.6	EXISTING
3	2	3.2	1.0	EXISTING
4	2	4.1	0.6	EXISTING
5	5XL	–	0.8	EXISTING
6	2	4.1	0.6	EXISTING
7	2	4.1	1.0	EXISTING
8	5XL	–	0.8	EXISTING

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
A/B/D	3	—
B/D (RT)	39	Timed R.A. protection for 'A' pedestrians. Z- signal allows the R.T.movement to filter in 'A' phase. #
B/D (LT)	12	Timed R.A. protection for 'C' pedestrians. *
C (LT)	21	Timed R.A. protection for 'A' pedestrians. #

Push button on post 3 extends R.A. protection, subject to timer.
* Push button on post 5 extends R.A. protection, subject to timer.

DETECTOR SPECIFICATION

Detector		Specifications				
A	FN	A(L)	A(E1)			
	SG/PS	$\overline{A}$	A			
	DS	–	–			
A–B–D1 Depart. & Approach	FN	B(PR)	D(PR)			
	SG/PS	A	A			
	DS	Z-	Z-.Z+			
A–B–D1 Approach	FN	A(L).B(L)	D(L)	B(L)	D(L)	
	SG/PS	$\overline{A/B/D}$	$\overline{A/B/D}$	$\overline{B/D}$	$\overline{B/D}$	
	DS	Z-	Z-.Z+	$\overline{Z}$-	$\overline{Z}$-.Z+	
A–B–D1 Approach	FN	A(E3)			B(E3)	D(E3)
	SG/PS	A			B	D
	DS	Z-.$\overline{A}$-B-D1(PR).B(NXT).$\overline{D}$(NXT)			$\overline{D}$(NEXT)	$\overline{B}$(NEXT)
A–B–D2	FN	A(L)	A(E2)	B(E2)	D(E2)	
	SG/PS	$\overline{A/B/D}$	A	B	D	
	DS	–	B(NXT).D(NXT)	A(NXT).D(NXT)	A(NXT).B(NXT)	
C1	FN	C(PR)	C(E2)			
	SG/PS	$\overline{C}$	C			
	DS	–	–			
C2	FN	C(L)	C(E1)			
	SG/PS	$\overline{C}$	C			
	DS	–	–			
A P.B.	FN	A(PB)	C(L)			
	SG/PS	$\overline{A}$(WALK)	A.$\overline{A}$(WALK)			
	DS	–	$\overline{B}$.$\overline{C}$.$\overline{D}$			
C P.B.	FN	C(PB)	A(L)			
	SG/PS	$\overline{C}$(WALK)	C.$\overline{C}$(WALK)			
	DS	–	$\overline{A}$.$\overline{B}$.$\overline{D}$			

NOTES:

1. This site is SCATS linked.
2. Special Regulatory Stop Signs (R1-202) placed on posts 1 and 2.
3. Audio tactile push buttons are provided on posts 1,3,4 and 5.

H	ORIGINAL ISSUE
I	Issue JI SW1408 10/03/98. Amend dwg. to suit Tidal Flow facility in SH5. Repeat right turn phase added. SPE 17/03/97
J	Issue JISM 318 24.10.02 Added: Audio-tactile facilities to posts 1,3,4 and 5. K.I. 11.12.02
K	Issue JISM347 3.10.03 Added: Additional lane on GW-H Altered: Posts 1,3,4 & 5 to suit new kerb line, logic detectors, lane marking. Altered: Post 8 to type 9 S.G. 4.09.03
L	ISSUE :- WAE PLAN AMENDED ACCORDING TO WAE. A.C./M/M. 12/07/05

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6
STOP VALVE	▲	STD POSIT	VD001-5
GAS VALVE	#	DET SCHED EXP	VD018-10
SEWER MANHOLE	⊕	PRES. DETECT	VC005-17
TELECOM PIT	◪	SSG DIS. SEQ.	VD018-8
ELECT LIGHT POLE	☾		
POWER POLE	○		
STAY POLE	⊘		
TELEPHONE BOX	T	SURVEYOR : -	
TELECOM PILLAR	◕	DATE : -	

U.B.D. Ref. 1996 MAP210 P5
I.S.G. E: 299 120
CO-ORDS N: 1 256 470

DRAWN S.D. 17.5.78

CHECKED R.M. 17.5.78

T.J. 5.7.78
CHECKED

APPROVED
ENGINEER-IN-CHEIF
2.8.78
DATE

RECOMMENDED
B.H. Butcher
20.7.78
DATE

Roads and Traffic Authority, N.S.W

HOLROYD COUNCIL
GREAT WESTERN HIGHWAY AND
BURNETT STREET
MAYS HILL

DESIGN LAYOUT TCS No 0885

DESIGN OFFICE PARRAMATTA - SYDNEY TECHNICAL SERVICES
CADD FILE: VV0885_6L.dgn
SCALE 5 0 (1:200) 5 10
FILE 205 TS 125
SUPERSEDES SHEET/ISSUE 6K
ISSUE L
REGN. 0005.205.VV.0885
SHEET 6

vv0885_06L.dgn 3/11/2008 3:37:16 PM

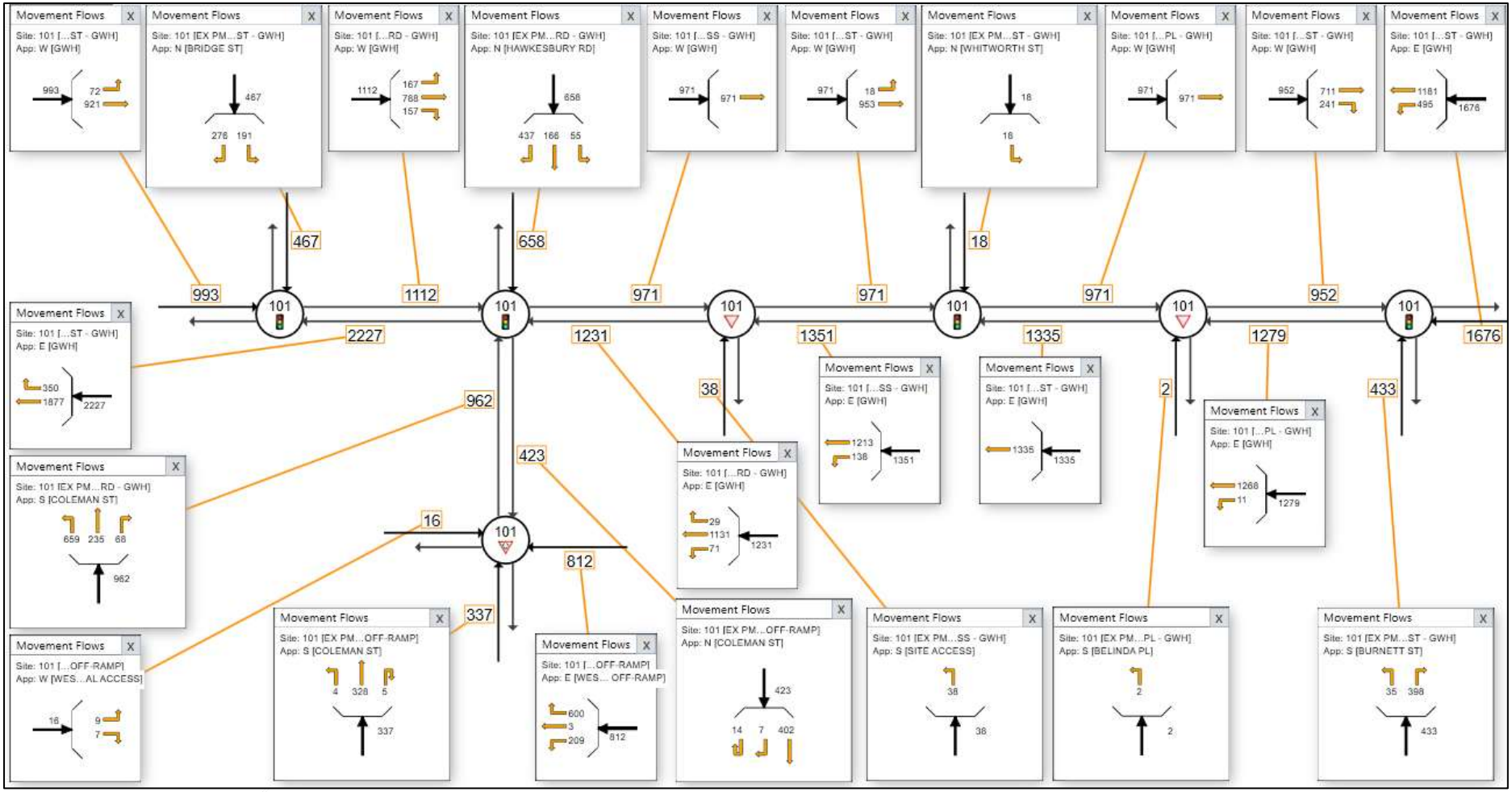
It was also observed from the drone footage that most vehicles exiting the Temple's driveway and Belinda Place waited for a gap in the traffic flow on the general traffic lane (and not the bus lane – see the following figure) on departure.

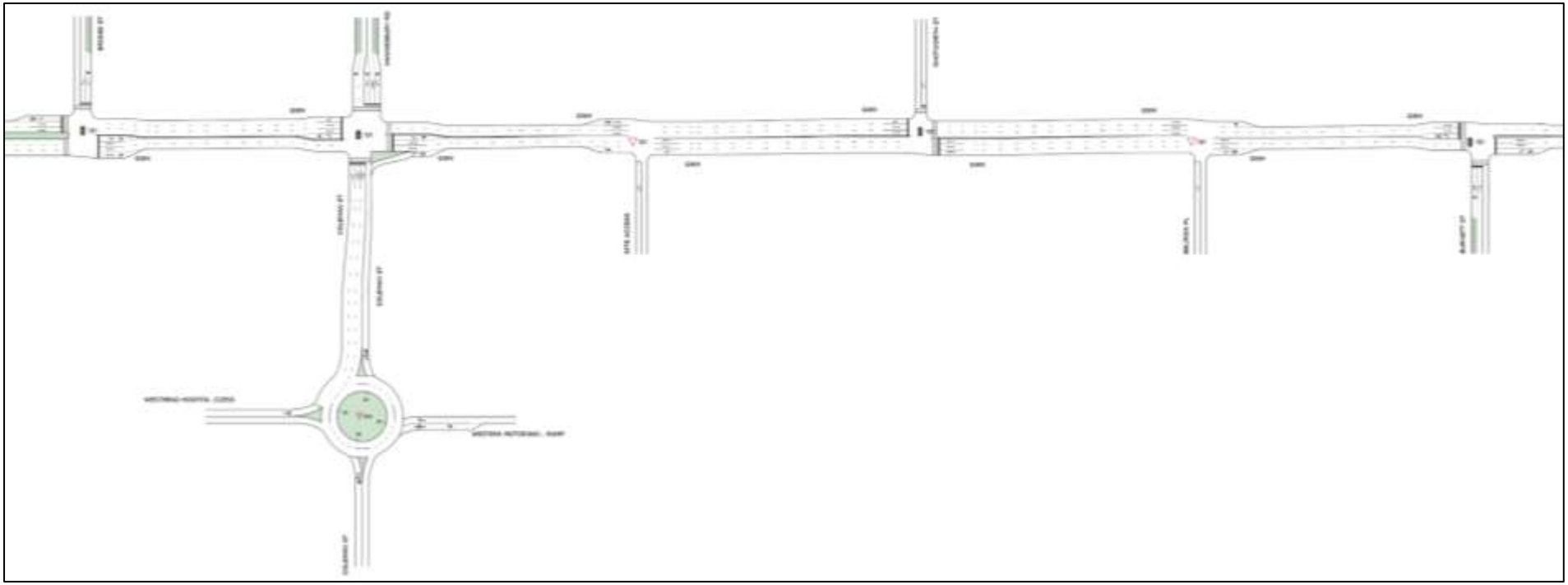
However, the NSW Road Rules indicate that general traffic is allowed in bus lanes for up to 100m in order to:

- Turn left or right into or out of a street (i.e., turning left onto Belinda Place and turning left onto the GWH from Belinda Place)
- Enter or leave a property adjacent to the bus lane (i.e., turning left onto the Temple's driveway and turning left onto the GWH from the Temple's driveway)

3.4 Existing Intersection Operation

Details of the Friday's afternoon traffic volumes at the following 7 key intersections in the vicinity of the site and the SIDRA network layout are illustrated in the following figures and provided in Appendix B.


Movement Flows
Site: 101 [...ST - GWH]
App: W [GWH]
993
72
921
Movement Flows
Site: 101 [EX PM...ST - GWH]
App: N [BRIDGE ST]
467
276 191
Movement Flows
Site: 101 [...RD - GWH]
App: W [GWH]
1112
167
788
157
Movement Flows
Site: 101 [EX PM...RD - GWH]
App: N [HAWKESBURY RD]
658
437 166 55
Movement Flows
Site: 101 [...SS - GWH]
App: W [GWH]
971
971
Movement Flows
Site: 101 [...ST - GWH]
App: W [GWH]
971
18
953
Movement Flows
Site: 101 [EX PM...ST - GWH]
App: N [WHITWORTH ST]
18
18
Movement Flows
Site: 101 [...PL - GWH]
App: W [GWH]
971
971
Movement Flows
Site: 101 [...ST - GWH]
App: W [GWH]
952
711
241
Movement Flows
Site: 101 [...ST - GWH]
App: E [GWH]
1181
495
1676
Movement Flows
Site: 101 [...ST - GWH]
App: E [GWH]
350
1877
2227
Movement Flows
Site: 101 [EX PM...RD - GWH]
App: S [COLEMAN ST]
659 235 68
962
Movement Flows
Site: 101 [...OFF-RAMP]
App: W [WES...AL ACCESS]
16
9
7
Movement Flows
Site: 101 [EX PM...OFF-RAMP]
App: S [COLEMAN ST]
4 328 5
337
Movement Flows
Site: 101 [...OFF-RAMP]
App: E [WES... OFF-RAMP]
600
3
209
812
Movement Flows
Site: 101 [...RD - GWH]
App: E [GWH]
29
1131
71
1231
Movement Flows
Site: 101 [EX PM...OFF-RAMP]
App: N [COLEMAN ST]
423
14 7 402
Movement Flows
Site: 101 [...SS - GWH]
App: E [GWH]
1213
138
1351
Movement Flows
Site: 101 [...ST - GWH]
App: E [GWH]
1335
1335
Movement Flows
Site: 101 [EX PM...SS - GWH]
App: S [SITE ACCESS]
38
38
Movement Flows
Site: 101 [...PL - GWH]
App: E [GWH]
1268
11
1279
Movement Flows
Site: 101 [EX PM...PL - GWH]
App: S [BELINDA PL]
2
2
Movement Flows
Site: 101 [EX PM...ST - GWH]
App: S [BURNETT ST]
35 398
433
101
993
1112
971
971
971
952
1676
467
658
18
2227
1231
1351
1335
1279
962
423
16
812
337
38
2
433



The operational performance of these intersections has been analysed using the SIDRA program and the results of that assessment are provided in Appendix D. The results are summarised in the following while the criteria for interpreting the SIDRA output is provided overleaf.

	PM	
	LOS	**AVD (S)**
Site Access/Great Western Highway	A	8*
Belinda Place/Great Western Highway	A	7*
Whitworth Avenue/Great Western Highway	A	4
Coleman Street/Great Western Highway	D	53
Bridge Road/Great Western Highway	B	27
Coleman Street/M4 off-ramp	B	19*
Burnett Street/Great Western Highway	C	37

** Worst movement reported for unsignalised intersection.*

The results indicate that the intersections operate with acceptable levels of service at the present time during the PM peak traffic period. This is largely a result of the regular gaps available in the westbound traffic flow in the GWH.

3.5 Public Transport Services

The Temple is located adjacent to the Liverpool to Parramatta Transitway, while the nearest T-way Station is located opposite Bernard Street (Coleman Station) to the west of the Temple. The T-way provides a regular service between Liverpool and Parramatta, providing a viable alternative to travelling by car. This is particularly relevant to Parramatta Centre, which involves a journey of only 11 minutes. The Parramatta Interchange is located in the vicinity of the Railway Station, providing a very convenient access to the rail network.

4.0 Proposed Development

The proposed development comprises:

- the demolition of 2 dwellings on SP52225
- the excavation and minor fill of the site for the construction of a levelled-platform for the 5-storey carpark (with 223 spaces) on the south-eastern part of the site fronting Belinda Place.
- the provision of a new vehicle access to/from the multi-storey carpark on the south-western end of Belinda Place
- the demolition of the south-east corner of an existing on-grade carpark on Lot 1 of DP870186. This will result in a loss of 12 spaces. The demolition is to accommodate a new vehicle link/connection between the existing carpark and the new multi-storey carpark/Belinda Place
- the boundary adjustment for Lot 220 of DP12899 to accommodate the required setback for the proposed carpark
- the removal of 2 existing driveways on SP52225 and Lot 220 of DP12899
- the construction of a new carport and driveway for Lot 220 of DP12899

As discussed, the site currently provides 114 on-grade parking spaces. Following the completion of the multi-storey carpark:

- the parking provision will be increased by 211 spaces to 325 spaces (223 spaces within the multi-storey carpark, minus 12 displaced spaces).
- the proposed carpark will be accessible via Belinda Place (primary access) and the new internal road link from the GWH (alternate access)

The proposed new multi-storey carpark will provide a total of 223 spaces with the following breakdown:

* Ground-level - 34 spaces
* Level 1 – 35 spaces

- Level 2 – 53 spaces
- Level 3 – 53 spaces
- Rooftop – 48 spaces

The existing on-site parking can accommodate up to 114 spaces and will eventuate to 102 spaces due to the loss of 12 spaces.

Following the development of the carpark structure, there will be a total on-site parking provision of 325 spaces.

Details of the proposed development are provided in the plans prepared by HPI Architects, which accompany the Development Application and are reproduced in part in Appendix C.

5.0 Parking

The car parking requirements for the Temple and Cultural Hall uses are set out in Holroyd City Council's 'Development Control Plan 2013'.

5.1 Council's DCP Requirements for Temple Use Only

A review of the car parking requirement rates results in a statutory parking requirement of 97 spaces for the Temple use only, as shown below:

Use	Size	Car Parking Rate	No. of Spaces
Temple	823m^2	1 space per 8.5 m^2	97

5.2 Council's DCP Requirements for Temple & Cultural Hall Uses

The car parking requirement for the existing Temple and Cultural Hall uses based on Council's DCP rates equates to 147 spaces, as summarised in the following:

Use	Size	Car Parking Rate	No. of Spaces
Cultural Hall	300 persons (628m^2)	1 space per 6 seats	50
Temple	823m^2	1 space per 8.5 m^2	97
	Total		**147**

5.3 Council's DCP Requirements for Special/Major Events

The applications of Council's DCP rates to 1,100 persons (including 100 volunteers) during special/major events indicate a requirement of 281 car parking spaces during these events as detailed in the following:

Use	Size	Car Parking Rate	No. of Spaces
Cultural Hall and associated worshipper/visitor gathering area	1,100 persons	1 space per 6 seats	184
Temple	823m^2	1 space per 8.5 m^2	97
	Total		**281**

5.4 Empirical Car Parking Demand for Special/Major Events

The surveyed parking data indicates an average occupancy of 3.3. With 1,100 persons in attendance, it is conservatively assumed that 95% of the attendees will drive to/from the events. As such, there would be 1,050 travelling by car which would equate to 318 cars.

5.5 Adequacy of Proposed Parking Provision

It is apparent that the provision of 325 spaces will fully accommodate the day to day demands of the existing Temple and Cultural Hall uses. Such provisions are also in accordance with Council's DCP and will not result in any on-street overflow parking.

While it is noted that the 1,100 people in attendance would only occur infrequently, the proposed parking provision of 325 spaces will be adequate to accommodate the parking demands of 318 cars with minor overprovision of 7 spaces to accommodate any minor increase of demand due to the proposed multi-storey carpark.

The provision of 325 car parking spaces also satisfies the requirements of Council's DCP for the major/special events.

5.6 Disabled Car Parking

A review of the Building Code of Australia (BCA) suggests a disabled car parking requirement of 1 space for every 100 spaces or part thereof. Based on 325 spaces, it is recommended that a minimum of 4 disabled space be provided. The 12 disabled space provision in the existing and new car parking areas is in accordance with the BCA requirement.

6.0 Traffic

6.1 Existing and Projected Traffic Generation

The traffic/visitation surveys reflect a relatively unique arrival/departure pattern involving gradual arrival and departure of attendees at the function events. It was subsequently advised that this is a unique feature of the TSM cultural and social interaction where there is no exact start and finish times and social interaction occurs before and after the actual events.

Even though there may have been 500 or 600 persons at this event, the arrival and departure of cars were relatively gradual, with a maximum of some 20 arriving/departing in 15 minutes.

The traffic generation resulting from the existing Temple's use with 114 on-site spaces comprise of 138 inbound and 38 outbound vehicles, which equates to a total of 176 vtph.

To provide a conservative assessment, the projected traffic generation will be based on the availability of the future car parking provision. The proposed 325 on-site parking spaces are 2.85 times the existing provision. Application of this potential outcome to the recorded pattern of arrivals and departures provides the peak traffic outcome of 501 vtph (393 inbound and 108 outbound).

6.2 Future Traffic Modelling Scenarios

To assess the potential traffic impact associated with the proposed multi-storey carpark and the removal of the existing driveway off the GWH, two modelling scenarios have been developed and modelled. The assessment scenarios are summarised in the following table:

Scenario No.	Access off the GWH
S1	With Access
S2	Without Access

6.3 Traffic Modelling Results for Scenario S1

The key intersections near the site were analysed under traffic conditions resulted from the existing Temple and cultural hall with the existing driveway off the GWH to confirm the future intersection operation. Details of the PM peak hour traffic volumes at the key intersections are illustrated in the following figure. The outcome of the

assessment for Scenario S1 are summarised in the following with SIDRA outputs provided in Appendix D:

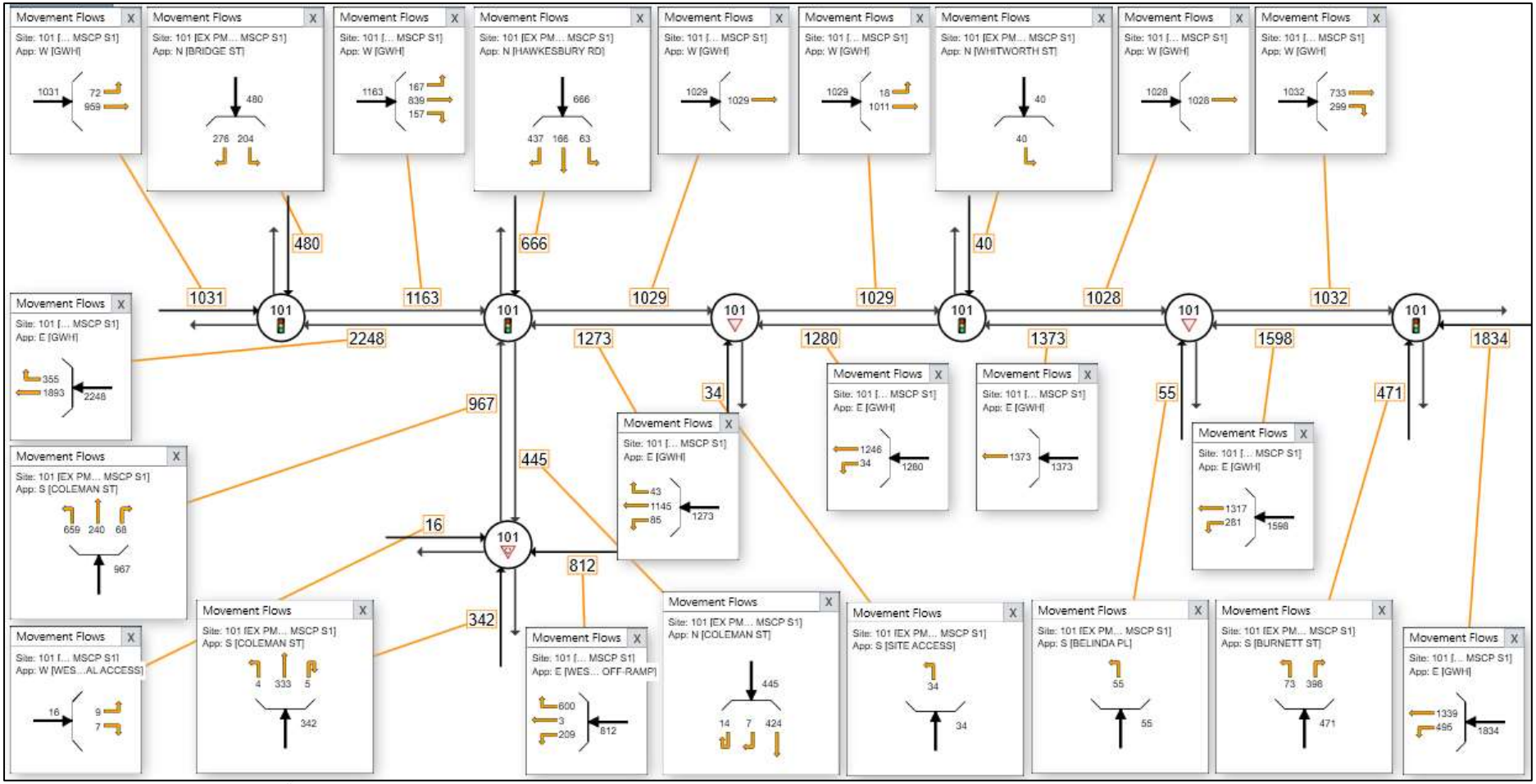
	PM	
	LOS	**AVD (S)**
Site Access/Great Western Highway	A	8*
Belinda Place/Great Western Highway	A	7*
Whitworth Avenue/Great Western Highway	A	4**
Coleman Street/Great Western Highway	D	52**
Bridge Road/Great Western Highway	C	32**
Coleman Street/M4 off-ramp	B	19*
Burnett Street/Great Western Highway	D	50**

** Worst movement reported for unsignalised intersection.*

*** With signal optimisation*

There are two access points and this will be more than adequate to accommodate these movements, which would only occur infrequently of particular relevance is the fact that the peak activity times will not coincide with normal on-street peak periods.

Cars turning out of the GWH driveway have regular gaps available in the westbound flow in the Highway created by the operation of the Whitworth Street traffic signals. Likewise, cars turning out of Belinda Place will have the benefit of gaps in the westbound flow created by the operation of the traffic signals to the east and there are excellent sight distances available at the two access points onto the Highway.


Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1031
72
959
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: N [BRIDGE ST]
480
276 204
Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1163
167
839
157
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: N [HAWKESBURY RD]
666
437 166 63
Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1029
1029
Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1029
18
1011
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: N [WHITWORTH ST]
40
40
Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1028
1028
Movement Flows
Site: 101 [... MSCP S1]
App: W [GWH]
1032
733
299
480
666
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1031
1163
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101
2248
1273
1280
1373
1598
1834
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
355
1893
2248
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34
55
471
445
16
812
342
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: S [COLEMAN ST]
659 240 68
967
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
43
1145
85
1273
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
1246
34
1280
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
1373
1373
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
1317
281
1598
Movement Flows
Site: 101 [... MSCP S1]
App: W [WES...AL ACCESS]
16
9
7
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: S [COLEMAN ST]
4 333 5
342
Movement Flows
Site: 101 [... MSCP S1]
App: E [WES... OFF-RAMP]
600
3
209
812
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: N [COLEMAN ST]
445
14 7 424
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: S [SITE ACCESS]
34
34
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: S [BELINDA PL]
55
55
Movement Flows
Site: 101 [EX PM... MSCP S1]
App: S [BURNETT ST]
73 398
471
Movement Flows
Site: 101 [... MSCP S1]
App: E [GWH]
1339
495
1834

6.4 Traffic Modelling Results for Scenario S2

Under Scenario 2, the key intersections were analysed with the proposed carpark and the removal of the existing driveway off the GWH. Details of the PM peak hour traffic volumes at the key intersections and SIDRA Network without the existing driveway, are illustrated in the following figures.

The expected future operating conditions of the key intersections without the access off the GWH and with the proposed development, are summarised in the following with SIDRA outputs provided in Appendix D:

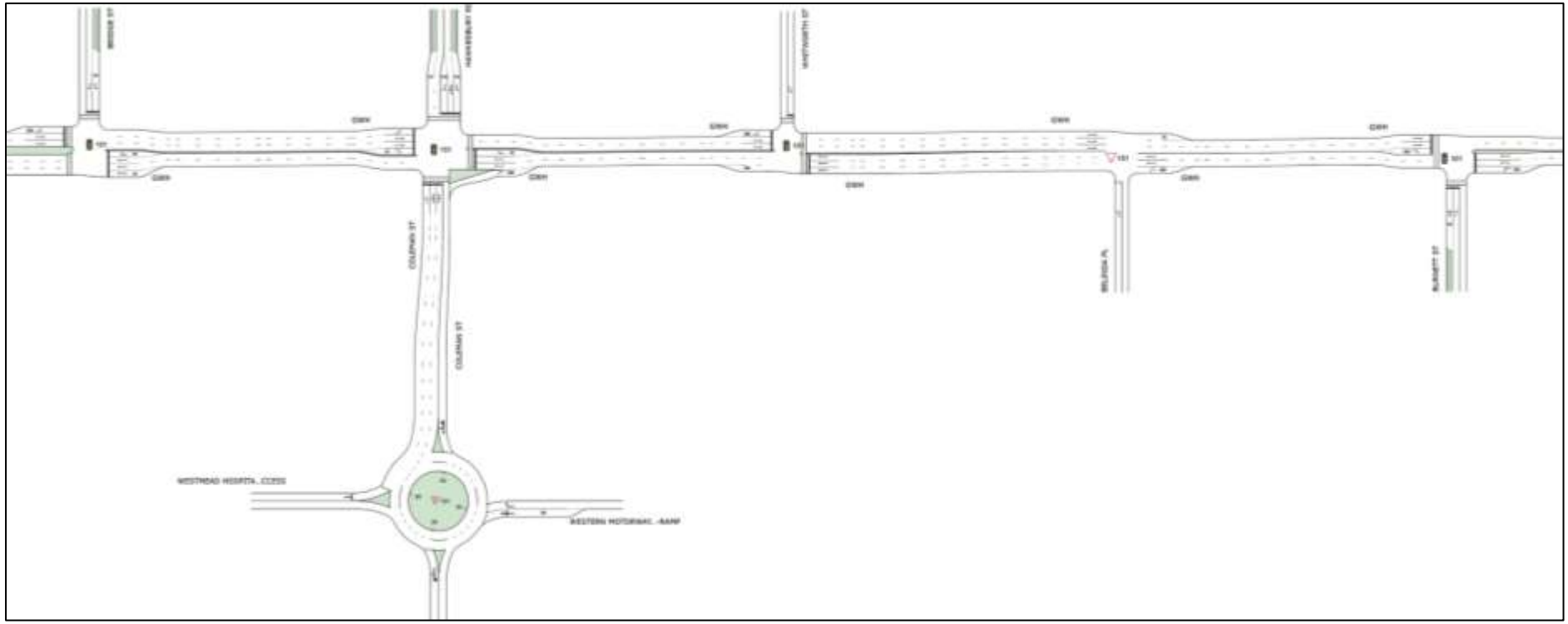
	PM	
	LOS	**AVD (S)**
Belinda Place/Great Western Highway	A	7*
Whitworth Avenue/Great Western Highway	A	4**
Coleman Street/Great Western Highway	D	54**
Bridge Road/Great Western Highway	C	32**
Coleman Street/M4 off-ramp	B	19*
Burnett Street/Great Western Highway	D	50**

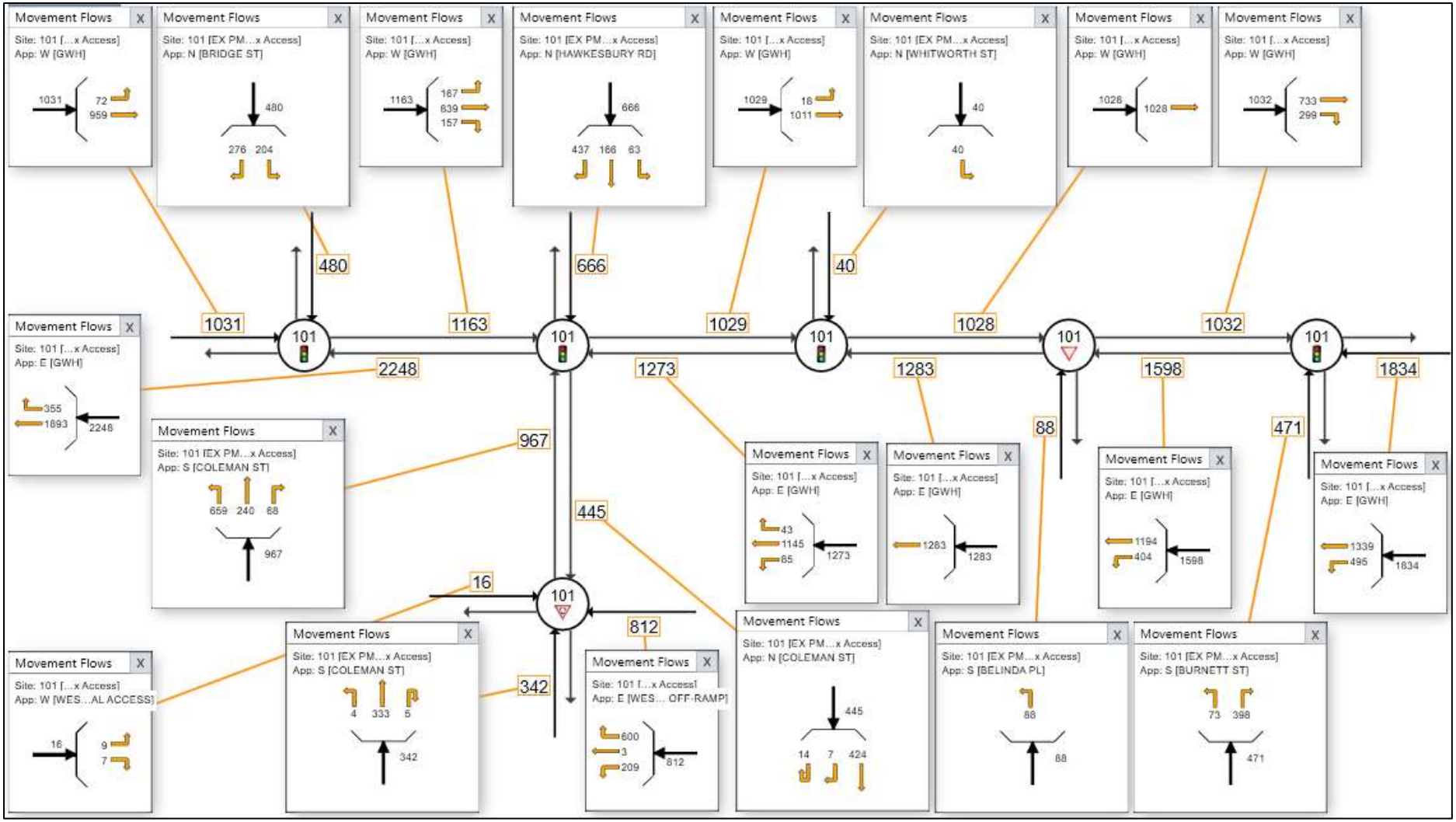
** Worst movement reported for unsignalised intersection.*

*** With signal optimisation*

The traffic impact of the proposed carpark is not perceptibly significant in the context of the surrounding road network with the removal of the existing driveway off the GWH. This is in large because the Temple's peak operating periods do not coincide with the road network peak periods.

However, the removal of the existing driveway will negatively affect the environmental capacity of Belinda Place, as detailed in the following section.




Movement Flows
Site: 101 [...x Access]
App: W [GWH]
1031
72
959
Movement Flows
Site: 101 [EX PM...x Access]
App: N [BRIDGE ST]
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276 204
Movement Flows
Site: 101 [...x Access]
App: W [GWH]
1163
167
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157
Movement Flows
Site: 101 [EX PM...x Access]
App: N [HAWKESBURY RD]
666
437 166 63
Movement Flows
Site: 101 [...x Access]
App: W [GWH]
1029
18
1011
Movement Flows
Site: 101 [EX PM...x Access]
App: N [WHITWORTH ST]
40
40
Movement Flows
Site: 101 [...x Access]
App: W [GWH]
1028
1028
Movement Flows
Site: 101 [...x Access]
App: W [GWH]
1032
733
299
Movement Flows
Site: 101 [...x Access]
App: E [GWH]
355
1893
2248
Movement Flows
Site: 101 [EX PM...x Access]
App: S [COLEMAN ST]
659 240 68
967
Movement Flows
Site: 101 [...x Access]
App: E [GWH]
43
1145
85
1273
Movement Flows
Site: 101 [...x Access]
App: E [GWH]
1283
1283
Movement Flows
Site: 101 [...x Access]
App: E [GWH]
1194
404
1598
Movement Flows
Site: 101 [...x Access]
App: E [GWH]
1339
495
1834
Movement Flows
Site: 101 [...x Access]
App: W [WES...AL ACCESS]
16
9
7
Movement Flows
Site: 101 [EX PM...x Access]
App: S [COLEMAN ST]
4 333 5
342
Movement Flows
Site: 101 [...x Access]
App: E [WES... OFF-RAMP]
600
3
209
812
Movement Flows
Site: 101 [EX PM...x Access]
App: N [COLEMAN ST]
445
14 7 424
Movement Flows
Site: 101 [EX PM...x Access]
App: S [BELINDA PL]
88
88
Movement Flows
Site: 101 [EX PM...x Access]
App: S [BURNETT ST]
73 398
471
101
480
666
40
1031
1163
1029
1028
1032
2248
1273
1283
1598
1834
967
445
88
471
16
812
342

6.5 Environmental Capacity

The environmental capacities, as indicated in the RMS Guidelines, should be used to assess the traffic impact of the proposed development. Environmental capacity is the volume of moving vehicles which can be accommodated on a road or area, having regard to the need to maintain its environmental standards. This is the traffic volume threshold when the residents living along the roads felt that their roads are busier, noisier, less safe and have less personal involvement and/or knowledge of their neighbours. Belinda Place is a collector.

The RMS Guidelines provide an indicative desirable environment and absolute maximum capacity in relation to a collector, as follows:

	vtph	
	Environmental Goal	**Absolute Maximum**
Collector	300	500

The traffic surveys and traffic assessment outcome indicate the traffic movements along Belinda Place for the existing and post-development circumstances, as follows:

	vtph
Existing	13
Post Development - Scenario 1 (with existing driveway off the GWH)	13+344 (357)
Post Development - Scenario 2 (without existing driveway off the GWH)	13+501 (514)

The assessment indicates that the traffic on Belinda Place will exceed the absolute maximum environmental capacity without the existing driveway off the GWH. As such, the existing driveway should be maintained in order to ensure that the environmental capacity of Belinda Place remains uncompromised in terms of pedestrian safety and delay as well as noise issues towards residents/tenants within the current and future developments along Belinda Place.

7.0 Parking, Internal Circulation and Servicing

7.1 Parking and Internal Circulation

The car parking spaces and vehicle aisles have been designed with a minimum width of 2.6m and 6m respectively in accordance to AS2890.1 and Council's DCP.

The design of the internal circulation arrangements will comply with the requirements of AS2890.1, 2 & 6.

Adequate provision has been made for vehicle turning and manoeuvring within a flexible two-way circulation arrangement in the new carpark within the ground level and Level 1. One-way flow systems are proposed within Levels 2, 3 and rooftop to helps avoid congestion by allowing other vehicles to pass another vehicle waiting to enter a parking space.

Directional and give-way signages and line-marking will be provided to assist vehicle movements through the carpark with no clutter and repetition. These will ensure the site is laid out in a clear and simple manner, allowing for safety as well as easy understanding and movements by all users.

Details of vehicle turning assessment are provided in Appendix E.

7.2 Servicing & Loading

Refuse will be removed by the current private contract service (or per the Waste Management Plan). The loading access has been designed to accommodate an 8.8m medium rigid vehicle. Swept path assessments are provided in Appendix E, demonstrating acceptable manoeuvring in and out of Belinda Place.

7.3 Emergency Vehicles and Points of Evacuation

Access to the site by emergency vehicles is proposed via the existing driveway off the GWH and the proposed driveway on Belinda Place. This will allow the shortest paths for emergency vehicles to access the incident point.

Emergency protocols on the site would indicate a requirement for the on-site staff to assist with emergency access from the GWH and Belinda Place. All general traffic movements to the incident point would be suspended and cleared.

Similarly, points of evacuation are proposed via the GWH and Belinda Place to ensure rapid removal of people in a safe manner.

8.0 Access

The existing access driveway on the GWH frontage will be retained as part of the proposed development. The design of the existing driveway complies with the requirements of AS2890.1 and there are good sight distances available for both ingressing and egressing vehicles. Justifications to retain the existing driveway is provided in Section 9.

A new driveway will be provided on the Belinda Place cul-de-sac to serve the need of the multi-storey carpark. This new access will also be reliant upon by service and delivery vehicles. The access driveway has been designed to accord with the AS2890.1 and AS2890.2 criteria and will be located with appropriate sight distances at the intersection with Belinda Place.

An Operational Traffic Management Plan (see Appendix F) would be in place to encourage the use of Belinda Place as the main access to the proposed carpark.

8.1 Main Access via Belinda Place

The use of Belinda Place as the primary access in its current configuration is adequate due to the following:

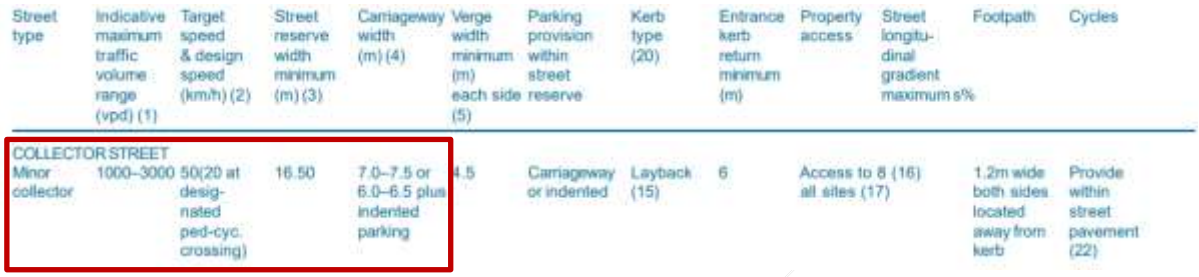
- Belinda Place has a 10.4m-wide carriageway, including 2.1m-wide kerbside parking along both sides of the road. The remaining 6.2m-wide traveled lanes allow for the safe manoeuvring of two B99 cars in both directions concurrently.
- The provision of 6.2m-wide traveled lanes are in accordance with Austroads Guide to Road Design Part 3 Geometric Design, where a 3m wide lane width is required for the use on low-speed roads with low truck volumes.

Table 4.3: Urban arterial road widths

Element	Lane width (m)	Comments
General traffic lane	3.5	General traffic lane widths to be used for all roads
	3.0–3.4	For use on low speed roads with low truck volumes

- In addition to the Austroads guidelines, reference has been made to the widely accepted Australian Model Code for Residential Development (AMCORD) in

relation to the design characteristics of the urban road. While Belinda Place is considered as an access street, its current configuration has been designed in accordance with the requirements of a minor collector. This equates to a carriageway width of 6.0m with indented parking for a minor collector.



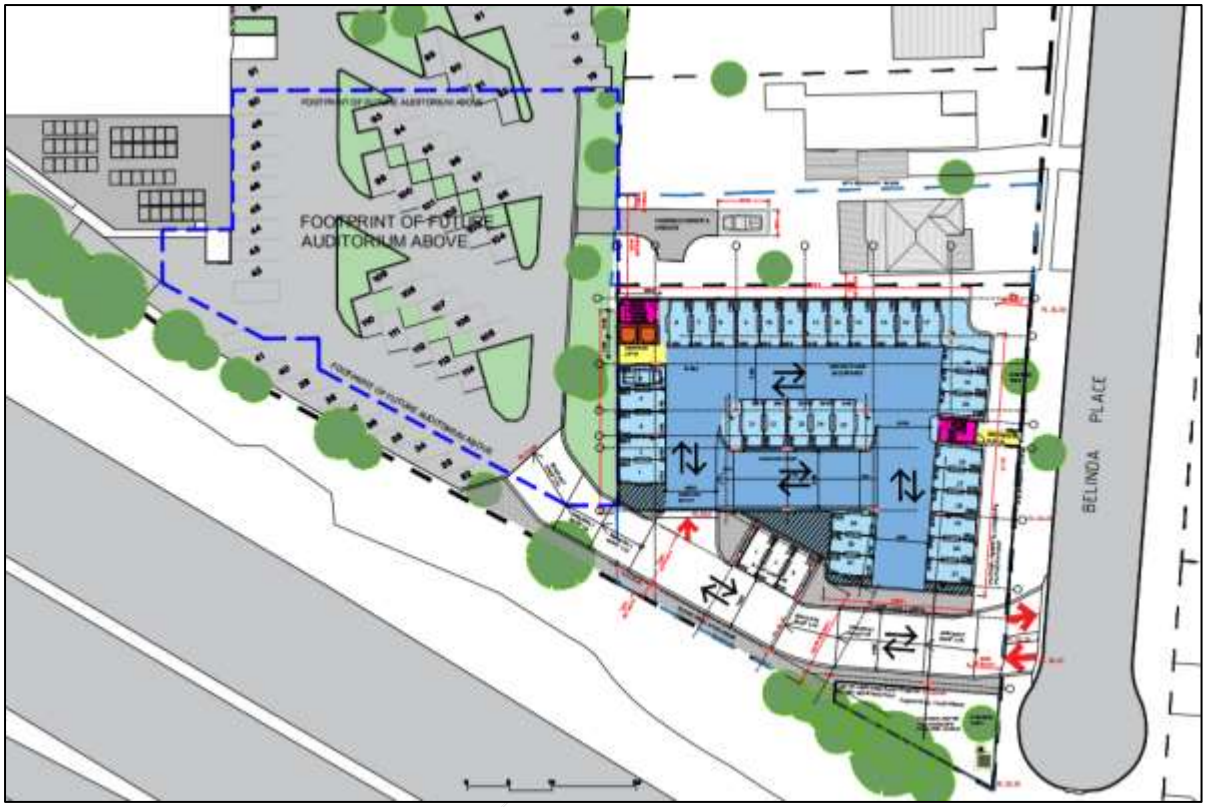
Street type	Indicative maximum traffic volume range (vpd) (1)	Target speed & design speed (km/h) (2)	Street reserve width minimum (m) (3)	Carriageway width (m) (4)	Verge width minimum (m) each side (5)	Parking provision within street reserve	Kerb type (20)	Entrance kerb return minimum (m)	Property access	Street longitu-dinal gradient maximum s%	Footpath	Cycles
COLLECTOR STREET												
Minor collector	1000–3000	50(20 at desig-nated ped-cyc. crossing)	16.50	7.0–7.5 or 6.0–6.5 plus indented parking	4.5	Carriageway or indented	Layback (15)	6	Access to 8 (16) all sites (17)		1.2m wide both sides located away from kerb	Provide within street pavement (22)

- The widening of Belinda Place will create unsafe and difficult crossing conditions for pedestrians along the footpath on Victoria Street due to the higher turning and operating speeds, longer pedestrian crossing distance and exposure to traffic as well as a greater chance the pedestrian will fall outside the line-of-sight of the driver.
- The nature of the development with vehicles generally arriving at the start of the function/event and depart at the end of the function/event. As such, the likelihood of concurrent movement of vehicles is low.

Based on the above, the existing carriageway width of Belinda Place is suitable as the primary access to the multi-storey carpark.

8.2 Alternate Access via the Proposed Road Link

A road link is proposed between the existing and new car parking facilities, as shown in the following figure. The link reduces the traffic impact on the existing road network by eliminating the recirculation of traffic to re-access the carpark in the event that the exiting on-grade carpark or the new multi-storey carpark is full.



With the surrounding road and intersection configurations, the unnecessary re-circulations of vehicles result in additional traffic on Hawkesbury Road, Amos Street, Broxbourne Street and the GWH, as shown in the following figure.

The proposed internal road link offers the following benefits:

- Movement 1: cars from existing carpark can proceed to the new carpark if the existing carpark is full
- Movement 2: cars from the new carpark can proceed to the existing carpark if the new carpark is full

9.0 Benefits of Retaining Access off Great Western Highway

Council has consulted TfNSW in regards to the proposed carpark and TfNSW has provided the following comments:

TfNSW has reviewed the development application and does not support the retaining of access via Great Western Highway as the site has vehicular access via Belinda Place (local road). In accordance with the provisions of Clause 101 (2), a of the State Environmental Planning Policy (Infrastructure) 2007, existing access on Great Western Highway should be removed, with the access being provided from the local road.

In addition to Clause 101 (2)a, the Australian Guidelines "Planning for Road Safety" is based on the widely accepted principle of conflict reduction by separating the traffic movement and land access events as much as possible. Great Western Highway is a major arterial road, which carries a high volume of traffic, where transport efficiency of through traffic is of great importance.

Clause 101(2a) of State Environmental Planning Policy (Infrastructure) 2007, which reads as follows:

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

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

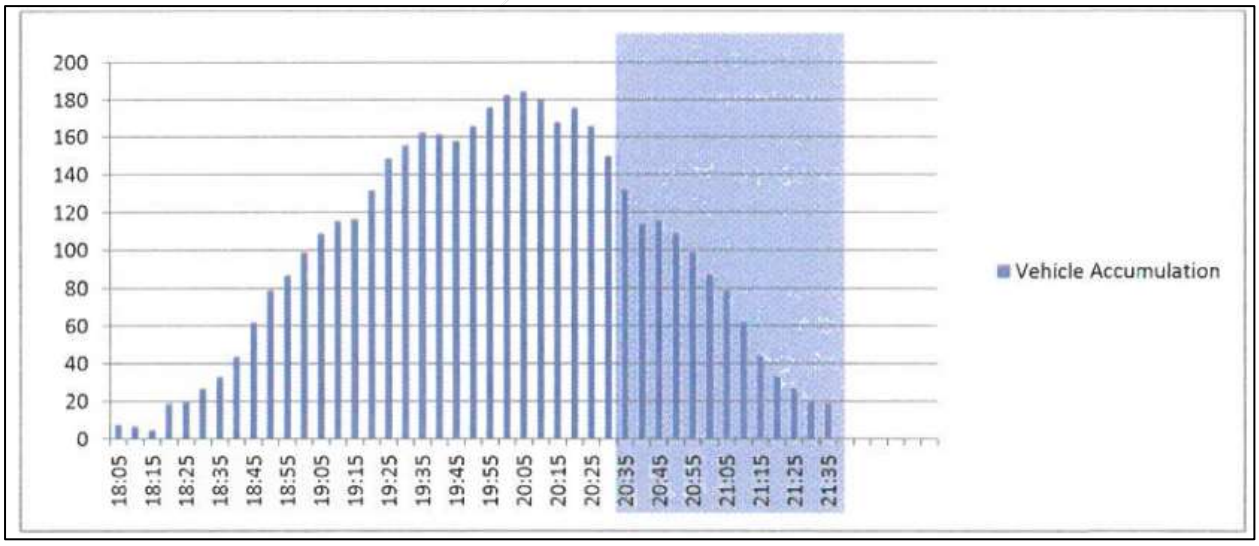
It should be noted that:

- the development on land for this DA is the proposed multi-storey carpark
- the proposed multi-storey carpark is on land that does not have frontage to the GWH. As such, access has been proposed via Belinda Place.
- the proposed road link between the existing and the proposed multi-storey carpark is not a formal access to the Temple, but to allow vehicles to travel

between the two facilities without unnecessary recirculation within the road network

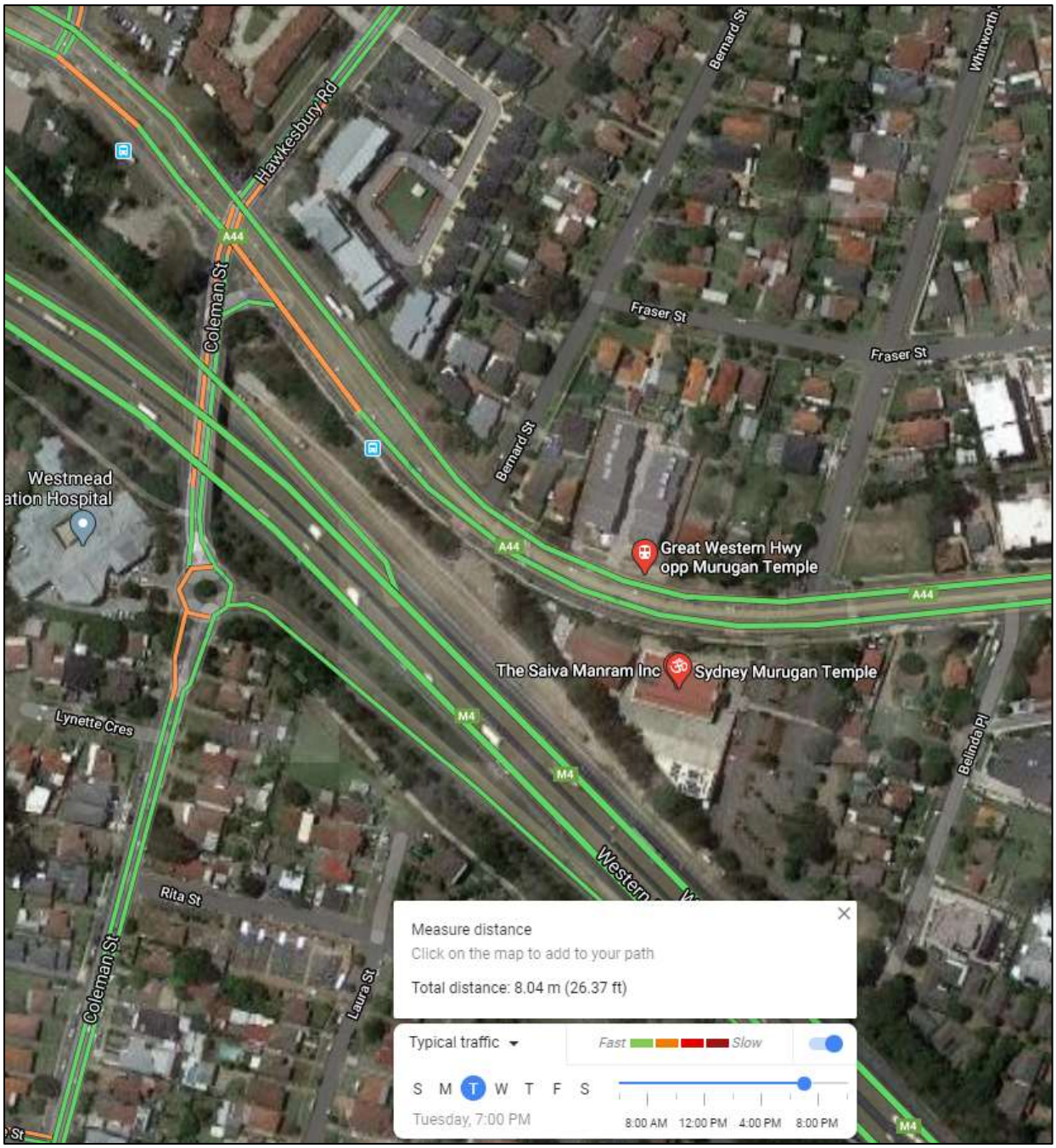
In addition to the above, TTPA considers that the existing driveway off the GWH should be retained based on the following reasons:

- It is apparent that the removal of access off the GWH will result in an increase of traffic on Belinda Place which would impact the performance of Belinda Place/Great Western Highway intersection, the environmental capacity of Belinda Place and the residential amenity of neighbouring properties (See Sections 5.3 and 5.4 for details).
- The peak weekday vehicle activity at the Temple occurs between 7.00 pm and 8.30 pm, which is the most popular time for worshippers to visit the Temple. See the visitation profile below derived from the survey provided in Appendix A.

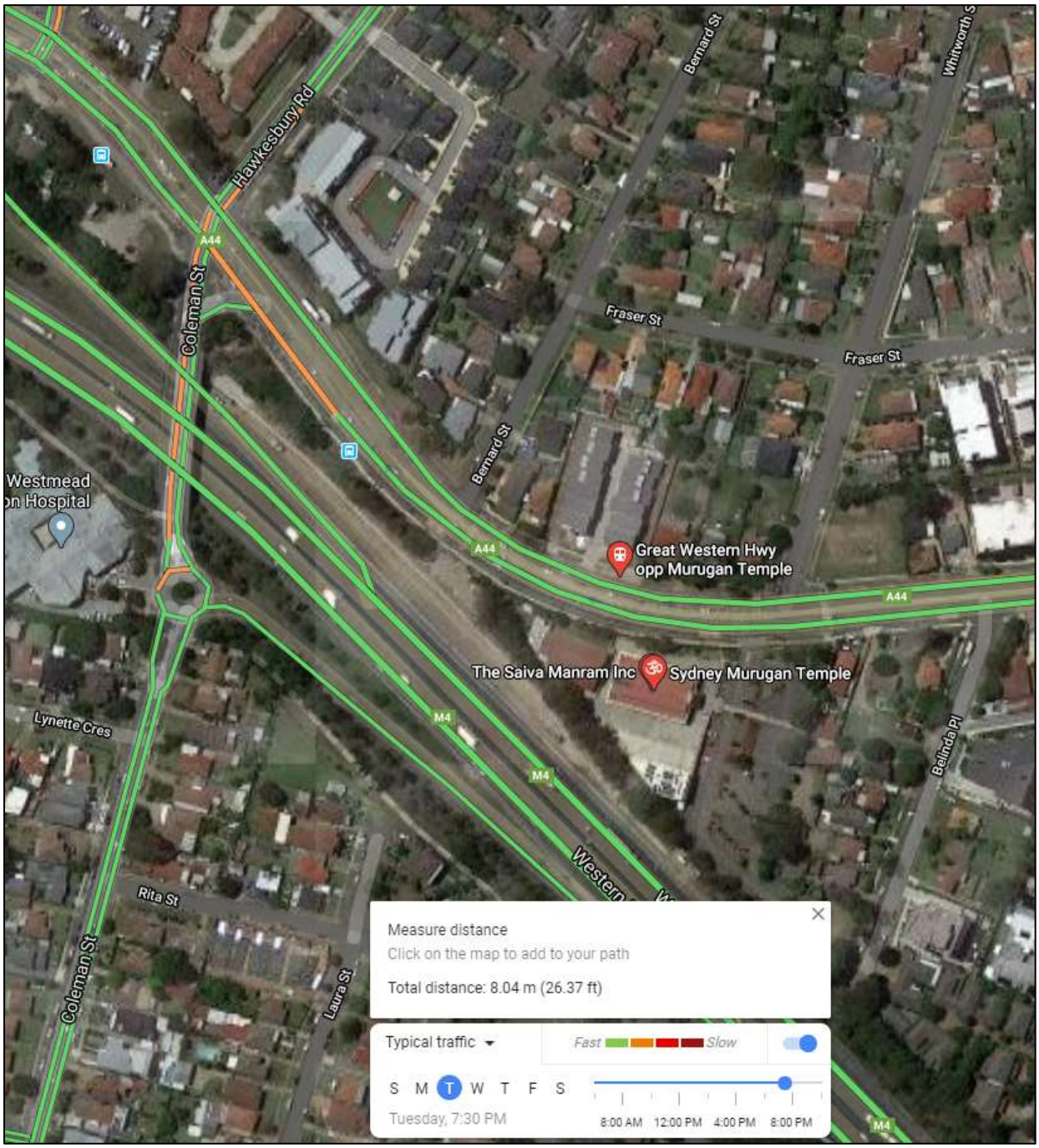


- Adequate gaps are available in the westbound traffic flow on the GWH to enable vehicles to enter and exit the Temple's driveway without any adverse impact on the GWH traffic movements. See the following snapshots of Google Traffic along The Great Western Highway adjacent to the site.

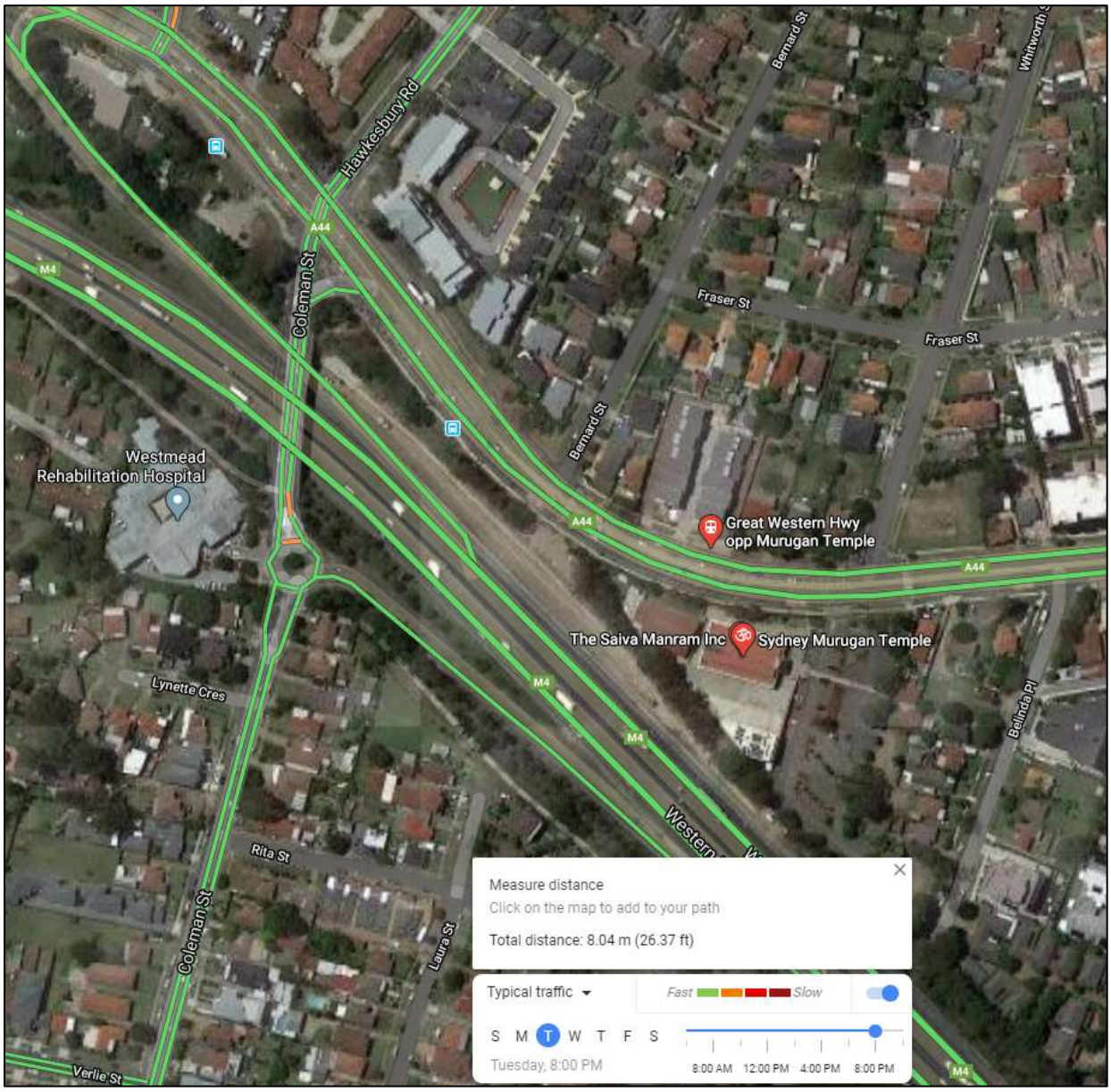
Tuesday at 7.00 pm



Tuesday at 7.30pm



Tuesday at 8.00 pm

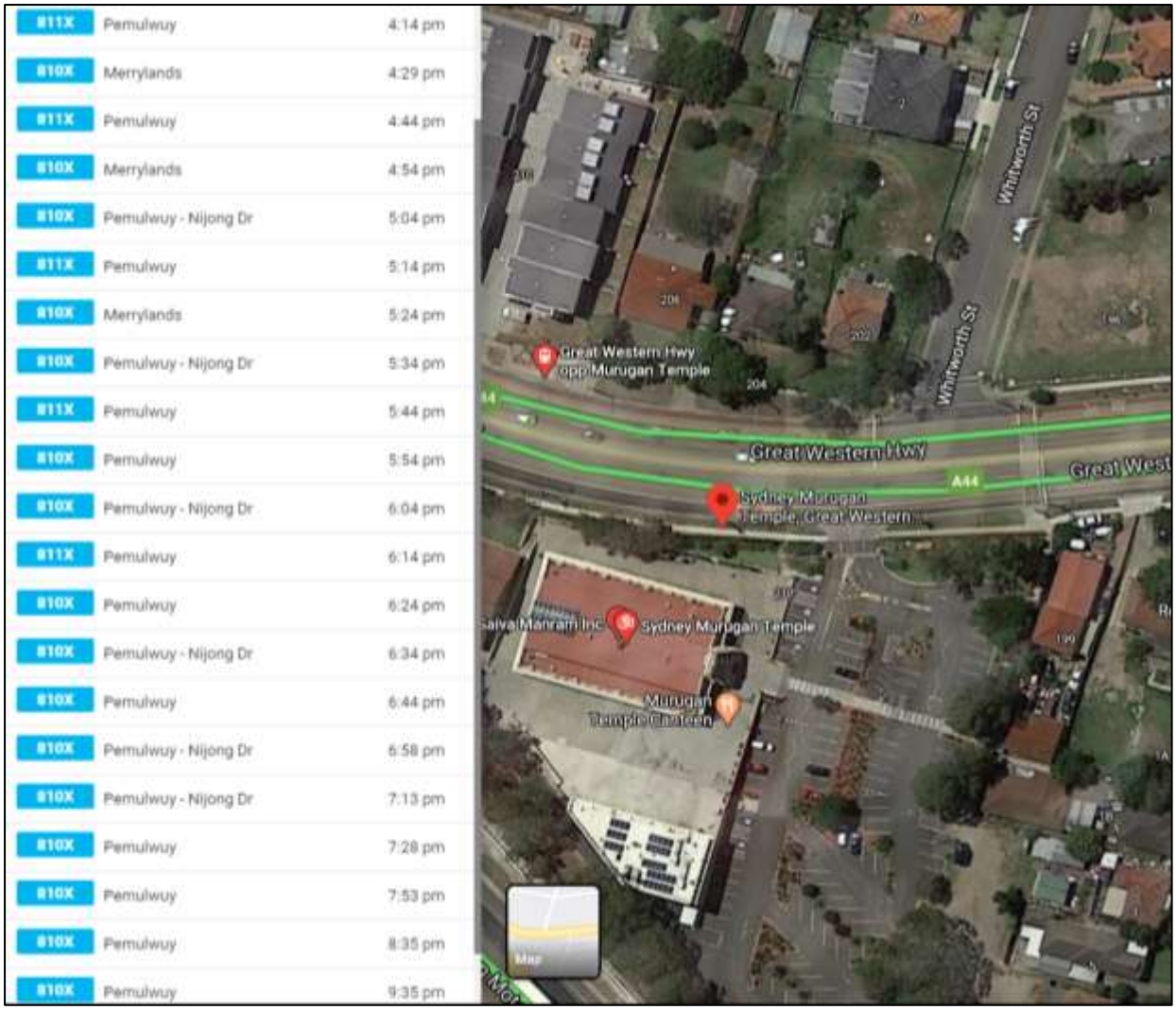


The above traffic data is also confirmed by the TfNSW Traffic Volume Viewer for the count station on Great Western Highway east of Liverpool-Parramatta Transitway, as shown in the following figure.

Source: https://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/aadt-map/index.html#/?z=16&q=Mays%20Hill%20NSW,%20Australia&id=68025&df=1&yr=2020

The traffic profile indicates that the peak period of the westbound traffic occurs between 5 pm and 6 pm, with a significant drop in volumes after 7.00 pm (i.e., during the peak visitation time for the Temple).

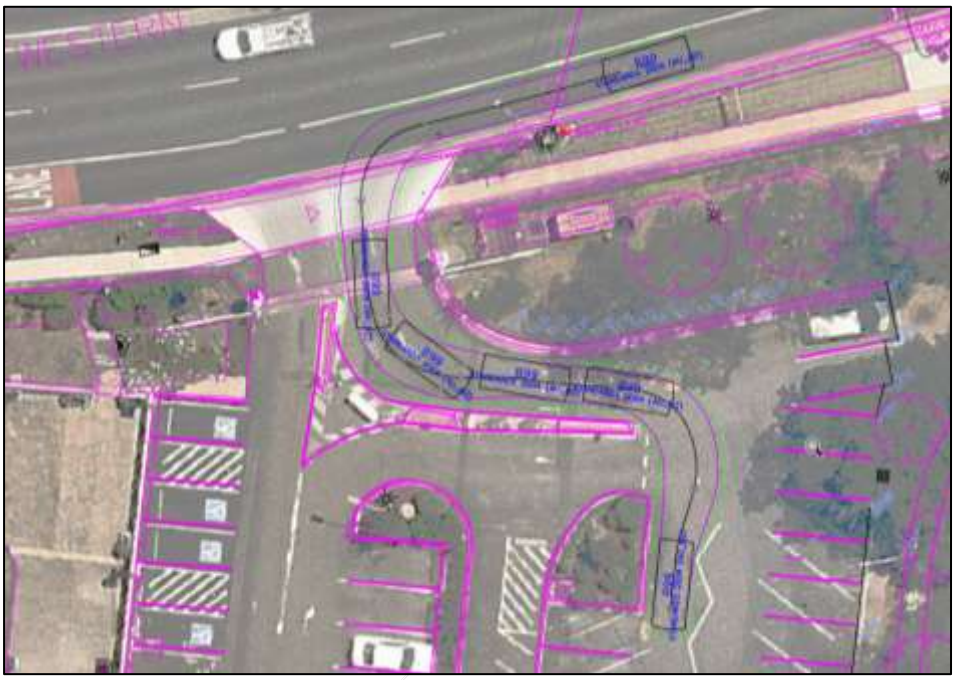
- There is a Bus Lane along the westbound kerbside lane. However, a review of the bus timetables for routes 810X and 811X indicates there are only 4 buses along the GWH during the PM peak hours and only 3 buses during the Temple's peak hours between 7.00 pm and 8.30 pm (See the following figure).



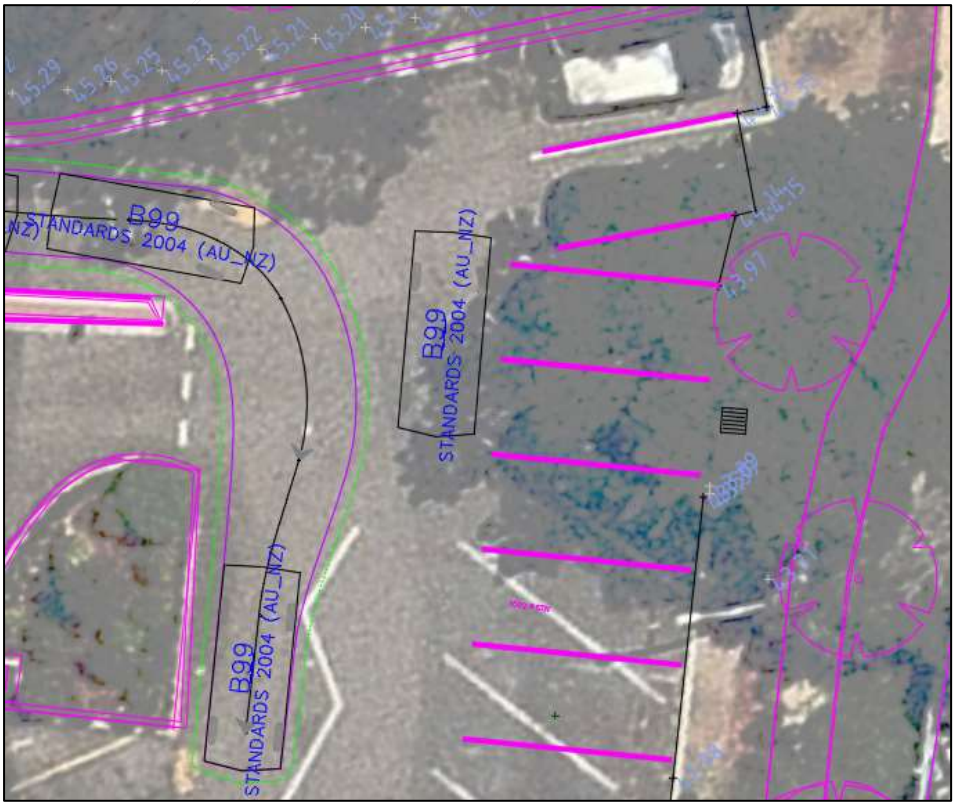
The location and nature of the existing Temple driveway offer significant benefits and avoids any adverse traffic impacts as follows:

- The driveway has very generous provision for ingress and egress movements which can be made smoothly and expeditiously
- The left-turn ingress is from an infrequently utilised bus lane (i.e., acts as a de facto deceleration lane)
- The driveway is located just downstream of the Whitworth Street intersection traffic signals (which are heavily utilised during the Temple's visitation times) and the traffic operation facilitates the driveway egress (i.e., gaps provided in the westbound flow)

- There is a significant segregated queuing area (24m) within the side before ingressing cars travel past parking spaces. See the following figure.



- There is an extensive 7.8m-wide one-way aisle to ensure passing opportunity should the first vehicle is waiting on the aisle for another car to exit the parking spaces. See the following figure.



- The left-turn egress can be made into the Bus Lane without impacting the traffic movements in Lanes 2 and 3. These vehicles can slowly and safely merge onto the westbound through lanes, especially for heavy vehicles out of the site.

It is considered that the traffic generated by the proposed carpark development will have a negligible impact on the traffic movements (including buses) along the GWH.

The existing Temple's driveway on the GWH offers traffic-related benefits not only to the Temple's visitors but also to the general traffic along Great Western Highway and community along surrounding local roads:

- Left turning out of the GWH access will reduce the number of vehicles having to travel past the intersection of Whitworth/ Great Western Highway, thus increasing the capacity of this intersection
- The existing driveway allows faster dispersal of traffic from the site, minimising the traffic impact on Belinda Place, thus, ensuring that the environmental capacity of Belinda Place is not exceeded during special Temple events.

10.0 Road Safety

Road safety audit findings by J. Wyndham Prince and associated TTPA's response are provided in Appendix G.

11.0 Conclusion

The traffic and parking assessment undertaken in relation to the proposed multi-storey carpark for the existing Murugan Temple use only has concluded that:

- The proposed carpark can accommodate the car parking demand associated with the existing Temple use and cultural hall as well as the special functions/major events with up to 1,100 attendees.
- The car parking provision are in accordance with the DCP requirements for the existing Temple and cultural hall use.
- The existing roadway width of Belinda Place is adequate and appropriate for the intended use of the proposed multi-storey carpark
- the proposed vehicle access on Belinda Place is in accordance with AS2890.1 and 2 design standards, and is suitable and appropriate
- the internal circulation and parking and servicing arrangements will be in accordance with the current AS2890.1, 2 and 6 design standards
- there will be no adverse traffic implications resultant to the proposed development to accommodate the existing Temple use with the retention of the existing driveway off the GWH.
- The removal of the existing driveway off the GWH will result in Belinda Place (collector) exceeding its absolute maximum environmental capacity.
- All safety concerns raised within the road safety audit findings by J. Wyndham Prince have been addressed in Appendix G.

Appendix A

Travel Survey Data

SAIVA MANRAM

TRAFFIC AND POPULATION SURVEY

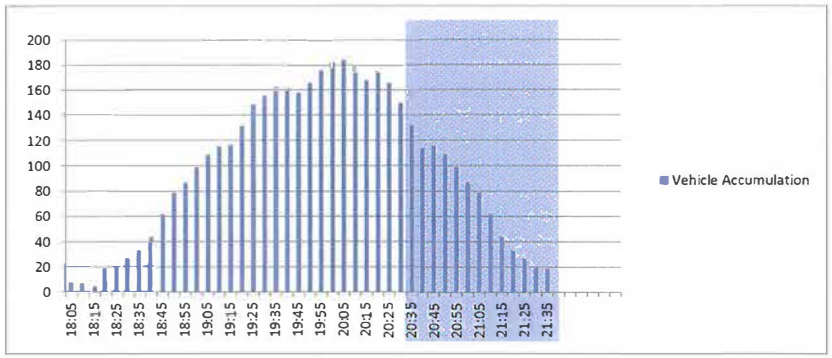
	CARS			PASSENGERS		PEDESTRIANS		Accumulation	Persons Per Car
TIME	IN	OUT	Accu	IN	OUT	IN	OUT	of attendees	
18:00									
18:05	10	2	8	21	5	7	0	23	2.8
18:10	4	5	7	7	8	3	0	25	2.5
18:15	1	3	5	1	9	5	2	20	6.0
18:20	15	1	19	28	3	1	2	44	1.9
18:25	6	5	20	13	10	4	2	49	2.8
18:30	10	3	27	25	6	6	1	73	3.1
18:35	7	1	33	13	2	7	5	86	2.9
18:40	14	3	44	27	8	14	0	119	2.9
18:45	22	4	62	40	9	6	0	156	2.1
18:50	21	4	79	41	5	19	0	211	2.9
18:55	11	3	87	25	6	6	0	236	2.8
19:00	16	4	99	34	8	3	0	265	2.3
19:05	15	5	109	33	10	4	8	284	2.5
19:10	14	7	116	30	16	3	0	301	2.4
19:15	5	4	117	12	12	22	0	323	6.8
19:20	18	3	132	32	5	10	4	356	2.3
19:25	21	4	149	54	10	14	6	408	3.2
19:30	10	3	156	22	6	11	8	427	3.3
19:35	16	9	163	33	19	12	8	445	2.8
19:40	7	8	162	23	12	8	12	452	4.4
19:45	3	7	158	11	19	13	7	450	8.0
19:50	16	8	166	27	19	5	4	459	2.0
19:55	14	4	176	36	9	11	3	494	3.4
20:00	20	13	183	46	21	8	7	520	2.7
20:05	4	2	185	10	9	6	5	522	4.0
20:10	4	8	181	7	16	2	8	507	2.3
20:15	2	15	168	3	32	6	11	473	4.5
20:20	13	5	176	31	10	4	13	485	2.7
20:25	9	19	166	22	34	2	4	471	2.7
20:30	0	16	150	0	27	0	4	440	#DIV/0!
20:35			132						
20:40			114						
20:45			116						
20:50			109						
20:55			99						
21:00			87						
21:05			79						
21:10			62						
21:15			44						
21:20			33						
21:25			27						
21:30			20						
21:35			19						
	328	178		707	365	222	124		2.8

Persons Per car

3.3 Average

8.0 Maximum

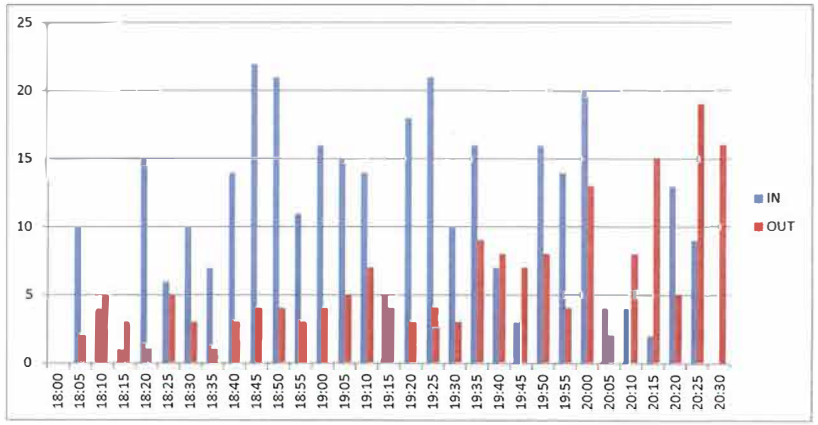
1.9 Minimum



Max Accu

Cars 185.0

People 522.0



Appendix B

Traffic Survey

R.O.A.R. DATA

Reliable, Original & Authentic Results

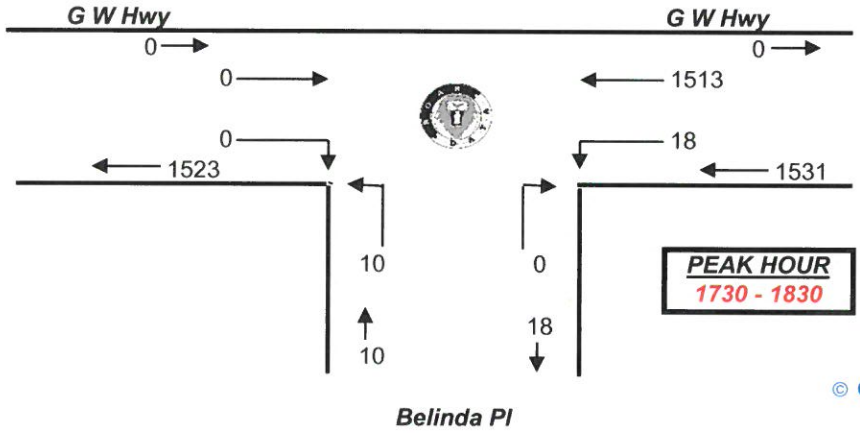
Ph.88196847, Fax 88196849, Mob.0418-239019

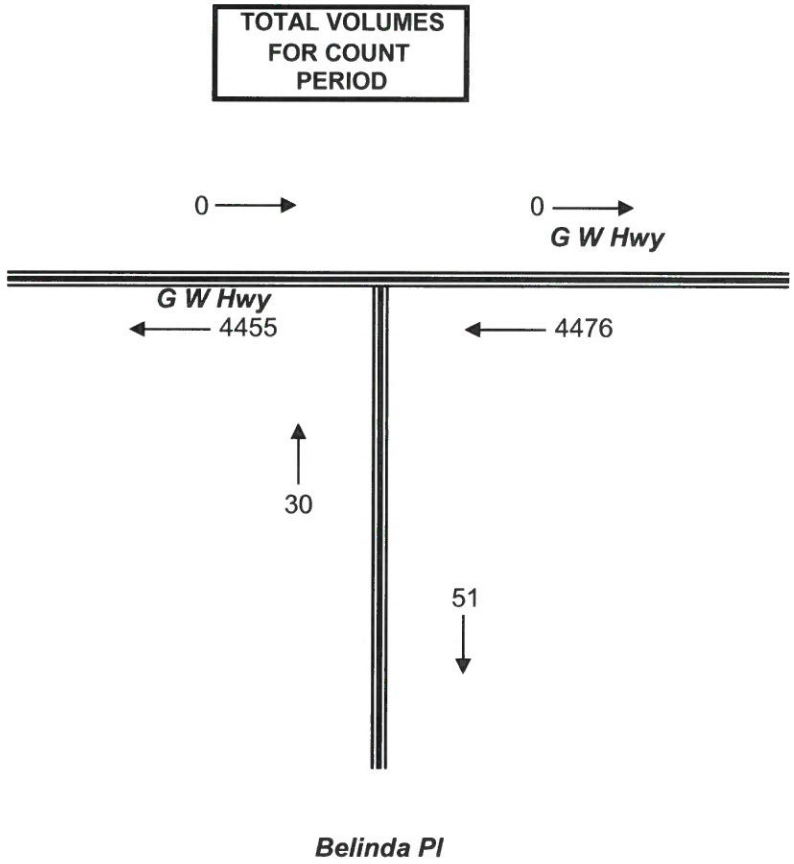
Client : T.T.P.A.
Job No/Name : 2833 MAYS HILL Temple Counts
Day/Date : Friday 19th August 2016

All Vehicles

	WEST		SOUTH		EAST		
	G W Hwy		*Belinda Pl*		*G W Hwy*		
Time Per	**R**	**T**	**L**	**R**	**T**	**L**	**TOTAL**
1600 - 1615			3		368	4	**375**
1615 - 1630			2		350	2	**354**
1630 - 1645			2		371	6	**379**
1645 - 1700			4		413	3	**420**
1700 - 1715			2		442	7	**451**
1715 - 1730			3		410	4	**417**
1730 - 1745			3		415	6	**424**
1745 - 1800			2		411	3	**416**
1800 - 1815			1		406	4	**411**
1815 - 1830			4		281	5	**290**
1830 - 1845			1		306	4	**311**
1845 - 1900			3		252	3	**258**
Period End	**0**	**0**	**30**	**0**	**4425**	**51**	**4506**

	WEST		SOUTH		EAST		
	G W Hwy		*Belinda Pl*		*G W Hwy*		
Peak Per	**R**	**T**	**L**	**R**	**T**	**L**	**TOTAL**
1600 - 1700	0	0	11	0	1502	15	**1528**
1615 - 1715	0	0	10	0	1576	18	**1604**
1630 - 1730	0	0	11	0	1636	20	**1667**
1645 - 1745	0	0	12	0	1680	20	**1712**
1700 - 1800	0	0	10	0	1678	20	**1708**
1715 - 1815	0	0	9	0	1642	17	**1668**
1730 - 1830	0	0	10	0	1513	18	**1541**
1745 - 1845	0	0	8	0	1404	16	**1428**
1800 - 1900	0	0	9	0	1245	16	**1270**
PEAK HR	**0**	**0**	**10**	**0**	**1513**	**18**	**1541**





R.O.A.R. DATA

Reliable, Original & Authentic Results

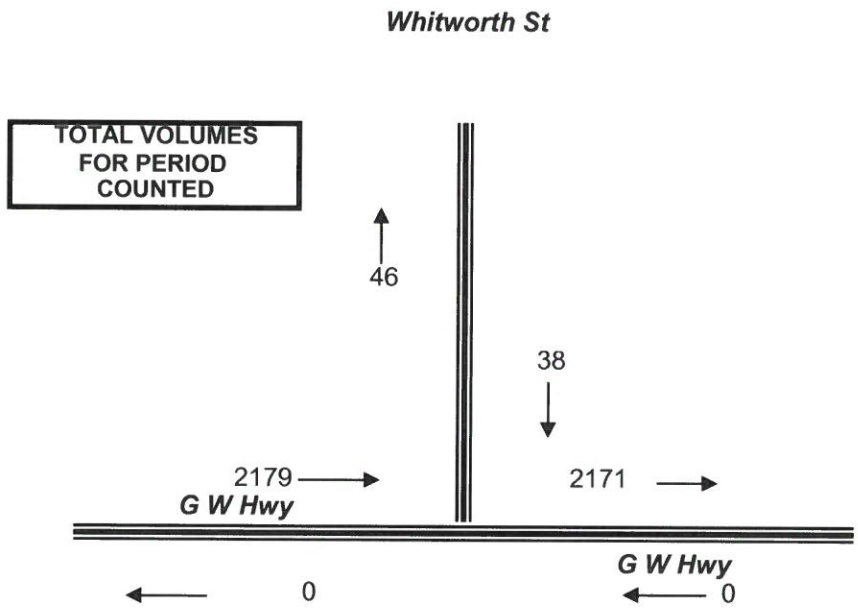
Ph.88196847, Fax 88196849, Mob.0418-239019

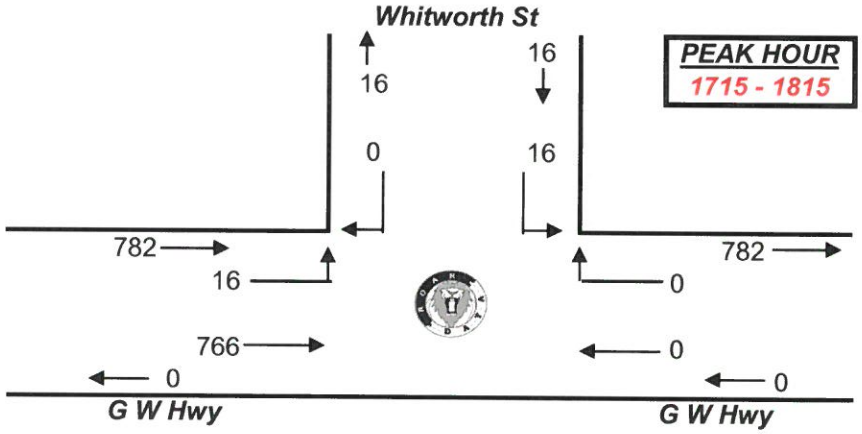
Client : T.T.P.A.
Job No/Name : 2833 MAYS HILL Temple Counts
Day/Date : Friday 19th August 2016

All Vehicles

Time Per	WEST G W Hwy L	WEST G W Hwy T	NORTH Whitworth St R	NORTH Whitworth St L	EAST G W Hwy T	EAST G W Hwy R	TOTAL
1600 - 1615	3	189		2			194
1615 - 1630	5	221		3			229
1630 - 1645	2	163		2			167
1645 - 1700	2	190		3			195
1700 - 1715	4	152		5			161
1715 - 1730	3	190		3			196
1730 - 1745	5	209		6			220
1745 - 1800	5	188		3			196
1800 - 1815	3	179		4			186
1815 - 1830	5	152		2			159
1830 - 1845	4	155		3			162
1845 - 1900	5	145		2			152
Period End	**46**	**2133**	**0**	**38**	**0**	**0**	**2217**

Peak Per	WEST G W Hwy L	WEST G W Hwy T	NORTH Whitworth St R	NORTH Whitworth St L	EAST G W Hwy T	EAST G W Hwy R	TOTAL
1600 - 1700	12	763	0	10	0	0	785
1615 - 1715	13	726	0	13	0	0	752
1630 - 1730	11	695	0	13	0	0	719
1645 - 1745	14	741	0	17	0	0	772
1700 - 1800	17	739	0	17	0	0	773
1715 - 1815	16	766	0	16	0	0	798
1730 - 1830	18	728	0	15	0	0	761
1745 - 1845	17	674	0	12	0	0	703
1800 - 1900	17	631	0	11	0	0	659
PEAK HR	**16**	**766**	**0**	**16**	**0**	**0**	**798**





N

TIS ATC REPORT
SOUTHBOUND

BELINDA PLACE35 -- English (ENA)

Datasets:

Site:	**[BELINDA PLACE] BELINDA PLACE**
Attribute:	MAYS HILL
Direction:	3 - South bound, A trigger first. **Lane:** 2
Survey Duration:	2:04 Friday, 20 September 2019 => 19:28 Thursday, 3 October 2019,
Zone:	
File:	BELINDA PLACE 0 2019-10-03 1928.EC2 (Plus)
Identifier:	QX929SWV MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**2:05 Friday, 20 September 2019 => 0:00 Saturday, 21 September 2019 (0.913194)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	BA , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	TIS-BA
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)

Column Legend:

0 [Time]	24-hour time (0000 - 2359)
1 [Total]	Number in time step
2 [Cls]	Class totals
3 [Mean]	Average speed
4 [Vpp]	Percentile speed

*** Friday, 20 September 2019**

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Mean	Vpp 85
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	4	4	0	0	0	0	0	0	0	0	0	0	0	28.2	-
0600	7	7	0	0	0	0	0	0	0	0	0	0	0	29.2	-
0700	8	8	0	0	0	0	0	0	0	0	0	0	0	29.5	-
0800	13	13	0	0	0	0	0	0	0	0	0	0	0	30.4	35.3
0900	3	3	0	0	0	0	0	0	0	0	0	0	0	22.4	-
1000	1	1	0	0	0	0	0	0	0	0	0	0	0	19.0	-
1100	4	4	0	0	0	0	0	0	0	0	0	0	0	22.2	-
1200	1	1	0	0	0	0	0	0	0	0	0	0	0	46.4	-
1300	3	3	0	0	0	0	0	0	0	0	0	0	0	27.9	-
1400	4	4	0	0	0	0	0	0	0	0	0	0	0	24.4	-
1500	6	6	0	0	0	0	0	0	0	0	0	0	0	24.1	-
1600	6	6	0	0	0	0	0	0	0	0	0	0	0	26.8	-
1700	2	2	0	0	0	0	0	0	0	0	0	0	0	31.9	-
1800	5	5	0	0	0	0	0	0	0	0	0	0	0	23.2	-
1900	11	11	0	0	0	0	0	0	0	0	0	0	0	21.7	30.4
2000	5	5	0	0	0	0	0	0	0	0	0	0	0	22.9	-
2100	5	5	0	0	0	0	0	0	0	0	0	0	0	30.9	-
2200	1	1	0	0	0	0	0	0	0	0	0	0	0	30.2	-
2300	1	1	0	0	0	0	0	0	0	0	0	0	0	32.1	-
07-19	**56**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27.1**	**34.0**
06-22	**84**	**84**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26.6**	**33.8**
06-00	**86**	**86**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26.7**	**33.8**
00-00	**90**	**90**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26.7**	**33.4**

In profile: Vehicles = 90 / 705 (12.77%)

TIS ATC REPORT
NORTHBOUND

BELINDA PLACE34 -- English (ENA)

Datasets:

Site:	**[BELINDA PLACE] BELINDA PLACE**
Attribute:	MAYS HILL
Direction:	3 - South bound, A trigger first. **Lane:** 2
Survey Duration:	2:04 Friday, 20 September 2019 => 19:28 Thursday, 3 October 2019,
Zone:	
File:	BELINDA PLACE 0 2019-10-03 1928.EC2 (Plus)
Identifier:	QX929SWV MC5900-X13 (c)MetroCount 09Nov16
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**2:05 Friday, 20 September 2019 => 0:00 Saturday, 21 September 2019 (0.913194)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	AB , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	TIS-AB
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)

Column Legend:

0 [Time]	24-hour time (0000 - 2359)
1 [Total]	Number in time step
2 [Cls]	Class totals
3 [Mean]	Average speed
4 [Vpp]	Percentile speed

*** Friday, 20 September 2019**

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Mean	Vpp 85
0200	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
0600	5	5	0	0	0	0	0	0	0	0	0	0	0	33.2	-
0700	4	4	0	0	0	0	0	0	0	0	0	0	0	30.1	-
0800	4	4	0	0	0	0	0	0	0	0	0	0	0	27.5	-
0900	3	3	0	0	0	0	0	0	0	0	0	0	0	31.3	-
1000	2	2	0	0	0	0	0	0	0	0	0	0	0	31.3	-
1100	1	1	0	0	0	0	0	0	0	0	0	0	0	40.6	-
1200	3	3	0	0	0	0	0	0	0	0	0	0	0	39.3	-
1300	1	1	0	0	0	0	0	0	0	0	0	0	0	29.6	-
1400	3	3	0	0	0	0	0	0	0	0	0	0	0	43.5	-
1500	5	5	0	0	0	0	0	0	0	0	0	0	0	29.7	-
1600	9	9	0	0	0	0	0	0	0	0	0	0	0	26.6	-
1700	11	11	0	0	0	0	0	0	0	0	0	0	0	30.8	43.6
1800	12	12	0	0	0	0	0	0	0	0	0	0	0	29.2	38.4
1900	4	4	0	0	0	0	0	0	0	0	0	0	0	25.6	-
2000	10	10	0	0	0	0	0	0	0	0	0	0	0	27.1	-
2100	6	6	0	0	0	0	0	0	0	0	0	0	0	29.5	-
2200	6	6	0	0	0	0	0	0	0	0	0	0	0	27.9	-
2300	2	2	0	0	0	0	0	0	0	0	0	0	0	29.5	-
07-19	**58**	**58**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30.7**	**38.7**
06-22	**83**	**83**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30.1**	**38.6**
06-00	**91**	**91**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30.0**	**38.4**
00-00	**91**	**91**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30.0**	**38.4**

In profile: Vehicles = 91 / 705 (12.91%)

Location	-	**Duration**	16:00 - 19:00
	Great Western Highway		-
	Burnett Street		-
	Great Western Highway	**Day/Date**	Friday, 20 September 2019
Suburb	WENTWORTHVILLE	**Weather**	-

All Vehicles Time Per 15 Mins			NORTH -										EAST *Great Western Highway*											
			L			T			R			TOTAL	L			T			R			TOTAL	TOTAL		TOTAL
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
16:00	-	**16:15**											97	0	**97**	258	10	**268**				**365**	673	22	**695**
16:15	-	**16:30**											117	0	**117**	312	5	**317**				**434**	758	9	**767**
16:30	-	**16:45**											85	1	**86**	308	8	**316**				**402**	767	18	**785**
16:45	-	**17:00**											93	3	**96**	280	6	**286**				**382**	687	16	**703**
17:00	-	**17:15**											138	1	**139**	247	10	**257**				**396**	708	19	**727**
17:15	-	**17:30**											123	1	**124**	290	11	**301**				**425**	754	18	**772**
17:30	-	**17:45**											107	2	**109**	290	10	**300**				**409**	736	23	**759**
17:45	-	**18:00**											121	2	**123**	313	10	**323**				**446**	783	19	**802**
18:00	-	**18:15**											100	0	**100**	237	7	**244**				**344**	664	12	**676**
18:15	-	**18:30**											92	0	**92**	304	5	**309**				**401**	722	10	**732**
18:30	-	**18:45**											90	0	**90**	256	11	**267**				**357**	674	13	**687**
18:45	-	**19:00**											69	3	**72**	235	6	**241**				**313**	636	14	**650**
Period End													**1232**	**13**	**1245**	**3330**	**99**	**3429**				**4674**	**8562**	**193**	**8755**

All Vehicles Time Per 15 Mins			SOUTH *Burnett Street*										WEST *Great Western Highway*											
			L			T			R			TOTAL	L			T			R			TOTAL	TOTAL		TOTAL
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
16:00	-	**16:15**	15	0	**15**				83	3	**86**	**101**				154	9	**163**	66	0	**66**	**229**	673	22	**695**
16:15	-	**16:30**	12	0	**12**				91	1	**92**	**104**				174	3	**177**	52	0	**52**	**229**	758	9	**767**
16:30	-	**16:45**	20	0	**20**				97	0	**97**	**117**				175	9	**184**	82	0	**82**	**266**	767	18	**785**
16:45	-	**17:00**	13	0	**13**				99	1	**100**	**113**				138	6	**144**	64	0	**64**	**208**	687	16	**703**
17:00	-	**17:15**	9	0	**9**				94	0	**94**	**103**				152	7	**159**	68	1	**69**	**228**	708	19	**727**
17:15	-	**17:30**	12	0	**12**				105	0	**105**	**117**				156	5	**161**	68	1	**69**	**230**	754	18	**772**
17:30	-	**17:45**	4	0	**4**				99	3	**102**	**106**				178	8	**186**	58	0	**58**	**244**	736	23	**759**
17:45	-	**18:00**	9	0	**9**				96	1	**97**	**106**				199	6	**205**	45	0	**45**	**250**	783	19	**802**
18:00	-	**18:15**	11	0	**11**				98	0	**98**	**109**				171	4	**175**	47	1	**48**	**223**	664	12	**676**
18:15	-	**18:30**	13	0	**13**				82	0	**82**	**95**				185	5	**190**	46	0	**46**	**236**	722	10	**732**
18:30	-	**18:45**	13	0	**13**				73	0	**73**	**86**				185	2	**187**	57	0	**57**	**244**	674	13	**687**
18:45	-	**19:00**	21	0	**21**				88	0	**88**	**109**				176	4	**180**	47	1	**48**	**228**	636	14	**650**
Period End			**152**	**0**	**152**				**1105**	**9**	**1114**	**1266**				**2043**	**68**	**2111**	**700**	**4**	**704**	**2815**	**8562**	**193**	**8755**

Location	-		**Duration**	16:00 - 19:00	
	Great Western Highway			-	
	Burnett Street			-	
	Great Western Highway		**Day/Date**	Friday, 20 September 2019	
Suburb	WENTWORTHVILLE		**Weather**	-	

All Vehicles Time Per Hour	NORTH -										EAST *Great Western Highway*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
16:00 - 17:00											392	4	**396**	1158	29	**1187**				**1583**	2885	65	**2950**
16:15 - 17:15											433	5	**438**	1147	29	**1176**				**1614**	2920	62	**2982**
16:30 - 17:30											439	6	**445**	1125	35	**1160**				**1605**	2916	71	**2987**
16:45 - 17:45											461	7	**468**	1107	37	**1144**				**1612**	2885	76	**2961**
17:00 - 18:00											489	6	**495**	1140	41	**1181**				**1676**	2981	79	**3060**
17:15 - 18:15											451	5	**456**	1130	38	**1168**				**1624**	2937	72	**3009**
17:30 - 18:30											420	4	**424**	1144	32	**1176**				**1600**	2905	64	**2969**
17:45 - 18:45											403	2	**405**	1110	33	**1143**				**1548**	2843	54	**2897**
18:00 - 19:00											351	3	**354**	1032	29	**1061**				**1415**	2696	49	**2745**
Period End											**3839**	**42**	**3881**	**10093**	**303**	**10396**				**14277**	**25968**	**592**	**26560**

All Vehicles Time Per Hour	SOUTH *Burnett Street*										WEST *Great Western Highway*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
16:00 - 17:00	60	0	**60**				370	5	**375**	**435**				641	27	**668**	264	0	**264**	**932**	2885	65	**2950**
16:15 - 17:15	54	0	**54**				381	2	**383**	**437**				639	25	**664**	266	1	**267**	**931**	2920	62	**2982**
16:30 - 17:30	54	0	**54**				395	1	**396**	**450**				621	27	**648**	282	2	**284**	**932**	2916	71	**2987**
16:45 - 17:45	38	0	**38**				397	4	**401**	**439**				624	26	**650**	258	2	**260**	**910**	2885	76	**2961**
17:00 - 18:00	34	0	**34**				394	4	**398**	**432**				685	26	**711**	239	2	**241**	**952**	2981	79	**3060**
17:15 - 18:15	36	0	**36**				398	4	**402**	**438**				704	23	**727**	218	2	**220**	**947**	2937	72	**3009**
17:30 - 18:30	37	0	**37**				375	4	**379**	**416**				733	23	**756**	196	1	**197**	**953**	2905	64	**2969**
17:45 - 18:45	46	0	**46**				349	1	**350**	**396**				740	17	**757**	195	1	**196**	**953**	2843	54	**2897**
18:00 - 19:00	58	0	**58**				341	0	**341**	**399**				717	15	**732**	197	2	**199**	**931**	2696	49	**2745**
Period End	**417**	**0**	**417**				**3400**	**25**	**3425**	**3842**				**6104**	**209**	**6313**	**2115**	**13**	**2128**	**8441**	**25968**	**592**	**26560**

Location	-	**Duration**	16:00 - 19:00
	Great Western Highway		-
	Burnett Street		-
	Great Western Highway	**Day/Date**	Friday, 20 September 2019
Suburb	WENTWORTHVILLE	**Weather**	-

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
17:00	-	18:00

TOTAL

1215	41	1174	

Great Western Highway

711	26	685	
241	2	239	

	1140	41	**1181**
	489	6	**495**
	1079	30	**1109**

Great Western Highway

	34	394	728
	0	4	8
TOTAL	**34**	**398**	**736**

TOTAL

Burnett Street

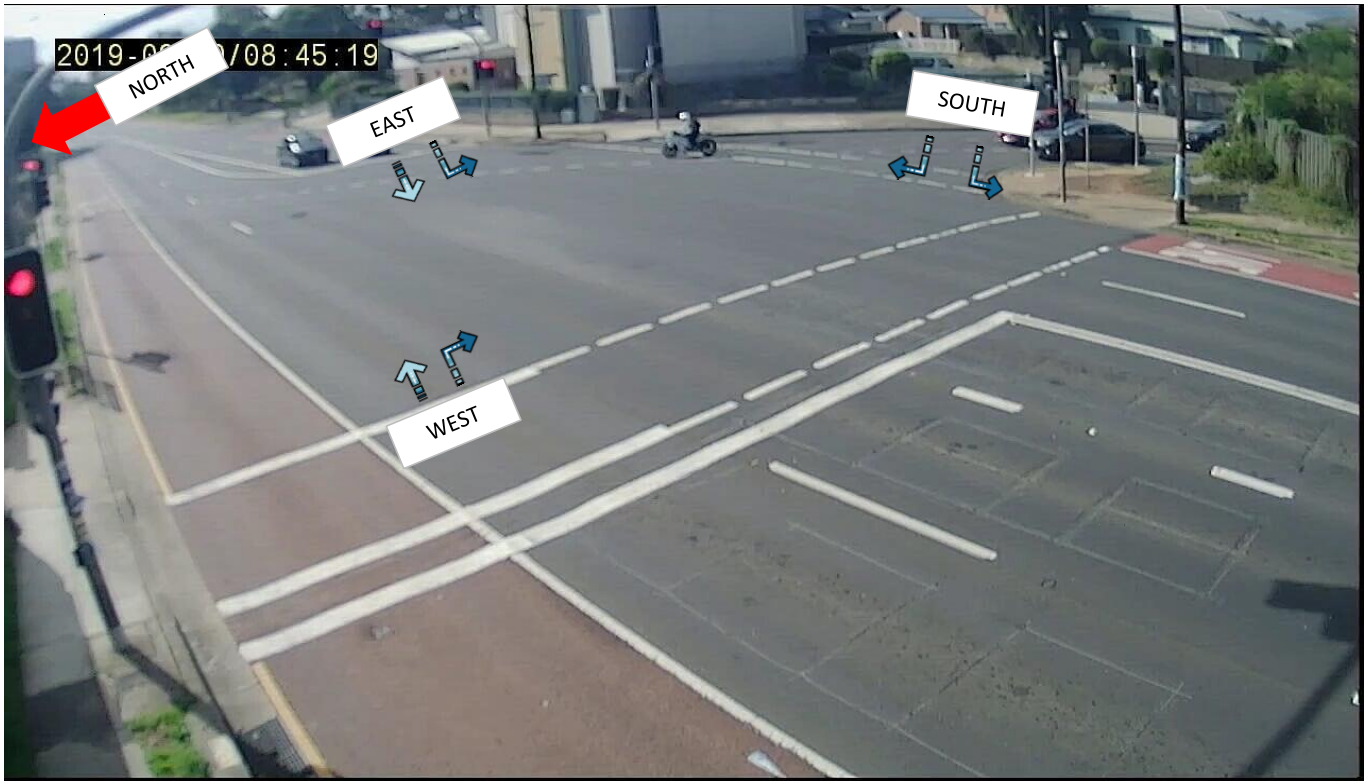
Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Intersection Name	WENTWORTHVILLE
NORTH	-
EAST	Great Western Highway
SOUTH	Burnett Street
WEST	Great Western Highway

Date & Time of Count	
Date (mm/dd/yy)	20/09/2019
Start Time	16:00
End Time	19:00



Location	Brigde Street	Duration	16:00 - 19:00
	Great Western Highway		-
	-		-
	Great Western Highway	Day/Date	Monday, 20 September 2010
Suburb	WENTWORTHVILLE	Weather	-

All Vehicles Time Per 15 Mins	NORTH *Brigde Street*										EAST *Great Western Highway*										TOTAL		TOTAL
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00 - 16:15	50	0	**50**				55	0	**55**	**105**				415	17	**432**	66	0	**66**	**498**	776	27	**803**
16:15 - 16:30	51	0	**51**				74	1	**75**	**126**				471	9	**480**	83	0	**83**	**563**	905	15	**920**
16:30 - 16:45	39	4	**43**				58	1	**59**	**102**				465	10	**475**	89	2	**91**	**566**	861	26	**887**
16:45 - 17:00	41	1	**42**				91	0	**91**	**133**				430	14	**444**	90	0	**90**	**534**	851	22	**873**
17:00 - 17:15	39	0	**39**				67	0	**67**	**106**				472	12	**484**	92	0	**92**	**576**	894	21	**915**
17:15 - 17:30	54	1	**55**				85	0	**85**	**140**				423	14	**437**	83	0	**83**	**520**	860	23	**883**
17:30 - 17:45	48	0	**48**				51	1	**52**	**100**				501	11	**512**	88	0	**88**	**600**	949	19	**968**
17:45 - 18:00	47	2	**49**				72	0	**72**	**121**				430	14	**444**	86	1	**87**	**531**	897	24	**921**
18:00 - 18:15	46	0	**46**				44	0	**44**	**90**				358	8	**366**	85	0	**85**	**451**	772	15	**787**
18:15 - 18:30	38	0	**38**				58	2	**60**	**98**				389	7	**396**	75	0	**75**	**471**	801	14	**815**
18:30 - 18:45	31	0	**31**				49	2	**51**	**84**				345	8	**353**	72	0	**72**	**425**	756	14	**770**
18:45 - 19:00	34	0	**34**				42	0	**42**	**76**				319	9	**328**	59	0	**59**	**387**	686	14	**700**
Period End	**518**	**8**	**526**				**746**	**7**	**753**	**1281**				**5018**	**133**	**5151**	**968**	**3**	**971**	**6122**	**10008**	**234**	**10242**

All Vehicles Time Per 15 Mins	SOUTH -										WEST *Great Western Highway*										TOTAL		TOTAL
	L			T			R				L			T			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00 - 16:15											9	0	**9**	181	10	**191**				**200**	776	27	**803**
16:15 - 16:30											6	1	**7**	220	4	**224**				**231**	905	15	**920**
16:30 - 16:45											7	0	**7**	203	9	**212**				**219**	861	26	**887**
16:45 - 17:00											6	0	**6**	193	7	**200**				**206**	851	22	**873**
17:00 - 17:15											16	0	**16**	208	9	**217**				**233**	894	21	**915**
17:15 - 17:30											21	0	**21**	194	8	**202**				**223**	860	23	**883**
17:30 - 17:45											16	0	**16**	245	7	**252**				**268**	949	19	**968**
17:45 - 18:00											18	1	**19**	244	6	**250**				**269**	897	24	**921**
18:00 - 18:15											12	1	**13**	227	6	**233**				**246**	772	15	**787**
18:15 - 18:30											11	0	**11**	230	5	**235**				**246**	801	14	**815**
18:30 - 18:45											15	0	**15**	242	4	**246**				**261**	756	14	**770**
18:45 - 19:00											17	0	**17**	215	5	**220**				**237**	686	14	**700**
Period End											**154**	**3**	**157**	**2602**	**80**	**2682**				**2839**	**10008**	**234**	**10242**

Location	Brigde Street		**Duration**	16:00 - 19:00	
	Great Western Highway			-	
	-			-	
	Great Western Highway		**Day/Date**	Monday, 20 September 2010	
Suburb	WENTWORTHVILLE		**Weather**	-	

All Vehicles Time Per Hour	NORTH Brigde Street									EAST Great Western Highway										TOTAL		
	L			T			R			TOTAL	L			T			R			TOTAL			TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
16:00 - 17:00	181	5	**186**				278	2	**280**	**466**				1781	50	**1831**	328	2	**330**	**2161**	3393	90	**3483**
16:15 - 17:15	170	5	**175**				290	2	**292**	**467**				1838	45	**1883**	354	2	**356**	**2239**	3511	84	**3595**
16:30 - 17:30	173	6	**179**				301	1	**302**	**481**				1790	50	**1840**	354	2	**356**	**2196**	3466	92	**3558**
16:45 - 17:45	182	2	**184**				294	1	**295**	**479**				1826	51	**1877**	353	0	**353**	**2230**	3554	85	**3639**
17:00 - 18:00	188	3	**191**				275	1	**276**	**467**				1826	51	**1877**	349	1	**350**	**2227**	3600	87	**3687**
17:15 - 18:15	195	3	**198**				252	1	**253**	**451**				1712	47	**1759**	342	1	**343**	**2102**	3478	81	**3559**
17:30 - 18:30	179	2	**181**				225	3	**228**	**409**				1678	40	**1718**	334	1	**335**	**2053**	3419	72	**3491**
17:45 - 18:45	162	2	**164**				223	4	**227**	**393**				1522	37	**1559**	318	1	**319**	**1878**	3226	67	**3293**
18:00 - 19:00	149	0	**149**				193	4	**197**	**348**				1411	32	**1443**	291	0	**291**	**1734**	3015	57	**3072**
Period End	**1579**	**28**	**1607**				**2331**	**19**	**2350**	**3961**				**15384**	**403**	**15787**	**3023**	**10**	**3033**	**18820**	**30662**	**715**	**31377**

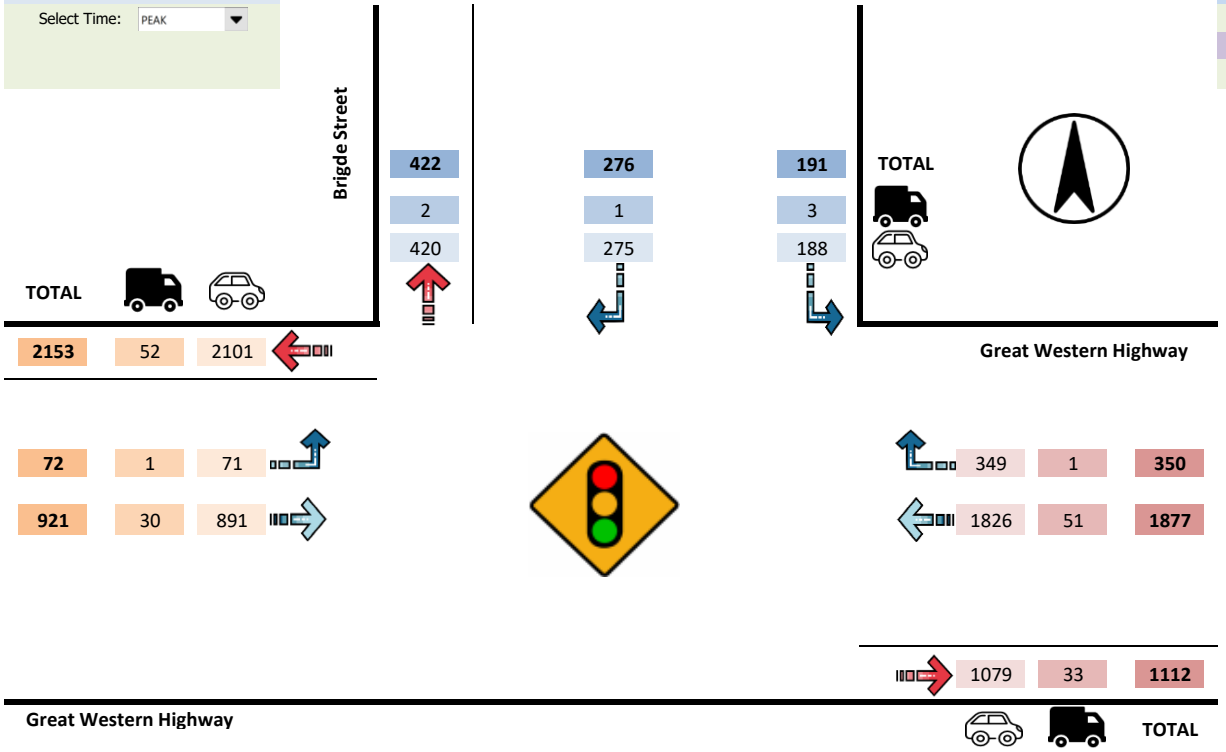
All Vehicles Time Per Hour	SOUTH -									WEST Great Western Highway										TOTAL		
	L			T			R			TOTAL	L			T			R			TOTAL			TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	
16:00 - 17:00											28	1	**29**	797	30	**827**				**856**	3393	90	**3483**
16:15 - 17:15											35	1	**36**	824	29	**853**				**889**	3511	84	**3595**
16:30 - 17:30											50	0	**50**	798	33	**831**				**881**	3466	92	**3558**
16:45 - 17:45											59	0	**59**	840	31	**871**				**930**	3554	85	**3639**
17:00 - 18:00											71	1	**72**	891	30	**921**				**993**	3600	87	**3687**
17:15 - 18:15											67	2	**69**	910	27	**937**				**1006**	3478	81	**3559**
17:30 - 18:30											57	2	**59**	946	24	**970**				**1029**	3419	72	**3491**
17:45 - 18:45											56	2	**58**	943	21	**964**				**1022**	3226	67	**3293**
18:00 - 19:00											55	1	**56**	914	20	**934**				**990**	3015	57	**3072**
Period End											**478**	**10**	**488**	**7863**	**245**	**8108**				**8596**	**30662**	**715**	**31377**

Location	**Brigde Street**	**Duration**	**16:00 - 19:00**
	Great Western Highway		-
	-		-
	Great Western Highway	**Day/Date**	**Monday, 20 September 2010**
Suburb	**WENTWORTHVILLE**	**Weather**	-

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
17:00	-	18:00



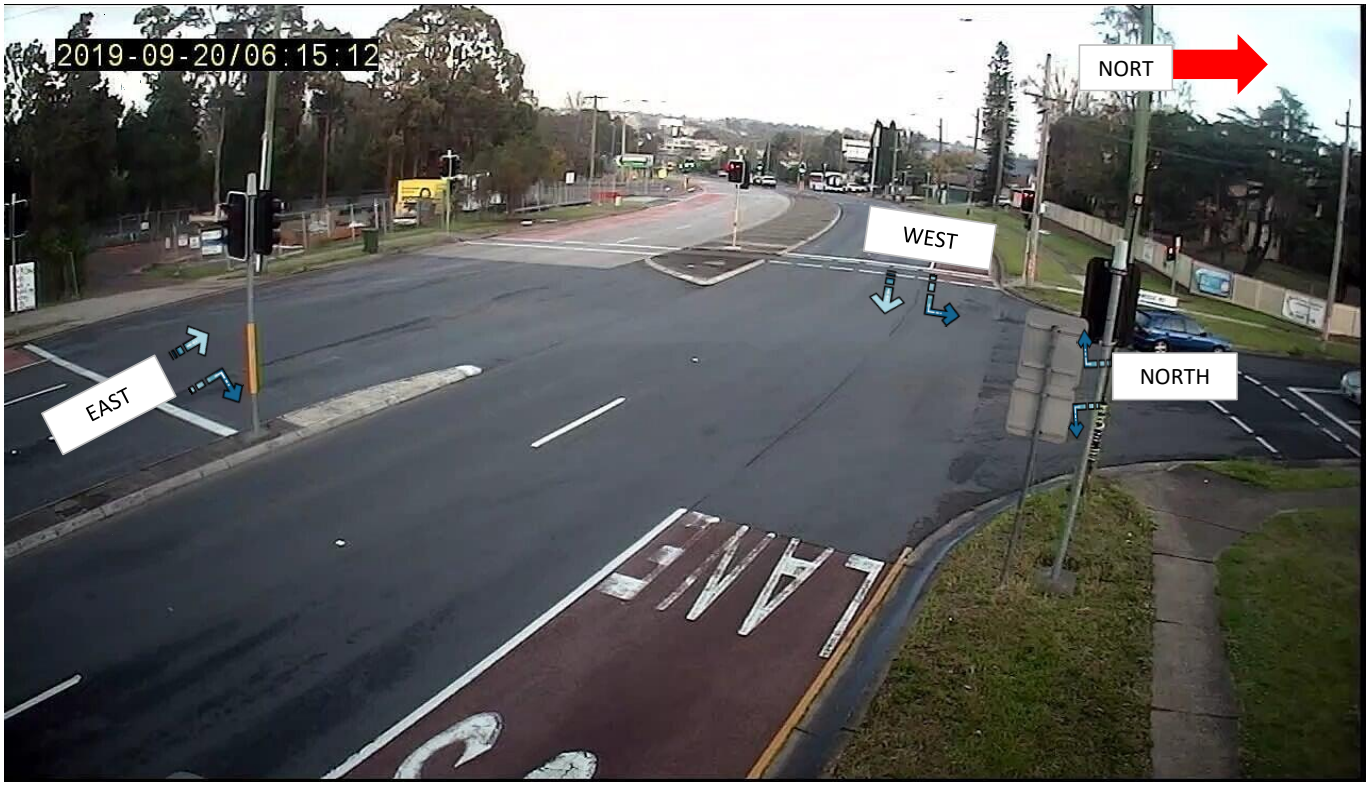
Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Intersection Name	WENTWORTHVILLE
NORTH	Brigde Street
EAST	Great Western Highway
SOUTH	-
WEST	Great Western Highway

Date & Time of Count	
Date (mm/dd/yy)	20/09/2010
Start Time	16:00
End Time	19:00



Location	Coleman Street	**Duration**	16:00 - 19:00
			-
	Coleman Street		-
	Northmead Rehabilitation Hospital	**Day/Date**	Friday, 20 September 2019
Suburb	MERRYLANDS	**Weather**	-

All Vehicles Time Per 15 Mins			NORTH *Coleman Street*											EAST *0*												TOTAL		
			L			T			R			U			L			T			R			U					
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00	-	**16:15**				99	2	**101**	1	0	**1**	3	0	3	**105**	44	1	**45**	1	0	**1**	121	3	**124**				**170**	350	6	**356**
16:15	-	**16:30**				107	0	**107**	1	0	**1**	0	0	0	**108**	47	1	**48**	0	0	**0**	134	5	**139**				**187**	386	7	**393**
16:30	-	**16:45**				107	6	**113**	2	0	**2**	0	0	0	**115**	56	2	**58**	0	0	**0**	132	1	**133**				**191**	393	9	**402**
16:45	-	**17:00**				97	1	**98**	2	0	**2**	2	0	2	**102**	46	1	**47**	0	0	**0**	148	3	**151**				**198**	383	5	**388**
17:00	-	**17:15**				108	2	**110**	1	0	**1**	1	1	2	**113**	40	3	**43**	1	0	**1**	118	2	**120**				**164**	349	8	**357**
17:15	-	**17:30**				94	1	**95**	2	0	**2**	0	0	0	**97**	69	1	**70**	2	0	**2**	157	2	**159**				**231**	410	6	**416**
17:30	-	**17:45**				98	1	**99**	1	0	**1**	1	0	1	**101**	48	1	**49**	0	0	**0**	170	0	**170**				**219**	415	2	**417**
17:45	-	**18:00**				93	0	**93**	0	1	**1**	2	0	2	**96**	40	1	**41**	0	0	**0**	137	3	**140**				**181**	365	6	**371**
18:00	-	**18:15**				112	1	**113**	1	0	**1**	1	0	1	**115**	26	1	**27**	0	0	**0**	101	1	**102**				**129**	333	3	**336**
18:15	-	**18:30**				97	1	**98**	2	0	**2**	1	0	1	**101**	29	0	**29**	1	0	**1**	86	0	**86**				**116**	304	1	**305**
18:30	-	**18:45**				88	1	**89**	3	0	**3**	5	0	5	**97**	23	0	**23**	0	0	**0**	77	2	**79**				**102**	269	3	**272**
18:45	-	**19:00**				59	1	**60**	2	0	**2**	4	0	4	**66**	21	0	**21**	1	0	**1**	61	0	**61**				**83**	206	1	**207**
Period End						**1159**	**17**	**1176**	**18**	**1**	**19**	**20**	**1**	**21**	**1216**	**489**	**12**	**501**	**6**	**0**	**6**	**1442**	**22**	**1464**				**1971**	**4163**	**57**	**4220**

All Vehicles Time Per 15 Mins			SOUTH *Coleman Street*											WEST *Northmead Rehabilitation Hospital*												TOTAL		
			L			T			R			U			L			T			R			U					
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00	-	**16:15**	1	0	**1**	78	0	**78**				0	0	**0**	**79**	2	0	**2**				0	0	**0**	0	0	**0**	**2**	350	6	**356**
16:15	-	**16:30**	0	0	**0**	92	1	**93**				1	0	**1**	**94**	2	0	**2**				2	0	**2**	0	0	**0**	**4**	386	7	**393**
16:30	-	**16:45**	3	0	**3**	90	0	**90**				0	0	**0**	**93**	1	0	**1**				2	0	**2**	0	0	**0**	**3**	393	9	**402**
16:45	-	**17:00**	0	0	**0**	80	0	**80**				1	0	**1**	**81**	5	0	**5**				2	0	**2**	0	0	**0**	**7**	383	5	**388**
17:00	-	**17:15**	2	0	**2**	74	0	**74**				1	0	**1**	**77**	1	0	**1**				2	0	**2**	0	0	**0**	**3**	349	8	**357**
17:15	-	**17:30**	1	0	**1**	79	2	**81**				3	0	**3**	**85**	1	0	**1**				2	0	**2**	0	0	**0**	**3**	410	6	**416**
17:30	-	**17:45**	1	0	**1**	93	0	**93**				0	0	**0**	**94**	2	0	**2**				1	0	**1**	0	0	**0**	**3**	415	2	**417**
17:45	-	**18:00**	0	0	**0**	90	0	**90**				1	0	**1**	**91**	1	1	**2**				1	0	**1**	0	0	**0**	**3**	365	6	**371**
18:00	-	**18:15**	1	0	**1**	86	0	**86**				1	0	**1**	**88**	3	0	**3**				1	0	**1**	0	0	**0**	**4**	333	3	**336**
18:15	-	**18:30**	2	0	**2**	82	0	**82**				0	0	**0**	**84**	4	0	**4**				0	0	**0**	0	0	**0**	**4**	304	1	**305**
18:30	-	**18:45**	1	0	**1**	71	0	**71**				1	0	**1**	**73**	0	0	**0**				0	0	**0**	0	0	**0**	**0**	269	3	**272**
18:45	-	**19:00**	0	0	**0**	55	0	**55**				0	0	**0**	**55**	2	0	**2**				1	0	**1**	0	0	**0**	**3**	206	1	**207**
Period End			**12**	**0**	**12**	**970**	**3**	**973**				**9**	**0**	**9**	**994**	**24**	**1**	**25**				**14**	**0**	**14**	**0**	**0**	**0**	**39**	**4163**	**57**	**4220**

Location	Coleman Street	**Duration**	16:00 - 19:00
	0		-
	Coleman Street		-
	Northmead Rehabilitation Hospital	**Day/Date**	Friday, 20 September 2019
Suburb	MERRYLANDS	**Weather**	-

All Vehicles Time Per Hour			NORTH *Coleman Street*											EAST *0*												TOTAL		TOTAL
			L			T			R			U				L			T			R			U					
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00	-	17:00				410	9	419	6	0	6	5	0	5	430	193	5	198	1	0	1	535	12	547	0	0	0	746	1512	27	1539
16:15	-	17:15				419	9	428	6	0	6	3	1	4	438	189	7	196	1	0	1	532	11	543	0	0	0	740	1511	29	1540
16:30	-	17:30				406	10	416	7	0	7	3	1	4	427	211	7	218	3	0	3	555	8	563	0	0	0	784	1535	28	1563
16:45	-	17:45				397	5	402	6	0	6	4	1	5	413	203	6	209	3	0	3	593	7	600	0	0	0	812	1557	21	1578
17:00	-	18:00				393	4	397	4	1	5	4	1	5	407	197	6	203	3	0	3	582	7	589	0	0	0	795	1539	22	1561
17:15	-	18:15				397	3	400	4	1	5	4	0	4	409	183	4	187	2	0	2	565	6	571	0	0	0	760	1523	17	1540
17:30	-	18:30				400	3	403	4	1	5	5	0	5	413	143	3	146	1	0	1	494	4	498	0	0	0	645	1417	12	1429
17:45	-	18:45				390	3	393	6	1	7	9	0	9	409	118	2	120	1	0	1	401	6	407	0	0	0	528	1271	13	1284
18:00	-	19:00				356	4	360	8	0	8	11	0	11	379	99	1	100	2	0	2	325	3	328	0	0	0	430	1112	8	1120
Period End						3568	50	3618	51	4	55	48	4	52	3725	1536	41	1577	17	0	17	4582	64	4646	0	0	0	6240	12977	177	13154

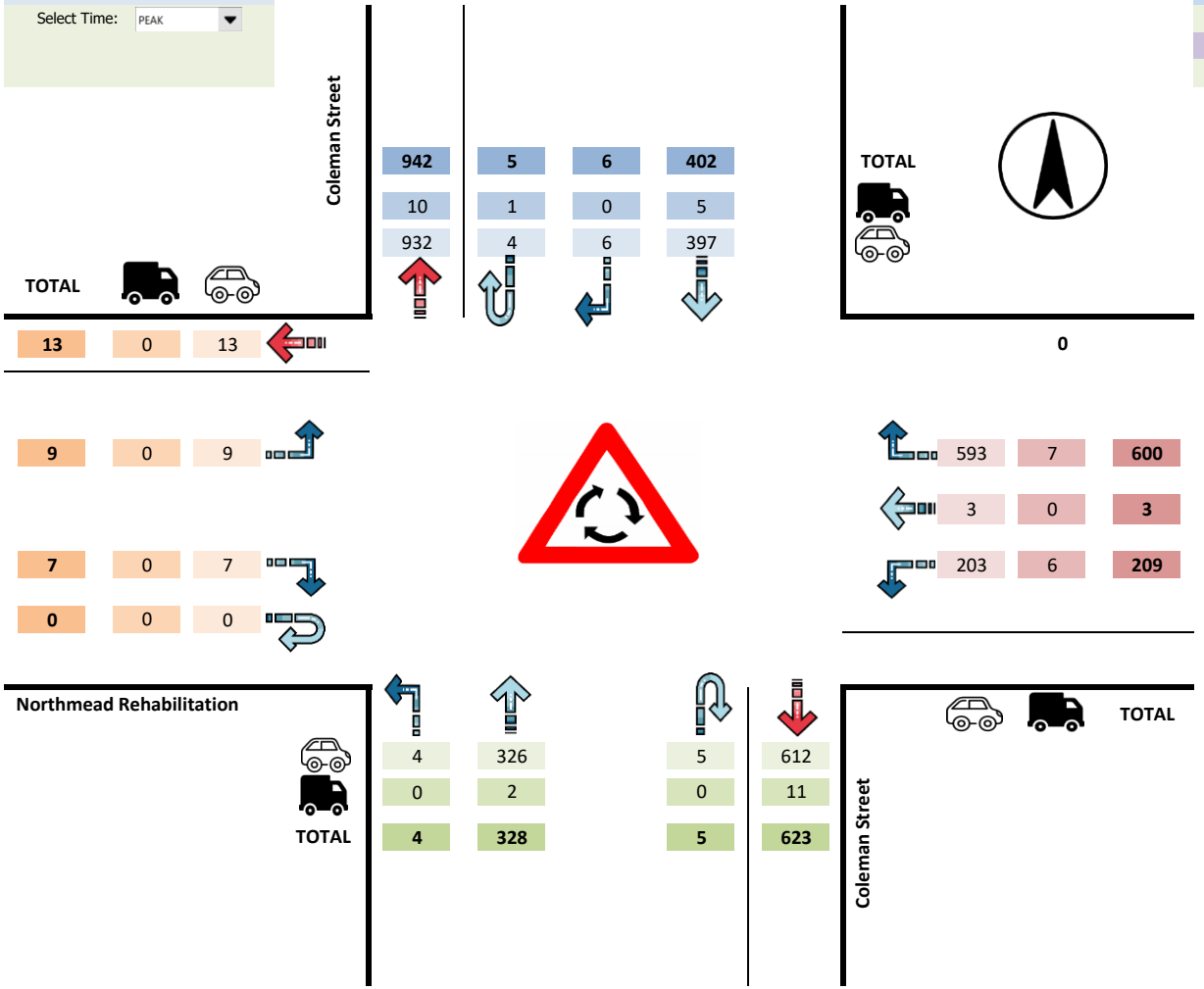
All Vehicles Time Per Hour			SOUTH *Coleman Street*											WEST *Northmead Rehabilitation Hospital*												TOTAL		TOTAL
			L			T			R			U				L			T			R			U					
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00	-	17:00	4	0	4	340	1	341				2	0	2	347	10	0	10				6	0	6	0	0	0	16	1512	27	1539
16:15	-	17:15	5	0	5	336	1	337				3	0	3	345	9	0	9				8	0	8	0	0	0	17	1511	29	1540
16:30	-	17:30	6	0	6	323	2	325				5	0	5	336	8	0	8				8	0	8	0	0	0	16	1535	28	1563
16:45	-	17:45	4	0	4	326	2	328				5	0	5	337	9	0	9				7	0	7	0	0	0	16	1557	21	1578
17:00	-	18:00	4	0	4	336	2	338				5	0	5	347	5	1	6				6	0	6	0	0	0	12	1539	22	1561
17:15	-	18:15	3	0	3	348	2	350				5	0	5	358	7	1	8				5	0	5	0	0	0	13	1523	17	1540
17:30	-	18:30	4	0	4	351	0	351				2	0	2	357	10	1	11				3	0	3	0	0	0	14	1417	12	1429
17:45	-	18:45	4	0	4	329	0	329				3	0	3	336	8	1	9				2	0	2	0	0	0	11	1271	13	1284
18:00	-	19:00	4	0	4	294	0	294				2	0	2	300	9	0	9				2	0	2	0	0	0	11	1112	8	1120
Period End			38	0	38	2983	10	2993				32	0	32	3063	75	4	79				47	0	47	0	0	0	126	12977	177	13154

Location	Coleman Street	**Duration**	16:00 - 19:00
	0		0:00 - 0:00
	Coleman Street		-
	Northmead Rehabilitation Hospital	**Day/Date**	Friday, 20 September 2019
Suburb	MERRYLANDS	**Weather**	-

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
16:45	-	17:45



Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Intersection Name	Coleman Street Roundabout
NORTH	Coleman Street
EAST	0
SOUTH	Coleman Street
WEST	Northmead Rehabilitation Hospital

Date & Time of Count	
Date (mm/dd/yy)	20/09/2019
Start Time	16:00
End Time	19:00

Location	**Hawkesbury Road**	**Duration**	**16:00 - 19:00**
	Great Western Highway		**-**
	Coleman Street		**-**
	Great Western Highway	**Day/Date**	**Friday, 20 September 2019**
Suburb	**WESTMEAD**	**Weather**	**-**

All Vehicles			**NORTH**										**EAST**											
Time Per 15 Mins			***Hawkesbury Road***										***Great Western Highway***											
			L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
			LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	**TOTAL**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	**TOTAL**	LIGHT	HEAVY	**TOTAL**
16:00	-	**16:15**	21	0	**21**	41	3	**44**	101	1	**102**	**167**	20	0	**20**	247	12	**259**	11	0	**11**	**290**	867	30	**897**
16:15	-	**16:30**	18	0	**18**	46	0	**46**	128	0	**128**	**192**	16	0	**16**	270	8	**278**	10	0	**10**	**304**	981	15	**996**
16:30	-	**16:45**	16	0	**16**	48	0	**48**	113	1	**114**	**178**	19	0	**19**	287	8	**295**	9	0	**9**	**323**	969	26	**995**
16:45	-	**17:00**	6	0	**6**	51	0	**51**	118	1	**119**	**176**	17	0	**17**	253	10	**263**	8	0	**8**	**288**	900	22	**922**
17:00	-	**17:15**	23	0	**23**	42	0	**42**	119	2	**121**	**186**	18	0	**18**	279	5	**284**	6	0	**6**	**308**	964	21	**985**
17:15	-	**17:30**	15	0	**15**	41	0	**41**	146	0	**146**	**202**	13	0	**13**	212	10	**222**	1	0	**1**	**236**	882	24	**906**
17:30	-	**17:45**	7	0	**7**	45	0	**45**	97	1	**98**	**150**	16	1	**17**	320	10	**330**	9	0	**9**	**356**	1041	20	**1061**
17:45	-	**18:00**	10	0	**10**	38	0	**38**	72	0	**72**	**120**	23	0	**23**	284	11	**295**	13	0	**13**	**331**	988	23	**1011**
18:00	-	**18:15**	15	0	**15**	33	0	**33**	104	0	**104**	**152**	17	0	**17**	221	6	**227**	15	0	**15**	**259**	884	14	**898**
18:15	-	**18:30**	18	0	**18**	36	0	**36**	66	1	**67**	**121**	27	0	**27**	295	6	**301**	12	0	**12**	**340**	889	13	**902**
18:30	-	**18:45**	9	0	**9**	30	0	**30**	84	1	**85**	**124**	22	1	**23**	259	7	**266**	7	0	**7**	**296**	823	14	**837**
18:45	-	**19:00**	12	0	**12**	18	0	**18**	61	0	**61**	**91**	20	1	**21**	235	9	**244**	16	0	**16**	**281**	750	16	**766**
Period End			**170**	**0**	**170**	**469**	**3**	**472**	**1209**	**8**	**1217**	**1859**	**228**	**3**	**231**	**3162**	**102**	**3264**	**117**	**0**	**117**	**3612**	**10938**	**238**	**11176**

All Vehicles			**SOUTH**										**WEST**											
Time Per 15 Mins			***Coleman Street***										***Great Western Highway***											
			L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
			LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	**TOTAL**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	LIGHT	HEAVY	**Σ**	**TOTAL**	LIGHT	HEAVY	**TOTAL**
16:00	-	**16:15**	133	4	**137**	51	0	**51**	11	0	**11**	**199**	28	0	**28**	164	10	**174**	39	0	**39**	**241**	867	30	**897**
16:15	-	**16:30**	156	1	**157**	53	1	**54**	13	1	**14**	**225**	38	1	**39**	204	3	**207**	29	0	**29**	**275**	981	15	**996**
16:30	-	**16:45**	154	3	**157**	65	1	**66**	16	0	**16**	**239**	36	0	**36**	165	8	**173**	41	5	**46**	**255**	969	26	**995**
16:45	-	**17:00**	149	3	**152**	48	0	**48**	16	0	**16**	**216**	28	2	**30**	163	5	**168**	43	1	**44**	**242**	900	22	**922**
17:00	-	**17:15**	166	5	**171**	50	0	**50**	14	0	**14**	**235**	30	0	**30**	173	8	**181**	44	1	**45**	**256**	964	21	**985**
17:15	-	**17:30**	148	4	**152**	48	1	**49**	10	0	**10**	**211**	52	0	**52**	155	7	**162**	41	2	**43**	**257**	882	24	**906**
17:30	-	**17:45**	172	0	**172**	68	1	**69**	14	0	**14**	**255**	43	0	**43**	213	7	**220**	37	0	**37**	**300**	1041	20	**1061**
17:45	-	**18:00**	160	4	**164**	67	0	**67**	30	0	**30**	**261**	41	1	**42**	220	5	**225**	30	2	**32**	**299**	988	23	**1011**
18:00	-	**18:15**	118	2	**120**	71	0	**71**	17	0	**17**	**208**	43	1	**44**	187	5	**192**	43	0	**43**	**279**	884	14	**898**
18:15	-	**18:30**	103	0	**103**	49	1	**50**	15	0	**15**	**168**	32	0	**32**	193	3	**196**	43	2	**45**	**273**	889	13	**902**
18:30	-	**18:45**	74	0	**74**	48	1	**49**	17	0	**17**	**140**	33	0	**33**	201	4	**205**	39	0	**39**	**277**	823	14	**837**
18:45	-	**19:00**	82	0	**82**	46	1	**47**	11	0	**11**	**140**	32	0	**32**	185	5	**190**	32	0	**32**	**254**	750	16	**766**
Period End			**1615**	**26**	**1641**	**664**	**7**	**671**	**184**	**1**	**185**	**2497**	**436**	**5**	**441**	**2223**	**70**	**2293**	**461**	**13**	**474**	**3208**	**10938**	**238**	**11176**

Location	Hawkesbury Road	**Duration**	16:00 - 19:00
	Great Western Highway		-
	Coleman Street		-
	Great Western Highway	**Day/Date**	Friday, 20 September 2019
Suburb	WESTMEAD	**Weather**	-

All Vehicles Time Per Hour	NORTH *Hawkesbury Road*										EAST *Great Western Highway*												
	L			T			R				L			T			R				TOTAL		TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00 - 17:00	61	0	**61**	186	3	**189**	460	3	**463**	**713**	72	0	**72**	1057	38	**1095**	38	0	**38**	**1205**	3717	93	**3810**
16:15 - 17:15	63	0	**63**	187	0	**187**	478	4	**482**	**732**	70	0	**70**	1089	31	**1120**	33	0	**33**	**1223**	3814	84	**3898**
16:30 - 17:30	60	0	**60**	182	0	**182**	496	4	**500**	**742**	67	0	**67**	1031	33	**1064**	24	0	**24**	**1155**	3715	93	**3808**
16:45 - 17:45	51	0	**51**	179	0	**179**	480	4	**484**	**714**	64	1	**65**	1064	35	**1099**	24	0	**24**	**1188**	3787	87	**3874**
17:00 - 18:00	55	0	**55**	166	0	**166**	434	3	**437**	**658**	70	1	**71**	1095	36	**1131**	29	0	**29**	**1231**	3875	88	**3963**
17:15 - 18:15	47	0	**47**	157	0	**157**	419	1	**420**	**624**	69	1	**70**	1037	37	**1074**	38	0	**38**	**1182**	3795	81	**3876**
17:30 - 18:30	50	0	**50**	152	0	**152**	339	2	**341**	**543**	83	1	**84**	1120	33	**1153**	49	0	**49**	**1286**	3802	70	**3872**
17:45 - 18:45	52	0	**52**	137	0	**137**	326	2	**328**	**517**	89	1	**90**	1059	30	**1089**	47	0	**47**	**1226**	3584	64	**3648**
18:00 - 19:00	54	0	**54**	117	0	**117**	315	2	**317**	**488**	86	2	**88**	1010	28	**1038**	50	0	**50**	**1176**	3346	57	**3403**
Period End	**493**	**0**	**493**	**1463**	**3**	**1466**	**3747**	**25**	**3772**	**5731**	**670**	**7**	**677**	**9562**	**301**	**9863**	**332**	**0**	**332**	**10872**	**33435**	**717**	**34152**

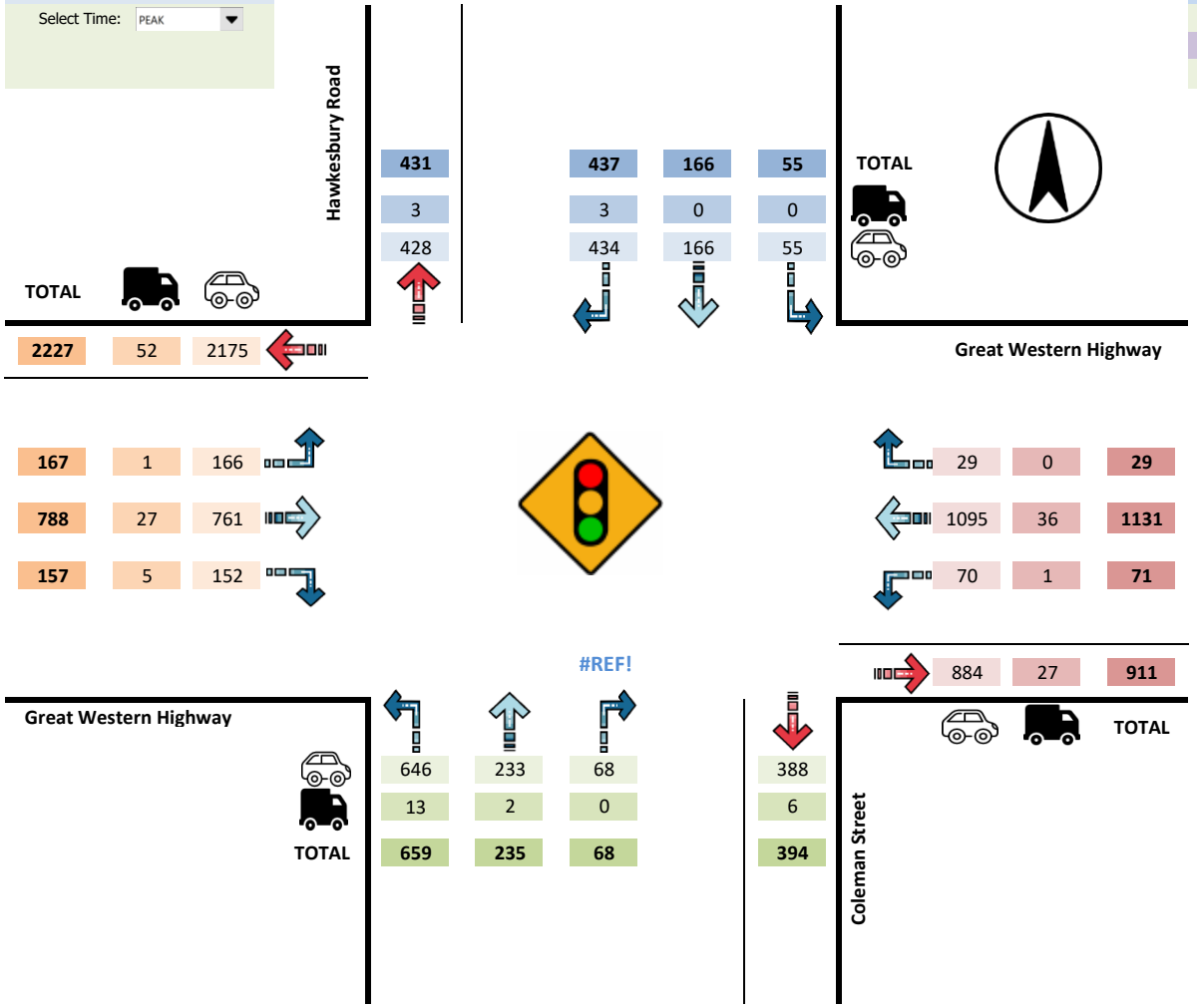
All Vehicles Time Per Hour	SOUTH *Coleman Street*										WEST *Great Western Highway*												
	L			T			R				L			T			R				TOTAL		TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	
16:00 - 17:00	592	11	**603**	217	2	**219**	56	1	**57**	**879**	130	3	**133**	696	26	**722**	152	6	**158**	**1013**	3717	93	**3810**
16:15 - 17:15	625	12	**637**	216	2	**218**	59	1	**60**	**915**	132	3	**135**	705	24	**729**	157	7	**164**	**1028**	3814	84	**3898**
16:30 - 17:30	617	15	**632**	211	2	**213**	56	0	**56**	**901**	146	2	**148**	656	28	**684**	169	9	**178**	**1010**	3715	93	**3808**
16:45 - 17:45	635	12	**647**	214	2	**216**	54	0	**54**	**917**	153	2	**155**	704	27	**731**	165	4	**169**	**1055**	3787	87	**3874**
17:00 - 18:00	646	13	**659**	233	2	**235**	68	0	**68**	**962**	166	1	**167**	761	27	**788**	152	5	**157**	**1112**	3875	88	**3963**
17:15 - 18:15	598	10	**608**	254	2	**256**	71	0	**71**	**935**	179	2	**181**	775	24	**799**	151	4	**155**	**1135**	3795	81	**3876**
17:30 - 18:30	553	6	**559**	255	2	**257**	76	0	**76**	**892**	159	2	**161**	813	20	**833**	153	4	**157**	**1151**	3802	70	**3872**
17:45 - 18:45	455	6	**461**	235	2	**237**	79	0	**79**	**777**	149	2	**151**	801	17	**818**	155	4	**159**	**1128**	3584	64	**3648**
18:00 - 19:00	377	2	**379**	214	3	**217**	60	0	**60**	**656**	140	1	**141**	766	17	**783**	157	2	**159**	**1083**	3346	57	**3403**
Period End	**5098**	**87**	**5185**	**2049**	**19**	**2068**	**579**	**2**	**581**	**7834**	**1354**	**18**	**1372**	**6677**	**210**	**6887**	**1411**	**45**	**1456**	**9715**	**33435**	**717**	**34152**

Location	Hawkesbury Road	**Duration**	16:00 - 19:00
	Great Western Highway		-
	Coleman Street		-
	Great Western Highway	**Day/Date**	Friday, 20 September 2019
Suburb	WESTMEAD	**Weather**	-

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
17:00	-	18:00



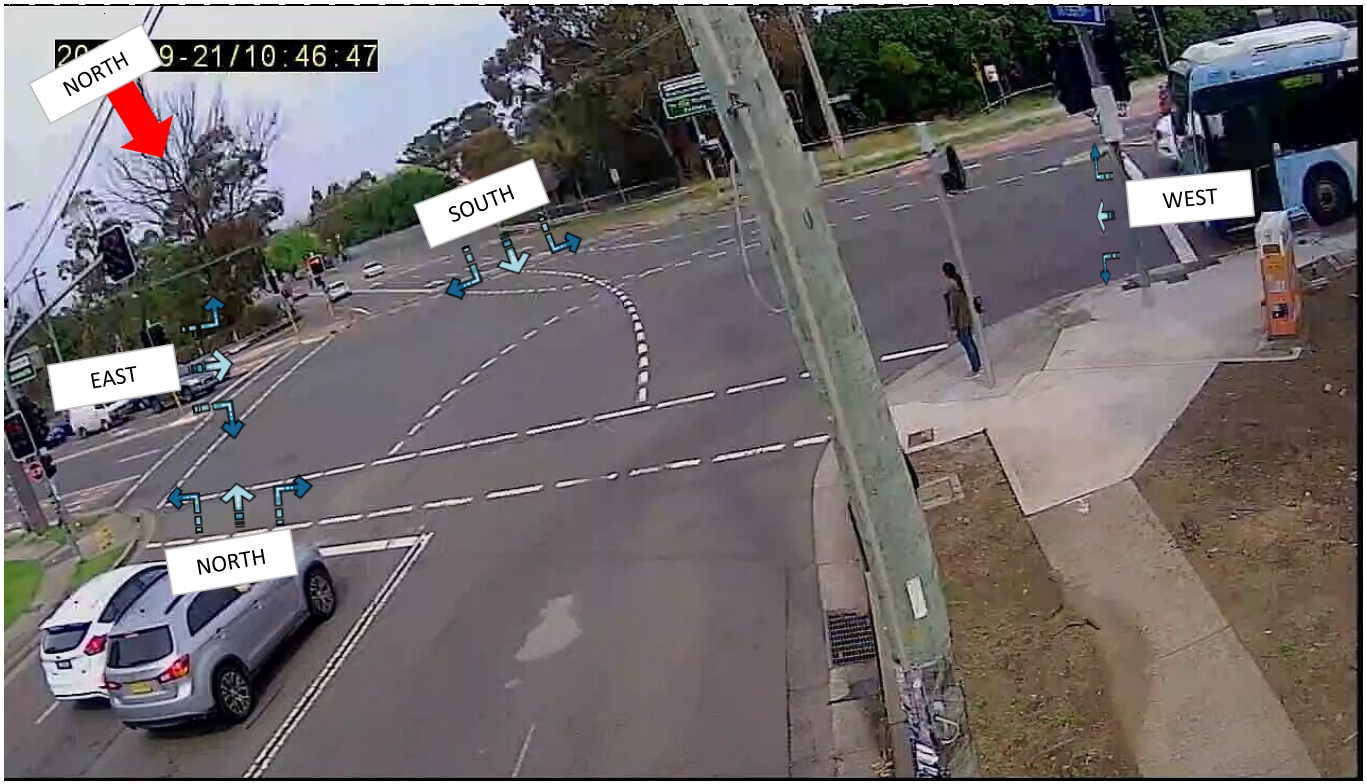
Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Intersection Name	Coleman Street - Hawkesbury Road
NORTH	Hawkesbury Road
EAST	Great Western Highway
SOUTH	Coleman Street
WEST	Great Western Highway

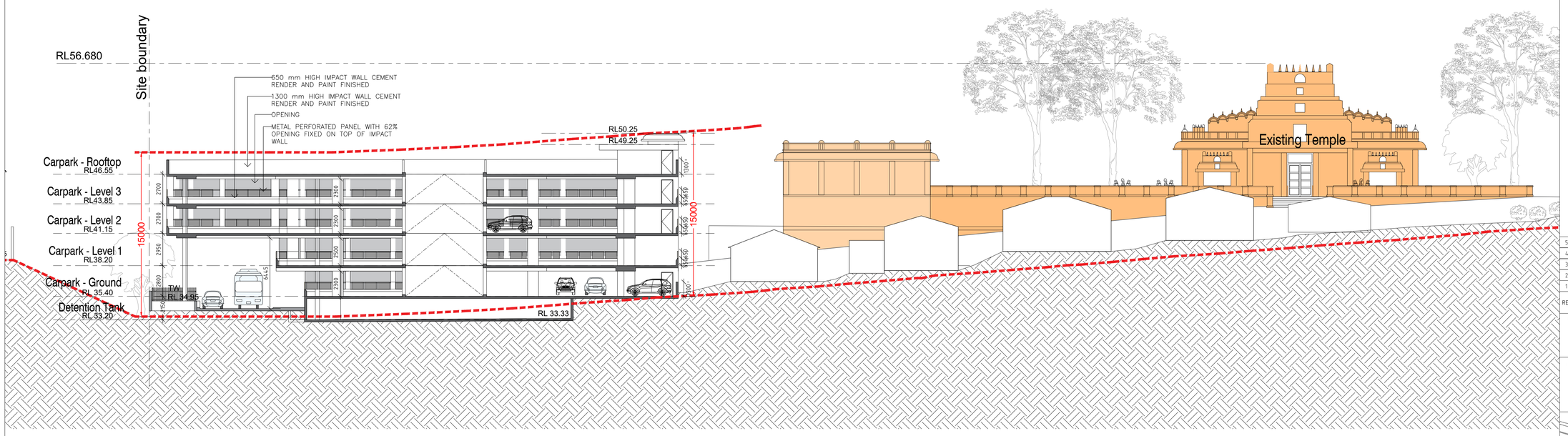
Date & Time of Count	
Date (mm/dd/yy)	20/09/2019
Start Time	16:00
End Time	19:00



Appendix C

Architectural Plans

SECTION - EAST WEST



SECTION - NORTH SOUTH

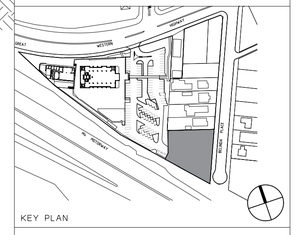
REV	REVISION DESCRIPTION	DATE	BY
5	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
4	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE-FOR INFORMATION	29.08.19	HD

Project

SYDNEY MURUGAN TEMPLE
MULTI-STOREY CARPARK

Principal

THE PRESIDENT- THE SAIVA MANRAM
SYDNEY MURUGAN TEMPLE



KEY PLAN

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE. ALL DIMENSIONS SHALL BE VERIFIED ON SITE AND DISCREPANCIES IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER FOR RESOLUTION

Reason for Issue:
DA Plan for submission

Quality Endorsed Company

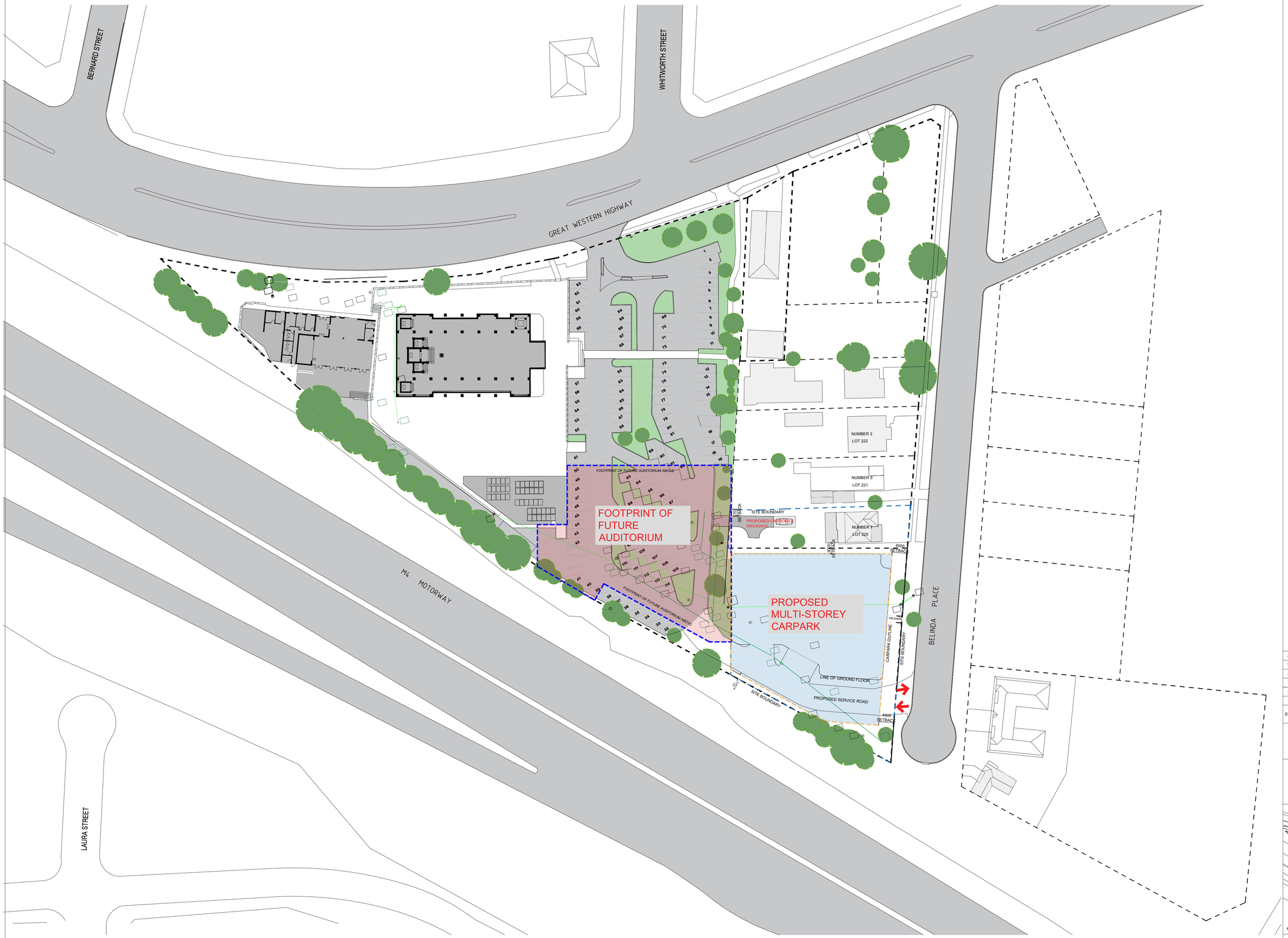
Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Block/ Zone: -
Drawn: AK
Checked: PJ
Date: 19.02.2019
Scale/s: 1:200

Drawing Title: **SECTIONS**

CAD File: SMT-CP-S-1
Dwg.No.: **SMT-S-1**
Issue: 5

HEALTH PROJECTS INTERNATIONAL
Architects and Health Facility Planners
ACN 066 856 595
Suite 1, Ground Floor, 68 Milsons Point, NSW 2061
Ph: (02) 9460 4199 Fax: (02) 9460 4299



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY
- PROPOSED BUILDING OUTLINE

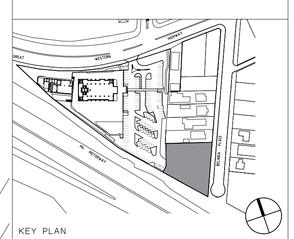
REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	SUBMITTED FOR DA - survey plan updated	13.01.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE	01.02.19	PJ

Project

SYDNEY MURUGAN TEMPLE
MULTI-STOREY CARPARK

Principal

THE PRESIDENT- THE SAIVA MANRAM
SYDNEY MURUGAN TEMPLE



KEY PLAN

HEALTH PROJECTS INTERNATIONAL
Architects and Health Facility Planners
ACN 066 856 595
Suite 1, Ground Floor, 68 Milsons Point, NSW 2061
Ph: (02) 9460 4199 Fax: (02) 9460 4299

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE. ALL DIMENSIONS SHALL BE VERIFIED ON SITE AND DISCREPANCIES IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER FOR RESOLUTION

Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

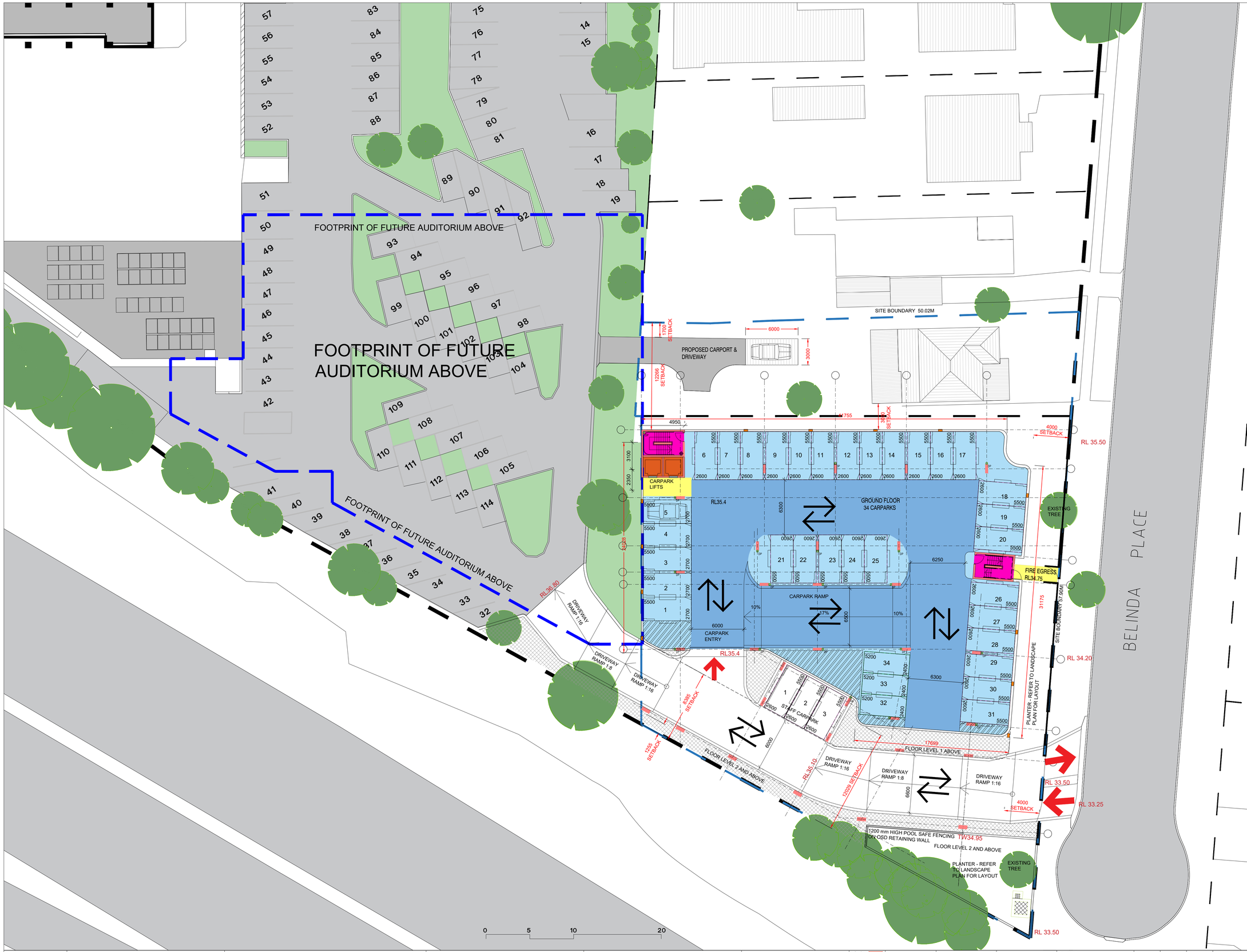
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title: **SITE PLAN**

CAD File: SMT-CP-SITE

Dwg.No.: **SMT-P-SITE**

Issue: **6**



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY

SITE AREA			17467.00 m²
CAR PARK			
EXISTING ON-GRADE CAR PARKING SPACES		114	
LOST ON-GRADE CAR PARKING SPACES		-12	
NEW MULTI-STOREY CARPARKING SPACES		223	AREA
RL 35.4	GROUND FLOOR	34	1323.00 m²
RL 38.35	LEVEL 1	35	1323.00 m²
RL 41.05	LEVEL 2	53	1820.00 m²
RL 43.75	LEVEL 3	53	1820.00 m²
RL 46.45	ROOFTOP	48	80.00 m²
TOTAL		325	6366.00 m²
RL 33.20	ON-SITE DETENTION TANK BELOW CARPARK BUILDING	AREA=	212.00 m²
		VOL=	301.00 m³
RL 33.75	ON-SITE DETENTION TANK ON-GRADE	VOL=	113.00 m³

REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE-FOR INFORMATION	29.08.19	HD

Project
SYDNEY MURUGAN TEMPLE
MULTI-STOREY CARPARK

Principal
THE PRESIDENT- THE SAIVA MANRAM
SYDNEY MURUGAN TEMPLE

KEY PLAN

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

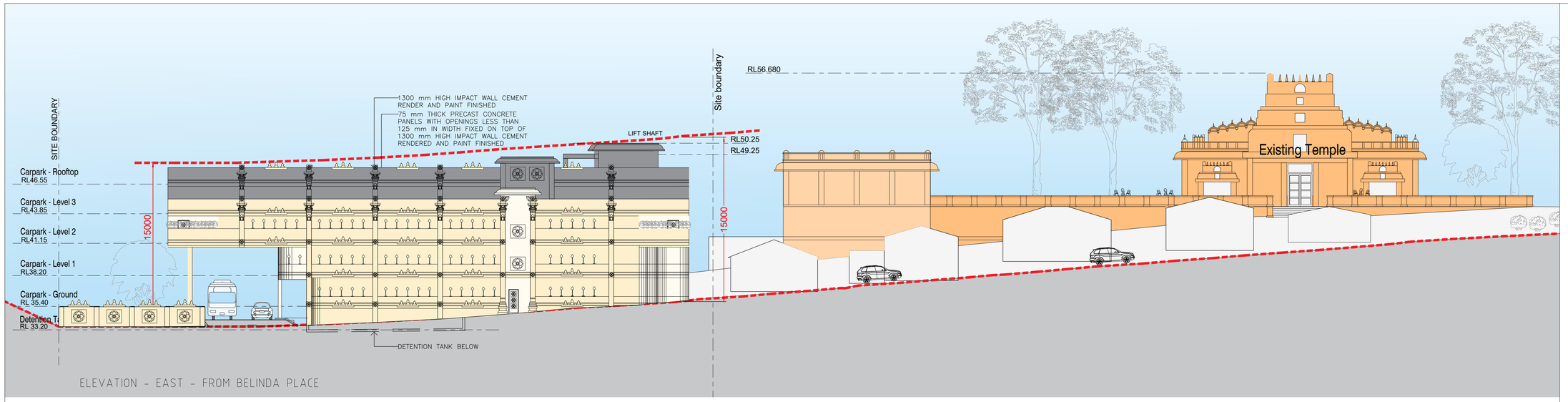
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	28.03.2019	1:200

Drawing Title: **GROUND FLOOR PLAN**

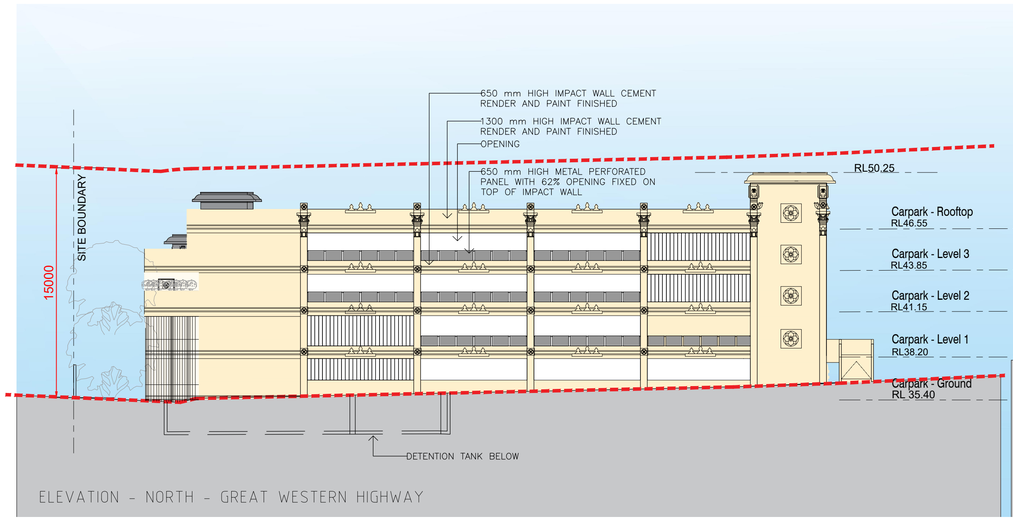
CAD File: SMT-CP-P-G

Dwg.No.: **SMT-CP-G**

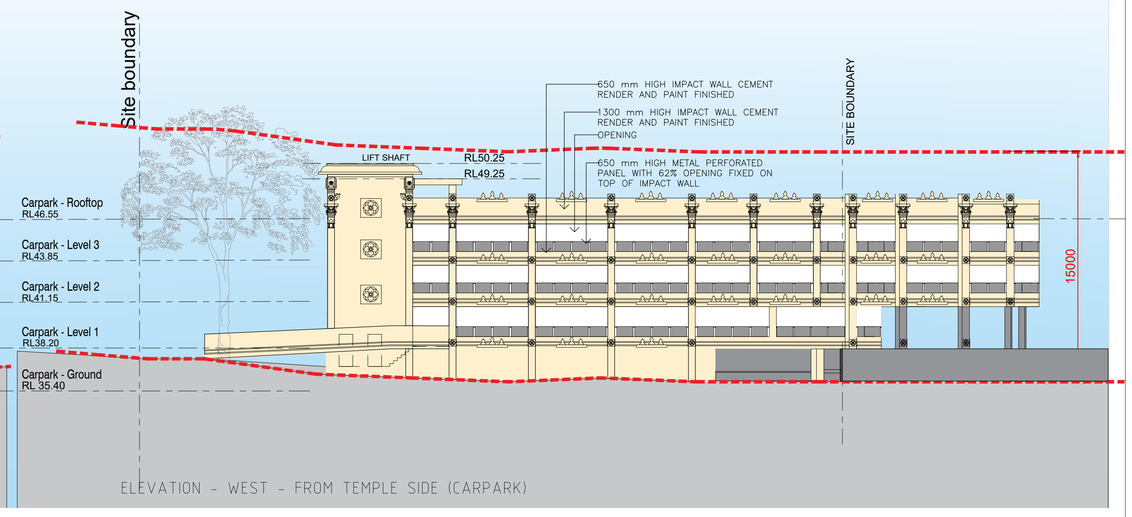
Issue: **6**



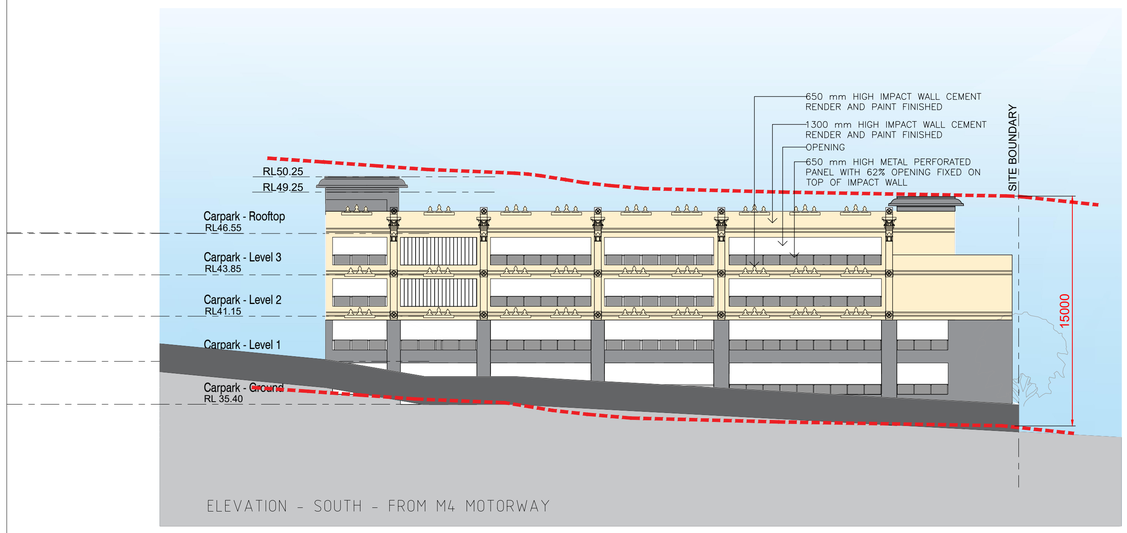
ELEVATION - EAST - FROM BELINDA PLACE



ELEVATION - NORTH - GREAT WESTERN HIGHWAY



ELEVATION - WEST - FROM TEMPLE SIDE (CARPARK)



ELEVATION - SOUTH - FROM M4 MOTORWAY

REV	REVISION DESCRIPTION	DATE	BY
5	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
4	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE	28.03.19	AK

Project

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MULTI-STOREY CARPARK

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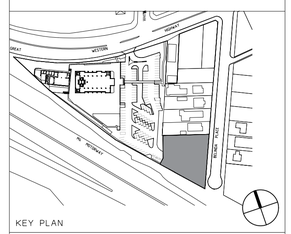

KEY PLAN

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

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RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Block/ Zone: -
Drawn: AK
Checked: PJ
Date: 04.06.2019
Scale/s: 1:200

Drawing Title: **ELEVATIONS**

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CAD File: SMT-CP-E
Dwg.No.: SMT-P-E
Issue: 5

1 GARAGE ON THE SIDE OF LOT 7

2 GARAGE ACCESS ON THE SIDE OF LOT 7

3 GARAGE ACCESS ON THE SIDE OF LOT 9

4 GARAGE SECOND HOUSE OF LOT 9

5 MIDDLE GARAGE ACCESS ON THE SIDE OF LOT 9

6 BACK VIEW OF HOUSE TO BE DEMOLISH IN THE FRONT OF LOT 9

7 SIDE VIEW OF LOT 9

8 REAR VIEW OF LOT 9

9 SIDE-REAR VIEW OF LOT 9

10 SIDE-REAR VIEW OF LOT 9

LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY
- PROPOSED BUILDING BOUNDARY
- EXISITNG TREES TO BE REMOVED
- CAMERA ANGLE FOR PHOTO

REV	REVISION DESCRIPTION	DATE	BY
5	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
4	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE	01.02.19	PJ

Project
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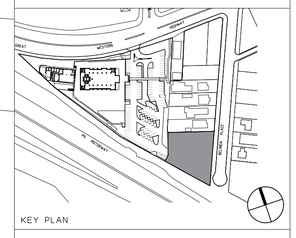

KEY PLAN

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

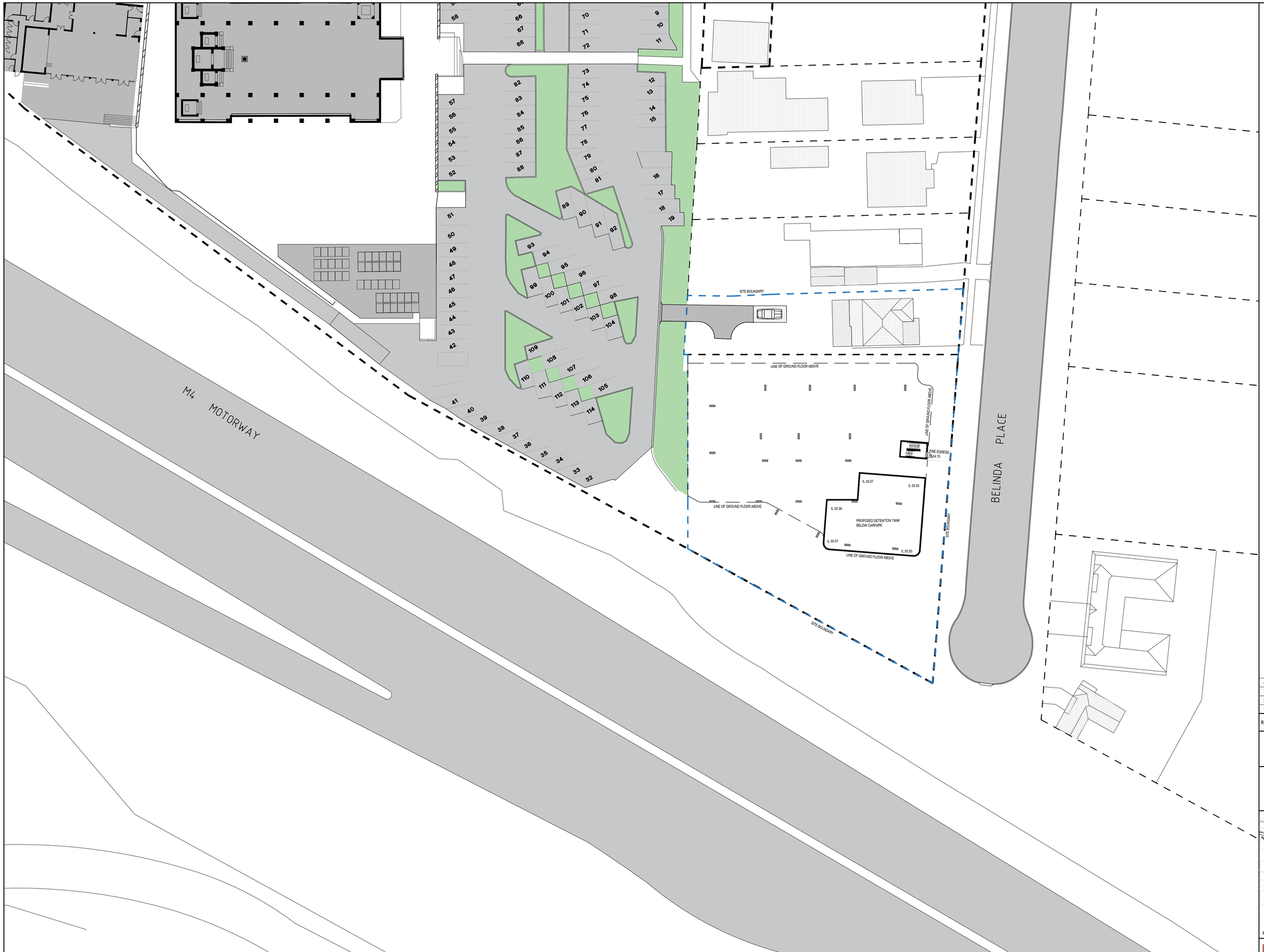
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	01.02.2019	1:200

Drawing Title: **EXISTING PLAN/ DEMOLITION PLAN**

CAD File: SMT-(P-D

Dwg.No.: **SMT-P-D**

Issue: **5**



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY

REV	REVISION DESCRIPTION	DATE	BY
4	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	OUTLINE BOUNDARIES UPDATED - HYDRAULIC PLAN	04.10.19	PJ

Project

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MULTI-STOREY CARPARK

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date
RDS		
ARCH		
AUT		
STRUCT		
SPEC. CONS		
SERV		
PROJ. ARCH		

Block/ Zone: -
Drawn: AK
Checked: PJ
Date: 04.02.2019
Scale/s: 1:200

Drawing Title: **DETENTION TANK PLAN**

CAD File: SMT-CP-P-B
Dwg.No.: **SMT-P-T**
Issue: **4**

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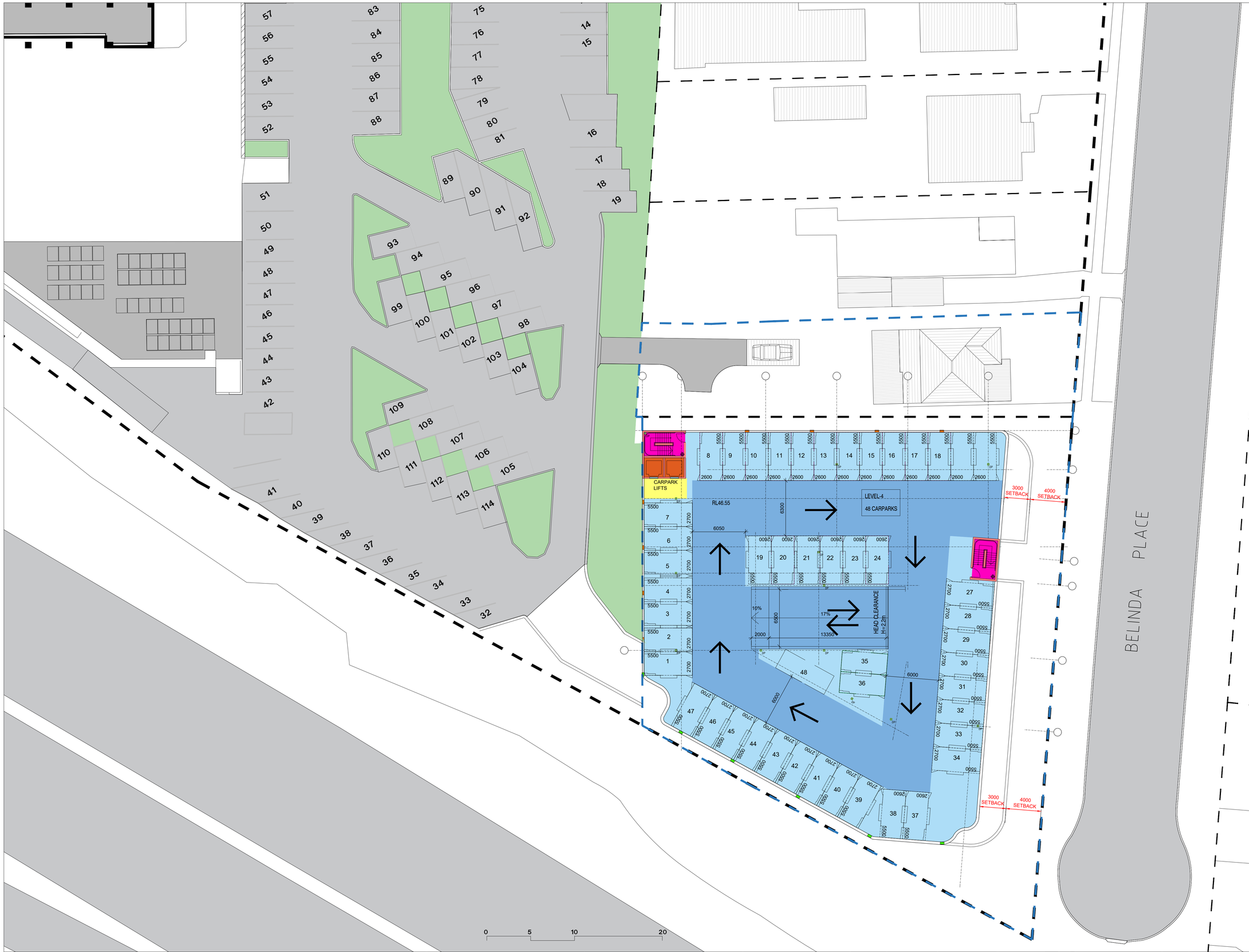

LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY

REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

Project

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

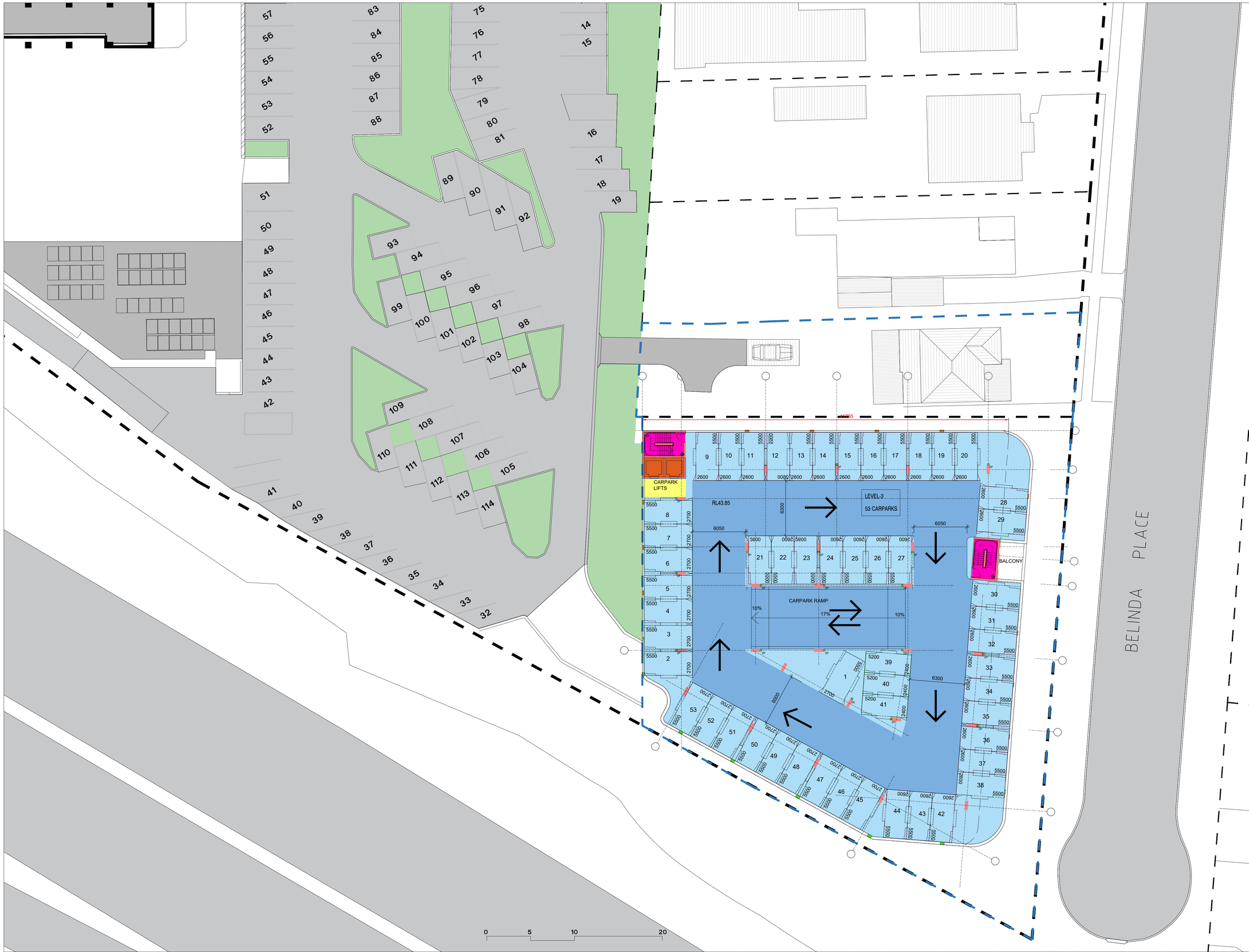
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title: **ROOFTOP LEVEL 4 FLOOR PLAN**

CAD File: SMT-(P-P-L

Dwg.No.: **SMT-P-4**

Issue: **6**



REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

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Reason for Issue
DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

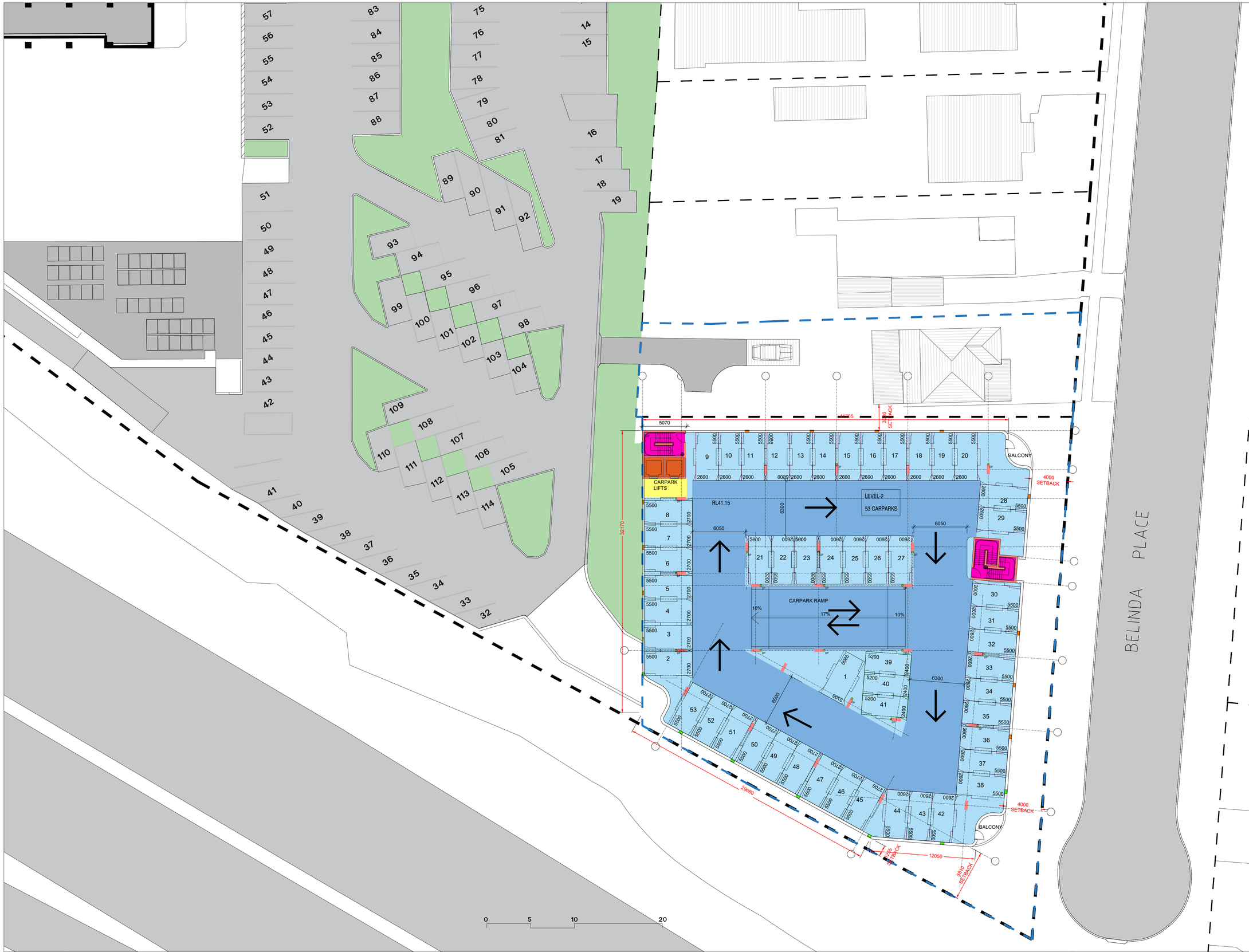
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title
LEVEL 3 FLOOR PLAN

CAD File
SMT-(P-P-3

Dwg.No.
SMT-P-3

Issue
5



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY

REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

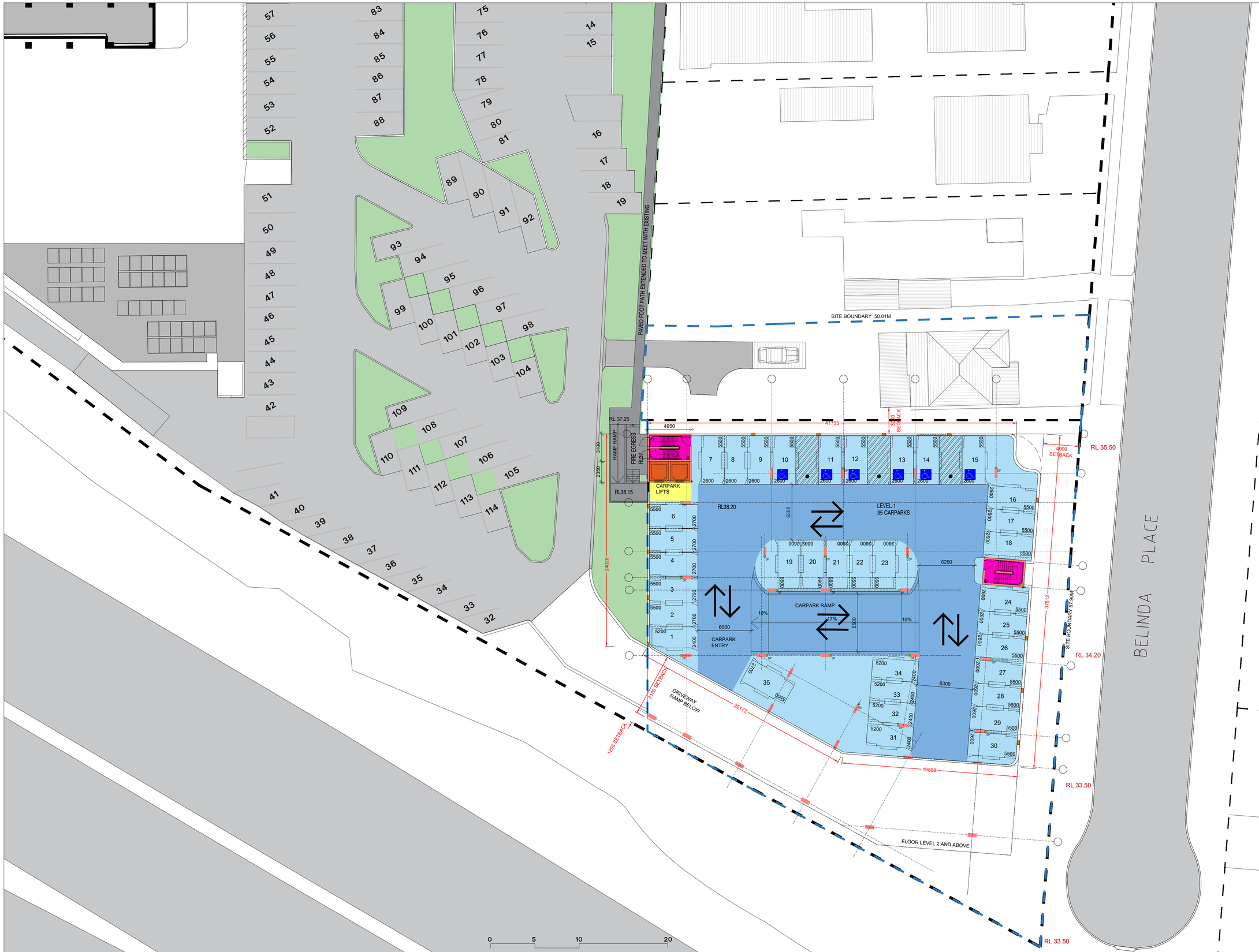
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title: **LEVEL 2 FLOOR PLAN**

CAD File: SMT-(P-P-2

Dwg.No.: **SMT-P-2**

Issue: **6**



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY

REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	ISSUED FOR STRUCTURAL COORDINATION	30.08.19	PJ

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Reason for Issue:
DA Plan for submission

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Block/ Zone: -
Drawn: AK
Checked: PJ
Date: 28.03.2019
Scale/s: 1:200

Drawing Title
LEVEL 1 FLOOR PLAN

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CAD File: SMT-CP-P-1
Dwg.No.: SMT-P-1
Issue: 6

Appendix D

Traffic Model Results

MOVEMENT SUMMARY

Site: 101 [EX PM BELINDA PL - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BELINDA PL														
1	L2	2	0.0	2	0.0	0.001	6.5	LOS A	0.0	0.0	0.42	0.54	0.42	48.6
Approach		2	0.0	2	0.0	0.001	6.5	LOS A	0.0	0.0	0.42	0.54	0.42	48.6
East: GWH														
4	L2	11	0.0	11	0.0	0.006	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	1268	3.2	1268	3.2	0.332	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1279	3.1	1279	3.1	0.332	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: GWH														
11	T1	971	9.0	971	9.0	0.240	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		971	9.0	971	9.0	0.240	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		2252	5.6	2252	5.6	0.332	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM BRIDGE ST - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1877	2.7	1877	2.7	0.451	7.0	LOS A	8.0	49.4	0.38	0.34	0.38	50.3
6	R2	350	0.3	350	0.3	0.928	61.6	LOS E	12.6	76.0	0.78	0.93	1.09	22.0
Approach		2227	2.3	2227	2.3	0.928	15.5	LOS B	12.6	76.0	0.44	0.43	0.49	41.8
North: BRIDGE ST														
7	L2	191	1.6	191	1.6	0.188	20.3	LOS B	3.5	21.3	0.53	0.72	0.53	36.2
9	R2	276	0.4	276	0.4	0.847	67.1	LOS E	11.1	66.7	1.00	0.93	1.20	28.2
Approach		467	0.9	467	0.9	0.847	48.0	LOS D	11.1	66.7	0.81	0.84	0.93	29.9
West: GWH														
10	L2	72	1.4	72	1.4	0.111	34.5	LOS C	1.8	10.9	0.71	0.73	0.71	37.6
11	T1	921	3.3	921	3.3	0.822	44.7	LOS D	19.6	122.0	0.98	0.93	1.07	24.5
Approach		993	3.1	993	3.1	0.822	44.0	LOS D	19.6	122.0	0.96	0.92	1.04	25.7
All Vehicles		3687	2.4	3687	2.4	0.928	27.3	LOS B	19.6	122.0	0.63	0.62	0.69	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P41	West Stage 1	50	56.8	LOS E	0.2	0.2	0.95	0.95
P42	West Stage 2	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM BURNETT ST - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BURNETT ST														
1	L2	35	2.9	35	2.9	0.528	56.8	LOS E	8.0	48.9	0.93	0.82	0.93	21.2
3	R2	398	1.0	398	1.0	0.528	57.2	LOS E	8.0	48.9	0.93	0.82	0.93	30.5
Approach		433	1.2	433	1.2	0.528	57.1	LOS E	8.0	48.9	0.93	0.82	0.93	30.0
East: GWH														
4	L2	495	1.2	495	1.2	0.660	41.4	LOS C	16.6	101.1	0.87	0.85	0.87	35.1
5	T1	1181	3.5	1181	3.5	0.811	39.8	LOS C	23.5	146.8	0.93	0.85	0.95	26.2
Approach		1676	2.8	1676	2.8	0.811	40.3	LOS C	23.5	146.8	0.91	0.85	0.93	29.6
West: GWH														
11	T1	711	3.7	711	3.7	0.269	8.5	LOS A	5.5	34.2	0.41	0.36	0.41	52.6
12	R2	241	0.8	241	0.8	0.538	55.3	LOS D	8.8	53.3	0.92	0.82	0.92	31.0
Approach		952	2.9	952	2.9	0.538	20.4	LOS B	8.8	53.3	0.54	0.48	0.54	44.7
All Vehicles		3061	2.6	3061	2.6	0.811	36.5	LOS C	23.5	146.8	0.80	0.73	0.81	34.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		100	64.3	LOS F			0.96	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - HAWKESBURY RD - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	659	2.0	659	2.0	0.914	63.3	LOS E	21.2	130.0	1.00	0.97	1.19	7.3
2	T1	235	0.9	235	0.9	0.914	68.5	LOS E	11.0	66.7	0.99	0.98	1.28	21.5
3	R2	68	0.0	68	0.0	0.914	77.9	LOS F	11.0	66.7	1.00	1.04	1.37	6.6
Approach		962	1.6	962	1.6	0.914	65.6	LOS E	21.2	130.0	1.00	0.97	1.23	11.9
East: GWH														
4	L2	71	1.4	71	1.4	0.052	8.3	LOS A	0.6	3.6	0.30	0.62	0.30	41.9
5	T1	1131	3.2	1131	3.2	0.933	54.9	LOS D	27.7	172.4	0.99	1.06	1.22	15.5
6	R2	29	0.0	29	0.0	0.090	62.3	LOS E	1.1	6.4	1.00	0.73	1.00	26.1
Approach		1231	3.0	1231	3.0	0.933	52.4	LOS D	27.7	172.4	0.95	1.02	1.16	16.5
North: HAWKESBURY RD														
7	L2	55	0.0	55	0.0	0.077	22.4	LOS B	0.9	5.6	0.71	0.71	0.71	34.8
8	T1	166	0.0	166	0.0	0.943	75.6	LOS F	16.5	99.2	1.00	1.10	1.40	17.1
9	R2	437	0.7	437	0.7	0.943	84.8	LOS F	16.5	99.2	1.00	1.08	1.45	16.3
Approach		658	0.5	658	0.5	0.943	77.3	LOS F	16.5	99.2	0.98	1.05	1.38	17.3
West: GWH														
10	L2	167	0.6	167	0.6	0.137	17.9	LOS B	2.7	16.4	0.47	0.70	0.47	38.9
11	T1	788	3.4	788	3.4	0.611	27.4	LOS B	11.8	73.3	0.72	0.62	0.72	11.6
12	R2	157	3.2	157	3.2	0.942	55.7	LOS D	5.2	32.6	0.84	0.86	1.06	6.3
Approach		1112	3.0	1112	3.0	0.942	30.0	LOS C	11.8	73.3	0.70	0.67	0.73	16.1
All Vehicles		3963	2.2	3963	2.2	0.943	53.4	LOS D	27.7	172.4	0.89	0.92	1.09	15.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - WESTERN MOTORWAY OFF-RAMP]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	4	0.0	4	0.0	0.768	10.2	LOS A	1.2	7.1	0.63	0.90	1.01	34.8
2	T1	328	0.6	328	0.6	0.768	10.3	LOS A	1.2	7.1	0.63	0.90	1.01	45.5
3u	U	5	0.0	5	0.0	0.768	18.4	LOS B	1.2	7.1	0.63	0.90	1.01	54.6
Approach		337	0.6	337	0.6	0.768	10.5	LOS A	1.2	7.1	0.63	0.90	1.01	45.6
East: WESTERN MOTORWAY OFF-RAMP														
4	L2	209	2.9	209	2.9	0.363	6.0	LOS A	1.0	6.3	0.58	0.66	0.58	52.3
5	T1	3	0.0	3	0.0	0.363	5.9	LOS A	1.0	6.3	0.58	0.66	0.58	38.8
6	R2	600	1.2	600	1.2	0.363	11.7	LOS A	1.0	6.3	0.59	0.69	0.59	45.3
Approach		812	1.6	812	1.6	0.363	10.3	LOS A	1.0	6.3	0.58	0.68	0.58	47.8
North: COLEMAN ST														
8	T1	402	1.2	402	1.2	0.271	3.6	LOS A	0.5	3.2	0.06	0.36	0.06	58.0
9	R2	7	14.3	7	14.3	0.271	9.4	LOS A	0.5	3.2	0.06	0.36	0.06	43.8
9u	U	14	71.4	14	71.4	0.271	12.4	LOS A	0.5	3.2	0.06	0.36	0.06	53.3
Approach		423	3.8	423	3.8	0.271	4.0	LOS A	0.5	3.2	0.06	0.36	0.06	57.8
West: WESTMEAD HOSPITAL ACCESS														
10	L2	9	0.0	9	0.0	0.034	4.5	LOS A	0.0	0.2	0.62	0.71	0.62	21.6
12	R2	7	0.0	7	0.0	0.034	9.7	LOS A	0.0	0.2	0.62	0.71	0.62	53.2
Approach		16	0.0	16	0.0	0.034	6.8	LOS A	0.0	0.2	0.62	0.71	0.62	44.9
All Vehicles		1588	2.0	1588	2.0	0.768	8.6	LOS A	1.2	7.1	0.46	0.64	0.54	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM SITE ACCESS - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: SITE ACCESS														
1	L2	38	0.0	38	0.0	0.042	7.4	LOS A	0.1	0.4	0.43	0.62	0.43	27.6
Approach		38	0.0	38	0.0	0.042	7.4	LOS A	0.1	0.4	0.43	0.62	0.43	27.6
East: GWH														
4	L2	138	0.0	138	0.0	0.074	2.3	LOS A	0.0	0.0	0.00	0.50	0.00	35.1
5	T1	1213	3.1	1213	3.1	0.416	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1351	2.7	1351	2.7	0.416	0.2	NA	0.0	0.0	0.00	0.05	0.00	46.8
West: GWH														
11	T1	971	9.0	971	9.0	0.178	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		971	9.0	971	9.0	0.178	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		2360	5.3	2360	5.3	0.416	0.3	NA	0.1	0.4	0.01	0.04	0.01	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM WHITWORTH ST - GWH]

Network: N101 [EX PM PEAK]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1335	3.1	1335	3.1	0.303	4.6	LOS A	4.9	30.4	0.33	0.29	0.33	28.6
Approach		1335	3.1	1335	3.1	0.303	4.6	LOS A	4.9	30.4	0.33	0.29	0.33	28.6
North: WHITWORTH ST														
7	L2	18	11.1	18	11.1	0.077	57.0	LOS E	0.6	4.0	0.90	0.70	0.90	21.1
Approach		18	11.1	18	11.1	0.077	57.0	LOS E	0.6	4.0	0.90	0.70	0.90	21.1
West: GWH														
10	L2	18	11.1	18	11.1	0.011	2.3	LOS A	0.0	0.1	0.02	0.50	0.02	52.3
11	T1	953	8.9	953	8.9	0.337	0.8	LOS A	0.9	6.1	0.05	0.05	0.05	36.0
Approach		971	9.0	971	9.0	0.337	0.8	LOS A	0.9	6.1	0.05	0.06	0.05	40.1
All Vehicles		2324	5.6	2324	5.6	0.337	3.4	LOS A	4.9	30.4	0.22	0.20	0.22	29.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		100	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM BELINDA PL - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BELINDA PL														
1	L2	55	0.0	55	0.0	0.034	6.7	LOS A	0.1	0.3	0.44	0.63	0.44	48.5
Approach		55	0.0	55	0.0	0.034	6.7	LOS A	0.1	0.3	0.44	0.63	0.44	48.5
East: GWH														
4	L2	281	0.0	281	0.0	0.151	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	1317	3.0	1317	3.0	0.344	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1598	2.5	1598	2.5	0.344	1.0	NA	0.0	0.0	0.00	0.10	0.00	57.9
West: GWH														
11	T1	1028	8.5	1028	8.5	0.253	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1028	8.5	1028	8.5	0.253	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		2681	4.7	2681	4.7	0.344	0.7	NA	0.1	0.3	0.01	0.07	0.01	57.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM BRIDGE ST - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1893	2.7	1893	2.7	0.447	6.5	LOS A	7.9	48.7	0.37	0.33	0.37	50.8
6	R2	355	0.3	355	0.3	0.920	57.9	LOS E	12.3	73.8	0.75	0.91	1.04	22.9
Approach		2248	2.3	2248	2.3	0.920	14.7	LOS B	12.3	73.8	0.43	0.42	0.47	42.5
North: BRIDGE ST														
7	L2	204	1.5	204	1.5	0.198	19.9	LOS B	3.7	22.5	0.53	0.72	0.53	36.5
9	R2	276	0.4	276	0.4	0.887	72.5	LOS F	11.6	70.0	1.00	0.96	1.29	27.1
Approach		480	0.8	480	0.8	0.887	50.1	LOS D	11.6	70.0	0.80	0.86	0.97	29.1
West: GWH														
10	L2	72	1.4	72	1.4	0.114	35.3	LOS C	1.8	11.0	0.72	0.73	0.72	37.3
11	T1	959	3.1	959	3.1	0.911	60.5	LOS E	24.8	154.3	1.00	1.08	1.26	20.2
Approach		1031	3.0	1031	3.0	0.911	58.7	LOS E	24.8	154.3	0.98	1.05	1.22	21.5
All Vehicles		3759	2.3	3759	2.3	0.920	31.3	LOS C	24.8	154.3	0.63	0.65	0.74	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P41	West Stage 1	50	56.8	LOS E	0.2	0.2	0.95	0.95
P42	West Stage 2	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM BURNETT ST - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BURNETT ST														
1	L2	73	1.4	73	1.4	0.569	57.3	LOS E	8.9	54.1	0.94	0.83	0.94	21.1
3	R2	398	1.0	398	1.0	0.569	57.8	LOS E	8.9	54.1	0.94	0.83	0.94	30.4
Approach		471	1.1	471	1.1	0.569	57.7	LOS E	8.9	54.1	0.94	0.83	0.94	29.3
East: GWH														
4	L2	495	1.2	495	1.2	0.660	41.4	LOS C	16.6	101.1	0.87	0.85	0.87	35.1
5	T1	1339	3.1	1339	3.1	0.953	70.0	LOS E	38.2	237.2	0.97	1.10	1.25	18.3
Approach		1834	2.6	1834	2.6	0.953	62.3	LOS E	38.2	237.2	0.94	1.03	1.15	23.0
West: GWH														
11	T1	733	3.5	733	3.5	0.278	8.6	LOS A	5.7	35.5	0.41	0.36	0.41	52.6
12	R2	299	0.7	299	0.7	0.666	57.2	LOS E	11.3	68.6	0.96	0.84	0.96	30.5
Approach		1032	2.7	1032	2.7	0.666	22.7	LOS B	11.3	68.6	0.57	0.50	0.57	43.4
All Vehicles		3337	2.4	3337	2.4	0.953	49.4	LOS D	38.2	237.2	0.83	0.84	0.94	29.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		100	64.3	LOS F			0.96	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - HAWKESBURY RD - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	659	2.0	659	2.0	0.917	63.9	LOS E	21.2	130.0	1.00	0.97	1.20	7.2
2	T1	240	0.8	240	0.8	0.917	68.6	LOS E	11.1	67.2	0.99	0.98	1.28	21.5
3	R2	68	0.0	68	0.0	0.917	78.4	LOS F	11.1	67.2	1.00	1.04	1.38	6.6
Approach		967	1.6	967	1.6	0.917	66.1	LOS E	21.2	130.0	0.99	0.98	1.23	11.9
East: GWH														
4	L2	85	1.2	85	1.2	0.062	8.2	LOS A	0.7	4.3	0.30	0.62	0.30	42.0
5	T1	1145	3.1	1145	3.1	0.937	55.0	LOS D	27.8	173.0	0.98	1.06	1.22	15.5
6	R2	43	0.0	43	0.0	0.134	62.9	LOS E	1.6	9.5	1.00	0.75	1.00	26.0
Approach		1273	2.9	1273	2.9	0.937	52.1	LOS D	27.8	173.0	0.94	1.02	1.15	16.8
North: HAWKESBURY RD														
7	L2	63	0.0	63	0.0	0.088	22.5	LOS B	1.1	6.4	0.71	0.71	0.71	34.8
8	T1	166	0.0	166	0.0	0.929	71.9	LOS F	15.7	94.7	1.00	1.07	1.36	17.7
9	R2	437	0.7	437	0.7	0.929	80.7	LOS F	15.7	94.7	1.00	1.06	1.41	16.9
Approach		666	0.5	666	0.5	0.929	73.0	LOS F	15.7	94.7	0.97	1.03	1.33	18.0
West: GWH														
10	L2	167	0.6	167	0.6	0.137	18.3	LOS B	2.6	15.5	0.45	0.69	0.45	38.7
11	T1	839	3.2	839	3.2	0.649	24.7	LOS B	12.5	78.1	0.71	0.62	0.71	12.6
12	R2	157	3.2	157	3.2	0.960	60.4	LOS E	5.5	34.2	0.85	0.88	1.13	5.8
Approach		1163	2.8	1163	2.8	0.960	28.6	LOS C	12.5	78.1	0.69	0.66	0.73	16.4
All Vehicles		4069	2.2	4069	2.2	0.960	52.1	LOS D	27.8	173.0	0.89	0.91	1.08	15.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - WESTERN MOTORWAY OFF-RAMP + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	4	0.0	4	0.0	0.781	10.6	LOS A	1.2	7.4	0.64	0.91	1.04	34.6
2	T1	333	0.6	333	0.6	0.781	10.7	LOS A	1.2	7.4	0.64	0.91	1.04	45.1
3u	U	5	0.0	5	0.0	0.781	18.7	LOS B	1.2	7.4	0.64	0.91	1.04	54.3
Approach		342	0.6	342	0.6	0.781	10.8	LOS A	1.2	7.4	0.64	0.91	1.04	45.2
East: WESTERN MOTORWAY OFF-RAMP														
4	L2	209	2.9	209	2.9	0.368	6.2	LOS A	1.0	6.4	0.60	0.67	0.60	52.2
5	T1	3	0.0	3	0.0	0.368	6.0	LOS A	1.0	6.4	0.60	0.67	0.60	38.7
6	R2	600	1.2	600	1.2	0.368	11.9	LOS A	1.0	6.4	0.60	0.70	0.60	45.2
Approach		812	1.6	812	1.6	0.368	10.4	LOS A	1.0	6.4	0.60	0.69	0.60	47.7
North: COLEMAN ST														
8	T1	424	1.2	424	1.2	0.284	3.6	LOS A	0.6	3.5	0.06	0.36	0.06	58.0
9	R2	7	14.3	7	14.3	0.284	9.4	LOS A	0.6	3.5	0.06	0.36	0.06	43.8
9u	U	14	71.4	14	71.4	0.284	12.4	LOS A	0.6	3.5	0.06	0.36	0.06	53.3
Approach		445	3.6	445	3.6	0.284	3.9	LOS A	0.6	3.5	0.06	0.36	0.06	57.8
West: WESTMEAD HOSPITAL ACCESS														
10	L2	9	0.0	9	0.0	0.034	4.5	LOS A	0.0	0.2	0.62	0.72	0.62	21.6
12	R2	7	0.0	7	0.0	0.034	9.7	LOS A	0.0	0.2	0.62	0.72	0.62	53.2
Approach		16	0.0	16	0.0	0.034	6.8	LOS A	0.0	0.2	0.62	0.72	0.62	44.9
All Vehicles		1615	1.9	1615	1.9	0.781	8.7	LOS A	1.2	7.4	0.46	0.65	0.55	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM SITE ACCESS - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: SITE ACCESS														
1	L2	34	0.0	34	0.0	0.038	7.5	LOS A	0.1	0.4	0.44	0.62	0.44	27.5
Approach		34	0.0	34	0.0	0.038	7.5	LOS A	0.1	0.4	0.44	0.62	0.44	27.5
East: GWH														
4	L2	34	0.0	34	0.0	0.018	2.3	LOS A	0.0	0.0	0.00	0.50	0.00	35.1
5	T1	1246	3.0	1246	3.0	0.427	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1280	2.9	1280	2.9	0.427	0.1	NA	0.0	0.0	0.00	0.01	0.00	54.6
West: GWH														
11	T1	1029	8.5	1029	8.5	0.214	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1029	8.5	1029	8.5	0.214	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		2343	5.3	2343	5.3	0.427	0.2	NA	0.1	0.4	0.01	0.02	0.01	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM WHITWORTH ST - GWH + MSCP S1]

Network: N101 [EX PM PEAK + MSCP S1]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1373	3.0	1373	3.0	0.312	4.6	LOS A	5.1	31.6	0.33	0.29	0.33	28.5
Approach		1373	3.0	1373	3.0	0.312	4.6	LOS A	5.1	31.6	0.33	0.29	0.33	28.5
North: WHITWORTH ST														
7	L2	40	5.0	40	5.0	0.164	57.8	LOS E	1.3	8.5	0.92	0.73	0.92	20.9
Approach		40	5.0	40	5.0	0.164	57.8	LOS E	1.3	8.5	0.92	0.73	0.92	20.9
West: GWH														
10	L2	18	11.1	18	11.1	0.011	2.3	LOS A	0.0	0.1	0.02	0.50	0.02	52.3
11	T1	1011	8.4	1011	8.4	0.356	1.0	LOS A	1.2	8.1	0.06	0.06	0.06	33.5
Approach		1029	8.5	1029	8.5	0.356	1.0	LOS A	1.2	8.1	0.06	0.07	0.06	37.8
All Vehicles		2442	5.3	2442	5.3	0.356	4.0	LOS A	5.1	31.6	0.23	0.20	0.23	28.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		100	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM BELINDA PL - GWH + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BELINDA PL														
1	L2	88	0.0	88	0.0	0.053	6.6	LOS A	0.1	0.5	0.42	0.63	0.42	48.6
Approach		88	0.0	88	0.0	0.053	6.6	LOS A	0.1	0.5	0.42	0.63	0.42	48.6
East: GWH														
4	L2	404	0.0	404	0.0	0.218	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	1194	3.4	1194	3.4	0.320	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1598	2.5	1598	2.5	0.320	1.4	NA	0.0	0.0	0.00	0.15	0.00	57.2
West: GWH														
11	T1	1028	8.5	1028	8.5	0.253	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1028	8.5	1028	8.5	0.253	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		2714	4.7	2714	4.7	0.320	1.1	NA	0.1	0.5	0.01	0.11	0.01	57.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM BRIDGE ST - GWH + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1893	2.7	1893	2.7	0.447	6.6	LOS A	7.8	48.6	0.37	0.33	0.37	50.8
6	R2	355	0.3	355	0.3	0.920	58.1	LOS E	12.3	74.0	0.75	0.91	1.04	22.8
Approach		2248	2.3	2248	2.3	0.920	14.7	LOS B	12.3	74.0	0.43	0.43	0.47	42.5
North: BRIDGE ST														
7	L2	204	1.5	204	1.5	0.198	19.9	LOS B	3.7	22.5	0.53	0.72	0.53	36.5
9	R2	276	0.4	276	0.4	0.887	72.5	LOS F	11.6	70.0	1.00	0.96	1.29	27.1
Approach		480	0.8	480	0.8	0.887	50.1	LOS D	11.6	70.0	0.80	0.86	0.97	29.1
West: GWH														
10	L2	72	1.4	72	1.4	0.114	35.3	LOS C	1.8	11.0	0.72	0.73	0.72	37.3
11	T1	959	3.1	959	3.1	0.920	62.8	LOS E	25.5	158.6	1.00	1.09	1.28	19.7
Approach		1031	3.0	1031	3.0	0.920	60.9	LOS E	25.5	158.6	0.98	1.07	1.24	21.0
All Vehicles		3759	2.3	3759	2.3	0.920	31.9	LOS C	25.5	158.6	0.63	0.66	0.75	32.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P41	West Stage 1	50	56.8	LOS E	0.2	0.2	0.95	0.95
P42	West Stage 2	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM BURNETT ST - GWH + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: BURNETT ST														
1	L2	73	1.4	73	1.4	0.569	57.3	LOS E	8.9	54.1	0.94	0.83	0.94	21.1
3	R2	398	1.0	398	1.0	0.569	57.8	LOS E	8.9	54.1	0.94	0.83	0.94	30.4
Approach		471	1.1	471	1.1	0.569	57.7	LOS E	8.9	54.1	0.94	0.83	0.94	29.3
East: GWH														
4	L2	495	1.2	495	1.2	0.660	41.4	LOS C	16.6	101.1	0.87	0.85	0.87	35.1
5	T1	1339	3.1	1339	3.1	0.953	70.0	LOS E	38.2	237.2	0.97	1.10	1.25	18.3
Approach		1834	2.6	1834	2.6	0.953	62.3	LOS E	38.2	237.2	0.94	1.03	1.15	23.0
West: GWH														
11	T1	733	3.5	733	3.5	0.278	8.6	LOS A	5.7	35.5	0.41	0.36	0.41	52.6
12	R2	299	0.7	299	0.7	0.666	57.2	LOS E	11.3	68.6	0.96	0.84	0.96	30.5
Approach		1032	2.7	1032	2.7	0.666	22.7	LOS B	11.3	68.6	0.57	0.50	0.57	43.4
All Vehicles		3337	2.4	3337	2.4	0.953	49.4	LOS D	38.2	237.2	0.83	0.84	0.94	29.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		100	64.3	LOS F			0.96	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - HAWKESBURY RD - GWH + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	659	2.0	659	2.0	0.917	63.9	LOS E	21.2	130.0	1.00	0.97	1.20	7.2
2	T1	240	0.8	240	0.8	0.917	68.6	LOS E	11.1	67.2	0.99	0.98	1.28	21.5
3	R2	68	0.0	68	0.0	0.917	78.4	LOS F	11.1	67.2	1.00	1.04	1.38	6.6
Approach		967	1.6	967	1.6	0.917	66.1	LOS E	21.2	130.0	0.99	0.98	1.23	11.9
East: GWH														
4	L2	85	1.2	85	1.2	0.062	9.1	LOS A	0.9	5.7	0.40	0.65	0.40	40.6
5	T1	1145	3.1	1145	3.1	0.940	61.0	LOS E	28.7	178.4	1.00	1.08	1.24	14.4
6	R2	43	0.0	43	0.0	0.134	61.4	LOS E	1.5	9.3	1.00	0.75	1.00	26.3
Approach		1273	2.9	1273	2.9	0.940	57.5	LOS E	28.7	178.4	0.96	1.04	1.18	15.6
North: HAWKESBURY RD														
7	L2	63	0.0	63	0.0	0.088	22.5	LOS B	1.1	6.4	0.71	0.71	0.71	34.8
8	T1	166	0.0	166	0.0	0.931	72.3	LOS F	15.8	95.1	1.00	1.07	1.36	17.6
9	R2	437	0.7	437	0.7	0.931	81.1	LOS F	15.8	95.1	1.00	1.06	1.41	16.9
Approach		666	0.5	666	0.5	0.931	73.3	LOS F	15.8	95.1	0.97	1.03	1.33	17.9
West: GWH														
10	L2	167	0.6	167	0.6	0.137	18.3	LOS B	2.5	15.4	0.45	0.69	0.45	38.7
11	T1	839	3.2	839	3.2	0.649	24.5	LOS B	12.5	77.9	0.71	0.61	0.71	12.7
12	R2	157	3.2	157	3.2	0.960	60.5	LOS E	5.5	34.3	0.86	0.88	1.13	5.8
Approach		1163	2.8	1163	2.8	0.960	28.5	LOS B	12.5	77.9	0.69	0.66	0.73	16.4
All Vehicles		4069	2.2	4069	2.2	0.960	53.9	LOS D	28.7	178.4	0.89	0.91	1.09	15.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		150	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [EX PM COLEMAN ST - WESTERN MOTORWAY OFF-RAMP + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: COLEMAN ST														
1	L2	4	0.0	4	0.0	0.781	10.6	LOS A	1.2	7.4	0.64	0.91	1.04	34.6
2	T1	333	0.6	333	0.6	0.781	10.7	LOS A	1.2	7.4	0.64	0.91	1.04	45.1
3u	U	5	0.0	5	0.0	0.781	18.7	LOS B	1.2	7.4	0.64	0.91	1.04	54.3
Approach		342	0.6	342	0.6	0.781	10.8	LOS A	1.2	7.4	0.64	0.91	1.04	45.2
East: WESTERN MOTORWAY OFF-RAMP														
4	L2	209	2.9	209	2.9	0.368	6.2	LOS A	1.1	6.5	0.60	0.67	0.60	52.2
5	T1	3	0.0	3	0.0	0.368	6.1	LOS A	1.1	6.5	0.60	0.67	0.60	38.7
6	R2	600	1.2	600	1.2	0.368	11.9	LOS A	1.1	6.5	0.60	0.70	0.60	45.2
Approach		812	1.6	812	1.6	0.368	10.4	LOS A	1.1	6.5	0.60	0.69	0.60	47.7
North: COLEMAN ST														
8	T1	424	1.2	424	1.2	0.284	3.6	LOS A	0.6	3.5	0.06	0.36	0.06	58.0
9	R2	7	14.3	7	14.3	0.284	9.4	LOS A	0.6	3.5	0.06	0.36	0.06	43.8
9u	U	14	71.4	14	71.4	0.284	12.4	LOS A	0.6	3.5	0.06	0.36	0.06	53.4
Approach		445	3.6	445	3.6	0.284	3.9	LOS A	0.6	3.5	0.06	0.36	0.06	57.8
West: WESTMEAD HOSPITAL ACCESS														
10	L2	9	0.0	9	0.0	0.034	4.5	LOS A	0.0	0.2	0.62	0.72	0.62	21.6
12	R2	7	0.0	7	0.0	0.034	9.7	LOS A	0.0	0.2	0.62	0.72	0.62	53.2
Approach		16	0.0	16	0.0	0.034	6.8	LOS A	0.0	0.2	0.62	0.72	0.62	44.9
All Vehicles		1615	1.9	1615	1.9	0.781	8.7	LOS A	1.2	7.4	0.46	0.65	0.55	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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 [EX PM WHITWORTH ST - GWH + MSCP S2 - Without Ex Access]

Network: N101 [EX PM PEAK + MSCP S2 - Without Ex Access]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: GWH														
5	T1	1283	3.2	1283	3.2	0.349	4.7	LOS A	5.9	36.7	0.33	0.30	0.33	28.4
Approach		1283	3.2	1283	3.2	0.349	4.7	LOS A	5.9	36.7	0.33	0.30	0.33	28.4
North: WHITWORTH ST														
7	L2	40	5.0	40	5.0	0.164	57.8	LOS E	1.3	8.5	0.92	0.73	0.92	20.9
Approach		40	5.0	40	5.0	0.164	57.8	LOS E	1.3	8.5	0.92	0.73	0.92	20.9
West: GWH														
10	L2	18	11.1	18	11.1	0.011	5.7	LOS A	0.0	0.1	0.02	0.58	0.02	51.6
11	T1	1011	8.4	1011	8.4	0.356	0.9	LOS A	1.2	8.2	0.06	0.06	0.06	57.2
Approach		1029	8.5	1029	8.5	0.356	1.0	LOS A	1.2	8.2	0.06	0.06	0.06	57.0
All Vehicles		2352	5.5	2352	5.5	0.356	4.0	LOS A	5.9	36.7	0.22	0.20	0.22	44.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P2	East Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	50	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		100	56.8	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Appendix E

Turning Path Assessment

PROPOSED CONVEX MIRRORS

PROPOSED CONVEX MIRRORS

DRIVEWAY

12266 SETBACK

SETBACK

4000 SETBACK

CARPARK LIFTS

RL 35.50

RL 35.4

GROUND FLOOR 34 CARPARKS

CARPARK RAMP

10%

17%

10%

CARPARK ENTRY

RL 35.4

EXISTING TREE

FIRE EGRESS RL34.75

SITE BOUNDARY 57.90M

RL 34.20

BELINDA PLACE

PLANTER - REFER TO LANDSCAPE PLAN FOR LAYOUT

STAFF CARPARK

DRIVEWAY RAMP 1:16

RAMP 1:8

RAMP 1:16

FLOOR LEVEL 1 AND ABOVE

FLOOR LEVEL ABOVE

DRIVEWAY RAMP 1:16

DRIVEWAY RAMP 1:16

RL 33.50

RL 33.25

400 SETBACK

1200 mm HIGH POOL SAFE FENCING ON OSD RETAINING WALL

TW34.95

FLOOR LEVEL 2 AND ABOVE

PLANTER - REFER TO LANDSCAPE PLAN FOR LAYOUT

EXISTING TREE

RL 33.50

B99 STANDARDS 2004 (AU_NZ)

B85 STANDARDS 2004 (AU_NZ)

0 5 10 20

RIUM ABOVE

G

DRIVEWAY

12266
SETBACK

4950

4000
SETBACK

RL 35.50

CARPARK
LIFTS

RL35.4

GROUND FLOOR
34 CARPARKS

EXISTING
TREE

CARPARK RAMP

10%

17%

10%

FIRE EGRESS
RL34.75

SITE BOUNDARY 57.90M

RL 34.20

PLANTER - REFER TO LANDSCAPE PLAN FOR LAYOUT

STAFF CARPARK

FLOOR LEVEL 1 ABOVE

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:8

RL 33.50

RL 33.25

4000
SETBACK

1200 mm HIGH POOL SAFE FENCING TW34.95
TOP QSD RETAINING WALL

FLOOR LEVEL 2 AND ABOVE

PLANTER - REFER
TO LANDSCAPE
PLAN FOR LAYOUT

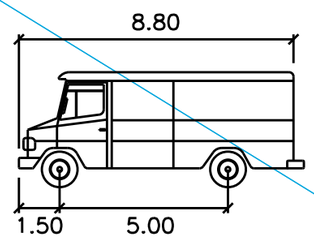
EXISTING
TREE

RL 33.50

PLACE

SERVICE VEHICLE
AUSTROADS 2013 (AU)

B85
STANDARDS 2004 (AU_NZ)



SERVICE VEHICLE Dimensions in Meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

0 5 10 20

RIUM ABOVE

NT OF FUTURE AUDITORIUM ABOVE

DRIVEWAY

12266
SETBACK

SETBACK

4000
SETBACK

RL 35.50

4950

3100

2350

CARPARK
LIFTS

RL35.4

34 CARPARKS

EXISTING
TREE

FIRE EGRESS
RL34.75

CARPARK RAMP

10%

17%

10%

6000
CARPARK
ENTRY

RL35.4

SITE BOUNDARY 57.90M

RL 34.20

PLANTER - REFER TO LANDSCAPE PLAN FOR LAYOUT

RL36.80

DRIVEWAY
RAMP 1:16

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:16

FLOOR LEVEL 2 AND ABOVE

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:16

4000
SETBACK

RL 33.50

RL 33.25

1200 mm HIGH POOL SAFE FENCING
ON OSD RETAINING WALL

TW34.95

FLOOR LEVEL 2 AND ABOVE

PLANTER - REFER
TO LANDSCAPE
PLAN FOR LAYOUT

EXISTING
TREE

RL 33.50

BELINDA PLACE

0 5 10 20

RIUM ABOVE

NT OF FUTURE AUDITORIUM ABOVE

G

DRIVEWAY

12266
SETBACK

SETBACK

4950

4000
SETBACK

RL 35.50

CARPARK
LIFTS

GROUND FLOOR
34 CARPARKS

RL35.4

EXISTING
TREE

CARPARK RAMP

10%

17%

10%

FIRE EGRESS
RL34.75

SITE BOUNDARY 57.90M

RL 34.20

PLANTER - REFER TO LANDSCAPE PLAN FOR LAYOUT

RL36.80

DRIVEWAY
RAMP 1:16

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:16

FLOOR LEVEL 1 AND ABOVE

FLOOR LEVEL ABOVE

DRIVEWAY
RAMP 1:8

DRIVEWAY
RAMP 1:16

4000
SETBACK

RL 33.50

RL 33.25

1200 mm HIGH POOL SAFE FENCING
ON OSD RETAINING WALL

TW34.95

FLOOR LEVEL 2 AND ABOVE

PLANTER - REFER
TO LANDSCAPE
PLAN FOR LAYOUT

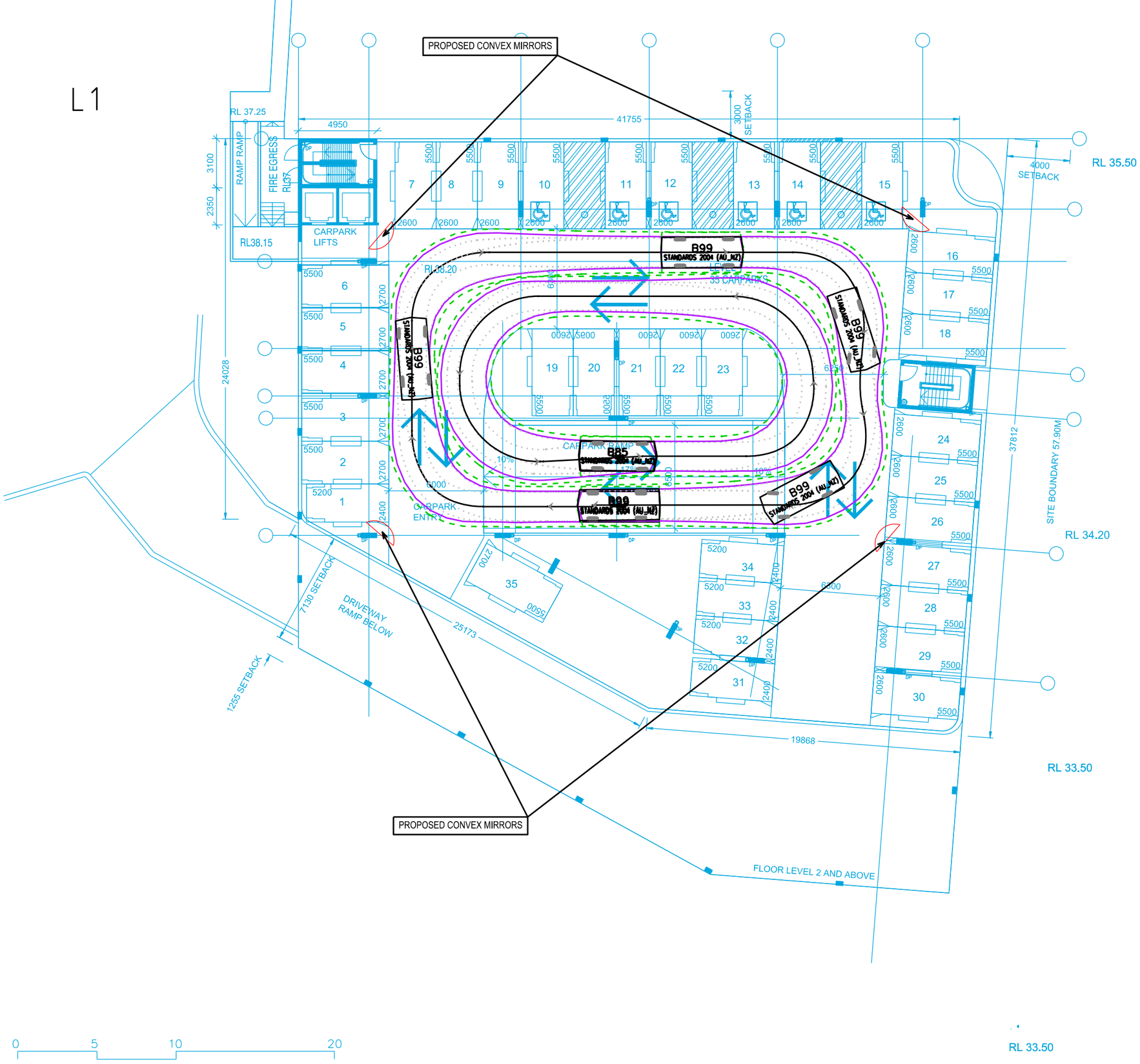
EXISTING
TREE

RL 33.50

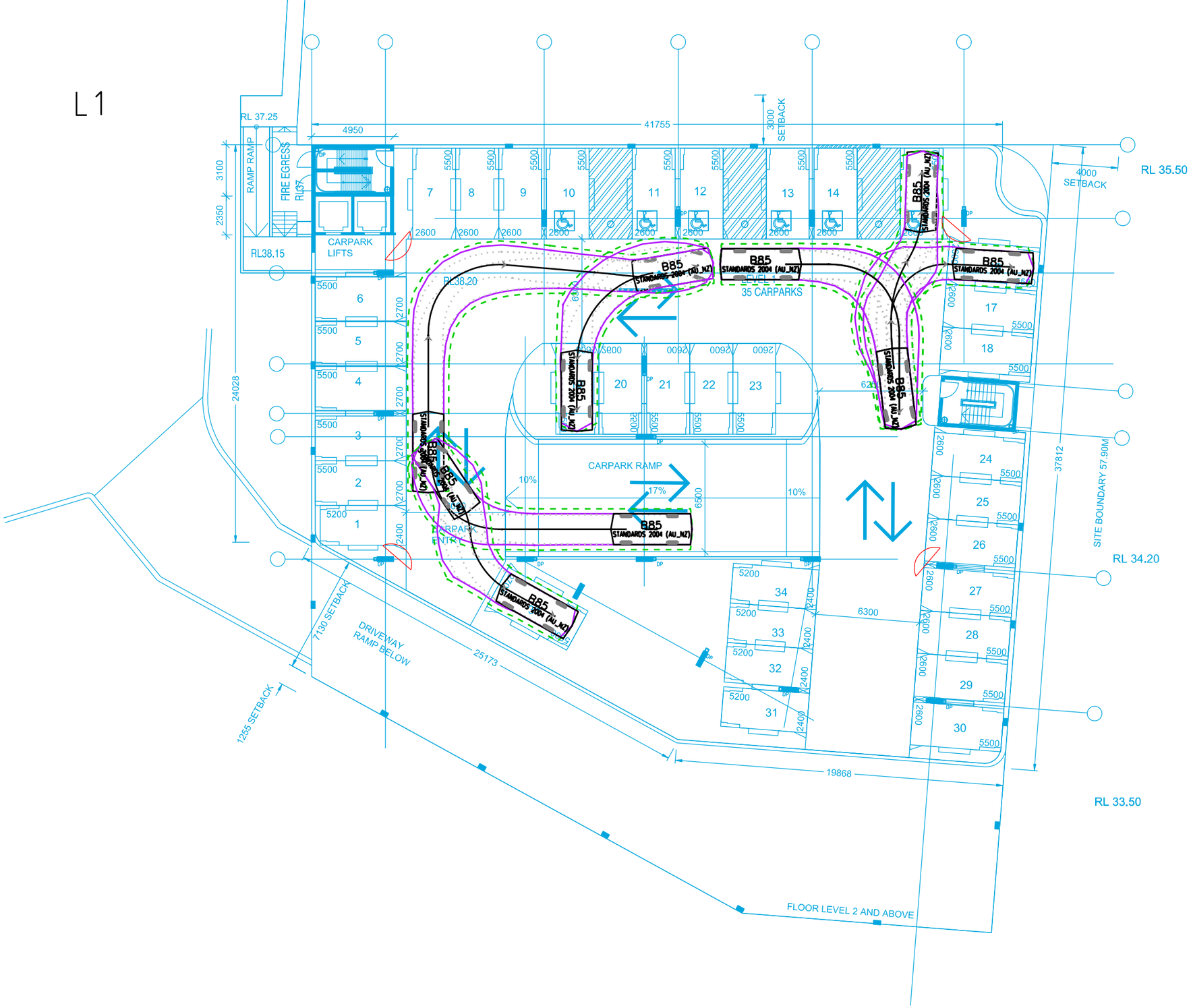
BELINDA PLACE

0 5 10 20

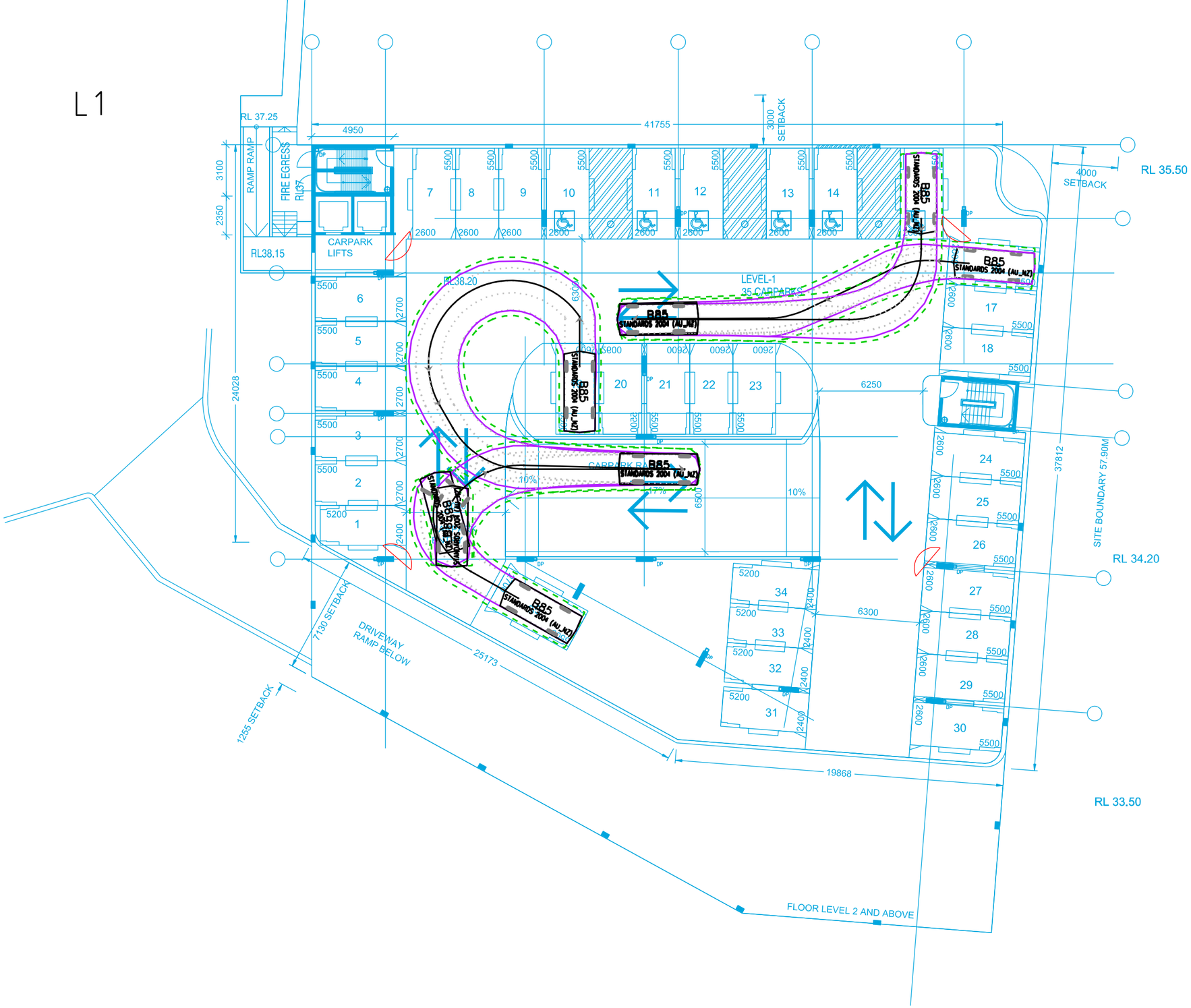
L1


PROPOSED CONVEX MIRRORS
RL 37.25
4950
41755
3000 SETBACK
RAMP RAMP
FIRE EGRESS
RL37
3100
2350
24028
RL38.15
CARPARK LIFTS
RL38.20
B99 STANDARDS 2004 (AU_NZ)
LIFT
33 CARPARKS
CARPARK RAMP
B85 STANDARDS 2004 (AU_NZ)
10%
6000
CARPARK ENTRY
7130 SETBACK
DRIVEWAY RAMP BELOW
25173
1255 SETBACK
4000 SETBACK
RL 35.50
37812
SITE BOUNDARY 57.90M
RL 34.20
19868
RL 33.50
FLOOR LEVEL 2 AND ABOVE
PROPOSED CONVEX MIRRORS
RL 33.50
0
5
10
20

L1


RL 37.25
4950
41755
3000 SETBACK
RAMP RAMP
FIRE EGRESS
RL37
3100
2350
24028
RL38.15
CARPARK LIFTS
RL38.20
LEVEL 1
35 CARPARKS
B85 STANDARDS 2004 (AU_NZ)
CARPARK RAMP
17%
10%
CARPARK ENTRY
4000 SETBACK
RL 35.50
SITE BOUNDARY 57.90M
37812
RL 34.20
7130 SETBACK
DRIVEWAY RAMP BELOW
25173
1255 SETBACK
19868
RL 33.50
FLOOR LEVEL 2 AND ABOVE
RL 33.50
0
5
10
20

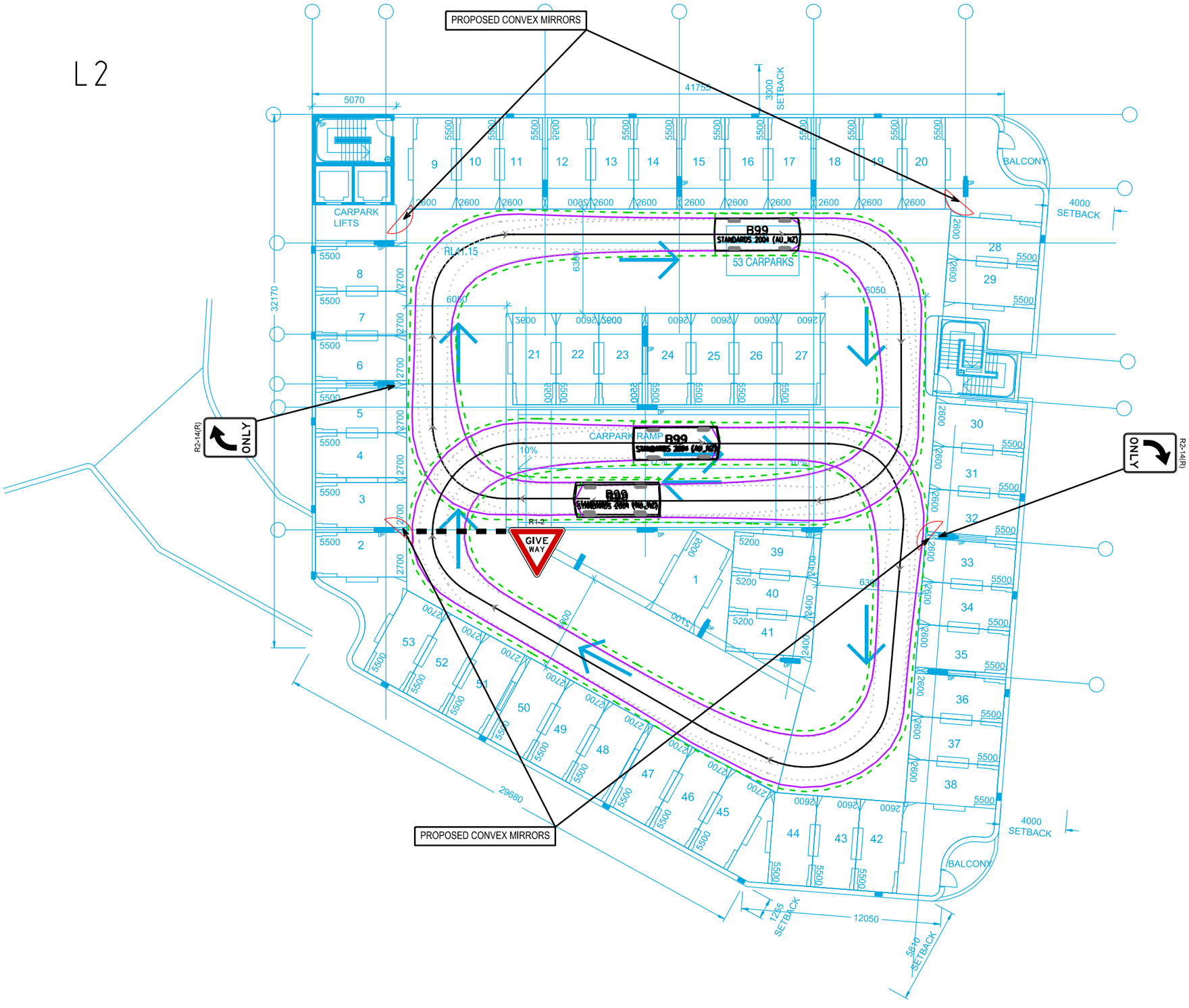
L1



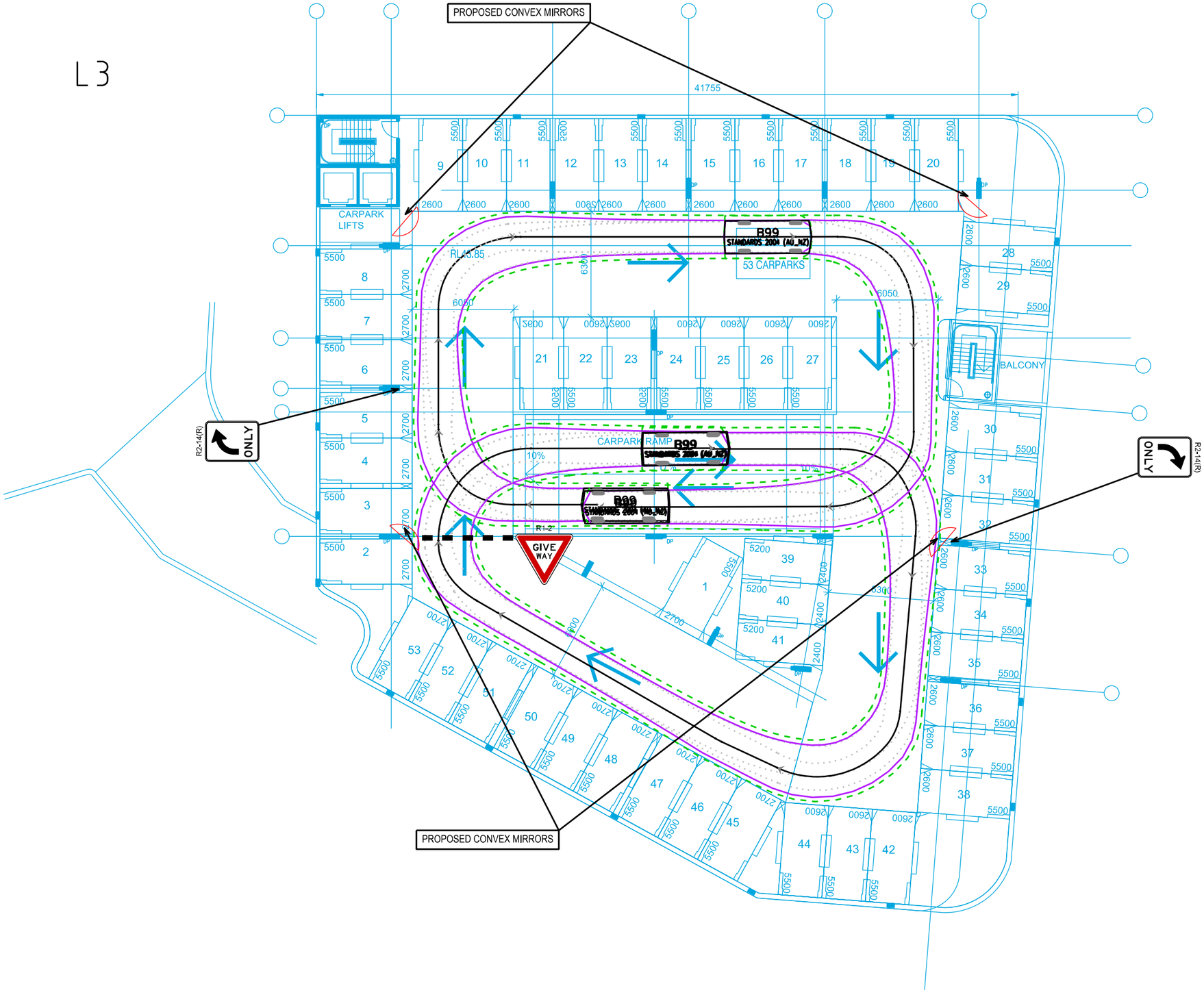
0 5 10 20

RL 33.50

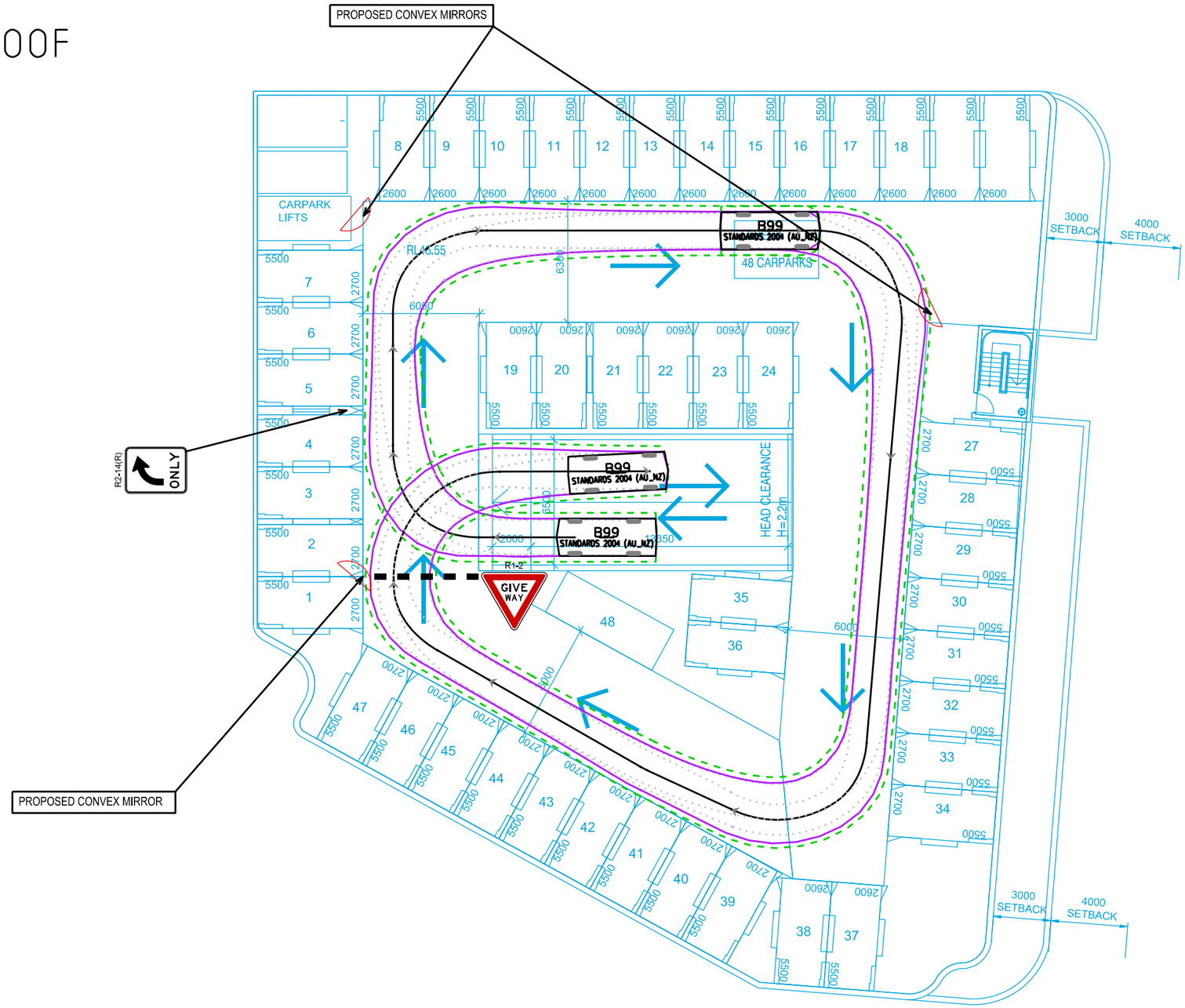
L 2


PROPOSED CONVEX MIRRORS
41755
3000 SETBACK
5070
CARPARK LIFTS
BALCONY
4000 SETBACK
B99 STANDARDS 2004 (AU_NZ)
53 CARPARKS
RL41.15
CARPARK RAMP
10%
B99 STANDARDS 2004 (AU_NZ)
B99 STANDARDS 2004 (AU_NZ)
GIVE WAY
R1-2
R2-14(R) ONLY
R2-14(R) ONLY
32170
29680
PROPOSED CONVEX MIRRORS
1285 SETBACK
12050
5840 SETBACK
4000 SETBACK
BALCONY
0
5
10
20

L 3


PROPOSED CONVEX MIRRORS
41755
CARPARK LIFTS
RL45.85
B99 STANDARDS 2004 (AU_NZ)
53 CARPARKS
CARPARK RAMP
10%
BALCONY
ONLY
R2-14(R)
GIVE WAY
R1-2
PROPOSED CONVEX MIRRORS
0
5
10
20

ROOF


PROPOSED CONVEX MIRRORS
PROPOSED CONVEX MIRROR
R2-14(R)
ONLY
CARPARK LIFTS
RL40.55
B99 STANDARDS 2004 (AU_NZ)
48 CARPARKS
HEAD CLEARANCE H=2.2m
GIVE WAY
R1-2
3000 SETBACK
4000 SETBACK
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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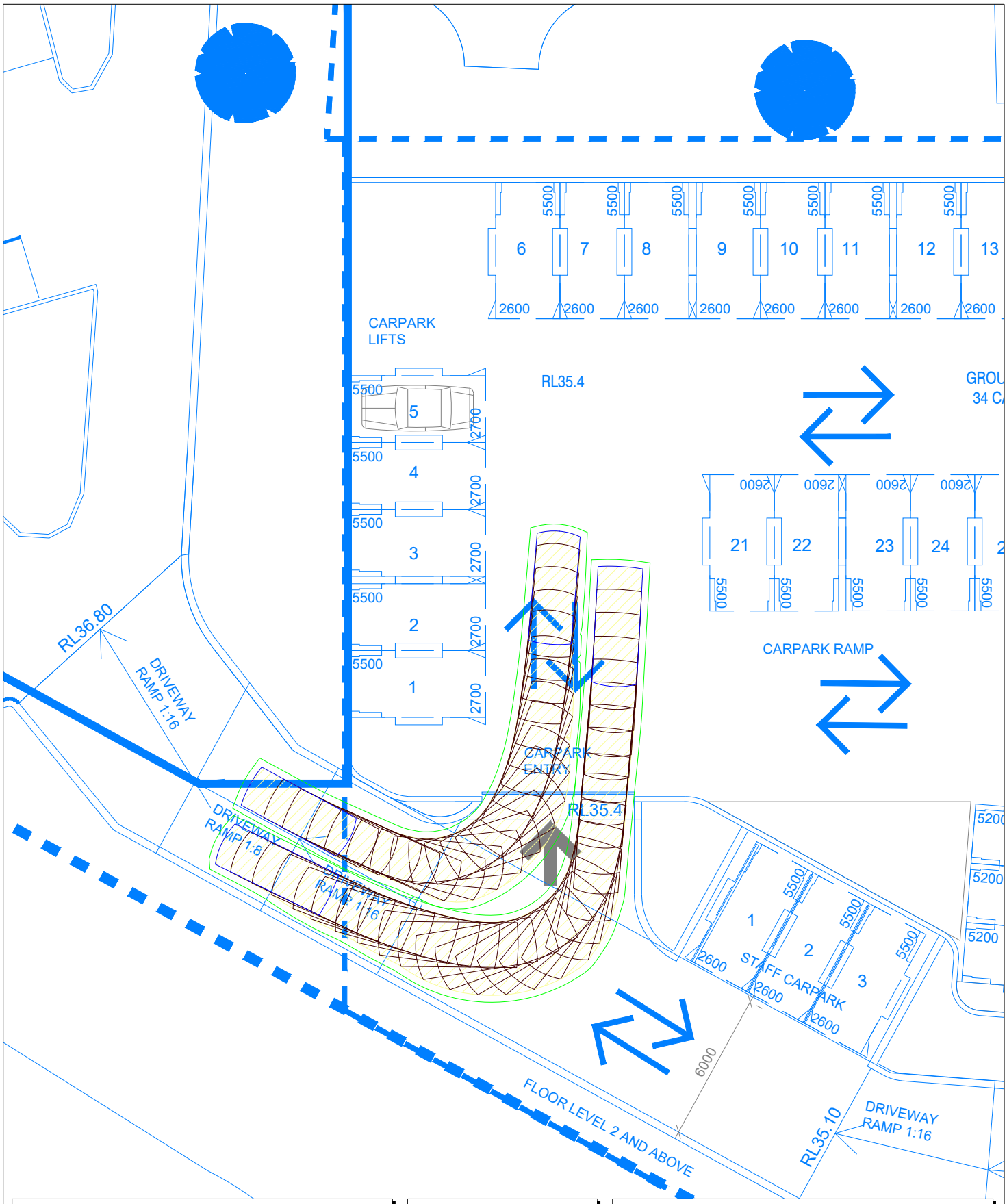
44
45
46
47
48

0 5 10 20



LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A 99th PERCENTILE VEHICLE ENTERING FROM THE EXISTING CARPARK PASSING A 99th PERCENTILE VEHICLE EXITING

SP 1

Appendix F

Operational Traffic Management Plan

ttpa TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994

Suite 502, Level 5, 282 Victoria Avenue
Chatswood NSW 2067
T (02) 9411 5660 | F (02) 9904 6622
E info@ttpa.com.au | ttpa.com.au

7-9 Belinda Place & 217 Great Western Highway, Mays Hills

Proposed Multi-Storey Carpark

Operational Traffic Management Plan

Ref: 16019
Date: August 2020
Issue: A

Table of Contents

List of Appendices

1.0 Introduction

This Operational Traffic Management Plan (OTMP) has been prepared to accompany a Development Application (DA) to Cumberland Council for the construction of a 5-storey carpark for the existing temple use on a site at 7-9 Belinda Place and 217 Great Western Highway, Mays Hill.

The OTMP will be displayed in prominent locations within the premises and the Temple's website.

The committee will be responsible for ensuring that the terms of the Plan are adhered to at all times. This OTMP incorporates the following:

- All the measures to be implemented on the premises in terms of managing traffic and parking. These include vehicular traffic, loading/unloading and pick up/drop off areas.

- Provide details on the shuttle services, including start time, finish time, and operating days.

- Provide details on overflow management measures during special events.

- Provide details on travel demand management measures to discourage car dependency, such as website travel information, carpooling, etc.

- The committee must not alter the traffic operations at the premises unless development consent has been specifically granted for the change to the approved OTMP.

2.0 Existing Temple's Operation

The permitted hours of operation are as follows:

Temple Opening Hours

Friday	7.00 am - 9.30 pm
All other days	7.00 am - 8.30 pm

Daily Pooja Times

Morning	7.00 am and 10.00 am
Afternoon	12.00 pm, 5.00 pm, 7:00 pm and 8:30 pm (9.30 pm on Fridays)

Kootu Valipadu

Tuesdays	8.00 pm - 8.30 pm
Fridays	8.00 pm - 9.00 pm

There are 24 special events which occur each year. This equates to 291 hours per year (3% - 4% time in a year). See details overleaf.

		Morning		Evening			
Date	Day	From	To	From	To	Purpose	No. of hours
29-Mar	Sun	10:00am	2.00PM	6.30PM	9.30PM	Annual Festival - Day 1	7
30-Mar	Mon			6.30PM	9.30PM	Annual Festival - Day 2	3
31-Mar	Tue			6.30PM	9.30PM	Annual Festival - Day 3	3
1-Apr	Wed			6.30PM	9.30PM	Annual Festival - Day 4	3
2-Apr	Thu			6.30PM	9.30PM	Annual Festival - Day 5	3
3-Apr	Fri			6.30PM	9.30PM	Annual Festival - Day 6	3
4-Apr	Sat			6.30PM	9.30PM	Annual Festival - Day 7	3
5-Apr	Sun			6.30PM	9.30PM	Annual Festival - Day 8	3
6-Apr	Mon	10:00am	2.00PM	6.30PM	9.30PM	Annual Festival - Day 9	7
7-Apr	Tue	10:00am	2.00Pm	6.30PM	9.30PM	Annual Festival - Day 10	7
8-Apr	Wed			6.30PM	9.30PM	Annual Festival - Day 11	3
14-Apr	Tue	10.00AM	2.00PM	6.30PM	9.30PM	Tamil New Year	7
19-Sep	Sat	10:00am	2:00pm			Purataathi Sani	4
26-Sep	Sat	10:00am	2:00pm			Purataathi Sani	4
3-Oct	Sat	10:00am	2:00pm			Purataathi Sani	4
10-Oct	Sat	10:00am	2:00pm			Purataathi Sani	4
17-26 Oct	Sat-Mon			6.30PM	9.30PM	Navarathiri (10 days)	30
14-Nov	Sat	10:00am	2:00pm	6.30PM	9.30PM	Diwali	7
15-Nov	Sun			6.30PM	9.30PM	Kethara Gowri Viratham	3
20-Nov	Fri			6.30PM	9.30PM	Skanda Shashti	3
31st Dec	10.00PM	2.00AM					4
1-Jan	10.00AM	2.00PM		6.30PM	9.30PM	New Year Day	7
28-Jan	Thur	10:00am	2:00pm	6.30PM	9.30PM	Thai Poosam	7
11-Mar	Thur			6:00pm	12:00am	Maha Sivarathiri	6
	52 Fridays			6:30pm	9.30PM	All Fridays of the year	156
						Total Hours	**291**

Note: This is approximately 3-4 percent of the available hours in a year.

3.0 Proposed Multi-Storey Carpark Operation

3.1 Parking Capacity

At the completion of the multi-storey carpark (See Appendix A), the on-site parking provision of 325 spaces will comprise:

- 102 on-grade spaces
- 223 new multi-storey carpark spaces with the following breakdown:
    - Ground-level - 34 spaces
    - Level 1 – 35 spaces
    - Level 2 – 53 spaces
    - Level 3 – 53 spaces
    - Rooftop – 48 spaces

3.2 Operating Hours

The operating hours of the car park will be:

- between 6 am and 10 pm
- 7 days a week
- 365 days a year

During New Year Eve (31 December) and Maha Sivarathiri (11 March), the carpark will operate up to 2.30 am and 12.30 am, respectively.

Access in and out of the carpark will be restricted via the provision of a gate at Belinda Place and a roller shutter at the entry/exit point of the multi-storey carpark building.

3.3 Special Event Parking

The following measures will be in place during special events to encourage the use of Belinda Place to access the multi-storey carpark:

- Website and newsletter advising worshippers and visitors to use the multi-storey carpark
- Temple staff to actively supervise carpark and vehicle access activity
- Temple staff to display a sign at Belinda Place intersection to indicate that parking in the at-grade carpark is full and to proceed to the multi-storey carpark to reduce unnecessary vehicles entering and exiting the at-grade in search of parking.

3.4 Set Down / Pick Up

Set-down/Pick-up will continue to occur within the internal circulation road consistent with the current arrangement. The 18m long informal set-down/pick-up zone can accommodate up to 3 cars or a 1 shuttle and 1 car at any one time.

The 7m wide one-way circulation road allows passing opportunities by other vehicles during the set-down/pick-up activities.

The shuttle will be operating on Chariot Day and Theertham Day between Westmead railway station and the Temple from 9 am - 3 pm. Details can be obtained by calling 0403 543 161.

3.5 Loading/Unloading

- Access for the service area will be available between 6 am and 10 pm (7 days).
- Refuse removal times will be coordinated for non-peak times (outside of the peak Temple or event hours).
- The on-site manager will monitor the service area to ensure that drivers do not “overstay” in the loading area.
- Couriers and service personnel etc. will be able to use the visitor spaces.


BUS
LANE

4.0 Travel Modes

The site is located within 1.3km south of Westmead Railway Station and within 2km from 2 major railway stations – Parramatta and Merrylands. It is located just to the south of the bus stop on the Great Western Highway (westbound lane) and within convenient walking distance of 50m to/from the bus stops along the Great Western Highway (eastbound lane).

Bus routes 810X, 811X and T80 runs along the Great Western Highway, providing connections to Pemulwuy as well as Merrylands, Parramatta and Liverpool Stations.

See Appendix B for the public transport provisions.

The travel modes for visitor, staff and volunteers at the Temple comprise:

- Rail via Westmead, Parramatta and Merrylands
- Sydney Buses connections at Merrylands, Parramatta and Liverpool rail stations
- Free shuttle from Westmead (available for visitors to the Temple during Chariot Day and Theertham Day only)
- Car and park
- Car set down and pick up
- Walk

5.0 Travel Demand Management

The Temple Community is very “tight” with a strong sense of interaction, communication, support and care for the environment. Hence travelling together, including carpooling, is a very natural tendency.

The officials of the Temple will provide website information and issue regular newsletters, particularly in relation to any special events which will:

- facilitate carpooling
- advise of the available bus and train services
- advise of the contact details the free shuttles from Westmead railway station, which are entirely flexible in relation to times and pick-up/set-down locations
- advise of the available car parking provisions
- advise that easy walking conditions are available along the Great Western Highway and Belinda Place footway for pedestrian access

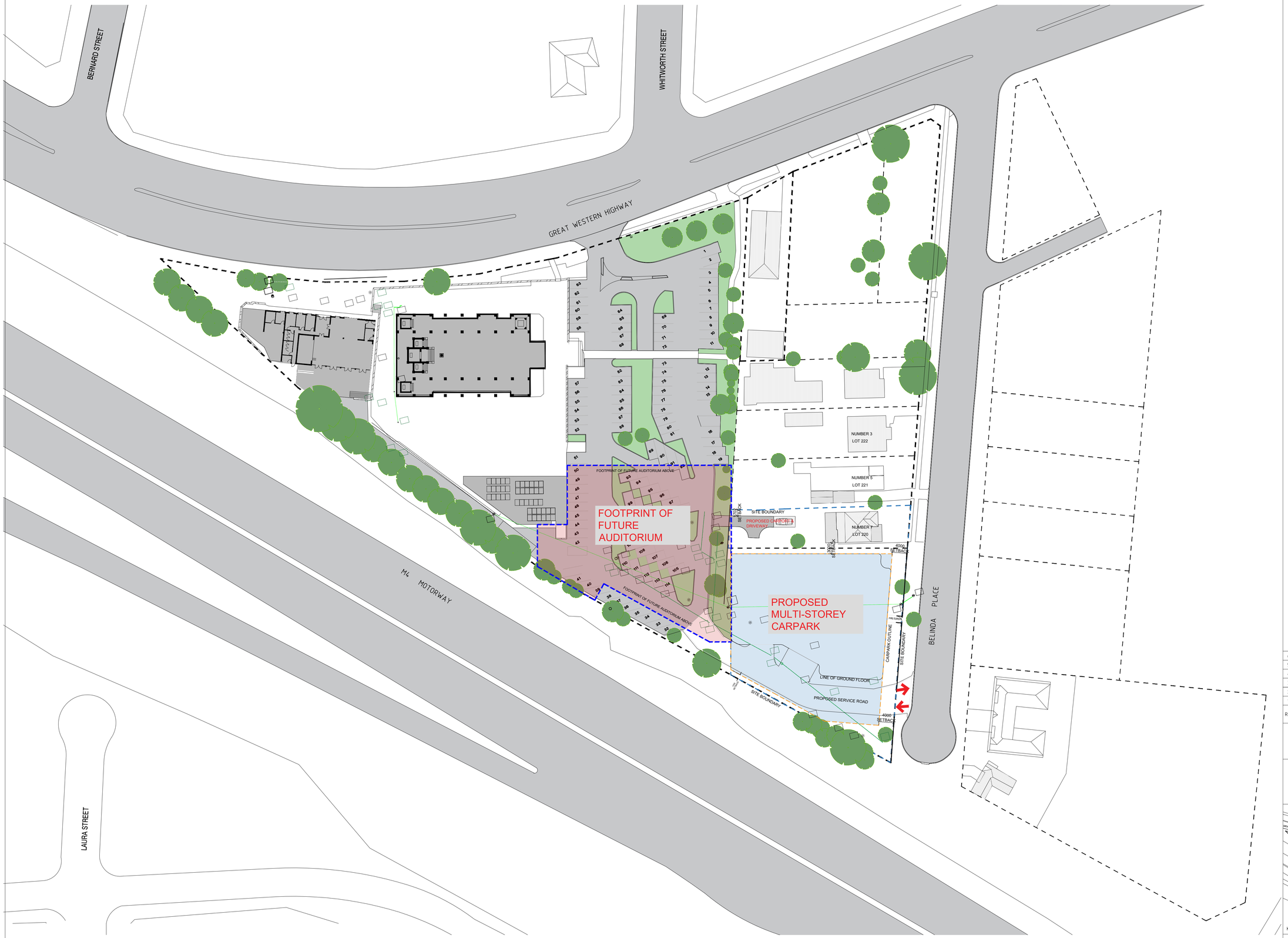
6.0 Maintenance and Review

The OTMP will be displayed on the noticeboard and maintained by the committee and will be reviewed on an annual basis as part of the Operational Management Plan review.

The committee will not alter any traffic or parking operations at the premises without development consent being specifically granted to change the approved OTMP.

Appendix A

Development Plans



LEGEND

- EXISTING CONDITION NOT PART OF SCOPE
- EXISTING CONDITION TO BE DEMOLISHED
- SITE BOUNDARY
- PROPOSED BUILDING OUTLINE

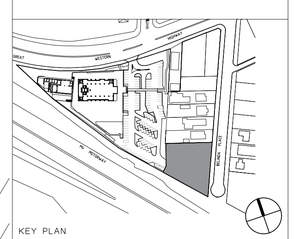
REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
5	SUBMITTED FOR COUNCIL PLANNER'S COMMENT	07.07.20	PJ
4	SUBMITTED FOR DA - survey plan updated	13.01.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE	01.02.19	PJ

Project

SYDNEY MURUGAN TEMPLE
MULTI-STOREY CARPARK

Principal

THE PRESIDENT- THE SAIVA MANRAM
SYDNEY MURUGAN TEMPLE



KEY PLAN

HEALTH PROJECTS INTERNATIONAL
Architects and Health Facility Planners
ACN 066 856 595
Suite 1, Ground Floor, 68 Milsons Point, NSW 2061
Ph: (02) 9460 4199 Fax: (02) 9460 4299

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE. ALL DIMENSIONS SHALL BE VERIFIED ON SITE AND DISCREPANCIES IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER FOR RESOLUTION

Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

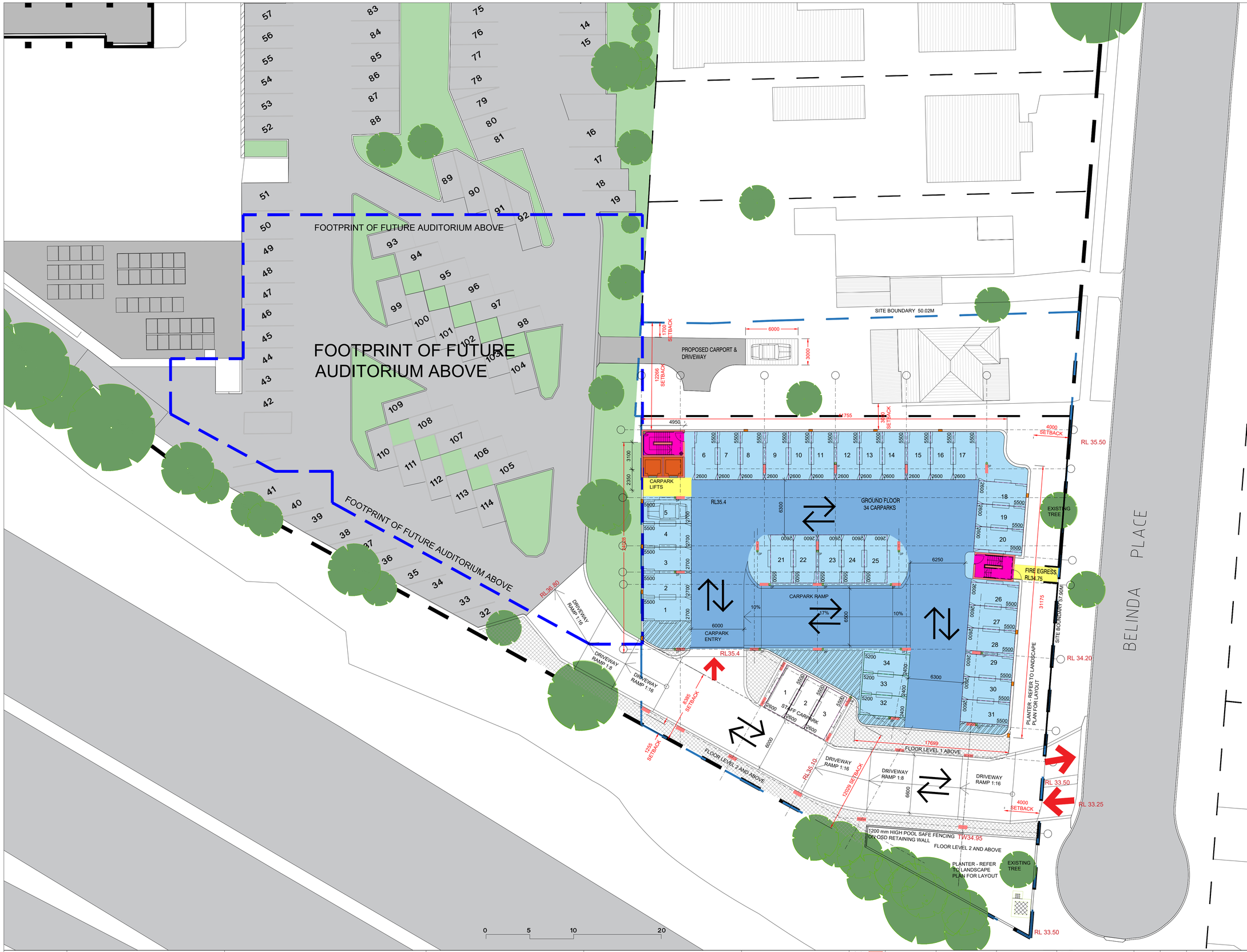
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title: **SITE PLAN**

CAD File: SMT-CP-SITE

Dwg.No.: **SMT-P-SITE**

Issue: **6**



LEGEND

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- SITE BOUNDARY

SITE AREA			17467.00 m²
CAR PARK			
EXISTING ON-GRADE CAR PARKING SPACES		114	
LOST ON-GRADE CAR PARKING SPACES		-12	
NEW MULTI-STOREY CARPARKING SPACES		223	AREA
RL 35.4	GROUND FLOOR	34	1323.00 m²
RL 38.35	LEVEL 1	35	1323.00 m²
RL 41.05	LEVEL 2	53	1820.00 m²
RL 43.75	LEVEL 3	53	1820.00 m²
RL 46.45	ROOFTOP	48	80.00 m²
TOTAL		325	6366.00 m²
RL 33.20	ON-SITE DETENTION TANK BELOW CARPARK BUILDING	AREA=	212.00 m²
		VOL=	301.00 m³
RL 33.75	ON-SITE DETENTION TANK ON-GRADE	VOL=	113.00 m³

REV	REVISION DESCRIPTION	DATE	BY
6	ISSUED TO CONSULTANTS FOR COORDINATION	31.07.20	PJ
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4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	FIRST ISSUE-FOR INFORMATION	29.08.19	HD

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RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

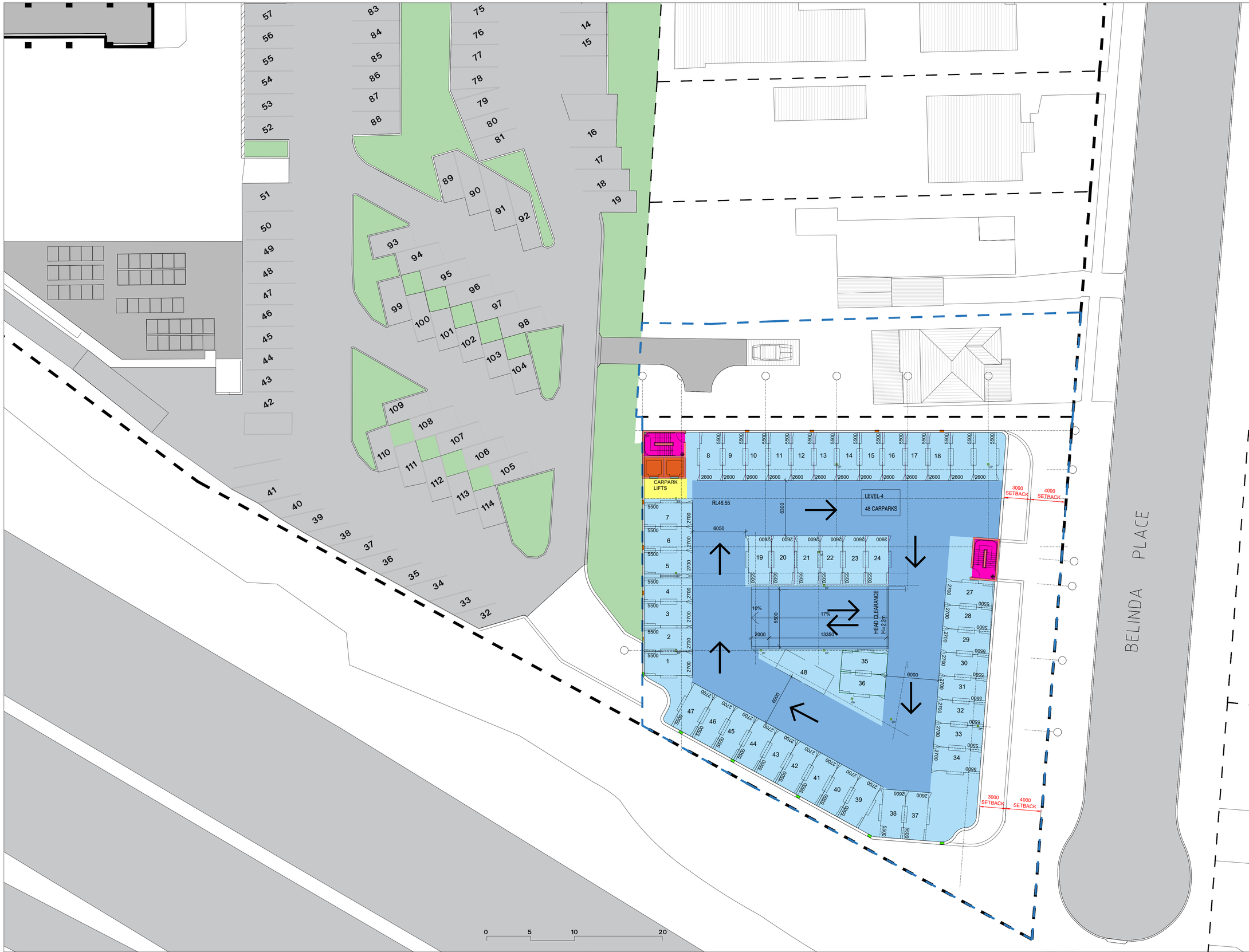
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	28.03.2019	1:200

Drawing Title: **GROUND FLOOR PLAN**

CAD File: SMT-CP-P-G

Dwg.No.: **SMT-CP-G**

Issue: **6**



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- SITE BOUNDARY

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3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

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RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Block/ Zone	Drawn	Checked	Date	Scale/s
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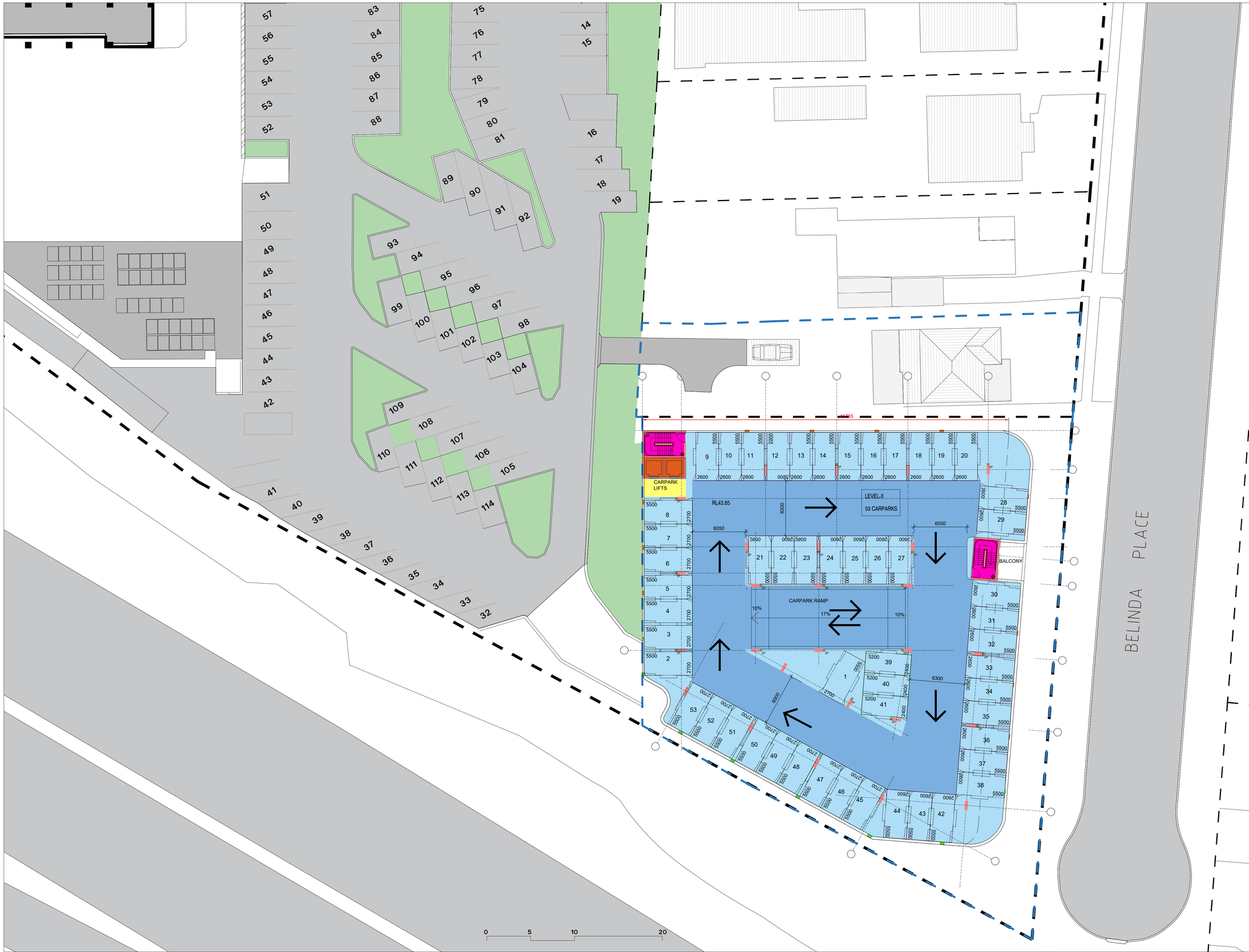
Drawing Title: **ROOFTOP LEVEL 4 FLOOR PLAN**

CAD File: SMT-(P-P-L

Dwg.No.: **SMT-P-4**

Issue: **6**



REV	REVISION DESCRIPTION	DATE	BY
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1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

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Reason for Issue
DA Plan for submission

Quality Endorsed Company

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RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

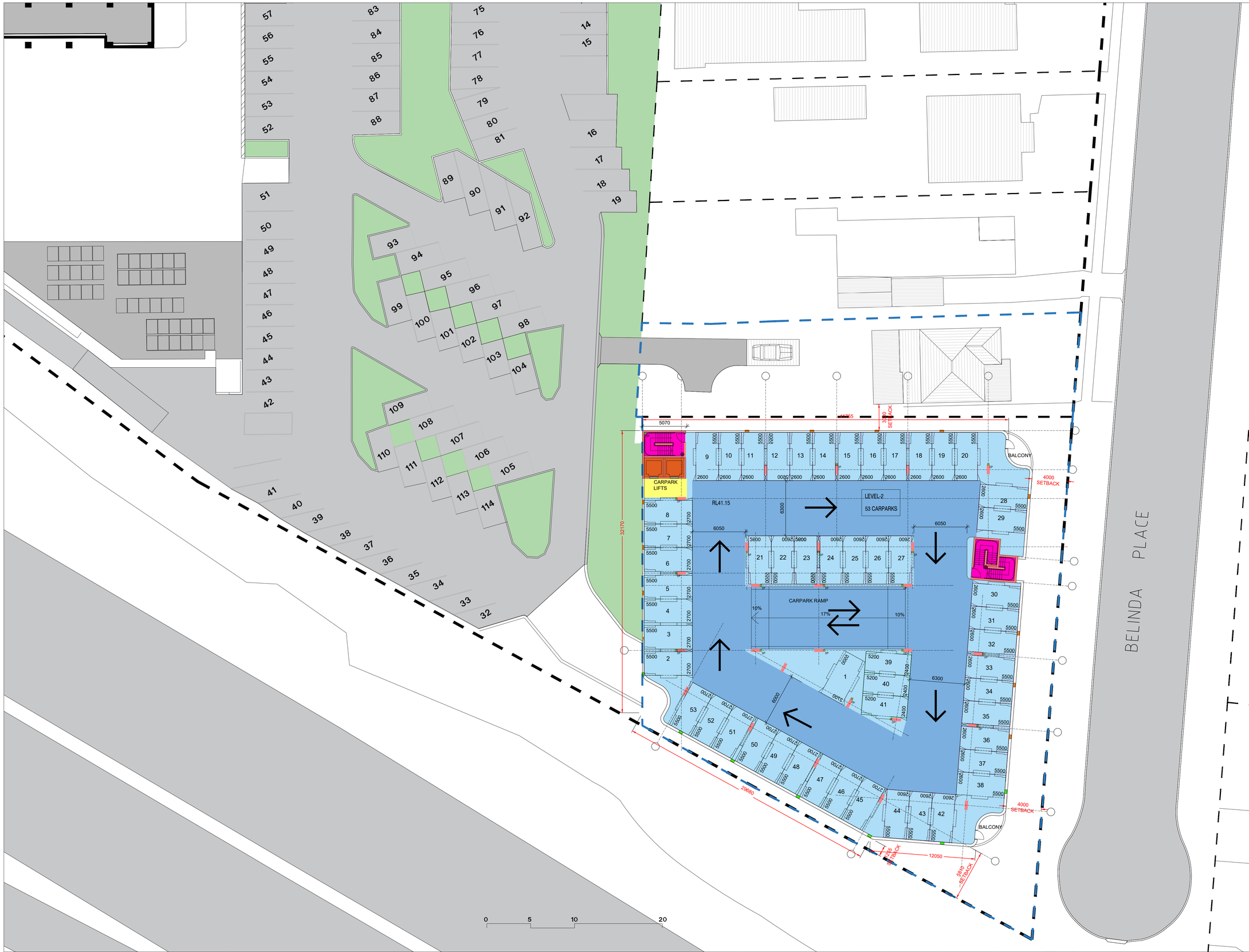
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title
LEVEL 3 FLOOR PLAN

CAD File
SMT-(P-P-3

Dwg.No.
SMT-P-3

Issue
5



LEGEND

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- SITE BOUNDARY

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1	OUTLINE AND STRUCTURE UPDATE	30.08.19	PJ

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Reason for Issue: DA Plan for submission

Quality Endorsed Company

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

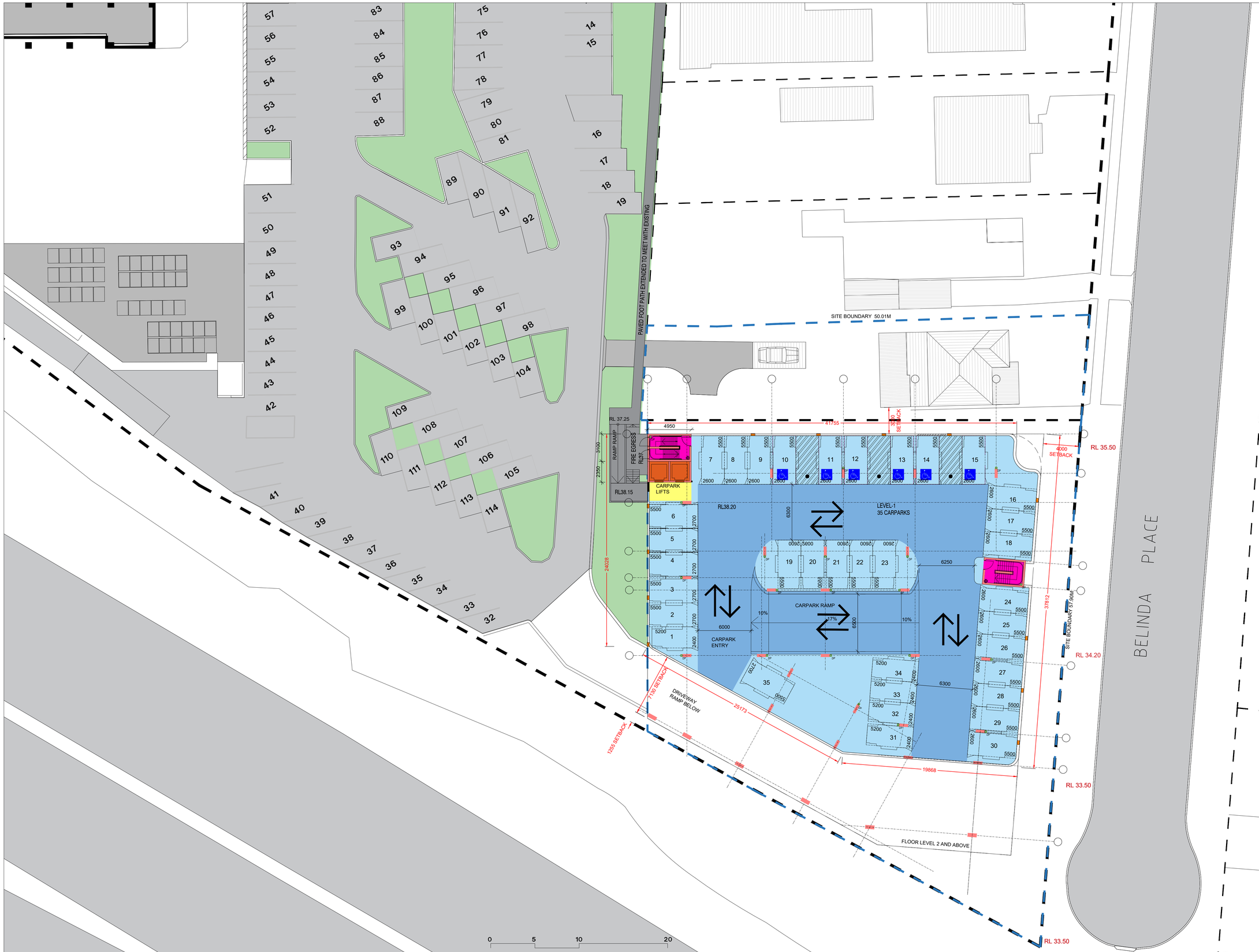
Block/ Zone	Drawn	Checked	Date	Scale/s
-	AK	PJ	15.02.2019	1:200

Drawing Title: **LEVEL 2 FLOOR PLAN**

CAD File: SMT-(P-P-2

Dwg.No.: **SMT-P-2**

Issue: **6**



LEGEND

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4	REVISED ITEMS TO COMPLY WITH DA COMMENTS	29.06.20	PJ
3	SUBMITTED FOR DA	29.10.19	PJ
2	PRELIMINARY ISSUE 50%	16.10.19	PJ
1	ISSUED FOR STRUCTURAL COORDINATION	30.08.19	PJ

Project
SYDNEY MURUGAN TEMPLE
MULTI-STOREY CARPARK

Principal
THE PRESIDENT- THE SAIVA MANRAM
SYDNEY MURUGAN TEMPLE

KEY PLAN

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Reason for Issue:
DA Plan for submission

Subject	By	Date	Subject	By	Date	Subject	By	Date
RDS			STRUCT			PROJ. ARCH		
ARCH			SPEC. CONS					
AUT			SERV					

Block/ Zone: -
Drawn: AK
Checked: PJ
Date: 28.03.2019
Scale/s: 1:200

Drawing Title
LEVEL 1 FLOOR PLAN

HEALTH PROJECTS INTERNATIONAL
Architects and Health Facility Planners
ACN 066 856 595
Suite 1, Ground Floor, 68 Mitsons Point, NSW 2061
Ph: (02) 9460 4199 Fax: (02) 9460 4299

CAD File: SMT-CP-P-1
Dwg.No.: SMT-P-1
Issue: 6

Appendix B

Transport Services

Sydney rail network

NSW GOVERNMENT | Transport

M Metro T Trains

Sydney metro and train lines

M	*Metro North West Line* Chatswood Tallawong	T1	*North Shore & Western Line* North Shore Western Richmond	T2	*Inner West & Leppington Line* Inner West Leppington City	T3	*Bankstown Line* Liverpool Lidcombe City	T4	*Eastern Suburbs & Illawarra Line* Eastern Suburbs Illawarra Cronulla
T5	*Cumberland Line* Leppington Richmond	T6	*Carlingford Line* Carlingford Clyde	T7	*Olympic Park Line* Olympic Park Lidcombe	T8	*Airport & South Line* Airport South City	T9	*Northern Line* Northern Gordon

Stop | Interchange | Interchange | End of line

NORTH

Line under construction

Check timetables and trip planners for train services and connections

Visit **transportnsw.info**

1812TMS-E-MWT-A4P

Intercity Trains Network

NSW GOVERNMENT | Transport

1902TMI-E-MWT-A4P

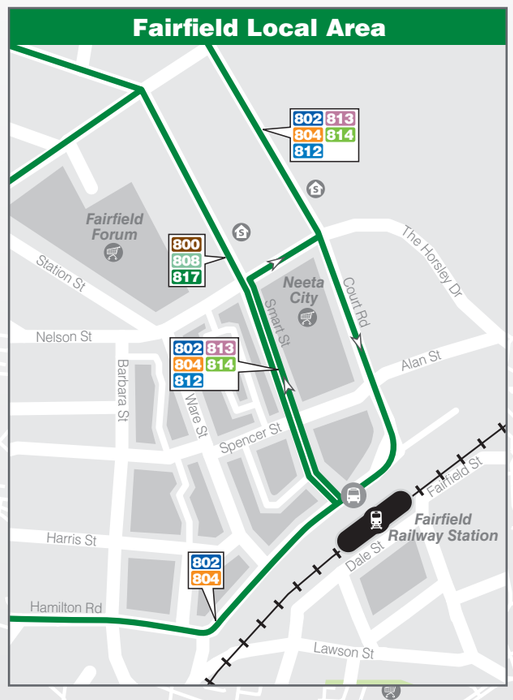
Transit Systems
Western Sydney Bus Network

Effective from:
26 November 2017

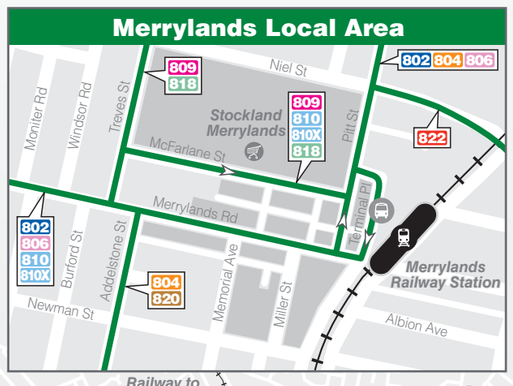
TRANSIT SYSTEMS

Blacktown Local Area

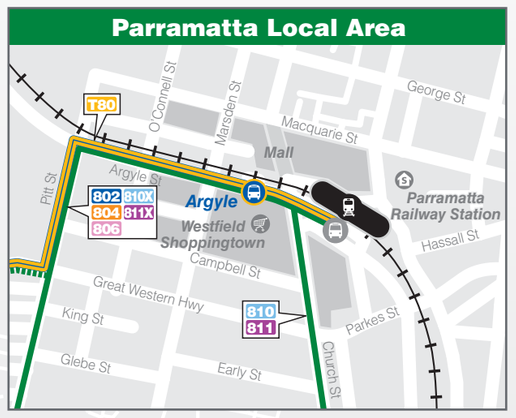
Fairfield Local Area

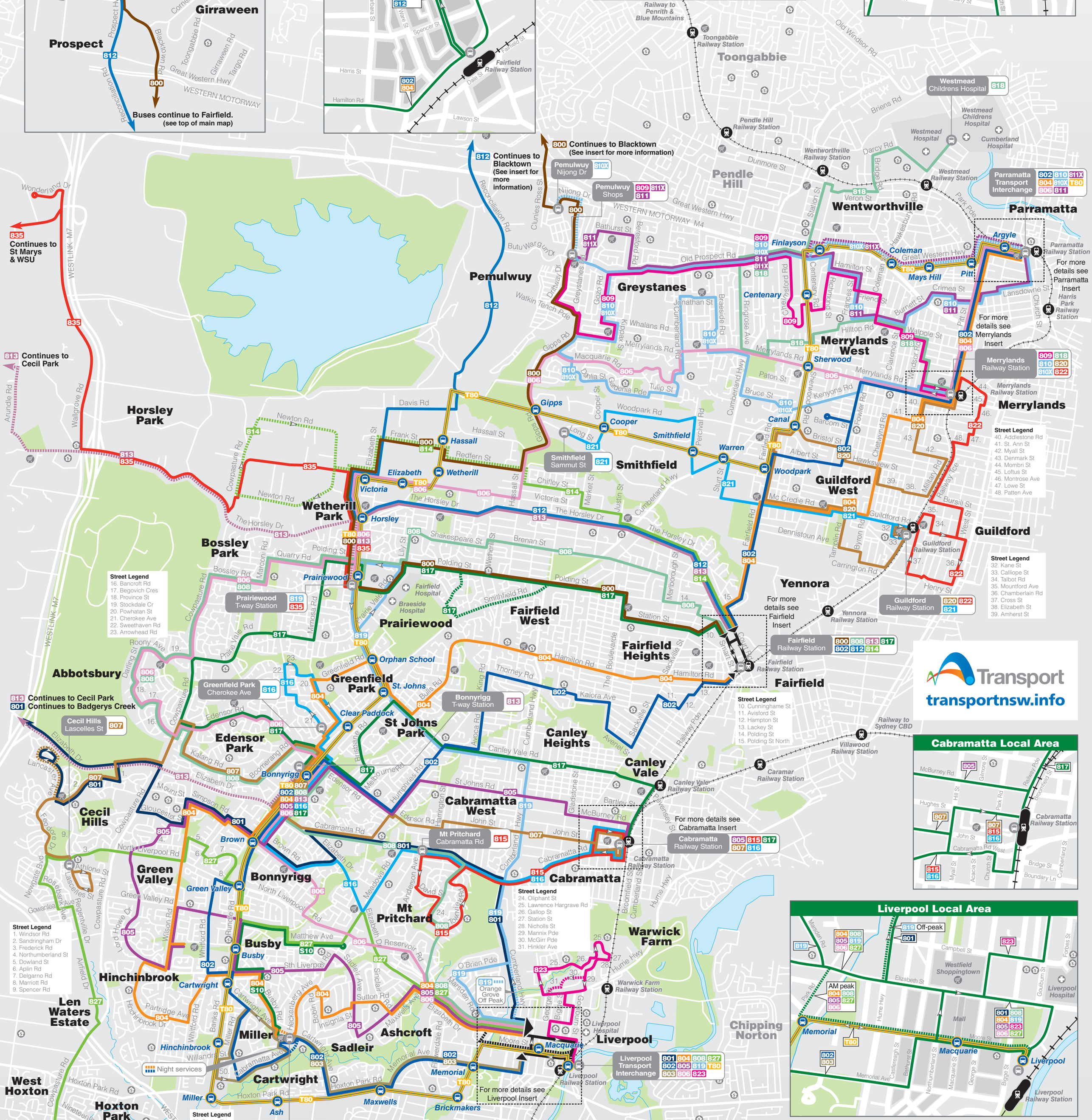


Merrylands Local Area



Parramatta Local Area





Cabramatta Local Area

Liverpool Local Area

Transport
transportnsw.info

810X Merrylands to Parramatta via Great Western Hwy

B

How to use this timetable

This timetable provides a snapshot of service information in 24-hour time (e.g. 5am = 05:00, 5pm = 17:00). Information contained in this timetable is subject to change without notice. Please note that timetables do not include minor stops, additional trips for special events, short term changes, holiday timetable changes, real-time information or any disruption alerts.

For the most up-to-date times, use the Trip Planner or Departures on **transportnsw.info**

Real-time planning

You can plan your trip with real-time information using the Trip Planner or Departures on **transportnsw.info** or by downloading travel apps on your smartphone or tablet.

The Trip Planner, Departures and travel apps offer various features:

- favourite your regular trips
- see where your service is on the route
- get estimated pick up and arrival times
- receive service updates
- find nearby stations, stops, wharves and routes
- check accessibility information

Find the latest apps at **transportnsw.info/apps**

Accessible services

All new buses are wheelchair-accessible with low-level floors and space for wheelchairs, prams or strollers. Look for the ♿ symbol in this timetable. Some older buses may not have all the features you need. There will be more accessible services as older buses are replaced.

Who is providing my bus services?

The bus services shown in this timetable are run by Transit Systems.

Fares

In Sydney and surrounding regions, fares are based on:

- the distance you travel from tap on to tap off
- the mode of transport you choose
- whether you're eligible for a concession fare or free travel
- any Opal benefits such as discounts and capped fares that apply

You can use an Opal card or a contactless payment to pay for your travel.

Opal cards

An Opal card is a smartcard you keep and reuse. Add value before you travel and tap on and tap off to pay your fares throughout Sydney, the Blue Mountains, Central Coast, the Hunter and the Illawarra.

Which Opal card is right for you?

Adult - Customers 16 years and over who are not entitled to any concessions and normally pay full fare.

Child/Youth - For customers aged 4-15 (inclusive), or customers 16 years or older who hold a NSW/ACT Senior Secondary Student Concession Card.

Gold Senior/Pensioner - For eligible NSW and interstate seniors, pensioners, war widows/ers and asylum seekers.

Concession - For eligible tertiary students, job seekers, apprentices and trainees.

How to get an Opal card

You can get an Adult or Child/Youth Opal card over the counter at Opal retailers that display the Opal sign. To find your nearest retailer visit **transportnsw.info/opal**.

If you are eligible to travel with concession fares you can apply for a Gold Senior/Pensioner or Concession Opal card online. Visit **transportnsw.info/opal** for more information.

Contactless payments

If you have an American Express, Mastercard, Visa card or linked device, you can use it to pay for all public transport on the Opal network. Just make sure to tap on and tap off at Opal readers at the beginning and end of your trip.

Always separate your cards when you tap on and tap off so your preferred card is charged.

You will receive the same travel benefits of an Adult Opal card when you tap on and tap off consistently with the same credit card, debit card or linked device. This includes daily, weekly and weekend travel caps, and a $2 transfer discount when you change between metro/train, ferry, bus or light rail services within 60 minutes. Adult Opal fare pricing applies.

Find out more at **transportnsw.info/contactless**

Explanation of definitions and symbols

♿	Wheelchair Accessible
X	Trip operates different run time in school vacation

NSW GOVERNMENT Transport

810X Parramatta to Merrylands via Great Western Hwy

B

Valid from: 20 July 2020

Creation date: 14 Aug 2020
NOTE: Information is correct on date of download.

Monday to Friday	♿	♿	♿		♿	♿	♿	♿	♿
Service Information			X						
Parramatta Station	06:35	07:03	07:42	08:10	15:16	15:36	15:51	16:21	16:46
Coleman T-way Station - Westmead	06:42	07:10	07:49	08:17	15:24	15:44	15:59	16:30	16:55
Old Prospect Rd opp Old Prospect Rd Shops, South Wentworthville	06:45	07:13	07:53	08:21	15:28	15:48	16:03	16:35	17:00
Old Prospect Rd near Beresford Rd, Greystanes	06:51	07:19	07:59	08:28	15:35	15:55	16:10	16:42	17:07
Greystanes High School near Beresford Rd, Greystanes			08:01						
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	06:54	07:22	08:07	08:31	15:38	15:58	16:13	16:45	17:10
Nijong Dr opp Wombat St, Pemulwuy				-		16:02			
Macquarie Rd opp Boothtown Reserve, Greystanes	07:02	07:30	08:15	-	15:46	-	16:21	16:53	17:18
Holroyd High School, Cumberland Rd, Greystanes			08:23	-		-			
Merrylands Rd before Ringrose Ave, Greystanes	07:17	07:45	08:32	-	15:59	-	16:34	17:06	17:31
Merrylands Station	07:35	08:03	08:50	-	16:14	-	16:49	17:21	17:46

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	16:56	17:16	17:26	17:46	17:56	18:16	18:26	18:36	18:50
Coleman T-way Station - Westmead	17:05	17:25	17:35	17:55	18:05	18:25	18:35	18:45	18:59
Old Prospect Rd opp Old Prospect Rd Shops, South Wentworthville	17:09	17:30	17:39	17:59	18:09	18:28	18:38	18:48	19:02
Old Prospect Rd near Beresford Rd, Greystanes	17:16	17:37	17:46	18:06	18:16	18:33	18:43	18:53	19:07
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	17:19	17:40	17:49	18:09	18:19	18:35	18:45	18:55	19:09
Nijong Dr opp Wombat St, Pemulwuy	17:23		17:53	-	18:23	-	18:49	-	19:13
Macquarie Rd opp Boothtown Reserve, Greystanes	-	17:48	-	-	-	-	-	-	-
Merrylands Rd before Ringrose Ave, Greystanes	-	18:01	-	-	-	-	-	-	-
Merrylands Station	-	18:16	-	-	-	-	-	-	-

Monday to Friday	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	19:05	19:20	19:45	20:30	21:30	22:30	23:35
Coleman T-way Station - Westmead	19:14	19:29	19:54	20:36	21:36	22:36	23:41
Old Prospect Rd opp Old Prospect Rd Shops, South Wentworthville	19:17	19:32	19:57	20:39	21:39	22:39	23:44
Old Prospect Rd near Beresford Rd, Greystanes	19:22	19:37	20:02	20:44	21:44	22:44	23:49
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	19:24	19:39	20:04	20:47	21:47	22:47	23:52
Nijong Dr opp Wombat St, Pemulwuy	19:28	-	-	-	-	-	-

810X Merrylands to Parramatta via Great Western Hwy

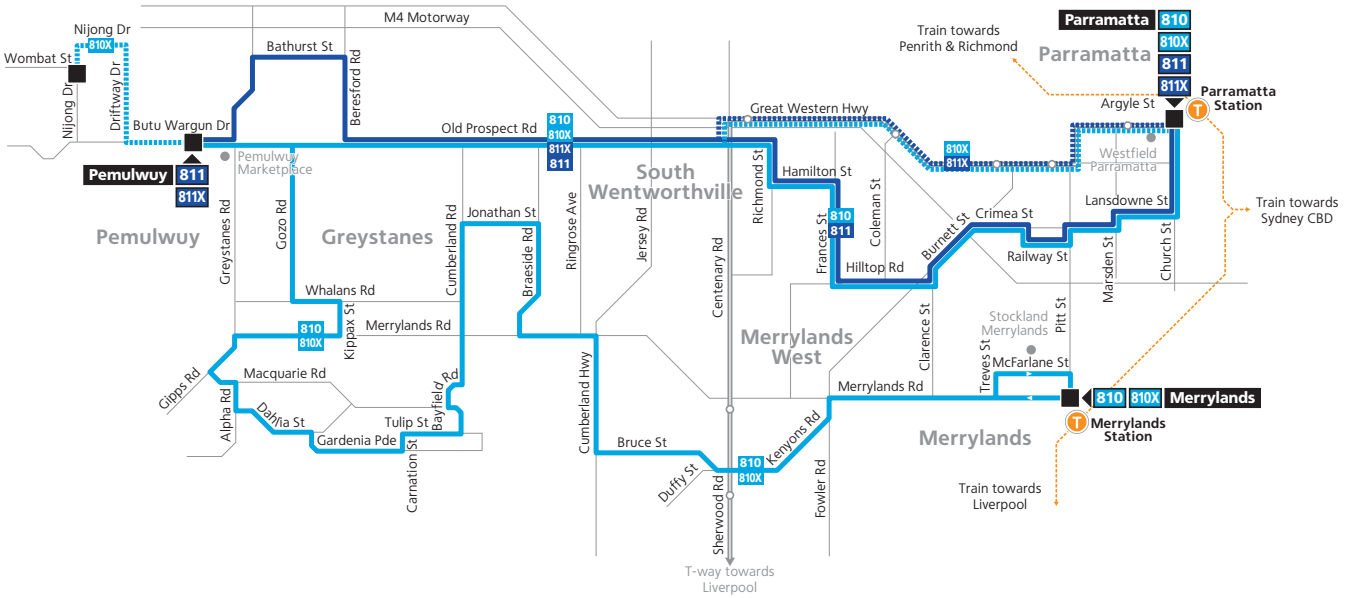
B

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Service Information									X
Merrylands Station	-	-	06:00	-	06:30	-	06:57	-	07:20
Merrylands Rd opp Ringrose Ave, Greystanes	-	-	06:11	-	06:41	-	07:09	-	07:33
Macquarie Rd near Gipps Rd, Greystanes	-	-	06:24	-	06:54	-	07:22	-	07:47
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	-	-	06:31	-	07:01	-	07:31	-	07:55
Nijong Dr after Wombat St, Pemulwuy	06:09	06:16	–	06:49	–	07:19	–	07:48	–
Butu Wargun Dr opp Pemulwuy Marketplace, Pemulwuy	06:12	06:19	06:33	06:52	07:03	07:22	07:33	07:52	07:56
Greystanes High School near Beresford Rd, Greystanes	–	–	–	–	–	–	–	–	08:01
Old Prospect Rd near Beresford Rd, Greystanes	06:15	06:22	06:35	06:55	07:05	07:25	07:35	07:56	08:04
Old Prospect Rd Shops, Old Prospect Rd, South Wentworthville	06:21	06:28	06:45	07:02	07:15	07:32	07:45	08:08	08:14
Coleman T-way Station - Westmead	06:27	06:34	06:51	07:09	07:21	07:39	07:51	08:14	08:21
Parramatta Station	06:35	06:42	07:00	07:20	07:30	07:50	08:01	08:25	08:33

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Merrylands Station	15:08	15:28	15:58	16:20	16:50	17:20	17:56	18:26	19:06
Merrylands Rd opp Ringrose Ave, Greystanes	15:24	15:44	16:14	16:34	17:04	17:34	18:10	18:40	19:18
Macquarie Rd near Gipps Rd, Greystanes	15:39	15:57	16:27	16:47	17:17	17:47	18:23	18:53	19:31
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	15:46	16:04	16:34	16:54	17:24	17:54	18:30	19:00	19:38
Butu Wargun Dr opp Pemulwuy Marketplace, Pemulwuy	15:48	16:06	16:36	16:56	17:26	17:56	18:32	19:02	19:40
Old Prospect Rd near Beresford Rd, Greystanes	15:50	16:08	16:38	16:58	17:28	17:58	18:34	19:04	19:42
Old Prospect Rd Shops, Old Prospect Rd, South Wentworthville	15:57	16:15	16:45	17:05	17:35	18:05	18:41	19:11	19:49
Coleman T-way Station - Westmead	16:04	16:22	16:52	17:12	17:42	18:12	18:48	19:18	19:56
Parramatta Station	16:13	16:31	17:01	17:22	17:52	18:22	18:58	19:28	20:06

Monday to Friday	♿	♿	♿
Merrylands Station	20:06	-	-
Merrylands Rd opp Ringrose Ave, Greystanes	20:18	-	-
Macquarie Rd near Gipps Rd, Greystanes	20:31	-	-
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	20:38	21:55	22:55
Butu Wargun Dr opp Pemulwuy Marketplace, Pemulwuy	20:40	21:57	22:57
Old Prospect Rd near Beresford Rd, Greystanes	20:42	21:58	22:58
Old Prospect Rd Shops, Old Prospect Rd, South Wentworthville	20:49	22:02	23:02
Coleman T-way Station - Westmead	20:56	22:07	23:07
Parramatta Station	21:06	22:15	23:15

Routes 810, 810X, 811, 811X



Legend

- Bus route
- 810 Bus route number
- Bus route start/finish
- Train line/station

Diagrammatic Map
Not to Scale
North

NSW GOVERNMENT Transport

transportnsw.info

811X Pemulwuy to Parramatta

B

How to use this timetable

This timetable provides a snapshot of service information in 24-hour time (e.g. 5am = 05:00, 5pm = 17:00). Information contained in this timetable is subject to change without notice. Please note that timetables do not include minor stops, additional trips for special events, short term changes, holiday timetable changes, real-time information or any disruption alerts.

For the most up-to-date times, use the Trip Planner or Departures on **transportnsw.info**

Real-time planning

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- favourite your regular trips
- see where your service is on the route
- get estimated pick up and arrival times
- receive service updates
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- check accessibility information

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Accessible services

All new buses are wheelchair-accessible with low-level floors and space for wheelchairs, prams or strollers. Look for the ♿ symbol in this timetable. Some older buses may not have all the features you need. There will be more accessible services as older buses are replaced.

Who is providing my bus services?

The bus services shown in this timetable are run by Transit Systems.

Fares

In Sydney and surrounding regions, fares are based on:

- the distance you travel from tap on to tap off
- the mode of transport you choose
- whether you're eligible for a concession fare or free travel
- any Opal benefits such as discounts and capped fares that apply

You can use an Opal card or a contactless payment to pay for your travel.

Opal cards

An Opal card is a smartcard you keep and reuse. Add value before you travel and tap on and tap off to pay your fares throughout Sydney, the Blue Mountains, Central Coast, the Hunter and the Illawarra.

Which Opal card is right for you?

Adult - Customers 16 years and over who are not entitled to any concessions and normally pay full fare.

Child/Youth - For customers aged 4-15 (inclusive), or customers 16 years or older who hold a NSW/ACT Senior Secondary Student Concession Card.

Gold Senior/Pensioner - For eligible NSW and interstate seniors, pensioners, war widows/ers and asylum seekers.

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Contactless payments

If you have an American Express, Mastercard, Visa card or linked device, you can use it to pay for all public transport on the Opal network. Just make sure to tap on and tap off at Opal readers at the beginning and end of your trip.

Always separate your cards when you tap on and tap off so your preferred card is charged.

You will receive the same travel benefits of an Adult Opal card when you tap on and tap off consistently with the same credit card, debit card or linked device. This includes daily, weekly and weekend travel caps, and a $2 transfer discount when you change between metro/train, ferry, bus or light rail services within 60 minutes. Adult Opal fare pricing applies.

Find out more at **transportnsw.info/contactless**

Explanation of definitions and symbols

♿	Wheelchair Accessible
M	Bus continues to Merrylands as route 809
A	Then operates via route 809 to Pemulwuy Marketplace - show 811X

NSW GOVERNMENT | Transport

811X Parramatta to Pemulwuy

Valid from: 20 July 2020

Creation date: 14 Aug 2020
NOTE: Information is correct on date of download.

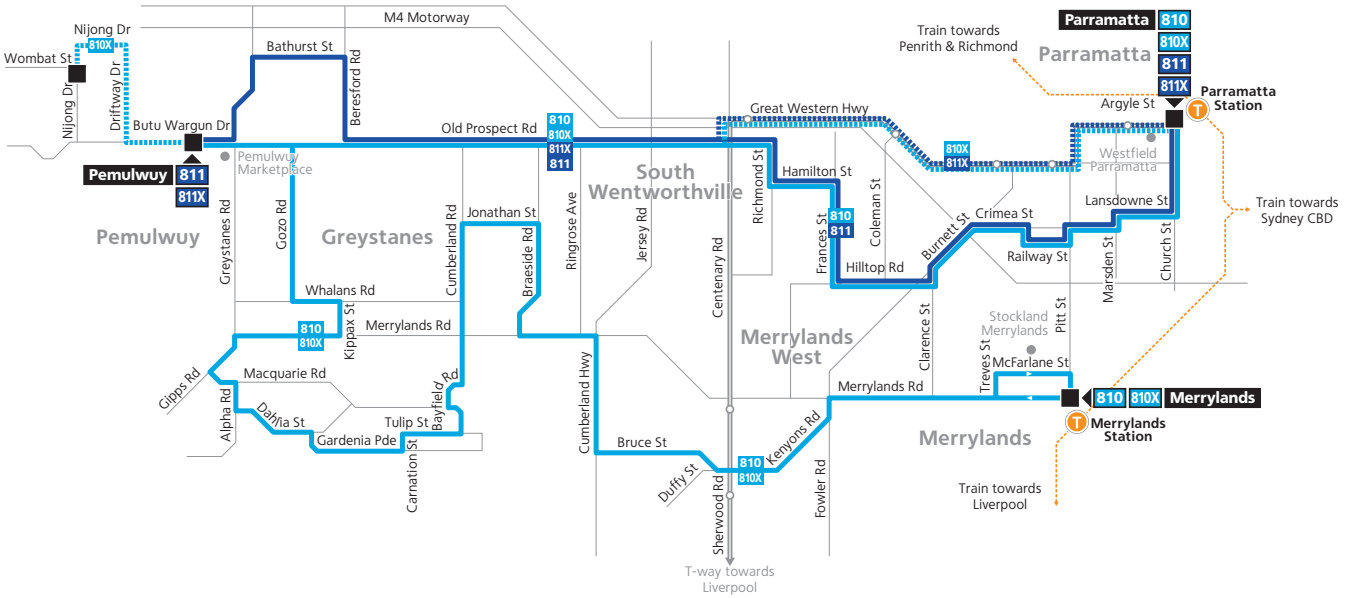
Monday to Friday	♿	♿	♿	♿	♿
Parramatta Station	16:06	16:36	17:06	17:36	18:06
Coleman T-way Station - Westmead	16:15	16:45	17:15	17:45	18:15
Old Prospect Rd near Boronia St, South Wentworthville	16:17	16:47	17:17	17:47	18:17
Old Prospect Rd opp Old Prospect Rd Shops, South Wentworthville	16:21	16:51	17:21	17:51	18:21
Old Prospect Rd near Beresford Rd, Greystanes	16:27	16:57	17:27	17:57	18:27
Pemulwuy Marketplace, Butu Wargun Dr, Pemulwuy	**M** 16:31	**M** 17:02	**M** 17:32	**M** 18:02	**M** 18:31

811X Pemulwuy to Parramatta

B

Monday to Friday						
Gozo Rd near Old Prospect Rd, Greystanes	**A**05:45	-	-	-	-	-
Butu Wargun Dr opp Pemulwuy Marketplace, Pemulwuy	05:52	06:42	07:11	07:41	08:15	08:46
Bathurst St at Beresford Rd, Greystanes	05:55	06:45	07:14	07:44	08:18	08:49
Old Prospect Rd near Beresford Rd, Greystanes	05:59	06:47	07:16	07:47	08:21	08:52
Old Prospect Rd Shops, Old Prospect Rd, South Wentworthville	06:05	06:55	07:24	07:57	08:31	09:01
Coleman T-way Station - Westmead	06:11	07:01	07:30	08:03	08:37	09:07
Parramatta Station	06:17	07:10	07:39	08:13	08:47	09:15

Routes 810, 810X, 811, 811X



Legend

- Bus route
- 810 Bus route number
- Bus route start/finish
- Train line/station

Diagrammatic Map
Not to Scale
North

NSW GOVERNMENT Transport

transportnsw.info

T80 Liverpool to Parramatta via T-way

B

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Find out more at **transportnsw.info/contactless**

Explanation of definitions and symbols

♿	Wheelchair Accessible
F	Friday only
F	Operates Friday ONLY

NSW GOVERNMENT | Transport

T80 Parramatta to Liverpool via T-way

B

Valid from: 20 July 2020

Creation date: 14 Aug 2020
NOTE: Information is correct on date of download.

Monday to Friday									
Parramatta Station	-	-	05:04	-	05:31	05:46	06:01	-	06:20
Finlayson T-Way Station, South Wentworthville	-	-	05:10	-	05:37	05:52	06:08	-	06:27
Canal T-Way Station - Merrylands West	-	-	05:15	-	05:42	05:57	06:13	-	06:32
Smithfield T-Way Station, Smithfield	04:19	04:49	05:18	05:32	05:45	06:00	06:16	06:24	06:35
Prairiewood T-Way Station, Bossley Park	04:32	05:02	05:32	05:45	05:59	06:14	06:30	06:38	06:49
Bonnyrigg T-Way Station, Bonnyrigg	04:38	05:08	05:38	05:51	06:05	06:20	06:36	06:44	06:55
Miller T-Way Station - Hinchinbrook	04:48	05:18	05:48	06:01	06:15	06:30	06:46	06:54	07:05
Liverpool Interchange, Liverpool	05:03	05:33	06:02	06:16	06:29	06:44	07:01	07:09	07:20

Monday to Friday									
Parramatta Station	06:30	06:40	06:45	06:50	06:55	07:00	07:10	07:20	07:30
Finlayson T-Way Station, South Wentworthville	06:37	06:47	06:52	06:57	07:02	07:07	07:18	07:28	07:38
Canal T-Way Station - Merrylands West	06:42	06:52	06:57	07:02	07:07	07:12	07:24	07:34	07:44
Smithfield T-Way Station, Smithfield	06:46	06:56	07:01	07:06	07:11	07:16	07:28	07:38	07:48
Prairiewood T-Way Station, Bossley Park	07:00	07:10	07:15	07:20	07:25	07:30	07:42	07:52	08:02
Bonnyrigg T-Way Station, Bonnyrigg	07:06	07:16	07:22	07:27	07:32	07:37	07:49	07:59	08:09
Miller T-Way Station - Hinchinbrook	07:16	07:26	-	07:37	-	07:47	08:00	08:10	08:20
Liverpool Interchange, Liverpool	07:32	07:42	-	07:54	-	08:04	08:17	08:27	08:37

Monday to Friday									
Parramatta Station	07:40	07:50	08:00	08:10	08:20	08:30	-	08:40	08:50
Finlayson T-Way Station, South Wentworthville	07:48	07:58	08:08	08:18	08:28	08:38	-	08:48	08:58
Canal T-Way Station - Merrylands West	07:54	08:04	08:14	08:24	08:34	08:44	-	08:53	09:03
Smithfield T-Way Station, Smithfield	07:58	08:08	08:18	08:28	08:38	08:48	-	08:56	09:06
Prairiewood T-Way Station, Bossley Park	08:12	08:22	08:32	08:42	08:52	09:02	-	09:09	09:19
Bonnyrigg T-Way Station, Bonnyrigg	08:19	08:29	08:39	08:49	08:59	09:09	09:13	09:16	09:26
Miller T-Way Station - Hinchinbrook	08:30	08:40	08:50	09:00	09:10	09:20	09:22	09:26	09:36
Liverpool Interchange, Liverpool	08:47	08:57	09:07	09:17	09:27	09:37	09:39	09:43	09:53

Monday to Friday									
Parramatta Station	-	09:00	09:10	-	09:20	09:30	-	09:40	09:50
Finlayson T-Way Station, South Wentworthville	-	09:08	09:18	-	09:28	09:38	-	09:48	09:58
Canal T-Way Station - Merrylands West	-	09:13	09:23	-	09:33	09:43	-	09:53	10:03
Smithfield T-Way Station, Smithfield	-	09:16	09:26	-	09:36	09:46	-	09:56	10:06
Prairiewood T-Way Station, Bossley Park	-	09:29	09:39	-	09:49	09:59	-	10:09	10:19
Bonnyrigg T-Way Station, Bonnyrigg	09:33	09:36	09:46	09:53	09:56	10:06	10:13	10:16	10:26
Miller T-Way Station - Hinchinbrook	09:42	09:46	09:56	10:02	10:06	10:16	10:22	10:26	10:36
Liverpool Interchange, Liverpool	09:59	10:03	10:13	10:19	10:23	10:32	10:39	10:42	10:52

Monday to Friday									
Parramatta Station	-	10:00	10:10	-	10:20	10:30	-	10:40	10:50
Finlayson T-Way Station, South Wentworthville	-	10:08	10:18	-	10:28	10:38	-	10:48	10:58
Canal T-Way Station - Merrylands West	-	10:13	10:23	-	10:33	10:43	-	10:53	11:03
Smithfield T-Way Station, Smithfield	-	10:16	10:26	-	10:36	10:46	-	10:56	11:06
Prairiewood T-Way Station, Bossley Park	-	10:29	10:39	-	10:49	10:59	-	11:09	11:19
Bonnyrigg T-Way Station, Bonnyrigg	10:33	10:36	10:46	10:53	10:56	11:06	11:13	11:16	11:26
Miller T-Way Station - Hinchinbrook	10:42	10:46	10:56	11:02	11:06	11:16	11:22	11:26	11:36
Liverpool Interchange, Liverpool	10:59	11:02	11:12	11:19	11:22	11:32	11:39	11:42	11:52

Monday to Friday									
Parramatta Station	-	11:00	11:10	-	11:20	11:30	-	11:40	11:50
Finlayson T-Way Station, South Wentworthville	-	11:08	11:18	-	11:28	11:38	-	11:48	11:58
Canal T-Way Station - Merrylands West	-	11:13	11:23	-	11:33	11:43	-	11:53	12:03
Smithfield T-Way Station, Smithfield	-	11:16	11:26	-	11:36	11:46	-	11:56	12:06
Prairiewood T-Way Station, Bossley Park	-	11:29	11:39	-	11:49	11:59	-	12:09	12:19
Bonnyrigg T-Way Station, Bonnyrigg	11:33	11:36	11:46	11:53	11:56	12:06	12:13	12:16	12:26
Miller T-Way Station - Hinchinbrook	11:42	11:46	11:56	12:02	12:06	12:16	12:22	12:26	12:36
Liverpool Interchange, Liverpool	11:59	12:02	12:12	12:19	12:22	12:32	12:39	12:42	12:52

T80 Parramatta to Liverpool via T-way

B

Monday to Friday	♿		♿	♿	♿	♿	♿		♿
Parramatta Station	-	12:00	12:10	12:20	-	12:30	-	12:40	12:50
Finlayson T-Way Station, South Wentworthville	-	12:08	12:18	12:28	-	12:38	-	12:48	12:58
Canal T-Way Station - Merrylands West	-	12:13	12:23	12:33	-	12:43	-	12:53	13:03
Smithfield T-Way Station, Smithfield	-	12:16	12:26	12:36	-	12:46	-	12:56	13:06
Prairiewood T-Way Station, Bossley Park	-	12:29	12:39	12:49	-	12:59	-	13:09	13:19
Bonnyrigg T-Way Station, Bonnyrigg	12:33	12:36	12:46	12:56	13:03	13:06	13:08	13:16	13:26
Miller T-Way Station - Hinchinbrook	12:42	12:46	12:56	13:06	13:12	13:16	13:17	13:26	13:36
Liverpool Interchange, Liverpool	12:59	13:02	13:12	13:22	13:29	13:32	13:34	13:42	13:52

Monday to Friday	♿	♿		♿		♿	♿	♿	
Parramatta Station	-	13:00	13:10	-	13:20	13:30	13:39	13:40	13:50
Finlayson T-Way Station, South Wentworthville	-	13:08	13:18	-	13:28	13:38	13:46	13:49	13:59
Canal T-Way Station - Merrylands West	-	13:13	13:23	-	13:33	13:43	13:51	13:54	14:04
Smithfield T-Way Station, Smithfield	-	13:16	13:26	-	13:36	13:46	13:55	13:57	14:07
Prairiewood T-Way Station, Bossley Park	-	13:29	13:39	-	13:49	13:59	-	14:10	14:20
Bonnyrigg T-Way Station, Bonnyrigg	13:33	13:36	13:46	13:53	13:56	14:06	-	14:17	14:27
Miller T-Way Station - Hinchinbrook	13:42	13:46	13:56	14:03	14:06	14:16	-	14:27	14:37
Liverpool Interchange, Liverpool	13:59	14:02	14:12	14:20	14:22	14:32	-	14:44	14:54

Monday to Friday	♿	♿	♿	♿	♿		♿	♿	♿
Parramatta Station	13:58	14:00	14:10	14:18	14:20	14:30	14:40	14:50	15:00
Finlayson T-Way Station, South Wentworthville	14:05	14:09	14:19	14:25	14:29	14:40	14:50	15:00	15:10
Canal T-Way Station - Merrylands West	14:10	14:14	14:24	14:30	14:34	14:46	14:56	15:07	15:17
Smithfield T-Way Station, Smithfield	14:14	14:17	14:27	14:34	14:37	14:50	15:00	15:11	15:21
Prairiewood T-Way Station, Bossley Park	-	14:30	14:40	-	14:50	15:03	15:13	15:24	15:34
Bonnyrigg T-Way Station, Bonnyrigg	-	14:37	14:47	-	14:57	15:10	15:20	15:31	15:41
Miller T-Way Station - Hinchinbrook	-	14:47	14:57	-	15:07	15:20	15:30	15:42	15:52
Liverpool Interchange, Liverpool	-	15:04	15:14	-	15:24	15:36	15:46	16:00	16:10

Monday to Friday	♿	♿	♿	♿	♿			♿	
Parramatta Station	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:15	16:20
Finlayson T-Way Station, South Wentworthville	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:25	16:30
Canal T-Way Station - Merrylands West	15:27	15:37	15:47	15:57	16:07	16:17	16:27	16:32	16:37
Smithfield T-Way Station, Smithfield	15:31	15:41	15:51	16:01	16:11	16:21	16:31	16:36	16:41
Prairiewood T-Way Station, Bossley Park	15:44	15:54	16:04	16:14	16:24	16:34	16:44	16:49	16:54
Bonnyrigg T-Way Station, Bonnyrigg	15:51	16:01	16:11	16:21	16:31	16:41	16:51	16:57	17:01
Miller T-Way Station - Hinchinbrook	16:02	16:12	16:22	16:32	16:42	16:52	17:02	-	17:12
Liverpool Interchange, Liverpool	16:20	16:30	16:40	16:50	17:00	17:07	17:17	-	17:29

Monday to Friday	♿		♿		♿		♿	♿	♿
Parramatta Station	16:25	16:30	16:35	16:40	16:45	16:50	16:55	17:00	17:05
Finlayson T-Way Station, South Wentworthville	16:35	16:40	16:45	16:50	16:55	17:00	17:05	17:10	17:15
Canal T-Way Station - Merrylands West	16:42	16:47	16:52	16:57	17:02	17:07	17:12	17:17	17:22
Smithfield T-Way Station, Smithfield	16:46	16:51	16:56	17:01	17:06	17:11	17:16	17:21	17:26
Prairiewood T-Way Station, Bossley Park	16:59	17:04	17:09	17:14	17:19	17:24	17:29	17:34	17:39
Bonnyrigg T-Way Station, Bonnyrigg	17:07	17:11	17:17	17:21	17:27	17:31	17:37	17:41	17:47
Miller T-Way Station - Hinchinbrook	-	17:22	-	17:32	-	17:42	-	17:52	-
Liverpool Interchange, Liverpool	-	17:39	-	17:49	-	17:59	-	18:09	-

Monday to Friday	♿	♿	♿		♿	♿	♿	♿	♿
Parramatta Station	17:08	17:10	17:15	17:20	17:23	17:25	17:30	17:35	17:38
Finlayson T-Way Station, South Wentworthville	17:18	17:20	17:25	17:30	17:33	17:35	17:40	17:45	17:48
Canal T-Way Station - Merrylands West	17:25	17:26	17:31	17:36	17:39	17:41	17:46	17:51	17:54
Smithfield T-Way Station, Smithfield	17:29	17:30	17:35	17:40	17:43	17:45	17:50	17:55	17:58
Prairiewood T-Way Station, Bossley Park	17:42	17:43	17:48	17:53	17:56	17:58	18:03	18:08	18:11
Bonnyrigg T-Way Station, Bonnyrigg	17:49	17:50	17:56	18:00	18:04	18:06	18:10	18:16	18:18
Miller T-Way Station - Hinchinbrook	18:00	18:01	-	18:11	-	-	18:21	-	18:29
Liverpool Interchange, Liverpool	-	18:17	-	18:27	-	-	18:34	-	-

T80 Parramatta to Liverpool via T-way

B

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	17:40	17:45	17:50	17:53	17:55	18:00	18:05	18:08	18:10
Finlayson T-Way Station, South Wentworthville	17:50	17:55	18:00	18:03	18:05	18:10	18:15	18:18	18:20
Canal T-Way Station - Merrylands West	17:56	18:01	18:06	18:09	18:11	18:16	18:21	18:24	18:26
Smithfield T-Way Station, Smithfield	18:00	18:05	18:10	18:13	18:15	18:20	18:25	18:28	18:30
Prairiewood T-Way Station, Bossley Park	18:13	18:18	18:23	18:26	18:28	18:33	18:38	18:41	18:43
Bonnyrigg T-Way Station, Bonnyrigg	18:20	18:26	18:30	18:34	18:36	18:39	18:45	18:48	18:49
Miller T-Way Station - Hinchinbrook	18:31	-	18:41	-	-	18:50	-	-	19:00
Liverpool Interchange, Liverpool	18:44	-	18:54	-	-	19:03	-	-	19:13

Monday to Friday	♿		♿	♿	♿		♿	♿	♿
Parramatta Station	18:15	18:20	18:25	18:30	18:35	18:40	18:45	18:45	18:50
Finlayson T-Way Station, South Wentworthville	18:25	18:30	18:35	18:39	18:45	18:49	18:55	18:55	18:59
Canal T-Way Station - Merrylands West	18:31	18:36	18:41	18:45	18:51	18:55	19:01	19:01	19:05
Smithfield T-Way Station, Smithfield	18:35	18:40	18:45	18:49	18:55	18:59	19:05	19:05	19:08
Prairiewood T-Way Station, Bossley Park	18:46	18:53	18:56	19:00	19:06	19:10	-	19:16	19:19
Bonnyrigg T-Way Station, Bonnyrigg	18:53	18:59	19:03	19:06	19:13	19:16	-	19:23	19:25
Miller T-Way Station - Hinchinbrook	-	19:10	-	19:15	-	19:25	-	-	19:34
Liverpool Interchange, Liverpool	-	19:23	-	19:30	-	19:40	-	-	19:48

Monday to Friday	♿			♿			♿	♿	♿
Parramatta Station	18:59	19:00	19:10	19:19	19:20	19:30	19:39	19:40	19:50
Finlayson T-Way Station, South Wentworthville	19:08	19:09	19:19	19:28	19:29	19:39	19:48	19:49	19:59
Canal T-Way Station - Merrylands West	19:14	19:15	19:25	19:34	19:35	19:45	19:54	19:55	20:05
Smithfield T-Way Station, Smithfield	19:17	19:18	19:28	19:37	19:38	19:48	19:57	19:58	20:08
Prairiewood T-Way Station, Bossley Park	-	19:29	19:39	-	19:49	19:59	-	20:09	20:19
Bonnyrigg T-Way Station, Bonnyrigg	-	19:35	19:45	-	19:55	20:05	-	20:15	20:25
Miller T-Way Station - Hinchinbrook	-	19:44	19:54	-	20:04	20:14	-	20:24	20:34
Liverpool Interchange, Liverpool	-	19:58	20:08	-	20:18	20:28	-	20:38	20:48

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	19:59	20:00	20:15	20:19	20:30	20:39	20:45	21:00	21:15
Finlayson T-Way Station, South Wentworthville	20:08	20:09	20:24	20:28	20:39	20:48	20:54	21:09	21:24
Canal T-Way Station - Merrylands West	20:14	20:15	20:30	20:34	20:45	20:54	21:00	21:15	21:30
Smithfield T-Way Station, Smithfield	20:17	20:18	20:33	20:37	20:48	20:57	21:03	21:18	21:33
Prairiewood T-Way Station, Bossley Park	-	20:29	20:44	-	20:59	-	21:14	21:29	21:44
Bonnyrigg T-Way Station, Bonnyrigg	-	20:35	20:50	-	21:05	-	21:20	21:37	21:50
Miller T-Way Station - Hinchinbrook	-	20:44	20:59	-	21:14	-	21:29	-	21:59
Liverpool Interchange, Liverpool	-	20:58	21:13	-	21:28	-	21:43	-	22:13

Monday to Friday				♿	♿	♿	♿		♿
Day Restrictions									F
Parramatta Station	21:30	21:45	22:00	22:15	22:50	23:20	23:50	00:20	F00:50
Finlayson T-Way Station, South Wentworthville	21:39	21:53	22:08	22:23	22:58	23:28	23:58	00:28	00:58
Canal T-Way Station - Merrylands West	21:45	21:58	22:13	22:28	23:03	23:33	00:03	00:33	01:03
Smithfield T-Way Station, Smithfield	21:48	22:01	22:16	22:31	23:06	23:36	00:06	00:36	01:06
Prairiewood T-Way Station, Bossley Park	21:59	22:12	22:27	22:42	23:17	23:47	00:17	00:47	01:17
Bonnyrigg T-Way Station, Bonnyrigg	22:07	22:18	22:35	22:48	23:23	23:53	00:23	00:53	01:23
Miller T-Way Station - Hinchinbrook	-	22:27	-	22:57	23:32	00:02	00:32	01:02	01:32
Liverpool Interchange, Liverpool	-	22:42	-	23:12	23:43	00:13	00:43	-	01:43

Saturday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	-	-	06:00	06:15	06:30	06:45	07:00	07:15	07:30
Finlayson T-Way Station, South Wentworthville	-	-	06:07	06:22	06:37	06:52	07:07	07:22	07:37
Canal T-Way Station - Merrylands West	-	-	06:12	06:27	06:42	06:57	07:12	07:27	07:42
Smithfield T-Way Station, Smithfield	-	-	06:15	06:30	06:45	07:00	07:15	07:30	07:45
Prairiewood T-Way Station, Bossley Park	-	-	06:27	06:42	06:57	07:12	07:27	07:43	07:58
Bonnyrigg T-Way Station, Bonnyrigg	05:29	06:04	06:33	06:48	07:03	07:19	07:34	07:50	08:05
Miller T-Way Station - Hinchinbrook	05:38	06:13	06:42	06:57	07:12	07:28	07:43	08:00	08:15
Liverpool Interchange, Liverpool	05:50	06:25	06:55	07:10	07:25	07:41	07:56	08:13	08:28

T80 Parramatta to Liverpool via T-way

B

Saturday									
Parramatta Station	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
Finlayson T-Way Station, South Wentworthville	07:52	08:07	08:22	08:37	08:52	09:08	09:23	09:38	09:53
Canal T-Way Station - Merrylands West	07:57	08:12	08:27	08:42	08:57	09:14	09:29	09:44	09:59
Smithfield T-Way Station, Smithfield	08:00	08:15	08:30	08:45	09:00	09:17	09:32	09:47	10:02
Prairiewood T-Way Station, Bossley Park	08:13	08:28	08:43	08:58	09:13	09:29	09:44	09:59	10:14
Bonnyrigg T-Way Station, Bonnyrigg	08:20	08:35	08:50	09:05	09:20	09:36	09:51	10:06	10:21
Miller T-Way Station - Hinchinbrook	08:30	08:45	09:00	09:15	09:30	09:46	10:01	10:16	10:31
Liverpool Interchange, Liverpool	08:45	09:00	09:15	09:30	09:45	10:02	10:17	10:32	10:47

Saturday									
Parramatta Station	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Finlayson T-Way Station, South Wentworthville	10:08	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08
Canal T-Way Station - Merrylands West	10:14	10:29	10:44	10:59	11:14	11:29	11:44	11:59	12:14
Smithfield T-Way Station, Smithfield	10:17	10:32	10:48	11:03	11:18	11:33	11:48	12:03	12:18
Prairiewood T-Way Station, Bossley Park	10:29	10:44	11:00	11:15	11:30	11:45	12:00	12:15	12:30
Bonnyrigg T-Way Station, Bonnyrigg	10:36	10:51	11:07	11:22	11:37	11:52	12:07	12:22	12:37
Miller T-Way Station - Hinchinbrook	10:46	11:01	11:17	11:32	11:47	12:02	12:17	12:32	12:47
Liverpool Interchange, Liverpool	11:02	11:17	11:34	11:49	12:04	12:19	12:34	12:49	13:04

Saturday									
Parramatta Station	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15
Finlayson T-Way Station, South Wentworthville	12:23	12:38	12:53	13:08	13:23	13:38	13:53	14:08	14:23
Canal T-Way Station - Merrylands West	12:29	12:44	12:59	13:14	13:29	13:44	13:59	14:14	14:29
Smithfield T-Way Station, Smithfield	12:33	12:48	13:03	13:18	13:33	13:48	14:03	14:18	14:33
Prairiewood T-Way Station, Bossley Park	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45
Bonnyrigg T-Way Station, Bonnyrigg	12:52	13:07	13:22	13:37	13:52	14:07	14:22	14:37	14:52
Miller T-Way Station - Hinchinbrook	13:02	13:17	13:32	13:47	14:02	14:17	14:32	14:47	15:02
Liverpool Interchange, Liverpool	13:19	13:34	13:49	14:04	14:19	14:34	14:49	15:02	15:17

Saturday									
Parramatta Station	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30
Finlayson T-Way Station, South Wentworthville	14:38	14:53	15:08	15:23	15:38	15:53	16:08	16:23	16:37
Canal T-Way Station - Merrylands West	14:44	14:59	15:14	15:29	15:44	15:59	16:14	16:29	16:42
Smithfield T-Way Station, Smithfield	14:48	15:03	15:18	15:33	15:48	16:03	16:18	16:33	16:46
Prairiewood T-Way Station, Bossley Park	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	16:59
Bonnyrigg T-Way Station, Bonnyrigg	15:07	15:22	15:37	15:52	16:07	16:22	16:37	16:52	17:06
Miller T-Way Station - Hinchinbrook	15:17	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:15
Liverpool Interchange, Liverpool	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:17	17:32

Saturday									
Parramatta Station	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45
Finlayson T-Way Station, South Wentworthville	16:53	17:08	17:23	17:38	17:53	18:08	18:23	18:38	18:53
Canal T-Way Station - Merrylands West	16:59	17:14	17:29	17:44	17:59	18:13	18:28	18:43	18:58
Smithfield T-Way Station, Smithfield	17:03	17:18	17:33	17:48	18:03	18:17	18:32	18:47	19:02
Prairiewood T-Way Station, Bossley Park	17:15	17:30	17:45	18:00	18:15	18:29	18:44	18:59	19:14
Bonnyrigg T-Way Station, Bonnyrigg	17:22	17:37	17:52	18:07	18:22	18:35	18:50	19:05	19:20
Miller T-Way Station - Hinchinbrook	17:32	17:47	18:02	18:17	18:32	18:45	19:00	19:15	19:30
Liverpool Interchange, Liverpool	17:47	18:02	18:17	18:32	18:47	19:00	19:15	19:30	19:45

Saturday									
Parramatta Station	19:00	19:15	19:30	19:50	20:20	20:50	21:20	21:50	22:18
Finlayson T-Way Station, South Wentworthville	19:08	19:23	19:38	19:58	20:28	20:58	21:27	21:57	22:25
Canal T-Way Station - Merrylands West	19:13	19:28	19:43	20:03	20:33	21:03	21:32	22:02	22:30
Smithfield T-Way Station, Smithfield	19:17	19:32	19:47	20:07	20:37	21:07	21:36	22:06	22:34
Prairiewood T-Way Station, Bossley Park	19:29	19:44	19:59	20:19	20:49	21:19	21:47	22:17	22:45
Bonnyrigg T-Way Station, Bonnyrigg	19:35	19:50	20:05	20:25	20:55	21:25	21:53	22:23	22:51
Miller T-Way Station - Hinchinbrook	19:45	20:00	20:15	20:35	21:05	21:35	22:02	22:32	23:00
Liverpool Interchange, Liverpool	20:00	20:15	20:30	20:50	21:20	21:50	22:15	22:45	23:13

T80 Parramatta to Liverpool via T-way

B

Saturday					
Parramatta Station	22:48	23:18	23:48	00:18	01:18
Finlayson T-Way Station, South Wentworthville	22:55	23:25	23:55	00:25	01:25
Canal T-Way Station - Merrylands West	23:00	23:30	00:00	00:30	01:30
Smithfield T-Way Station, Smithfield	23:03	23:33	00:03	00:33	01:33
Prairiewood T-Way Station, Bossley Park	23:14	23:44	00:14	00:44	01:44
Bonnyrigg T-Way Station, Bonnyrigg	23:20	23:50	00:20	00:50	01:50
Miller T-Way Station - Hinchinbrook	23:29	23:59	00:29	00:59	01:59
Liverpool Interchange, Liverpool	23:41	00:11	00:41	01:11	02:11

Sunday & Public Holidays									
Parramatta Station	-	-	06:00	06:15	06:30	06:45	07:00	07:15	07:30
Finlayson T-Way Station, South Wentworthville	-	-	06:06	06:21	06:36	06:51	07:06	07:21	07:36
Canal T-Way Station - Merrylands West	-	-	06:10	06:25	06:40	06:55	07:10	07:26	07:41
Smithfield T-Way Station, Smithfield	-	-	06:14	06:29	06:44	06:59	07:14	07:30	07:45
Prairiewood T-Way Station, Bossley Park	-	-	06:27	06:42	06:57	07:12	07:27	07:43	07:58
Bonnyrigg T-Way Station, Bonnyrigg	05:29	06:04	06:34	06:49	07:04	07:19	07:34	07:50	08:05
Miller T-Way Station - Hinchinbrook	05:38	06:13	06:43	06:58	07:13	07:28	07:43	07:59	08:14
Liverpool Interchange, Liverpool	05:50	06:25	06:55	07:10	07:25	07:41	07:56	08:13	08:28

Sunday & Public Holidays									
Parramatta Station	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
Finlayson T-Way Station, South Wentworthville	07:51	08:06	08:21	08:36	08:51	09:07	09:22	09:37	09:52
Canal T-Way Station - Merrylands West	07:56	08:11	08:26	08:41	08:56	09:12	09:27	09:42	09:57
Smithfield T-Way Station, Smithfield	08:00	08:15	08:30	08:45	09:00	09:16	09:31	09:46	10:01
Prairiewood T-Way Station, Bossley Park	08:13	08:28	08:43	08:58	09:13	09:29	09:44	09:59	10:14
Bonnyrigg T-Way Station, Bonnyrigg	08:20	08:35	08:50	09:05	09:20	09:36	09:51	10:06	10:21
Miller T-Way Station - Hinchinbrook	08:29	08:44	08:59	09:14	09:29	09:45	10:00	10:15	10:30
Liverpool Interchange, Liverpool	08:45	09:00	09:15	09:30	09:45	10:02	10:17	10:32	10:47

Sunday & Public Holidays									
Parramatta Station	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Finlayson T-Way Station, South Wentworthville	10:07	10:22	10:37	10:52	11:07	11:22	11:37	11:52	12:07
Canal T-Way Station - Merrylands West	10:12	10:27	10:42	10:57	11:12	11:27	11:42	11:57	12:12
Smithfield T-Way Station, Smithfield	10:16	10:31	10:46	11:01	11:16	11:31	11:46	12:01	12:16
Prairiewood T-Way Station, Bossley Park	10:29	10:44	11:00	11:15	11:30	11:45	12:00	12:15	12:30
Bonnyrigg T-Way Station, Bonnyrigg	10:36	10:51	11:07	11:22	11:37	11:52	12:07	12:22	12:37
Miller T-Way Station - Hinchinbrook	10:45	11:00	11:16	11:31	11:46	12:01	12:16	12:31	12:46
Liverpool Interchange, Liverpool	11:02	11:17	11:34	11:49	12:04	12:19	12:34	12:49	13:04

Sunday & Public Holidays									
Parramatta Station	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15
Finlayson T-Way Station, South Wentworthville	12:22	12:37	12:52	13:07	13:22	13:37	13:52	14:07	14:22
Canal T-Way Station - Merrylands West	12:27	12:42	12:57	13:12	13:27	13:42	13:57	14:12	14:27
Smithfield T-Way Station, Smithfield	12:31	12:46	13:01	13:16	13:31	13:46	14:01	14:16	14:31
Prairiewood T-Way Station, Bossley Park	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:29	14:44
Bonnyrigg T-Way Station, Bonnyrigg	12:52	13:07	13:22	13:37	13:52	14:07	14:22	14:36	14:51
Miller T-Way Station - Hinchinbrook	13:01	13:16	13:31	13:46	14:01	14:16	14:31	14:45	15:00
Liverpool Interchange, Liverpool	13:19	13:34	13:49	14:04	14:19	14:34	14:49	15:02	15:17

Sunday & Public Holidays									
Parramatta Station	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30
Finlayson T-Way Station, South Wentworthville	14:37	14:52	15:07	15:22	15:37	15:52	16:07	16:22	16:37
Canal T-Way Station - Merrylands West	14:42	14:57	15:12	15:27	15:42	15:57	16:12	16:27	16:42
Smithfield T-Way Station, Smithfield	14:46	15:01	15:16	15:31	15:46	16:01	16:16	16:31	16:46
Prairiewood T-Way Station, Bossley Park	14:59	15:14	15:29	15:44	15:59	16:14	16:29	16:44	16:59
Bonnyrigg T-Way Station, Bonnyrigg	15:06	15:21	15:36	15:51	16:06	16:21	16:36	16:51	17:06
Miller T-Way Station - Hinchinbrook	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15
Liverpool Interchange, Liverpool	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:17	17:32

T80 Parramatta to Liverpool via T-way

B

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45
Finlayson T-Way Station, South Wentworthville	16:52	17:07	17:22	17:37	17:52	18:07	18:22	18:37	18:52
Canal T-Way Station - Merrylands West	16:57	17:12	17:27	17:42	17:57	18:12	18:27	18:42	18:57
Smithfield T-Way Station, Smithfield	17:01	17:16	17:31	17:46	18:01	18:16	18:31	18:46	19:01
Prairiewood T-Way Station, Bossley Park	17:14	17:29	17:44	17:59	18:14	18:28	18:43	18:58	19:13
Bonnyrigg T-Way Station, Bonnyrigg	17:21	17:36	17:51	18:06	18:21	18:35	18:50	19:05	19:20
Miller T-Way Station - Hinchinbrook	17:30	17:45	18:00	18:15	18:30	18:44	18:59	19:14	19:29
Liverpool Interchange, Liverpool	17:47	18:02	18:17	18:32	18:47	19:00	19:15	19:30	19:45

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Parramatta Station	19:00	19:15	19:30	19:50	20:20	20:50	21:20	21:50	22:18
Finlayson T-Way Station, South Wentworthville	19:07	19:22	19:37	19:57	20:27	20:57	21:27	21:57	22:25
Canal T-Way Station - Merrylands West	19:12	19:27	19:42	20:02	20:32	21:02	21:31	22:01	22:29
Smithfield T-Way Station, Smithfield	19:16	19:31	19:46	20:06	20:36	21:06	21:35	22:05	22:33
Prairiewood T-Way Station, Bossley Park	19:28	19:43	19:58	20:18	20:48	21:18	21:47	22:17	22:45
Bonnyrigg T-Way Station, Bonnyrigg	19:35	19:50	20:05	20:25	20:55	21:25	21:54	22:24	22:52
Miller T-Way Station - Hinchinbrook	19:44	19:59	20:14	20:34	21:04	21:34	22:03	22:33	23:01
Liverpool Interchange, Liverpool	20:00	20:15	20:30	20:50	21:20	21:50	22:15	22:45	23:13

Sunday & Public Holidays	♿	♿	♿	♿
Parramatta Station	22:48	23:18	23:48	00:18
Finlayson T-Way Station, South Wentworthville	22:54	23:24	23:54	00:24
Canal T-Way Station - Merrylands West	22:58	23:28	23:58	00:28
Smithfield T-Way Station, Smithfield	23:02	23:32	00:02	00:32
Prairiewood T-Way Station, Bossley Park	23:14	23:44	00:14	00:44
Bonnyrigg T-Way Station, Bonnyrigg	23:21	23:51	00:21	00:51
Miller T-Way Station - Hinchinbrook	23:30	00:00	00:30	01:00
Liverpool Interchange, Liverpool	23:41	00:11	00:41	01:11

T80 Liverpool to Parramatta via T-way

B

Monday to Friday	♿		♿		♿	♿	♿	♿	
Liverpool Interchange, Liverpool	-	-	04:45	05:00	05:15	-	05:30	-	05:40
Miller T-Way Station - Hinchinbrook	04:25	04:40	04:58	05:13	05:28	05:36	05:43	-	05:53
Bonnyrigg T-Way Station, Bonnyrigg	04:34	04:49	05:07	05:22	05:37	05:45	05:52	05:57	06:02
Prairiewood T-Way Station, Bossley Park	04:40	04:55	05:13	05:28	05:43	05:51	05:58	06:03	06:08
Smithfield T-Way Station, Smithfield	04:52	05:07	05:26	05:41	05:56	06:04	06:11	06:17	06:21
Canal T-Way Station - Merrylands West	04:56	05:11	05:30	05:45	06:00	06:08	06:15	06:21	06:25
Finlayson T-Way Station, South Wentworthville	05:01	05:16	05:35	05:50	06:05	06:13	06:20	06:26	06:30
Parramatta Station	05:08	05:23	05:45	06:00	06:15	06:23	06:30	06:36	06:40

Monday to Friday	♿	♿	♿		♿	♿		♿	♿
Liverpool Interchange, Liverpool	-	05:50	-	06:00	-	06:10	-	06:20	-
Miller T-Way Station - Hinchinbrook	-	06:03	-	06:13	-	06:23	-	06:33	-
Bonnyrigg T-Way Station, Bonnyrigg	06:07	06:13	06:17	06:23	06:28	06:33	06:38	06:43	06:48
Prairiewood T-Way Station, Bossley Park	06:13	06:19	06:23	06:29	06:34	06:39	06:44	06:49	06:54
Smithfield T-Way Station, Smithfield	06:27	06:33	06:37	06:43	06:48	06:53	06:58	07:03	07:08
Canal T-Way Station - Merrylands West	06:32	06:37	06:42	06:47	06:53	06:58	07:03	07:08	07:13
Finlayson T-Way Station, South Wentworthville	06:37	06:42	06:47	06:52	06:58	07:03	07:09	07:13	07:19
Parramatta Station	06:47	06:52	06:57	07:02	07:08	07:13	07:19	07:23	07:29

Monday to Friday	♿	♿	♿	♿	♿			♿	♿
Liverpool Interchange, Liverpool	-	06:30	-	06:40	-	-	06:50	-	-
Miller T-Way Station - Hinchinbrook	06:40	06:43	-	06:54	06:56	-	07:04	-	07:11
Bonnyrigg T-Way Station, Bonnyrigg	06:52	06:53	06:59	07:06	07:08	07:09	07:16	07:19	07:23
Prairiewood T-Way Station, Bossley Park	06:58	06:59	07:05	07:12	07:14	07:15	07:22	07:25	07:29
Smithfield T-Way Station, Smithfield	07:12	07:13	07:19	07:26	07:28	07:29	07:36	07:40	07:43
Canal T-Way Station - Merrylands West	07:17	07:18	07:24	07:31	07:32	07:34	07:41	07:45	07:48
Finlayson T-Way Station, South Wentworthville	07:23	07:23	07:30	07:37	07:39	07:40	07:47	07:52	07:54
Parramatta Station	07:33	07:33	07:40	07:47	07:49	07:53	07:57	08:05	08:07

Monday to Friday		♿	♿		♿	♿		♿	♿
Liverpool Interchange, Liverpool	07:00	-	07:10	-	07:20	-	07:30	-	07:40
Miller T-Way Station - Hinchinbrook	07:14	-	07:25	-	07:35	-	07:45	-	07:55
Bonnyrigg T-Way Station, Bonnyrigg	07:26	07:30	07:37	07:40	07:47	07:50	07:57	08:00	08:07
Prairiewood T-Way Station, Bossley Park	07:32	07:36	07:43	07:46	07:53	07:56	08:03	08:06	08:13
Smithfield T-Way Station, Smithfield	07:46	07:51	07:57	08:01	08:07	08:11	08:17	08:21	08:27
Canal T-Way Station - Merrylands West	07:51	07:56	08:02	08:06	08:12	08:16	08:22	08:26	08:32
Finlayson T-Way Station, South Wentworthville	07:57	08:03	08:08	08:13	08:18	08:23	08:28	08:33	08:38
Parramatta Station	08:10	08:16	08:21	08:26	08:31	08:36	08:41	08:46	08:51

Monday to Friday	♿		♿	♿	♿	♿		♿	♿
Liverpool Interchange, Liverpool	-	-	07:50	-	-	08:00	-	08:10	-
Miller T-Way Station - Hinchinbrook	-	-	08:05	-	-	08:15	-	08:25	-
Bonnyrigg T-Way Station, Bonnyrigg	08:10	-	08:17	08:20	-	08:27	-	08:37	-
Prairiewood T-Way Station, Bossley Park	08:16	-	08:23	08:26	-	08:33	-	08:43	-
Smithfield T-Way Station, Smithfield	08:30	-	08:37	08:40	-	08:47	-	08:57	-
Canal T-Way Station - Merrylands West	08:35	08:36	08:42	08:45	08:47	08:52	08:54	09:02	09:04
Finlayson T-Way Station, South Wentworthville	08:41	08:42	08:48	08:51	08:53	08:58	09:00	09:08	09:10
Parramatta Station	08:53	08:54	09:01	09:03	09:05	09:11	09:12	09:20	09:22

Monday to Friday	♿	♿	♿	♿	♿		♿	♿	
Liverpool Interchange, Liverpool	08:20	-	-	08:30	-	08:40	-	-	08:50
Miller T-Way Station - Hinchinbrook	08:35	-	-	08:47	-	08:56	-	-	09:06
Bonnyrigg T-Way Station, Bonnyrigg	08:47	-	-	08:59	-	09:06	-	-	09:16
Prairiewood T-Way Station, Bossley Park	08:53	08:56	-	09:05	09:06	09:12	09:16	-	09:22
Smithfield T-Way Station, Smithfield	09:07	09:09	09:10	09:18	09:19	09:25	09:29	09:30	09:35
Canal T-Way Station - Merrylands West	09:12	09:13	09:14	09:22	09:23	09:29	09:33	09:34	09:39
Finlayson T-Way Station, South Wentworthville	09:18	09:19	09:19	09:28	09:29	09:35	09:39	09:39	09:45
Parramatta Station	09:28	09:30	09:31	09:38	09:40	09:46	09:50	09:51	09:56

T80 Liverpool to Parramatta via T-way

B

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	09:00	-	09:10	09:20	-	09:30	09:40	-	09:50
Miller T-Way Station - Hinchinbrook	09:16	-	09:25	09:35	-	09:45	09:55	-	10:05
Bonnyrigg T-Way Station, Bonnyrigg	09:26	-	09:34	09:44	-	09:54	10:04	-	10:14
Prairiewood T-Way Station, Bossley Park	09:32	-	09:40	09:50	-	10:00	10:10	-	10:20
Smithfield T-Way Station, Smithfield	09:45	09:50	09:53	10:03	10:10	10:13	10:23	10:30	10:33
Canal T-Way Station - Merrylands West	09:49	09:54	09:57	10:07	10:14	10:17	10:27	10:34	10:37
Finlayson T-Way Station, South Wentworthville	09:55	09:59	10:03	10:13	10:19	10:23	10:33	10:39	10:43
Parramatta Station	10:06	10:11	10:14	10:24	10:31	10:34	10:44	10:51	10:54

Monday to Friday	♿	♿	♿		♿	♿		♿	♿
Liverpool Interchange, Liverpool	10:00	-	10:10	10:20	-	10:30	10:40	-	10:50
Miller T-Way Station - Hinchinbrook	10:15	-	10:25	10:35	-	10:45	10:55	-	11:05
Bonnyrigg T-Way Station, Bonnyrigg	10:24	-	10:34	10:44	-	10:54	11:04	-	11:14
Prairiewood T-Way Station, Bossley Park	10:30	-	10:40	10:50	-	11:00	11:10	-	11:20
Smithfield T-Way Station, Smithfield	10:43	10:50	10:53	11:03	11:10	11:13	11:23	11:30	11:33
Canal T-Way Station - Merrylands West	10:47	10:54	10:57	11:07	11:14	11:17	11:27	11:34	11:37
Finlayson T-Way Station, South Wentworthville	10:53	10:59	11:03	11:13	11:19	11:23	11:33	11:39	11:43
Parramatta Station	11:04	11:11	11:14	11:24	11:31	11:34	11:44	11:51	11:54

Monday to Friday	♿	♿	♿		♿	♿	♿	♿	
Liverpool Interchange, Liverpool	11:00	-	11:10	11:20	-	11:30	11:40	-	11:50
Miller T-Way Station - Hinchinbrook	11:15	-	11:25	11:35	-	11:45	11:55	-	12:05
Bonnyrigg T-Way Station, Bonnyrigg	11:24	-	11:34	11:44	-	11:54	12:04	-	12:14
Prairiewood T-Way Station, Bossley Park	11:30	-	11:40	11:50	-	12:00	12:10	-	12:20
Smithfield T-Way Station, Smithfield	11:43	11:50	11:53	12:03	12:10	12:13	12:23	12:30	12:33
Canal T-Way Station - Merrylands West	11:47	11:54	11:57	12:07	12:14	12:17	12:27	12:34	12:37
Finlayson T-Way Station, South Wentworthville	11:53	11:59	12:03	12:13	12:19	12:23	12:33	12:39	12:43
Parramatta Station	12:04	12:11	12:14	12:24	12:31	12:34	12:44	12:51	12:54

Monday to Friday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	12:00	-	12:10	12:20	-	12:30	12:40	-	12:50
Miller T-Way Station - Hinchinbrook	12:15	-	12:25	12:35	-	12:45	12:55	-	13:05
Bonnyrigg T-Way Station, Bonnyrigg	12:24	-	12:34	12:44	-	12:54	13:04	-	13:14
Prairiewood T-Way Station, Bossley Park	12:30	-	12:40	12:50	-	13:00	13:10	-	13:20
Smithfield T-Way Station, Smithfield	12:43	12:50	12:53	13:03	13:09	13:13	13:23	13:28	13:33
Canal T-Way Station - Merrylands West	12:47	12:54	12:57	13:07	13:13	13:17	13:27	13:32	13:37
Finlayson T-Way Station, South Wentworthville	12:53	12:59	13:03	13:13	13:18	13:23	13:33	13:37	13:43
Parramatta Station	13:04	13:11	13:14	13:24	13:30	13:34	13:44	13:49	13:54

Monday to Friday	♿	♿		♿	♿	♿	♿		♿
Liverpool Interchange, Liverpool	13:00	-	13:10	13:20	13:30	13:36	13:40	13:50	14:00
Miller T-Way Station - Hinchinbrook	13:15	-	13:25	13:35	13:45	13:51	13:55	14:05	14:17
Bonnyrigg T-Way Station, Bonnyrigg	13:24	-	13:34	13:44	13:54	14:00	14:04	14:14	14:27
Prairiewood T-Way Station, Bossley Park	13:30	-	13:40	13:50	14:00	-	14:10	14:20	14:33
Smithfield T-Way Station, Smithfield	13:43	13:48	13:53	14:03	14:13	-	14:23	14:33	14:47
Canal T-Way Station - Merrylands West	13:47	13:52	13:57	14:07	14:17	-	14:27	14:37	14:52
Finlayson T-Way Station, South Wentworthville	13:53	13:57	14:03	14:13	14:23	-	14:33	14:43	14:58
Parramatta Station	14:04	14:09	14:14	14:24	14:34	-	14:44	14:54	15:08

Monday to Friday	♿			♿	♿		♿	♿	♿
Liverpool Interchange, Liverpool	14:10	14:20	14:30	14:40	14:50	15:00	15:10	15:20	15:30
Miller T-Way Station - Hinchinbrook	14:27	14:37	14:47	14:57	15:07	15:17	15:27	15:37	15:47
Bonnyrigg T-Way Station, Bonnyrigg	14:37	14:47	14:57	15:07	15:17	15:27	15:37	15:47	15:57
Prairiewood T-Way Station, Bossley Park	14:43	14:53	15:03	15:13	15:23	15:33	15:43	15:53	16:03
Smithfield T-Way Station, Smithfield	14:57	15:07	15:17	15:27	15:37	15:47	15:57	16:07	16:17
Canal T-Way Station - Merrylands West	15:02	15:12	15:22	15:32	15:42	15:52	16:02	16:12	16:22
Finlayson T-Way Station, South Wentworthville	15:08	15:18	15:28	15:38	15:48	15:58	16:08	16:18	16:28
Parramatta Station	15:18	15:28	15:38	15:48	15:58	16:08	16:18	16:28	16:38

T80 Liverpool to Parramatta via T-way

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Monday to Friday									
Liverpool Interchange, Liverpool	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00
Miller T-Way Station - Hinchinbrook	15:57	16:07	16:17	16:27	16:37	16:47	16:57	17:07	17:17
Bonnyrigg T-Way Station, Bonnyrigg	16:07	16:17	16:27	16:37	16:47	16:57	17:07	17:17	17:27
Prairiewood T-Way Station, Bossley Park	16:13	16:23	16:33	16:43	16:53	17:03	17:13	17:23	17:33
Smithfield T-Way Station, Smithfield	16:27	16:37	16:47	16:57	17:07	17:17	17:27	17:36	17:46
Canal T-Way Station - Merrylands West	16:32	16:42	16:52	17:02	17:12	17:22	17:32	17:40	17:50
Finlayson T-Way Station, South Wentworthville	16:38	16:48	16:58	17:08	17:18	17:28	17:38	17:46	17:56
Parramatta Station	16:48	16:58	17:08	17:18	17:28	17:38	17:48	17:56	18:06

Monday to Friday									
Liverpool Interchange, Liverpool	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:28
Miller T-Way Station - Hinchinbrook	17:27	17:37	17:45	17:55	18:05	18:15	18:25	18:35	18:43
Bonnyrigg T-Way Station, Bonnyrigg	17:37	17:47	17:55	18:05	18:15	18:24	18:34	18:44	18:52
Prairiewood T-Way Station, Bossley Park	17:43	17:53	18:01	18:11	18:21	18:29	18:39	18:49	-
Smithfield T-Way Station, Smithfield	17:56	18:06	18:14	18:24	18:34	18:42	18:52	19:02	-
Canal T-Way Station - Merrylands West	18:00	18:10	18:18	18:28	18:38	18:46	18:56	19:06	-
Finlayson T-Way Station, South Wentworthville	18:06	18:16	18:24	18:33	18:43	18:51	19:01	19:11	-
Parramatta Station	18:16	18:26	18:34	18:42	18:52	19:00	19:10	19:20	-

Monday to Friday									
Liverpool Interchange, Liverpool	18:30	18:45	18:50	19:00	19:10	19:15	19:30	19:30	19:45
Miller T-Way Station - Hinchinbrook	18:45	19:00	19:05	19:15	19:25	19:30	19:43	19:43	19:58
Bonnyrigg T-Way Station, Bonnyrigg	18:54	19:09	19:14	19:24	19:34	19:39	19:51	19:51	20:06
Prairiewood T-Way Station, Bossley Park	18:59	19:14	-	19:29	-	19:44	-	19:56	20:11
Smithfield T-Way Station, Smithfield	19:11	19:26	-	19:41	-	19:56	-	20:07	20:22
Canal T-Way Station - Merrylands West	19:15	19:30	-	19:45	-	20:00	-	20:11	20:26
Finlayson T-Way Station, South Wentworthville	19:20	19:35	-	19:50	-	20:05	-	20:17	20:32
Parramatta Station	19:29	19:44	-	19:59	-	20:14	-	20:26	20:41

Monday to Friday									
Liverpool Interchange, Liverpool	19:50	20:00	20:10	20:15	20:30	20:30	20:45	21:00	21:15
Miller T-Way Station - Hinchinbrook	20:03	20:13	20:23	20:28	20:43	20:43	20:58	21:13	21:28
Bonnyrigg T-Way Station, Bonnyrigg	20:11	20:21	20:31	20:36	20:51	20:51	21:06	21:21	21:36
Prairiewood T-Way Station, Bossley Park	-	20:26	-	20:41	-	20:56	21:11	-	21:41
Smithfield T-Way Station, Smithfield	-	20:37	-	20:52	-	21:07	21:22	-	21:52
Canal T-Way Station - Merrylands West	-	20:41	-	20:56	-	21:11	21:26	-	21:56
Finlayson T-Way Station, South Wentworthville	-	20:47	-	21:02	-	21:17	21:32	-	22:02
Parramatta Station	-	20:56	-	21:11	-	21:26	21:41	-	22:11

Monday to Friday									
Day Restrictions									F
Liverpool Interchange, Liverpool	21:30	21:45	22:00	22:15	22:45	23:15	23:45	00:20	F00:50
Miller T-Way Station - Hinchinbrook	21:43	21:58	22:13	22:28	22:58	23:28	23:58	00:33	01:03
Bonnyrigg T-Way Station, Bonnyrigg	21:51	22:06	22:21	22:36	23:06	23:36	00:06	00:41	01:11
Prairiewood T-Way Station, Bossley Park	-	22:11	-	22:41	23:11	23:41	00:11	00:46	01:16
Smithfield T-Way Station, Smithfield	-	22:22	-	22:52	23:22	23:52	00:22	00:57	01:27
Canal T-Way Station - Merrylands West	-	22:26	-	22:56	23:26	23:56	00:26	-	01:31
Finlayson T-Way Station, South Wentworthville	-	22:32	-	23:00	23:30	00:00	00:30	-	01:35
Parramatta Station	-	22:41	-	23:09	23:39	00:09	00:39	-	01:44

Saturday									
Liverpool Interchange, Liverpool	-	-	05:55	06:15	06:30	06:45	07:00	07:15	07:30
Miller T-Way Station - Hinchinbrook	-	-	06:08	06:28	06:43	06:58	07:13	07:28	07:44
Bonnyrigg T-Way Station, Bonnyrigg	05:15	05:45	06:16	06:36	06:51	07:06	07:21	07:36	07:52
Prairiewood T-Way Station, Bossley Park	05:21	05:51	06:22	06:42	06:57	07:12	07:27	07:42	07:58
Smithfield T-Way Station, Smithfield	05:33	06:03	06:34	06:54	07:09	07:24	07:39	07:54	08:10
Canal T-Way Station - Merrylands West	05:37	06:07	06:38	06:58	07:13	07:28	07:43	07:58	08:14
Finlayson T-Way Station, South Wentworthville	05:42	06:12	06:43	07:03	07:18	07:33	07:48	08:03	08:19
Parramatta Station	05:50	06:20	06:51	07:11	07:26	07:42	07:57	08:12	08:29

T80 Liverpool to Parramatta via T-way

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Saturday									
Liverpool Interchange, Liverpool	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
Miller T-Way Station - Hinchinbrook	07:59	08:14	08:29	08:44	09:00	09:15	09:30	09:45	10:00
Bonnyrigg T-Way Station, Bonnyrigg	08:07	08:23	08:38	08:53	09:09	09:24	09:39	09:54	10:09
Prairiewood T-Way Station, Bossley Park	08:13	08:29	08:44	08:59	09:15	09:30	09:45	10:00	10:15
Smithfield T-Way Station, Smithfield	08:25	08:41	08:56	09:11	09:27	09:42	09:57	10:12	10:27
Canal T-Way Station - Merrylands West	08:29	08:45	09:00	09:15	09:31	09:46	10:01	10:16	10:31
Finlayson T-Way Station, South Wentworthville	08:34	08:50	09:05	09:20	09:36	09:51	10:06	10:21	10:36
Parramatta Station	08:44	09:00	09:15	09:30	09:47	10:02	10:17	10:32	10:47

Saturday									
Liverpool Interchange, Liverpool	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Miller T-Way Station - Hinchinbrook	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15
Bonnyrigg T-Way Station, Bonnyrigg	10:24	10:39	10:54	11:09	11:24	11:40	11:55	12:10	12:25
Prairiewood T-Way Station, Bossley Park	10:30	10:45	11:00	11:15	11:30	11:46	12:01	12:16	12:31
Smithfield T-Way Station, Smithfield	10:42	10:57	11:12	11:27	11:42	11:58	12:13	12:28	12:43
Canal T-Way Station - Merrylands West	10:46	11:01	11:16	11:31	11:46	12:02	12:17	12:32	12:47
Finlayson T-Way Station, South Wentworthville	10:51	11:06	11:21	11:36	11:51	12:07	12:22	12:37	12:52
Parramatta Station	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02

Saturday									
Liverpool Interchange, Liverpool	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15
Miller T-Way Station - Hinchinbrook	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30
Bonnyrigg T-Way Station, Bonnyrigg	12:40	12:55	13:10	13:25	13:40	13:55	14:10	14:25	14:40
Prairiewood T-Way Station, Bossley Park	12:46	13:01	13:16	13:31	13:46	14:01	14:16	14:31	14:46
Smithfield T-Way Station, Smithfield	12:58	13:13	13:28	13:43	13:58	14:13	14:28	14:43	14:58
Canal T-Way Station - Merrylands West	13:02	13:17	13:32	13:47	14:02	14:17	14:32	14:47	15:02
Finlayson T-Way Station, South Wentworthville	13:07	13:22	13:37	13:52	14:07	14:22	14:37	14:52	15:07
Parramatta Station	13:17	13:32	13:47	14:02	14:17	14:32	14:47	15:02	15:17

Saturday									
Liverpool Interchange, Liverpool	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30
Miller T-Way Station - Hinchinbrook	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45
Bonnyrigg T-Way Station, Bonnyrigg	14:55	15:10	15:25	15:40	15:55	16:10	16:25	16:40	16:55
Prairiewood T-Way Station, Bossley Park	15:01	15:16	15:31	15:46	16:01	16:16	16:31	16:46	17:01
Smithfield T-Way Station, Smithfield	15:13	15:28	15:43	15:58	16:13	16:28	16:43	16:58	17:13
Canal T-Way Station - Merrylands West	15:17	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:17
Finlayson T-Way Station, South Wentworthville	15:22	15:37	15:52	16:07	16:22	16:37	16:52	17:07	17:22
Parramatta Station	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:17	17:32

Saturday									
Liverpool Interchange, Liverpool	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45
Miller T-Way Station - Hinchinbrook	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00
Bonnyrigg T-Way Station, Bonnyrigg	17:10	17:25	17:40	17:55	18:10	18:25	18:39	18:54	19:09
Prairiewood T-Way Station, Bossley Park	17:16	17:31	17:46	18:01	18:16	18:31	18:45	19:00	19:14
Smithfield T-Way Station, Smithfield	17:28	17:43	17:58	18:13	18:28	18:43	18:56	19:11	19:26
Canal T-Way Station - Merrylands West	17:32	17:47	18:02	18:17	18:32	18:47	19:00	19:15	19:30
Finlayson T-Way Station, South Wentworthville	17:37	17:52	18:07	18:22	18:37	18:52	19:05	19:20	19:35
Parramatta Station	17:47	18:02	18:17	18:32	18:47	19:02	19:15	19:30	19:45

Saturday									
Liverpool Interchange, Liverpool	19:00	19:15	19:30	19:45	20:15	20:45	21:15	21:45	22:15
Miller T-Way Station - Hinchinbrook	19:15	19:30	19:45	20:00	20:30	20:59	21:29	21:59	22:29
Bonnyrigg T-Way Station, Bonnyrigg	19:24	19:39	19:54	20:09	20:39	21:08	21:38	22:08	22:38
Prairiewood T-Way Station, Bossley Park	19:29	19:44	19:59	20:14	20:44	21:13	21:43	22:13	22:43
Smithfield T-Way Station, Smithfield	19:41	19:56	20:11	20:26	20:56	21:25	21:55	22:25	22:55
Canal T-Way Station - Merrylands West	19:45	20:00	20:15	20:30	21:00	21:29	21:59	22:29	22:59
Finlayson T-Way Station, South Wentworthville	19:50	20:05	20:20	20:35	21:05	21:34	22:04	22:34	23:04
Parramatta Station	20:00	20:15	20:30	20:45	21:15	21:42	22:12	22:42	23:12

T80 Liverpool to Parramatta via T-way

B

Saturday	♿	♿	♿	♿
Liverpool Interchange, Liverpool	22:45	23:15	23:45	00:15
Miller T-Way Station - Hinchinbrook	22:58	23:28	23:58	00:28
Bonnyrigg T-Way Station, Bonnyrigg	23:05	23:35	00:05	00:35
Prairiewood T-Way Station, Bossley Park	23:10	23:40	00:10	00:40
Smithfield T-Way Station, Smithfield	23:20	23:50	00:20	00:50
Canal T-Way Station - Merrylands West	23:24	23:54	00:24	00:54
Finlayson T-Way Station, South Wentworthville	23:29	23:59	00:29	00:59
Parramatta Station	23:37	00:07	00:37	01:07

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	-	-	05:55	06:15	06:30	06:45	07:00	07:15	07:30
Miller T-Way Station - Hinchinbrook	-	-	06:07	06:27	06:42	06:57	07:12	07:27	07:42
Bonnyrigg T-Way Station, Bonnyrigg	05:15	05:45	06:15	06:35	06:50	07:05	07:20	07:35	07:50
Prairiewood T-Way Station, Bossley Park	05:21	05:51	06:22	06:42	06:57	07:12	07:27	07:42	07:57
Smithfield T-Way Station, Smithfield	05:33	06:03	06:34	06:54	07:09	07:24	07:39	07:54	08:09
Canal T-Way Station - Merrylands West	05:37	06:07	06:38	06:58	07:13	07:28	07:43	07:58	08:13
Finlayson T-Way Station, South Wentworthville	05:42	06:12	06:43	07:03	07:18	07:33	07:48	08:03	08:18
Parramatta Station	05:50	06:20	06:51	07:11	07:26	07:42	07:57	08:12	08:29

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
Miller T-Way Station - Hinchinbrook	07:57	08:13	08:28	08:43	08:59	09:14	09:29	09:44	09:59
Bonnyrigg T-Way Station, Bonnyrigg	08:05	08:21	08:36	08:51	09:08	09:23	09:38	09:53	10:08
Prairiewood T-Way Station, Bossley Park	08:12	08:28	08:43	08:58	09:15	09:30	09:45	10:00	10:15
Smithfield T-Way Station, Smithfield	08:24	08:40	08:55	09:10	09:27	09:42	09:57	10:12	10:27
Canal T-Way Station - Merrylands West	08:28	08:44	08:59	09:14	09:31	09:46	10:01	10:16	10:31
Finlayson T-Way Station, South Wentworthville	08:33	08:49	09:04	09:19	09:36	09:51	10:06	10:21	10:36
Parramatta Station	08:44	09:00	09:15	09:30	09:47	10:02	10:17	10:32	10:47

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Miller T-Way Station - Hinchinbrook	10:14	10:29	10:44	10:59	11:14	11:29	11:44	11:59	12:14
Bonnyrigg T-Way Station, Bonnyrigg	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08	12:23
Prairiewood T-Way Station, Bossley Park	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30
Smithfield T-Way Station, Smithfield	10:42	10:57	11:12	11:27	11:42	11:57	12:12	12:27	12:42
Canal T-Way Station - Merrylands West	10:46	11:01	11:16	11:31	11:46	12:01	12:16	12:31	12:46
Finlayson T-Way Station, South Wentworthville	10:51	11:06	11:21	11:36	11:51	12:06	12:21	12:36	12:51
Parramatta Station	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15
Miller T-Way Station - Hinchinbrook	12:29	12:44	12:59	13:14	13:29	13:44	13:59	14:14	14:29
Bonnyrigg T-Way Station, Bonnyrigg	12:38	12:53	13:08	13:23	13:38	13:53	14:08	14:23	14:38
Prairiewood T-Way Station, Bossley Park	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45
Smithfield T-Way Station, Smithfield	12:57	13:12	13:27	13:42	13:57	14:12	14:27	14:42	14:57
Canal T-Way Station - Merrylands West	13:01	13:16	13:31	13:46	14:01	14:16	14:31	14:46	15:01
Finlayson T-Way Station, South Wentworthville	13:06	13:21	13:36	13:51	14:06	14:21	14:36	14:51	15:06
Parramatta Station	13:17	13:32	13:47	14:02	14:17	14:32	14:47	15:02	15:17

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30
Miller T-Way Station - Hinchinbrook	14:44	14:59	15:14	15:29	15:44	15:59	16:14	16:29	16:44
Bonnyrigg T-Way Station, Bonnyrigg	14:53	15:08	15:23	15:38	15:53	16:08	16:23	16:38	16:53
Prairiewood T-Way Station, Bossley Park	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00
Smithfield T-Way Station, Smithfield	15:12	15:27	15:42	15:57	16:12	16:27	16:42	16:57	17:12
Canal T-Way Station - Merrylands West	15:16	15:31	15:46	16:01	16:16	16:31	16:46	17:01	17:16
Finlayson T-Way Station, South Wentworthville	15:21	15:36	15:51	16:06	16:21	16:36	16:51	17:06	17:21
Parramatta Station	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:17	17:32

T80 Liverpool to Parramatta via T-way

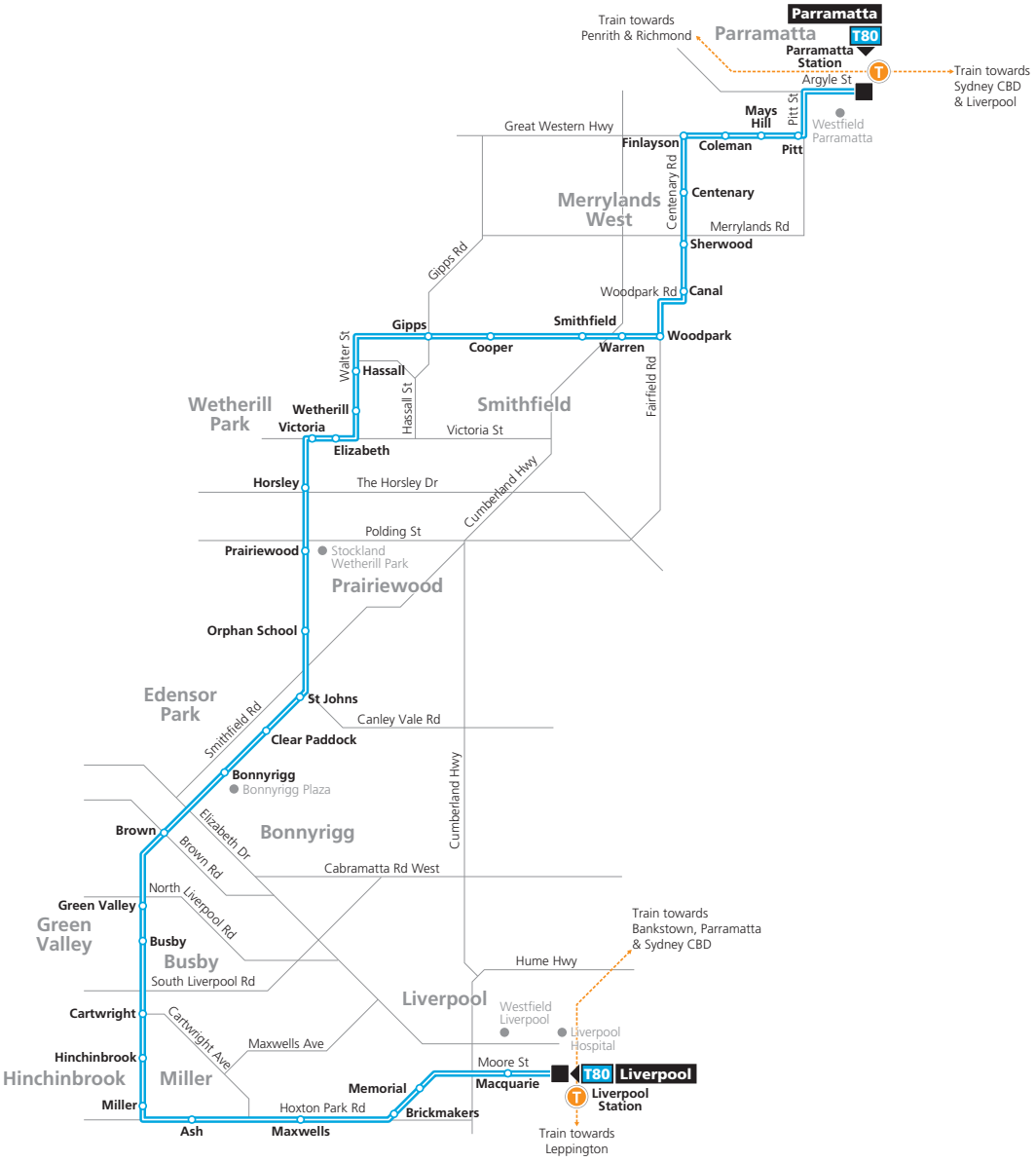
B

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45
Miller T-Way Station - Hinchinbrook	16:59	17:14	17:29	17:44	17:59	18:14	18:29	18:44	18:59
Bonnyrigg T-Way Station, Bonnyrigg	17:08	17:23	17:38	17:53	18:08	18:23	18:37	18:52	19:07
Prairiewood T-Way Station, Bossley Park	17:15	17:30	17:45	18:00	18:15	18:30	18:44	18:59	19:14
Smithfield T-Way Station, Smithfield	17:27	17:42	17:57	18:12	18:27	18:42	18:56	19:11	19:26
Canal T-Way Station - Merrylands West	17:31	17:46	18:01	18:16	18:31	18:46	19:00	19:15	19:30
Finlayson T-Way Station, South Wentworthville	17:36	17:51	18:06	18:21	18:36	18:51	19:05	19:20	19:35
Parramatta Station	17:47	18:02	18:17	18:32	18:47	19:02	19:15	19:30	19:45

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Liverpool Interchange, Liverpool	19:00	19:15	19:30	19:45	20:15	20:45	21:15	21:45	22:15
Miller T-Way Station - Hinchinbrook	19:14	19:29	19:44	19:59	20:29	20:58	21:28	21:58	22:28
Bonnyrigg T-Way Station, Bonnyrigg	19:22	19:37	19:52	20:07	20:37	21:06	21:36	22:06	22:36
Prairiewood T-Way Station, Bossley Park	19:29	19:44	19:59	20:14	20:44	21:13	21:43	22:13	22:43
Smithfield T-Way Station, Smithfield	19:41	19:56	20:11	20:26	20:56	21:24	21:54	22:24	22:54
Canal T-Way Station - Merrylands West	19:45	20:00	20:15	20:30	21:00	21:28	21:58	22:28	22:58
Finlayson T-Way Station, South Wentworthville	19:50	20:05	20:20	20:35	21:05	21:33	22:03	22:33	23:03
Parramatta Station	20:00	20:15	20:30	20:45	21:15	21:42	22:12	22:42	23:12

Sunday & Public Holidays	♿	♿	♿
Liverpool Interchange, Liverpool	22:45	23:15	23:45
Miller T-Way Station - Hinchinbrook	22:57	23:27	23:57
Bonnyrigg T-Way Station, Bonnyrigg	23:04	23:34	00:04
Prairiewood T-Way Station, Bossley Park	23:10	23:40	00:10
Smithfield T-Way Station, Smithfield	23:21	23:51	00:21
Canal T-Way Station - Merrylands West	23:25	23:55	00:25
Finlayson T-Way Station, South Wentworthville	23:29	23:59	00:29
Parramatta Station	23:37	00:07	00:37

Route T80



Legend

- Bus route
- T80 Bus route number
- Bus route start/finish
- Train line/station
- T-way Station

NSW GOVERNMENT Transport

transportnsw.info

Appendix G

Road Safety Audit

1.5 Checklists and Reference Material

The project was audited in accordance with the RMS Guidelines for Road Safety Audit Practices 2011, the AUSTROADS Road Safety Audit Guidelines (Part 6) 2019. Other key reference material included:

AUSTROADS Road Safety Engineering Toolkit
AUSTROADS Guide to Road Design (AGRD) and RMS Austroads Supplements
RMS Delineation Guidelines
Transport Roads & Traffic Authority Technical Direction TDT 2011/01a
NSW bicycle guidelines
AS 1742.2-2009 Manual of uniform traffic control devices Part 2: Traffic control devices for general use

The key elements examined included.

- General road layouts and features
- Pedestrian refuge details
- General construction in accordance with AFC drawings
- Road features
- Lighting, signs and delineation
- Local environmental conditions
- Traffic and Pedestrian behaviour

1.6 Responding to the Audit Report

As set out in the road safety audit guidelines, responsibility for the road design always rests with the designer/project manager and not with the auditor. A project manager is under no obligation to accept any or all the audit deficiencies. Also, it is not the role of the auditor to agree to or approve the project manager's response to the audit. Rather, the audit provides the opportunity to highlight potential problems and have them formally considered by the project manager, in conjunction with all other project considerations.

To assist with this, Table 3.1 (containing this audit's findings) includes a column for any response.

2 ROAD SAFETY AUDIT PROGRAM

2.1 Program

The site was inspected on 14 August 2020. The works were 'walked' and various 'drives' through the site were undertaken during day light and night time hours.

The road safety audit was completed on 18 August 2020 following receipt of the Project Managers response to deficiencies identified by the audit team which included a Level 3 accredited Lead Road Safety Auditor.

At the time of completion, no follow up meetings or audits had been scheduled.

2.2 Road Safety Audit Objectives

The road safety audit is limited in assessing potential road safety risks i.e. accident potential, for all users of the project, irrespective of the design and construction standards adopted.

The objectives of the audit are to: -

- Identify and eliminate potential safety hazards for all road users likely to use the roadway, including traffic, pedestrians and cyclists.
- Ensure that measures to eliminate or reduce future safety problems are fully considered, prior to road operation or opening.
- Improve safety risks associated with the project and prevent the development of new accident locations.

3 ROAD SAFETY AUDIT FINDINGS

This road safety audit identified a number of potential road safety issues. The safety audit process requires that the safety issues identified during an audit be acknowledged by the Audit Team and accordingly responded to by the Project Team. The issues are characterised according to their risk, and detailed in Table 3.1 **'Deficiency Log'** following and are further referenced to the **'CAR' Forms** attached. The CAR forms will facilitate proper close out of each deficiency, as it requires follow up action from the Project Manager as well as the formal close out of each CAR by the Project Manager. The CAR forms also provide for concurrence of corrective actions by the relevant Road Authority.

Likelihood of Crashes*

Frequency	Description	Probability	Likelihood Rating
Frequent	An event is expected to occur. Once or more per week.	90-100%	5
Probable	An event will probably occur. Once or more per year (but less than once a week)	55-90%	4
Occasional	An event might occur in some circumstances. Once every five or ten years	30-55%	3
Improbable	An event could occur. Less often than once every ten years.	5-30%	2
Rare	An event could occur only in exceptional circumstances	<5%	1

Consequences of Crashes*

Severity	Description	Examples	Severity Rating
Catastrophic	Likely multiple deaths	High speed, multi vehicle crash. Car runs into a crowded bus stop.	4
Serious	Likely death or serious injury	High or medium speed vehicle/vehicle collision. High or medium speed collision with a fixed roadside object. Pedestrian or cyclist struck by a car.	3
Moderate	Likely minor injury	Some low speed vehicle collisions. Rear end crashes.	2
Limited	Likely trivial injury or property damage only	Some low speed vehicle collisions. Pedestrian walks into an object. Car reverses into an object.	1

RISK SCORE = SEVERITY RATING + LIKELIHOOD RATING

Risk Score	Priority
9	Extreme
7-8	High
5-6	Medium
2-4	Low

* Source: AUSTROADS Guide to Guide to Road Safety Part 6: Road Safety Audit

One of three possible priority levels (e.g. high, medium or low) has been assigned to each safety issue. The priority levels are defined as follows:

High Priority: A high road safety risk that should be corrected or the risk significantly reduced, even if the treatment cost is high.

Medium Priority: A medium road safety risk that should be corrected or the risk significantly reduced, even if the treatment cost is moderate, but not high.

Low Priority: A lower road safety risk that should be corrected or the risk reduced, if the treatment cost is low.

Road Safety Audit Scope

It should be noted that all safety issues identified may not necessarily be within the scope of the project. This is because while the scope of the audit is generally within the design and construction area described earlier, to complete a full audit of the project, the approaches to the design area were also audited to identify potential safety issues that may affect road safety within the project road sections. Therefore, some safety issues that are within and outside the design area may be the responsibility of the relevant controlling road authority.

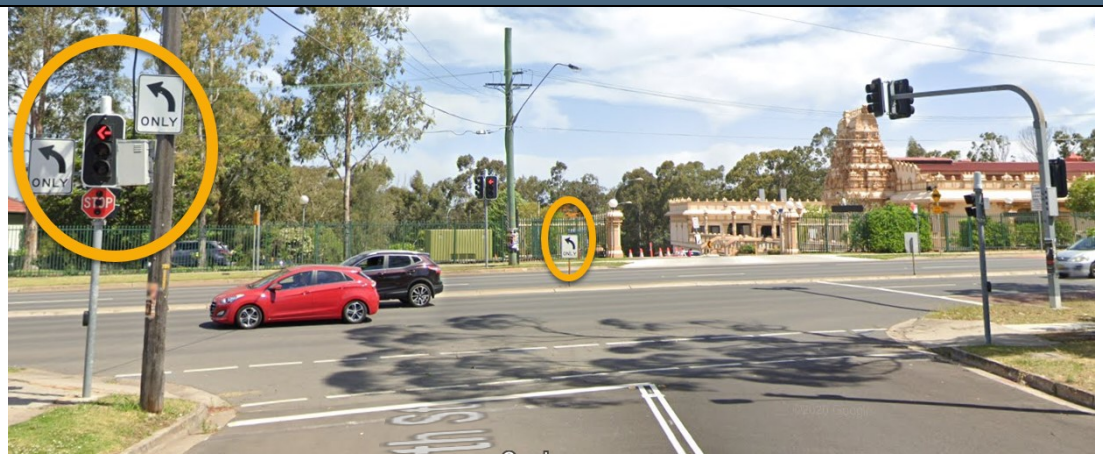
3.1 Safety Deficiency Log

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
	Great Western Highway / Belinda Place **Left-in, Left-out priority controlled 'T' intersection**					
1a		There are limited traffic control facilities for vehicles approaching the intersection from the south in Belinda Place. Currently there is only a single 'GIVE WAY' sign controlling westbound vehicles turning left from Belinda Place to the Great Western Highway (P1, P2, P3)). Examination of Google Street View images from August 2013 indicate however that previous traffic control at the intersection included a 'TB' hold line across Belinda Place (P4). The 'TB' line appears to have been covered by pavement resurfacing works.  (P4)	4	3	7	High

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		The following risks have been identified: The absence of a visible 'TB' hold line could result in drivers not being aware of the position to hold and give way to any traffic in the Great Western Highway kerbside bus lane. This could result in vehicles protruding into the kerbside lane in order for drivers to improve their sight line causing collisions with buses and/or any other vehicles using the westbound lane.				
		 (P1)  (P2)  (P3)				
		Response: The line-marking was installed in prior to July 2010 as part of the resurfacing of the Great Western Highway. It has faded over the 10-year period. A review of TfNSW crash data (2014-2018) and www.snarl.com (2019 to current), no crashes were reported at the intersection of Belinda Place/Great Western Highway. As such, the omission of the give-way line does not present any significant safety concerns. The applicant will liaise with Council to restore the line-marking as required.				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
1b		Apart from a raised (mountable) median along the Great Western Highway located opposite the intersection, there are no regulatory signs prohibiting right turn movements from Belinda Place to the Great Western Highway or from the Great Western Hwy into Belinda Place respectively. Examination of Google Street View images from August 2013 indicate however that previous traffic controls at and approaching the intersection included: 1) 'NO RIGHT TURN' R2-6N_R sign prohibiting vehicles turning right from Belinda Place into the Great Western Highway eastbound (P5).  (P5) 2) 'NO RIGHT TURN' R2-6N_R sign prohibiting vehicles turning right from the Great Western Highway into Belinda Place (P6).	4	3	7	High

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		 (P6) It was also noted from the site inspection and examination of Google Street View images dated March 2020, that 'LEFT ONLY' R2-14L signs have been installed at: - Whitworth Street to reinforce the left turn only onto the Great Western Hwy eastbound (P7) - In the median opposite the existing Temple access (P8).				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		 (P7)  (P8)				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		The limited traffic controls at the Belinda Street intersection could result in the following risks: - Vehicles attempting to turn make an illegal right turn from Belinda Place across the mountable median into the Great Western Hwy eastbound resulting in vehicle/vehicle type collisions. - Vehicles attempting to make an illegal right turn from the Great Western Hwy across the mountable median into Belinda Place resulting in vehicle/vehicle type collisions.				
	Response: The no left-turn sign on Belinda Place and no right-turn on the Great Western Highway were removed prior to August 2017. *A review of TfNSW crash data (2014-2018) and www.snarl.com (2019 to current), no crashes were reported at the intersection of Belinda Place/Great Western Highway. As such, the removal of the signs has not present any significant safety concerns. Based on the traffic surveys completed in 2016, 2019 and 2020, the movements associated with the right-turn in from the Great Western Highway and the right-turn out from Belinda Place did not occur at the intersection, demonstrating the provision of the existing median is adequate to restrict such movements.*				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
2		There is no direct concrete path connection across the splay corner between the existing paths in Belinda Place and the Great Western Hwy. The respective pathways currently intersect at the kerb ramp on the southwest corner on the Great Western Hwy / Belinda Place intersection (P9). The following risks have been identified: - Congestion and conflict at the kerb ramp forcing pedestrians off the path or kerb ramp. - Trip, slip and fall type accidents for pedestrians that follow the desire line across the slay corner.	2	1	3	Low
	 (P9)					
	Response: Pedestrian movements associated with the Temple use between the footpaths along Belinda Place and the Great Western Highway are negligible. With the proposed carpark, a new pedestrian access will be provided on Belinda Place to allow a more direct access to the Temple through the carpark. A review of TfNSW crash data (2014-2018) and www.snarl.com (2019 to current), no pedestrian related crashes were reported at the intersection of Belinda Place/Great Western Highway. As such, the existing pedestrian paths do not present any significant safety concerns.					

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
3		The existing kerb ramp on the southwest corner of the Great Western Hwy/Belinda Street intersection has not been constructed in accordance with current RMS standard drawing No. R0300-11. The current configuration of the kerb ramp and alignment of the connecting path from Belinda Place could result in sight impaired pedestrians stepping onto the Great Western Highway westbound bus lane into the path of westbound traffic.	2	3	5	Medium
	 (P10)  (P11)					
	Response: A review of TfNSW crash data (2014-2018) and www.snarl.com (2019 to current), no pedestrian related crashes were reported at the intersection of Belinda Place/Great Western Highway. As such, the existing pedestrian paths do not present any significant safety concerns. The applicant will liaise with Council to provide "LOOK" pavement marker on the ramp to highlight the presence of vehicles as required.					

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
	Great Western Highway **Existing Left-in, Left Out Temple Access**  (P12)					

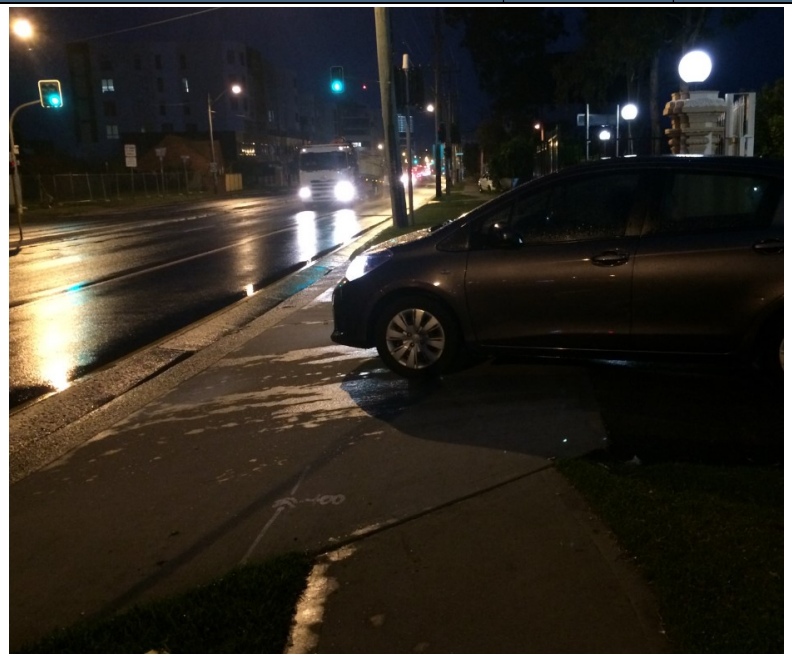
No.	Location	Description	Likelihood	Severity	Risk Score	Priority
4		There is an existing kerbside 'BUS LANE' which is being utilised as a left turn deceleration lane and right turn acceleration lane for vehicles entering and exiting the existing Temple carpark respectively. (P13, P14, P15) While the 'BUS LANE provides an opportunity for vehicles to decelerate to turn in and accelerate turning out of the Temple access clear of the adjacent westbound general traffic lane, there is a risk of turning vehicle traffic conflicts with buses including: - Rear-end collisions with vehicles decelerating before turning or possibly stopping in the 'BUS LANE' and waiting for other turning vehicles and pedestrians to clear. - Angle type collisions with vehicles waiting for a gap in the adjacent westbound lane or merging slowly from the 'BUS LANE' into the adjacent general traffic lane. The auditors acknowledge that there is a clear sight line for westbound buses or other general traffic approaching the Temple access driveway. Accordingly Approach Sight Distance (ASD), Safe Intersection Sight Distance (SISD) and Minimum Gap Sight Distance (MGSD) is available for vehicles speeds up to 70km/h. (Ref# AGRD Part 4A Section 3.4.	4	2	6	Medium

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		 (P13)  (P14)  (P15)				
		Response: A review of TfNSW crash data and www.snarl.com for the past 5 years (2015-current), no rear-end and angle-type related crashes were reported at the intersection of the Temple's driveway/Great Western Highway. As such, the existing driveway does present any significant safety concerns. The provision of an access off Belinda Place will redistribute and reduce the vehicle movements at the existing driveway.				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
5		There is an existing 'STOP' sign located adjacent to the fence on the exit to the Temple site access (P16). Although speeds were very slow, some vehicles exiting the Temple carpark were observed not stopping to check for pedestrians crossing in front of the access (P17, P18, P19)). It is noted there are no signs to warn drivers of pedestrians crossing in front of the access. There is a risk of vehicle / pedestrian collisions as a result of vehicles failing to stop prior to crossing over the westbound verge and footpath.	4	3	7	High

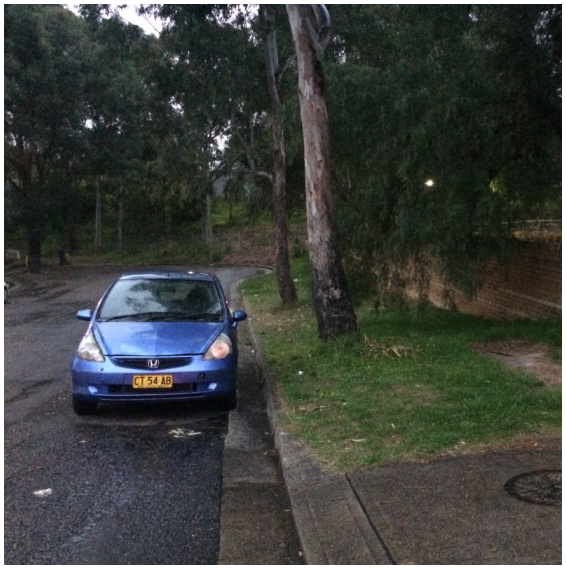
(P16)


(P17)

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
	 (P18)	 (P19)				
	Response: The applicant will install flashing light onto the existing stop sign. In addition to the flashing light, the applicant will install a PEDESTRIAN sign and convex mirror within the site to highlight the presence of pedestrians as well as extend sightlines to the pedestrians along the footpath on the Great Western Highway.					

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
	Belinda Place					
6		There are no stopping or parking restrictions within or adjacent to the cul-de-sac bulb. Vehicles stopped or parked within the cul-de-sac could restrict or inhibit vehicles manoeuvring within the cul-de-sac and/or entering and exiting the proposed new multi-storey carpark access. There is a risk of vehicle/vehicle and vehicle/pedestrian conflicts. (P20, P21, P22)	3	3	6	Medium

(P20)



(P21)

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
		 (P22)				
		Response: The Applicant will liaise with Council on the provision of No Stopping zone within the cul-de-sac as part of the CC stage.				

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
7		The general safety of pedestrians using the footways on both sides of Belinda Place is compromised by: - low overhanging branches from existing trees - grass overgrowing the concrete footpath restricting the usable width - broken concrete pathways creating trip hazards - general litter and waste dumped on the pathways	3	1	4	Low

(P23)

(P24)

(P25)

No.	Location	Description	Likelihood	Severity	Risk Score	Priority

(P26)

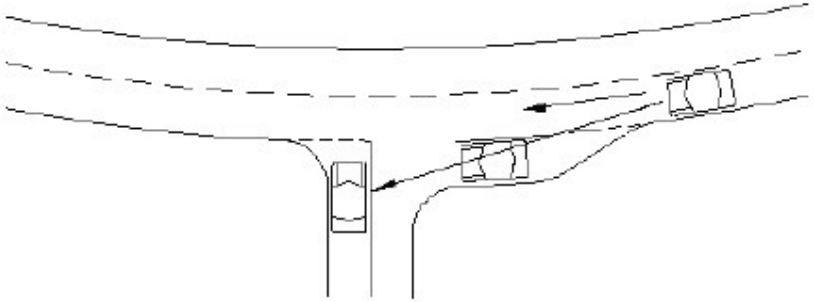
(P27)

(P28)

(P29)

No.	Location	Description	Likelihood	Severity	Risk Score	Priority
	Response: With the proposed carpark, reliance on the kerbside parking on Belinda Place will be reduced significantly. As such, the pedestrian movements along Belinda Place associated with the Temple's use will be minimal. The applicant will liaise with Council on the footpath maintenance and tree pruning should significant hazards are present in the future as required.					

3.2 General Safety Comments

G1	**Safe Intersection Sight Distance (Left Turn Treatments**	Austroads Guide to Road Safety suggests that the provision of a left turn lane into a side road or driveway can result in a left turning vehicle hiding a following vehicle under some circumstances.  # Ref: Austroads Guide to Road Safety Part 6: Road Safety Audit) In the case of both Belinda Place and the Temple carpark access, under the NSW Road Rules the existing westbound 'BUS LANE' in the Great Western Highway can and is being used by general traffic to turn left at these locations.	*Response: A review of TfNSW crash data and www.snarl.com for the past 5 years (2015-current), no rear-end and angle-type related crashes were reported at the intersection of the Temple's driveway/Great Western Highway and Belinda Place/Great Western Highway. As such, the current use of Bus Lane as deceleration lanes to enter/exit the existing driveway and Belinda Place do present any significant safety concerns as well as in accordance to the Road Rules.*

<table>
<tr>
<td>G2</td>
<td>Clear zone</td>
<td>The posted speed limit along the Great Western Highway at the location is 60km/h. Based on an assumed design speed of 60 km/h to 70km/h and a design ADT of <750 vehicles, the clear zone width from the face of kerb adjacent to the westbound Bus Lane along the Great Western Highway would be in the range of 3.0m to 3.5m.. (Ref# AGRD Part 6 Table 4.1).

Table 4.1: Clear zone distances from edge of through travelled way
<table>
<tr><th rowspan="3">Design speed (km/h)</th><th rowspan="3">Design ADT</th><th colspan="6">Clear zone width (m)</th></tr>
<tr><th colspan="3">Fill batter</th><th colspan="3">Cut batter</th></tr>
<tr><th>6:1 to flat</th><th>4:1 to 5:1</th><th>3:1 and steeper(2)</th><th>6:1 to flat</th><th>4:1 to 5:1</th><th>3:1 and steeper(2)</th></tr>
<tr><td rowspan="4">≤ 60</td><td>< 750</td><td>3.0</td><td>3.0</td><td>(2)</td><td>3.0</td><td>3.0</td><td>3.0</td></tr>
<tr><td>750 – 1500</td><td>3.5</td><td>4.5</td><td>(2)</td><td>3.5</td><td>3.5</td><td>3.5</td></tr>
<tr><td>1501 – 6000</td><td>4.5</td><td>5.0</td><td>(2)</td><td>4.5</td><td>4.5</td><td>4.5</td></tr>
<tr><td>> 6000</td><td>5.0</td><td>5.5</td><td>(2)</td><td>5.0</td><td>5.0</td><td>5.0</td></tr>
<tr><td rowspan="4">70 – 80</td><td>< 750</td><td>3.5</td><td>4.5</td><td>(2)</td><td>3.5</td><td>3.0</td><td>3.0</td></tr>
<tr><td>750 – 1500</td><td>5.0</td><td>6.0</td><td>(2)</td><td>5.0</td><td>4.5</td><td>3.5</td></tr>
<tr><td>1501 – 6000</td><td>5.5</td><td>8.0</td><td>(2)</td><td>5.5</td><td>5.0</td><td>4.5</td></tr>
<tr><td>> 6000</td><td>6.5</td><td>8.5</td><td>(2)</td><td>6.5</td><td>6.0</td><td>5.0</td></tr>
</table>

It is noted that there are existing non-frangible power and street light poles located within the westbound verge of the Great Western Highway that are inside the clear zone of the adjacent bus lane.</td>
<td>Response: A review of TfNSW crash data and www.snarl.com for the past 5 years (2015-current), no rear-end and angle-type related crashes were reported at the intersection of the Temple's driveway/Great Western Highway and Belinda Place/Great Western Highway. As such, the existing power and street light poles within the verge do present any significant safety concerns. in addtion, the presence of street furnitures within the clear zone are common very common in Sydney.</td>
</tr>
</table>

(P30)

(P31)

G3	**Street lighting**	During the night time inspection the footway on the western side of Belinda Place appeared to be very dark. There are no street lighting luminaires on the western side of Belinda Place. Light spread from the existing street light luminaires from the eastern side footway is restricted by shadows formed by trees and bushes overhanging the footpath on the western side. There are potential security risks to pedestrians using the darkened footway in the western verge of Belinda Place at night.  (P32) Looking south along the western footway in Belinda Place	*Response: With the proposed carpark, reliance on the kerbside parking on Belinda Place will be reduced significantly. As such, the pedestrian movements along Belinda Place associated with the Temple's use will be minimal.* *The applicant will liaise with Council on the provision of additional lighting as required.*

G4	**Existing pavement makings**	It is noted that the existing 50km/h speed zone pavement marking in Belinda Place (P33) and the directional pavement arrows at the entry / exit to the Temple carpark (P34) have deteriorated. Currently the pavement markings are considered generally ineffective for vehicle speed regulation and guidance.	*Response: The pavement markers were installed prior to November 2009. The applicant will liaise with Council to restore the pavement markers as required.*

(P33)

(P34)