DA484/2017
Proposed Mixed Use Development

280-292 Lakemba Street & 62-70 King Georges Road, Wiley Park

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

1 October 2020

Ref 17221

VARGA TRAFFIC PLANNING Pty Ltd
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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

This revised report has been prepared to accompany an amended development application (DA484/2017) to Council for a mixed use development proposal to be located at 280-292 Lakemba Street and 62-70 King Georges Road, Wiley Park (Figures 1 and 2).

The report provides details of the amended scheme as well as addresses the traffic & parking matters raised by Council and the RMS (now Transport for NSW) to date. In particular, the proposed design now incorporates the following design changes:

- a new public laneway that will run along the eastern boundary of the site, extending from Lakemba Street, and ultimately provide future vehicular access to the adjoining site located at 76 King Georges Road when/if it is eventually redeveloped. The new laneway will include a carriageway width of 6.5m and a 1.8m wide footpath, in accordance with Council's requirements

- a road widening dedication along the Lakemba Street site frontage in order to provide an additional westbound traffic lane (dedicated left-turn only) on approach to the King Georges Road traffic signals

- incorporation of the concept TCS design which has an 'Agreement in Principle' by the RMS

- extension of the existing central median in Lakemba Street across the new laneway (as requested in RMS's letter dated 21 February 2018), thereby restricting all turning movements into/out of the laneway to left-in/left-out only

- the proposed new intersection of Lakemba Street and the new laneway will now take the form of a standard intersection rather than a driveway crossover with layback

- vehicular access to the proposed basement car parking area has been relocated from directly off Lakemba Street to the proposed new laneway

- vehicular access to the subject site's loading dock.is also proposed via the new laneway. The loading dock now includes a mechanical turntable, thereby allowing service vehicles to enter & exit the loading dock in a forward direction at all times

- trolley storage bays within basement level 1

The proposed development, as amended, again involves the demolition of the existing buildings on the site to facilitate the construction of a new mixed use development, comprising a supermarket and specialty stores on the lower levels with a cumulative floor area of 2,437m^2, and 150 residential apartments on the levels above.

Off-street parking is to be provided in a new three-level basement car parking area, in accordance with Council and *State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development (SEPP 65)* requirements. Vehicular access to the basement car parking area is now proposed to be provided via a new entry/exit driveway located off the new public laneway, rather than directly off Lakemba Street as originally proposed.

Loading/servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles ranging from courier vans and utilities for the specialty shops up to and including 12.5m long heavy rigid trucks for the supermarket.

The revised loading dock is again to be located on Level 00, adjacent to the garbage holding areas, which is capable of accommodating a 12.5m long HRV truck. The loading dock now includes a commercial mechanical turntable, ensuring that all vehicles will be able to enter and exit the site in a forward direction *at all times*, as requested by Council.

The purpose of this revised report is to assess the traffic and parking implications of the amended development proposal and to that end this report:

- describes the site and provides details of the amended development proposal

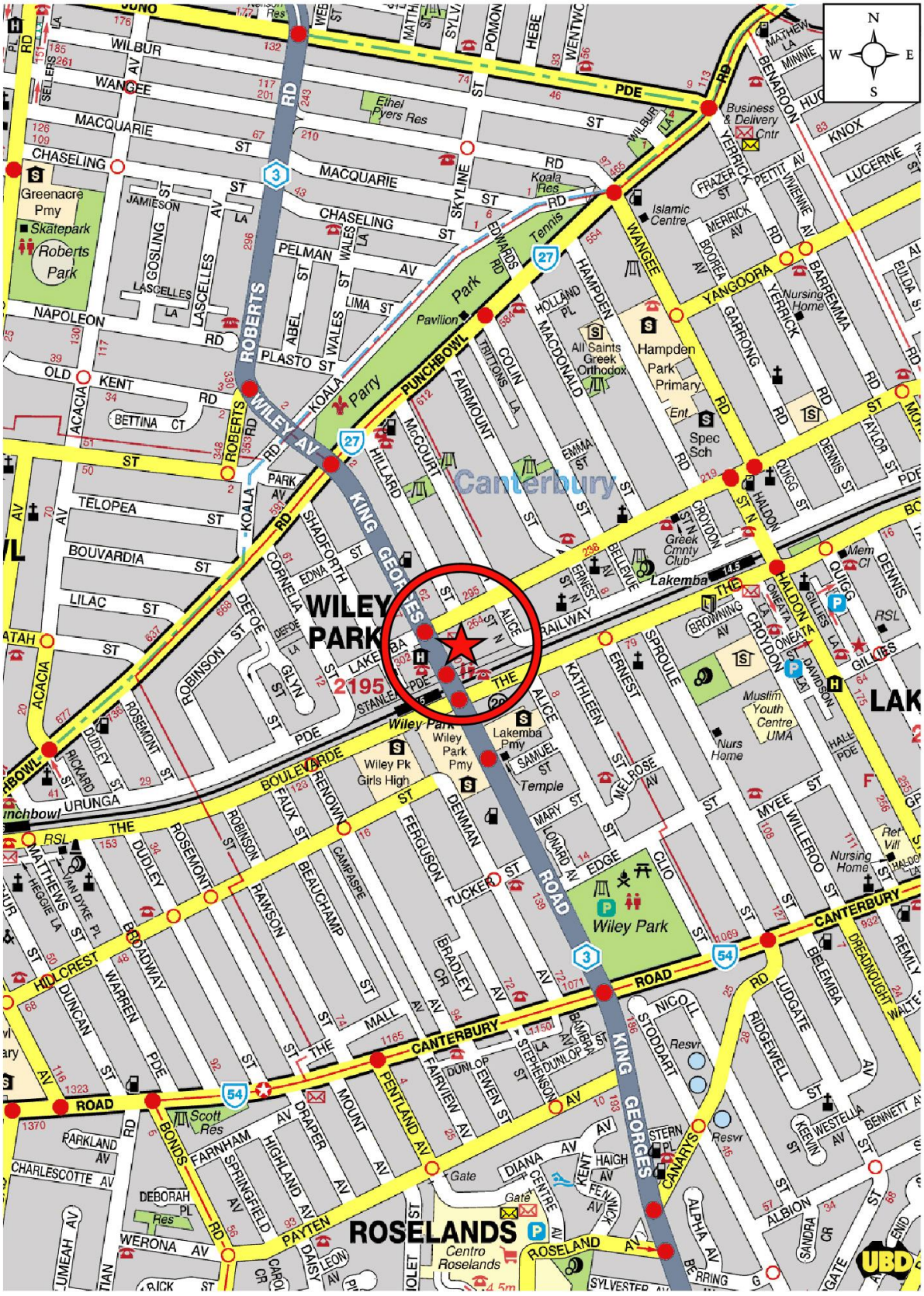
- reviews the road network and public transport services in the vicinity of the site

- estimates the traffic generation potential of the development proposal and assigns that traffic to the adjacent road network

- assesses the traffic implications of the development proposal in terms of road network capacity

- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards

- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.



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LOCATION
FIGURE 1


N
W
E
S
PARK AVE
PUNCHBOWL RD
SHADFORTH ST
KING GEORGES RD
HILLARD ST
MCCOURT ST
FAIRMOUNT ST
ST
EDNA
CORNELIA
ALICE ST NORTH
RAILWAY PDE
LAKEMBA
SHADFORTH ST
KING GEORGES RD
GLYN ST
ST
PDE
THE BOULEVARDE
ALICE ST
STANLEA
WILEY PARK STATION
DEFOE ST
URUNGA PDE
THE BOULEVARDE
ST
RENOWN
FAUX ST
KING GEORGES RD
HILLCREST
AVE
FERGUSON AVE
DENMAN AVE
MARY ST
Road Closure/Unformed Road
VARGA TRAFFIC PLANNING Pty Ltd
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SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the south-eastern corner of the King Georges Road and Lakemba Street intersection. The site has street frontages of approximately 88m in length to King Georges Road, approximately 67m in length to Lakemba Street and occupies an area of approximately 5,851m².

The site lies within the Wiley Park Local Centre, is zoned *B2 Local Centre* and is situated approximately 100m walking distance north of Wiley Park Railway Station. A recent aerial image of the site and its surroundings is reproduced below.

The site is currently occupied by three dwelling houses fronting Lakemba Street plus a number of commercial buildings fronting King Georges Road. Off-street parking is currently provided for most of the properties, with vehicular access provided via a single driveway off King Georges Road plus five driveways off Lakemba Street.

Wiley Park Station Precinct

The site lies within the Wiley Park Station precinct outlined within the *Draft Sydenham to Bankstown Urban Renewal Corridor Strategy*. The Sydenham to Bankstown Corridor Strategy provides a planned approach to growth, with infrastructure delivery and

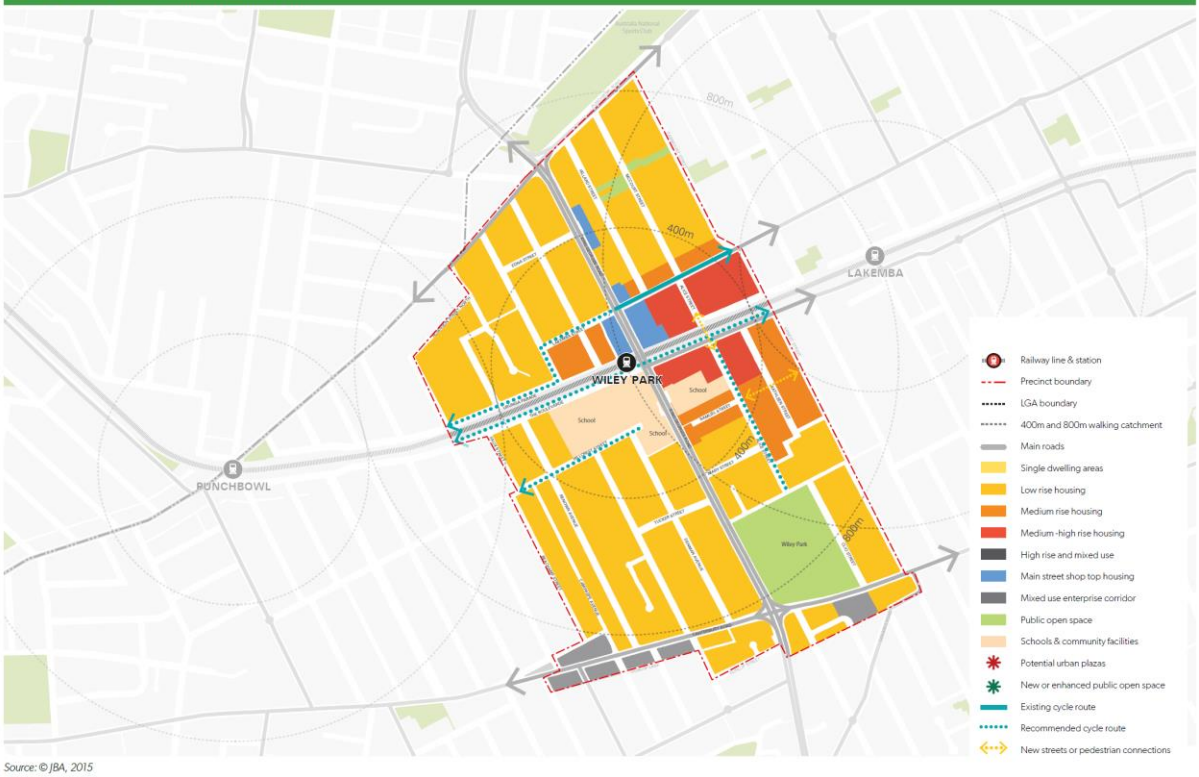
development co-ordinated along the corridor and plans for new homes and jobs over the next 20 years and builds on the objectives outlined within the Sydney Metro City and Southwest Project.

The vision for the Wiley Park Station Precinct is:

- a great place for families with a range of new and existing housing, good access to schools and improved public open space;
- new and improved pedestrian and cycle access to Lakemba and Punchbowl will be facilitated by the revitalisation of The Boulevarde;
- new high quality showroom developments on King Georges Road will provide an alternative focus more suited to heavy vehicular traffic; and
- a new linear park along the train line will provide a new and interesting place for leisure and recreation.

A draft land use strategy map of the Wiley Park Station Precinct is reproduced below.

FIGURE 6: DRAFT LAND USE STRATEGY (OCTOBER 2015)



Source: © JBA, 2015

The subject site is identified within Area A of the renewal areas, with the strategic intent of the land use as follows:

- providing a transition of building heights to create an attractive skyline;

- encouraging slender buildings with good separation for light and air

- promoting high quality design through incorporating design excellence processes; and

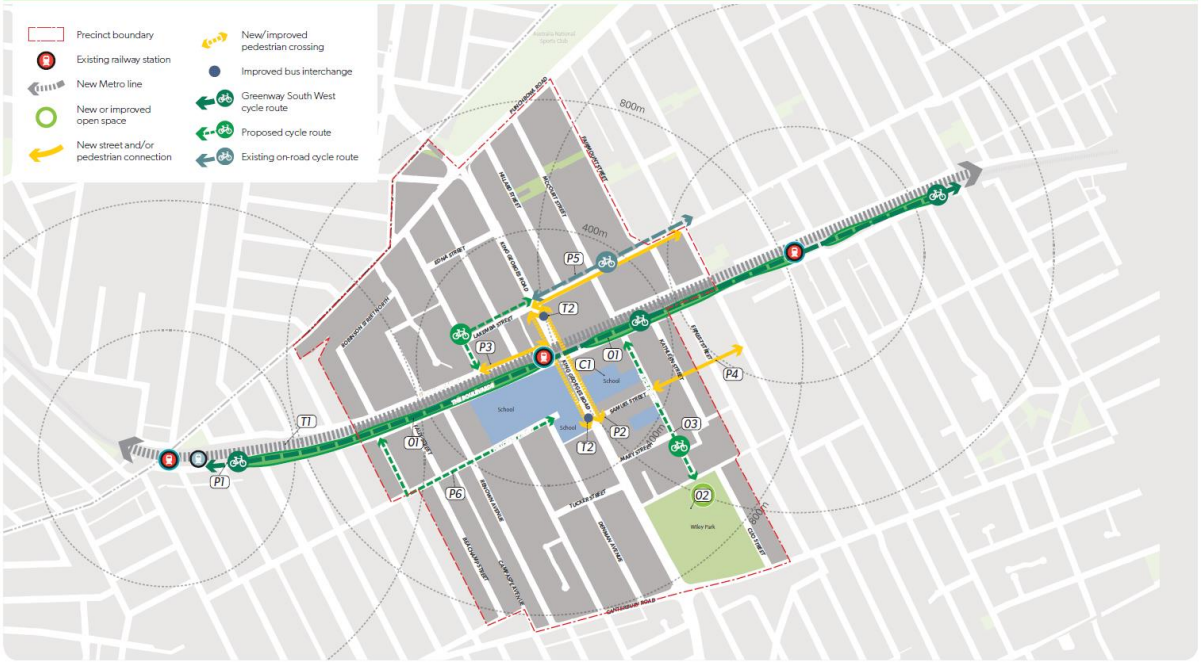
- where appropriate, incorporating active street edges and commercial uses for employment opportunities.

Proposed Infrastructure Road Upgrades

As noted in the foregoing, the site is located within the Wiley Park Station Precinct of the *Draft Sydenham to Bankstown Urban Renewal Corridor Strategy* Plan.

A diagram of the infrastructure projects located within the precinct is reproduced below.

FIGURE 28: INFRASTRUCTURE – WILEY PARK STATION PRECINCT



In particular, the infrastructure upgrades identified to support growth in the Wiley Park Station Precinct in the vicinity of the site is listed below:

Measure		Responsibility	Justification
Public Transport			
T2	Upgrade bus stop shelters along King Georges Road	Transport for NSW	
Walking and Cycling			
P5	Upgrade pedestrian footpath and cycleway along Lakemba Street	Council	Improving cycle connections to the station will encourage public transport use

In addition, RMS have also provided an agreement 'in-principle' under Section 87 of the *Roads Act 1993* for the concept TCS design modification to the traffic signals at the intersection of Lakemba Street and King Georges Road (TCS Site 809).

The existing Traffic Control Signal (TCS) as well as the concept TCS design is reproduced in Appendix A and B, respectively.

The proposed works at the traffic signals will allow the provision of a dedicated left turn lane for westbound traffic in Lakemba Street approaching King Georges Road. The left turn bay is proposed for the length of the development site frontage along Lakemba Street, transitioning to tie-in with the existing kerbline at the eastern extremity of the site.

Additionally, a dedicated right turn lane will be provided on the Lakemba Street approach to King Georges Road.

Previously Submitted Schemes (DA-484/2017)

In late 2017, DA-484/2017 was lodged with Council for the demolition of the existing buildings on the site to facilitate the construction of a new "shop top" development comprising four separate buildings.

In late-2018, a revised application was submitted to Council, comprising of a supermarket on basement level 1, a range of specialty stores on the ground floor level (Level 00), and residential apartments on the levels above.

In mid-2020, another revised application was submitted to Council, again comprising of a supermarket on basement level 1, a range of specialty stores on the ground floor level (Level 00), and residential apartments on the levels above, with the *deletion* of a basement car park level.

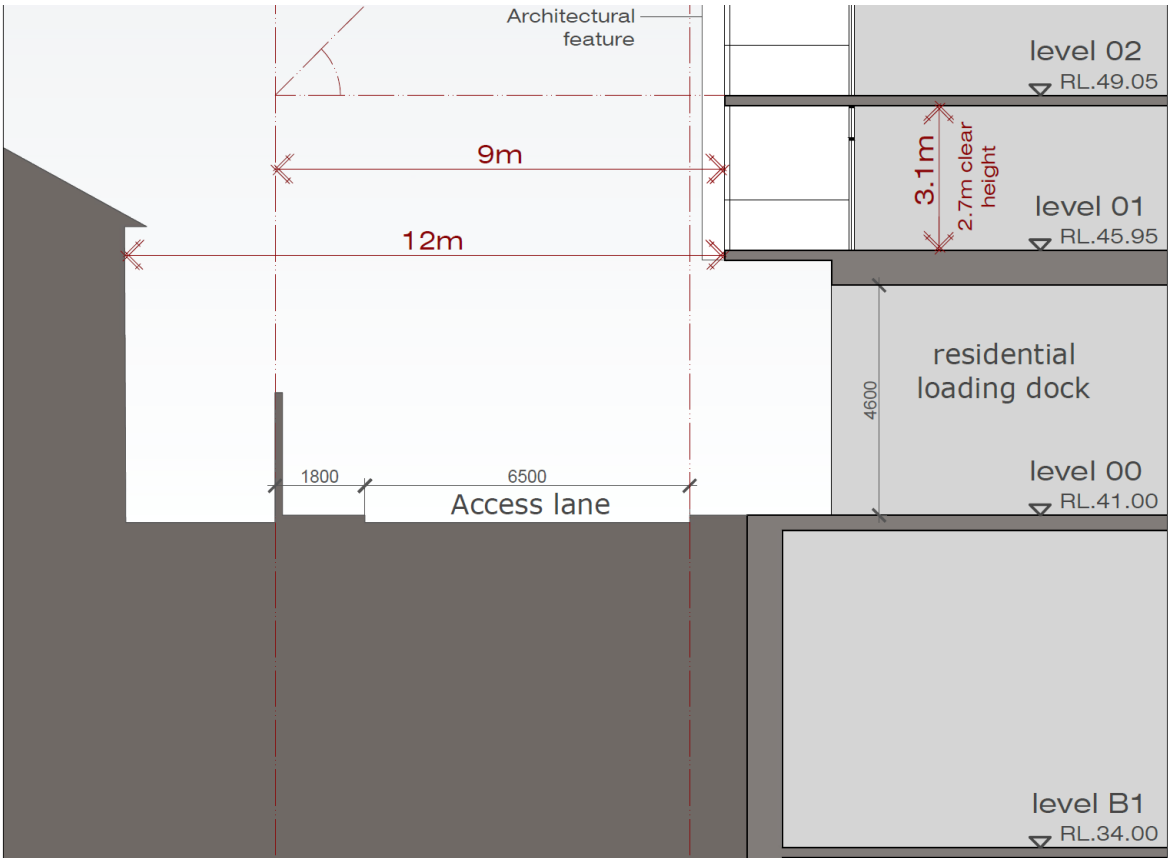
Key development data of the previously submitted schemes are set out in the table below:

		Original Scheme (2017)	**Revised Scheme (2018)**	**Revised Scheme (2020)**
Residential	**Studio apartments:**	-	-	18 apartments
	1 bedroom apartments:	72 apartments	58 apartments	60 apartments
	2 bedroom apartments:	100 apartments	86 apartments	90 apartments
	3 bedroom apartments:	38 apartments	6 apartments	2 apartments
	TOTAL APARTMENTS:	**210 apartments**	**150 apartments**	**170 apartments**
Retail	**Retail shops:**	1,660 m^2	1,122 m^2	1,326 m^2
	Supermarket:	1,529 m^2	1,400 m^2	1,065 m^2
	TOTAL FLOOR AREA:	**3,189 m^2**	**2,522 m^2**	**2,391m^2**

Off-street parking in the mid-2020 revised scheme was proposed for a total of 266 cars within a three-level basement car parking area. Vehicular access was proposed via a new entry/exit driveway accessed directly off Lakemba Street, adjacent to the new laneway.

Loading/servicing for the 2020 revised scheme was proposed to be undertaken by a variety of commercial vehicles ranging from courier vans and utilities up to and including 12.5m long heavy rigid trucks. Two dedicated loading docks were proposed to be located on Level 00, adjacent to the garbage holding area and goods lift, capable of accommodating 12.5m long HRV trucks. Vehicular access to the loading bay was to be provided via the proposed new public laneway, with the trucks reversing off the laneway into the respective dock.

In this regard, both the previous 2018 scheme and the mid-2020 revised scheme proposed a new public laneway to be provided along the eastern boundary of the site, adjacent to the basement access ramp. The revised mid-2020 scheme comprised of a new public laneway proposed to have a road reservation width of 6.5m and a dedicated pedestrian footpath area of 1.8m wide. A screenshot of the previously submitted mid-2020 architectural plan is reproduced below.



This arrangement would allow an at-grade loading/servicing area for the proposed development as well as permitting vehicular access to the rear of the adjacent public housing site located at 76 King Georges Road, in the event they are redeveloped in the future. Providing the new laneway ensures that adjacent public housing site will not require vehicular access directly off King Georges Road.

The revised applications also made provision for a new 3m dedication that will be used to accommodate a new dedicated left-turn only westbound traffic lane extending along the entire Lakemba Street site frontage on approach to the King Georges Road traffic signals, as per RMS's request. The new kerbside traffic lane will be restricted to left-turn movements *only* for westbound traffic turning onto King Georges Road. Detailed traffic modelling was undertaken and the RMS have since provided an agreement 'in-principle' for the modification to the traffic signals at the intersection of Lakemba Street and King Georges Road (TCS Site 809).

The existing 250mm wide central island dividing the two-way traffic flows along Lakemba Street (east of King Georges Road), directly outside the site was also be extended along the entire Lakemba Street site frontage, thereby restricting all turning movements into/out of the development *and* the future laneway to left-in/left-out movements only, as requested by the RMS (written correspondence is reproduced in Appendix C).

In this regard, recent correspondence from Council in August 2020 requires the central median island to be a minimum 900mm wide. It is pertinent to note however that the existing central island has been in place since 2004 when the development opposite the site at 299 Lakemba Street was completed. Increasing the width of the island to 900mm wide at this stage of the DA process will have significant impact to all aspects of the proposal, including architectural, civil, urban design and landscaping. It is therefore considered that extending the existing 250mm wide central island is acceptable in this instance, particularly considering the matter has not been raised at any stage to date, by either Council or the RMS.

Proposed Amended Development

This late-2020 amended application continues to involve the demolition of the existing buildings on the site and the construction of a new "shop top" development, however now comprises a change to the built form, resulting in a reduction in apartment and retail yield.

The proposed development again consists of a supermarket on basement level 1, a range of specialty stores on the ground floor level (Level 00), and residential apartments on the levels above. Key development data of the proposed modified scheme is set out in the table on the following page.

The latest revised scheme has a *reduction* in overall retail/supermarket floor area of approximately 739m² as well as a *reduction* of 60 apartments when compared to the originally submitted scheme in late 2017.

Off-street street parking is now proposed for a total of 251 cars in a new three-level basement parking area which is to be separated into residential and non-residential parking areas, in accordance with Council's and *SEPP 65* requirements.

Proposed Amended Development

Residential	**Studio apartments:**	14 apartments
	1 bedroom apartments:	45 apartments
	2 bedroom apartments:	85 apartments
	3 bedroom apartments:	6 apartments
	TOTAL APARTMENTS:	**150 apartments**
Retail	**Retail shops:**	1,307 m^2
	Supermarket:	1,130 m^2
	TOTAL FLOOR AREA:	**2,437 m^2**

Vehicular access to the car parking facilities is now proposed to be provided via a new entry/exit driveway located off the new public laneway, as requested by Council. The new public laneway has also been amended to be designed as a formal intersection with Lakemba Street. All redundant driveway crossovers will be closed and restored to kerb and gutter.

Loading/servicing for the proposed development is again expected to be undertaken by a variety of commercial vehicles ranging from courier vans and utilities up to and including 12.5m long heavy rigid trucks. In this regard, the amended scheme now proposes a single loading dock with mechanical turntable capable of accommodating 12.5m long HRV trucks, thereby allowing all service vehicles to enter & exit the loading dock in a forward direction *at all times*. Vehicular access to the loading bay is to be provided via the abovementioned proposed new public laneway off Lakemba Street.

Plans of the proposed late-2020 amended scheme have been prepared by *Marchese Partners International Pty Ltd* and are reproduced in Appendix D.

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

King Georges Road is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking Wiley Park to Blakehurst. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. Turning lanes are provided at key locations.

Canterbury Road is also classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Revesby and Hurlstone Park. It typically carries two traffic lanes in each direction. Clearway restrictions apply along both sides of the road during commuter peak periods.

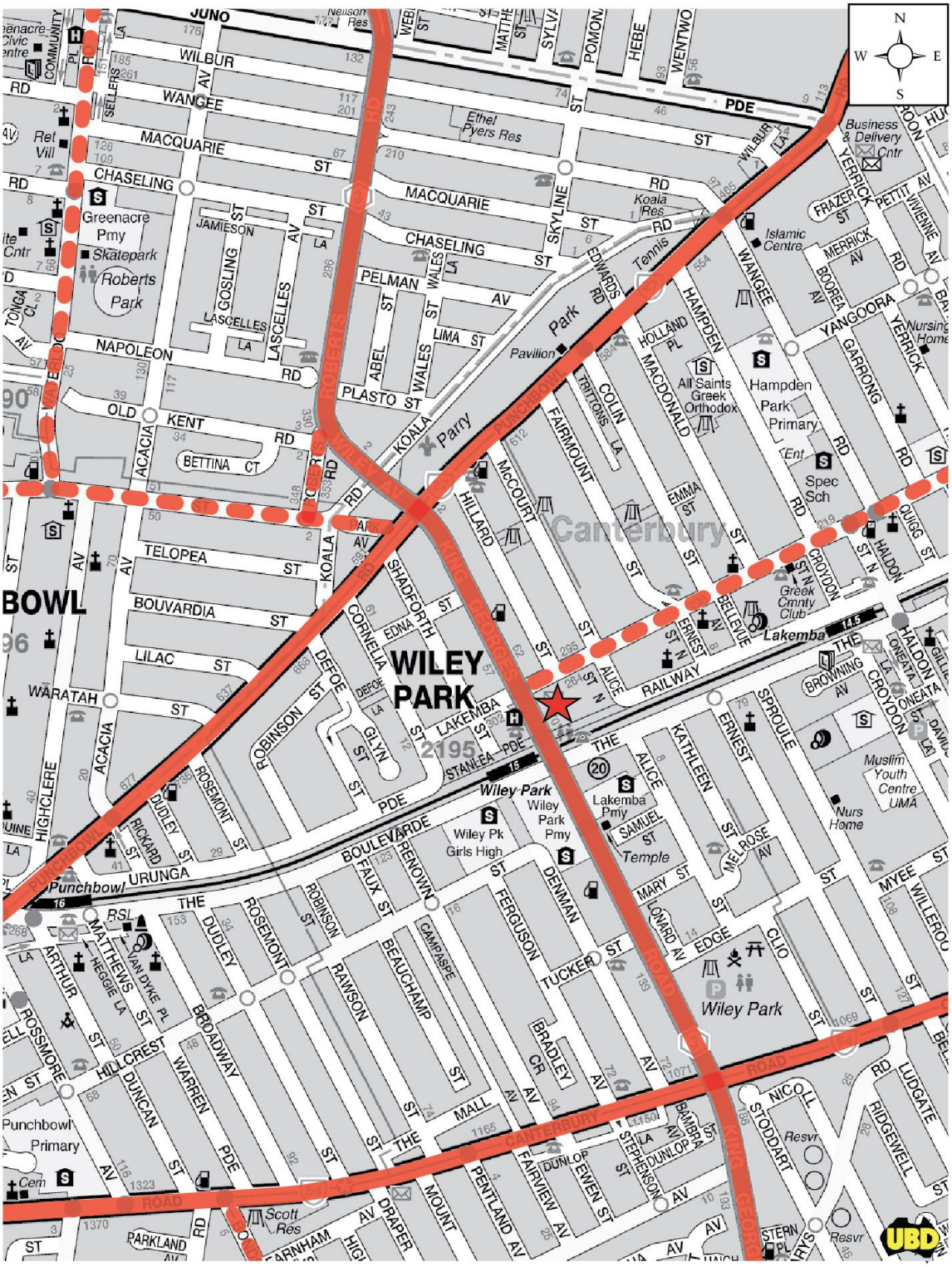
Punchbowl Road is also classified by the RMS as a *State Road* and provides another key east-west road link in the area, linking Punchbowl to Belfield. It typically carries two traffic lanes in each direction with additional lanes provided at key locations.

Lakemba Street is classified by the RMS as a *Regional Road* which performs the function of an east-west *collector route* through the local area. It typically carries one traffic lane in each direction in the vicinity of the site, with kerbside parking generally permitted.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to King Georges Road in the vicinity of the site



Key:

State Road

Regional Road

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ROAD HIERARCHY

FIGURE 3


N
W
E
S
PARK AVE
PUNCHBOWL RD
SHADFORTH ST
KING GEORGES RD
ONLY
HILLARD ST
McCOURT ST
FAIRMOUNT ST
EDNA
ST
60
50
CORNELIA
LAKEMBA
ALICE ST NORTH
RAILWAY PDE
GLYN ST
SHADFORTH ST
PDE
THE BOULEVARDE
ALICE ST
WILEY PARK STATION
STANLEA
KING
GEORGES RD
DEFOE ST
URUNGA PDE
THE BOULEVARDE
RENOWN
FAUX ST
HILLCREST
AVE
FERGUSON AVE
DENMAN AVE
MARY ST
Key:
Give Way Sign
Stop Sign
Roundabout
Traffic Signal
Pedestrian Crossing
Right-Turn Bay
School Zone
No Right-Turn
Speed Hump
Signalised Pedestrian Crossing
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EXISTING TRAFFIC CONTROLS
FIGURE 4

- a 50 km/h SPEED LIMIT which applies to Lakemba Street and all other local roads in the surrounding area

- 40 km/h SCHOOL ZONE SPEED LIMITS in the vicinity of Wiley Park Public School, Wiley Park Girls' High School and also Lakemba Public School

- TRAFFIC SIGNALS in King Georges Road where it intersects with Lakemba Street and also The Boulevarde

- a SIGNALISED PEDESTRIAN CROSSING located along King Georges Road, directly outside the site

- GIVE WAY SIGNS located on McCourt Street and Alice Street North where they intersect with Lakemba Street

- a RIGHT TURN HOLDING BAY located on King Georges Road for northbound traffic turning into Lakemba Street

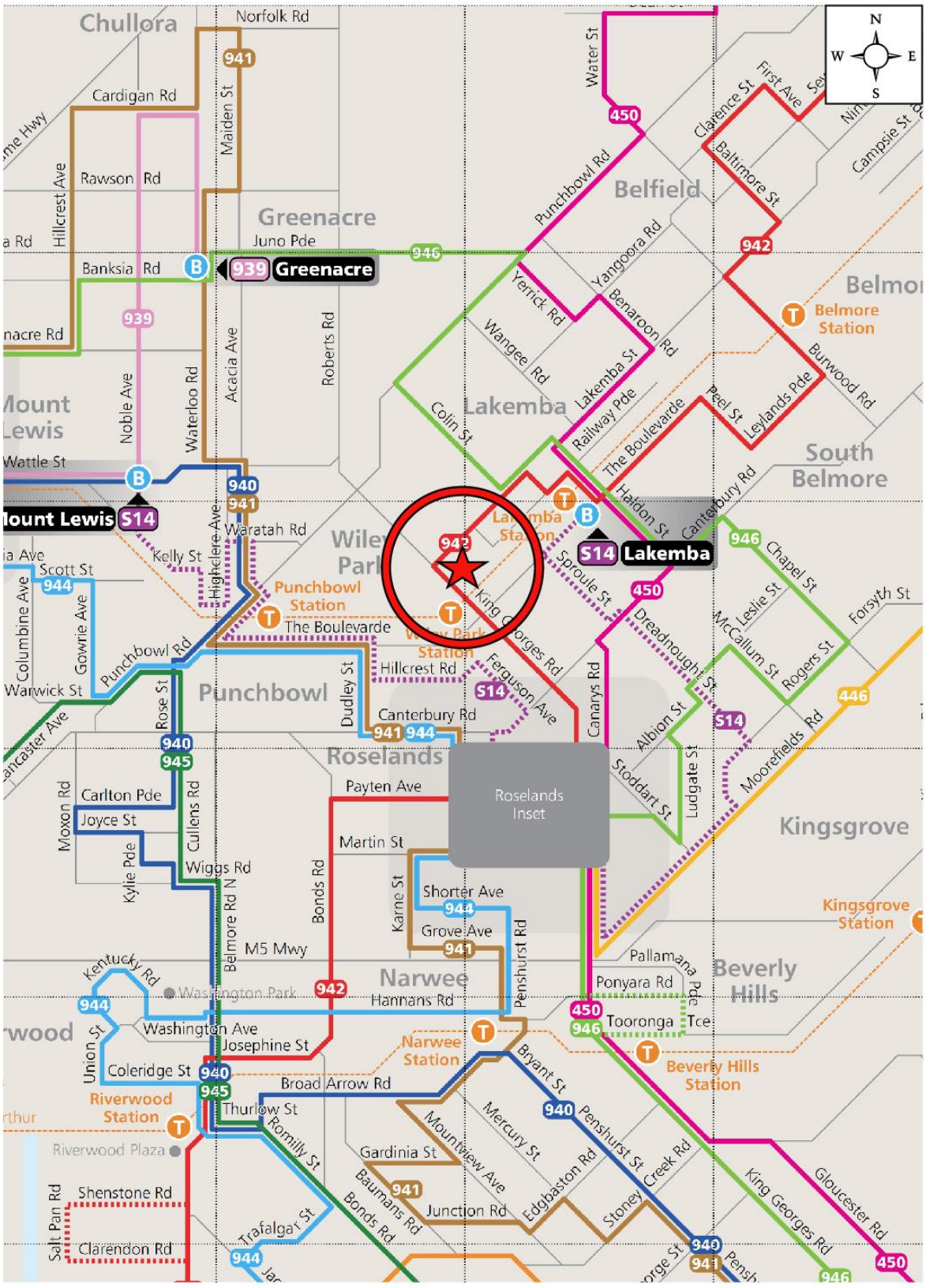
- a NO RIGHT TURN restriction for southbound on King Georges Road turning onto Lakemba Street

- a CENTRAL MEDIAN ISLAND along Lakemba Street across No.299 King Georges Road's site access driveway, directly opposite the site, which restricts their turning movements to left-in/left-out only.

Existing Public Transport Services

The existing public transport services located in close proximity to the site are illustrated on Figure 5.

Wiley Park Railway Station is located approximately 100 m walking distance south of the site which lies on the Bankstown Line, operating between the City and Liverpool. Train services operate out of Wiley Park Railway Station every 5-10 minutes during peak periods and every 10-15 minutes during off-peak periods.



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EXISTING PUBLIC TRANSPORT SERVICES
FIGURE 5

There are also two bus services which operate in the vicinity of the site, including directly outside the site along King Georges Road, as follows:

- Route 942 which operates 7 days per week between Lugarno and Campsie via Belfield, Belmore, Lakemba, Wiley Park, Roselands, Riverwood and Peakhurst

- Route 946 which also operates 7 days per week between Hurstville and Bankstown via Beverly Hills, Roselands, Lakemba, Greenacre and Bankstown.

The abovementioned bus services can also be used to interchange with connecting train services at numerous railway stations in the south and western Sydney area including Hurstville, Campsie, Belmore, Lakemba, Riverwood and Bankstown.

As noted in the foregoing, the site lies within the Wiley Park Local Centre which is expected to undergo significant redevelopment in the coming years. As such it is anticipated that in addition to the supermarket and shops within the subject development, there will be a range of other shops and services in future developments within easy walking distance of the site.

On the above basis, it is clear that the site is considered to be highly accessible to essential services and public transport options.

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken as part of the original traffic study. The traffic surveys were undertaken at the Lakemba Street and King Georges Road intersection on Thursday 24th August, 2017. The results of the traffic surveys are reproduced in full in Appendix D and reveal that:

- two-way traffic flows in King Georges Road past the site frontage are typically in the order of 4,500 vehicles per hour (vph) during the *morning* network peak period, increasing to approximately 5,100 vph during the *afternoon* network peak period

- two-way traffic flows in Lakemba Street past the site frontage are significantly lower, typically in the order of 400 vph during the *morning* network peak period, increasing to approximately 900 vph during the *afternoon* network peak period.

Projected Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction (TDT 2013/04a)* document.

The *TDT 2013/04a* document specifies that it replaces those sections of the RMS *Guidelines* indicated, and that it must be followed when RMS is undertaken trip generation and/or parking demand assessments.

The RMS *Guidelines* and the updated *TDT 2013/04a* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the proposed development:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

Shopping Centres (0-10,000m^2)

AM: 78A(SM) + 23A(SS) morning peak hour vehicle trips per 1,000m^2 GLFA (50% of PM)

PM: 155A(SM) + 46A(SS) evening peak hour vehicle trips per 1,000m^2 GLFA

Where A(SM) = supermarket floor area & A(SS) = specialty store floor area

Application of the above traffic generation rates to the various components of the amended development proposal yields a traffic generation potential of 147 vph during the AM peak period and 258 vph during the PM peak period, as set out on the following page.

Projected Traffic Generation Potential of Amended (late-2020) Development

	AM	PM
Residential (150 apartments):	29 vph	23 vph
Retail shops & supermarket (2,437m^2):	118 vph	235 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	**147 vph**	**258 vph**

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the 2018 scheme (which was reviewed and approved by RMS), in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the late-2020 amended application.

Application of the above traffic generation rates to the 2018 scheme outlined in Chapter 2 of the report yields a traffic generation potential of 169 vph during the AM peak period and 296 vph during the PM peak period, as set out below:

Projected Traffic Generation Potential of the Previously Submitted Scheme in 2018

	AM	PM
Residential (182 apartments):	35 vph	27 vph
Retail shops & supermarket (2,522m^2):	134 vph	269 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	**169 vph**	**296 vph**

Accordingly, when compared to the RMS *approved* traffic generation potential of the 2018 scheme, it is likely that the proposed 2020 scheme will result in a *nett reduction* in the traffic generation potential of approximately 22 vph during the weekday AM peak period and approximately 38 vph during the weekday PM peak period, as set out in the table below:

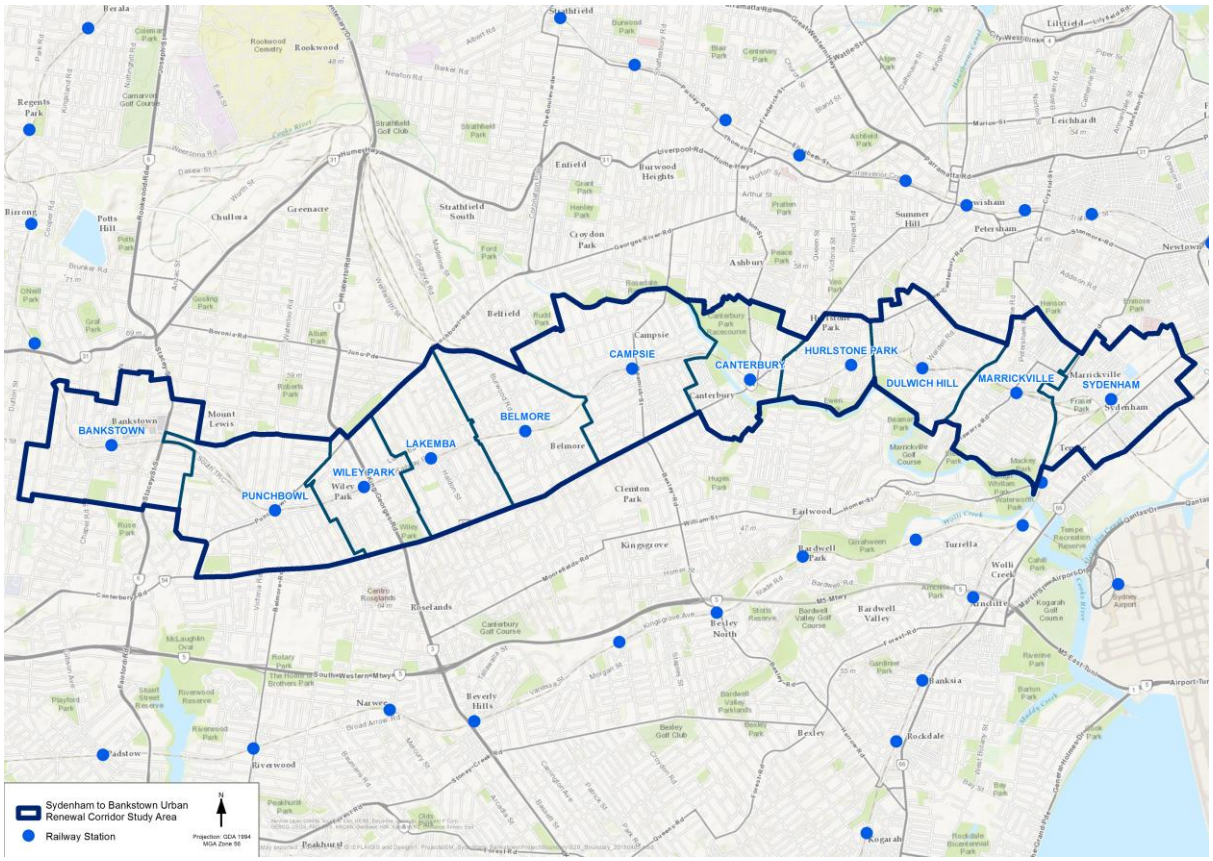
Nett Reduction in Traffic Flows As a Consequence of the 2020 Modification Proposal

	AM	PM
Projected future traffic generation (2020 scheme):	147 vph	258 vph
Less RMS approved traffic generation (2018 scheme):	169 vph	296 vph
NETT REDUCTION IN TRAFFIC GENERATION POTENTIAL:	**-22 vph**	**-38 vph**

It is therefore clear that the proposed late-2020 amended scheme will not have any unacceptable traffic implications in terms of road network capacity, nor will any further road or infrastructure upgrades be required, over and above the agreed upgrades.

Forecasting Travel Demands & Trip Distribution

The site is located within the Wiley Park Station Precinct of the *Draft Sydenham to Bankstown Urban Renewal Corridor Strategy* Plan which is expected to undergo significant redevelopment in the coming years, with the Sydney Metro City and South West project being a catalyst for urban renewal and transformation.



In this regard, adjoining suburbs located along the corridor includes the Punchbowl Station Precinct, located west and Lakemba Station Precinct located to the east.

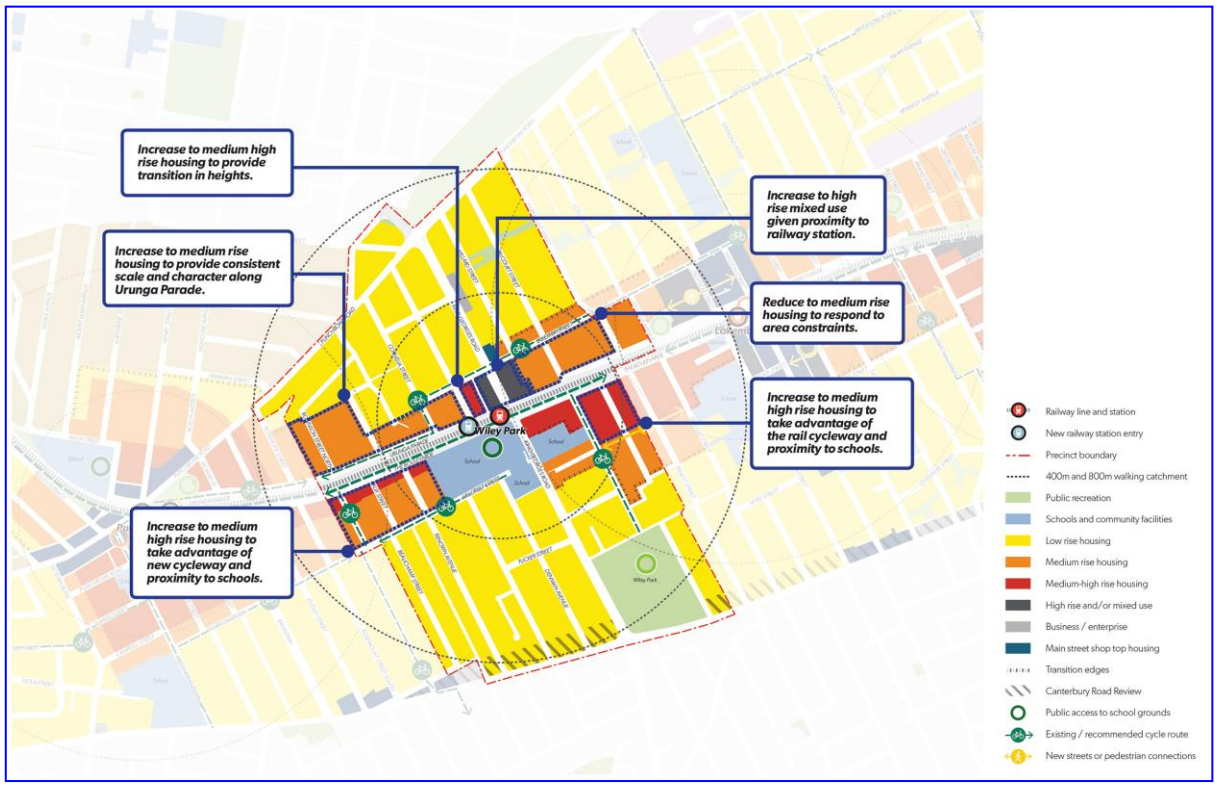
The strategy will enhance the precincts by valuing neighbourhood character, renewing town centres, providing improved open spaces and community services and facilities. One of the key priorities in the vision for these station precincts is to:

"retain the scale and character of popular local shopping areas and encourage revitalisation of quieter shopping areas."

As noted in the foregoing, it is anticipated that in addition to the supermarket and shops within the subject development, there will be a range of other shops and services in future developments within easy walking distance of the site.

As such, it is anticipated that customers visiting the supermarket and specialty stores within the subject development would be local clientele, largely living or working within the Wiley Park Precinct area, including within the development itself.

A map has been reproduced below which shows the Wiley Park Station precinct boundary and the key zoning changes that have been made, which also includes a 400m and 800m radius walking catchment to the Wiley Park Railway Station within approximately 100m walking distance of the site.



As can be seen from the Wiley Park Station Precinct map, increased housing development is generally supported along The Boulevarde, south of the railway line, with schools located in the vicinity of King Georges Road. Whilst, north of the railway line, medium rise housing is generally permissible along Lakemba Street and Urunga Parade.

The majority of traffic associated with the proposed development is attributed to the retail and supermarket components, however the site's prime location within the centre of the Wiley Park Station Precinct will likely result in a much higher percentage of foot traffic rather than vehicular traffic. Notwithstanding, there will be a degree of "passing trade" customers who may drive past the site on their daily commute to/from work and stop into the site. It is pertinent to note however, that "passing trade" generally occurs when access into and out of a development is quick and easy and not requiring a large detour. If a large detour is required, the person will likely not stop into the site in preference for a nearby alternative.

In terms of trip distribution, drivers approaching the site from the greater south would likely take Haldon Street via Canterbury Road, then left onto Lakemba Street and left into the site. Drivers approaching the site from the greater north would likely take Wangee Road via Punchbowl Road, then right onto Lakemba Street and left into the site. Drivers approaching the site from the west would likely take The Boulevarde, then left onto Haldon Street, left onto Lakemba Street and left into the site. Lastly, drivers approaching from the east will take Lakemba Street, then left into the site.

Conversely, drivers departing the site to the north, south and west will simply turn left out of the site and turn at, or drive straight across, King Georges Road. Drivers departing the site to the east, will turn left out of the site, then left or right onto King Georges Road before likely heading back to either Punchbowl Road, The Boulevarde or Canterbury Road.

The adjoining suburbs of Punchbowl and Lakemba are also undergoing urban revitalisation, including their own respective retail shopping areas within their town centres. Accordingly, it is therefore expected that the proposed supermarket and specialty stores on the subject site will cater primarily for residents and employees living and working in the immediate surrounding area, many of whom will walk to the site. The majority of associated traffic from further afield will likely be residents living within the development, of which their associated traffic is relatively minimal.

On the above basis, it is expected that any impact on the surrounding local road network associated with the proposed development will be minimal, given the majority of customers of the proposed supermarket and specialty stores within the subject development are expected to be local residents and employees.

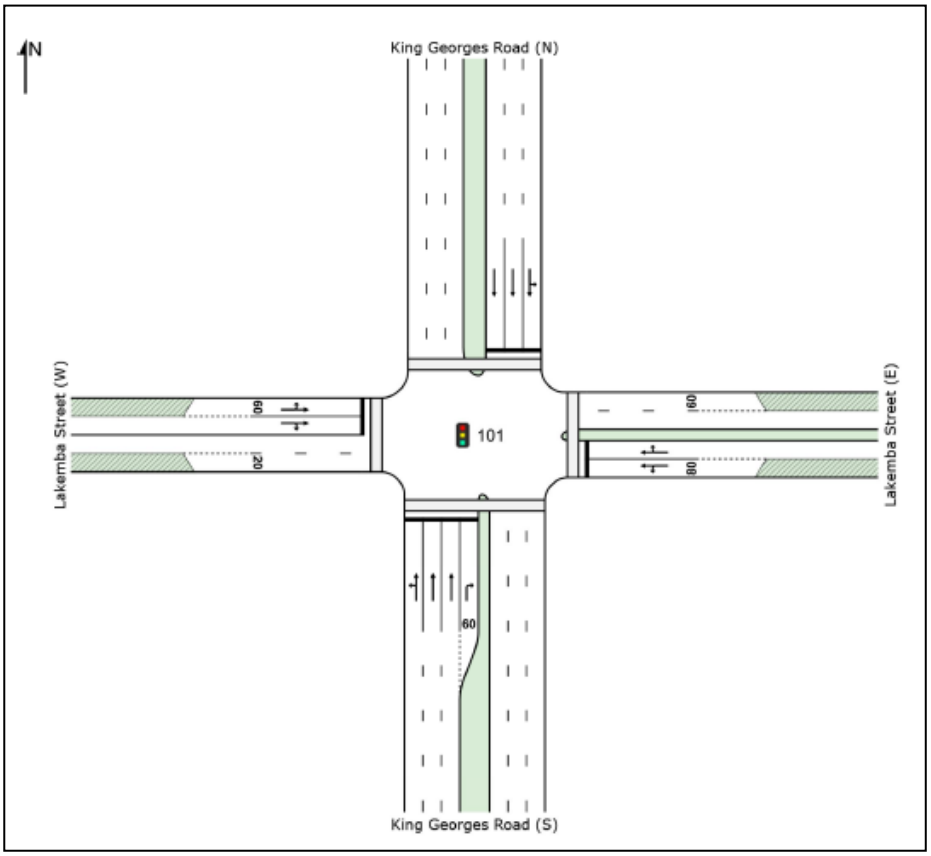
Traffic Implications - Road Network Capacity

The traffic implications of development proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network.

Those effects can be assessed using the SIDRA program which is widely used by the RMS and many LGA's for this purpose. Criteria for evaluating the results of the analysis are reproduced in the following pages.

Intersection Operation

The existing intersection layout adopted in the SIDRA analysis of the King Georges Road and Lakemba Street intersection, and approved by RMS, is shown in the figure below.

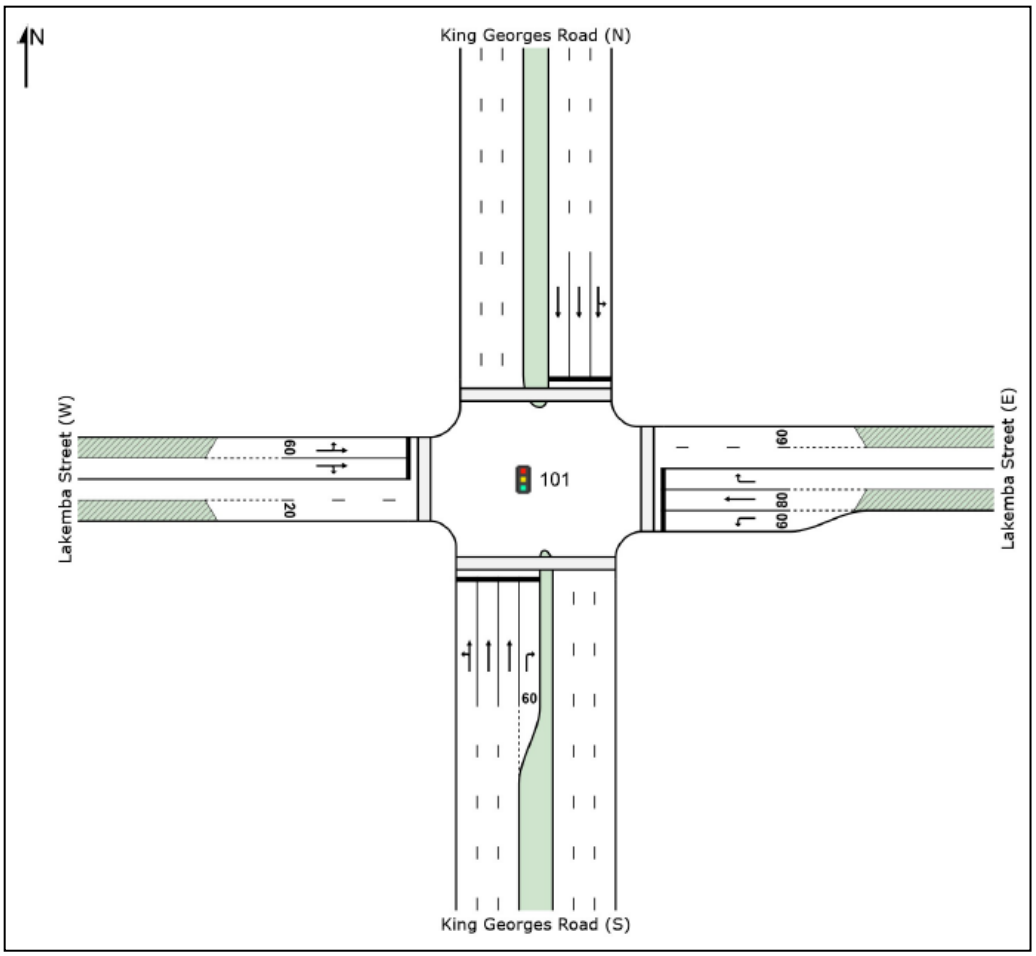


Existing King Georges Road & Lakemba Street intersection layout

As the existing intersection was typically operating near capacity during the weekday afternoon commuter peak period, Council and the RMS had requested a study as part of the previously submitted scheme in 2018 on potential traffic improvement measures for the future upgrade of the abovementioned intersection.

RMS have since provided an agreement 'in-principle' under Section 87 of the *Roads Act 1993* for the modification to the traffic signal at the intersection of Lakemba Street and King Georges Road (TCS Site 809).

This includes the introduction of an additional left-turn only westbound lane as well as a dedicated right turn lane on approach to King Georges Road, as indicated in the figure below, consistent with the *Concept TCS design* reproduced in Appendix B.



Concept King Georges Road & Lakemba Street intersection layout provided with an 'Agreement in Principle' by the RMS

Accordingly, the results of the SIDRA analysis of the existing traffic conditions along with the projected traffic demands expected to be generated by the previously submitted scheme in 2018 have been modelled, with the SIDRA "movement summaries" reproduced in Appendix E and summarised on the table on the following page, revealing that:

- the *existing* King Georges Road and Lakemba Street intersection currently operates at *Level of Service "B"* under the existing AM traffic demands, with total average vehicle delays in the order of 16 seconds/vehicle, and at *Level of Service "E"* under the existing PM traffic demands, with total average vehicle delays in the order of 57 seconds/vehicle

- under the projected future traffic demands expected to be generated by the 2018 scheme, the *existing* intersection layout was expected to continue to operate at *Level of Service "B"* during the AM peak period, with increases in average vehicle delays in the order of 5 seconds/vehicle, and at *Level of Service "F"* during the PM peak period, with increases in average vehicle delays in the order of 36 seconds/vehicle

- under the projected future traffic demands expected to be generated by the 2018 scheme, the proposed upgraded intersection with dedicated left-turn lane was expected to operate at *Level of Service "A"* during the AM peak period, with average vehicle delays in the order of 12 seconds/vehicle, and at *Level of Service "C"* during the PM peak period, with average vehicle delays in the order of 34 seconds per vehicle.

Furthermore, the SIDRA results of the 2018 scheme confirmed that the 95th percentile queue lengths would *not* extend into the existing traffic signals located to the north and south of Lakemba Street.

On the above basis, it is clear that the proposed addition of a dedicated left-turn westbound lane in Lakemba Street on approach to the King Georges Road traffic signals will drastically *improve* the efficiency of the intersection, particularly during the PM peak period, even with the additional traffic that was expected to be generated by the previously submitted scheme in late-2018.

In the circumstances, it is clear that both the 2018 scheme (which had a higher traffic generation potential) and the late-2020 scheme will not have any unacceptable traffic implications in terms of road network capacity, assuming that the proposed upgrade of the intersection is implemented.

RESULTS OF SIDRA ANALYSIS OF KING GEORGES ROAD & LAKEMBA STREET							
Key Indicators		**Existing Traffic Demand (No Upgrade)**		**Projected Development Traffic Demand (No Upgrade)**		**Projected Development Traffic Demand (Upgrade)**	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
Level of Service		B	E	B	F	A	C
Degree of Saturation		0.648	1.637	0.709	1.876	0.603	0.920
Average Vehicle Delay (secs/veh)							
King Georges Road (south)	L	16.0	17.2	20.9	19.6	14.1	15.9
	T	9.9	11.1	14.6	13.8	8.5	10.3
	R	19.7	48.5	24.8	47.7	25.2	61.3
Lakemba Street (east)	L	36.6	38.8	32.7	35.8	51.0	33.7
	T	53.0	514.6	56.1	678.2	44.3	42.1
	R	57.5	627.1	63.7	838.4	58.8	74.5
King Georges Road (north)	L	22.6	44.9	27.9	78.8	13.7	49.5
	T	17.1	39.3	22.3	73.2	8.2	43.9
Lakemba Street (west)	L	48.4	45.1	41.7	40.7	50.1	45.1
	T	48.1	41.1	39.9	36.1	49.1	43.5
	R	59.9	67.1	63.8	65.6	57.7	53.3
TOTAL AVERAGE VEHICLE DELAY		**16.4**	**57.1**	**21.2**	**93.5**	**12.7**	**33.6**

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good operation.	Good operation.
'B'	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
'C'	Satisfactory.	Satisfactory but accident study required.
'D'	Operating near capacity.	Near capacity and accident study required.
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.
'F'	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode.

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner-city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation.	Good operation.
B	15 to 28	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
C	29 to 42	Satisfactory.	Satisfactory but accident study required.
D	43 to 56	Operating near capacity.	Near capacity and accident study required.
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by traffic signals[1] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a roundabout or GIVE WAY or STOP signs, satisfactory intersection operation is indicated by a DS of 0.8 or less.

[1] *The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.*

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 6. Key features of those parking restrictions are:

- CLEARWAY restrictions along both sides of the King Georges Road during weekday commuter peak periods

- NO STOPPING / NO PARKING restrictions in the vicinity of the Lakemba Street and King Georges Road intersection

- NO PARKING restrictions along the southern side of Lakemba Street, between King Georges Road and Alice Street during weekday commuter peak periods

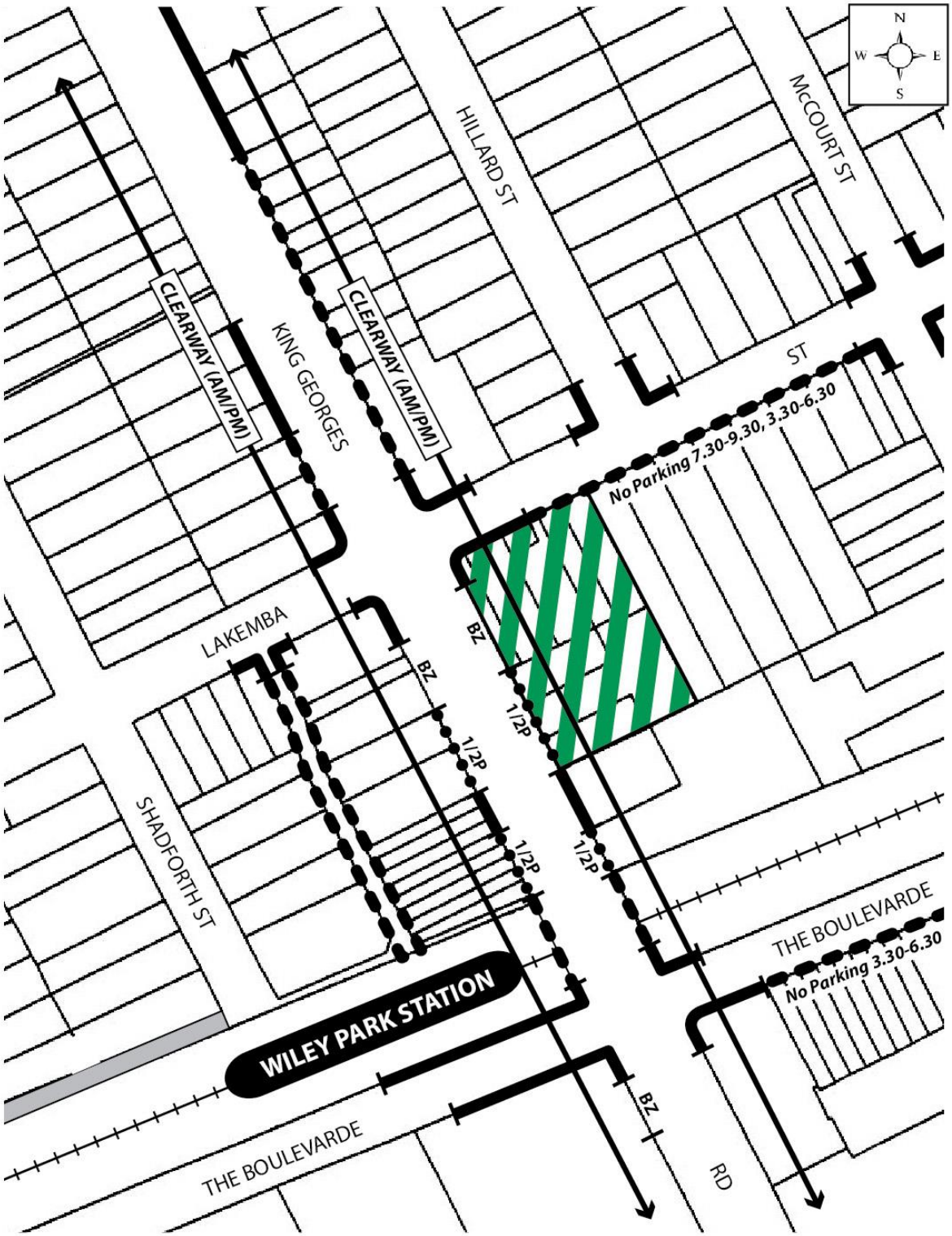
- ½ HOUR PARKING restrictions along both sides of King Georges Road in the vicinity of the site, *outside* of commuter peak periods, including along the site frontage

- generally UNRESTRICTED kerbside parking elsewhere along both sides of Lakemba Street

- BUS ZONES located at regular intervals along both sides of King Georges Road, including directly outside the site, and also along Lakemba Street.

Off-Street Car Parking Provisions

The off-street parking requirements applicable to the amended development proposal are specified in Council's *Canterbury Development Control Plan 2012, Section B1.3 Parking Provision Rates* document in the following terms:


N
W
E
S
HILLARD ST
McCOURT ST
ST
CLEARWAY (AM/PM)
CLEARWAY (AM/PM)
KING GEORGES
No Parking 7.30-9.30, 3.30-6.30
LAKEMBA
BZ
1/2P
1/2P
1/2P
1/2P
SHADFORTH ST
THE BOULEVARDE
No Parking 3.30-6.30
WILEY PARK STATION
BZ
THE BOULEVARDE
RD
Key:
No Stopping
No Parking
Restricted Parking
BZ Bus Zone
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 6

Shop Top Housing (B2 Zones – Centres with good public transport)

Studio apartments:	0.5 spaces per dwelling
1, 2 or 3 bedroom apartments:	1 space per dwelling
Visitors:	0.15 spaces per dwelling

*Any development containing 10 dwellings or more is to provide at least one car wash bay which cannot be shared with a visitor bay

Shop, Business and Retail Premises (B2 Zones – Centres with good public transport)

1 space per 27m^2 GFA (> 1,000m^2)

Application of the above car parking rates to the various components of the current late-2020 amended development proposal yields a minimum off-street car parking requirement of 256 spaces, as set out below:

DCP 2012 – PARKING REQUIREMENTS

		Minimum
Parking Provisions	**Residents (150 apartments):**	143 spaces
	Visitors:	23 spaces
	Sub-Total:	**166 spaces**
	Retail shops & supermarket (2,437m^2):	90 spaces
	Sub-Total:	**90 spaces**
	TOTAL:	**256 spaces**

Notwithstanding, the subject site is located approximately 100m walking distance to/from Wiley Park Railway Station and therefore the residential component of the development is also subject to the parking requirements specified in the *State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development (Amendment No 3), 2015* in the following terms:

30 Standards that cannot be used to refuse development consent or modification of development consent

(1) If an application for the modification of a development consent or a development application for the carrying out of development to which this Policy applies satisfies the following design criteria, the consent authority must not refuse the application because of those matters:

a) if the car parking for the building will be equal to, or greater than, the recommended minimum amount of car parking specified in Part 3J of the Apartment Design Guide.

Reference is therefore made to the *Apartment Design Guide 2015, Section 3J – Bicycle and Car Parking* document which nominates the following car parking requirements:

> **Objective 3J-1**
> Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas
>
> For development in the following locations:
> - on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or
> - on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre
>
> the minimum car parking requirements for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less.
> The car parking needs for a development must be provided off street.

Comparison therefore needs to be drawn between the off-street car parking requirements for residential flat buildings outlined in the Council's *CDCP 2012* and also the RMS *Guidelines* to determine the *lesser* requirement. The relevant car parking rates outlined in the RMS *Guidelines* are reproduced below:

> **RMS Guidelines – High Density Residential Flat Buildings in Metropolitan Sub-Regional Centres**
> 0.6 spaces per 1 bedroom unit
> 0.9 spaces per 2 bedroom unit
> 1.4 spaces per 3 bedroom unit
> 1 space per 5 units for visitor parking

Accordingly, the minimum off-street car parking requirement applicable to the residential component of the amended development is 151 spaces, comprising 121 residential spaces and 30 visitor spaces, as set out below:

	Canterbury DCP 2012	**RMS Guidelines**
Residents:	143 spaces	121 spaces
Visitors:	23 spaces	30 spaces
Total:	**166 spaces**	**151 spaces**
Lesser car parking requirement: 151 spaces		

The total minimum off-street parking requirement applicable to the current 2020 amended development is therefore 242 spaces, as set out below:

Minimum Off-Street Parking Requirement	
Residential (150 apartments):	121 spaces (RMS)
Visitors:	30 spaces (RMS)
Car wash:	1 space (DCP)
Retail shops & supermarket (2,437m^2):	90 spaces (DCP)
TOTAL:	**242 spaces**

The proposed development makes provision for a total of 251 off-street car parking spaces, comprising 123 residential spaces, 30 visitor spaces and 98 retail spaces, *plus* a dedicated car wash bay, thereby satisfying both the *SEPP 65* and Council's requirements.

The geometric design layout of the amended car parking facilities have been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6* in respect of parking bay dimensions, ramp gradients and aisle widths.

Furthermore, the vehicular access arrangements have been designed to accommodate the swept turning path requirements of the B99 design vehicle as specified in *AS2890.1,* allowing them to enter and exit the basement levels in a forward direction at all times, as demonstrated by the attached swept turning path diagrams.

Off-Street Bicycle Parking Provisions

The off-street bicycle parking requirements applicable to the development proposal are also specified in the *Canterbury DCP 2012, Section B1.3 Parking Provision Rates* document in the following terms:

Shop Top Housing	
Residents:	1 space per 5 dwellings
Visitors:	1 space per 10 dwellings

Shops, Business & Retail Premises

Staff:	1 space per 300m^2 GFA
Patrons:	1 space per 500m^2 GFA over 1,000m^2

Application of the above bicycle parking requirements to the various components of the late-2020 scheme yields an off-street bicycle parking requirement of 56 spaces as set out below:

Residential	
Residents (150 apartments):	30 spaces
Residential visitors:	15 spaces
Sub-total:	**45 spaces**
Retail	
Staff (2,437m^2):	8 spaces
Patrons:	3 spaces
Sub-total:	**11 spaces**
TOTAL:	**56 spaces**

The proposed development makes provision for a total of 72 bicycle parking spaces across the basement levels, comprising 21 retail staff/patron spaces, 36 residential spaces and 15 residential visitor spaces, thereby *comfortably* satisfying Council's bicycle parking requirements.

Loading/Servicing Provisions

Loading/servicing for the proposed late-2020 scheme is expected to be undertaken by a variety of commercial vehicles ranging from courier vans and utilities up to and including 12.5m long heavy rigid trucks. A dedicated loading dock is now proposed to be located on Level 00, adjacent to the garbage holding areas, which includes a mechanical turntable. The turntable will allow all service vehicles to enter and exit the loading dock in a forward direction at all times. Vehicular access to the loading bay is to be provided via the new public laneway off Lakemba Street.

The geometric design layout of the proposed loading facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities AS2890.2* in respect of loading dock dimensions, overhead clearances and service area requirements for HRV trucks.

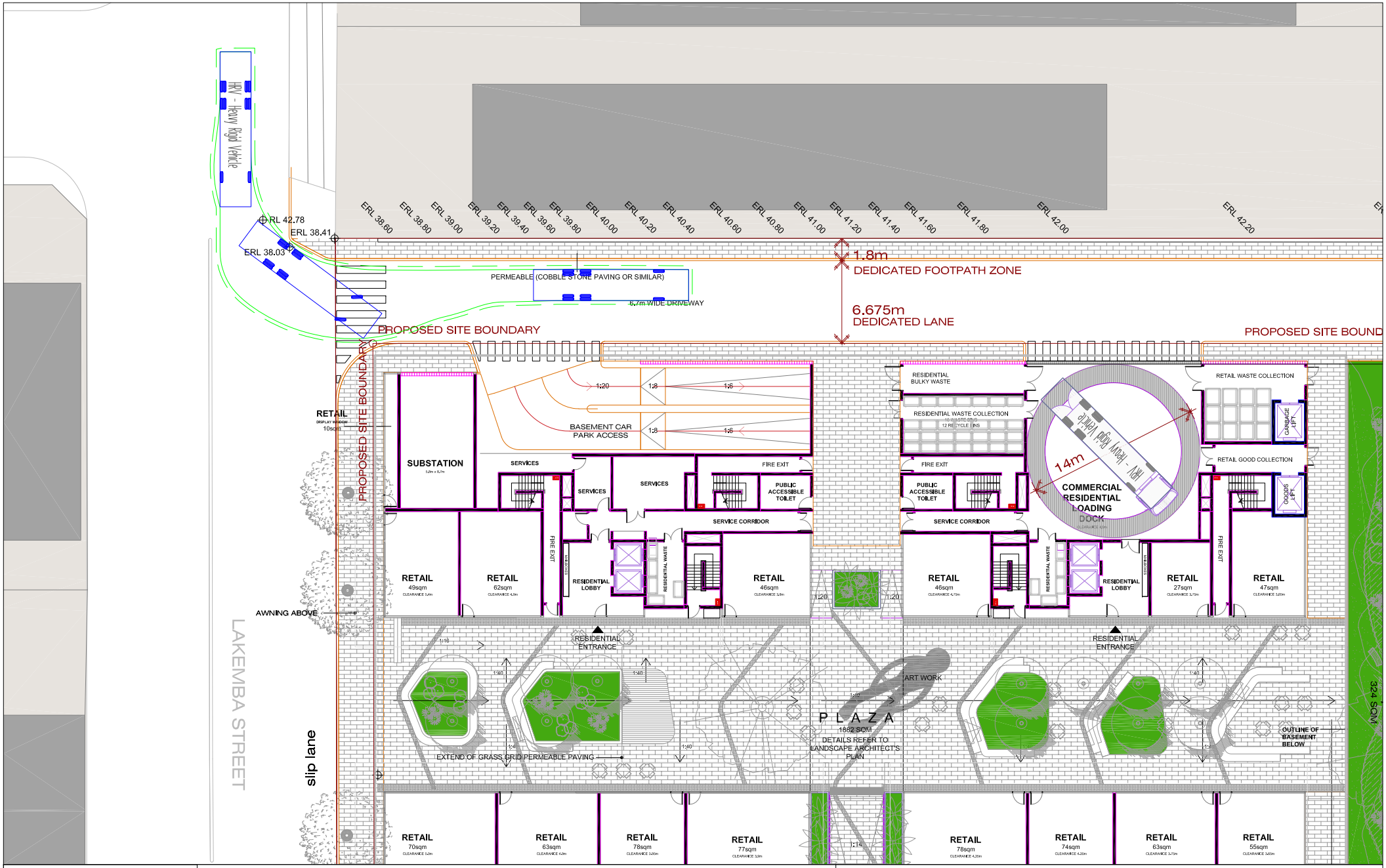
Conclusion

The foregoing assessment has found that the proposed (approved) upgrade of the adjacent intersection of King Georges Road and Lakemba Street will improve the capacity of the intersection, overall *Level of Service* and average vehicle delays, even with the proposed development's traffic.

The proposed amended new laneway will provide access to the site as well as provide rear vehicular access to the adjacent public housing site located at 76 King Georges Road, in the event they are redeveloped in the future, ensuring that it will not require vehicular access directly off King Georges Road.

Furthermore, the proposed development satisfies both the *SEPP 65* and Council's off-street parking and loading requirements and complies with Australian Standards.

In the circumstances it is therefore concluded that the proposed development will not have any unacceptable traffic, parking, servicing or access implications.



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www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
12.5M HRV TRUCK TURNING PATH
Entering Site Access Driveway

1:400 @ A4

ADDRESS
280-292 Lakemba Street & 62-70 King Georges Road, Wiley Park

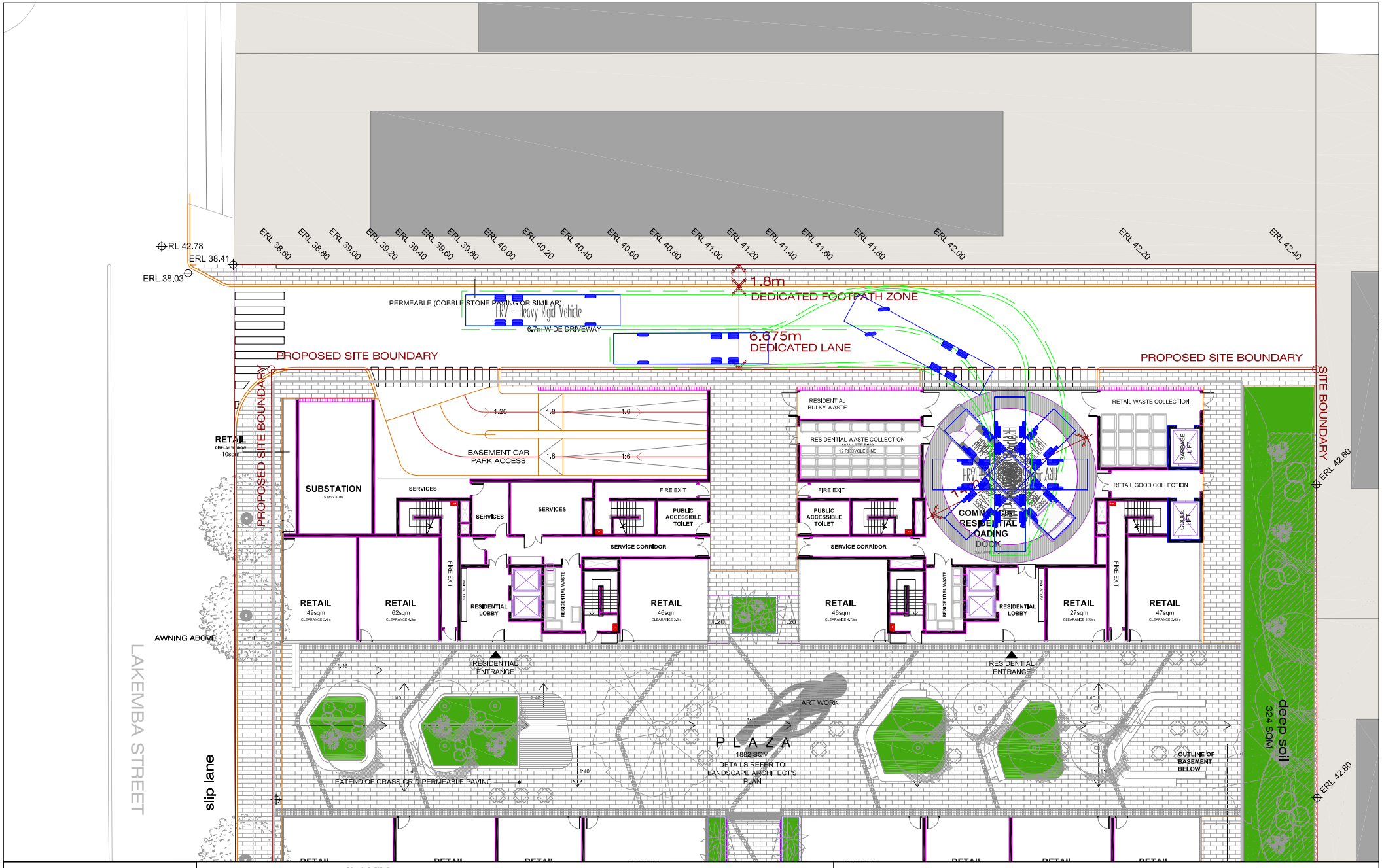
PROJECT NO.
17221

DATE DRAWN
2020-10-2

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
12.5M HRV TRUCK TURNING PATH
Entering / Exiting Loading Dock

1:400 @ A4

ADDRESS
280-292 Lakemba Street & 62-70 King Georges Road, Wiley Park

PROJECT NO.
17221

DATE DRAWN
2020-10-2

REVIEWED
CHRIS PALMER

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DONALD LEE

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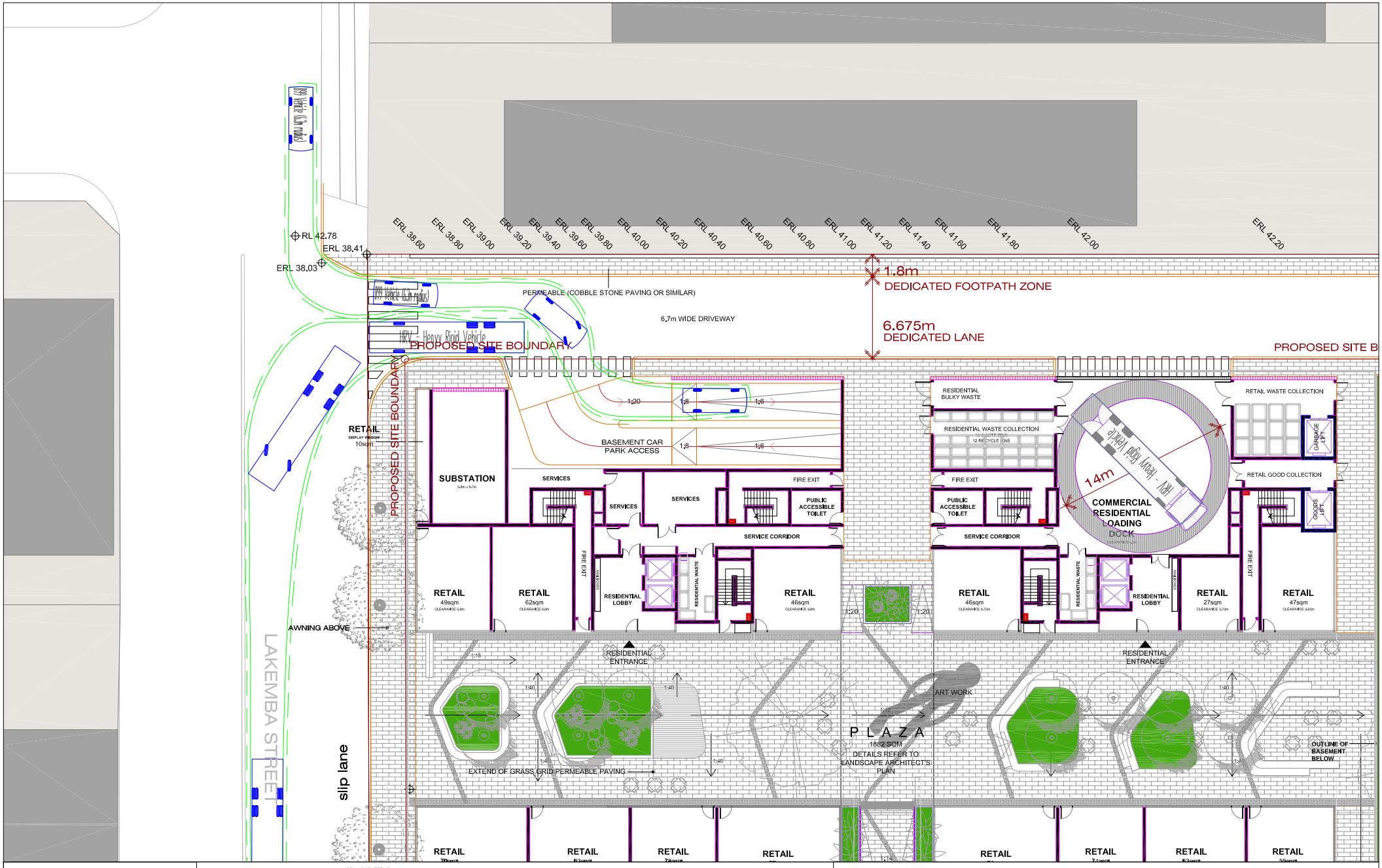

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PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
12.5M HRV TRUCK TURNING PATH
Exiting Site Access Driveway

1:400 @ A4

ADDRESS
280-292 Lakemba Street & 62-70 King Georges Road, Wiley Park

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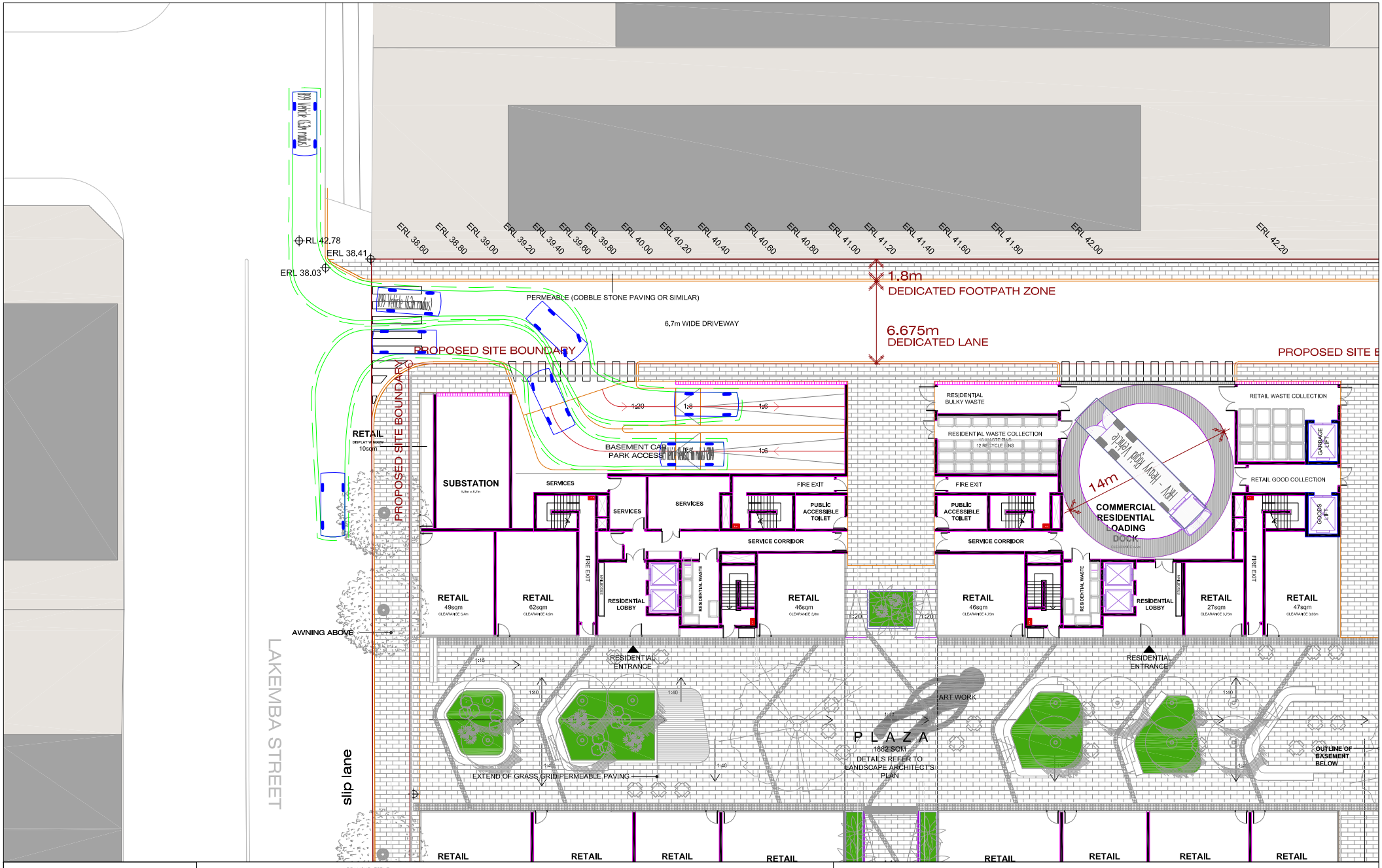

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Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B99 VEHICLE TURNING PATHS
Entering / Exiting Basmenet Access Driveway

1:400 @ A4

ADDRESS
280-292 Lakemba Street & 62-70 King Georges Road, Wiley Park

PROJECT NO.
17221

DATE DRAWN
2020-10-2

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

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Transport, Traffic and Parking Consultants

APPENDIX A

EXISTING TRAFFIC SIGNAL PLAN

(TCS Site 807)

DRAWN BY CADD
DO NOT AMEND MANUALLY

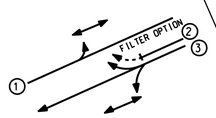
DATE IN SERVICE: 15/11/1973

R T A

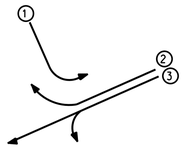
0315.078.VV.0809

POST CHART

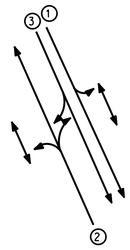
POST	TYPE	LENGTH	REMARKS
1	2	4.1	EXIST.
2	2	4.1	EXIST.
3	2	4.1	EXIST.
4	ELP	-	EXIST.
5	2	4.1	EXIST.
6	4	-	EXIST.
7	1	4.6	EXIST.
8	2	4.1	EXIST.
9	2	4.1	EXIST.
10	2	4.1	EXIST.



A PHASE



B & D PHASE
Z+ Introduces D Phase



C PHASE

MOVEMENTS

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

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
B/D (RT)	39	Timed R.A. protection for 'A' pedestrians. Z- allows filtering.
B/D (LT)	95	Timed R.A. protection for 'C2' pedestrians.
C1 + C2	Ped.	Call & operate independently with respect to timing.

NOTES

1. This site is SCATS linked.
2. Special regulatory stop sign R1-4 placed on posts 1 and 6.
3. Audio-tactile push buttons provided on posts 1, 2, 4, 5, 6, 7, 9, and 10.

B ORIGINAL ISSUE
J.I.EDCR 30 7-5-93
PLAN UPDATED L.J. 28-6-93
ISSUE C JI 54693 5/10/94
ADDED AUDIO TACTILE POSTS 1 AND 10. K.I. 15/2/95
'D' ISSUE POSTS POSITIONS ALTERED. POSTS TYPES ON 4, 5 & 7 CHANGED K.D. 15-05-02
'E' ISSUE JI SC1060 09/11/2004 ADDED AUDIO-TACTILE PBS TO POSTS 2, 4, 5, 6, 7, AND 9. P.O. 29/09/2014
'F' ISSUE 09/04/2015 LED UPGRADE. LANTERNS ON POST 6 WERE 300mm LANTERNS SOCKETS SET SPEC TABLES TO SUIT ADAPTIVE. IH LC

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	○	CABLE INSTALL	SHEET 17
POWER POLE	○	CABLE CHART	SHEET 15
STAY POLE	⊘		
TELEPHONE BOX	☎	SURVEYOR : J.H.GILLIES	
TELECOM PILLAR	◒	DATE : 1972	

U.B.D. Ref. MAP 272 M-2
I.S.G. E: 306138
CO-ORDS N: 1245111
DESIGNED L.JOHNS
CHECKED J ZOETENDYK
J.ZOETENDYK SITE CHECKED
F.D.REID RECOMMENDED

APPROVED
J.MCKERRAL
ENGINEER-IN-CHIEF
29-1-80
DATE

Roads and Traffic Authority.N.S.W

MUNICIPALITY OF CANTERBURY
M.R.315 KING GEORGES ROAD &
LAKEMBA STREET
WILEY PARK

DESIGN LAYOUT TCS No 809

REGION: SYDNEY
BRANCH: CONSULTANT SERVICES
LOGIN: N/A
CADD DRAWING FILE: VV0809_16F.dgn
SCALE 5 0 (1:200) 5 10
ISSUE F
FILE 78TS925
SUPERSEDES SHEET/ISSUE 16/E
REGN. 0315.078.VV.0809
SHEET 16

APPENDIX B

CONCEPT TCS DESIGN "AGREEMENT IN PRINCIPLE"

Transport Roads & Maritime Services

1 May 2019

Our Reference: SYD18/0027/06

Chris Palmer
Varga Traffic Planning
PO Box 1868
NEUTRAL BAY 2089

Dear Mr. Palmer,

PROPOSED MODIFIED TRAFFIC CONTROL SIGNAL (TCS) SITE
280-300 LAKEMBA STREET AND 64-70 KING GEORGES ROAD, WILEY PARK

Reference is made to your email dated 26 March 2019 to Roads and Maritime (Roads and Maritime) seeking approval to undertake works in accordance with Section 87 and Section 138 of the *Roads Act 1993* for the proposed modification to the traffic signals at the intersection of Lakemba Street and King Georges Road (TCS Site 809).

Roads and Maritime has reviewed the submitted information and provides agreement 'in-principle' under Section 87 of the *Roads Act 1993,* subject to a detailed design review and Roads and Maritime approval of the proposed traffic signal plan and as well as the developer agreeing to the following conditions:

1. The proposed design and adjustment at TCS site 809 shall be designed to meet Roads and Maritime requirements. The TCS plans shall be drawn by a suitably qualified person and endorsed by a suitably qualified practitioner.

   The submitted design shall be in accordance with Austroads Guide to Road Design in association with relevant Roads and Maritime supplements (available on www.rms.nsw.gov.au). The certified copies of the TCS design and civil design plans shall be submitted to Roads and Maritime for consideration and approval prior to the release of a Construction Certificate and commencement of road works. Please send all documentation to development.sydney@rms.nsw.gov.au.

   Roads and Maritime fees for administration, plan checking, civil works inspections and project management shall be paid by the developer prior to the commencement of works.

   The developer will be required to enter into a Works Authorisation Deed (WAD) for the abovementioned works.

2. The developer shall be responsible for all public utility adjustment/relocation works, necessitated by the above work and as required by the various public utility authorities and/or their agents. The detailed design plans submitted must show all existing public utilities impacted by the proposed works and their adjustments,

3. A Road Occupancy Licence (ROL) should be obtained from Transport Management Centre for any works that may impact on traffic flows on King Georges Road during construction activities. A ROL can be obtained through https://myrta.com/oplinc2/pages/security/oplincLogin.jsf

If you have any further inquiries in relation to this development application please contact Narelle Gonzales, Development Assessment Officer, on 0409 541 879 or by email at: development.sydney@rms.nsw.gov.au.

Yours sincerely,

Brendan Pegg
Senior Land Use Planner
South East Precinct, Sydney Division

Transport Roads & Maritime Services

TCS Design "Agreement in Principle"

Site Details		
TCS Site #	**Street 1**	**Street 2:**
809	King Georges Road	Lakemba Street
Street 3	**Suburb**	**LGA Name**
	Wiley Park	Canterbury Bankstown Council
Maintenance Group	**Electoral Boundary**	**LGA Code**
LTJV	Bankstown	

Project Details		
Program	**Region**	**Precinct**
Development Application DA484/2017, SYD18/00027	Sydney	South East
Client	**Client Contact**	**Contact Email**
Varga Traffic Planning Pty Ltd Chris Palmer	9904 3224	chris@vtp.net.au

Proposed scope of works

Provision of a dedicated left turn lane (65m from the existing stop line) for westbound traffic in Lakemba Street approaching King Georges Road. Additionally, a dedicated right turn lane will be provided on this approach.
For this some of the works will include (but are not limited to):

- New type 2 post and primary mast arm (type 5XL) in Lakemba Street eastern leg.
- Realignment of the pedestrian crossing on the eastern leg of Lakemba Street.
- Install new primary mast arm (type 5XL) on the southern leg of King Georges Road to provide appropriate lantern visibility.
- Install new median posts (type 2 and 13) on the southern leg of King Georges Road. The type 2 post will carry right turn lanterns only as the width of the median is not sufficient for 6 aspect lanterns.
- Realignment of the pedestrian crossing over the southern leg of King Georges Road.
- Trimming of the median and pedestrian fence on the southern leg in King Georges Road.
- Post 4 has been retained as an ELP however, may be replaced with a standard TCS post, depending on the extent of electrical utility relocation.
- Relocation of overhead electrical utilities in the vicinity of the road widening in Lakemba Street.
- Installation of new drainage pits and pipes.

Recommended

Network Operations Team Leader

Print name: **Harry Campara**

Signature 

Date 02/04/2019

Comments: No objections to proposed changes at TCS 809 to increase capacity for the eastern approach of Lakemba Street, which includes changes described in the proposed scope of works and as per the submitted concept design layout. More detailed comments on the proposed traffic signal design will be provided during the formal RMS design review process.

Approved

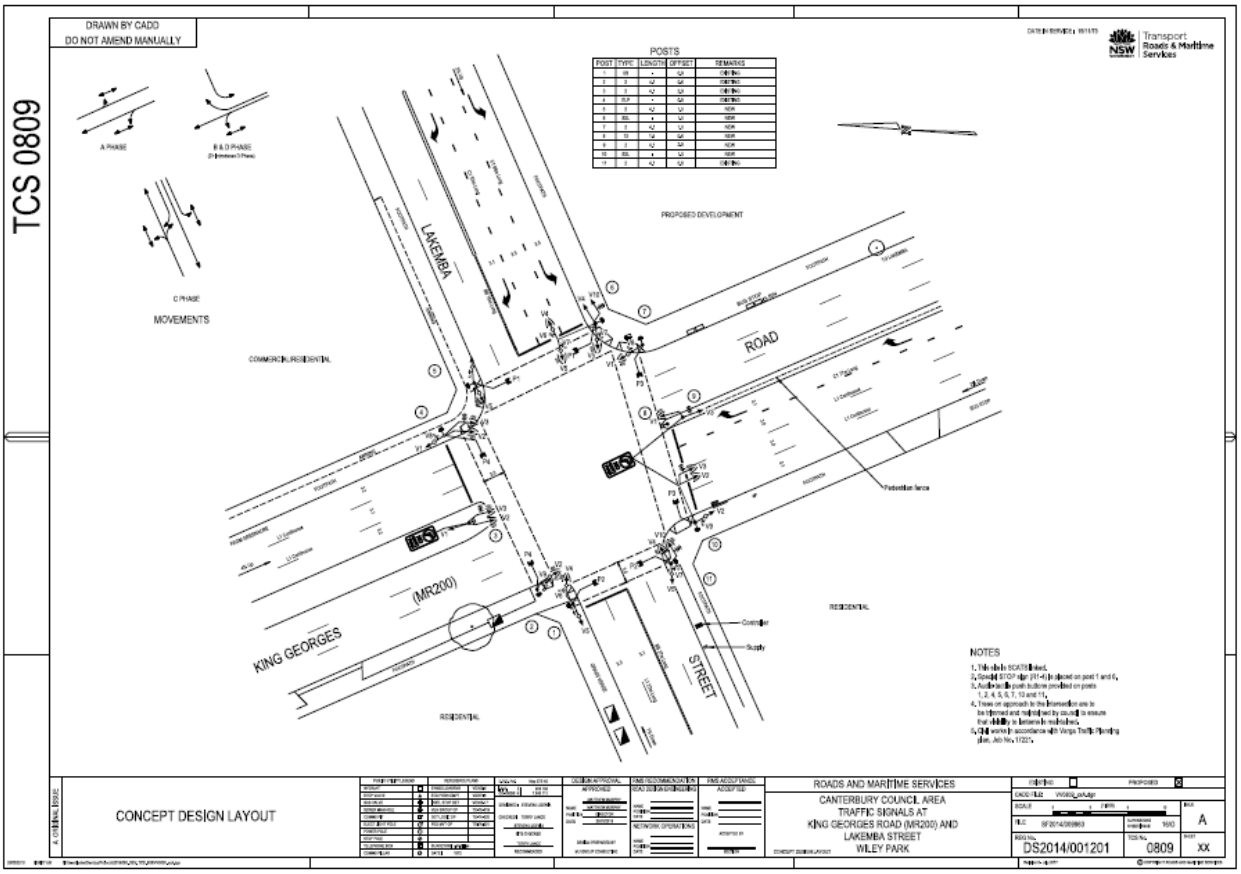
Network and Safety Services Manager

Print name: **Nicolas Kocoski**

16/4/19

Comments:

Disclaimer:


TCS 0809
DRAWN BY CADD
DO NOT AMEND MANUALLY
Transport
Roads & Maritime
Services
POSTS
A PHASE
B & D PHASE
C PHASE
MOVEMENTS
PROPOSED DEVELOPMENT
LAKEMBA
ROAD
KING GEORGES
(MR200)
STREET
COMMERCIAL/RESIDENTIAL
RESIDENTIAL
Pedestrian fence
Coastlink
Supply
NOTES
CONCEPT DESIGN LAYOUT
ROADS AND MARITIME SERVICES
CANTERBURY COUNCIL AREA
TRAFFIC SIGNALS AT
KING GEORGES ROAD (MR200) AND
LAKEMBA STREET
WILEY PARK
DS2014/001201
0809
xx
A

APPENDIX C

RMS's LETTER

Transport
Roads & Maritime Services

21 February 2018

Our Reference: SYD18/00027
Council Ref: DA-484/2017

The General Manager
Canterbury-Bankstown Council
PO Box 8
Bankstown NSW 1885

Attention: Zena Ayache (Executive Planner)

Dear Ms. Ayache

PROPOSED MIXED USE DEVELOPMENT
280-300 LAKEMBA ST AND 64-70 KING GEORGES RD, WILEY PARK

Reference is made to Council's letter dated 19 December 2017, regarding the abovementioned Application which was referred to Roads and Maritime Services (Roads and Maritime) in accordance with Clause 104 of *State Environmental Planning Policy (Infrastructure) 2007* and concurrence in accordance with Section 138 of the *Roads Act 1993*.

Roads and Maritime has reviewed the submitted application, does not provide concurrence for the following reasons:

1. The traffic modelling provided by the Applicant indicates that queuing on the north approach of the intersection of King Georges Road / Lakemba Street is expected to extend beyond the intersection with Punchbowl Road. In addition, queuing on Lakemba Street is expected to extend from approximately 160m to approximately 270m. Roads and Maritime considers that the anticipated traffic impacts have not been adequately assessed by the Applicant.

2. The Applicant has not undertaken an assessment of the existing queuing that currently occurs on Lakemba Street and the impact that this will have on vehicles exiting the property and how this will impact the intersection of King Georges Road / Lakemba Street.

3. To reduce the impact of the development on the intersection of King Georges Road / Lakemba Street, additional traffic modelling is to be undertaken to assess adding an additional dedicated left turn traffic lane on Lakemba Street adjacent to the site to mitigate the impacts of additional traffic that will be generated by the proposed development. With the modelling, an updated draft TCS plan incorporating the change will also have to be submitted.

4. The Applicant is to assess other nearby signalised intersections that may be affected by the additional traffic generated as a result of the development.

5. Roads and Maritime requires the Sidra modelling files to be provided for review.

6. Alternate access arrangements are required for 72-74 and 76 King Georges Road. This is to be as per Council's requirements. Any treatments for this, including laneways, need to consider vehicle types which will require access (including delivery and garbage trucks) as well as turning ability so that vehicles enter and exit road networks in a forwards only direction.

   Additionally all required road works and relocated public footpaths required by this development should be located within public road or land to be dedicated as public road.

7. The driveway is to be designed for left in/left out only with the existing concrete central median to be extended to cover entire property length. All vehicles are required to enter and exit the site in a forwards direction.

8. Existing "1/2P" with restricted times to be changed to "No Stopping" along the site length of King Georges Rd. Existing Bus Zone signage to remain.

9. Due to trucks requiring ingress and egress from the driveway, consideration will need to be given to parking on Lakemba Street in vicinity of the driveway to ensure that parked vehicles do not encroach upon required turn paths and required sight distance. The No Stopping parking restrictions might have to be extended by Council as appropriate.

Roads and Maritime also offers the following comment for Council's consideration:

- As per the Sydenham to Bankstown Urban Renewal Corridor Strategy (Wiley Park Station Precinct[1] Page 18) it is a recommendation that "*New residential development on King Georges Road must provide a high level of residential amenity. This will include appropriate setbacks from the road and train line and noise attenuation measures*".

Roads and Maritime request Council forward a copy of the determination including any conditions of consent to development.sydney@rms.nsw.gov.au referencing SYD18/00027 in the subject line.

Should you have any further inquiries in relation to this matter, please do not hesitate to contact the undersigned by email at development.sydney@rms.nsw.gov.au.

Yours sincerely,

Robert Rutledge
A/Senior Land Use Planner
Network Sydney Southeast Precinct

[1] http://www.planning.nsw.gov.au/~/media/Files/DPE/Plans-and-policies/wiley-park-precinct-plan-2017-06.ashx - Accessed 21/2/18

APPENDIX D

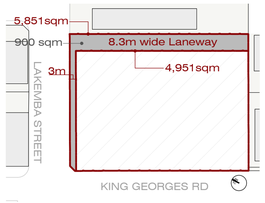
ARCHITECTURAL PLANS

DEVELOPMENT APPLICATION
RESIDENTIAL DEVELOPMENT
280-292 LAKEMBA &
62-70 KING GEORGES ROAD
WILEY PARK, NSW

DRAWING LIST

DWG.NO.	DRAWING	SCALE	REVISION
	GENERAL		
DA 0.00	COVER SHEET	NTS @ A3	V
DA 1.01	DEMOLITION PLAN	1:400 @ A3	V
	FLOOR PLANS		
DA 2.01	PLAN LEVEL B3	1:400 @ A3	V
DA 2.02	PLAN LEVEL B2	1:400 @ A3	V
DA 2.03	PLAN LEVEL B1	1:400 @ A3	V
DA 2.04	PLAN LEVEL B0	1:400 @ A3	V
DA 2.05	PLAN LEVEL 00	1:400 @ A3	V
DA 2.06	PLAN LEVEL 01	1:400 @ A3	V
DA 2.07	PLAN LEVEL 02	1:400 @ A3	V
DA 2.08	PLAN LEVEL 03	1:400 @ A3	V
DA 2.09	PLAN LEVEL 04	1:400 @ A3	V
DA 2.10	PLAN LEVEL 05	1:400 @ A3	V
DA 2.11	PLAN LEVEL 06	1:400 @ A3	V
DA 2.12	PLAN LEVEL 07	1:400 @ A3	V
DA 2.13	PLAN LEVEL 08	1:400 @ A3	V
DA 2.14	PLAN LEVEL ROOF	1:400 @ A3	V
	SECTIONS		
DA 3.01	SECTION A-A	1:400 @ A3	V
DA 3.02	SECTION B-B	1:400 @ A3	V
DA 3.03	SECTION C-C	1:400 @ A3	V
DA 3.04	SECTION DETAIL - STREETSCAPE	1:200 @ A3	V
	ELEVATIONS		
DA 4.01	ELEVATION SOUTH-WEST	1:400 @ A3	V
DA 4.02	ELEVATION NORTH-WEST	1:400 @ A3	V
DA 4.03	ELEVATION NORTH-EAST	1:400 @ A3	V
DA 4.04	ELEVATION SOUTH-EAST	1:400 @ A3	V
DA 4.05	ELEVATION SOUTH-WEST INTERNAL	1:400 @ A3	V
DA 4.06	ELEVATION NORTH-EAST INTERNAL	1:400 @ A3	V
DA 4.07	ELEVATION NORTH-WEST INTERNAL	1:400 @ A3	V
DA 4.08	ELEVATION SOUTH-EAST INTERNAL	1:400 @ A3	V
DA 5.01	MATERIAL BOARD	NTS @ A3	V
	IMPRESSIONS		
DA 6.01	CGI-01	NTS @ A3	V
DA 6.02	CGI-02	NTS @ A3	V
DA 6.03	CGI-03	NTS @ A3	V
DA 6.04	CGI-04	NTS @ A3	V
	SHADOW DIAGRAMS		
DA 7.01	SHADOW DIAGRAM-01	NTS @ A3	V
DA 7.02	SHADOW DIAGRAM-02	NTS @ A3	V
DA 7.10	278 LAKEMBA ST SURVEY INFORMATION	1:200@ A3	V
DA 7.11	278 LAKEMBA ST SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.12	72-74 KING GEORGES RD SURVEY INFORMATION	1:200@ A3	V
DA 7.13	72-74 KING GEORGES RD SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.14	76 KING GEORGES RD (A&B) SURVEY INFORMATION	1:200@ A3	V
DA 7.15	76 KING GEORGES RD (A) SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.16	76 KING GEORGES RD (B) SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.17	76 KING GEORGES RD (C&D) SURVEY INFORMATION	1:200@ A3	V
DA 7.18	76 KING GEORGES RD (C) SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.19	76 KING GEORGES RD (B,C&D)SHADOW IMPACT DIAGRAM	1:500@ A3	V
DA 7.20	VIEWS FROM THE SUN 01	NTS @ A3	V
DA 7.21	VIEWS FROM THE SUN 02	NTS @ A3	V
	SEPP65 DIAGRAMS		
DA 8.01	SOLAR ACCESS DIAGRAM	NTS @ A3	V
DA 8.02	CROSS VENTILATION DIAGRAM	NTS @ A3	V
DA 8.03	GFA DIAGRAM	NTS @ A3	V
DA 8.04	UNITS DATA SHEET	NTS @ A3	V
DA 8.05-06	PRIVACY PLANS	NTS @ A3	V
DA 8.07-08	STORAGE DIAGRAMS	1:500 @ A3	V
DA 8.09	HEIGHT LIMIT PLAN DIAGRAM	NTS @ A3	V
DA 8.10	45 DEGREE SETBACK DIAGRAM	NTS @ A3	V
DA 8.11	STREET SETBACK DIAGRAM	NTS @ A3	V
DA 9.01	ADAPTABLE UNITS - 01	1:100@ A3	V
DA 9.02	ADAPTABLE UNITS - 02	1:100@ A3	V
DA 9.03	ADAPTABLE UNITS - 03	1:100@ A3	V
DA 10.01	COUNCIL RFI - POWER LINES	1:200@A3	V
DA 10.02	COUNCIL RFI - FRONTAGES	1:100@A3	V
DA 10.03	COUNCIL RFI - ROOF FEATURE	NTS@A3	V

PROJECT SUMMARY:
SITE AREA: 5,851m²
NEW SITE AREA: 4,951m²
AREA DEDICATED TO COUNCIL: 900 m²
GFA: 14,575m²



APARTMENT MIX:

TYPE:	NUMBER	PERCENTAGE
STUDIO:	14	9 %
ONE BEDROOM:	45	30 %
TWO BEDROOM:	85	57 %
THREE BEDROOM:	6	4 %
TOTAL	**150**	**100%**

CAR PARKING:
123 RESIDENTS PARKING SPACES
30 VISITORS PARKING SPACES
98 COMMERCIAL PARKING SPACES

251 TOTAL PARKING SPACES

BICYCLE RACKS:
36 RESIDENTS BICYCLE RACKS
15 VISITORS BICYCLE RACKS
21 COMMERCIAL BICYCLE RACKS

72 TOTAL BICYCLE RACKS
32 TOTAL MOTORCYCLE SPACES

SOLAR ACCESS:
72.0% of residential apartments receive 2 hours minimum direct sunlight in living spaces.

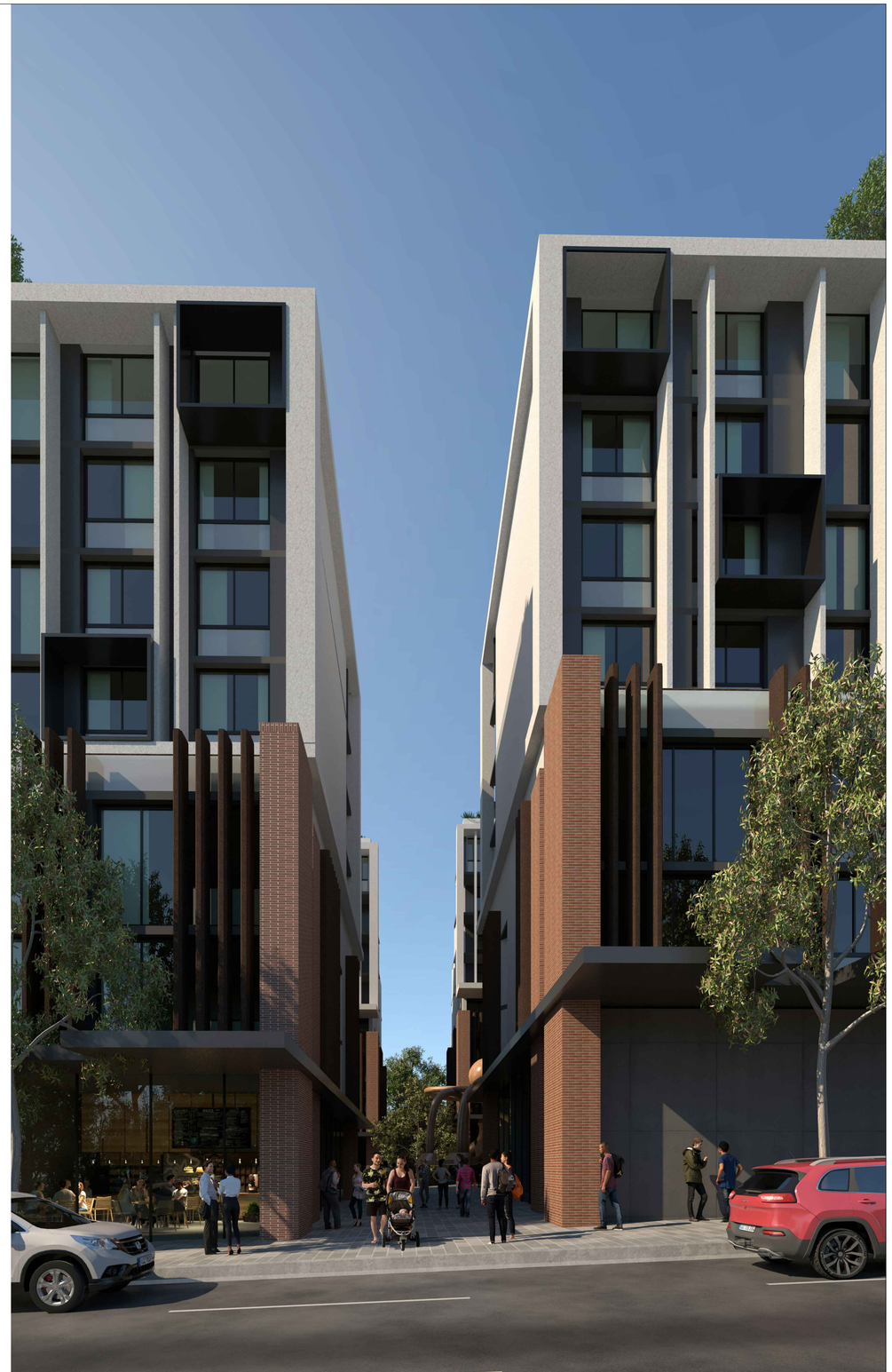
NATURAL VENTILATION:
62.7% of the apartments receive natural cross over ventilation

PROPOSED DEEP SOIL AREA: 323m² 6.5%

PRIVATE COMMUNAL OPEN SPACE: 686m² 13.9%

SHARED COMMUNAL PLAZA: 1882m² 38.0%

PROPOSED LANDSCAPE: 2161m² 43.6%



IMPORTANT NOTES:
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REVISION	DATE	DESCRIPTION	BY
A	2017.04.20	PRELIMINARY FOR COMMENTS	RG
B	2017.06.29	PRELIMINARY FOR COMMENTS	RG
C	2017.07.28	PRELIMINARY FOR CONSULTANTS INPUT	AT
D	2017.08.07	FOR D.A	AT
E	2017.09.07	AMENDED FOR D.A	AT
F	2017.09.22	FINAL FOR D.A LODGEMENT	AT
G	2017.09.22	FINAL FOR D.A LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.06.24	DA AMENDMENTS	CS
K	2019.07.12	DA AMENDMENTS	CS
L	2019.08.23	DA AMENDMENTS	AS
M	2019.09.02	DA AMENDMENTS	CS
N	2020.05.04	FOR INFORMATION	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
V	2020.09.23	DA RESUBMISSION	BM

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London · Kuala Lumpur · Auckland
ABN 20 098 552 151

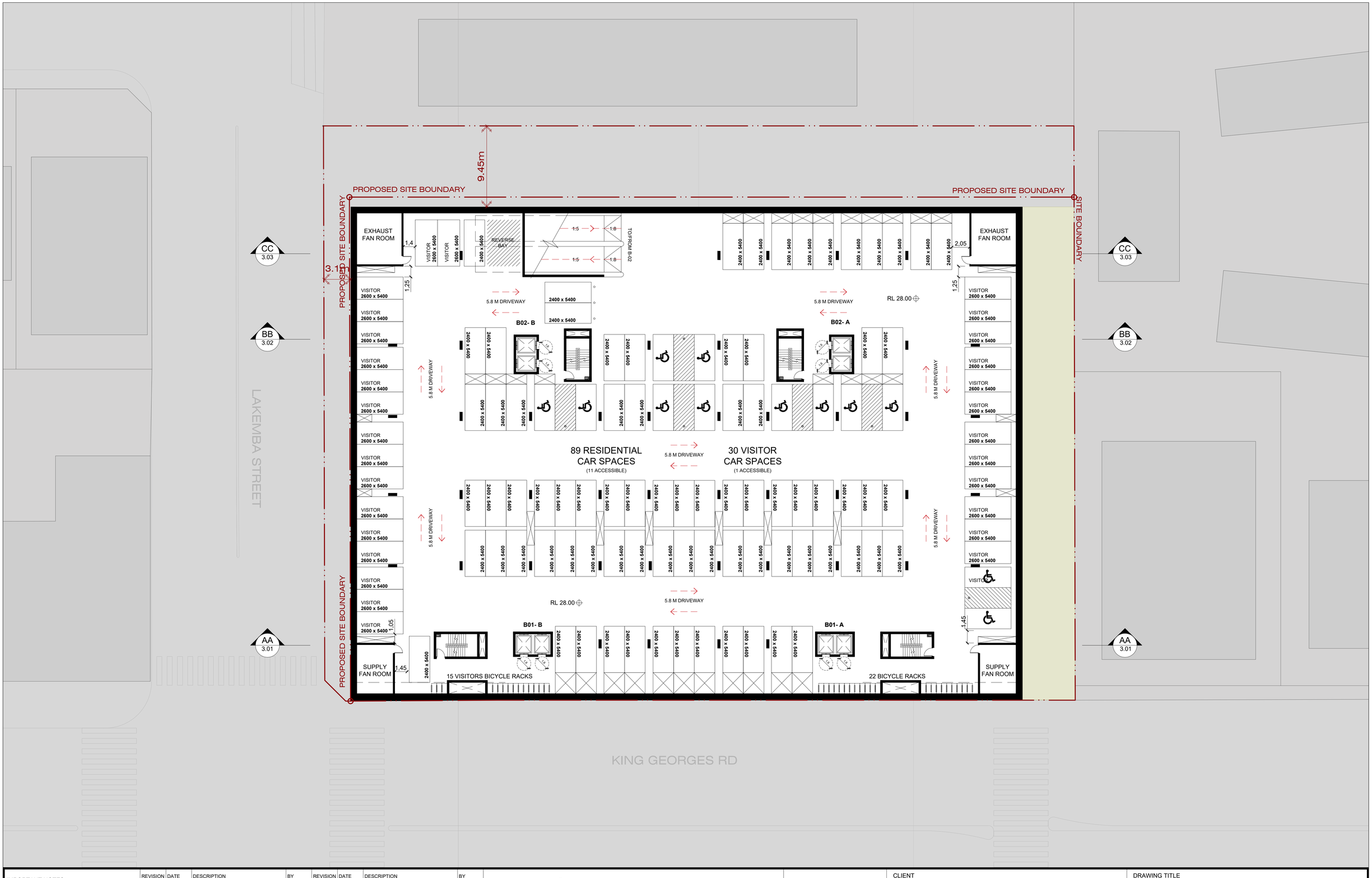
CLIENT
Lakemba Street Developments P/L

DRAWING TITLE
COVER PAGE

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
NTS	22/09/2017	GF	PS

JOB	DRAWING	REVISION
15063	DA0.00	V



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F	2017.09.22	FINAL FOR DA LODGEMENT	AT
G	2017.09.22	FINAL FOR DA LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
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K	2020.03.31	ISSUED FOR COMMENTS	GF
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M		NOT ISSUED	
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Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

marchesepartners

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MN TN

0 1 2 3 4 5 10

CLIENT
Lakemba Street Developments P/L

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

DRAWING TITLE
LEVEL B3

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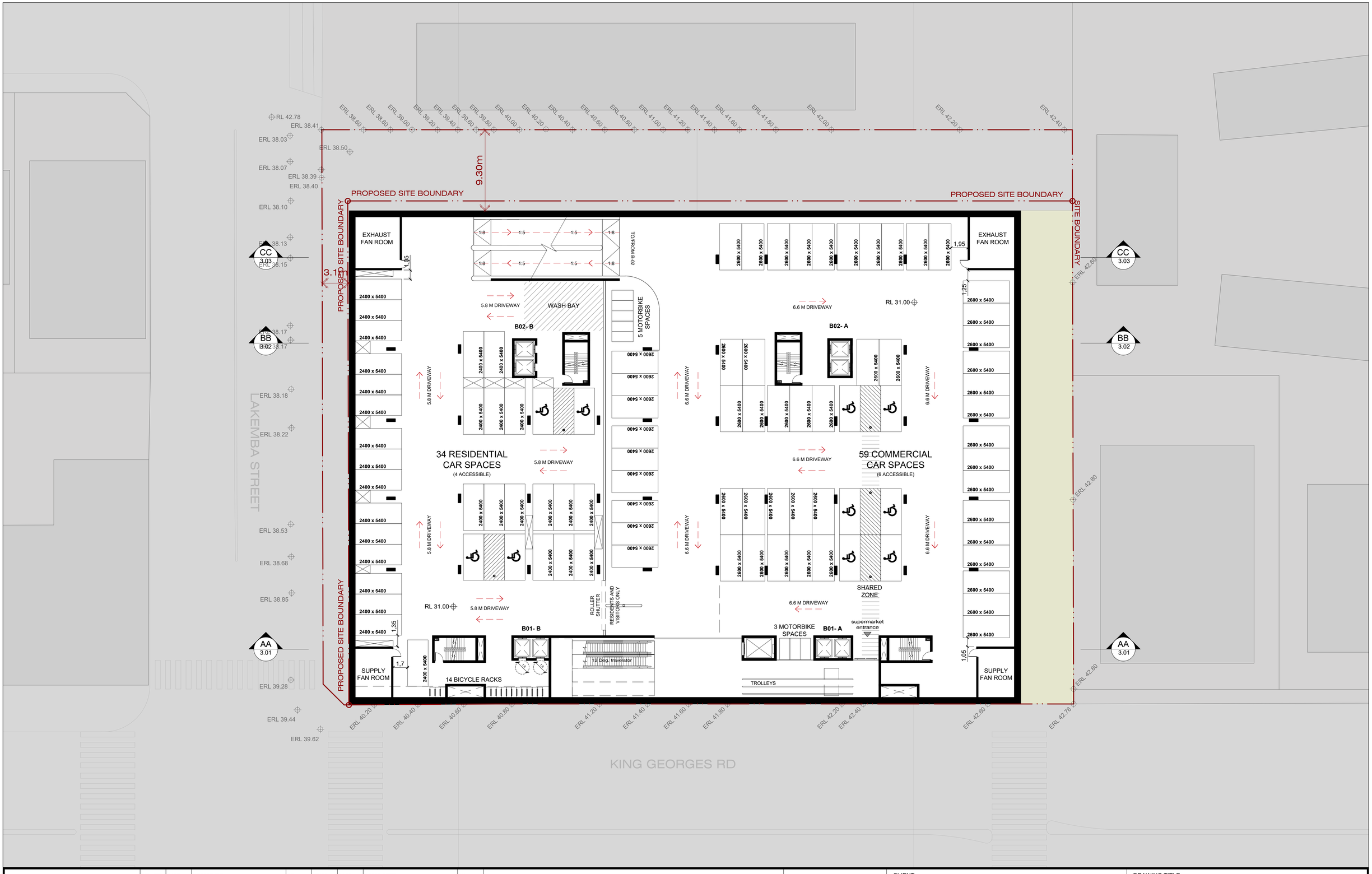
JOB	DRAWING		REVISION
15063	DA2.01		V



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F	2017.09.22	FINAL FOR DA LODGEMENT	AT
G	2017.09.22	FINAL FOR DA LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.08.23	DA AMENDMENTS	AT
K	2020.03.31	ISSUED FOR COMMENTS	GF
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M		NOT ISSUED	
N	2020.05.04	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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ABN 20 098 552 151

NW TN

0 1 2 3 4 5 10

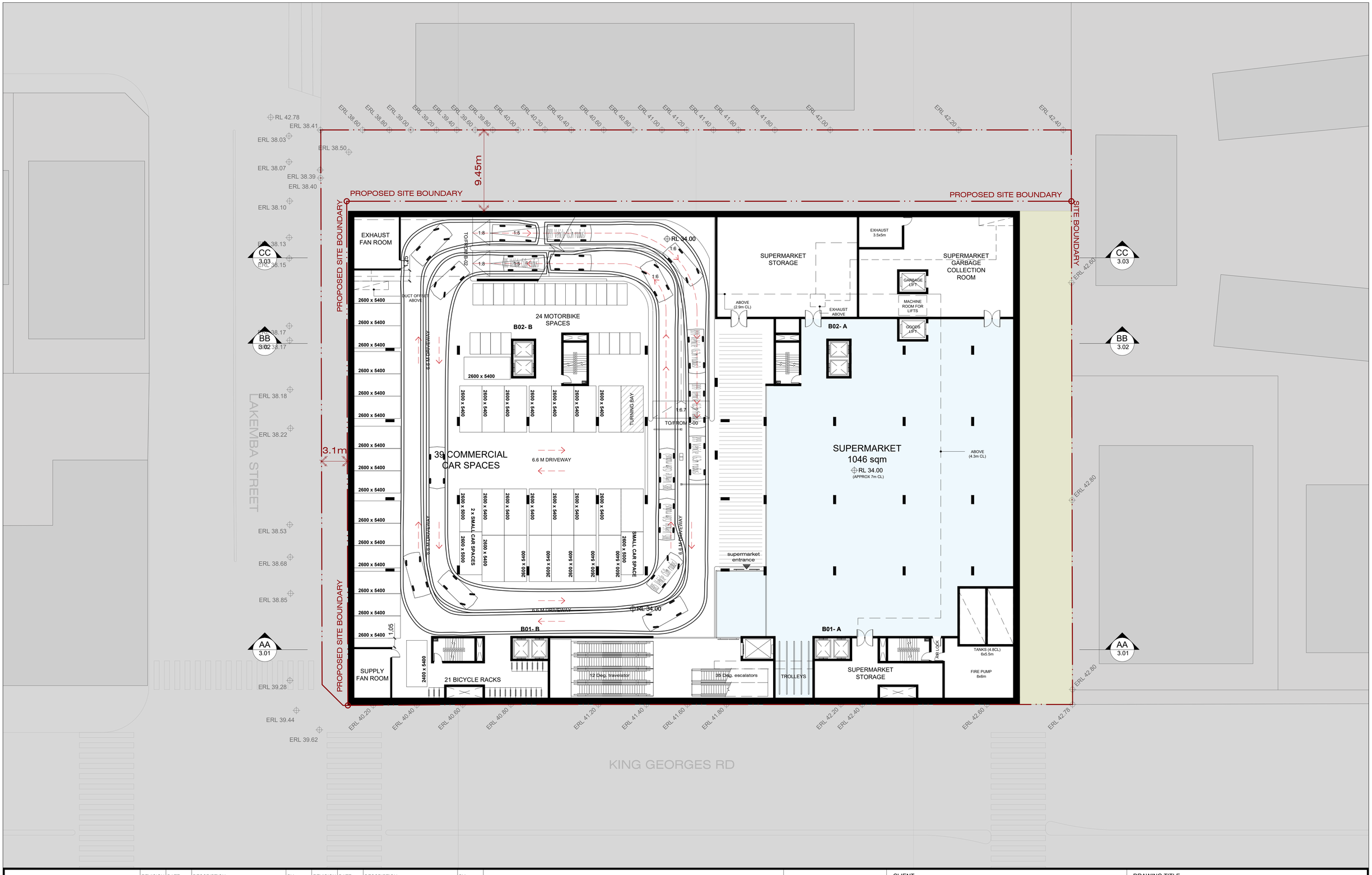
CLIENT
Lakemba Street Developments P/L

DRAWING TITLE
LEVEL B2

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA2.02	V



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REVISION	DATE	DESCRIPTION	BY
A	2017.04.20	PRELIMINARY FOR COMMENTS	RG
B	2017.06.29	PRELIMINARY FOR COMMENTS	RG
C	2017.07.28	PRELIMINARY FOR CONSULTANTS INPUT	AT
D	2017.08.07	FOR DA	AT
E	2017.09.07	AMENDED FOR DA	AT
F	2017.09.22	FINAL FOR DA LODGEMENT	AT
G	2017.09.22	FINAL FOR DA LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.08.23	DA AMENDMENTS	AT
K	2020.03.31	ISSUED FOR COMMENTS	GF
L		NOT ISSUED	
M		NOT ISSUED	
N	2020.05.04	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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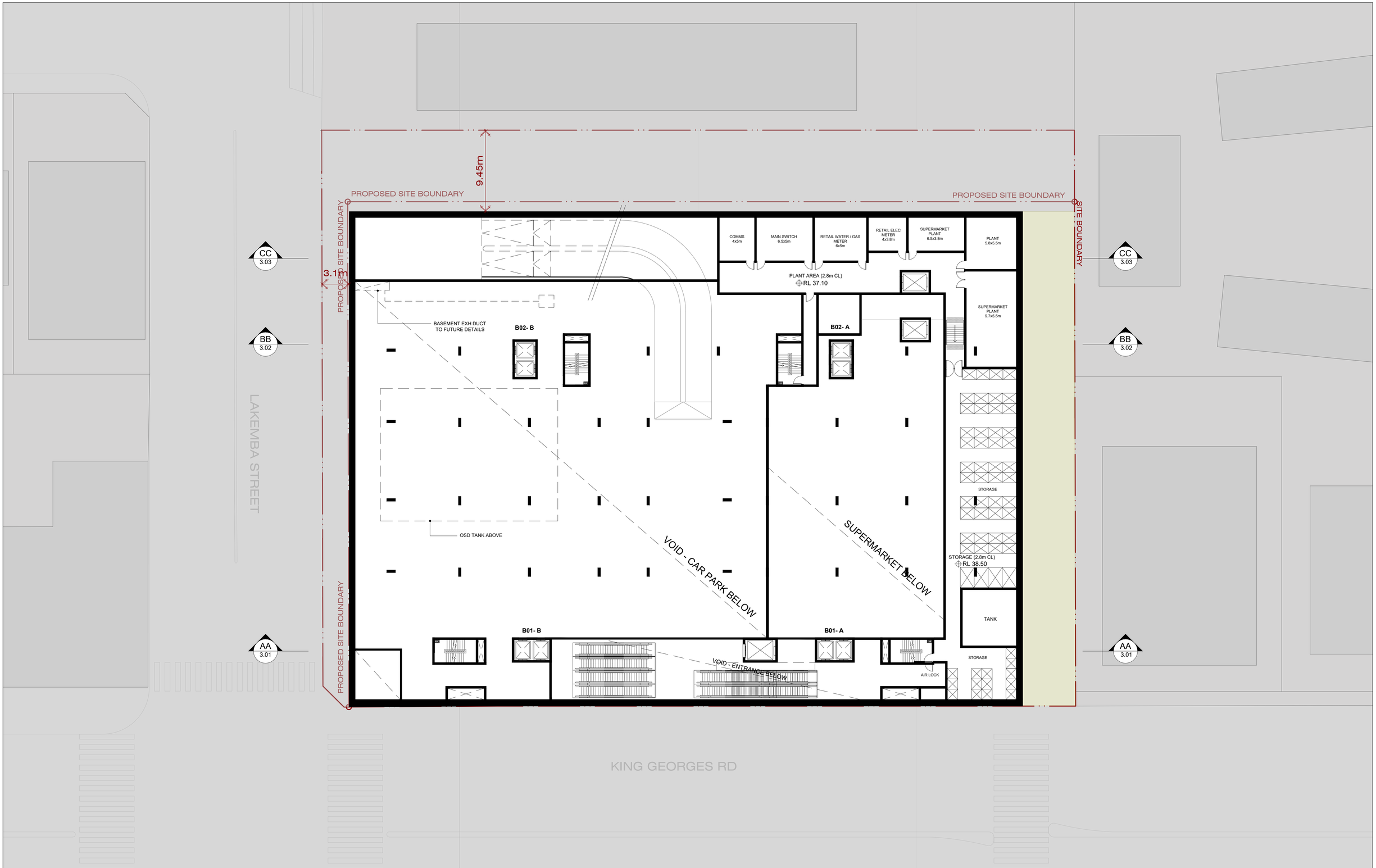
CLIENT
Lakemba Street Developments P/L

DRAWING TITLE
LEVEL B1

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA2.03	V



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B	2017.06.29	PRELIMINARY FOR COMMENTS	RG
C	2017.07.28	PRELIMINARY FOR CONSULTANTS INPUT	AT
D	2017.08.07	FOR D.A	AT
E	2017.09.07	AMENDED FOR D.A	AT
F	2017.09.22	FINAL FOR D.A LODGEMENT	AT
G	2017.09.22	FINAL FOR D.A LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
K	2020.03.11	ISSUED FOR COMMENTS	GF
L	2020.04.03	PRELIMINARY FOR COMMENTS	GF
M		NOT ISSUED	
		NUMBERING CHANGED	
N	2020.05.04	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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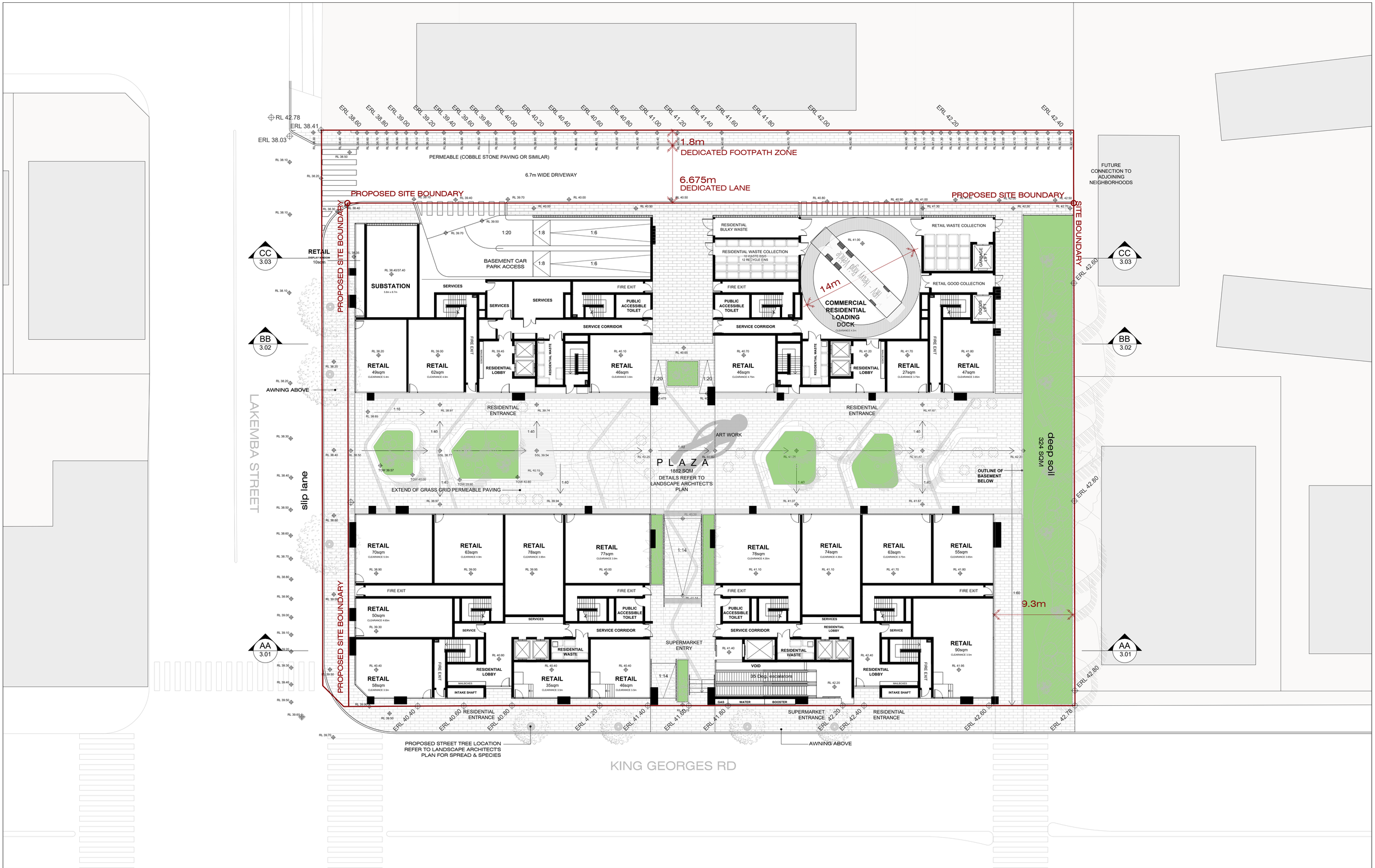
DRAWING TITLE
LEVEL B0

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA2.04	V



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REVISION	DATE	DESCRIPTION	BY
N	2020.05.04	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.02	INTERNAL COORDINATION	PS
R	2020.09.10	FOR COORDINATION	BM
S	2020.09.14	FOR COORDINATION	BM
T	2020.09.15	FOR COORDINATION	BM
U	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	FOR COORDINATION	BM
W	2020.09.25	FOR COORDINATION	BM
X	2020.10.02	POST-DA LODGEMENT	BM

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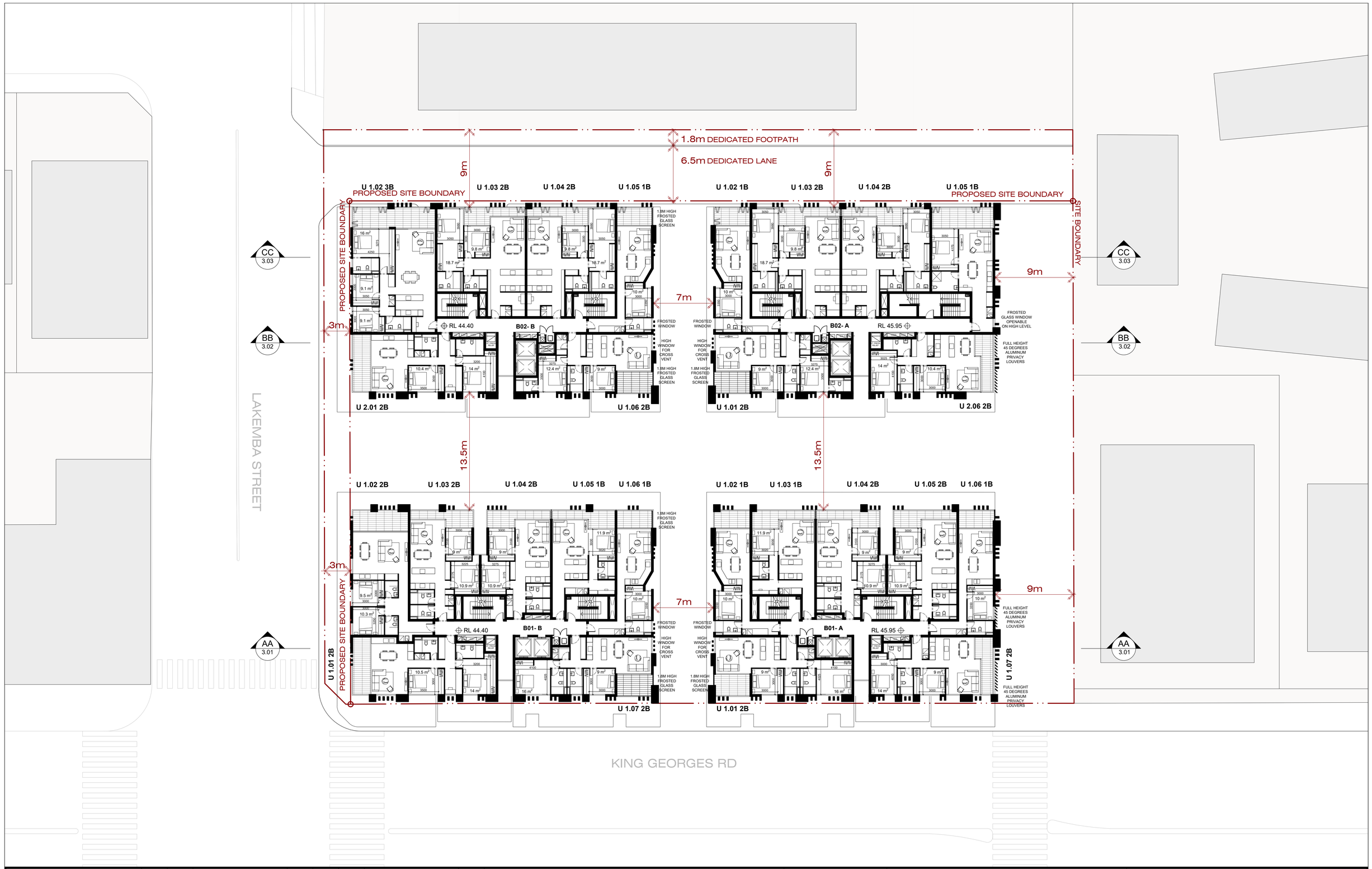
DRAWING TITLE
LEVEL 00

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA2.05	X



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REVISION	DATE	DESCRIPTION	BY	REVISION	DATE	DESCRIPTION	BY
NUMBERING CHANGED							
N	2020.04.23	PRELIMINARY FOR CONSULTANTS	GF				
O	2020.05.15	FINAL ISSUE - DRAFT	GF				
P	2020.06.03	FINAL FOR DA LODGEMENT	GF				
Q	2020.09.10	FOR COORDINATION	BM				
R	2020.09.15	FOR COORDINATION	BM				
S	2020.09.17	FOR COORDINATION	BM				
V	2020.09.23	DA RESUBMISSION	BM				

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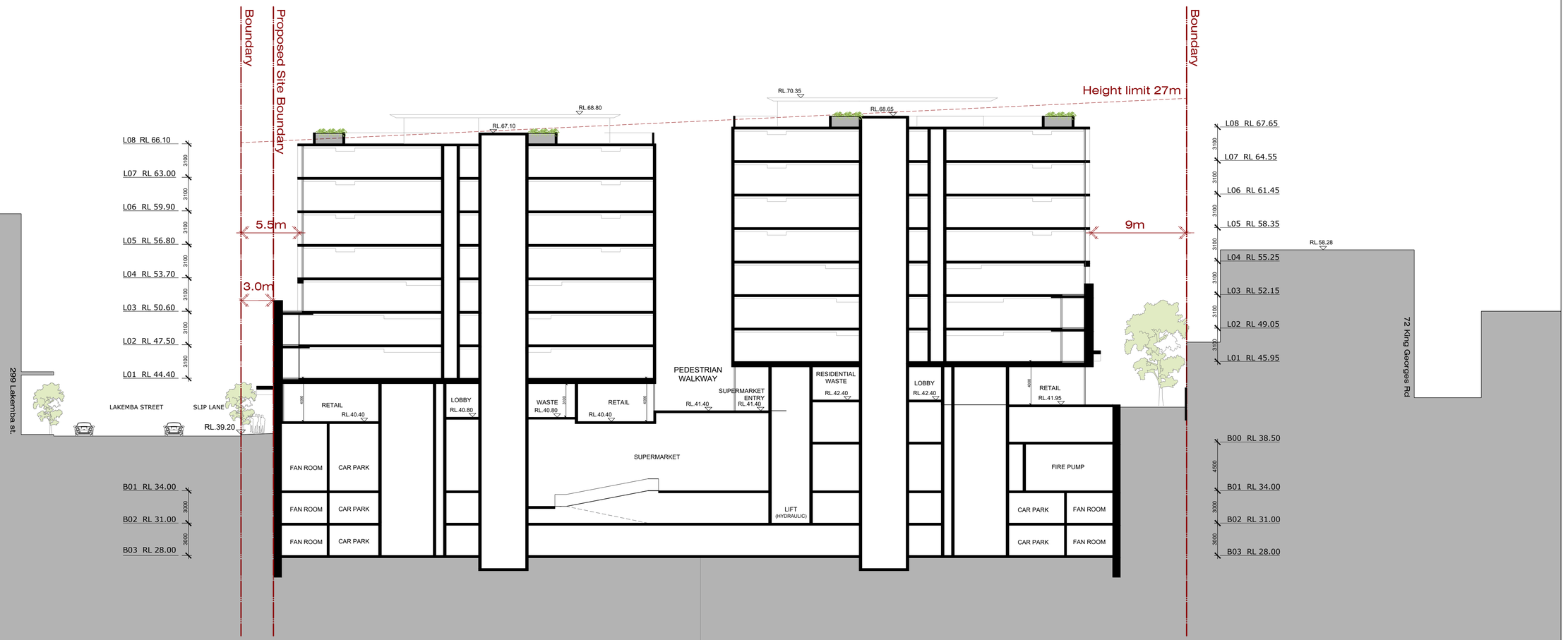
PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

DRAWING TITLE
LEVEL 01

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA2.06	V



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B	2017.06.29	PRELIMINARY FOR COMMENTS	RG
C	2017.07.28	PRELIMINARY FOR CONSULTANTS INPUT	AT
D	2017.08.07	FOR D.A	AT
E	2017.09.07	AMENDED FOR D.A	AT
F	2017.09.22	FINAL FOR D.A LODGEMENT	AT
G	2017.09.22	FINAL FOR D.A LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.06.24	DA AMENDMENTS	CS
K	2019.08.20	DA AMENDMENTS	CS
M		NOT ISSUED	
N	2020.04.23	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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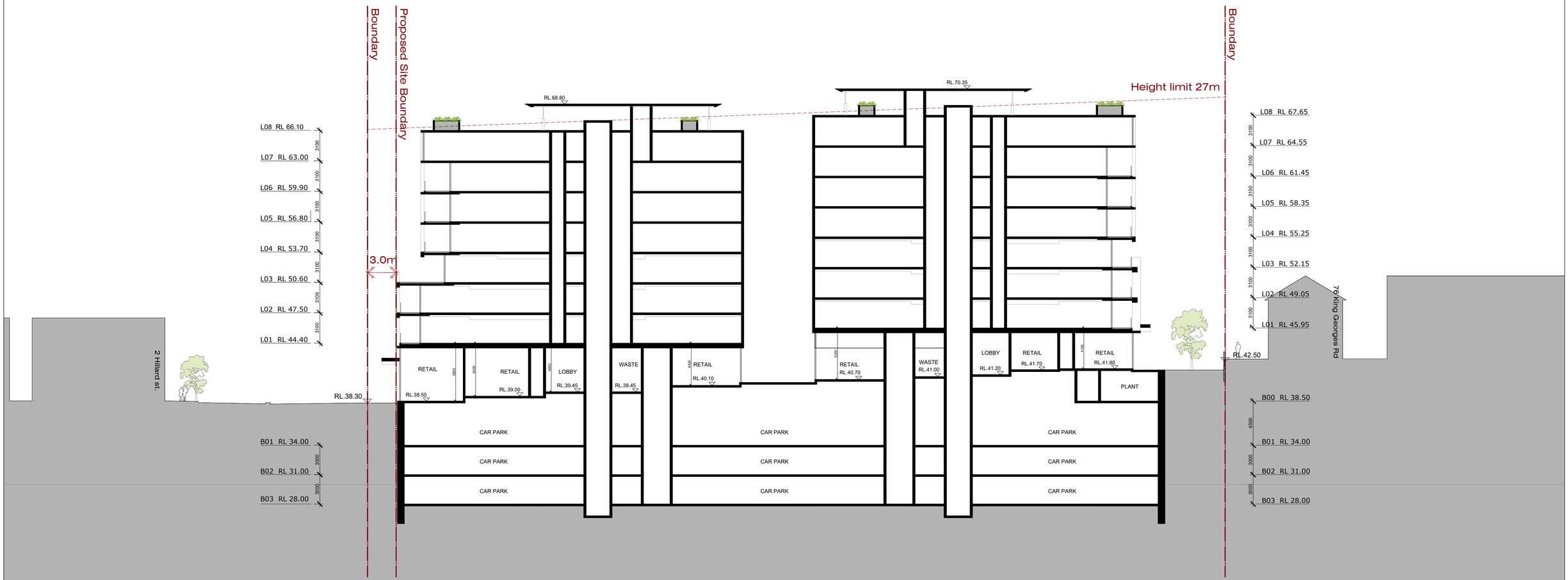
PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

DRAWING TITLE
SECTION A-A

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA3.01	V



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D	2017.08.07	FOR D.A	AT
E	2017.09.07	AMENDED FOR D.A	AT
F	2017.09.22	FINAL FOR D.A LODGEMENT	AT
G	2017.09.22	FINAL FOR D.A LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.06.24	DA AMENDMENTS	CS
K	2019.08.20	DA AMENDMENTS	CS
M		NOT ISSUED	
N	2020.04.23	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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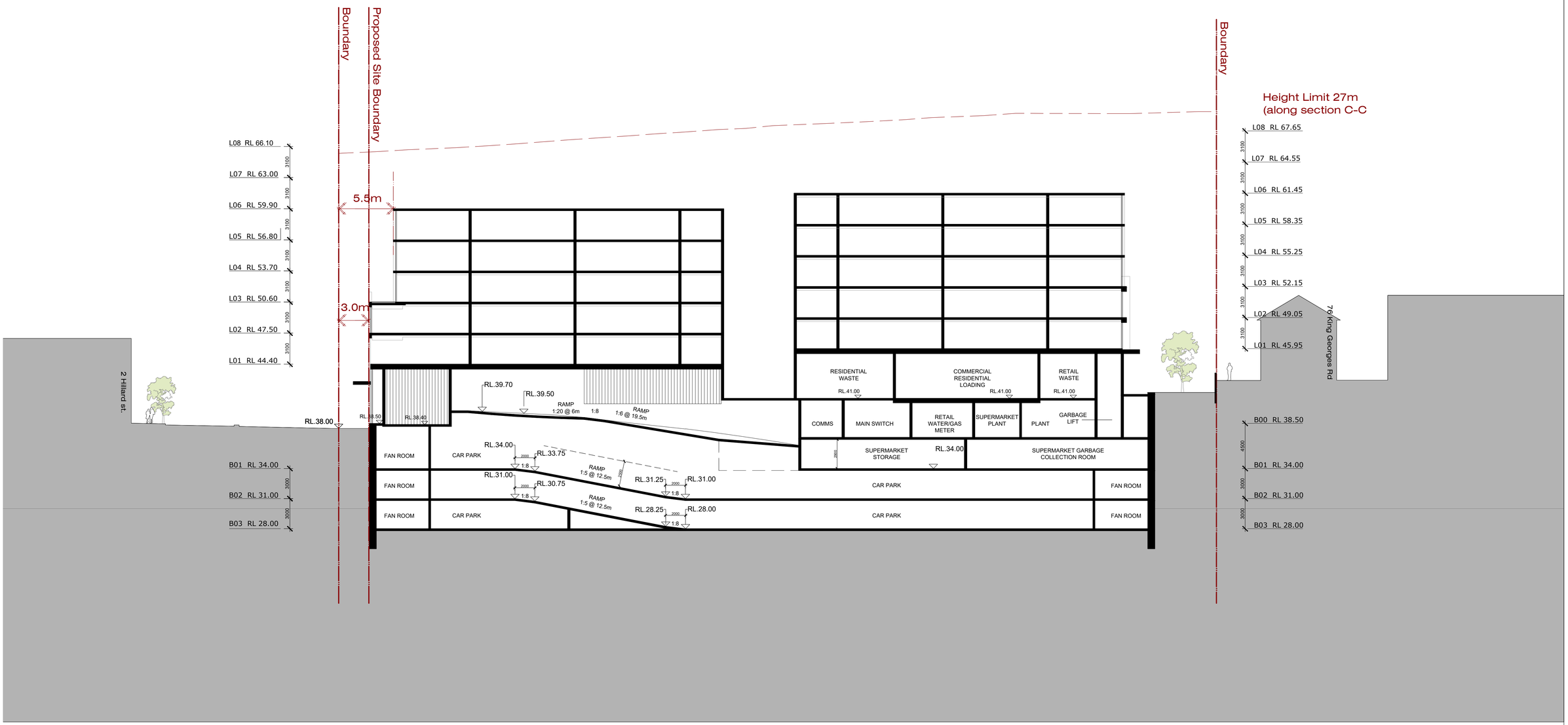
DRAWING TITLE
SECTION B-B

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	JT	PS

JOB	DRAWING	REVISION
15063	DA3.02	V



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B	2017.06.29	PRELIMINARY FOR COMMENTS	RG
C	2017.07.28	PRELIMINARY FOR CONSULTANTS INPUT	AT
D	2017.08.07	FOR D.A	AT
E	2017.09.07	AMENDED FOR D.A	AT
F	2017.09.22	FINAL FOR D.A LODGEMENT	AT
G	2017.09.22	FINAL FOR D.A LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.06.24	DA AMENDMENTS	CS
K	2019.08.20	DA AMENDMENTS	CS
M		NOT ISSUED	
N	2020.04.23	PRELIMINARY FOR CONSULTANTS	GF
O	2020.05.15	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
Q	2020.09.10	FOR COORDINATION	BM
R	2020.09.15	FOR COORDINATION	BM
S	2020.09.17	FOR COORDINATION	BM
V	2020.09.23	DA RESUBMISSION	BM

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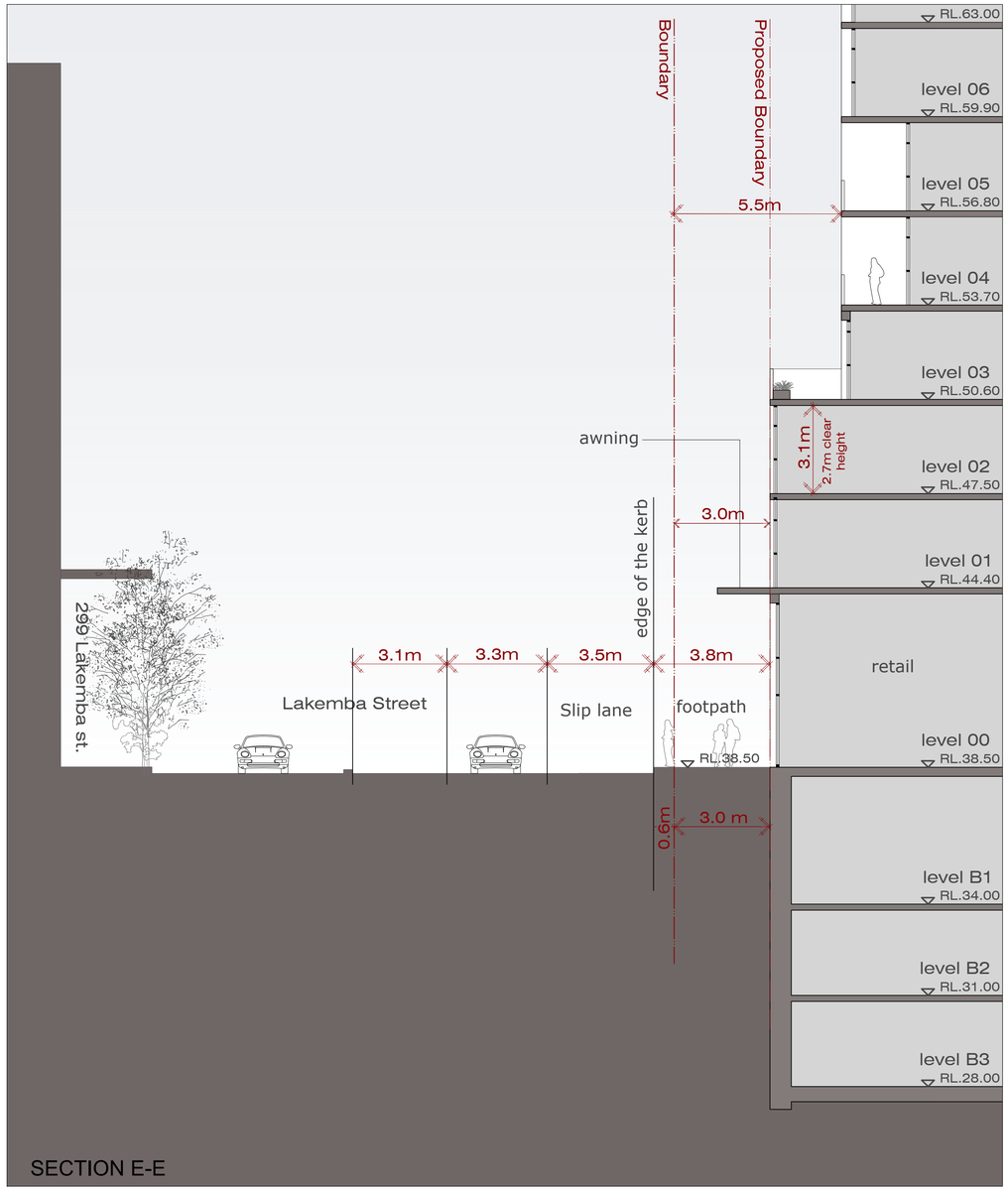
DRAWING TITLE
SECTION C-C

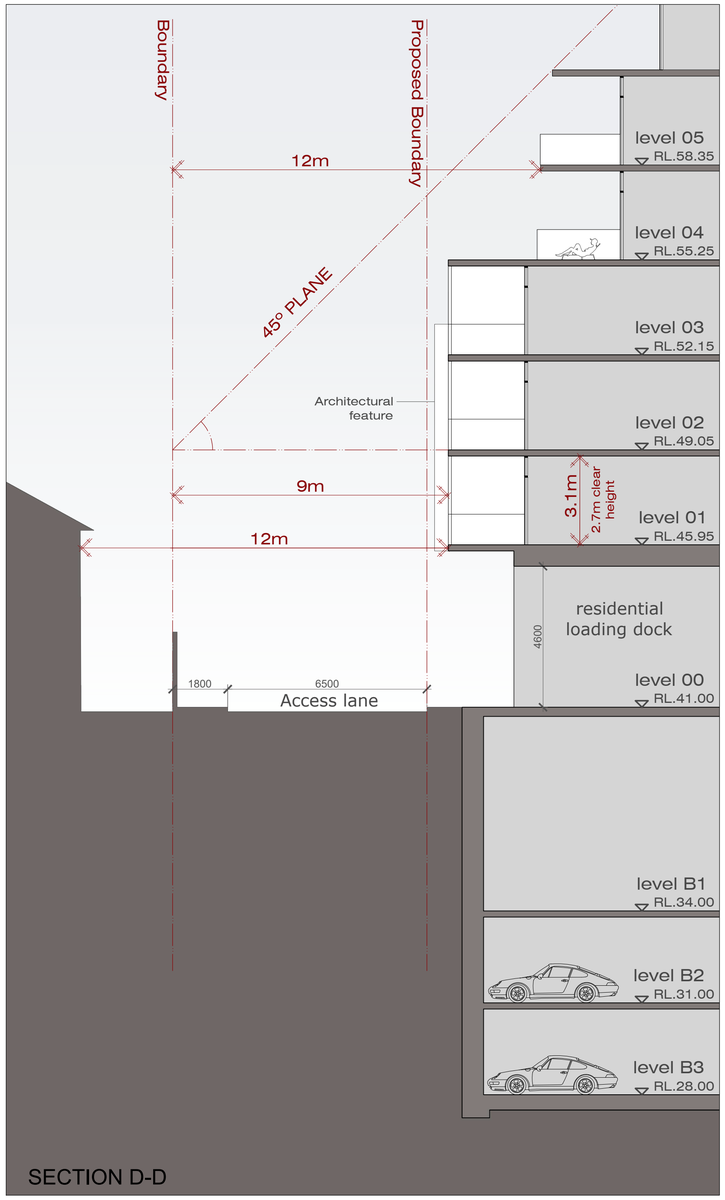
PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:200 @ A1 1:400 @ A3	22/09/2017	JT	PS

JOB	DRAWING	REVISION
15063	DA3.03	V



SECTION E-E



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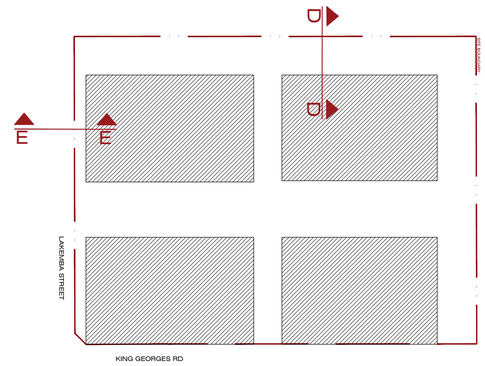

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E	2017.09.07	AMENDED FOR DA	AT
F	2017.09.22	FINAL FOR DA LODGEMENT	AT
G	2017.09.22	FINAL FOR DA LODGEMENT	AT
H	2018.10.26	ISSUED FOR COORDINATION	AT
I	2018.12.04	DA AMENDMENTS	AT
J	2019.08.23	DA AMENDMENTS	AT
K		NOT ISSUED	
M		NOT ISSUED	
N		NOT ISSUED	
O	2020.05.29	FINAL ISSUE - DRAFT	GF
P	2020.06.03	FINAL FOR DA LODGEMENT	GF
V	2020.09.23	DA RESUBMISSION	BM

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DRAWING TITLE
SECTIONS STREETSCAPE

PROJECT
280-292 Lakemba St & 62-70 King G. Rd
Wiley Park, NSW

SCALE	DATE	DRAWN	CHECKED
1:100 @ A1 1:200 @ A3	22/09/2017	BM	PS

JOB	DRAWING	REVISION
15063	DA3.04	V

APPENDIX E

TRAFFIC SURVEY DATA

R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : Varga Traffic Planning
Job No/Name : 6559 Wiley Park Lakemba St Counts
Day/Date : Thursday 24th August 2017

Lights	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	18	487	0	4	36	26	3	477	12	16	9	17	**1105**
0645 - 0700	17	470	0	3	29	17	2	614	13	19	5	5	**1194**
0700 - 0715	11	468	0	7	46	18	3	590	13	15	15	10	**1196**
0715 - 0730	21	479	0	3	20	16	2	510	16	24	12	10	**1113**
0730 - 0745	16	409	0	4	33	15	2	366	18	15	8	11	**897**
0745 - 0800	17	520	0	3	36	19	3	348	35	18	12	10	**1021**
0800 - 0815	32	604	0	5	37	24	3	392	42	31	25	20	**1215**
0815 - 0830	19	379	0	2	50	19	7	277	33	40	24	19	**869**
0830 - 0845	38	552	0	4	32	31	6	431	27	32	25	18	**1196**
0845 - 0900	23	415	0	6	38	22	6	380	34	44	22	16	**1006**
0900 - 0915	15	334	0	2	33	16	10	386	33	34	23	20	**906**
0915 - 0930	24	405	0	4	22	17	5	363	32	27	9	18	**926**
Period End	**251**	**5522**	**0**	**47**	**412**	**240**	**52**	**5134**	**308**	**315**	**189**	**174**	**12644**

Lights	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	67	1904	0	17	131	77	10	2191	54	74	41	42	**4608**
0645 - 0745	65	1826	0	17	128	66	9	2080	60	73	40	36	**4400**
0700 - 0800	65	1876	0	17	135	68	10	1814	82	72	47	41	**4227**
0715 - 0815	86	2012	0	15	126	74	10	1616	111	88	57	51	**4246**
0730 - 0830	84	1912	0	14	156	77	15	1383	128	104	69	60	**4002**
0745 - 0845	106	2055	0	14	155	93	19	1448	137	121	86	67	**4301**
0800 - 0900	112	1950	0	17	157	96	22	1480	136	147	96	73	**4286**
0815 - 0915	95	1680	0	14	153	88	29	1474	127	150	94	73	**3977**
0830 - 0930	100	1706	0	16	125	86	27	1560	126	137	79	72	**4034**
PEAK HOUR	**67**	**1904**	**0**	**17**	**131**	**77**	**10**	**2191**	**54**	**74**	**41**	**42**	**4608**

Heavies	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	1	44	0	0	0	0	0	27	0	0	0	0	**72**
0645 - 0700	0	37	0	0	0	0	0	24	1	1	0	0	**63**
0700 - 0715	0	32	0	0	0	0	0	20	0	1	0	0	**53**
0715 - 0730	0	30	0	0	0	0	0	31	1	1	0	0	**63**
0730 - 0745	0	25	0	0	0	0	0	22	0	1	0	0	**48**
0745 - 0800	0	37	0	0	0	0	0	25	2	0	0	0	**64**
0800 - 0815	0	26	0	0	0	0	0	22	0	3	0	0	**51**
0815 - 0830	0	21	0	0	0	0	0	23	1	0	0	0	**45**
0830 - 0845	0	42	0	0	0	0	0	30	0	1	0	0	**73**
0845 - 0900	0	39	0	0	0	0	0	29	1	0	0	0	**69**
0900 - 0915	0	27	0	0	0	0	0	37	1	1	0	0	**66**
0915 - 0930	1	40	0	0	0	0	0	39	0	0	0	1	**81**
Period End	**2**	**400**	**0**	**0**	**0**	**0**	**0**	**329**	**7**	**9**	**0**	**1**	**748**

Heavies	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	1	143	0	0	0	0	0	102	2	3	0	0	**251**
0645 - 0745	0	124	0	0	0	0	0	97	2	4	0	0	**227**
0700 - 0800	0	124	0	0	0	0	0	98	3	3	0	0	**228**
0715 - 0815	0	118	0	0	0	0	0	100	3	5	0	0	**226**
0730 - 0830	0	109	0	0	0	0	0	92	3	4	0	0	**208**
0745 - 0845	0	126	0	0	0	0	0	100	3	4	0	0	**233**
0800 - 0900	0	128	0	0	0	0	0	104	2	4	0	0	**238**
0815 - 0915	0	129	0	0	0	0	0	119	3	2	0	0	**253**
0830 - 0930	1	148	0	0	0	0	0	135	2	2	0	1	**289**
PEAK HOUR	**1**	**143**	**0**	**0**	**0**	**0**	**0**	**102**	**2**	**3**	**0**	**0**	**251**

Combined	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0645	19	531	0	4	36	26	3	504	12	16	9	17	**1177**
0645 - 0700	17	507	0	3	29	17	2	638	14	20	5	5	**1257**
0700 - 0715	11	500	0	7	46	18	3	610	13	16	15	10	**1249**
0715 - 0730	21	509	0	3	20	16	2	541	17	25	12	10	**1176**
0730 - 0745	16	434	0	4	33	15	2	388	18	16	8	11	**945**
0745 - 0800	17	557	0	3	36	19	3	373	37	18	12	10	**1085**
0800 - 0815	32	630	0	5	37	24	3	414	42	34	25	20	**1266**
0815 - 0830	19	400	0	2	50	19	7	300	34	40	24	19	**914**
0830 - 0845	38	594	0	4	32	31	6	461	27	33	25	18	**1269**
0845 - 0900	23	454	0	6	38	22	6	409	35	44	22	16	**1075**
0900 - 0915	15	361	0	2	33	16	10	423	34	35	23	20	**972**
0915 - 0930	25	445	0	4	22	17	5	402	32	27	9	19	**1007**
Period End	**253**	**5922**	**0**	**47**	**412**	**240**	**52**	**5463**	**315**	**324**	**189**	**175**	**13392**

Combined	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0630 - 0730	68	2047	0	17	131	77	10	2293	56	77	41	42	**4859**
0645 - 0745	65	1950	0	17	128	66	9	2177	62	77	40	36	**4627**
0700 - 0800	65	2000	0	17	135	68	10	1912	85	75	47	41	**4455**
0715 - 0815	86	2130	0	15	126	74	10	1716	114	93	57	51	**4472**
0730 - 0830	84	2021	0	14	156	77	15	1475	131	108	69	60	**4210**
0745 - 0845	106	2181	0	14	155	93	19	1548	140	125	86	67	**4534**
0800 - 0900	112	2078	0	17	157	96	22	1584	138	151	96	73	**4524**
0815 - 0915	95	1809	0	14	153	88	29	1593	130	152	94	73	**4230**
0830 - 0930	101	1854	0	16	125	86	27	1695	128	139	79	73	**4323**
PEAK HOUR	**68**	**2047**	**0**	**17**	**131**	**77**	**10**	**2293**	**56**	**77**	**41**	**42**	**4859**

R.O.A.R DATA

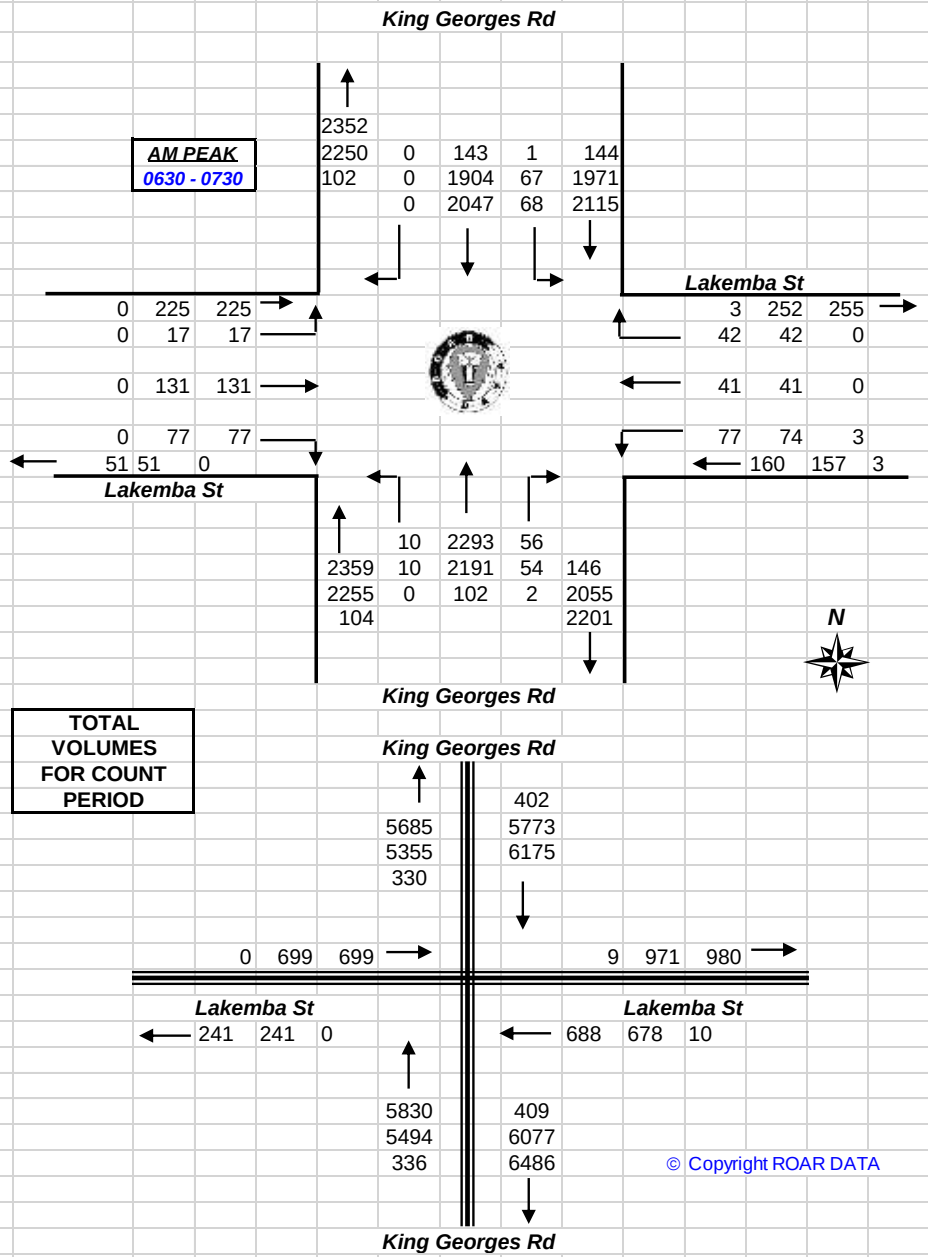
Reliable, Original & Authentic Results

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

Client	: Varga Traffic Pl
Job No/Name	: 6559 Wiley Park Lakemba St Counts
Day/Date	: Thursday 24th August 2017

Peds	NORTH	WEST	SOUTH	EAST	
	King Georges Rd	*Lakemba St*	*King Georges Rd*	*Lakemba St*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0630 - 0645	0	0	0	0	**0**
0645 - 0700	0	2	2	0	**4**
0700 - 0715	1	0	2	2	**5**
0715 - 0730	0	1	3	0	**4**
0730 - 0745	0	2	3	1	**6**
0745 - 0800	1	7	3	15	**26**
0800 - 0815	3	13	10	3	**29**
0815 - 0830	4	7	3	4	**18**
0830 - 0845	1	9	2	4	**16**
0845 - 0900	0	11	2	20	**33**
0900 - 0915	0	7	6	4	**17**
0915 - 0930	0	3	2	5	**10**
Period End	**10**	**62**	**38**	**58**	**168**

Peds	NORTH	WEST	SOUTH	EAST	
	King Georges Rd	*Lakemba St*	*King Georges Rd*	*Lakemba St*	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0630 - 0730	1	3	7	2	**13**
0645 - 0745	1	5	10	3	**19**
0700 - 0800	2	10	11	18	**41**
0715 - 0815	4	23	19	19	**65**
0730 - 0830	8	29	19	23	**79**
0745 - 0845	9	36	18	26	**89**
0800 - 0900	8	40	17	31	**96**
0815 - 0915	5	34	13	32	**84**
0830 - 0930	1	30	12	33	**76**
PEAK HR	**1**	**3**	**7**	**2**	**13**



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R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : Varga Traffic Planning
Job No/Name : 6559 Wiley Park Lakemba St Counts
Day/Date : Thursday 24th August 2017

Lights

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	22	606	0	4	29	11	12	415	31	51	40	30	**1251**
1545 - 1600	31	596	0	3	36	11	12	466	45	60	28	32	**1320**
1600 - 1615	21	608	0	2	30	11	14	470	40	68	41	37	**1342**
1615 - 1630	19	629	0	4	22	20	19	441	37	69	35	39	**1334**
1630 - 1645	29	701	0	6	30	18	12	460	54	46	24	34	**1414**
1645 - 1700	30	626	0	4	25	19	9	514	46	50	32	40	**1395**
1700 - 1715	23	616	0	5	16	17	13	482	28	55	26	45	**1326**
1715 - 1730	32	574	0	4	19	11	11	465	49	44	32	34	**1275**
1730 - 1745	31	608	0	4	15	7	18	452	33	44	24	35	**1271**
1745 - 1800	28	561	0	3	16	9	10	448	34	50	31	35	**1225**
1800 - 1815	23	604	0	5	19	18	17	520	33	39	29	30	**1337**
1815 - 1830	20	513	0	4	17	16	15	475	30	43	19	29	**1181**
Period End	**309**	**7242**	**0**	**48**	**274**	**168**	**162**	**5608**	**460**	**619**	**361**	**420**	**15671**

Lights

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Time	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	93	2439	0	13	117	53	57	1792	153	248	144	138	**5247**
1545 - 1645	100	2534	0	15	118	60	57	1837	176	243	128	142	**5410**
1600 - 1700	99	2564	0	16	107	68	54	1885	177	233	132	150	**5485**
1615 - 1715	101	2572	0	19	93	74	53	1897	165	220	117	158	**5469**
1630 - 1730	114	2517	0	19	90	65	45	1921	177	195	114	153	**5410**
1645 - 1745	116	2424	0	17	75	54	51	1913	156	193	114	154	**5267**
1700 - 1800	114	2359	0	16	66	44	52	1847	144	193	113	149	**5097**
1715 - 1815	114	2347	0	16	69	45	56	1885	149	177	116	134	**5108**
1730 - 1830	102	2286	0	16	67	50	60	1895	130	176	103	129	**5014**
PEAK HOUR	**99**	**2564**	**0**	**16**	**107**	**68**	**54**	**1885**	**177**	**233**	**132**	**150**	**5485**

Heavies

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	0	23	0	0	0	0	0	26	0	2	0	0	**51**
1545 - 1600	0	16	0	0	0	0	0	20	2	3	0	0	**41**
1600 - 1615	0	16	0	0	0	0	0	20	0	2	0	2	**40**
1615 - 1630	0	18	0	0	0	0	0	18	1	0	0	0	**37**
1630 - 1645	0	16	0	0	0	0	1	18	0	1	0	0	**36**
1645 - 1700	0	18	0	0	0	0	0	14	0	0	0	0	**32**
1700 - 1715	0	8	0	1	0	0	0	15	0	1	0	0	**25**
1715 - 1730	0	13	0	0	0	0	0	17	0	0	0	0	**30**
1730 - 1745	0	15	0	0	0	0	0	11	0	0	0	0	**26**
1745 - 1800	0	9	0	0	0	0	0	15	1	1	0	0	**26**
1800 - 1815	0	19	0	0	0	0	0	12	0	1	0	0	**32**
1815 - 1830	0	16	0	0	0	0	0	10	0	0	0	0	**26**
Period End	**0**	**187**	**0**	**1**	**0**	**0**	**1**	**196**	**4**	**11**	**0**	**2**	**402**

Heavies

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	0	73	0	0	0	0	0	84	3	7	0	2	**169**
1545 - 1645	0	66	0	0	0	0	1	76	3	6	0	2	**154**
1600 - 1700	0	68	0	0	0	0	1	70	1	3	0	2	**145**
1615 - 1715	0	60	0	1	0	0	1	65	1	2	0	0	**130**
1630 - 1730	0	55	0	1	0	0	1	64	0	2	0	0	**123**
1645 - 1745	0	54	0	1	0	0	0	57	0	1	0	0	**113**
1700 - 1800	0	45	0	1	0	0	0	58	1	2	0	0	**107**
1715 - 1815	0	56	0	0	0	0	0	55	1	2	0	0	**114**
1730 - 1830	0	59	0	0	0	0	0	48	1	2	0	0	**110**
PEAK HOUR	**0**	**68**	**0**	**0**	**0**	**0**	**1**	**70**	**1**	**3**	**0**	**2**	**145**

Combined

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Time Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1545	22	629	0	4	29	11	12	441	31	53	40	30	**1302**
1545 - 1600	31	612	0	3	36	11	12	486	47	63	28	32	**1361**
1600 - 1615	21	624	0	2	30	11	14	490	40	70	41	39	**1382**
1615 - 1630	19	647	0	4	22	20	19	459	38	69	35	39	**1371**
1630 - 1645	29	717	0	6	30	18	13	478	54	47	24	34	**1450**
1645 - 1700	30	644	0	4	25	19	9	528	46	50	32	40	**1427**
1700 - 1715	23	624	0	6	16	17	13	497	28	56	26	45	**1351**
1715 - 1730	32	587	0	4	19	11	11	482	49	44	32	34	**1305**
1730 - 1745	31	623	0	4	15	7	18	463	33	44	24	35	**1297**
1745 - 1800	28	570	0	3	16	9	10	463	35	51	31	35	**1251**
1800 - 1815	23	623	0	5	19	18	17	532	33	40	29	30	**1369**
1815 - 1830	20	529	0	4	17	16	15	485	30	43	19	29	**1207**
Period End	**309**	**7429**	**0**	**49**	**274**	**168**	**163**	**5804**	**464**	**630**	**361**	**422**	**16073**

Combined

	NORTH			WEST			SOUTH			EAST			
	King Georges Rd			*Lakemba St*			*King Georges Rd*			*Lakemba St*			
Peak Per	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**L**	**T**	**R**	**TOT**
1530 - 1630	93	2512	0	13	117	53	57	1876	156	255	144	140	**5416**
1545 - 1645	100	2600	0	15	118	60	58	1913	179	249	128	144	**5564**
1600 - 1700	99	2632	0	16	107	68	55	1955	178	236	132	152	**5630**
1615 - 1715	101	2632	0	20	93	74	54	1962	166	222	117	158	**5599**
1630 - 1730	114	2572	0	20	90	65	46	1985	177	197	114	153	**5533**
1645 - 1745	116	2478	0	18	75	54	51	1970	156	194	114	154	**5380**
1700 - 1800	114	2404	0	17	66	44	52	1905	145	195	113	149	**5204**
1715 - 1815	114	2403	0	16	69	45	56	1940	150	179	116	134	**5222**
1730 - 1830	102	2345	0	16	67	50	60	1943	131	178	103	129	**5124**
PEAK HOUR	**99**	**2632**	**0**	**16**	**107**	**68**	**55**	**1955**	**178**	**236**	**132**	**152**	**5630**

R.O.A.R DATA

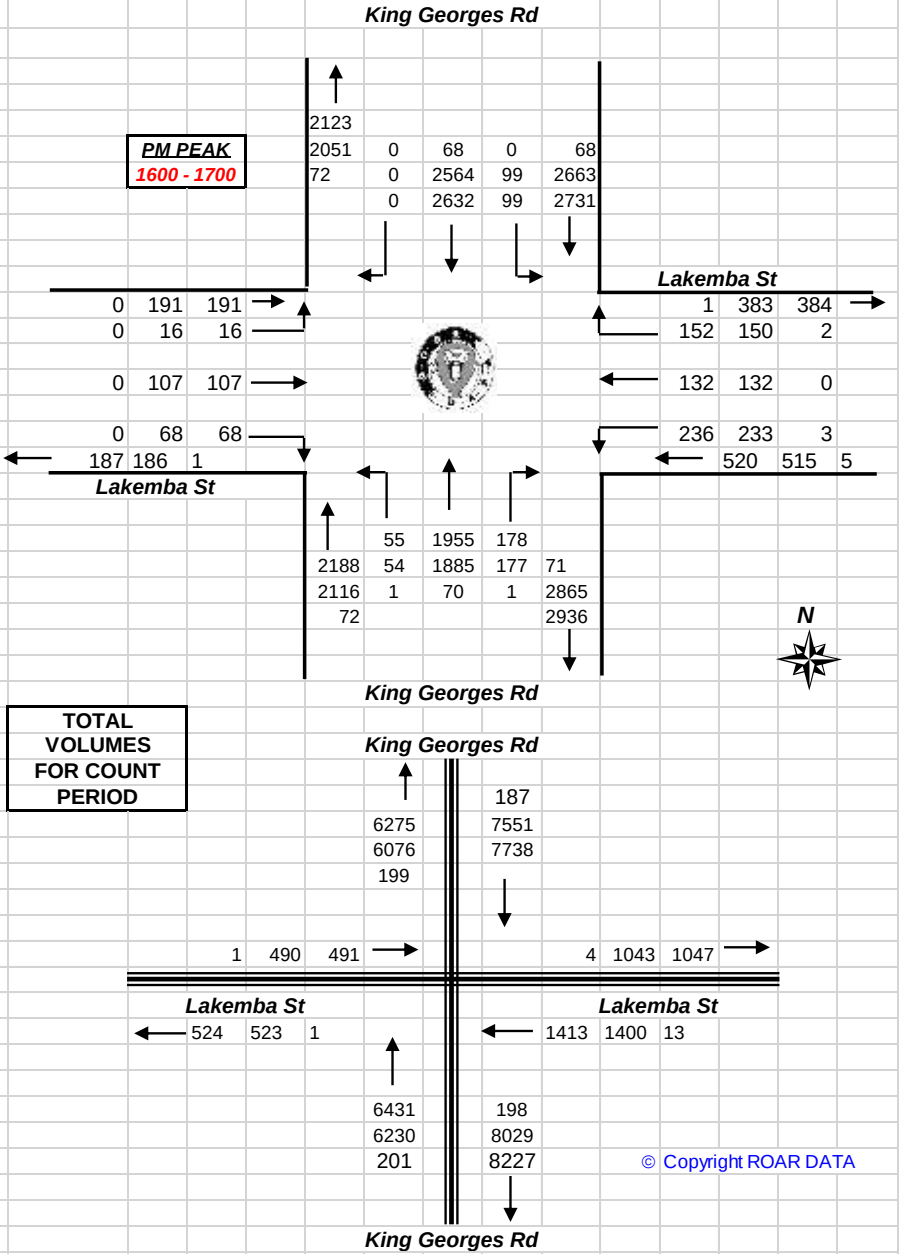
Reliable, Original & Authentic Results

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

Client	: Varga Traffic F
Job No/Name	: 6559 Wiley Park Lakemba St Counts
Day/Date	: Thursday 24th August 2017

Peds	NORTH	WEST	SOUTH	EAST	
	King Georges Rd	*Lakemba St*	*King Georges Rd*	*Lakemba St*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1530 - 1545	6	11	3	9	**29**
1545 - 1600	4	8	3	18	**33**
1600 - 1615	0	3	8	13	**24**
1615 - 1630	0	5	2	16	**23**
1630 - 1645	2	2	0	7	**11**
1645 - 1700	5	4	7	10	**26**
1700 - 1715	5	7	4	11	**27**
1715 - 1730	1	2	7	8	**18**
1730 - 1745	3	9	1	3	**16**
1745 - 1800	2	3	7	2	**14**
1800 - 1815	3	6	7	8	**24**
1815 - 1830	0	3	5	2	**10**
Period End	**31**	**63**	**54**	**107**	**255**

Peds	NORTH	WEST	SOUTH	EAST	
	King Georges Rd	*Lakemba St*	*King Georges Rd*	*Lakemba St*	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1530 - 1630	10	27	16	56	**109**
1545 - 1645	6	18	13	54	**91**
1600 - 1700	7	14	17	46	**84**
1615 - 1715	12	18	13	44	**87**
1630 - 1730	13	15	18	36	**82**
1645 - 1745	14	22	19	32	**87**
1700 - 1800	11	21	19	24	**75**
1715 - 1815	9	20	22	21	**72**
1730 - 1830	8	21	20	15	**64**
PEAK HR	**7**	**14**	**17**	**46**	**84**



TOTAL VOLUMES FOR COUNT PERIOD

1 2 3

R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client	: Varga Traffic Planning
Job No/Name	: 6559 Wiley Park Lakemba St Counts
Day/Date	: Thursday 24th August 2017

Intersection Details

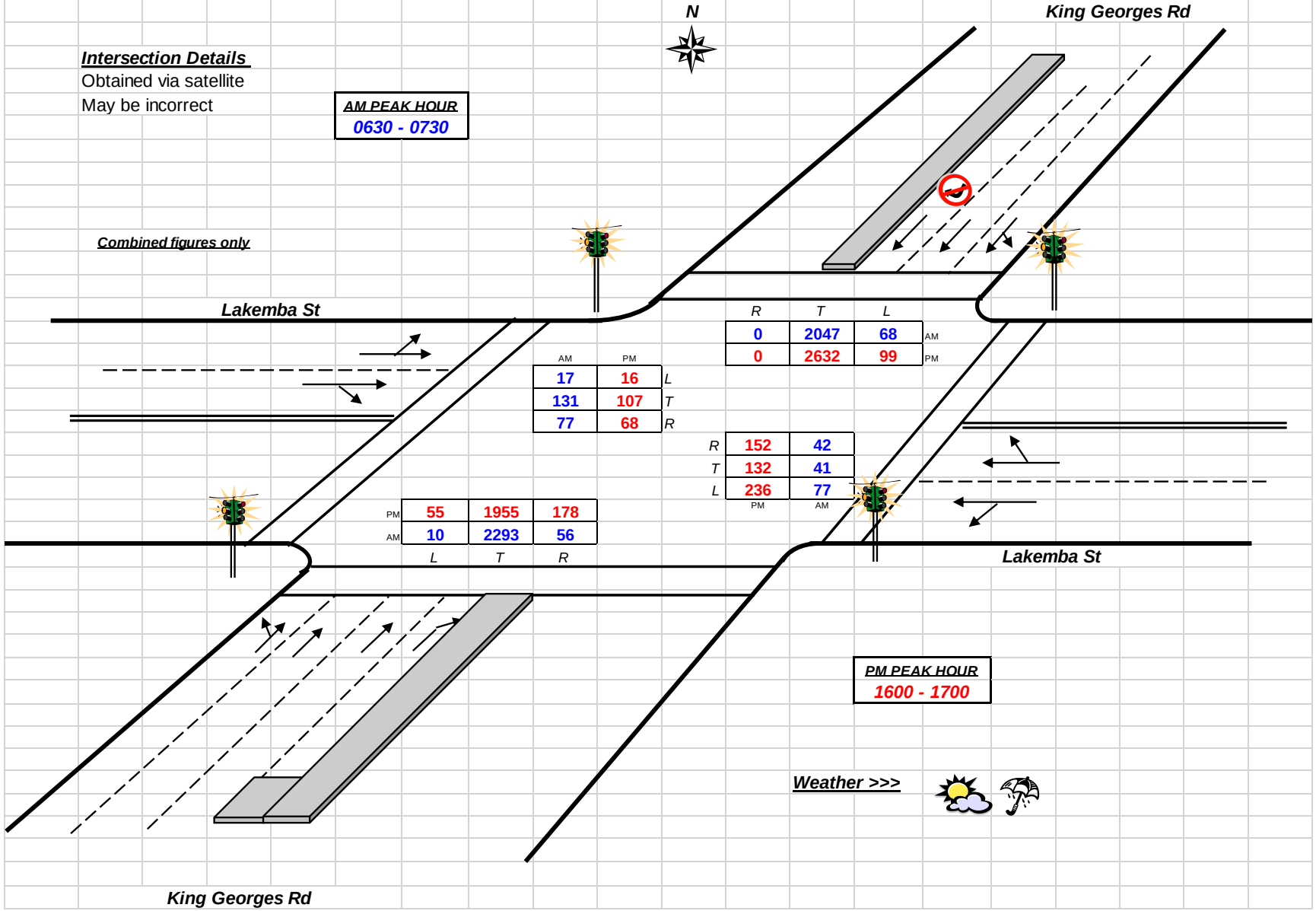
Obtained via satellite

May be incorrect

AM PEAK HOUR

0630 - 0730

Combined figures only



	AM	PM	
	17	16	L
	131	107	T
	77	68	R

	R	T	L	
	0	2047	68	AM
	0	2632	99	PM

R	152	42	
T	132	41	
L	236	77	
	PM	AM	

PM	55	1955	178
AM	10	2293	56
	L	T	R

PM PEAK HOUR

1600 - 1700

Weather >>>

APPENDIX F

SIDRA MOVEMENT SUMMARIES

MOVEMENT SUMMARY

Site: 101 [Proposed PM Existing Layout]

KGR_LAKP

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: King Georges Road (S)											
1	L2	55	1.8	0.582	19.6	LOS B	23.4	168.7	0.64	0.60	42.8
2	T1	1955	3.6	0.582	13.8	LOS A	23.5	169.4	0.63	0.58	44.0
3	R2	178	0.6	0.757	47.7	LOS D	6.9	48.2	1.00	0.89	27.2
Approach		2188	3.3	0.757	16.7	LOS B	23.5	169.4	0.66	0.60	41.7
East: Lakemba Street (E)											
4	L2	292	1.0	0.466	35.8	LOS C	14.4	101.9	0.82	0.79	28.7
5	T1	160	0.0	1.876	678.2	LOS F	86.4	607.7	0.96	2.52	4.7
6	R2	208	1.0	1.876	838.4	LOS F	86.4	607.7	1.00	2.94	3.8
Approach		660	0.8	1.876	444.5	LOS F	86.4	607.7	0.91	1.89	5.9
North: King Georges Road (N)											
7	L2	99	0.0	0.983	78.8	LOS F	74.7	533.4	1.00	1.21	26.2
8	T1	2632	2.6	0.983	73.2	LOS F	74.9	536.2	1.00	1.22	20.5
Approach		2731	2.5	0.983	73.4	LOS F	74.9	536.2	1.00	1.22	20.8
West: Lakemba Street (W)											
10	L2	16	0.0	0.231	40.7	LOS C	5.6	38.9	0.82	0.67	32.7
11	T1	107	0.0	0.231	36.1	LOS C	5.6	38.9	0.82	0.67	33.4
12	R2	68	0.0	0.575	65.6	LOS E	4.1	29.0	1.00	0.80	21.4
Approach		191	0.0	0.575	47.0	LOS D	5.6	38.9	0.88	0.72	29.0
All Vehicles		5770	2.5	1.876	93.5	LOS F	86.4	607.7	0.86	1.04	17.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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 per ped
P1	South Full Crossing	50	47.8	LOS E	0.2	0.2	0.89	0.89
P2	East Full Crossing	50	21.6	LOS C	0.1	0.1	0.60	0.60
P3	North Full Crossing	50	46.9	LOS E	0.2	0.2	0.89	0.89
P4	West Full Crossing	50	21.6	LOS C	0.1	0.1	0.60	0.60
All Pedestrians		200	34.5	LOS D			0.75	0.75

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 [Proposed AM Existing Layout]

KGR_LAKP
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: King Georges Road (S)											
1	L2	10	0.0	0.701	20.9	LOS B	31.9	231.9	0.72	0.66	42.2
2	T1	2293	4.4	0.701	14.6	LOS B	31.9	232.0	0.68	0.63	43.4
3	R2	56	3.6	0.316	24.8	LOS B	1.4	10.4	0.81	0.75	36.4
Approach		2359	4.4	0.701	14.9	LOS B	31.9	232.0	0.68	0.63	43.2
East: Lakemba Street (E)											
4	L2	106	2.8	0.174	32.7	LOS C	4.4	31.7	0.72	0.72	29.7
5	T1	56	0.0	0.701	56.1	LOS D	7.3	51.4	0.97	0.85	27.8
6	R2	71	0.0	0.701	63.7	LOS E	7.3	51.4	1.00	0.86	26.6
Approach		233	1.3	0.701	47.7	LOS D	7.3	51.4	0.87	0.80	28.0
North: King Georges Road (N)											
7	L2	68	1.5	0.709	27.9	LOS B	30.6	225.8	0.81	0.75	42.2
8	T1	2047	7.0	0.709	22.3	LOS B	30.6	227.1	0.81	0.74	37.7
Approach		2115	6.8	0.709	22.5	LOS B	30.6	227.1	0.81	0.74	37.9
West: Lakemba Street (W)											
10	L2	17	0.0	0.256	41.7	LOS C	6.1	42.5	0.83	0.68	32.4
11	T1	131	0.0	0.619	39.9	LOS C	6.1	42.5	0.85	0.70	32.2
12	R2	77	0.0	0.619	63.8	LOS E	5.6	38.9	1.00	0.81	21.9
Approach		225	0.0	0.619	48.2	LOS D	6.1	42.5	0.90	0.74	28.7
All Vehicles		4932	5.1	0.709	21.2	LOS B	31.9	232.0	0.76	0.69	38.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 per ped
P1	South Full Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90
P2	East Full Crossing	50	18.2	LOS B	0.1	0.1	0.55	0.55
P3	North Full Crossing	50	47.8	LOS E	0.2	0.2	0.89	0.89
P4	West Full Crossing	50	18.2	LOS B	0.1	0.1	0.55	0.55
All Pedestrians		200	33.2	LOS D			0.72	0.72

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 [Proposed PM Existing Layout]

KGR_LAKP

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: King Georges Road (S)											
1	L2	55	1.8	0.582	19.6	LOS B	23.4	168.7	0.64	0.60	42.8
2	T1	1955	3.6	0.582	13.8	LOS A	23.5	169.4	0.63	0.58	44.0
3	R2	178	0.6	0.757	47.7	LOS D	6.9	48.2	1.00	0.89	27.2
Approach		2188	3.3	0.757	16.7	LOS B	23.5	169.4	0.66	0.60	41.7
East: Lakemba Street (E)											
4	L2	292	1.0	0.466	35.8	LOS C	14.4	101.9	0.82	0.79	28.7
5	T1	160	0.0	1.876	678.2	LOS F	86.4	607.7	0.96	2.52	4.7
6	R2	208	1.0	1.876	838.4	LOS F	86.4	607.7	1.00	2.94	3.8
Approach		660	0.8	1.876	444.5	LOS F	86.4	607.7	0.91	1.89	5.9
North: King Georges Road (N)											
7	L2	99	0.0	0.983	78.8	LOS F	74.7	533.4	1.00	1.21	26.2
8	T1	2632	2.6	0.983	73.2	LOS F	74.9	536.2	1.00	1.22	20.5
Approach		2731	2.5	0.983	73.4	LOS F	74.9	536.2	1.00	1.22	20.8
West: Lakemba Street (W)											
10	L2	16	0.0	0.231	40.7	LOS C	5.6	38.9	0.82	0.67	32.7
11	T1	107	0.0	0.231	36.1	LOS C	5.6	38.9	0.82	0.67	33.4
12	R2	68	0.0	0.575	65.6	LOS E	4.1	29.0	1.00	0.80	21.4
Approach		191	0.0	0.575	47.0	LOS D	5.6	38.9	0.88	0.72	29.0
All Vehicles		5770	2.5	1.876	93.5	LOS F	86.4	607.7	0.86	1.04	17.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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

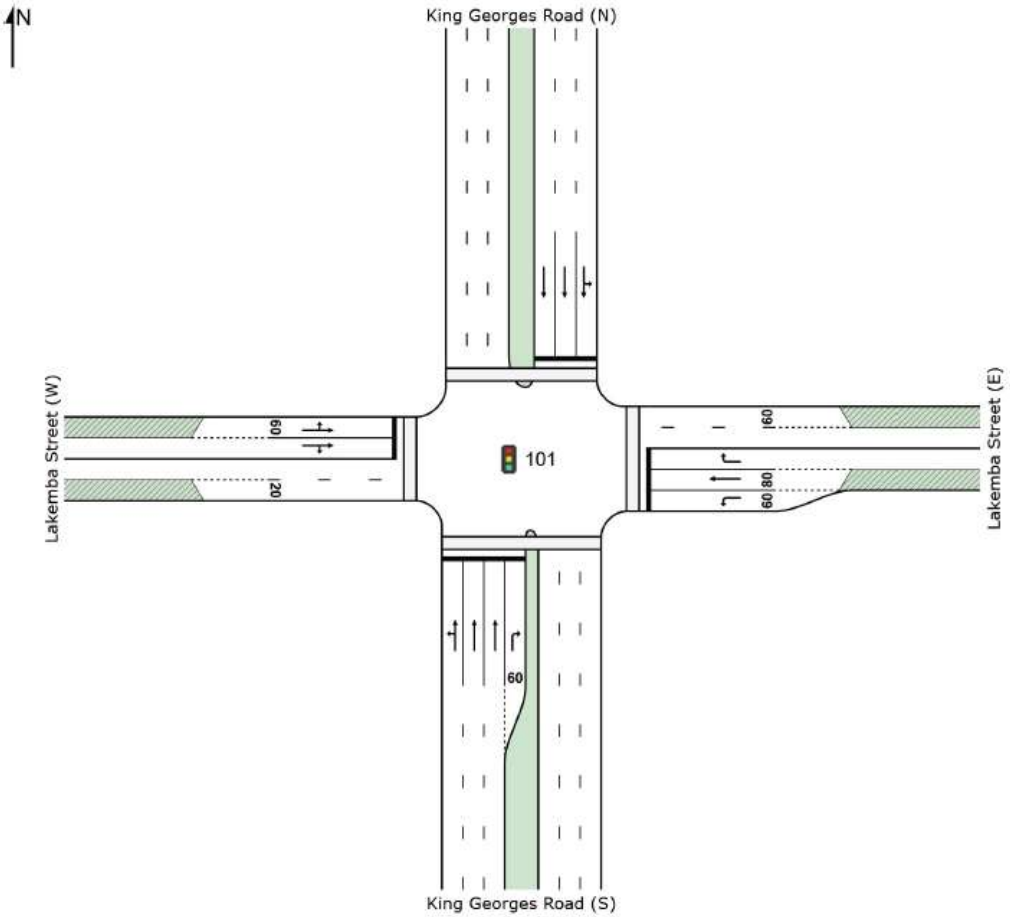
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	47.8	LOS E	0.2	0.2	0.89	0.89
P2	East Full Crossing	50	21.6	LOS C	0.1	0.1	0.60	0.60
P3	North Full Crossing	50	46.9	LOS E	0.2	0.2	0.89	0.89
P4	West Full Crossing	50	21.6	LOS C	0.1	0.1	0.60	0.60
All Pedestrians		200	34.5	LOS D			0.75	0.75

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.

SITE LAYOUT

Site: 101 [Proposed AM Separate LTR]

KGR_LAKP
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 101 [Proposed AM Separate LTR]

KGR_LAKP
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: King Georges Road (S)											
1	L2	10	0.0	0.565	14.1	LOS A	21.0	152.3	0.52	0.48	47.9
2	T1	2293	4.4	0.565	8.5	LOS A	21.0	152.4	0.52	0.48	49.1
3	R2	56	3.6	0.487	25.2	LOS B	2.2	15.9	0.65	0.75	36.4
Approach		2359	4.4	0.565	9.0	LOS A	21.0	152.4	0.52	0.48	48.6
East: Lakemba Street (E)											
4	L2	110	2.7	0.329	51.0	LOS D	5.7	40.6	0.91	0.77	24.2
5	T1	48	0.0	0.134	44.3	LOS D	2.4	16.5	0.87	0.66	31.3
6	R2	75	0.0	0.413	58.8	LOS E	4.2	29.5	0.97	0.77	27.2
Approach		233	1.3	0.413	52.2	LOS D	5.7	40.6	0.92	0.75	26.8
North: King Georges Road (N)											
7	L2	68	1.5	0.528	13.7	LOS A	18.4	136.0	0.49	0.48	50.9
8	T1	2047	7.0	0.528	8.2	LOS A	18.4	136.8	0.49	0.46	49.3
Approach		2115	6.8	0.528	8.3	LOS A	18.4	136.8	0.49	0.46	49.4
West: Lakemba Street (W)											
10	L2	17	0.0	0.249	50.1	LOS D	4.5	31.2	0.90	0.72	30.0
11	T1	131	0.0	0.603	49.0	LOS D	7.8	54.3	0.94	0.76	29.6
12	R2	77	0.0	0.603	57.7	LOS E	7.8	54.3	0.98	0.80	23.5
Approach		225	0.0	0.603	52.0	LOS D	7.8	54.3	0.95	0.77	27.8
All Vehicles		4932	5.1	0.603	12.7	LOS A	21.0	152.4	0.55	0.50	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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 per ped
P1	South Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	50	9.2	LOS A	0.1	0.1	0.39	0.39
P3	North Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	50	8.1	LOS A	0.1	0.1	0.37	0.37
All Pedestrians		200	31.5	LOS D			0.67	0.67

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 [Proposed PM Separate LTR]

KGR_LAKP
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: King Georges Road (S)											
1	L2	55	1.8	0.521	15.9	LOS B	19.2	138.7	0.54	0.52	45.9
2	T1	1955	3.6	0.521	10.3	LOS A	19.3	139.3	0.54	0.50	47.1
3	R2	178	0.6	0.664	61.3	LOS E	10.1	71.2	1.00	0.98	23.7
Approach		2188	3.3	0.664	14.6	LOS B	19.3	139.3	0.58	0.54	43.4
East: Lakemba Street (E)											
4	L2	299	1.0	0.423	33.7	LOS C	12.8	90.3	0.79	0.79	29.3
5	T1	146	0.0	0.333	42.1	LOS C	7.2	50.3	0.88	0.72	31.9
6	R2	215	0.9	0.902	74.5	LOS F	15.0	105.5	1.00	1.04	24.2
Approach		660	0.8	0.902	48.8	LOS D	15.0	105.5	0.88	0.85	27.7
North: King Georges Road (N)											
7	L2	99	0.0	0.920	49.5	LOS D	59.1	422.2	1.00	1.04	33.6
8	T1	2632	2.6	0.920	43.9	LOS D	59.3	424.3	1.00	1.05	27.9
Approach		2731	2.5	0.920	44.1	LOS D	59.3	424.3	1.00	1.05	28.2
West: Lakemba Street (W)											
10	L2	16	0.0	0.195	45.1	LOS D	4.0	28.2	0.85	0.68	31.3
11	T1	107	0.0	0.472	43.5	LOS D	5.8	40.3	0.88	0.72	31.0
12	R2	68	0.0	0.472	53.3	LOS D	5.8	40.3	0.94	0.78	24.4
Approach		191	0.0	0.472	47.2	LOS D	5.8	40.3	0.90	0.74	28.9
All Vehicles		5770	2.5	0.920	33.6	LOS C	59.3	424.3	0.82	0.82	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 per ped
P1	South Full Crossing	50	53.3	LOS E	0.2	0.2	0.94	0.94
P2	East Full Crossing	50	21.0	LOS C	0.1	0.1	0.59	0.59
P3	North Full Crossing	50	52.4	LOS E	0.2	0.2	0.94	0.94
P4	West Full Crossing	50	19.3	LOS B	0.1	0.1	0.57	0.57
All Pedestrians		200	36.5	LOS D			0.76	0.76

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.