Proposed Mixed-Use Development

71-89 Chandos Street, St Leonards

TRAFFIC AND PARKING ASSESSMENT REPORT

30 June 2022

Ref 22100

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

Suite 6, 20 Young Street, Neutral Bay NSW 2089 - PO Box 1868, Neutral Bay NSW 2089
Ph: 9904 3224

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

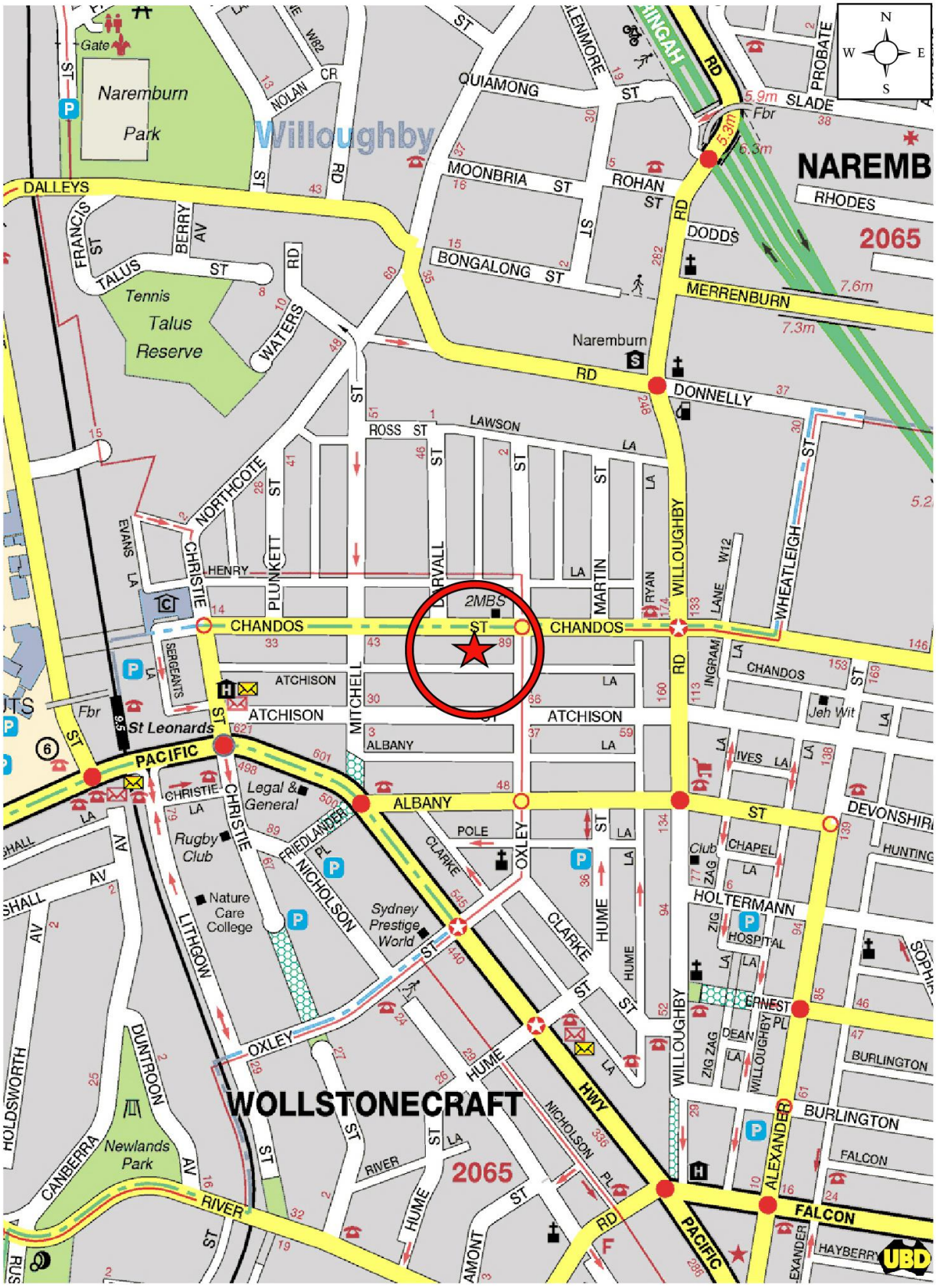
This report has been prepared to accompany a planning proposal to North Sydney Council for a mixed-use development to be located at 71-89 Chandos Street, St Leonards (Figures 1 and 2).

The proposed development involves demolition of existing structures on the site to facilitate the construction of a new mixed-use residential apartment building with retail and commercial components.

Off-street parking is to be accommodated in two separate multi-level basement car parking areas beneath the building in accordance with Council requirements.

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

- describes the site and provides details of the planning proposal
- reviews the road network in the vicinity of the site
- estimates the traffic generation potential of the planning proposal
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking provided on the site.



VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

LOCATION
FIGURE 1

VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject development site is located on the southwest corner of the intersection of Oxley Street and Chandos Street, approximately 400m east of St Leonards Railway Station.

The site is situated within the St Leonards Precincts 2 & 3 as defined in the *North Sydney DCP 2013* bounded by Chandos Street, Oxley Street, Albany Street, the Pacific Highway and the northern railway line.

The precinct envisages the continual development of the area as one of the major employment centres for knowledge-based industries within the Sydney metropolitan region, by capitalising on its location within Sydney's 'global arc' and building on opportunities arising from its excellent accessibility and co-location with regional scaled health and educational facilities.

The site has street frontages approximately 69m in length to both Chandos Street and Atchison Lane, approximately 36m in length to Oxley Street, and occupies an area of approximately 2,467m^2.

The site is currently occupied by a mix of commercial premises, and is estimated to comprise a cumulative floor area of approximately 4,350m^2.

Off-street car parking for the site is predominately provided in rear parking hardstand areas accessed via multiple vehicular driveways in Atchison Lane.

A recent aerial image of the site and its surroundings is reproduced below:

Source: Metromap

Proposed Development

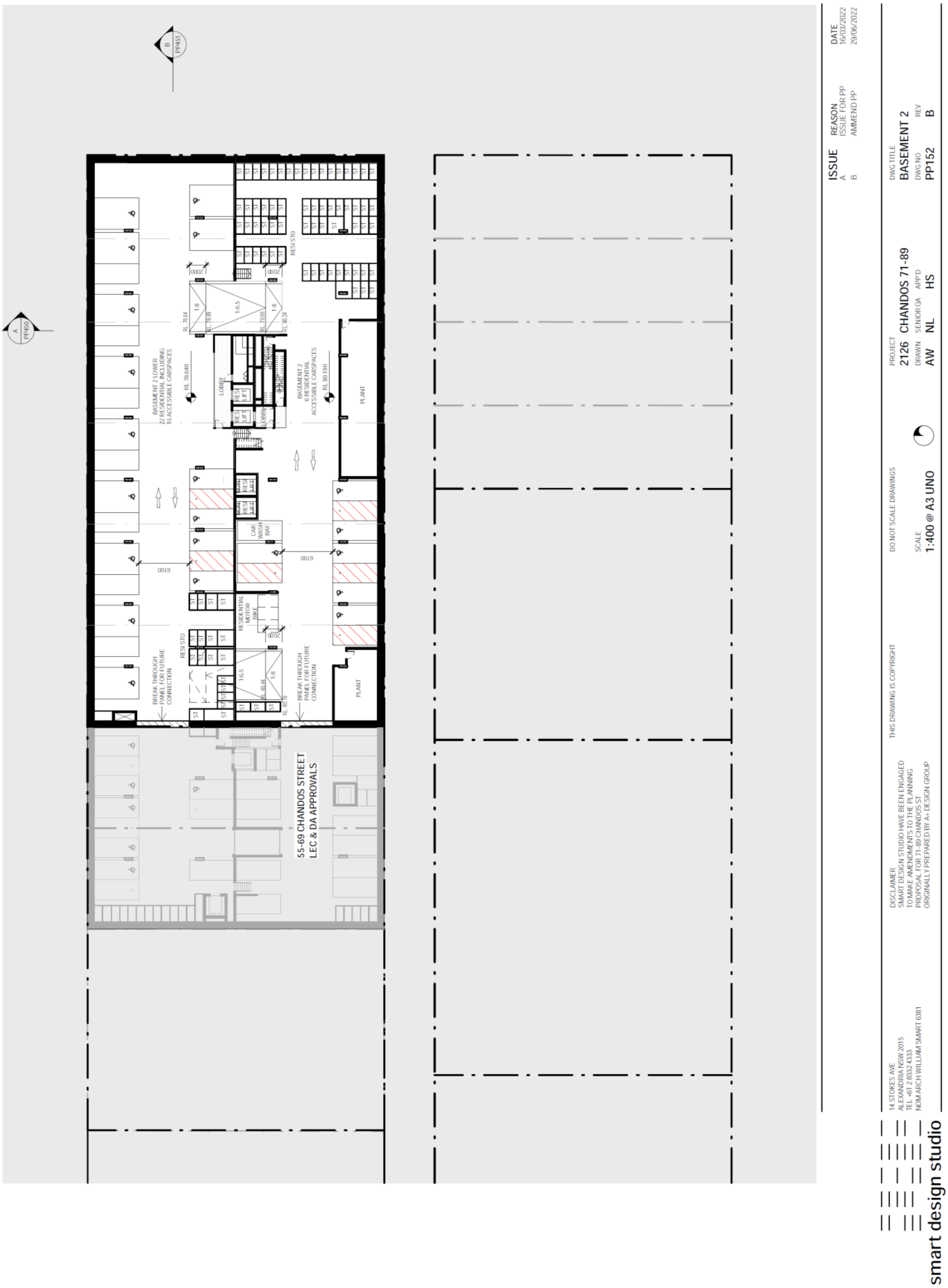
The proposed development involves demolition of existing structures on the site to facilitate the construction of a mixed-use residential apartment building with retail and commercial components as follows:

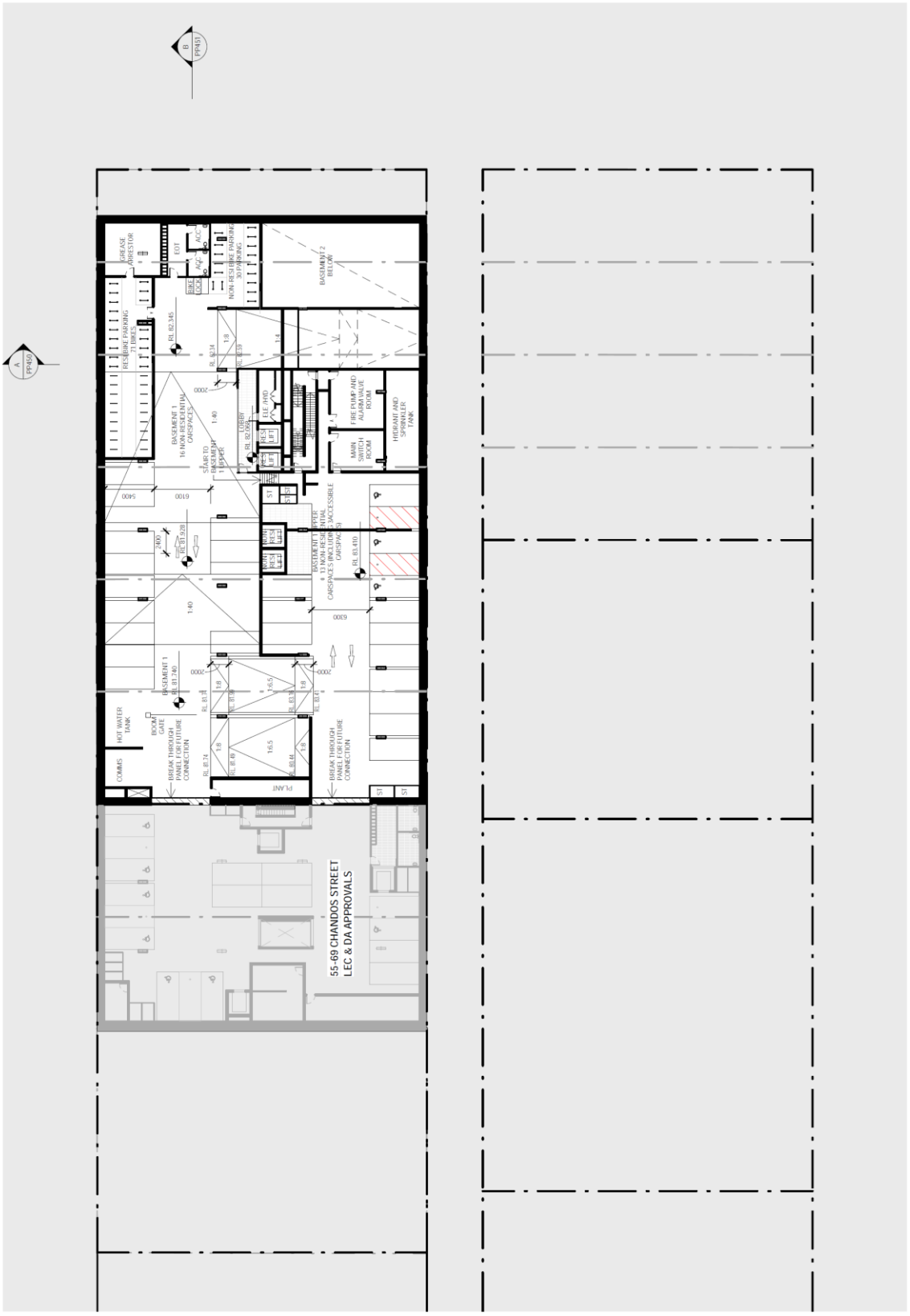
Residential	
Apartment Type	**Number of Units**
Studio:	5 apartments
1-bedroom:	17 apartments
2-bedroom:	13 apartments
3-bedroom:	20 apartments
4-bedroom:	9 apartments
Total:	**64 apartments**
Non-Residential	
Land Use	**Ground & L1**
Commercial:	1,189m^2
Retail (F&B):	1,278m^2
Total:	2,467m^2

Off-street parking for the proposed development is to be provided for a total of 56 cars in a multi-level basement car parking area beneath the building. Vehicular access to the off-street car parking facilities is to be provided via a new combined entry and exit driveway off the Atchison Lane site frontage.

Loading / servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 6.4m long Small Rigid Vehicles (SRV trucks). A dedicated loading dock is proposed for the proposed building fronting Atchison Lane.

Plans of the proposed development have been prepared by *Smart Design Studio* and are reproduced in the following pages.


ISSUE
REASON
DATE
A
ISSUE FOR PP
16/03/2022
B
AMMEND PP
29/06/2022
DWG TITLE
BASEMENT 2
DWG NO
PP152
REV
B
PROJECT
2126 CHANDOS 71-89
DRAWN
AW
SENIOR QA
NL
APP'D
HS
DO NOT SCALE DRAWINGS
SCALE
1:400 @ A3 UNO
THIS DRAWING IS COPYRIGHT
DISCLAIMER
SMART DESIGN STUDIO HAVE BEEN ENGAGED TO MAKE AMENDMENTS TO THE PLANNING PROPOSAL FOR 71-89 CHANDOS ST ORIGINALLY PREPARED BY A+ DESIGN GROUP
14 STOKES AVE
ALEXANDRIA NSW 2015
TEL +61 2 8332 4333
NOM ARCH WILLIAM SMART 6381
smart design studio
BASEMENT 2 LOWER
22 RESIDENTIAL INCLUDING
15 ACCESSIBLE CARSPACES
BASEMENT 2
6 RESIDENTIAL
ACCESSIBLE CARSPACES
LOBBY
PLANT
RESI STO
CAR WASH BAY
RESIDENTIAL MOTOR BIKE
BREAK THROUGH PANEL FOR FUTURE CONNECTION
55-69 CHANDOS STREET
LEC & DA APPROVALS



ISSUE	REASON	DATE
A	ISSUE FOR PP	16/03/2022
B	AMMEND PP	29/06/2022

DWG TITLE: BASEMENT 1

PROJECT: 2126 CHANDOS 71-89

DRAWN: AW | SENIOR QA: NL | APP'D: HS

DWG NO: PP151 | REV: B

SCALE: 1:400 @ A3 UNO

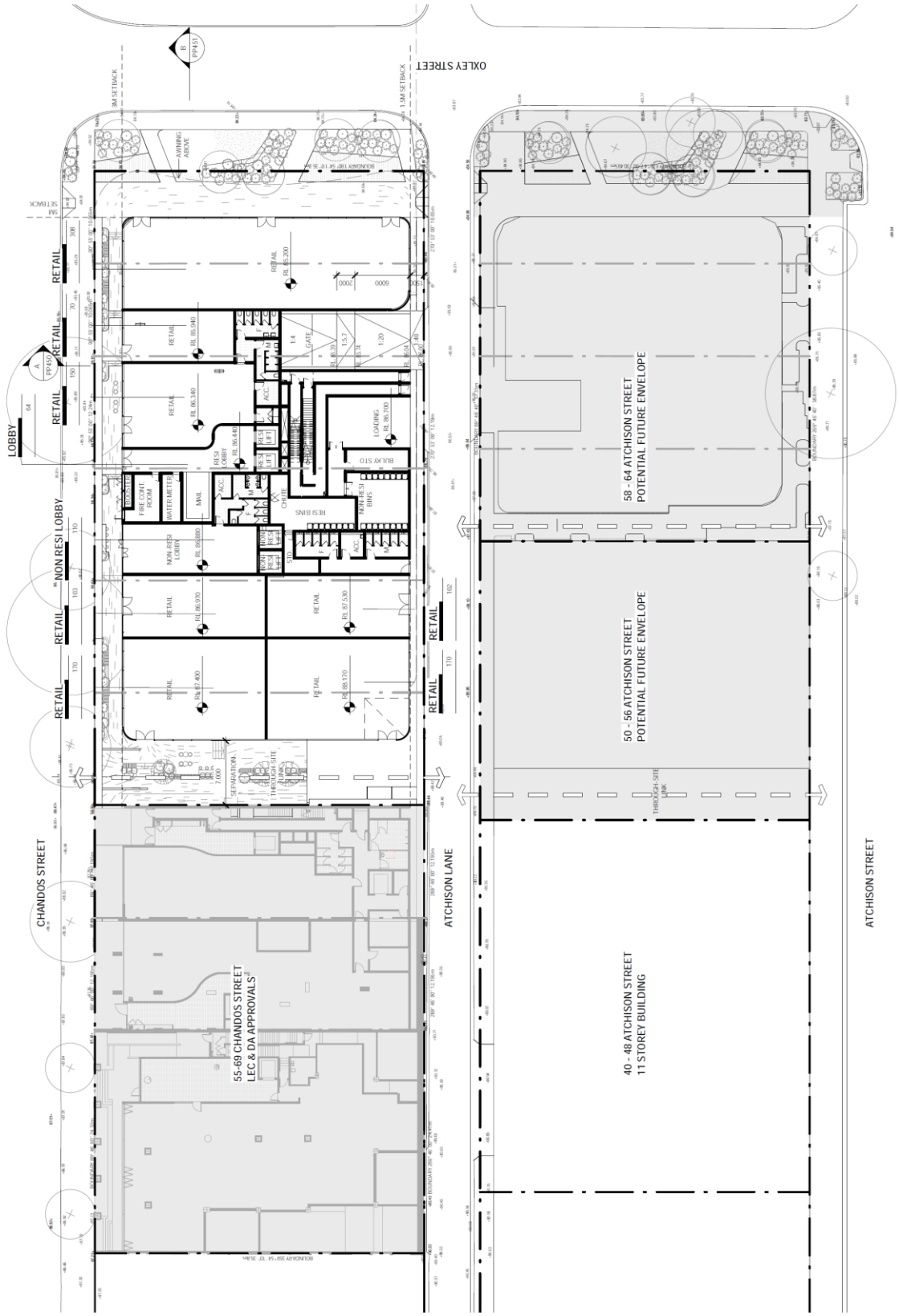
DO NOT SCALE DRAWINGS

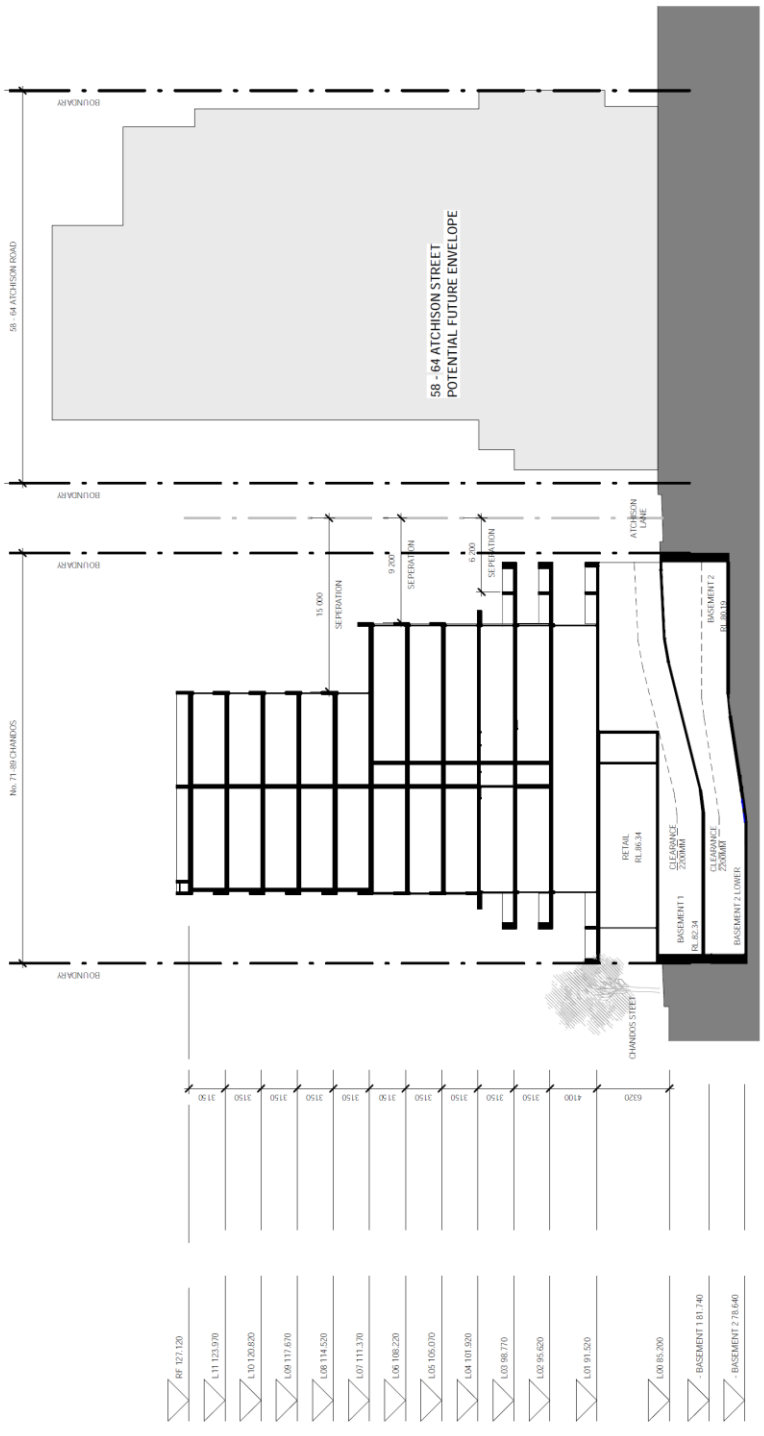
THIS DRAWING IS COPYRIGHT

DISCLAIMER
SMART DESIGN STUDIO HAVE BEEN ENGAGED TO MAKE AMENDMENTS TO THE PLANNING PROPOSAL FOR 71-89 CHANDOS ST.
NOM ARCH WILLIAM SMART 6381
ORIGINALLY PREPARED BY A+ DESIGN GROUP

14 STOKES AVE
ALEXANDRIA NSW 2015
TEL +61 402 214 435

smart design studio


OXLEY STREET
CHANDOS STREET
ATCHISON LANE
ATCHISON STREET
55-69 CHANDOS STREET
LEC & DA APPROVALS
40 - 48 ATCHISON STREET
11 STOREY BUILDING
50 - 56 ATCHISON STREET
POTENTIAL FUTURE ENVELOPE
58 - 64 ATCHISON STREET
POTENTIAL FUTURE ENVELOPE
THROUGH SITE LINK
LOBBY
RETAIL
NON RESI LOBBY
RESI LOBBY
LOADING
BULKY STO
RESI BINS
NON-RESI BINS
FIRE CONT ROOM
WATER METER
MAIL
SEPARATION
3M SETBACK
ISSUE
A
B
REASON
ISSUE FOR PP
AMMEND PP
DATE
16/03/2022
29/06/2022
DWG TITLE
GROUND - OVERALL
DWG NO
PP100
REV
B
PROJECT
2126 CHANDOS 71-89
DRAWN
AW
SENIOR QA
NL
APP'D
HS
SCALE
1:400 @ A3 UNO
DO NOT SCALE DRAWINGS
THIS DRAWING IS COPYRIGHT
DISCLAIMER
SMART DESIGN STUDIO HAVE BEEN ENGAGED TO CREATE ARCHITECTURAL PLANNING PROPOSAL FOR 71-89 CHANDOS ST
ORIGINALLY PREPARED BY A+ DESIGN GROUP
14 STOKES AVE
ALEXANDRIA NSW 2015
TEL +612 9211 4233
NOM.ARCH WILLIAM SMART 6381
smart design studio



ISSUE	REASON	DATE
A	ISSUE FOR PP	16/03/2022
B	AMMEND PP	29/06/2022

DO NOT SCALE DRAWINGS

THIS DRAWING IS COPYRIGHT

DISCLAIMER
SMART DESIGN STUDIO HAVE BEEN ENGAGED TO MAKE AMENDMENTS TO THE PLANNING PROPOSAL FOR 71-89 CHANDOS ST.
ORIGINALLY PREPARED BY A+ DESIGN GROUP

SCALE
1:400 @ A3 UNO

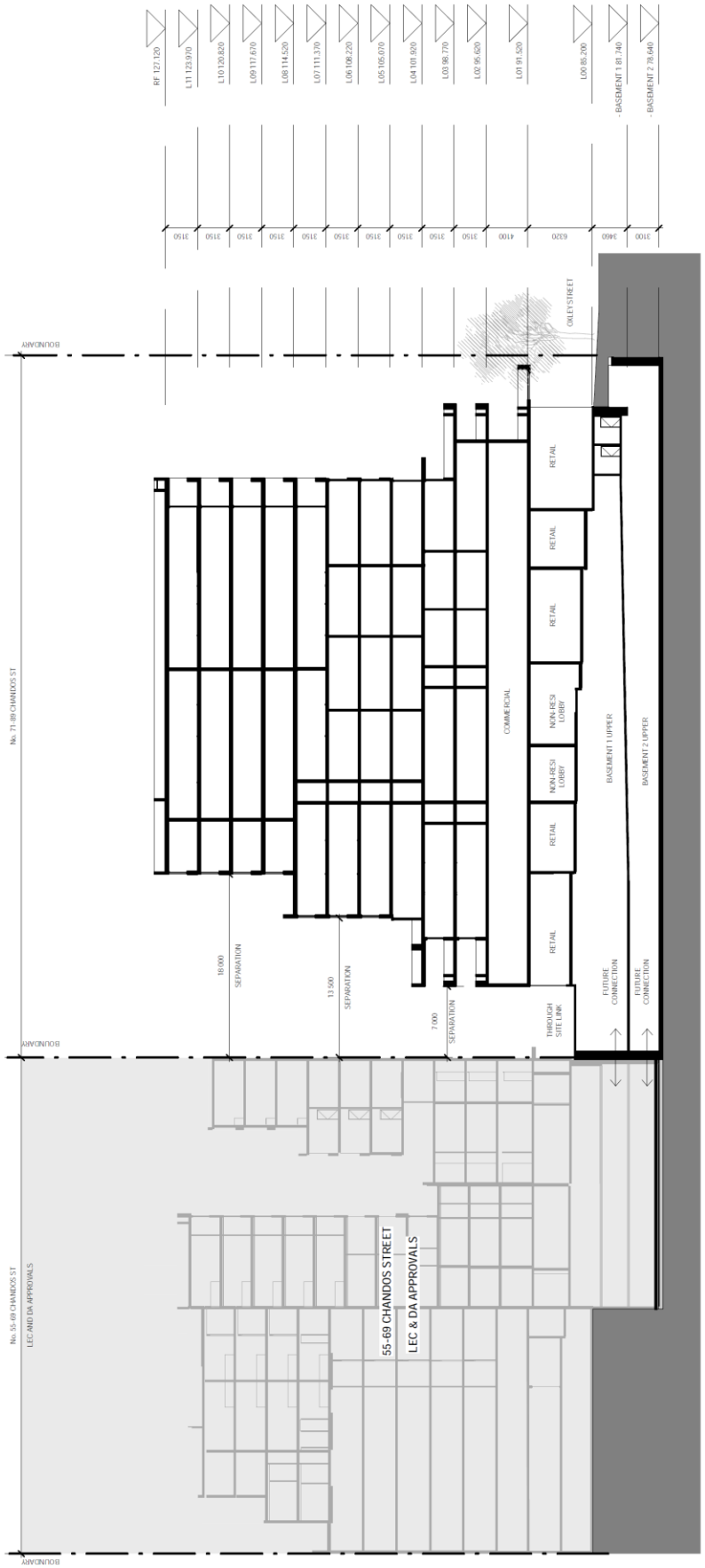
PROJECT
2126 CHANDOS 71-89

DRAWN AW | SENIOR QA NL | APP'D HS

DWG TITLE
SECTION A-A

DWG NO PP450 | REV B

smart design studio
14 STOKES AVE
ALEXANDRIA NSW 2015
TEL +61 2 8332 2133
NOM.ARCH WILLIAM SMART 6381



ISSUE	REASON	DATE
A	ISSUE FOR PP	16/03/2022
B	AMMEND PP	29/06/2022

DWG TITLE: SECTION B-B
DWG NO: PP451
REV: B

PROJECT: 2126 CHANDOS 71-89
DRAWN: AW
SENIOR QA: NL
APP'D: HS

SCALE: 1:400 @ A3 UNO

DO NOT SCALE DRAWINGS

DISCLAIMER
SMART DESIGN STUDIO HAVE BEEN ENGAGED TO MAKE AMENDMENTS TO LEC AND DA PLANNING PROPOSAL FOR 71-89 CHANDOS ST
ORIGINALLY PREPARED BY A+ DESIGN GROUP

14 STOKES AVE
ALEXANDRIA NSW 2015
TEL +61 (0)2 9213 8333
NOM.ARCH WILLIAM SMART 6381

smart design studio

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.

The Pacific Highway is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking the City to Hornsby and beyond. 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. Clearway restrictions apply during commuter peak periods.

Chandos Street is classified by the RMS as a *Regional Road* and provides a key east-west route through the Crows Nest area. It typically carries one traffic lane in each direction in the vicinity of the site with additional lanes provided at key locations.

Atchison Street is a local, unclassified road which is primarily used to provide pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of the road.

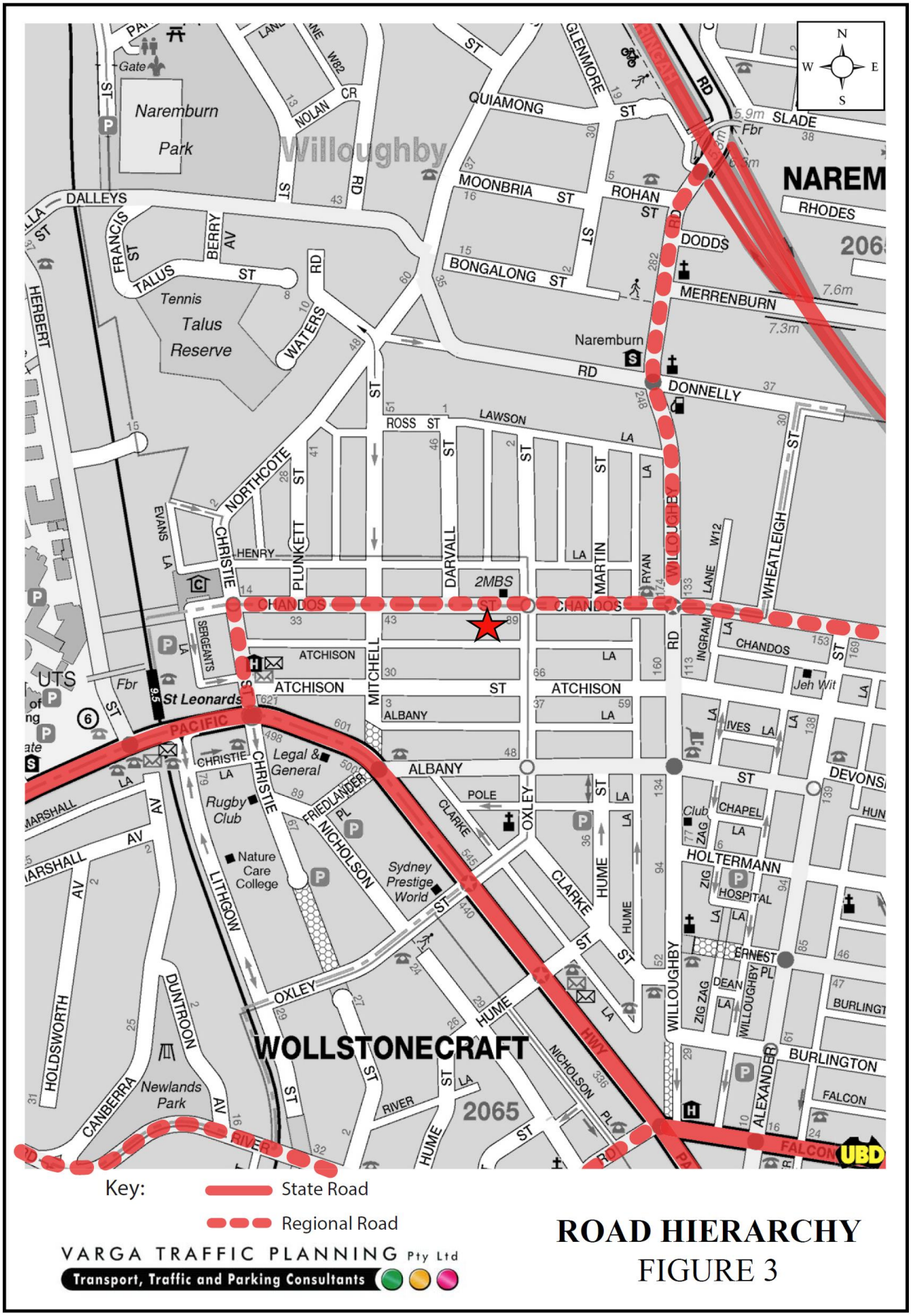
Atchison Lane is a rear service lane which is primarily used to provide vehicular access and servicing to those properties fronting Chandos Street and Atchison Street. Kerbside parking is generally prohibited in the laneway due to its narrow width.

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 Pacific Highway

- a 50 km/h SPEED LIMIT which applies to Chandos Street, Atchison Street, Oxley Street and all other local roads in the area


Naremburn Park
Willoughby
QUIAMONG ST
MOONBRIA ST
ROHAN ST
BONGALONG ST
DODDS
MERRENBURN
RHODES
SLADE
NAREM
DALLEYS
TALUS ST
Tennis
Talus Reserve
WATERS RD
Naremburn
DONNELLY
ROSS ST
LAWSON LA
NORTHCOTE
PLUNKETT ST
DARVALL ST
MARTIN ST
WILLOUGHBY RD
WHEATLEIGH ST
HENRY
2MBS
CHANDOS ST
ATCHISON ST
MITCHELL ST
ALBANY ST
POLE
OXLEY ST
HUME HWY
CLARKE
HOLTERMANN
HOSPITAL
ERNEST
DEAN
BURLINGTON
FALCON
UTS
St Leonards
PACIFIC HWY
CHRISTIE ST
Legal & General
Rugby Club
Nature Care College
Sydney Prestige World
FRIEDLANDER PL
NICHOLSON ST
LITHGOW ST
WOLLSTONECRAFT
HOLDSWORTH AV
DUNTROON AV
CANBERRA AV
Newlands Park
RIVER ST
2065
Jeh Wit
Club Zag
Zig Zag
IVES LA
INGRAM LA
SERGEANTS LA
EVANS LA
RYAN LANE
W12 LANE
Key:
State Road
Regional Road
VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants
ROAD HIERARCHY
FIGURE 3


N
W
E
S
ROSS ST
LAWSON
ST
ROSS LA
DARVALL ST
BUCKNALL LA
OXLEY ST
FURNEDGE LA
MARTIN
RYAN LA
HENRY
LA
CHANDOS
50
MITCHELL
ATCHISON
ATCHISON
Mitchell St
Plaza / 10km/h
Shared Zone
ALBANY
PACIFIC
HUME
CLARKE
POLE
HIGHWAY
60
Key:
Give Way Sign
Roundabout
Stop Sign
Traffic Signal
No Right-Turn
Right-Turn Bay
One-Way
Speed Limit
Speed Hump
Pedestrian Crossing
EXISTING TRAFFIC CONTROLS
FIGURE 4
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

- a 10km/h SHARED ZONE treatment in Mitchell Street between Atchison Street and Albany Lane

- PEDESTRIAN ZEBRA CROSSINGS and TRAFFIC CALMING DEVICES at the Mitchell Street / Atchison Street intersection

- ROUNDABOUTS in Oxley Street where it intersects with Chandos Street and Albany Street

- a ONE-WAY SOUTHBOUND restriction in Mitchell Street (north of Chandos Street)

- a ONE-WAY EASTBOUND restriction in Atchison Street (west of Mitchell Street).

Existing Public Transport Services

The existing public transport services available in the vicinity of the site is illustrated in Figure 5.

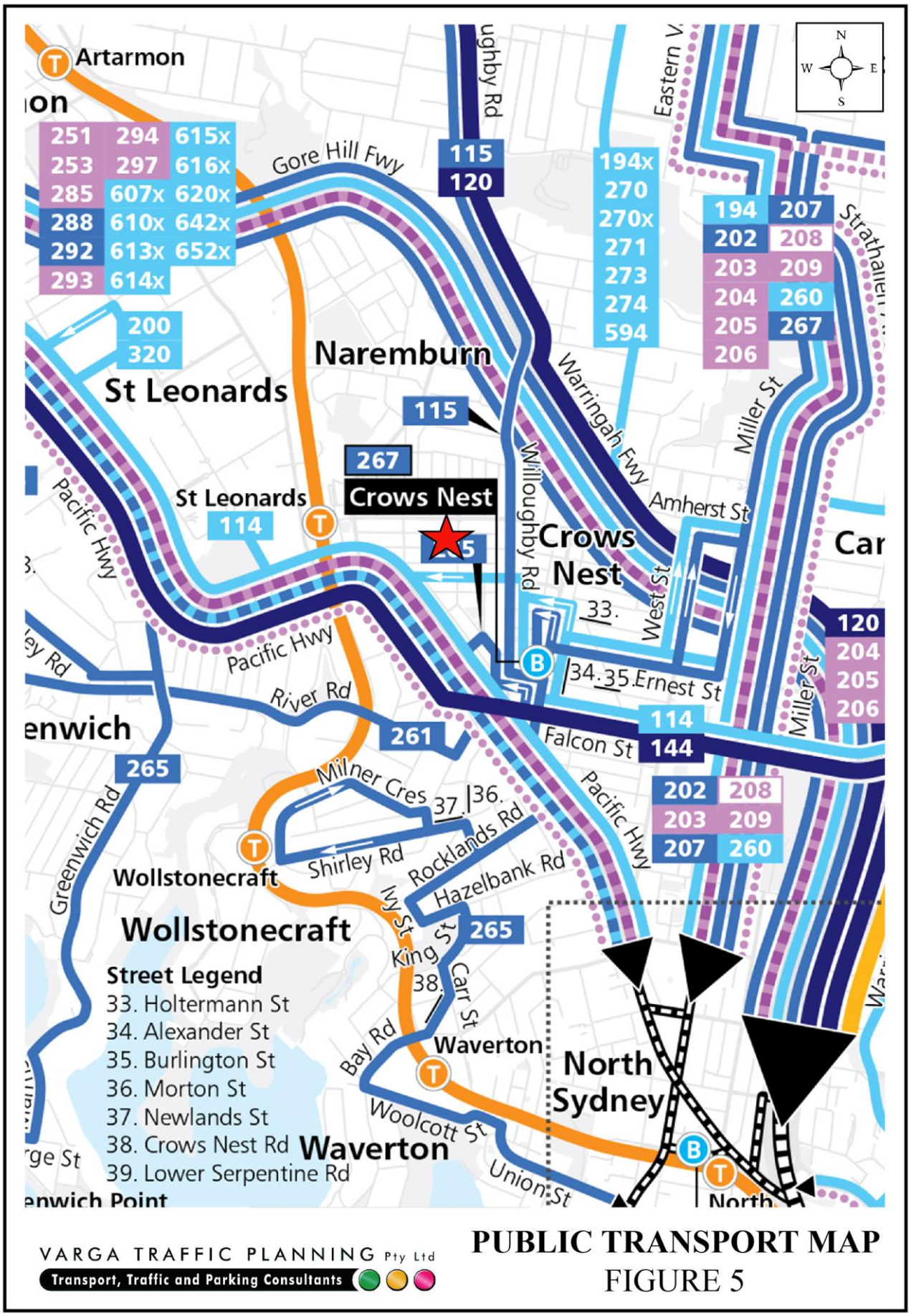
The St Leonards Station is located within approximately 500m walking distance from the site, servicing the T1 North Shore Line operating between Berowra or Hornsby to Richmond or Emu Plans via Sydney CBD, and T9 Northern Line operating between Hornsby and Gordon via Epping, Strathfield and Sydney CBD.

Train services operate out of St Leonards Railway Station every 5-10 minutes during peak periods and every 10-15 minutes during off-peak periods.

The site is also located next to a strategic bus corridor with direct access to high frequency and high capacity buses that links key employment and growth centres as well as the Sydney CBD.

There are a significant number of bus routes travelling within a short walking distance of the site in Pacific Highway, these include:

- route 114 – Balmoral to Royal North Short Hospital



PUBLIC TRANSPORT MAP
FIGURE 5

- route 115 – Chatswood to City Bridge Street via North Sydney
- route 144 Manly to Chatswood via St Leonards
- route 200 – Bondi Junction to Gore Hill
- route 252 Gladesville to City King Street Wharf via North Sydney
- route 254 – Riverview to McMahons Point
- route 265 – Lane Cove to North Sydney via Greenwich
- route 286 – Denistone Eat to Milsons Point via St Leonards and North Sydney
- route 287 – Ryde to Milsons Point via St Leonards and North Sydney
- route 290 – Epping to City Erskine Street via Macquarie University and North Sydney
- route 291 – Epping to McMahons Point
- route 320 – Mascot to Gore Hill
- route 602X – Bella Vista Station to North Sydney (Express Service)
- route 612X – Castle Hill to North Sydney (Express Service)
- route 622 – Dural to Milsons Point via Cherrybrook

On the above basis, it is clear that the site has excellent connectivity to existing public transport services, and is ideally located to facilitate a positive shift towards sustainable and active modes of transport.

Sydney Metro

Sydney Metro Norwest was recently completed and is now operational between Chatswood and Tallawong, with services operating at 5-minute intervals during commuter peak periods and 10-minute intervals at all other times.

The Sydney Metro Southwest between Chatswood and Bankstown is currently under construction and is due for completion in 2024. It will allow commuters to have direct access to Crows Nest and Victoria Cross in the lower north shore (North Sydney), Barangaroo, Martin Place, Pitt Street and Central in Sydney CBD, and all stations to Bankstown.

The new Crows Nest Metro Station will be situated within a short 300m walking distance from the site, and will have the following features:

- two station entrances with one located on Pacific Highway between Oxley Street and Hume Street and one located on Clarke Street near the corner of Hume Street
- retail space next to the station entry and retail opportunities in the Pacific Highway side of the station
- public domain works including footpaths, street tree planting, lighting and street furniture
- new pedestrian lights to cross the Pacific Highway on the northern side of Oxley Street intersection
- new pedestrian crossings on Clarke and Hume Streets
- new bike parking on Hume Street, Pacific Highway, Clarke Street and Oxley Street
- new kiss and ride and taxi bays in close proximity to the station
- installation of wayfinding signage and Sydney Metro information
- Hume Street bi-directional separated cycle link from Clarke Street to Nicholson Street
- upgraded Hume Street intersection with cycle crossing and increased pedestrian capacity
- improved pedestrian crossings at intersections of Oxley Street, Pacific Highway, Hume Street and Clarke Street.

Furthermore, Sydney Metro is envisaged to accommodate 20,000 to 30,000 trips in the peak hour with potential to accommodate approximately 40% of the road based trips that currently utilise the Metro corridor. This has the potential to deliver a paradigm shift in the way Sydney's residents and workers travel to, from and through St Leonards, Crows Nest as well as surrounding suburbs.

Car Share

Car sharing is becoming increasingly popular in Sydney, and offers a convenient, affordable and sustainable alternate transport option to owing / using private cars. Car sharing encourages more sustainable travel habits, and helps keep everyone connected. It also makes more efficient use of available parking by allowing a single vehicle to be used by a large number of people. This reduces road congestion and the competition for parking spaces, which ultimately benefits all road users.

Car share involves signing up to a membership plan offered by car share operators. Plan fees vary depending on how frequent the user intends to use the service and affects hiring costs. Car share users are charged by time and distance, at a rate set by each operator. Costs

associated with fuel, vehicle maintenance and insurance are usually included in the operator's hire fees which ranges from $6 to $13 per kilometre depending on the type of vehicle. Car share vehicles mostly comprise small hatchbacks but can also include SUVs, vans and luxury vehicles depending on location. Each vehicle has a designated "home" location referred to as a "pod" in a publicly accessible location.

GoGet is the most prominent car share providers in Australia and has a large number of car share vehicles positioned in the vicinity of the site as illustrated in Figure 6.

Existing Cycleways

The existing cycleways in the vicinity of the site are illustrated in Figure 7 showing that Henry Lane, Oxley Street and Clarke Street forms a designated on-road bike route that connects to the wider cycling network, and Atchison Street forms a suggested unmarked bike route.

Projected Traffic Generation

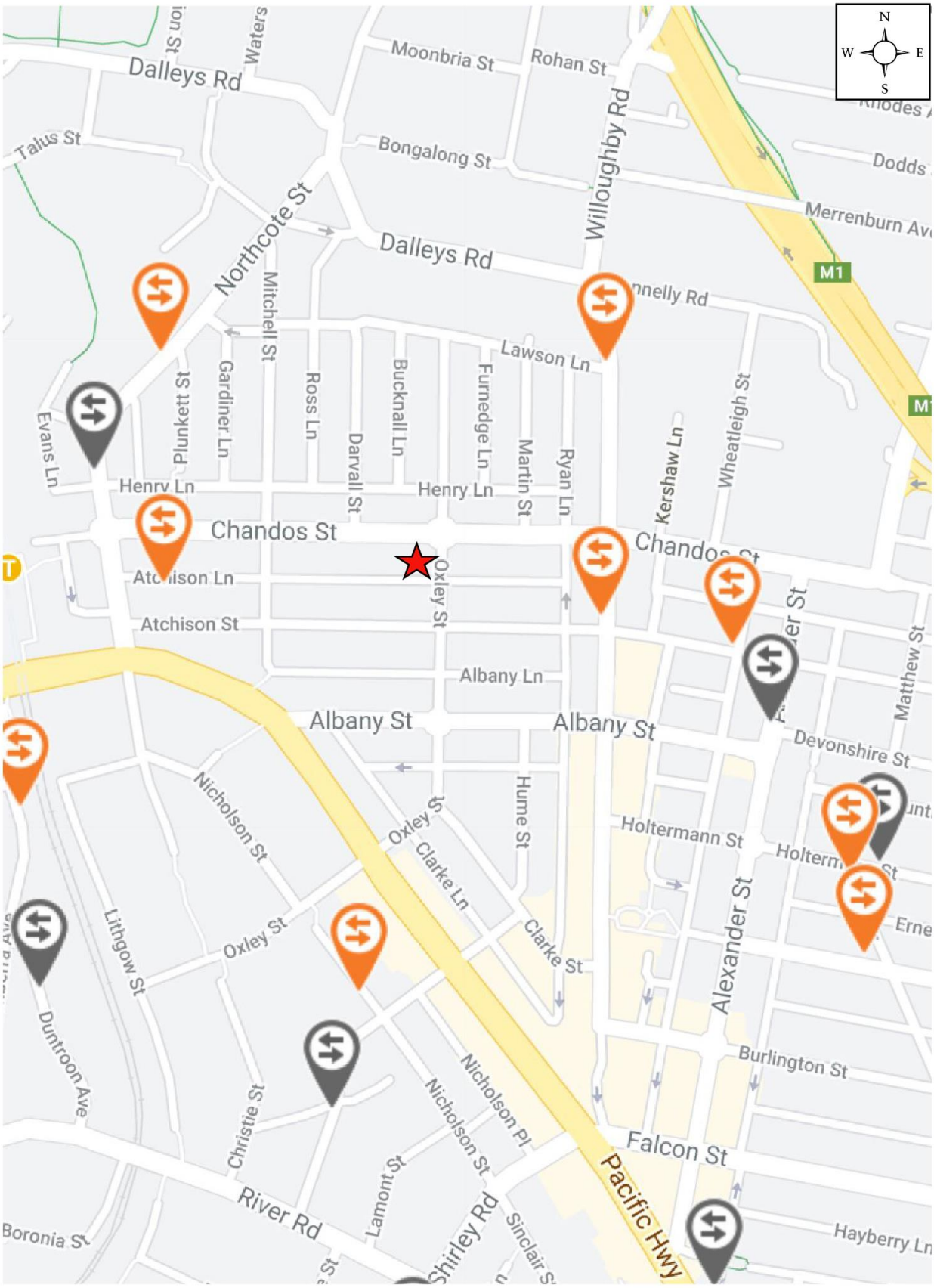
The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network.

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 RMS *Technical Direction (TDT 2013/04a)* document.

The RMS *Guidelines* and *TDT 2013/04a* are based on extensive surveys of a wide range of land uses, reference is therefore made to the following "per car space" traffic generation rates which are appropriate in this instance due to the *constrained* car parking provision applicable to the development proposal:

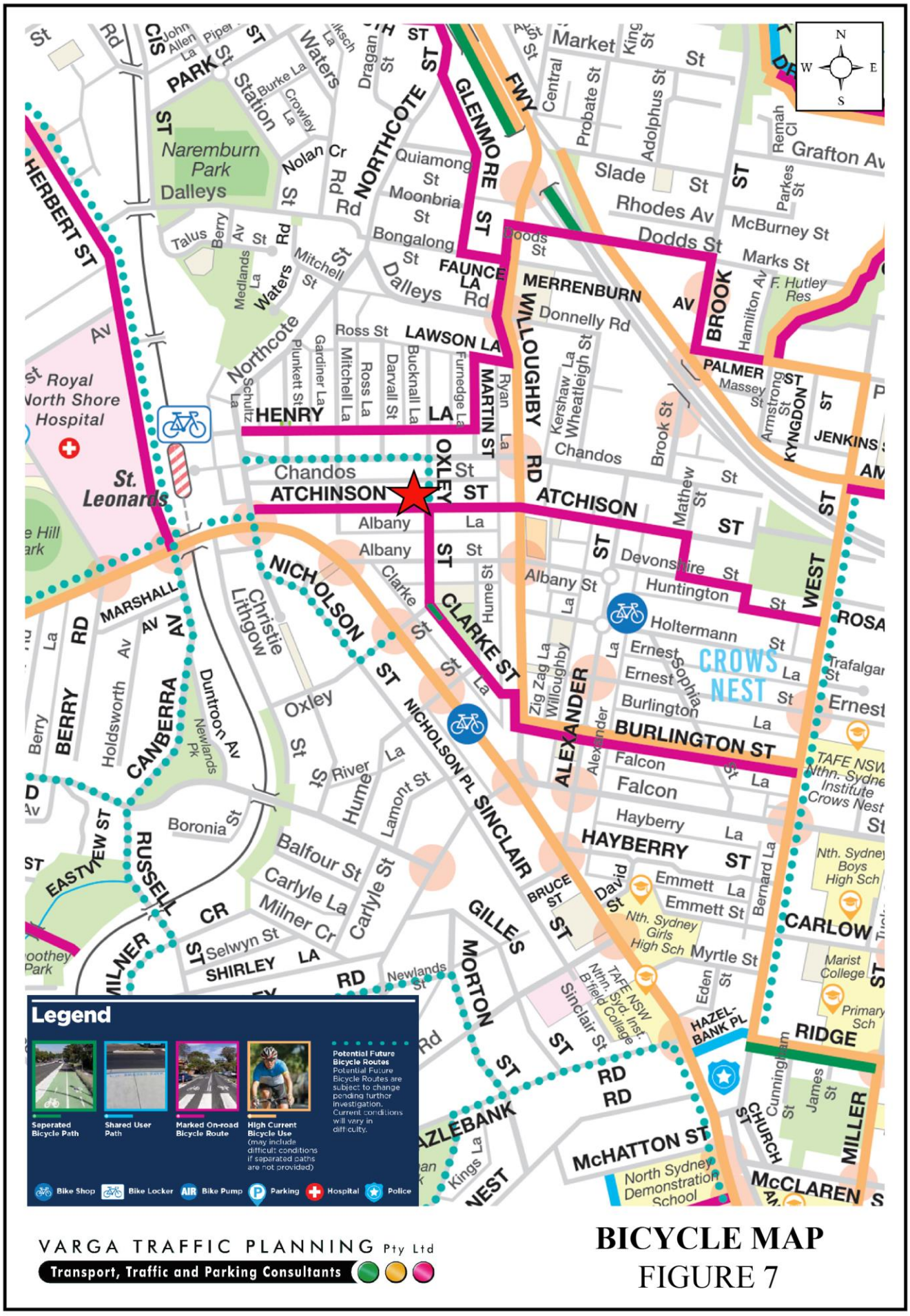
High Density Residential Flat Buildings

AM Peak Hour:	0.15 vehicle trips per car space
PM Peak Hour:	0.12 vehicle trips per car space



VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

CAR SHARE
FIGURE 6



VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

BICYCLE MAP
FIGURE 7

Commercial Premises (North Sydney & Chatswood average)

AM Peak:	0.52 vehicle trips per car space
PM Peak:	0.45 vehicle trips per car space

Application of the above traffic generation rates to the various components of the development proposal yields a traffic generation potential of approximately 19 vehicle trips per hour (vph) during the AM peak hour, and 16 vph during the PM peak hour, as set out below:

Projected Future Traffic Generation Potential

	AM	**PM**
Residential (27 car spaces):	4.0 vph	3.2 vph
Retail & Commercial (29 car spaces):	15.1 vph	13.1 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	**19.1 vph**	**16.3 vph**

That projected future level of traffic generation potential should normally be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing uses of the site, in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the development proposal.

However, as the existing off-street car parking situation for the existing premises is unknown and, for the purposes of providing a conservative traffic assessment, it has been assumed that the projected 19 vph during the AM peak hour and 16 vph during the PM peak hour will be new, or additional to the surrounding road network.

In any event, that projected nett increase in traffic activity as a consequence of the development proposal is minimal, is consistent with the land zoning objectives of the site, and will clearly not have any unacceptable traffic implications in terms of road network capacity.

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 8 and comprise:

- 2 HOUR PARKING restrictions in Oxley Street
- 2 HOUR PARKING restrictions in Atchison Street
- 2 HOUR PARKING restrictions in Chandos Street
- generally NO STOPPING / NO PARKING restrictions in Atchison Lane.

Off-Street Car Parking Provisions

The *maximum permissible* off-street car parking rates applicable to the various components of the development proposal are specified in *North Sydney Development Control Plan (DCP) 2013, Section 10, Car Parking and Transport* in the following terms:

Residential Flat Buildings (Zone B4, St Leonards Precincts 2 & 3)

Studio, 1 bedroom:	max. 0.25 spaces per dwelling
2 or more bedrooms:	max. 0.5 spaces per dwelling

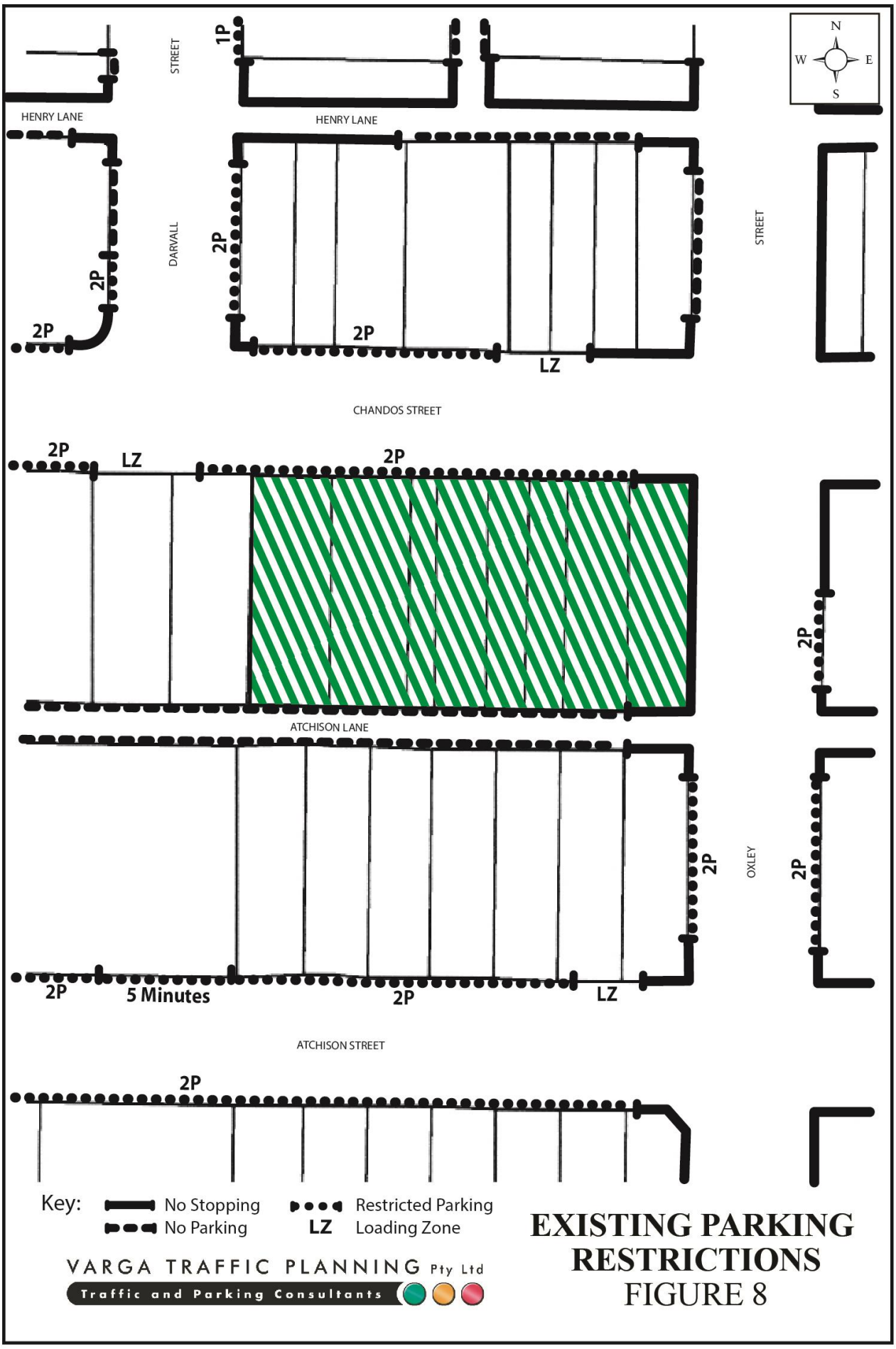
Non-Residential (Zone B4, St Leonards)

max. 1 space per 400m^2 GFA

Food and Drink Premises

max. 1 space per 50m^2

Application of the above car parking requirements to the various components of the development proposal yields a *maximum permissible* off-street car parking provision of 56 spaces as set out below:


HENRY LANE
STREET
1P
HENRY LANE
N
W
E
S
DARVALL
2P
2P
2P
2P
LZ
STREET
CHANDOS STREET
2P
LZ
2P
2P
ATCHISON LANE
2P
2P
2P
5 Minutes
2P
LZ
OXLEY
2P
ATCHISON STREET
2P
Key:
No Stopping
No Parking
Restricted Parking
LZ Loading Zone
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 8

Residential (64 apartments):	max. 27 spaces
Commercial (1,189m^2):	max. 3 spaces
Food & Drink Premises (1,278m^2)	max. 26 spaces
Total:	**max. 56 spaces**

The proposed development makes provision for a total of 56 car parking spaces, thereby satisfying the Council's *DCP* car parking requirements.

The geometric design layout of the proposed car parking facilities has 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 ramp grades & transitions, driveway & aisle widths, overhead clearances, and parking bay dimensions.

Off-Street Motorcycle Parking Provisions

The off-street motorcycle parking requirements applicable to the various components of the development proposal are specified in the *North Sydney DCP 2013, Section 10, Car Parking and Transport* in the following terms:

Residential
1 space per 10 car spaces

Non-Residential
N/A

Application of the above motorcycle parking requirements to the 27 resident car spaces in the development proposal yields an off-street motorcycle parking requirement of 3 spaces for the site.

The proposed development makes provision for a total of 3 motorcycle parking spaces, thereby satisfying Council's motorcycle parking requirements.

Off-Street Bicycle Parking Provisions

The off-street bicycle parking requirements applicable to the various components of the development proposal are specified in the *North Sydney DCP 2013, Section 10, Car Parking and Transport* in the following terms:

Residential	
Residents:	1 per 1 dwelling
Visitors:	1 per 10 dwellings
Office Premises	
Occupants:	1 per 150m^2 GFA
Visitor / Customer:	1 per 400m^2 GFA
Shop, Restaurant or Café	
Occupants:	1 per 250m^2 GFA
Visitor / Customer:	2 + 1 per 100m^2 over 100m^2 GFA

Application of the above bicycle parking requirements to the various components of the development proposal yields an off-street bicycle parking requirement of 102 spaces as set out below:

Residential (64 apartments):	64 resident spaces + 7 visitor spaces
Commercial (1,189m^2):	8 staff spaces + 3 visitor spaces
Food & Drink Premises (1,278m^2)	6 staff spaces + 14 customer spaces
Total:	**102 spaces**

The proposed development makes provision for a total of 102 bicycle parking spaces, thereby satisfying the Council's *DCP* bicycle parking requirements.

Loading / Servicing Provisions

The proposed development is expected to be serviced by a variety of commercial vehicles up to and including 6.4m long Small Rigid Vehicles (SRV trucks), and a dedicated service bay is to be provided at ground floor level.

The manoeuvring area has been designed to accommodate the *swept turning path* requirements of these SRV trucks, allowing them to reverse into the loading bay via Atchison Lane to then exit the site whilst travelling in forward gear at all times, as demonstrated by the attached *swept turning path* diagram.

It is noted in this regard that Standards Australia *AS2890.2 – 2002* permits on-street manoeuvring provided where it is "strictly limited" to one reversing movement, either into or out of the street, if permitted by the relevant authority. In this instance, it is noted that Atchison Lane is a quiet, local, rear service lane which carries minimal volumes of traffic, and is therefore ideally suited to a reversing manoeuvre *into* the site, with a forward exit when departing the site.

Restricting reversing movements *into* the site only ensures that the reversing manoeuvre can be undertaken safely as the driver will have clear visibility of any vehicles approaching from behind (as opposed to reversing *out* of the site which is not favoured).

It is further noted that:

- garbage collection is to be undertaken by Council's waste contractor at kerbside, and will not be required to use the loading dock

- commercial deliveries are to be managed by the building manager to facilitate the shared use of the loading dock

- *not* all commercial deliveries are undertaken by trucks, with smaller suppliers generally deliver goods via small commercial vehicles such as white vans such as the Hyundai iLoad and the like that can be accommodated in a standard car space

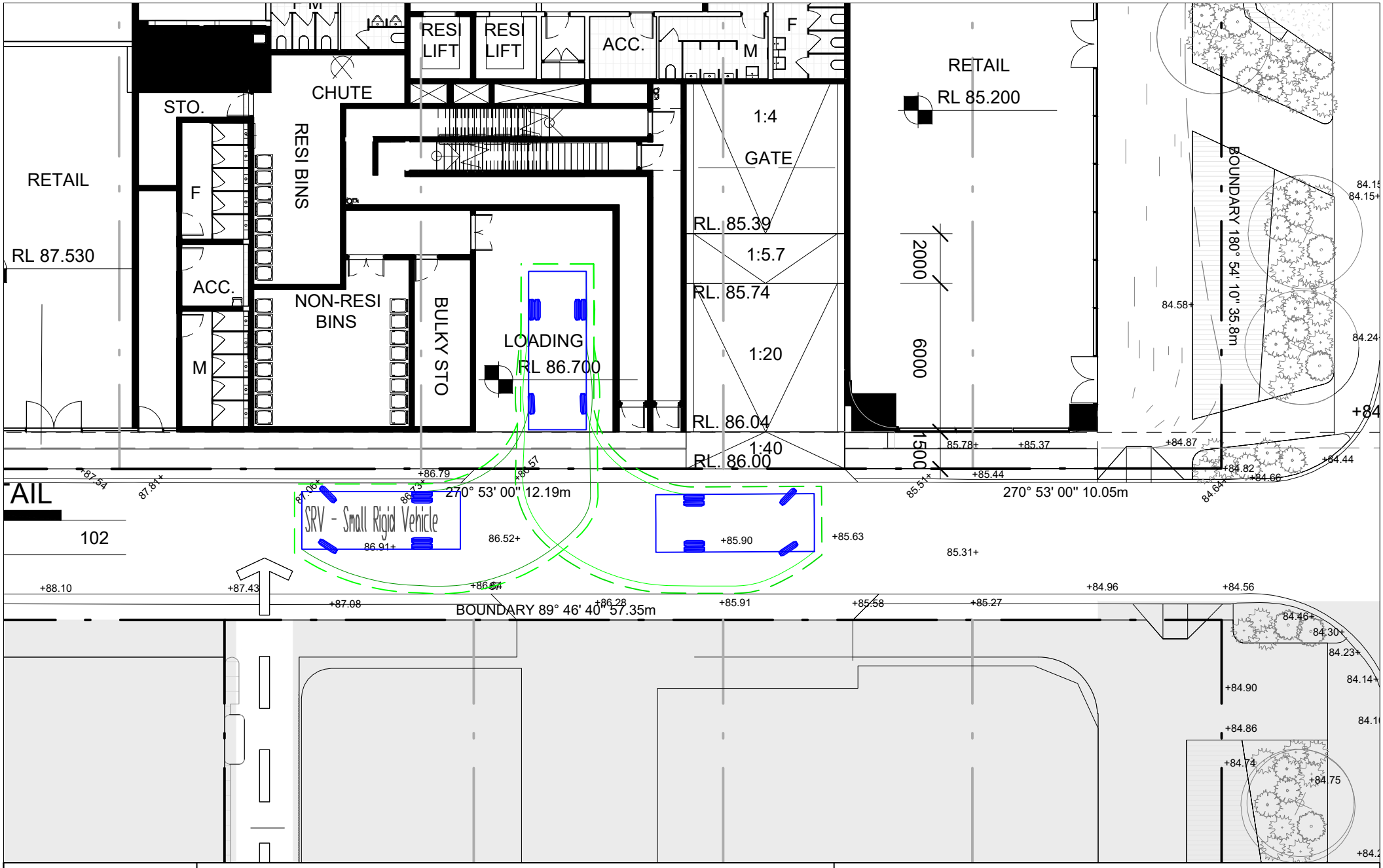
- priority will be given to commercial deliveries and servicing on weekday mornings

- all residential removalist needs must be pre-booked with the building manager, which will be sporadic in nature and infrequent once residents have all moved in subsequent to settlement.

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 overhead clearances and service area requirements for SRV trucks.

Conclusion

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in Council's *DCP*, and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.



VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED-USE DEVELOPMENT

N

DRAWING TITLE
6.4mSRV_Entry&Exit

1:200 @ A4

ADDRESS
71 - 89 Chandos Street
St Leonards

PROJECT NO.
22100

DATE DRAWN
2022-6-30

REVIEWED
RV

PREPARED
MN

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants