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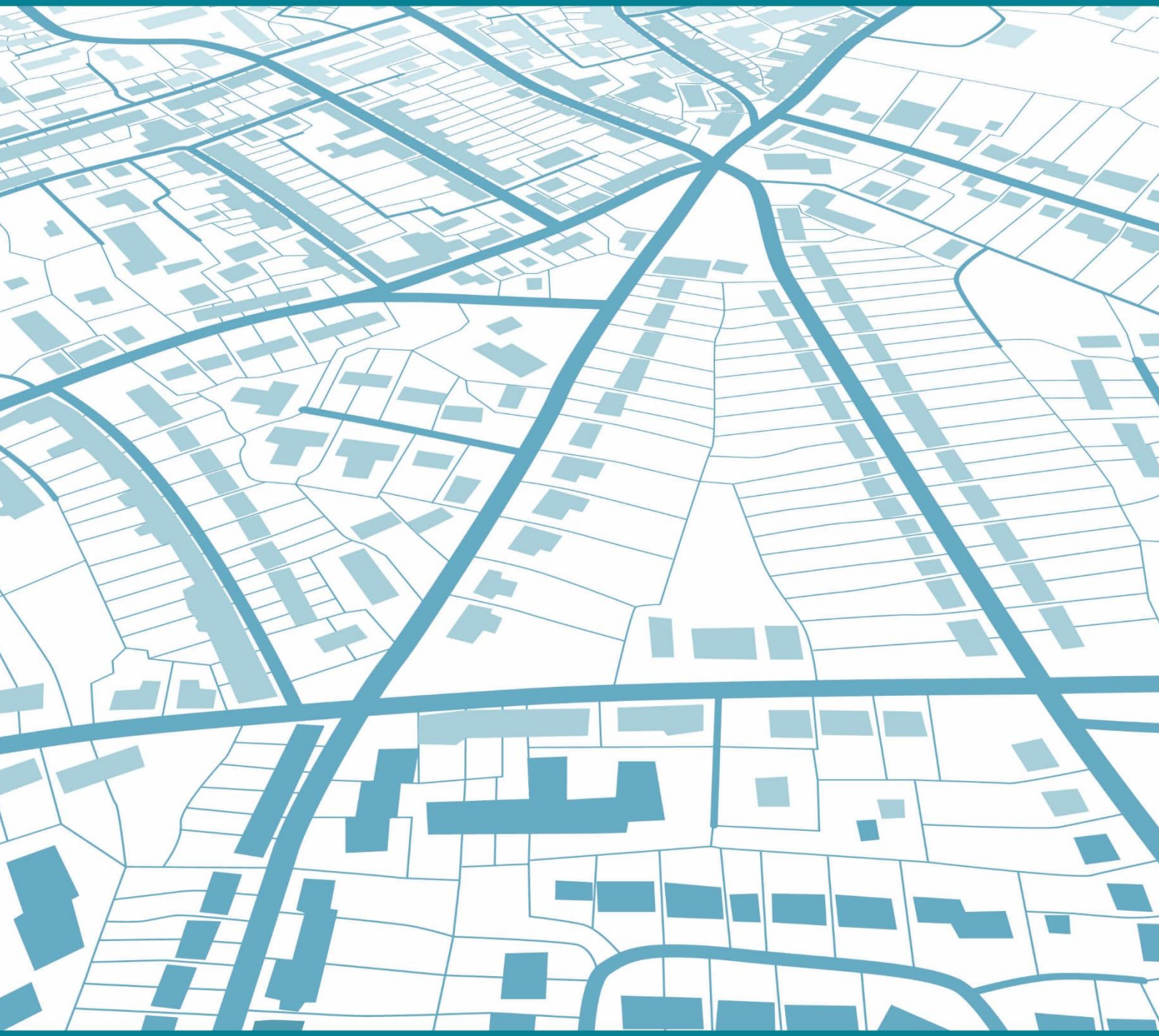

20-26 President Avenue, Caringbah

Proposed Mixed Use Development

Assessment of Traffic and Parking Implications

Ref: 16236
Date: April 2018
Rev: Rev A

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1.0 Introduction

This report has been prepared to accompany a Development Application to Sutherland Shire Council for a new mixed use development at 20 – 26 President Avenue, Caringbah (Figure 1).

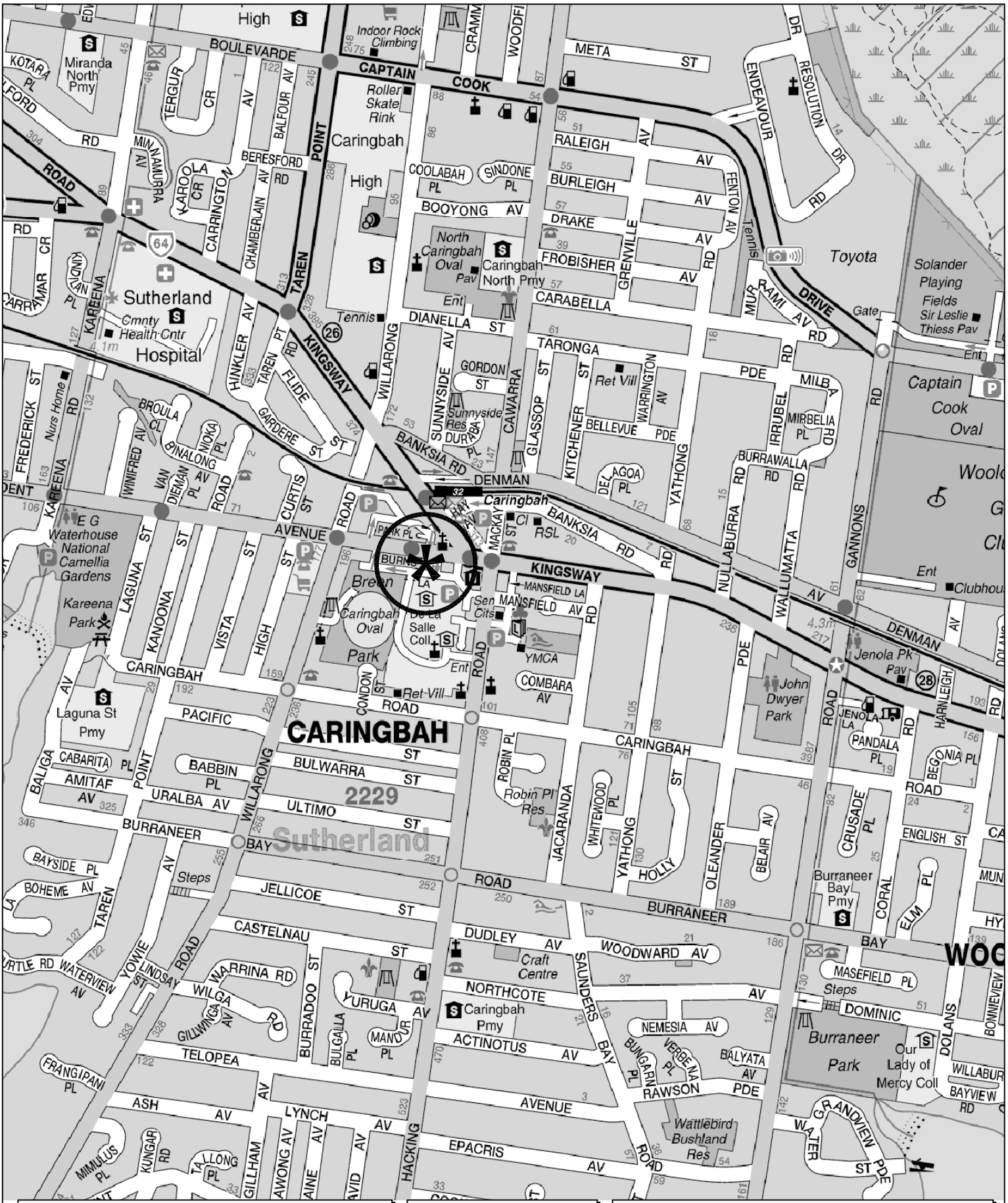
The proposed development scheme represents a continuation of the extensive transformation of under-utilised sites in the Shire in recent years for residential apartment buildings, many with commercial/retail uses on the ground level. The development site is conveniently located in relation to public transport services and the nearby retail, entertainment and recreational facilities.

The proposed development will comprise:

- 24 residential apartments
- 2 retail/commercial tenancies
- ground and basement level parking

The purpose of this report is to:

- describe the site, its context and the proposed development scheme
- describe the road system serving the site and the existing traffic circumstances
- assess the potential traffic implications of the development
- assess the appropriateness of the proposed on-site parking provision
- assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements.



LEGEND

LOCATION

FIG 1

2.0 Proposed Development

2.1 Site, Context and Existing Use

The development site (Figure 2) is a consolidation of Lots 1 – 4 in DP 31633 which occupies a total area of some 904m^2 with frontages to President Avenue and Burns Lane. The site is currently occupied by a 3-level mixed use building (e.g. restaurant, St Vinnies, Yoga studio) with a total floor area of some 418m^2 and 18 parking spaces.

The generally rectangular shaped site is located within the Caringbah Centre and is adjoined to the east and west by commercial buildings while the large De La Salle College and adjacent Breen Park are located to the south. Caringbah Railway Station is located a short distance to the north and new residential apartment developments are occurring along Kingsway.

2.2 Proposed Development

It is proposed to demolish the existing building and excavate the site to construct a six-level building over basement carparking.

The proposed development will comprise:

12 x one-bedroom apartments
10 x two-bedroom apartments
2 x three-bedroom apartments
Total 24 apartments
211.3m^2 retail/commercial floorspace (2 tenancies)

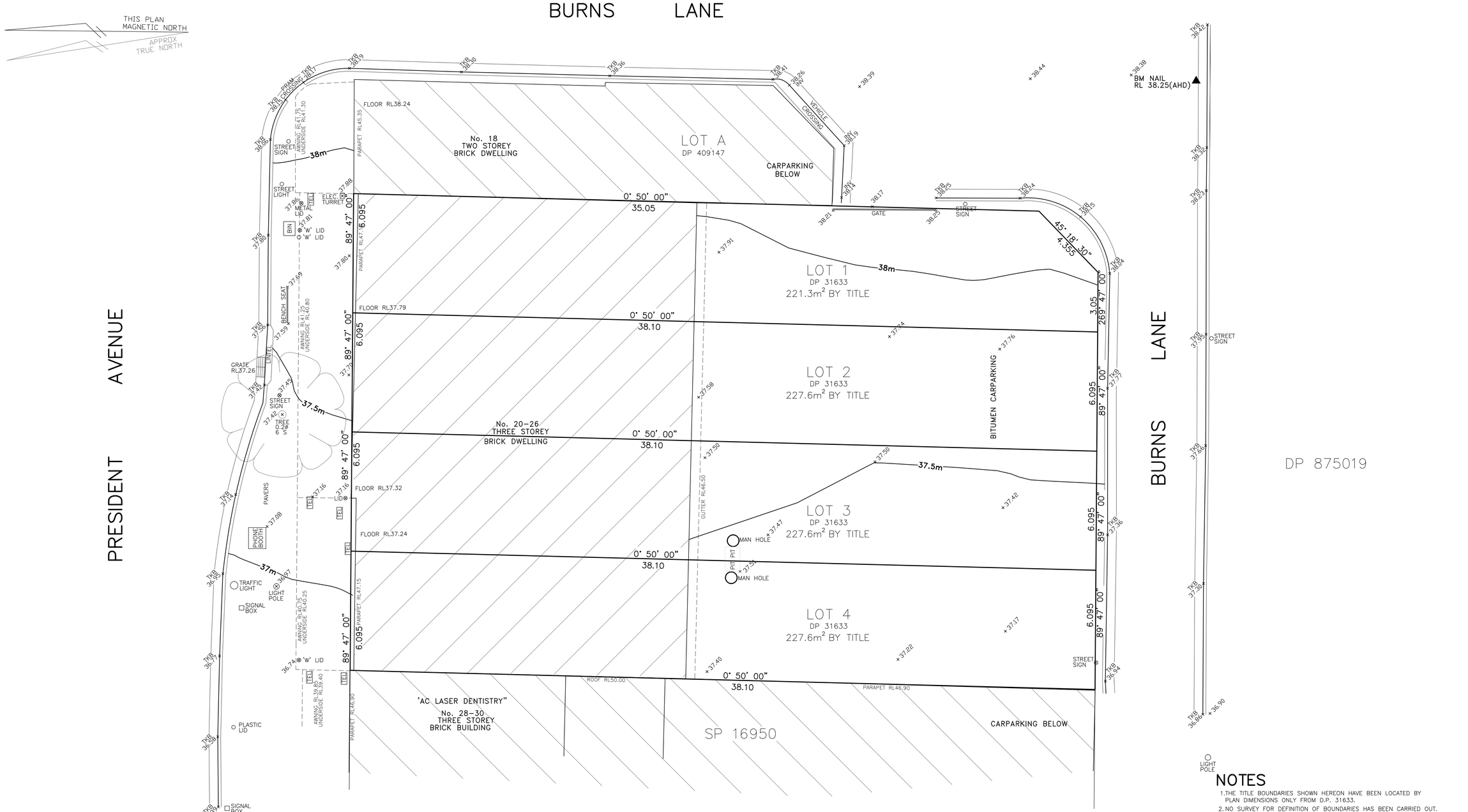
A total of 35 parking spaces will be provided with vehicle access on the Burns Lane frontage.

LEGEND

N

SITE

FIG 2



NOTES

1. THE TITLE BOUNDARIES SHOWN HEREON HAVE BEEN LOCATED BY PLAN DIMENSIONS ONLY FROM D.P. 31633.
2. NO SURVEY FOR DEFINITION OF BOUNDARIES HAS BEEN CARRIED OUT. RELATIONSHIP OF IMPROVEMENTS AND DETAIL TO BOUNDARIES IS DIAGRAMMATIC AND IF CRITICAL SHOULD BE CONFIRMED BY A FURTHER BOUNDARY SURVEY.
3. SERVICES SHOWN HEREON HAVE BEEN LOCATED BY FIELD SURVEY ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FUTURE UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
4. THE LEVEL DATUM OF THE SURVEY IS A.H.D. WITH THE ORIGIN OF LEVELS BEING SSM 35772 WITH A VALUE OF 41.606 (AHD).
5. THE DATA CONTAINED IN THIS CAD DRAWING AND FILE HAS BEEN OBTAINED BY STANDARD TECHNIQUES FOR DETAIL AND TOPOGRAPHIC SURVEYS. THE DATA IS FOR ILLUSTRATIVE PURPOSES AND IS NOT TO BE MEASURED WITHIN THE MODEL FOR STRUCTURAL PURPOSES OR CRITICAL DESIGN.

LEGEND

BM	BENCH MARK
RL	REDUCED LEVEL
TKB	TOP OF KERB
0.4ø	TREE TRUNK DIAMETER
5S	TREE SPREAD
S	WINDOW SILL
H	WINDOW HEAD

A1 SHEET

0 1 2 3 4 5 10m

SCALE 1:100@A1

ISSUE	AMENDMENT	DRAWN	DATE

COOPER & RICHARDS
SURVEYORS
& DEVELOPMENT CONSULTANTS
P.O. BOX 508, SUTHERLAND
PH. 9521 5622 FAX 9545 3764
email: cooric@bigpond.com

PEDWOOD PTY LIMITED

No. 20-26 PRESIDENT AVENUE, CARINGBAH.
LOTS 1-4, DP 31633

SITE DETAIL & LEVELS PLAN

FILE: 21611241/1

SURVEY BD/CH
DRAWN: BD
CHECKED: SG
ISSUE A

DRAWING No. 21611241.1

SCALE: 1:100 | DATUM: AHD | DATE: 24/11/16 | SHEET 1 OF 1

Details of the proposed development are provided on the plans prepared by BKA Architecture which accompany the Development Application and are reproduced in part in Appendix A.

3.0 Existing Road Network and Traffic Conditions

3.1 Road Network

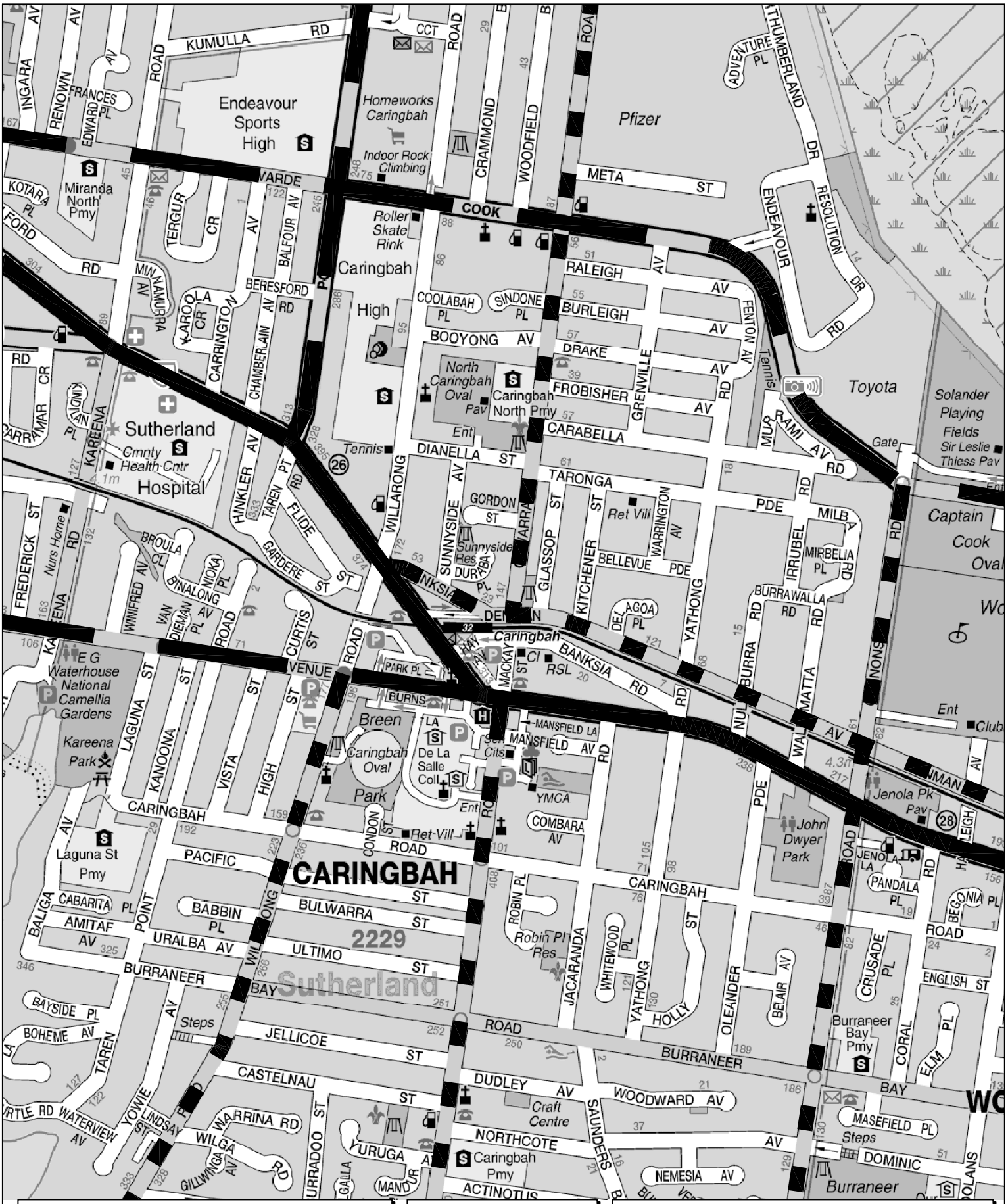
The existing road network serving the site (Figure 3) comprises:

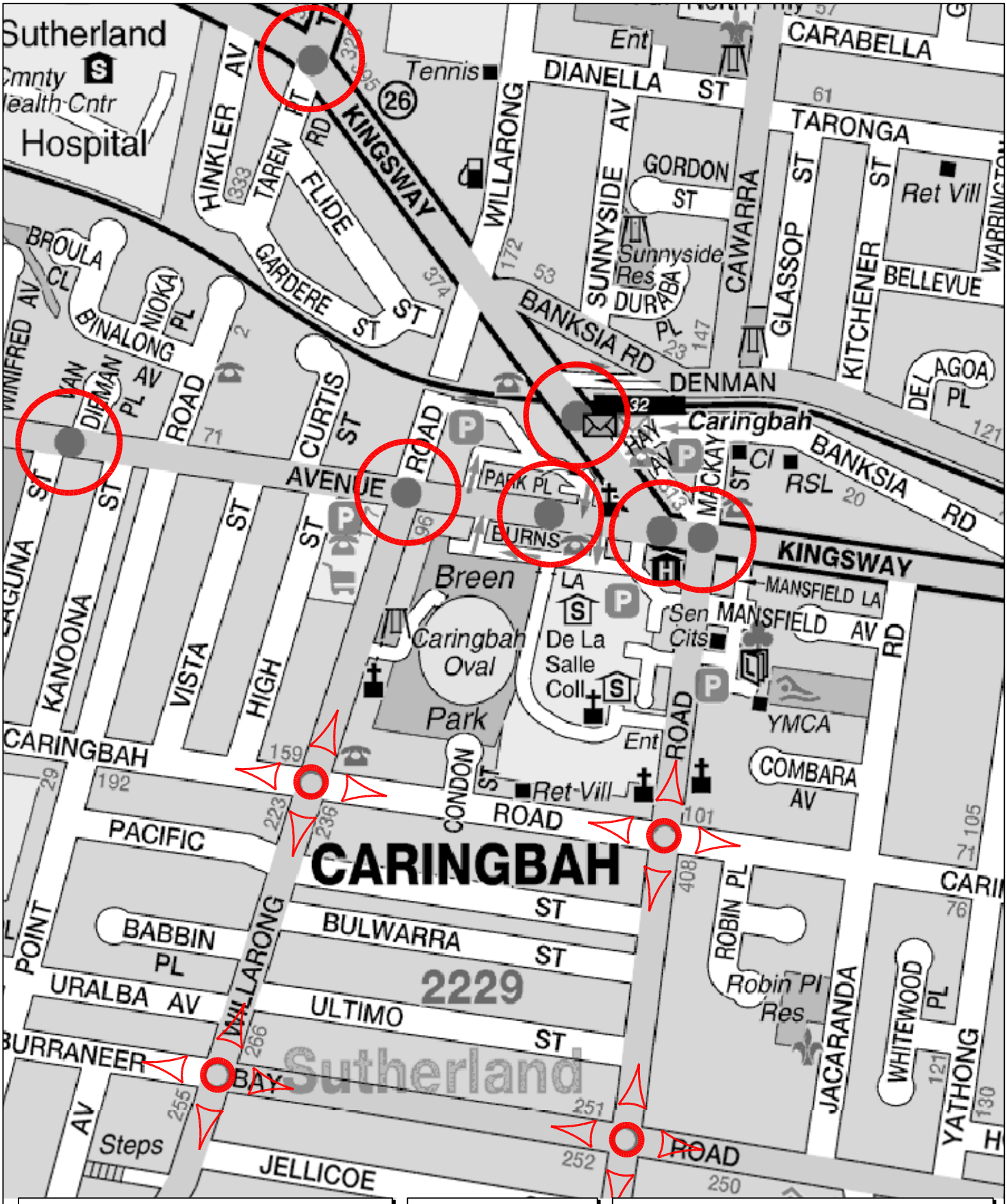
- *Kingsway* – a State Road and arterial route linking between Cronulla and Sutherland
- *President Avenue* – a State Road and sub-arterial route running parallel to the Kingsway
- *Cawarra Road* – a collector road route linking between Kingsway and Captain Cook Drive
- *Willarong Road* – a minor collector road route
- *Port Hacking Road (south)* – a collector road route.
- *Burns Lane* – a narrow service lane

3.2 Traffic Controls

The existing traffic controls on the road network (Figure 4) comprise:

- the traffic signals at Port Hacking Road / Kingsway / Mackay Street intersection
- the traffic signals at the President Avenue / Kingsway and President Avenue / Willarong Road intersections
- the pedestrian signals on the President Avenue immediately to the west of the site
- the one-way east to west traffic movement on Burns Lane
- the roundabouts at the Caringbah Road / Willarong Road and Caringbah Road / Port Hacking Road intersections


Endeavour Sports High
Homeworks Caringbah
Indoor Rock Climbing
Pfizer
Miranda North Pmy
Roller Skate Rink
Caringbah High
North Caringbah Oval
Caringbah North Pmy
Toyota
Solander Playing Fields
Sir Leslie Thiess Pav
Sutherland Cmnty Health Cntr
Hospital
Captain Cook Oval
Ret Vill
Sunnyside Res
E G Waterhouse National Camellia Gardens
Kareena Park
Breen Caringbah Oval Park
De La Salle Coll
YMCA
John Dwyer Park
Jenola Pk Pav
Laguna St Pmy
CARINGBAH
2229
Sutherland
Robin Pl Res
Craft Centre
Caringbah Pmy
Burraneer Bay Pmy
Steps
Burraneer
KUMULLA RD
CCT ROAD
CRAMMOND B
WOODFIELD B
ROA
ADVENTURE PL
THUMBERLAND DR
META ST
COOK
ENDEAVOUR RESOLUTION DR RD
VARDE
TERGUR CR
BALFOUR AV
BERESFORD RD
KAROOLA CR
CARRINGTON AV
CHAMBERLAIN AV
MINAMURRA AV
KOTARA PL
FORD RD
RALEIGH AV
COOLABAH PL
SINDONE PL
BURLEIGH AV
BOOYONG AV
DRAKE AV
FENTON AV
GRENVILLE RD
FROBISHER AV
CARABELLA
DIANELLA ST
TARONGA PDE
MURRAMI AV RD
Tennis
Gate
WILLARONG AV
SUNNYSIDE AV
GORDON ST
GLASSOP ST
KITCHENER ST
WARRINGTON AV
BELLEVUE PDE
IRRUBEL MIRBELIA PL RD
MILBA RD
DURRABA PL
DELAGOA PL
YATHONG RD
BURRAWALLA RD
BANKSIA RD
BURRA MATTA RD
NONGA
HINKLER AV
TAREN PT RD
FLIDE
GARDERE ST
FREDERICK ST
Nurs Home
BROULA CL
BYNALONG
NIOKA PL
WINIFRED AV
VAN DIEMAN PL AV
ROAD
CURTIS ST
VENUE
PARK PL
BURNS
MACKAY ST
RSL Cl
MANSFIELD LA
MANSFIELD AV RD
LAGUNA ST
KANOONA ST
VISTA ST
HIGH ST
CARINGBAH ROAD
CONDON ST
Ret Vill
COMBARA AV
PACIFIC ROAD
CABARITA PL
BABBIN PL
BULWARRA ST
AMITAF AV
URALBA AV
ULTIMO ST
BALIGA POINT
WILSON
BURRANEER BAY
BAYSIDE PL
Steps
BOHEME AV
TAREN AV
JELLICOE ST
CASTELNAU ST
DUDLEY AV
WOODWARD AV
NORTHCOTE AV
YURUGA AV
WARRINA RD
WILGA AV
GILLAWINGA RD
MANOUR
ACTINOTUS
NEMESIA AV
ROBIN PL
JACARANDA
WHITEWOOD PL
YATHONG ST
HOLLY
OLEANDER
BELAIR AV
CRUSADE PL
CORAL
ELM PL
ENGLISH ST
JENOLA LA
PANDALA PL
BEGONIA PL
MASEFIELD PL
DOMINIC
SAUNDERS
LINDSAY ST
YOWIE
WATERVIEW
RTLE RD
LEGEND
ARTERIAL
SUB-ARTERIAL
COLLECTOR
N
ROAD NETWORK
FIG 3



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT

TRAFFIC CONTROLS

FIG 4

3.3 Traffic Conditions

An indication of the traffic conditions in the vicinity of the site is provided by data published by the RMS[1] and other available data in relation to peak period circumstances.

The RMS data is expressed in terms of Annual Average Daily Traffic (AADT) and the most recently recorded volumes indicate:

	AADT
President Avenue, west of Kingsway	28,000 approx.

The traffic movements along President Avenue are moderate while the movements along Burns Lane are quite light being confined to local access and pick-up/set-down movements. Traffic conditions in the area generally are quite satisfactory being well controlled by traffic signals and roundabouts at the important access intersections.

3.4 Transport Services

The existing public transport services which are available in the near vicinity of the site include:

- the numerous bus routes which link to Caringbah Railway Station
- rail services at the nearby Caringbah Station.

[1] *Traffic Volume Data for Sydney Region*
Roads and Maritime Services

4.0 Parking

Council's off-street parking criteria specifies parking provisions in relation to the proposed development of:

Residential Apartments	1.2 spaces per apartment
Retail/Commercial	1 space per 30m^2

Application of this criteria indicates a provision of:

24 Apartments	-	28 spaces
Retail/Commercial 211.5m^2	-	7 spaces
Total	-	**35 spaces**

It is proposed to provide a total of 35 spaces in the car park including 5 accessible/adaptable spaces. Provision for bicycles, storage cases and 3 motorcycle spaces will also be made in the basement.

5.0 Traffic

An indication of the traffic generation potential of the development is provided by the RMS Development Guidelines and contemporary criteria as follows:

Residential Apartments	-	AM 0.19 vtph per apartment, PM 0.15 vtph
Retail/Commercial (7 spaces)	-	AM 0.5 vtph/space, PM 1.0 vtph/space

The projected movements during the peak periods on this basis would be:

		AM	PM
24 x residential apartments		4.6 vtph	3.6 vtph
Retail/Commercial		3.5 vtph	7.0 vtph
	Total	**8 vtph**	**11 vtph**

	AM Peak	PM Peak
IN	4	6
OUT	4	5

The traffic generation of the existing commercial uses (418m^2 and 18 parking spaces) would be some 9 – 18 vtph in peak periods. It is apparent that the proposed development will potentially only have a relatively minor increased traffic generation in the peak traffic periods (by comparison) and will not present any adverse vehicle access or road capacity implications.

6.0 Access, Internal Circulation and Servicing

6.1 Vehicle Access

Vehicle access to the basement carpark will be provided by a 6m wide combined ingress/egress driveway located on the Burns Lane frontage. This driveway will accord with the design requirements of AS 2890.1 and will provide suitable sight distances.

6.2 Internal Circulation

Internal circulation through the basement levels will be provided by two-way access aisles and the parking bays will be a minimum 2.5 m x 5.4m in accordance with AS 2890.1. The manoeuvring areas are very generous and because of the limited traffic generation of the development and the fact that a great many drivers will be tenants familiar with the circulation arrangements the proposed carpark design will be quite satisfactory.

6.3 Servicing

A loading bay will be provided in Basement Level 1 suitable for vans of the type that typically apply for a small mixed use development. Service personnel will also be able to park in visitor spaces while any large delivery vehicles will be reliant on on-street parking as is the norm for small residential apartment based developments.

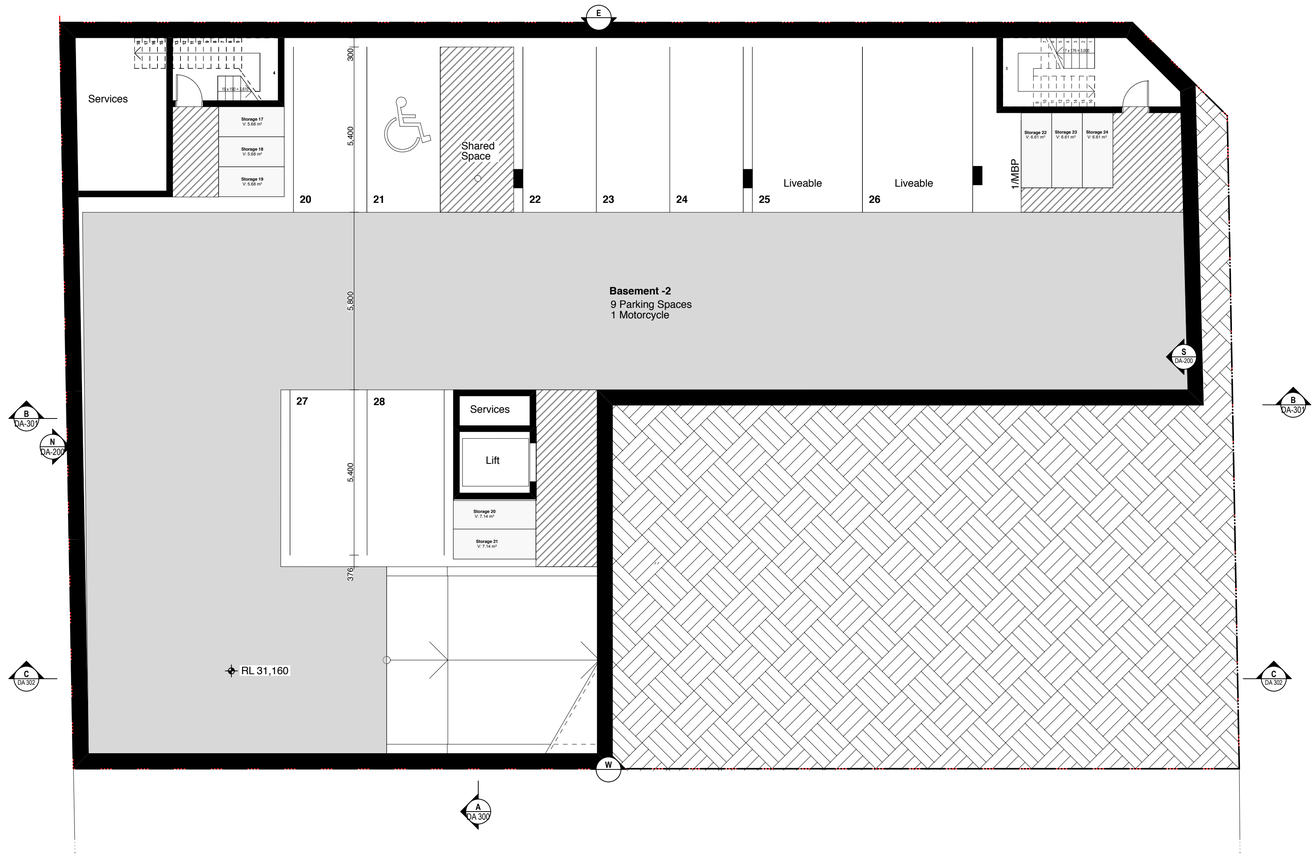
7.0 Conclusion

The proposed development in Caringbah will provide for the development of 24 apartments and retail/commercial floorspace. Assessment of the proposal has concluded that:

- the proposed road system will be appropriate and compliant with the DCP specifications
- the provisions for vehicle access and servicing will be satisfactory
- there will be no adverse traffic implications

Appendix A

Development Plans



1 17/04/18 Consultant Coordination

ISSUE | DATE | REVISION

NORTH

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PROJECT **Mixed Use Development**

ADDRESS **20-26 President Ave Caringbah NSW 2229 Australia**

PROJECT # 16071

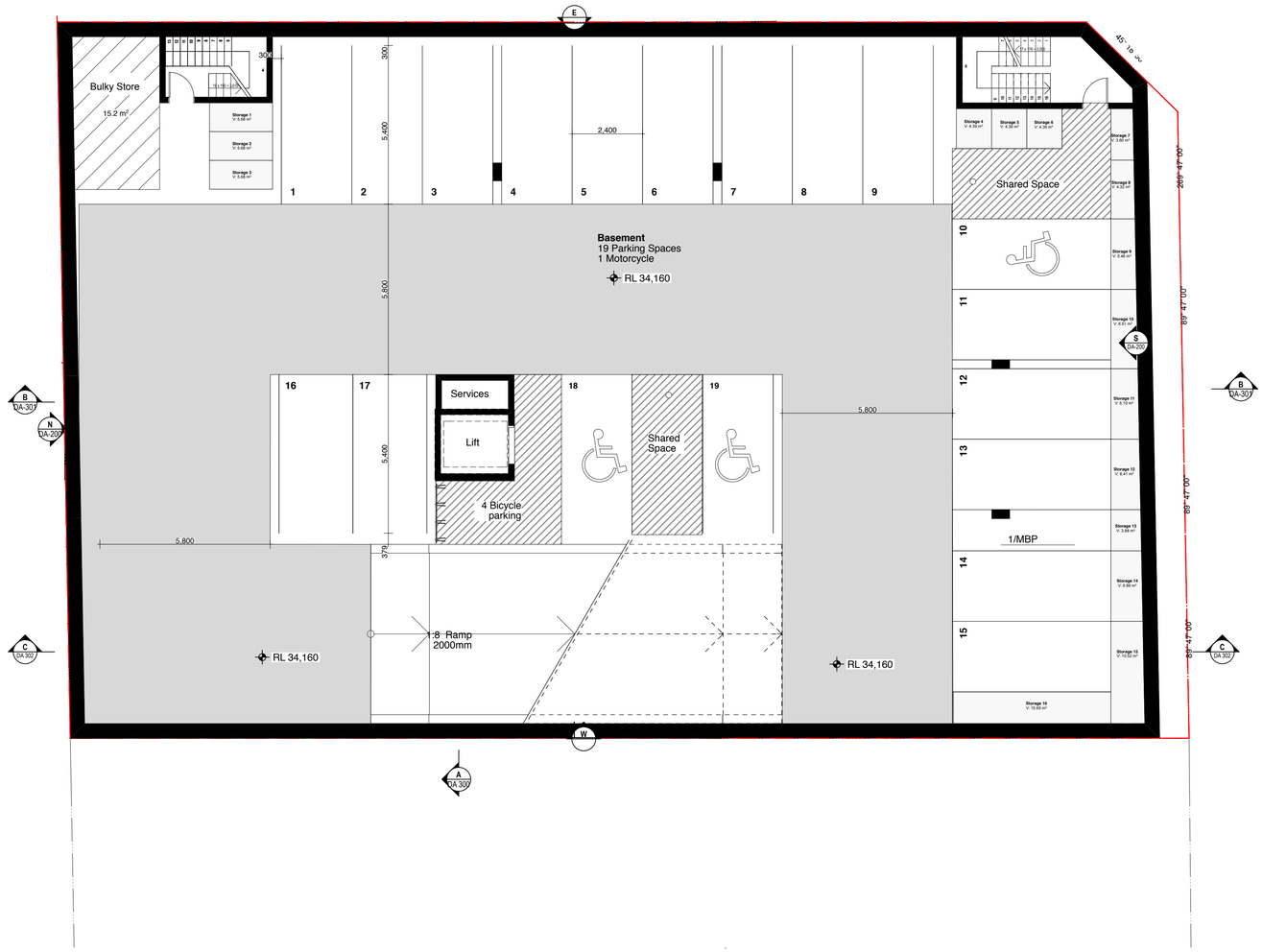
CLIENT **Joe Gilles**

DWG **Basement Plan -2**

DATE	17/04/2018
SCALE @ A1	1:100
DRAWN	RM
CHKD	JB

DWG # **DA110**

REVISION 1



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ISSUE	DATE	REVISION
1	17/04/18	Consultant Coordination

PROJECT: **Mixed Use Development**

ADDRESS: **20-26 President Ave Caringbah NSW 2229 Australia**

PROJECT #: 16071

CLIENT: **Joe Gilles**

DWG: **Basement Plan -1**

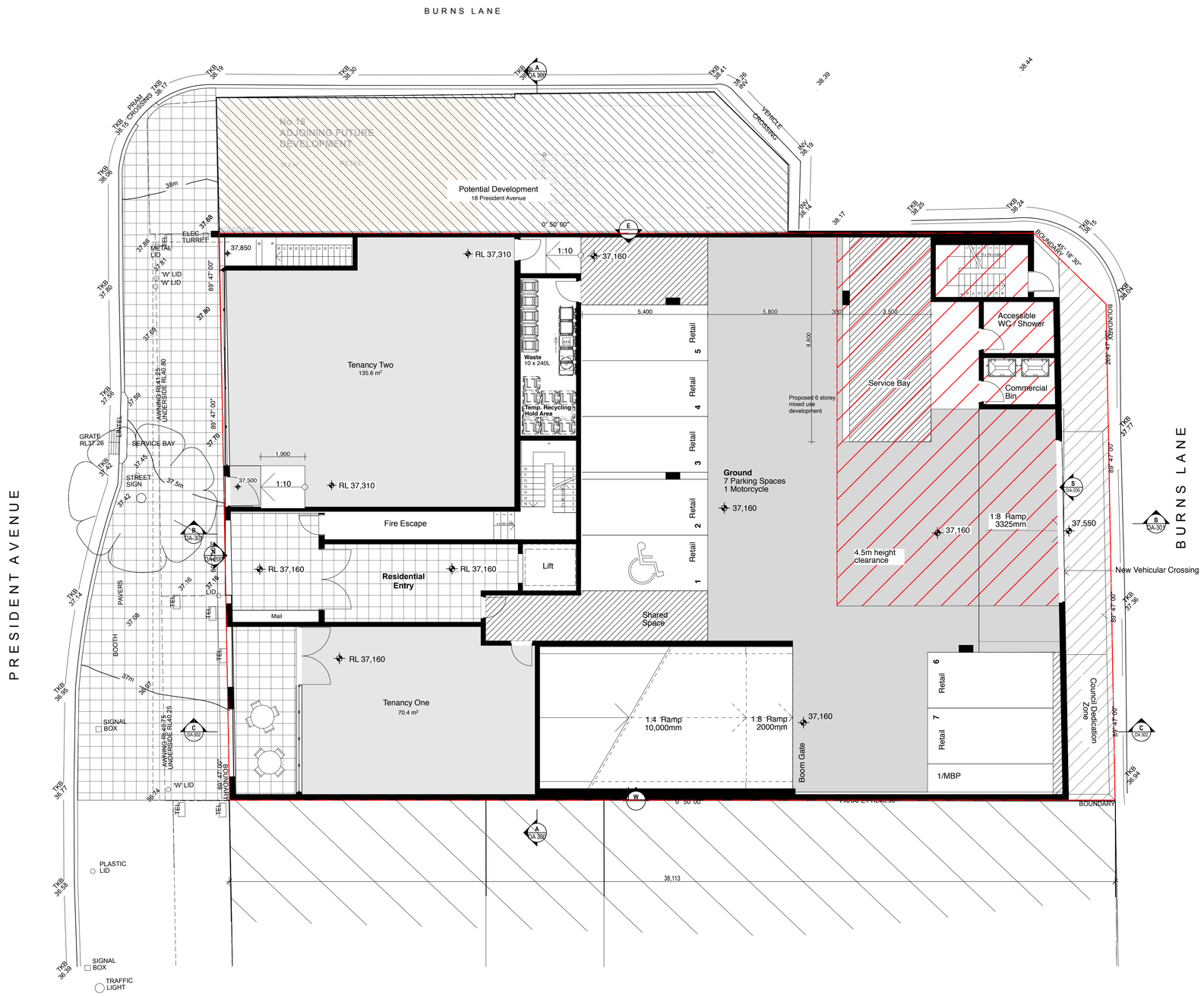
DATE	17/04/2018
SCALE @ A1	1:100
DRAWN	RM
CHKD	JB

DWG #: **DA-111**

REVISION: 1

WASTE CALCULATIONS

Unit type	Waste (L)	Recycle (L)
1 Bed x 12	960	960
2 Bed x 10	1000	1200
3 Bed x 2	240	240
TOTAL	2200	2400
Bins	10	10



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ISSUE	DATE	REVISION
1	17/04/18	Consultant Coordination

PROJECT: **Mixed Use Development**

ADDRESS: **20-26 President Ave Caringbah NSW 2229 Australia**

PROJECT # 16071

CLIENT: **Joe Gilles**

DWG: **Ground Plan**

DATE	17/04/2018
SCALE @ A1	1:100, 1:1
DRAWN	RM
CHKD	JB

DWG # **DA-112**

REVISION 1

1 South Elevation - Burns Lane 1:100

2 North Elevation - President Avenue 1:100

Material Schedule

1.

Lysaght Longline 305
- Basalt

2.

Simmental Silver
Austral Bricks

NORTH

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ISSUE	DATE	REVISION
1	17/04/18	Consultant Coordination

PROJECT **Mixed Use Development**

ADDRESS **20-26 President Ave Caringbah NSW 2229 Australia**

PROJECT # 16071

CLIENT **Joe Gilles**

DWG **North/ South Elevation**

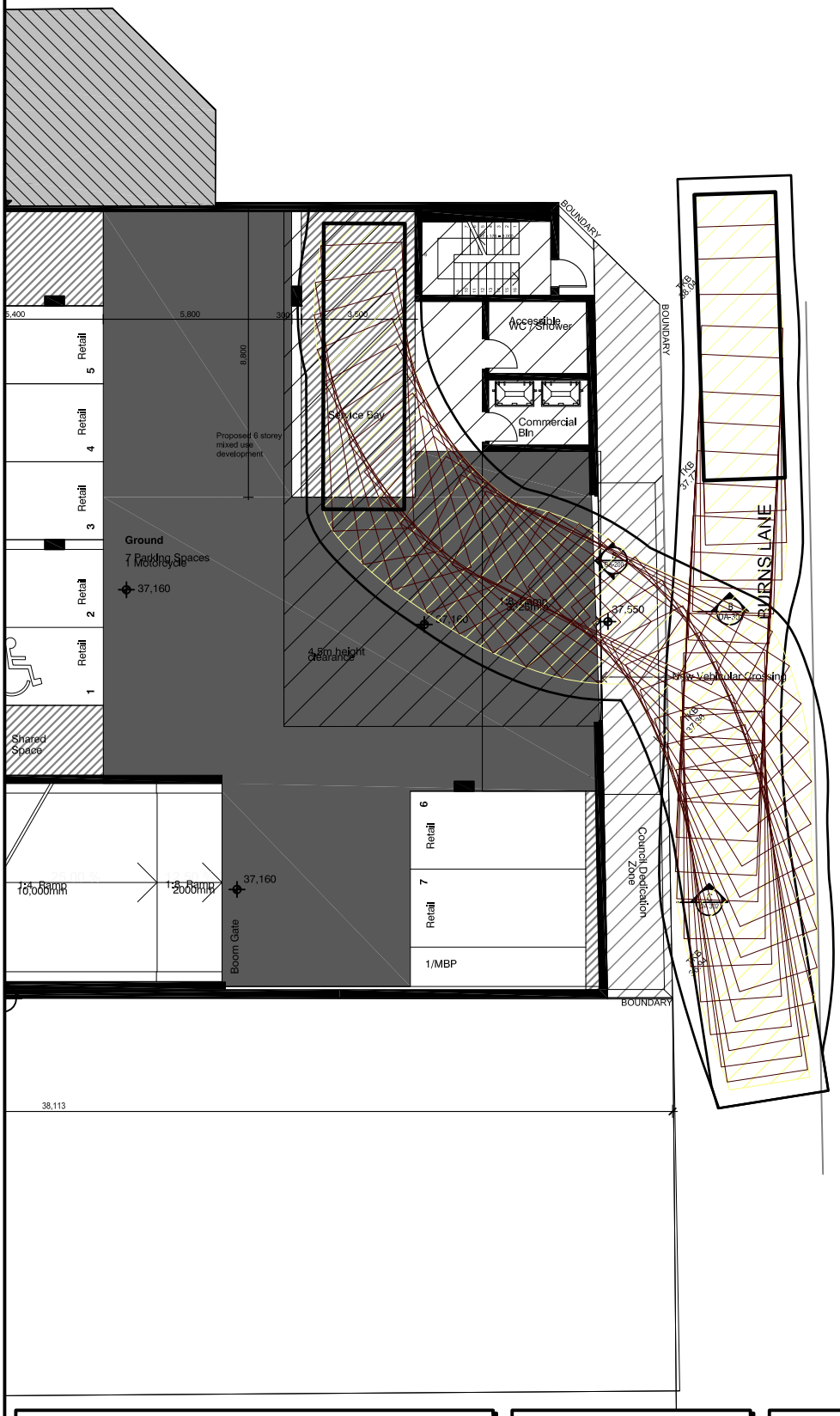
DATE	17/04/2018
SCALE @ A1	1:100
DRAWN	RM
CHKD	JB

DWG # **DA-200**

REVISION 1

Appendix B

Turning Path Assessment



Spaces Needed

Retail	**7** Spaces (1 per 30m^2)
Residential	**24** Spaces (1 per unit)
Motorbike	**2** (1 space per 25 Car spaces)
Bicycle Spaces	4 （1 Space per 10 car parking)

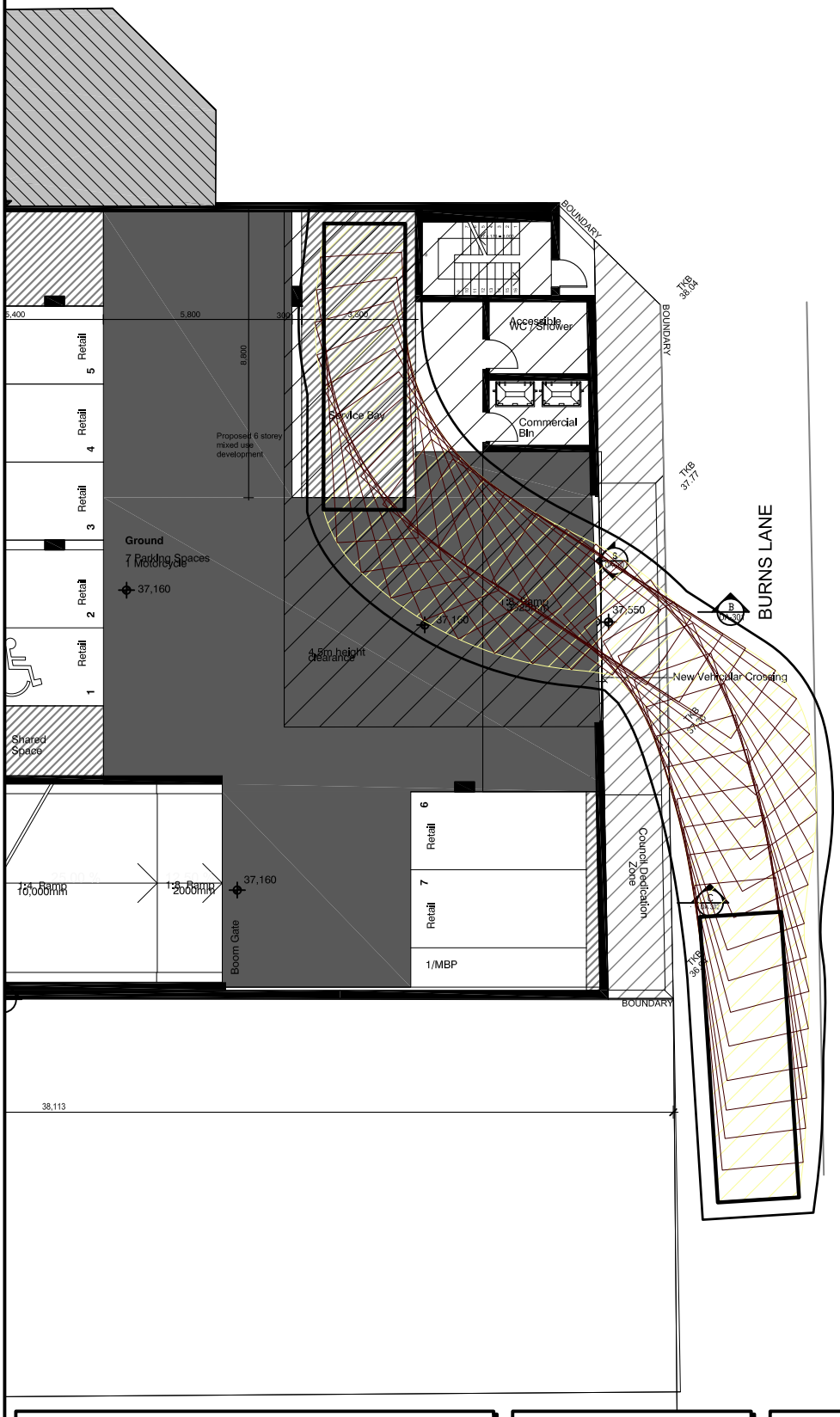
Spaces per level
Ground: 9 Parking Spaces
Basement: 23 Car Spaces
Total: 32 Car Spaces

LEGEND

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

SWEPT PATH ANALYSIS OF AN 8.8m RIGID VEHICLE ENTERING THE SITE

SP 1



Spaces Needed

Retail	**7** Spaces (1 per 30m^2)
Residential	**24** Spaces (1 per unit)
Motorbike	**2** (1 space per 25 Car spaces)
Bicycle Spaces	4 （1 Space per 10 car parking)

Spaces per level
Ground: 9 Parking Spaces
Basement: 23 Car Spaces
Total: 32 Car Spaces

LEGEND

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

SWEPT PATH ANALYSIS OF AN 8.8m RIGID VEHICLE EXITING THE SITE

SP 2