Proposed Mixed-Use Residential / Retail Development

55-57 Station Street & 6 Pritchard Street East Wentworthville

TRAFFIC AND PARKING ASSESSMENT REPORT

5 October 2018

Ref 18023

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

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LIST OF ILLUSTRATIONS

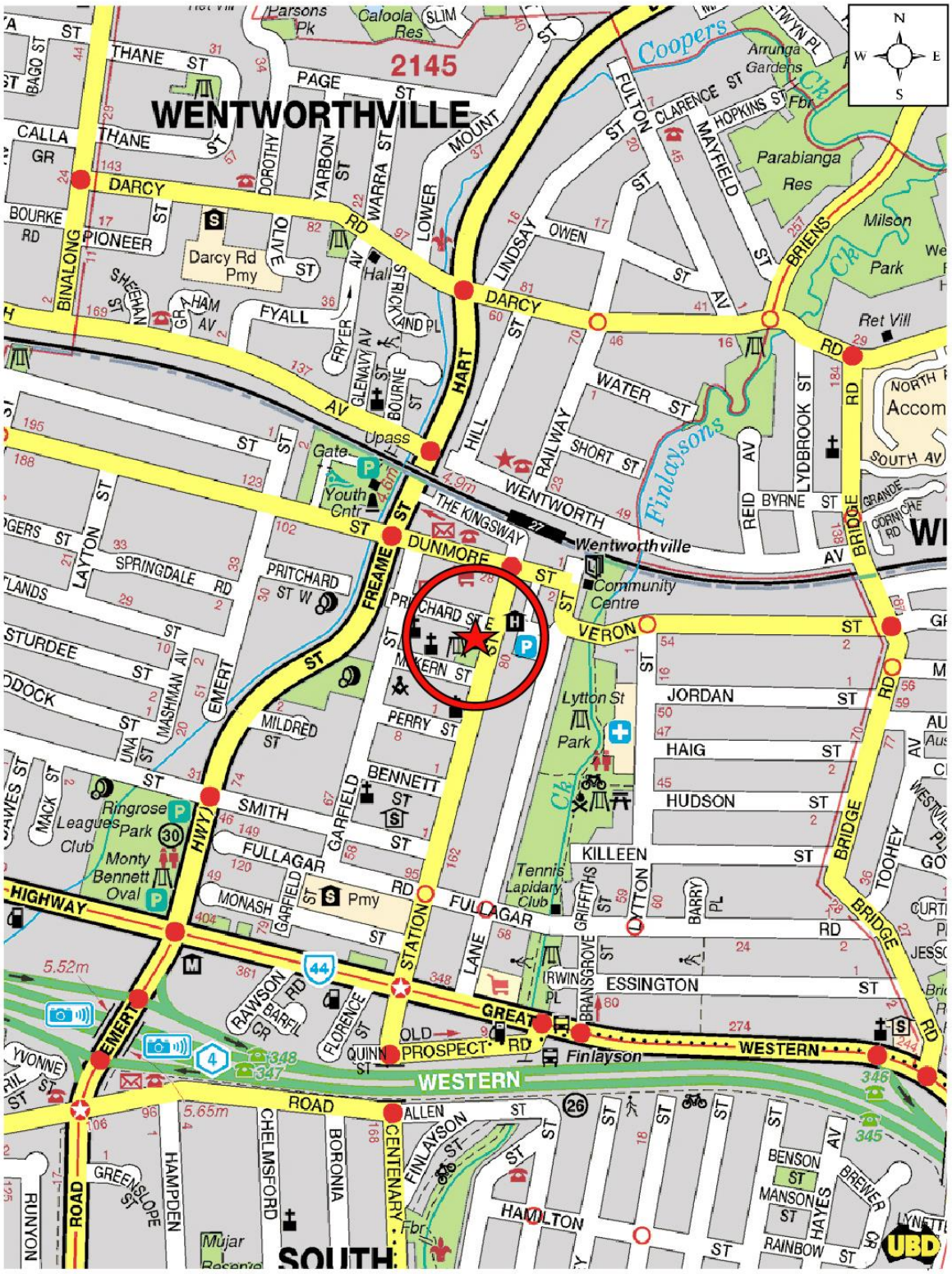
1. INTRODUCTION

This report has been prepared to accompany a development application to Cumberland Council for a mixed-use residential / retail development proposal to be located at 55-57 Station Street & 6 Pritchard Street East, Wentworthville (Figures 1 and 2).

The proposed development will involve the demolition of an existing service station to facilitate the construction of a new mixed-use residential apartment building with a retail component on street level. Off-street parking is to be provided in a multi-level basement car parking area in accordance with Council and *SEPP 65* requirements.

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

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- reviews the existing public transport infrastructure available within the vicinity of the site
- estimates the traffic generation potential of the development 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.



LOCATION
FIGURE 1

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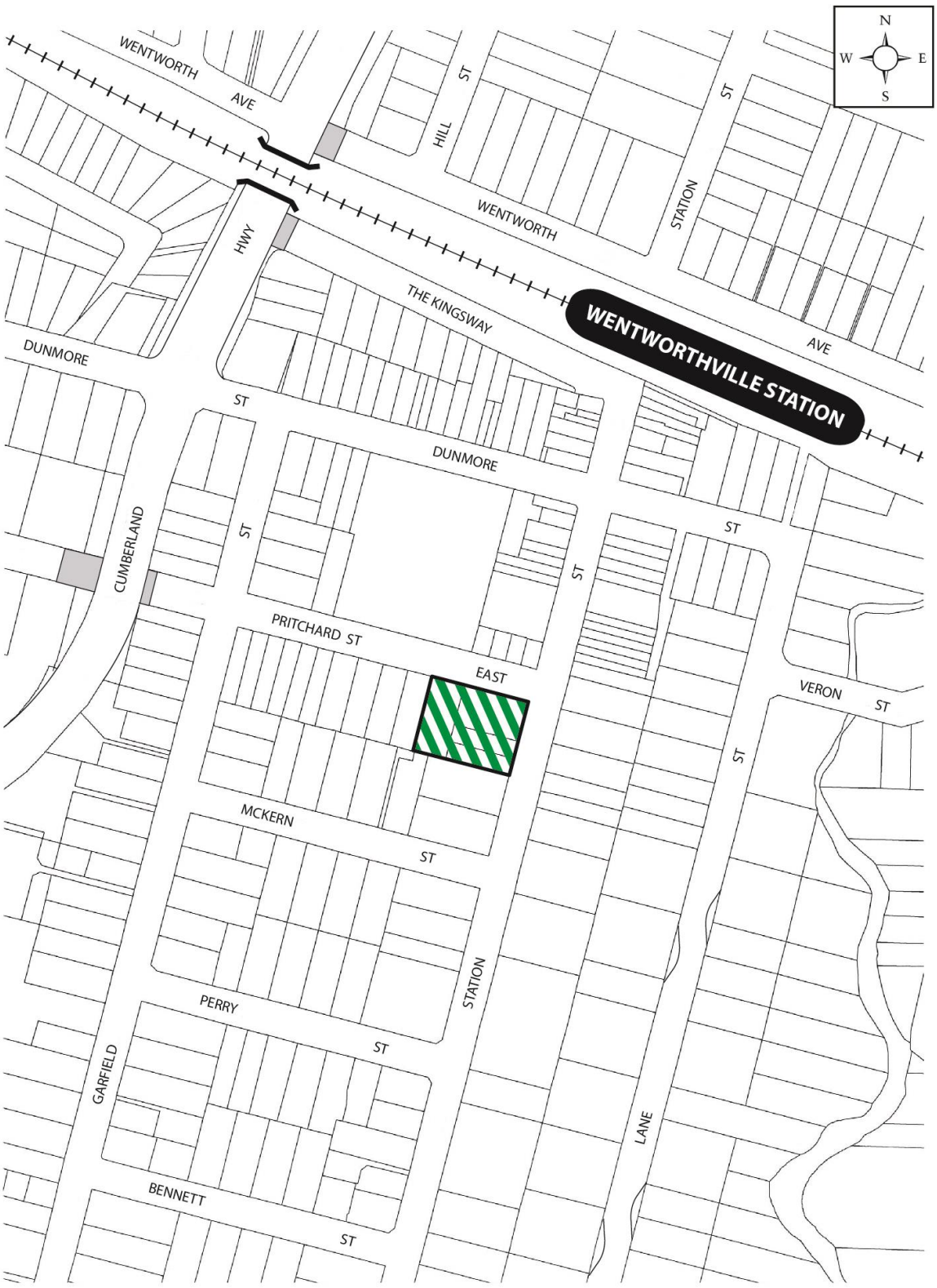

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SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located in a "B2 - Local Centre" zone in the suburb of Wentworthville at the south-western corner of the intersection of Pritchard Street East and Station Street, some 240 metres south of the Wentworthville Railway Station.

The site has street frontages approximately 60 metres in length to Pritchard Street East, approximately 46 metres in length to Station Street and occupies an area of approximately 2,750m^2.

The subject site is currently occupied by a service station with three work bays and a convenience store of approximately 100m^2. Vehicular access to the site is currently provided via three separate vehicular crossovers, one located in Station Street and the other two located in Pritchard Street East.

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

Courtesy of NearMap Imagery 2018

Proposed Development

The proposed development will involve the demolition of an existing service station to facilitate the construction of a new mixed-use residential / retail development.

A total of 106 residential apartments are proposed in the new building as follows:

1 bedroom apartments:	19
2 bedroom apartments:	83
3 bedroom apartments:	4
TOTAL APARTMENTS:	**106**

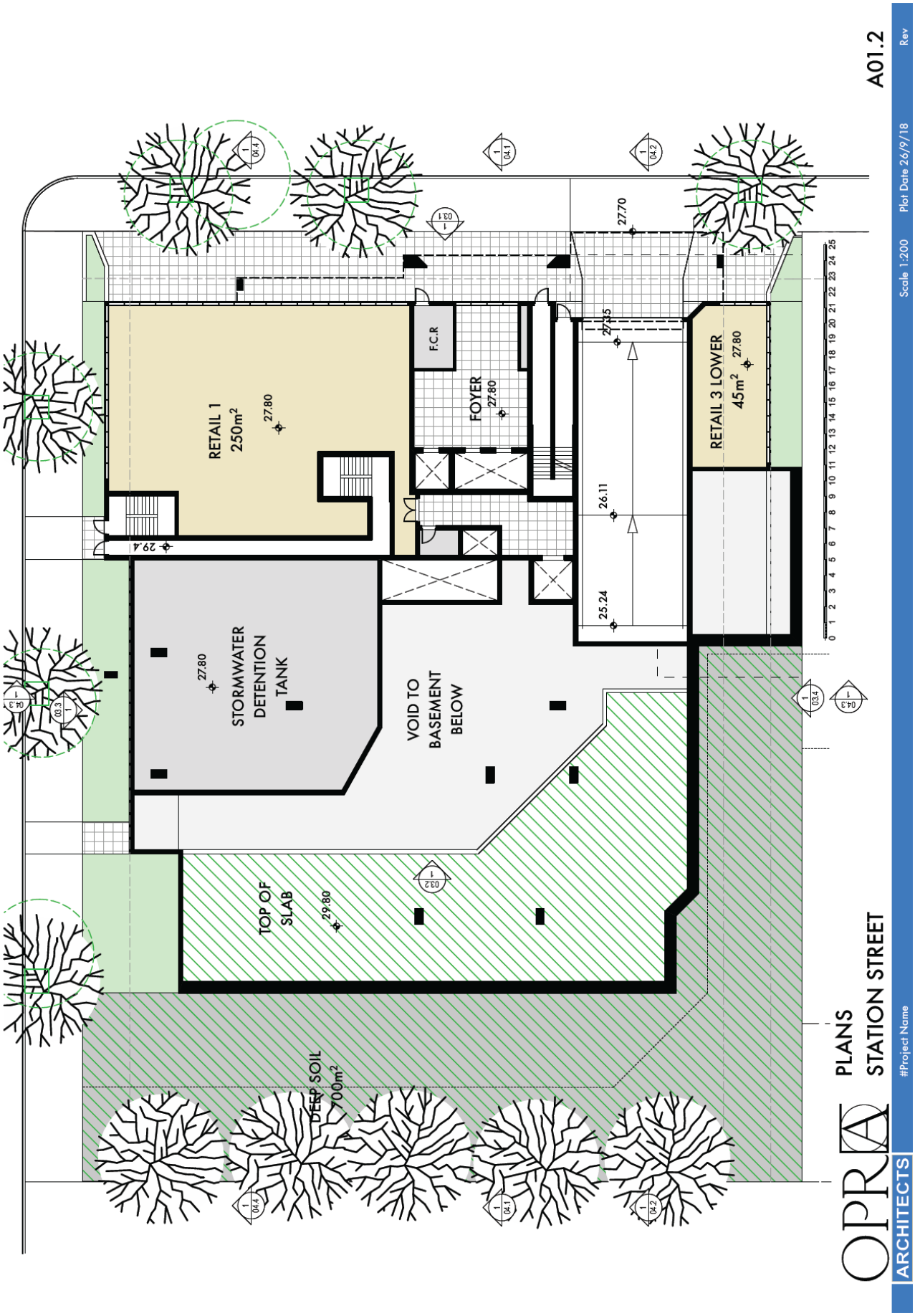
A number of small retail premises are also proposed at street level fronting, Pritchard Street East, Station Street and Friend Park with a cumulative floor area of 595m^2.

Off-street parking is proposed for a total of 146 cars in a multi-level basement car parking area in accordance with Council and *SEPP 65* requirements.

Vehicular access to the car parking facilities is to be provided via a vehicular entry / exit driveway located towards the southern end of the Station Street site frontage.

Loading / servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 8.8m Medium Rigid Vehicles (MRV trucks). A dedicated service area is to be provided on the upper basement level. Vehicular access to the loading / servicing facilities is to be provided via the abovementioned site access driveways.

Plans of the proposed development have been prepared by *OPRA Architects* and are reproduced in the following pages.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Plot Date 26/9/18
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OPRA
ARCHITECTS
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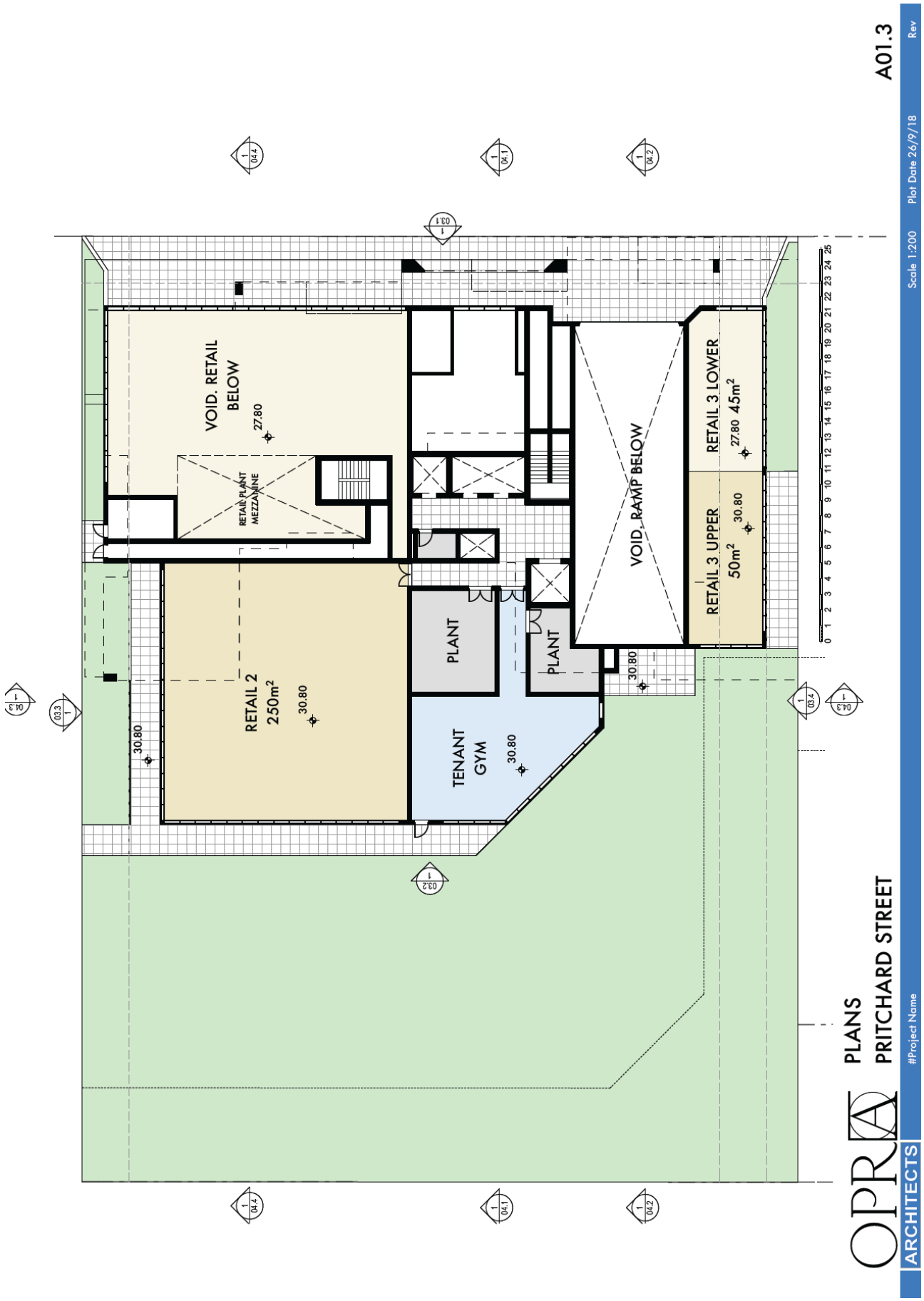
250m²
27.80
F.C.R
FOYER
27.80
27.70
27.15
RETAIL 3 LOWER
45m²
27.80
26.11
25.24
29.4
STORMWATER
DETENTION
TANK
27.80
VOID TO
BASEMENT
BELOW
TOP OF
SLAB
29.80
DEEP SOIL
700m²
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25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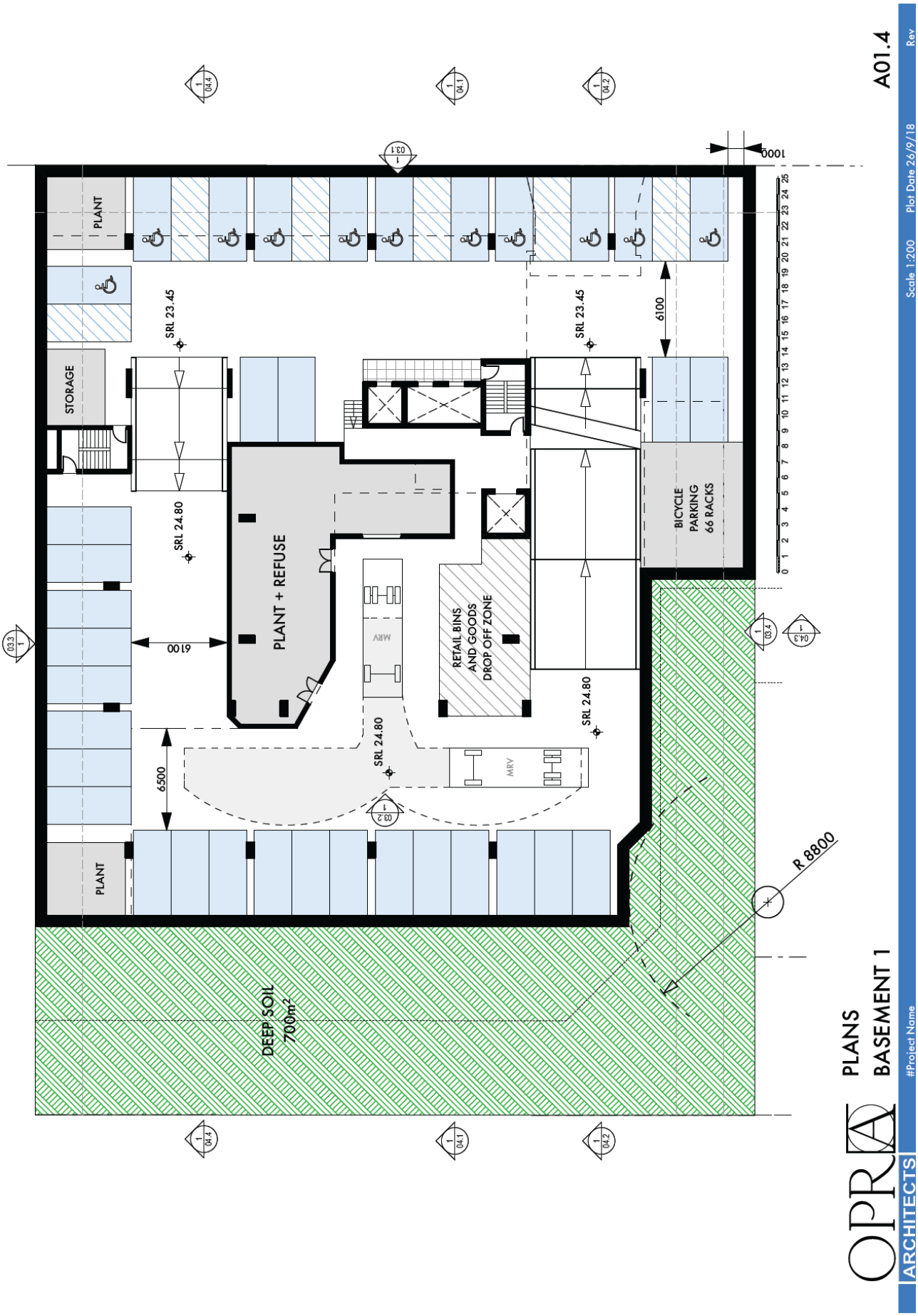
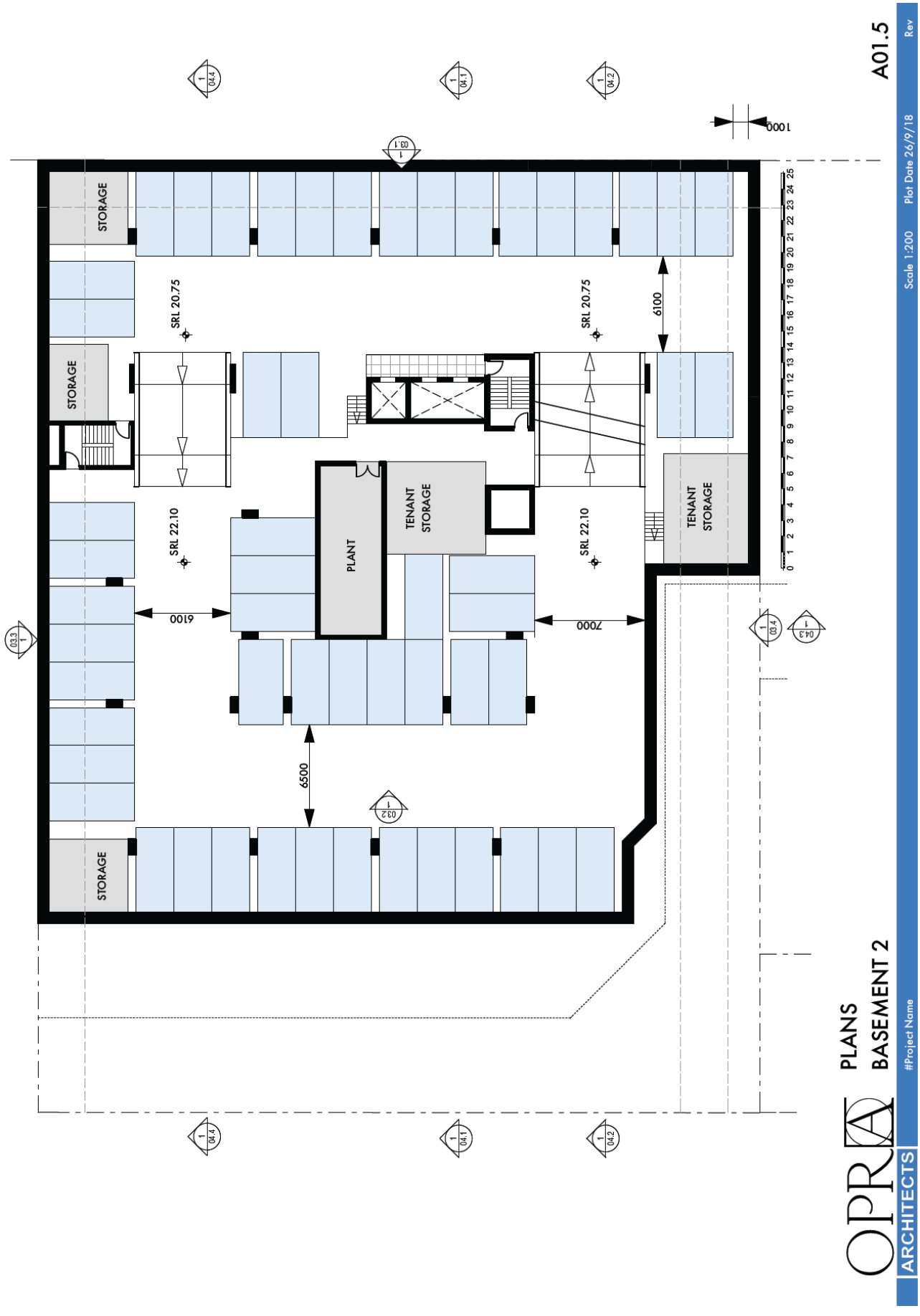
RETAIL PLANT MEZZANINE
RETAIL 2
250m²
30.80
30.80
PLANT
PLANT
TENANT GYM
30.80
VOID. RAMP BELOW
30.80
RETAIL 3 LOWER
27.80
45m²
RETAIL 3 UPPER
50m²
30.80
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
A01.3
Rev
Plot Date 26/9/18
Scale 1:200
#Project Name
PLANS
PRITCHARD STREET
OPRA
ARCHITECTS


PLANT
STORAGE
SRL 23.45
SRL 24.80
PLANT + REFUSE
MRV
RETAIL BINS AND GOODS DROP OFF ZONE
BICYCLE PARKING 66 RACKS
6100
6500
1000
R 8800
DEEP SOIL 700m²
A01.4
PLANS
BASEMENT 1
OPRA
ARCHITECTS
#Project Name
Scale 1:200
Plot Date 26/9/18
Rev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ARCHITECTS
OPRA
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Plot Date 26/9/18
Rev
STORAGE
STORAGE
STORAGE
SRL 20.75
SRL 20.75
SRL 22.10
SRL 22.10
6100
6100
7000
6500
PLANT
TENANT STORAGE
TENANT STORAGE
1000
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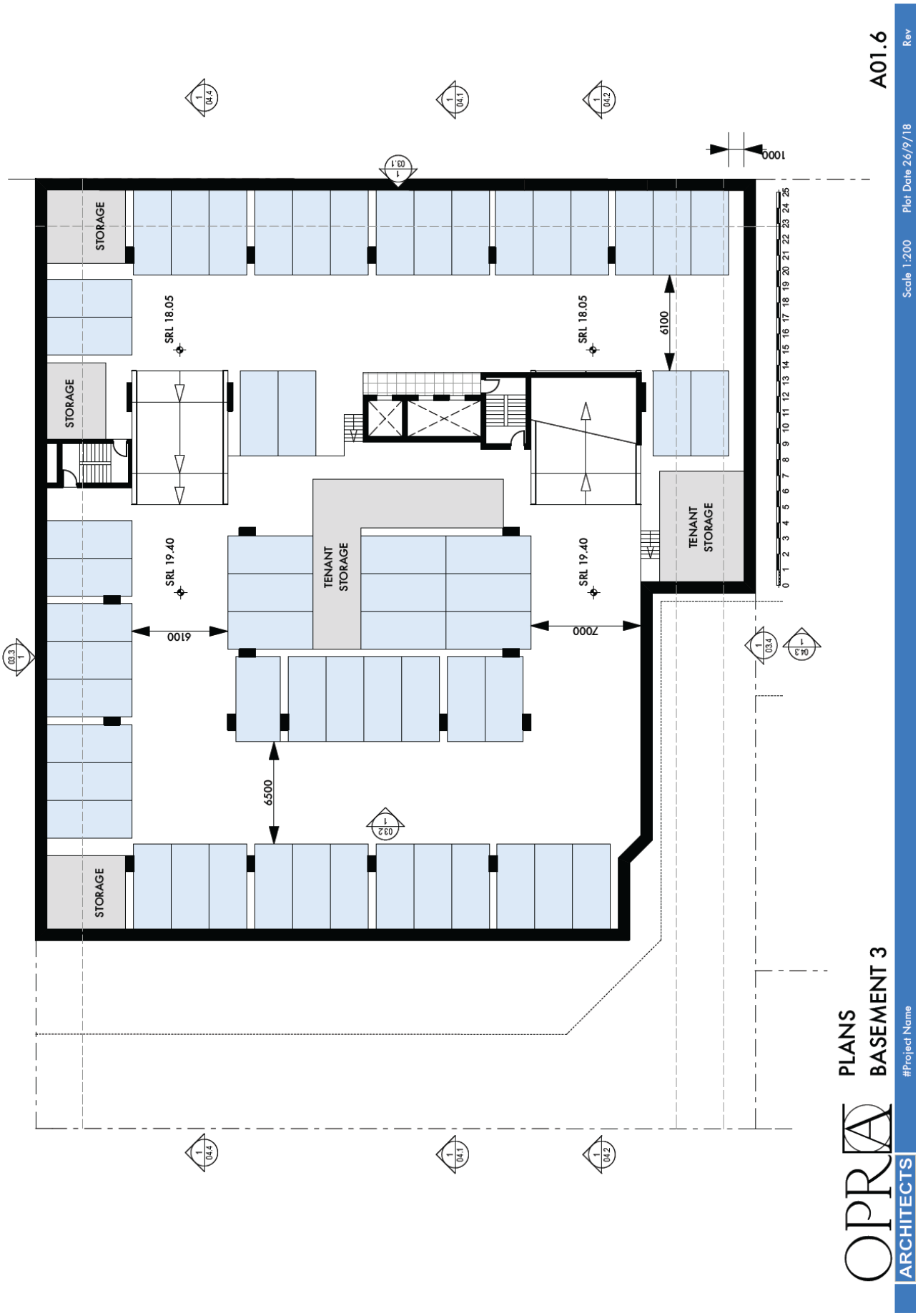
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#Project Name
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Rev
OPRA
ARCHITECTS
STORAGE
STORAGE
STORAGE
TENANT STORAGE
TENANT STORAGE
SRL 18.05
SRL 18.05
SRL 19.40
SRL 19.40
6100
6100
7000
6500
1000

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 Cumberland Highway is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking Liverpool to Wahroonga. It typically carries three traffic lanes in each direction in the vicinity of the site and is subject to Clearway restrictions during commuter peak periods.

The M4 Motorway is also classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Concord to Emu Plains. It typically carries three to four traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. All intersections with the M4 Motorway are grade-separated.

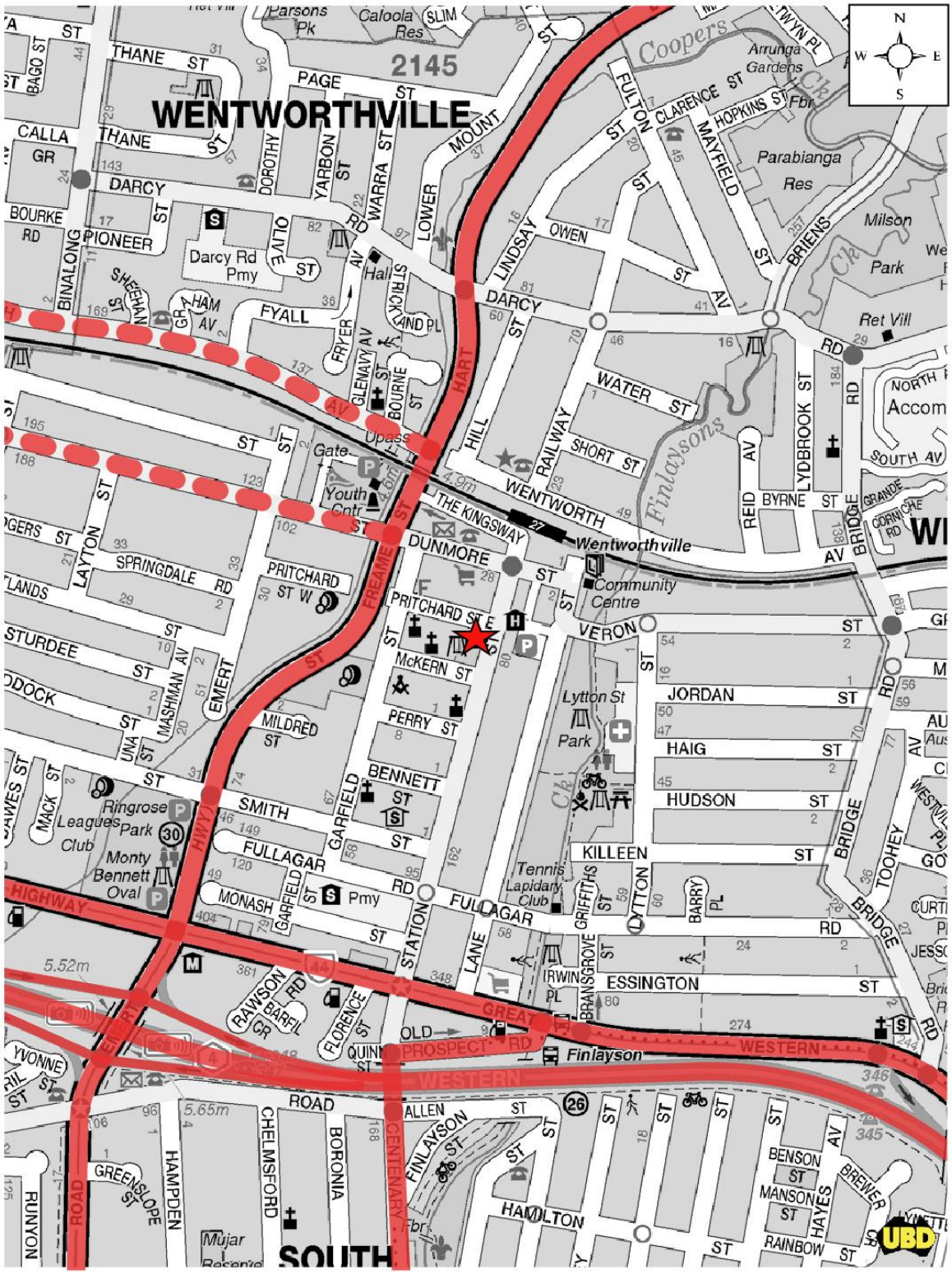
The Great Western Highway is also classified by the RMS as a *State Road* and provides another key east-west road link in the area, linking the City to the Blue Mountains. It typically carries three traffic lanes in each direction in the vicinity of the site, with additional lanes provided at key locations.

Station Street and Pritchard Street East are local, unclassified roads which are primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of both roads, subject to sign-posted time restrictions.

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 70 km/h SPEED LIMIT which applies to Cumberland Highway



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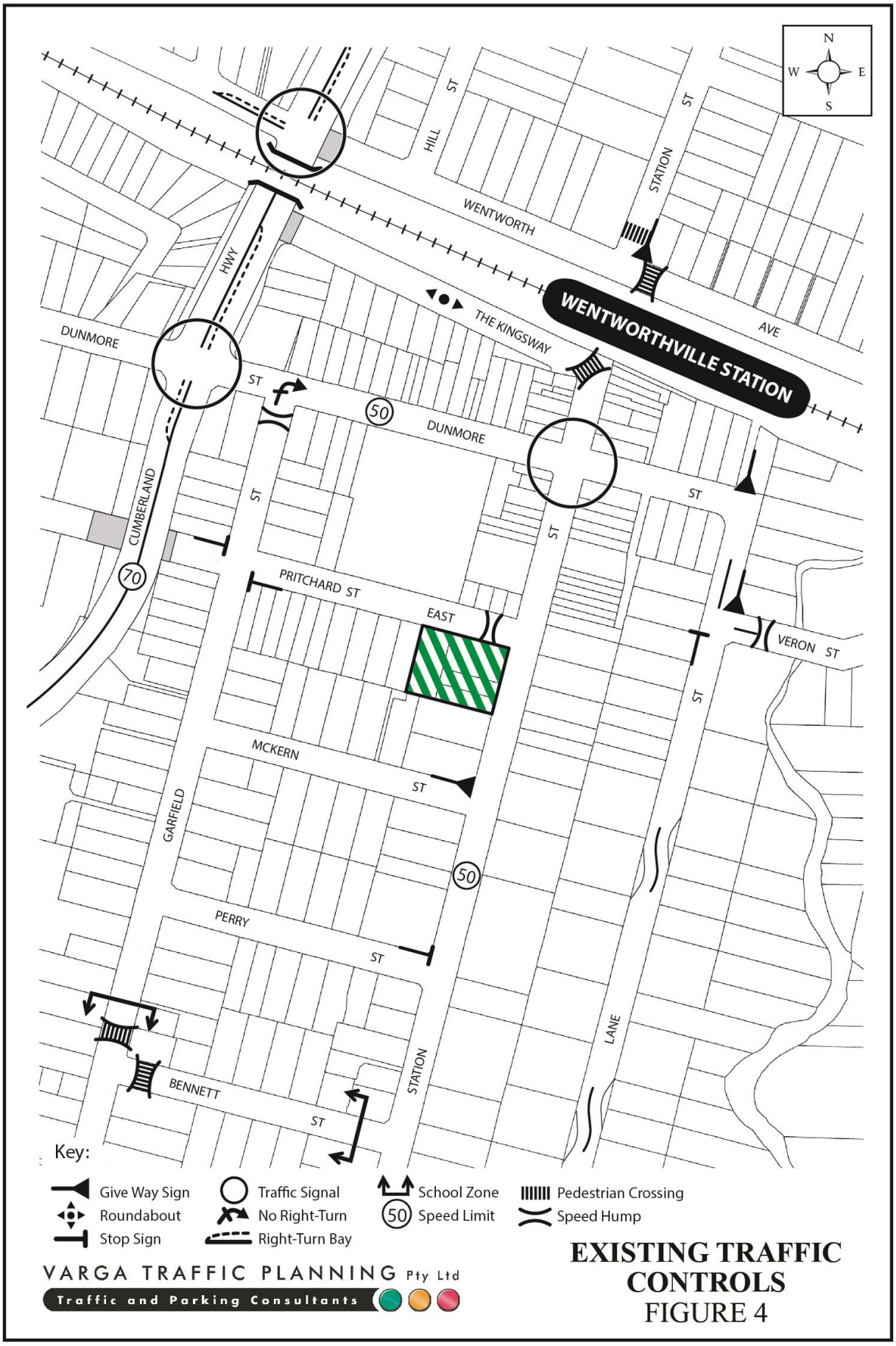
ROAD HIERARCHY
FIGURE 3


N
W
E
S
HILL ST
STATION ST
WENTWORTH
HWY
THE KINGSWAY
WENTWORTHVILLE STATION
AVE
DUNMORE ST
50
DUNMORE ST
CUMBERLAND
70
PRITCHARD ST EAST
VERON ST
MCKERN ST
GARFIELD
50
PERRY ST
BENNETT ST
STATION LANE
Key:
Give Way Sign
Roundabout
Stop Sign
Traffic Signal
No Right-Turn
Right-Turn Bay
School Zone
50 Speed Limit
Pedestrian Crossing
Speed Hump
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EXISTING TRAFFIC CONTROLS
FIGURE 4

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

- TRAFFIC SIGNALS in Dunmore Street where it intersects with Cumberland Highway and Station Street

- RIGHT-TURN BAYS in Cumberland Highway onto Dunmore Street

- PEDESTRIAN CROSSINGS in the immediate vicinity of the Wentworthville Station.

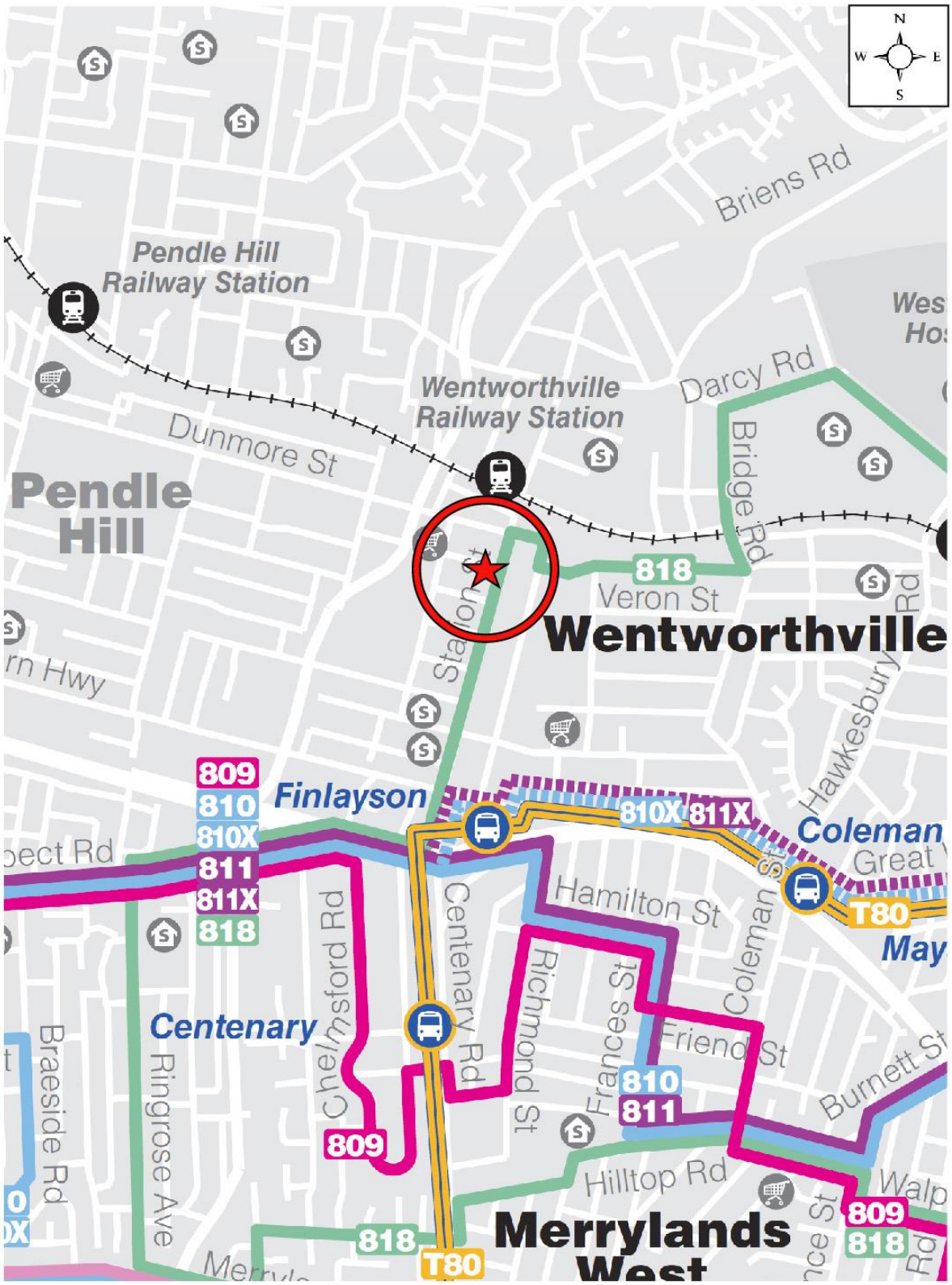
Existing Public Transport Services

The existing public transport services available in the vicinity of the subject site are illustrated on Figure 5.

Wentworthville Railway Station is located within approximately 200 metres or 3 minutes walking distance to / from the site servicing the T1Western Line operating between Emu Plains or Richmond and City and T5 Cumberland Line operating between Leppington and Richmond. Train services typically arrive / depart the station at 10 minute intervals during commuter peak periods and 30 minute intervals at other times.

Several bus services are also available on Station Street with bus stops accessible directly outside the subject site. These services include: route 705 (Blacktown to Parramatta via Seven Hills), route 708 (Constitution Hill to Parramatta via Pendle Hill), route 818 (Westmead to Merrylands) and route S8 (Wentworthville to Constitution Hill).

On the above basis, it is clear that the site has excellent connectivity to existing public transport services and is ideally located to encourage the greater use of active and sustainable modes of transport.



EXISTING PUBLIC TRANSPORT
FIGURE 5

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Projected Traffic Generation

The traffic implications of a development proposal primarily concern the effects of the *additional* traffic flows generated as a result of the development and its impact on the operational performance of the adjacent road network during the morning and afternoon commuter peak periods.

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 – Land Use Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction* (TDT 2013/04a) document.

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

The RMS *Guidelines* and *Technical Direction* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the development proposal:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

However, neither the RMS *Guidelines* nor the *Technical Direction* nominate a traffic generation rate for small, local shops. For the purpose of this assessment therefore, the traffic generation rate of "1.6 (AM) / 1.2 (PM) peak hour vehicle trips per $100m^2$ GFA" for *commercial premises* has been adopted in respect of the general retail component of the development.

Application of the above traffic generation rates and assumptions to the various components of the development proposal yields a traffic generation potential of approximately 30 vehicle trips per hour (vph) during the AM peak hour and 23 vph during the PM peak hour, as set out below:

Projected Future Traffic Generation Potential

	AM	**PM**
Residential (106 apartments):	20.1 vph	15.9 vph
Retail (595m^2):	9.5 vph	7.1 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	**29.6 vph**	**23.0 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 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.

The RMS *Guidelines* nominates the following traffic generation rates which are applicable to the existing development:

Service Stations and Convenience Stores

Evening peak hour vehicle trips = 0.04 A(S) + 0.3 A(F), or

Evening peak hour vehicle trips = 0.66 A(F)

Where,

A(S) = area of site (m^2)

A (F) = gross floor area of convenience store (m^2)

Application of the above traffic generation rates to the existing service station on the site comprising an estimated GFA of 833m^2 yields a traffic generation potential of approximately 60 to 141 vph during both the PM peak hour.

The RMS *Guidelines* do not recommend an AM peak hour traffic generation rate for service stations, for the purposes of this assessment therefore, it is considered reasonable to assume that the AM traffic generation potential of the service station will be 25% of the AM peak hour which corresponds to 35 vph.

Accordingly, it is likely that the proposed development will result in a *nett reduction* in the traffic generation potential of the site of approximately 6 vph during the AM peak hour and a nett *reduction* in the traffic generation potential of the site of approximately 118 vph during the PM peak hour as set out below:

Projected Nett Change in Peak Hour Traffic Generation Potential of the Site as a Consequence of the Development Proposal

	AM	**PM**
Projected Future Traffic Generation Potential:	29.6 vph	23.0 vph
Less Existing Traffic Generation Potential:	-35.2 vph	-140.8 vph
NETT CHANGE IN TRAFFIC GENERATION POTENTIAL:	**-5.6 vph**	**-117.8 vph**

That projected nett change in traffic activity in the AM peak hour as a consequence of the development proposal is consistent with the zoning objectives of the site and will clearly not have any unacceptable traffic implications in terms of road network capacity. It is further noted that the proposed development could contribute to a *nett* improvement to the traffic conditions in the PM peak hour with an estimated *reduction* of 116 vph.

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:

- ¼ HOUR / 1 HOUR PARKING restrictions in Station Street
- 1 HOUR PARKING restrictions in McKern Street
- 2 HOUR PARKING restrictions in Pritchard Street East
- BUS ZONES located at regular intervals along both sides of Station Street.

Off-Street Car Parking Provisions

The off-street parking requirements applicable to the development proposal are specified in *Holroyd Development Control Plan (DCP) 2013, Part A, Section 3 – Car Parking* document in the following terms:

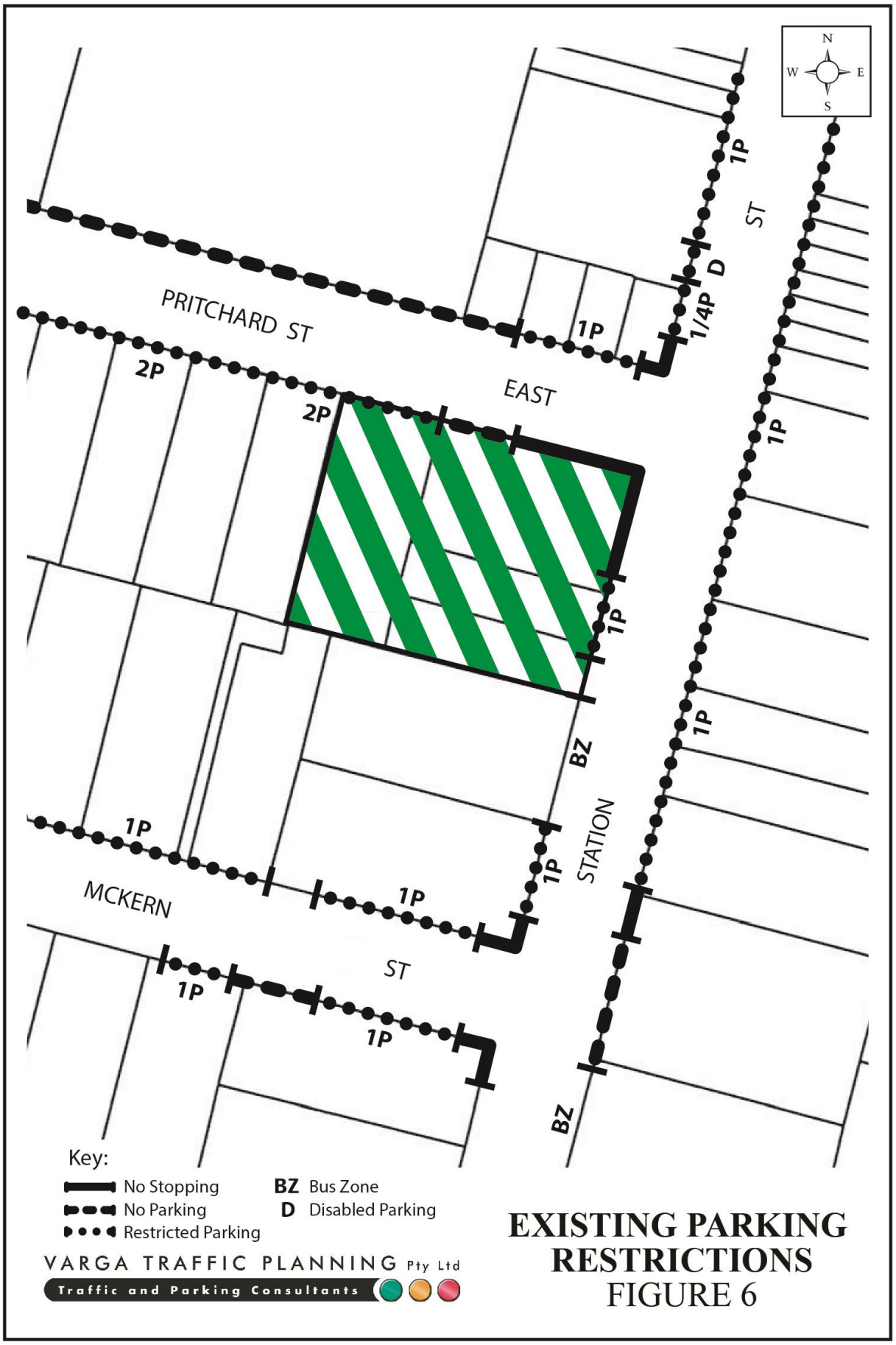
Residential Flat Buildings (Zone B2)

	Minimum	*Maximum*
Studio/1 bedroom apartment:	0.8 spaces per apartment	1.0 spaces per apartment
2 bedroom apartment:	1.0 spaces per apartment	1.5 spaces per apartment
3 bedroom apartment:	1.2 spaces per apartment	2.0 spaces per apartment
4+ bedroom apartment:	1.5 spaces per apartment	2.0 spaces per apartment
Visitors:	0.2 spaces per apartment	0.5 spaces per apartment

Commercial (including retail premises) – B2 Zone in Wentworthville

	Minimum	*Maximum*
Ground Floor – Leasable GFA*	1 per 20m^2	1 per 15m^2
Above Ground Floor – Leasable GFA	1 per 40m^2	1 per 20m^2

*Ground floor retail rates have been applied to the proposed retail premises on the basis that all of them front onto their respective street frontages.


N
W
E
S
PRITCHARD ST
EAST
MCKERN
ST
STATION
ST
1P
2P
1/4P
D
BZ
Key:
No Stopping
No Parking
Restricted Parking
BZ Bus Zone
D Disabled Parking
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 6

Application of the above parking requirements to the various components of the development proposal yields an off-street parking requirement of 167 to 266 parking spaces as set out below:

Residential (106 apartments):	103.0 to 151.5 spaces
Visitors:	21.2 to 53.0 spaces
Retail shops (595m^2):	29.8 to 39.7 spaces
TOTAL:	**154.0 to 244.2 spaces**

Notwithstanding, the subject site is located within 800 metres of a railway station in the Sydney metropolitan area, 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 *Holroyd DCP 2011* 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 development proposal is 124 spaces comprising 101 residential spaces and 23 visitor spaces as set out below:

	Holroyld DCP 2011	**RMS Guidelines**
Residents:	103.0 spaces	91.7 spaces
Visitors:	21.2 spaces	21.2 spaces
Total:	124.2 spaces	112.9 spaces

Lesser Car Parking Requirement: 113 spaces

The off-street car parking requirement applicable to the site is therefore 143 to 153 spaces, comprising 30 to 40 retail car spaces in accordance with Council car parking code requirements, plus 113 resident / visitor spaces in accordance with *SEPP 65* requirements.

The proposed development makes provision for a total of 146 off-street car parking spaces, thereby satisfying both the Council and *SEPP 65* car parking code 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 parking bay dimensions and aisle widths.

Off-Street Bicycle Parking Provisions

The off-street bicycle parking requirements applicable to the development proposal are specified in *Holroyd DCP 2013, Part A, Section 3 – Car Parking* document in the following terms:

Residential Flat Buildings

Resident:	0.5 spaces per apartments except studio apartments
Visitors:	0.1 spaces per apartment

Ground floor – business zones

Employee:	1 per 300m^2
Customers:	1 per 2,500m^2

Application of the above bicycle parking requirements to the various components of the development proposal yields an off-street bicycle parking requirement of 66 spaces as set out below:

Residential (106 apartments):	53.0 resident spaces + 10.6 visitor spaces
Retail (595m^2)	2.0 staff spaces + 0.2 customer spaces
TOTAL:	**66 bicycle spaces**

The proposed development makes provision for a total of 66 off-street bicycle parking spaces in Basement 1, thereby satisfying Council's bicycle parking requirements.

Loading / Servicing Provisions

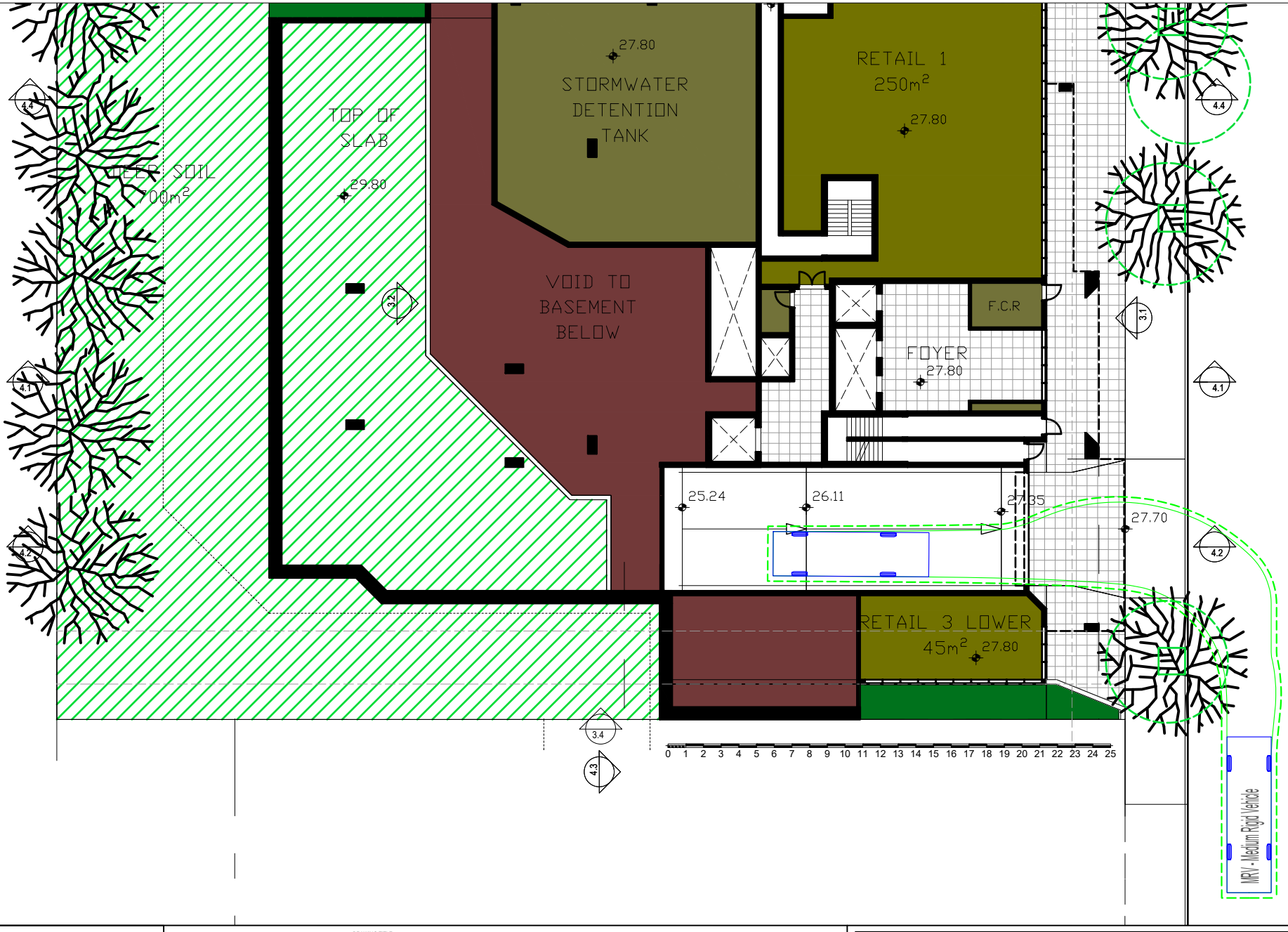
The proposed mixed-use building is expected to be serviced by a variety of commercial vehicles up to and including 8.8 metres long Medium Rigid Vehicles (MRVs).

A dedicated service area will be provided on the upper basement level. The manoeuvring area has been designed to accommodate the *swept turning path* requirements of these MRV trucks, allowing them to enter and exit the site whilst travelling in forward gear at all times, as demonstrated by the attached *swept turning path* diagram.

The geometric design layout of the proposed loading/service area 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 service area requirements and loading bay dimensions for MRV trucks.

Conclusion

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in Council's *DCP, SEPP 65* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.



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PROJECT
MIXED-USED DEVELOPMENT

N

DRAWING TITLE
TURNING PATHS 180926

1:300 @ A4

ADDRESS
55-57 Station Street
Wentworthville

PROJECT NO.
18023

DATE DRAWN
2018-9-26

REVIEWED
RV

PREPARED
TY

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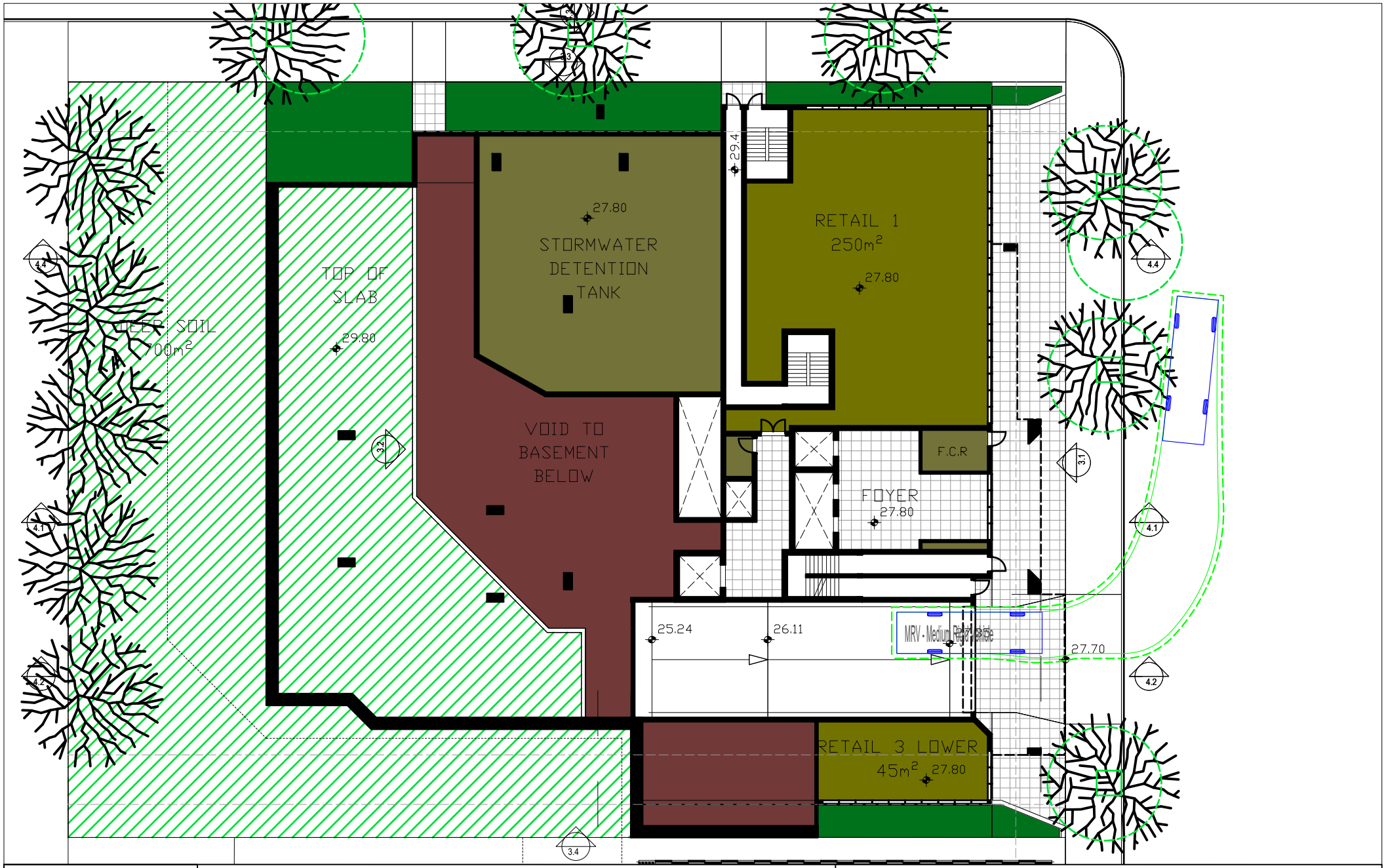

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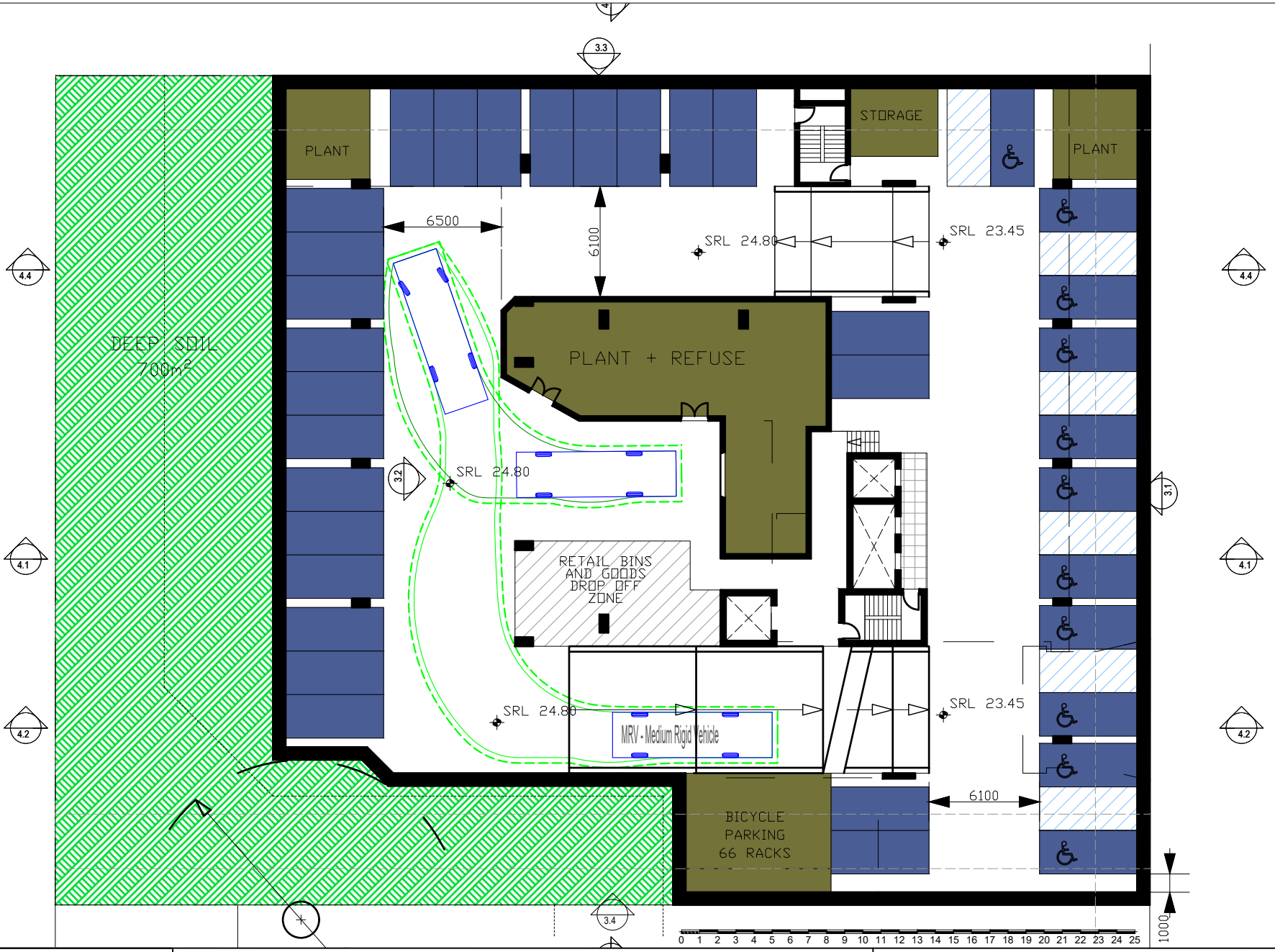

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VARGA TRAFFIC PLANNING Pty Ltd
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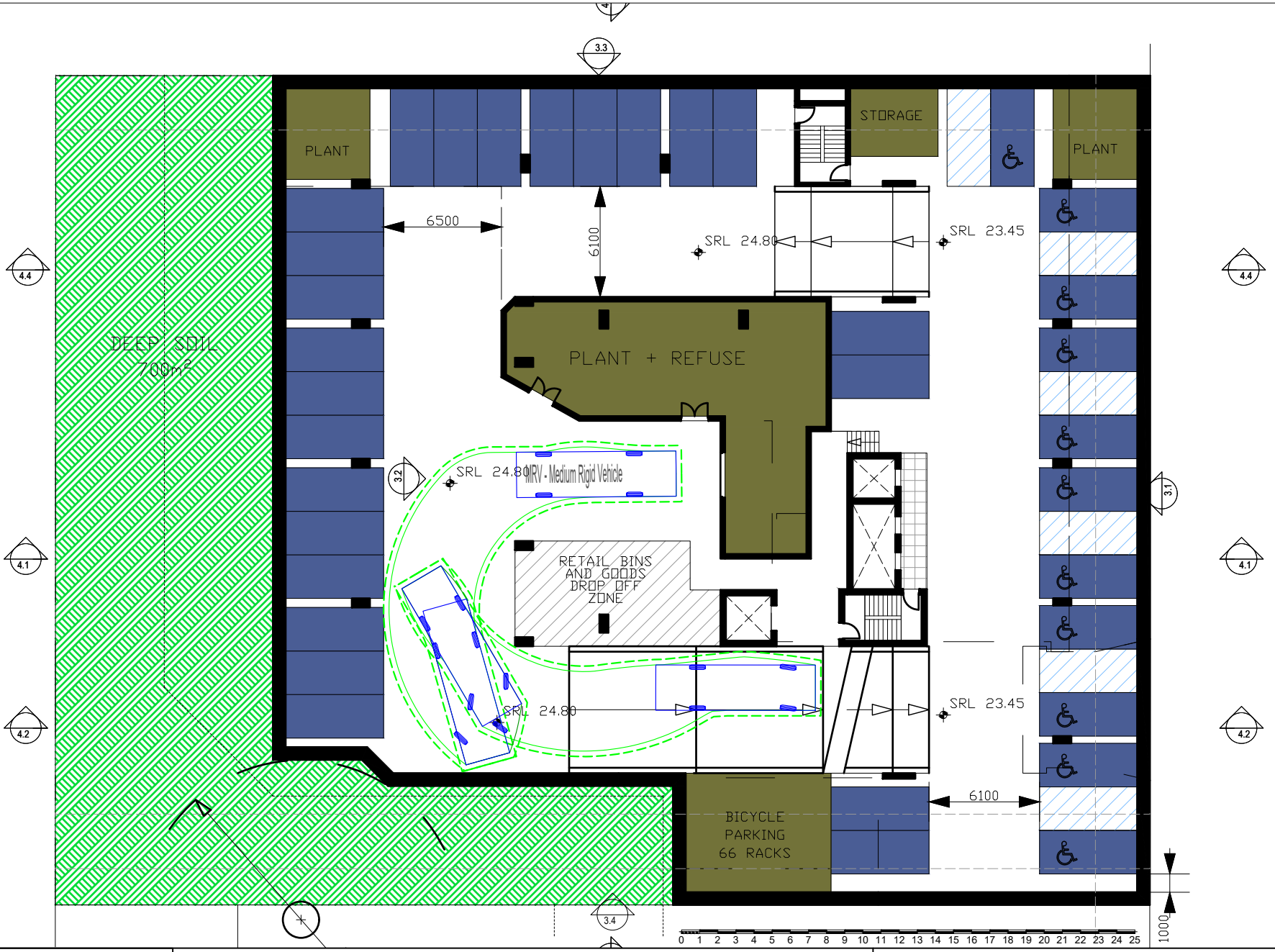

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Neutral Bay, NSW 2089

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Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED-USED DEVELOPMENT

N

DRAWING TITLE
TURNING PATHS 180926

1:300 @ A4

ADDRESS
55-57 Station Street
Wentworthville

PROJECT NO.
18023

DATE DRAWN
2018-9-26

REVIEWED
RV

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
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