PROPOSED SHOP TOP HOUSING DEVELOPMENT

17-19 ANZAC AVENUE, COLLAROY

Traffic and Parking Assessment Report

6th April 2020

Ref: 20015

Prepared by

Terraffic Pty Ltd
Traffic and Parking Consultants

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1. INTRODUCTION

This report has been prepared to accompany a Development Application (DA) to Northern Beaches Council for a proposed shop top housing development at 17-19 Anzac Avenue, Collaroy (Figures 1 and 2).

The proposed development site is located on the northern side of Anzac Avenue approximately 20m east of Pittwater Road. It has a total site area of 648.3m^2 with a frontage of 29.08m to Anzac Avenue.

Existing Site Development

The existing site development contains a disused retail building with a floor area of approximately 260m^2. The site is served by approximately 6 unmarked parking spaces that gain vehicular access via 6.6m wide combined entry/exit driveway off Anzac Avenue.

Proposed Development

The development proposal involves the demolition of the existing building and construction of a new shop top housing development comprising 2 small retail shops/cafes with a combined floor area of 75.8m^2 and 7 residential apartments as follows:

Retail

Retail 1	57.18m^2
Retail 2	18.62m^2
Total Retail	**75.80m^2**

Residential

1 bedroom units	1
3 bedroom units	6
Total Units	**7**

The proposed development is served by a single level basement containing a total of 17 off-street car parking spaces comprising 13 resident spaces, 1 visitor and 3 retail tenant spaces. Of

that resident parking provision, 8 spaces will be located in 2 x dual width car stackers that will provide independent access to each parking space.

Vehicular access to the proposed development is off Anzac Avenue via a two-way 5.5m wide combined entry/exit driveway centrally located along the site frontage.

Public Transport Accessibility

The subject site has convenient access to the following bus services that stop on Pittwater Road at Anzac Avenue:

Route E60 Mona Vale to Chatswood (Express Service) via Narrabeen, Dee Why, Beacon Hill, Frenchs Forest and Roseville (operates weekdays)

Route E83 North Narrabeen to City Wynyard (Express Service) via Elanora Heights, Collaroy, Dee Why, Brookvale and Neutral Bay (operates weekdays)

Route E85 Mona Vale to City Wynyard (Express Service) via Warriewood, Narrabeen, Collaroy, Dee Why, Brookvale and Neutral Bay (operates weekdays)

Route 151 Mona Vale to City QVB via Narrabeen, Dee Why, Brookvale, Mosman, Neutral Bay and North Sydney Station (operates daily)

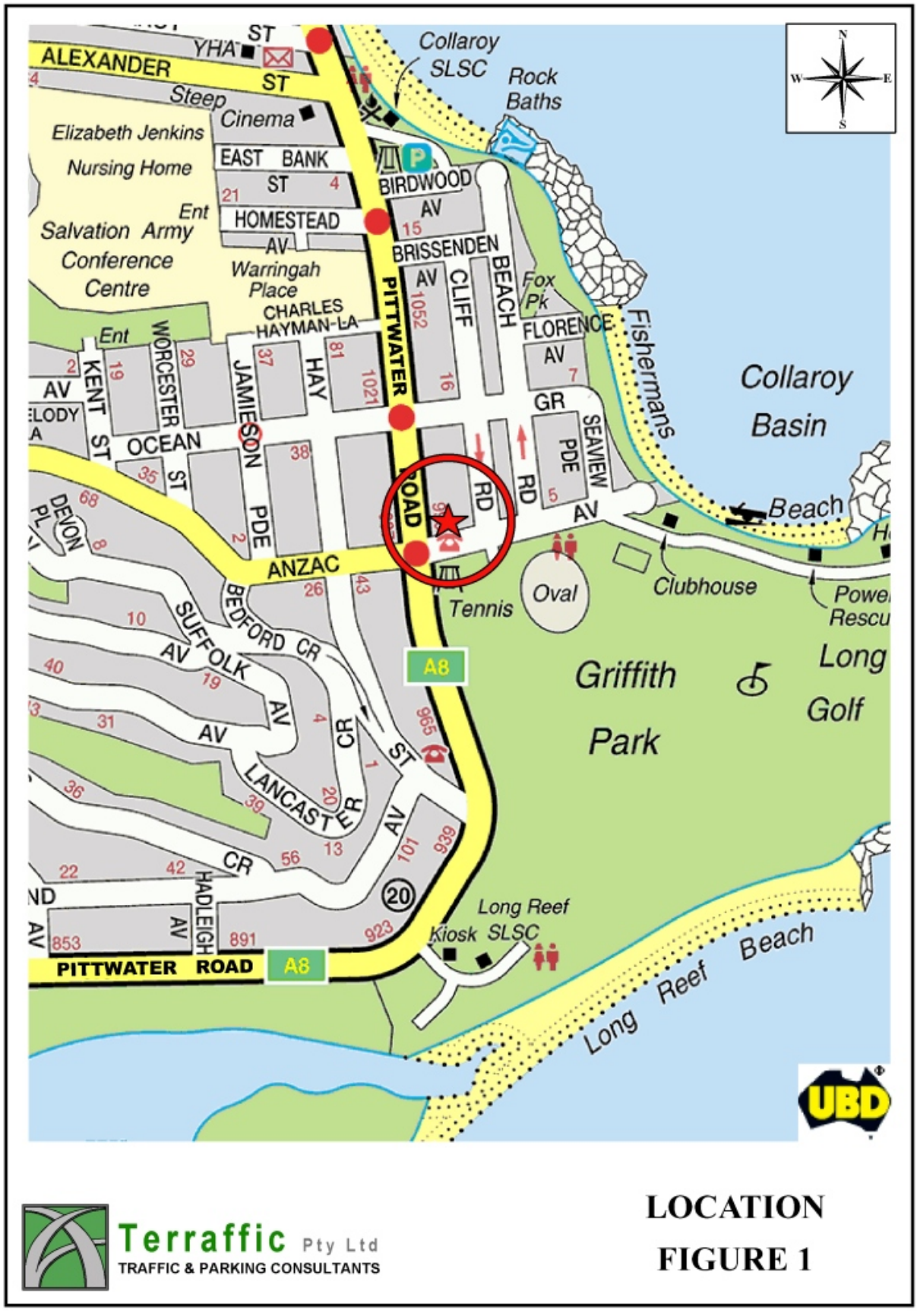
Route 185 Mona Vale to Warringah Mall via Warriewood and Dee Why (operates daily)

Route 188 Mona Vale to City Wynyard (Express Service) via Narrabeen, Dee Why, Brookvale, Mosman, Neutral Bay and North Sydney Station (operates daily)

Route 199 Palm Beach to Manly Wharf via Avalon, Newport, Mona Vale, Narrabeen and Brookvale (operates daily)

Plans of the proposed basement carpark are reproduced in Appendix A.

The purpose of this report is to assess the traffic, servicing and parking implications of the proposed development.



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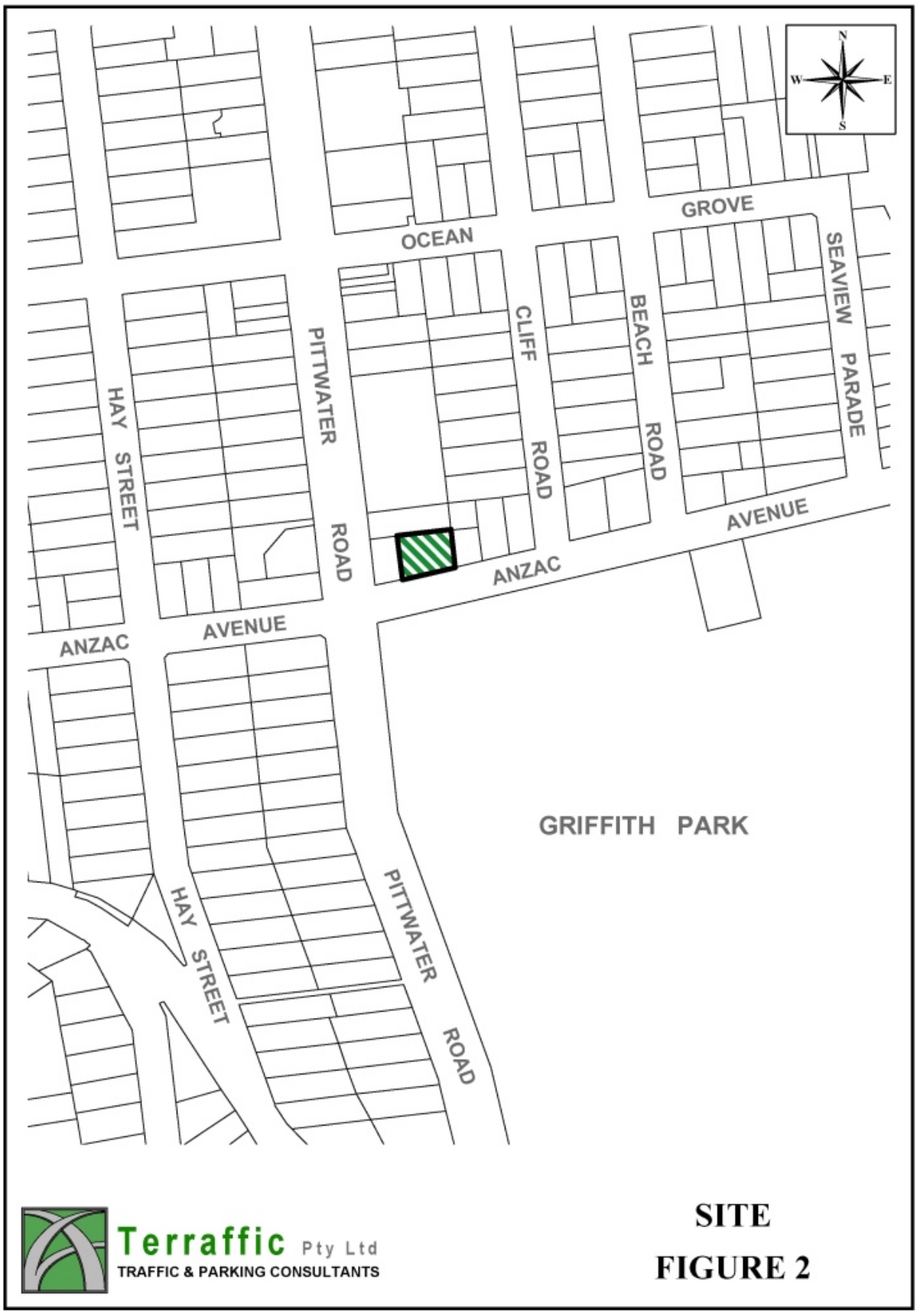
LOCATION
FIGURE 1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CLIFF ROAD
BEACH ROAD
PITTWATER ROAD
HAY STREET
ANZAC AVENUE
ANZAC AVENUE
GRIFFITH PARK
HAY STREET
PITTWATER ROAD
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SITE
FIGURE 2

2. PARKING ASSESSMENT

Existing Parking Conditions

The existing parking controls in the vicinity of the site are illustrated on Figure 3 and include:

- The AM and PM PEAK BUS LANES on Pittwater Road
- The 1 HOUR PARKING restrictions along the eastern side of Pittwater Road
- The UN-RESTRICTED PARKING along Anzac Avenue
- The 49 SPACE CARPARK on the southern side of Anzac Avenue

The existing on-street and off-street car parking capacities within a 150m radius of the site are illustrated on Figure 4 and show that there are up to 188 parking spaces available to patrons and visitors of the proposed mixed use development.

The table shown on Figure 4 takes into account the BUS LANES on Pittwater Road during the weekday morning and afternoon peak periods. Outside of these times, there are 188 available spaces comprising 139 on-street spaces and 49 off-street spaces.

Council DCP Parking Requirements

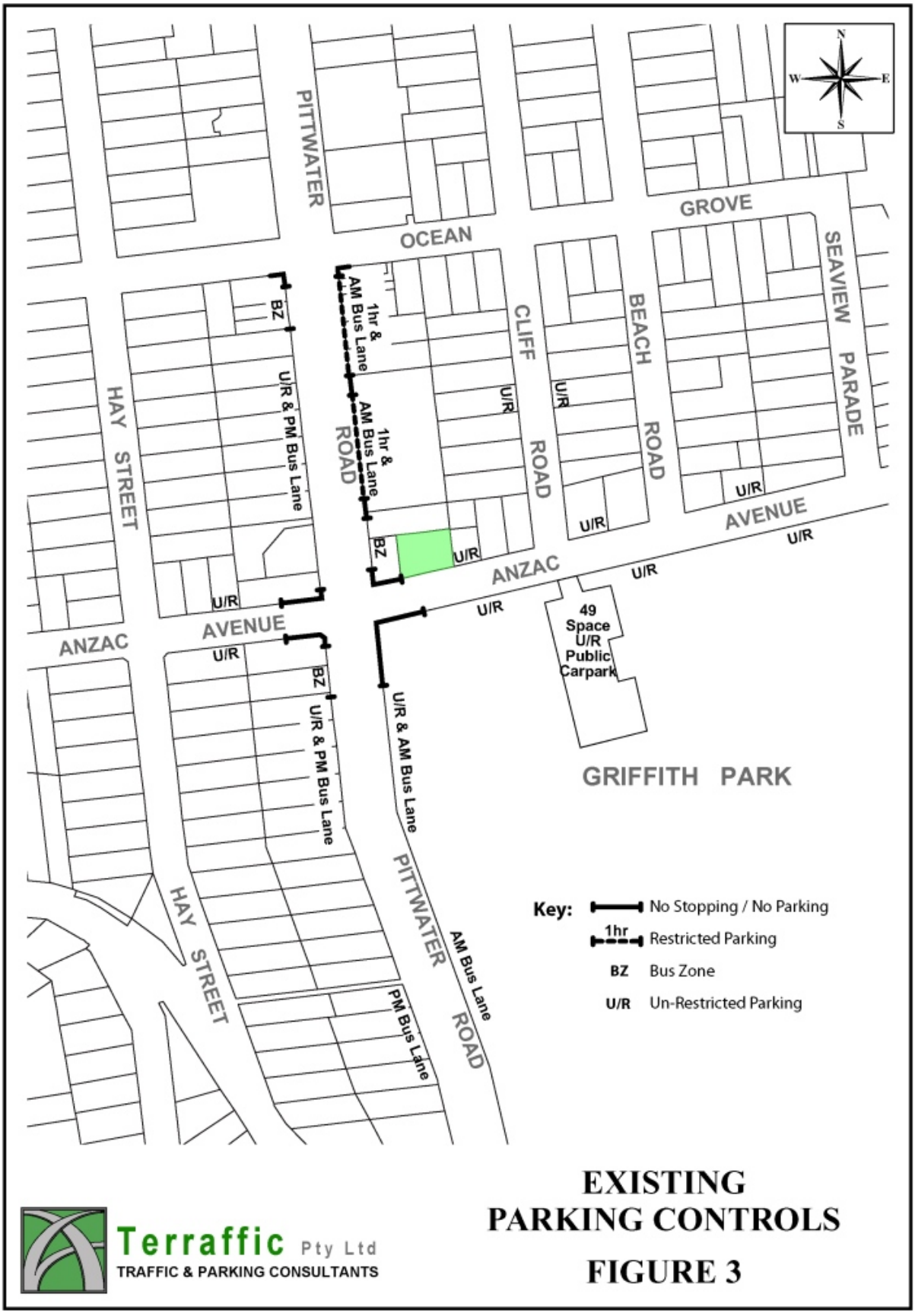
Appendix 1 in Part H of the Warringah Development Control Plan (effective 9 December 2011) nominates the following parking requirements that are applicable to the proposed development:

Multi-dwelling housing, Residential flat buildings, Serviced apartments (including holiday flats), Shop-top housing (residential component)

- 1 space per 1 bedroom dwelling
- 1.2 spaces per 2 bedroom dwelling
- 1.5 spaces per 3 bedroom dwelling
- 1 visitor space per 5 units or part of dwellings

Shop (includes retail / business component of shop top housing, retail premises and neighbourhood shop)

- 1 space per 16.4 m^2 GLFA (6.1 spaces per 100 m^2 GLFA)


N
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PITTWATER
OCEAN
GROVE
SEAVIEW PARADE
BEACH ROAD
CLIFF ROAD
HAY STREET
ANZAC AVENUE
1hr & AM Bus Lane
BZ
U/R & PM Bus Lane
U/R
49 Space U/R Public Carpark
GRIFFITH PARK
U/R & AM Bus Lane
PM Bus Lane
AM Bus Lane
Key:
No Stopping / No Parking
1hr Restricted Parking
BZ Bus Zone
U/R Un-Restricted Parking
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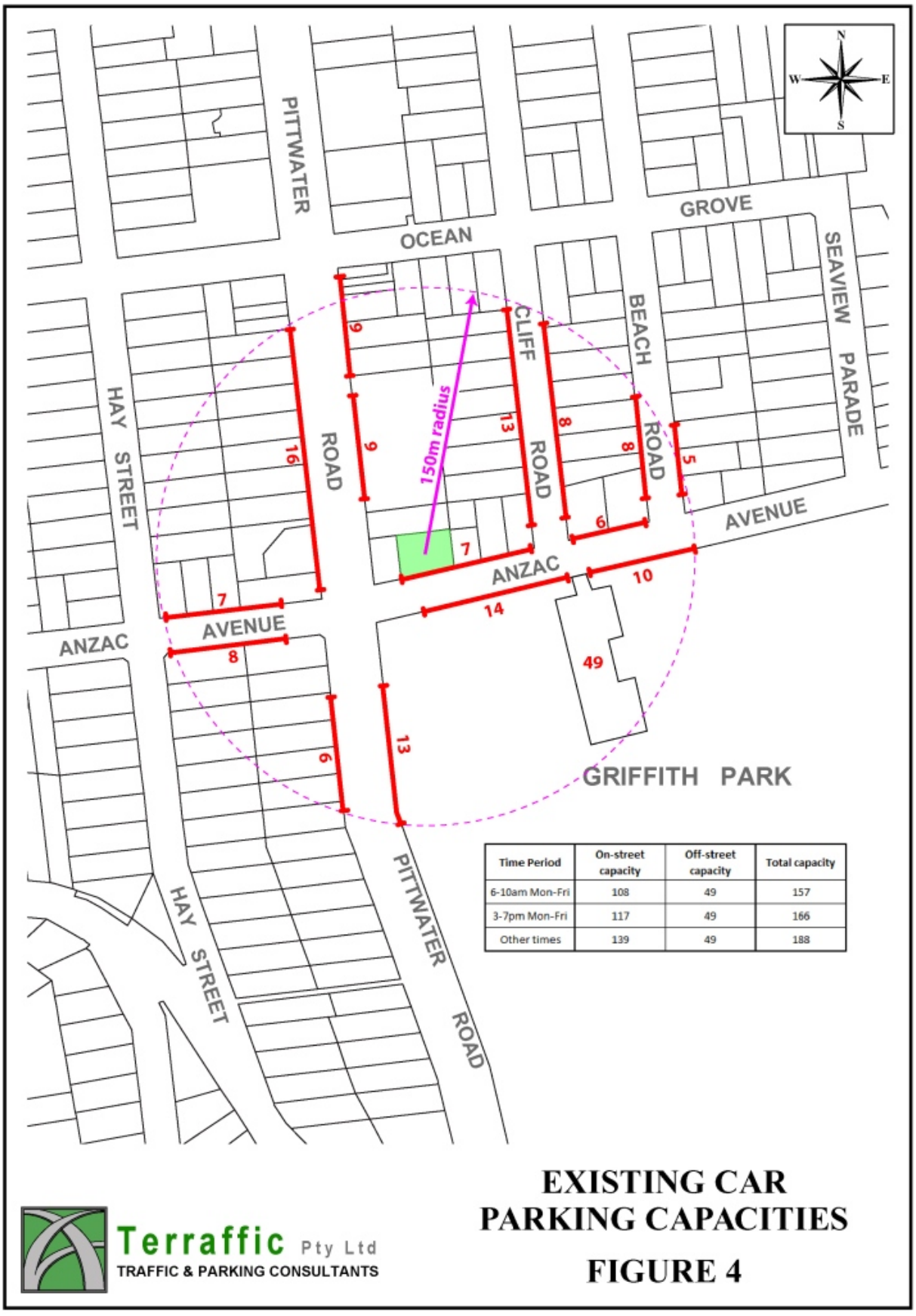
EXISTING PARKING CONTROLS
FIGURE 3



Time Period	On-street capacity	Off-street capacity	Total capacity
6-10am Mon-Fri	108	49	157
3-7pm Mon-Fri	117	49	166
Other times	139	49	188

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EXISTING CAR PARKING CAPACITIES

FIGURE 4

Application of those parking rates to the proposed development yields a total requirement of 16 spaces calculated as follows:

Residential	
1 x 1 bedroom units @ 1.0 space per dwelling	1.0 space
6 x 3 bedroom dwelling @ 1.5 spaces per dwelling	9.0 spaces
Total resident parking	*10.0 spaces*
7 dwellings @ 1 visitor space per 5 dwellings	1.4 spaces (rounded to 1 space)
Total	**11.4 spaces (rounded to 11 spaces)**
Retail	
75.8m^2 @ 6.1 spaces per 100m^2	4.6 spaces (rounded to 5 spaces)
Total	***16.0 spaces***

The proposed development makes provision for a total of 17 spaces which satisfies the DCP requirement. However, the proposed parking provision will exceed the residential requirement while falling short of the retail requirement as follows:

Landuse	Requirement	Provided	Difference
Resident	10 spaces	13 spaces	+ 3 spaces
Resident visitor	1 space	1 space	0
Retail	5 spaces	3 spaces	- 2 spaces
Total	***16 spaces***	***17 spaces***	***+1 space***

This parking allocation is considered acceptable in this case as:

1. Each dwelling will be allocated 2 parking spaces with the exception of the 1 bedroom unit that will be allocated 1 space

2. The DCP parking requirement for the retail floor space includes tenants and shoppers. The provision of 3 tenant parking spaces will clearly satisfy the demand for the 2 small retail shops/cafes with a combined floor area of 75.8m^2

3. The proposal will only be short 2 retail shopper/patron spaces

4. As is commonly the case for local shopping strips, retail shoppers and patrons generally park on-street as vehicular access to off-street carparks is generally restricted with security roller doors

5. There are approximately 188 car parking spaces available for shoppers within a 150m radius of the site. This includes the 49 space off-street carpark approximately 80m east of the site on Anzac Avenue

On-Site Loading Facilities

Part C2 of the Warringah Development Control Plan notes the following with regard to on-site loading facilities:

> **On-site loading and unloading**
>
> 6. Facilities for the loading and unloading of service, delivery and emergency vehicles are to be:
>
> - appropriate to the size and nature of the development;
> - screened from public view; and
> - designed so that vehicles may enter and leave in a forward direction.

Table 5.1 of the RMS's *"Guide to Traffic Generating Developments"* (October 2002) specifies the following requirement for delivery and service vehicles:

Restaurants/Shops <2,000m^2 GFA	1 space per 400m^2 GFA

Based on the RMS Guidelines, the proposed development requires less than one-fifth of a loading space as follows:

75.8m^2 Retail floorspace @ 1 loading bay per 400m^2 GFA	0.19 loading bay

As the requirement is so low, the proposal will rely on the availability of on-street parking for deliveries. The proposed shops/cafes are expected to receive up to 2 deliveries per day (1 per shop) by small delivery vehicles/courier vans.

Carpark and Access Compliance

The basement carpark and access have been designed to satisfy the following requirements of the Australian Standard AS/NZS2890.1-2004 – *"Off-Street Car Parking"*:

- Parking spaces are a minimum 5.4m long and 2.4m wide
- An additional 0.3m has been provided for spaces adjacent to a wall or obstruction
- A dead-end aisle extension 1.0m wide has generally been provided as per Figure 2.3 of the Standard
- The access/manoeuvring aisle exceeds the minimum width of 5.8m
- Pavement cross-falls at parking spaces do not exceed 5% (1 in 20)
- Access grades do not exceed 5% (1 in 20)
- The two-way access driveway is 6.1m wide wall to wall comprising a 5.5m roadway and 2 x 300mm wide kerbs
- A minimum headroom clearance of 2.2m has been provided throughout the basement carpark

The disabled parking space has also been designed in accordance with the Australian Standard AS/NZS2890.6:2009 – *"Off-street parking for people with disabilities"* as follows:

- A 5.4m long x 2.4m wide dedicated *(non-shared)* parking space
- An adjacent *shared* area that is also 5.4m long x 2.4m wide
- A minimum headroom of 2.5m above the disabled spaces
- Pavement cross-falls in disabled spaces do not exceed 2.5% (1 in 40) in any direction

As noted in the foregoing, 8 of the resident spaces will be located within 2 x dual width car stackers that will provide independent access to each space. While a system has not been determined at this stage, the stackers are likely to be similar to the WOHR Parklift 450. The specifications for this stacker are reproduced in Appendix A.

In the circumstances, it can be concluded that the proposed development has no unacceptable parking, loading or safety implications.

3. TRAFFIC ASSESSMENT

Existing Road Network

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 5 and comprises the following:

State Roads	**Regional Roads**
Pittwater Road	nil

Pittwater Road is a classified *State Road* performing an arterial road function. It typically carries 6 lanes of traffic (3 lanes in each direction) separated by a central median island. Kerbside parking is generally permitted outside of the morning and afternoon Bus Lane restrictions.

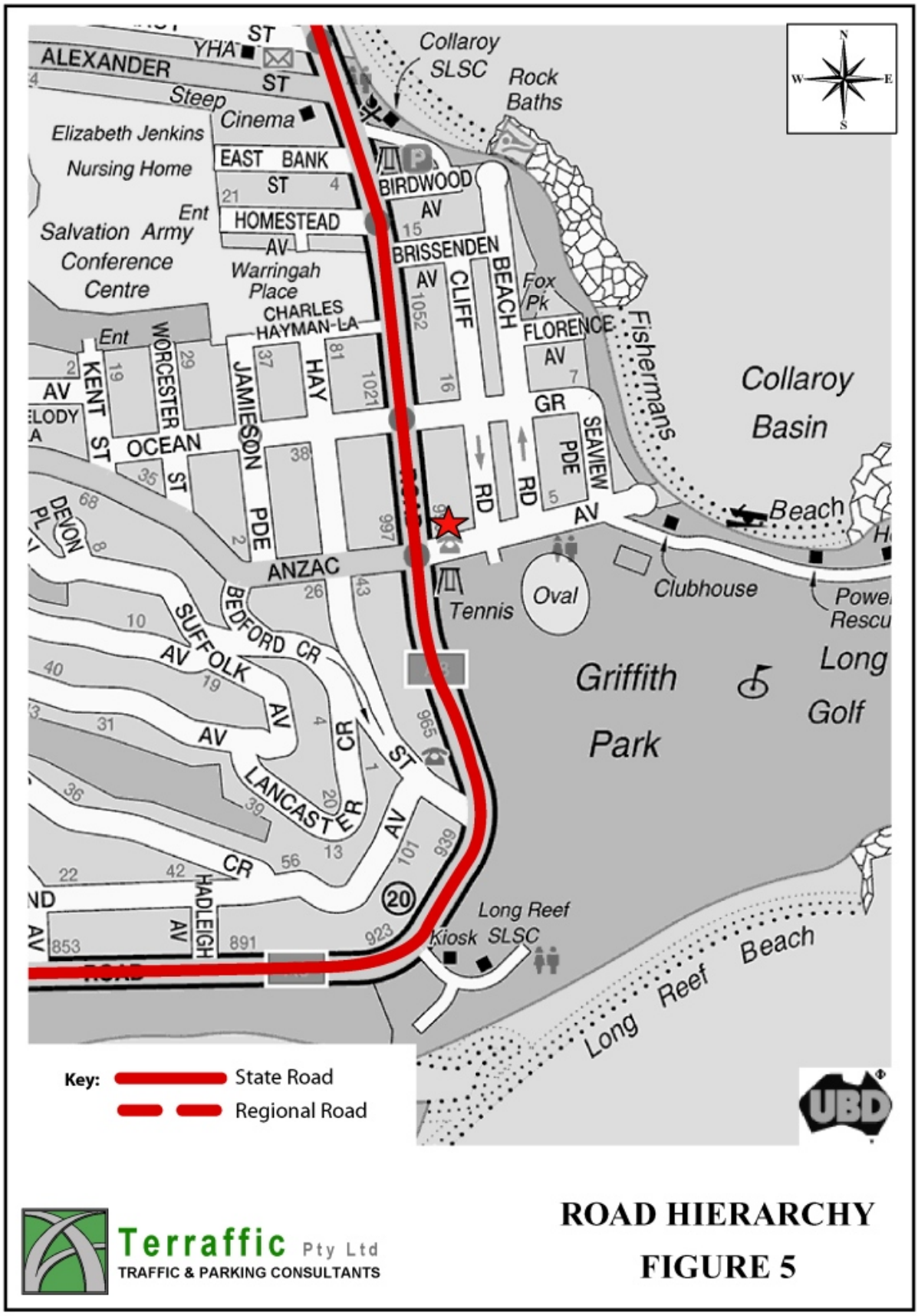
Anzac Avenue is an unclassified Local Road with a primary function of providing access to properties to the east of Pittwater Road, Collaroy Tennis Club, Griffith Park Playing Field, Long Reef Golf Club and Fishermans Beach. It has a pavement width of approximately 12.8m and is restricted to a speed limit of 50km/h.

The existing traffic controls on the road network serving the site are illustrated on Figure 6.

Projected Traffic Generation Potential

An indication of the traffic generation potential of the existing and proposed development is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002.*

The RMS *Guidelines* are based on extensive surveys of a wide range of land uses and nominates the following traffic generation rates which are applicable to the existing and proposed development:


ALEXANDER ST
YHA
Steep Cinema
Elizabeth Jenkins Nursing Home
EAST BANK ST
HOMESTEAD AV
Salvation Army Conference Centre
Warringah Place
CHARLES HAYMAN-LA
Collaroy SLSC
Rock Baths
BIRDWOOD AV
BRISSENDEN AV
CLIFF BEACH
Fox Pk
FLORENCE AV
Fishermans
Collaroy Basin
Beach
KENT ST
WORCESTER
JAMIESON
HAY
OCEAN ST
SEAVIEW PDE
RD
GR
AV
DEVON PL
PDE
ANZAC
Tennis
Oval
Clubhouse
BEDFORD CR
SUFFOLK AV
LANCASTER AV
CR ST
Griffith Park
Long Golf
HADLEIGH CR
Long Reef Kiosk SLSC
Long Reef Beach
Key:
State Road
Regional Road
UBD
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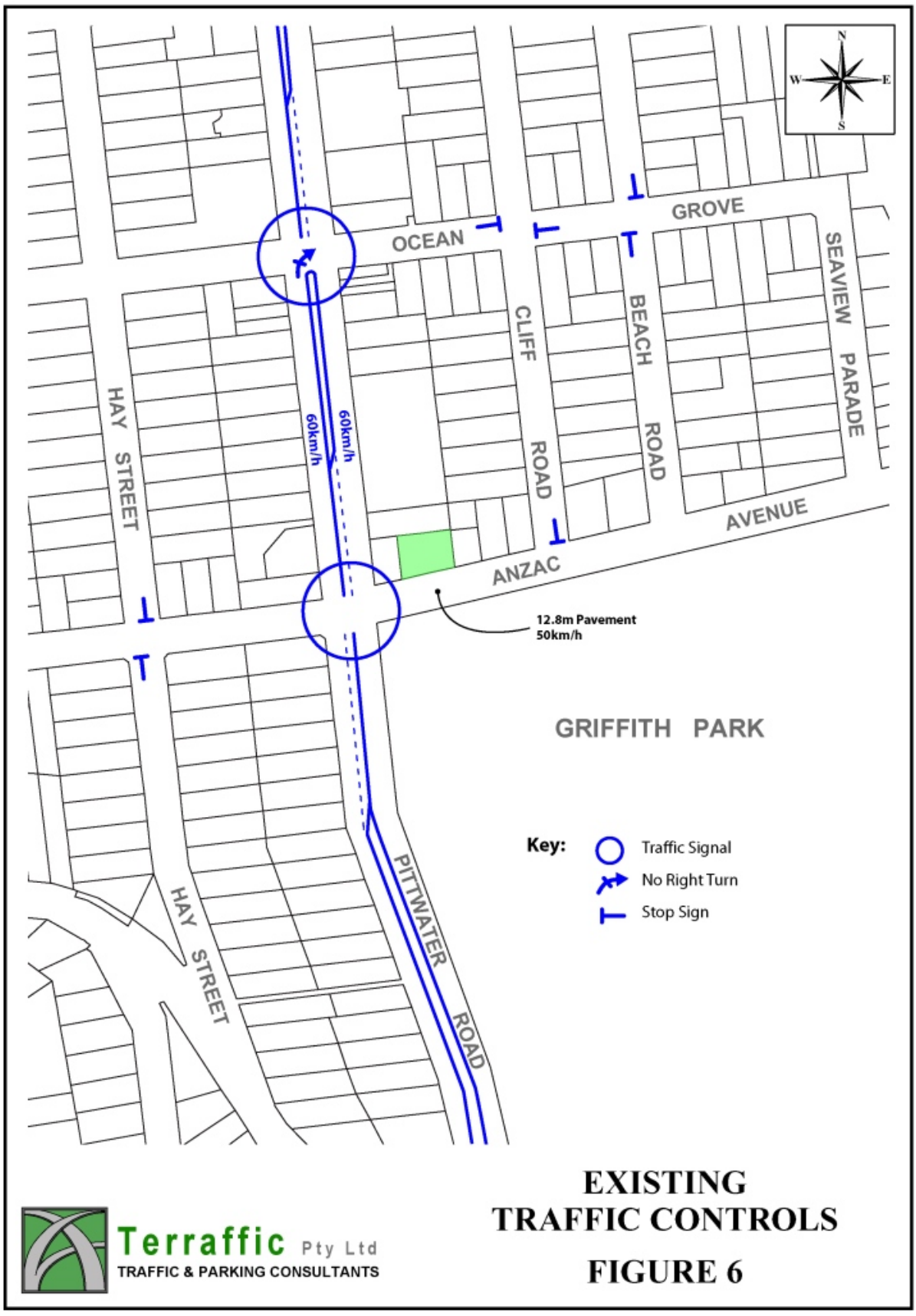
ROAD HIERARCHY
FIGURE 5


N
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OCEAN
GROVE
SEAVIEW PARADE
CLIFF ROAD
BEACH ROAD
HAY STREET
60km/h
60km/h
ANZAC AVENUE
12.8m Pavement
50km/h
GRIFFITH PARK
Key:
Traffic Signal
No Right Turn
Stop Sign
HAY STREET
PITTWATER ROAD
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TRAFFIC & PARKING CONSULTANTS
EXISTING
TRAFFIC CONTROLS
FIGURE 6

Specialty Shops / Secondary Retail (2002 rate) 5.6 peak hour trips per 100m^2 GLFA

Medium density residential flat buildings

Up to 2 bedrooms	0.4-0.5 trips per dwelling
3+ bedrooms	0.5-0.65 trips per dwelling

Traffic Generation of EXISTING SITE Development

Application of the RMS's traffic generation rates to the former retail building on the site yields a traffic generation potential in the order of 14vtph during the weekday peak periods as follows:

260m^2 specialty retail @ 5.6vtph per 100m^2	14vtph

Traffic Generation of PROPOSED Development

Application of the RMS's traffic generation rates to the proposed development yields a traffic generation potential in the order of 9vtph during the weekday peak periods calculated as follows:

75.8m^2 specialty retail @ 5.6vtph per 100m^2	4vtph
1 x 1 bedroom units @ 0.5vtph per unit	1vtph
6 x 3 bedroom units @ 0.65vtph per unit	4vtph
Total	***9vtph***

Therefore based on the RMS Guidelines, the proposed development will generate approximately 5 less vehicle movements during peak periods as follows:

Existing Development	14vtph
Proposed Development	9vtph
Reduction in traffic	***5vph***

In circumstances where the proposed development will potentially generate less traffic than the existing site development, it can be concluded that the proposal will not have any

noticeable or unacceptable effect on the road network serving the site in terms of road network capacity or traffic-related environmental effect.

Furthermore, the development site has almost direct vehicular access to the higher order road network which alleviates the need to travel on local residential streets.

In the circumstances, the proposed development will not have any unacceptable traffic implications.

APPENDIX A

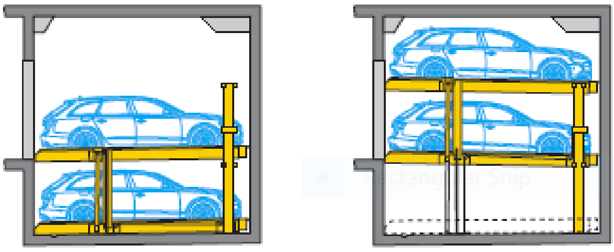
PLAN OF THE PROPOSED DEVELOPMENT


ANZAC AVENUE
LONG REEF SHOP-TOP
BASEMENT + CARPARK PLAN
DP 130633
DP 302089
CAR STACKER
BASEMENT
VISITOR
SHARED SPACE
RETAIL STORE
GARBAGE ROOM
CORRIDOR
FOYER
FOOTPATH
SEWER
OVERHEAD POWERLINES
6.128 SETBACK
GARTNERTROVATO

APPENDIX B

CAR STACKER SPECIFICATIONS

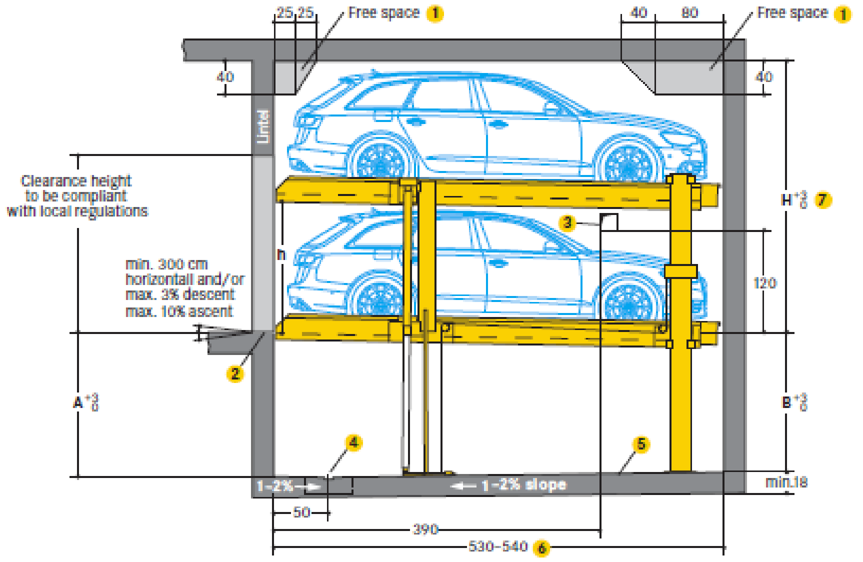
Data Sheet
WÖHR PARKLIFT 450



- **Single units: 2 cars**
  Double units: 4 cars
- **Platform load options:**
  - max. 2000 kg, load per wheel 500 kg
  - max. 2600 kg, load per wheel 650 kg
- **Platform slopes for drive-on:**
  - upper level: 1° = 2% ascent
  - lower level: 1° = 2% descent

  Platform slopes help drainage

Height and length dimensions (underground car park)



Type	Height (H) 7	Pit depth A	B	Vehicle height 8 UL	LL	Platform distance (h)
450-170	320	170	165	L+S: 150	L+S: 150	155
450-175	325	175	170	L+S: 150	L+S: 155	160
	330	175	170	L+S: 155	L+S: 155	160
450-180	330	180	175	L+S: 150	L+S: 160	165
	340	180	175	L+S: 160	L+S: 160	165
450-185	335	185	180	L+S: 150	L+S: 165	170
	350	185	180	L+S: 165	L+S: 165	170
450-190	340	190	185	L+S: 150	L+S: 170	175
	360	190	185	L+S: 170	L+S: 170	175
450-195	345	195	190	L+S: 150	L+S: 175	180
	370	195	190	L+S: 175	L+S: 175	180
450-200	350	200	195	L+S: 150	L+S: 180	185
	380	200	195	L+S: 180	L+S: 180	185

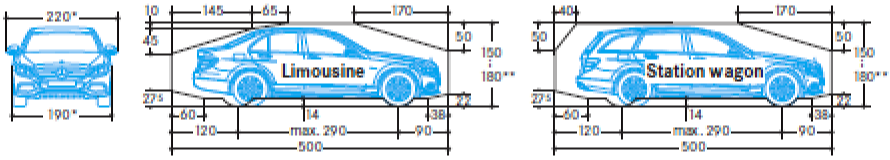
1. Free spaces for any connections performed by the customer:
   - please ask WÖHR for the dimension sheets
2. Yellow-black safety marking:
   - compliant to ISO 3864, 10 cm wide, along the pit edges (see page 3 »Static calculations and construction works requirements«)
3. In case of intermediate walls:
   - 15 x 15 cm opening for electric and hydraulic system cables and piping
   - after installation, do not close the opening
4. Recommended drainage channels:
   - 10 x 2 cm, with a 50 x 50 x 20 cm drainage pit
   - in case of installation of a sump pump, it is necessary to comply with the drainage pit dimensions specified by the pump manufacturer
5. Channels or undercuts/concrete haunches:
   - not allowed along the pit floor-to-wall joints
   - should channels or undercuts be necessary, the system width needs to be reduced or the pit needs to be wider
6. A pit length of 540 cm is recommended. This will allow for increased safety clearances and distances also in the event of future changes to vehicle lengths.
7. With an increase in headroom available, correspondingly taller cars will be able to park on the upper platform.
8. UL = upper level / LL = lower level
   L = Limousine / S = Station wagon

Dimensions

- all dimensions specified are the minimum, finished dimensions
- tolerances must be taken into consideration
- all dimensions are given in cm

WÖHR Autoparksysteme GmbH | Ölgrabenstr. 14 | 71292 Friolzheim | Germany
+49 [0] 7044 46-0 | +49 [0] 7044 46-149 | info@woehr.de | www.woehr.de

Clearance profile (for standard vehicles)



* for a 250 cm platform width

** The overall vehicle height including roof luggage rails and antenna mounts must not exceed the max. vehicle height dimensions specified

Width dimensions

Platform widths:

250 cm (single units), 500 cm (double units):
- for 190 cm vehicle width

260–270 cm (single units), 520–540 cm (double units):
- for vehicles wider than 190 cm
- for units with intermediate walls
- for units at the end of the driving aisle

In case of reduced maximum platform widths:
- when parking wider vehicles or two-door sports car models, there may be difficulties in climbing in and out of the vehicle, depending on the type of vehicle, on how the entrance area is arranged and on individual driving habits

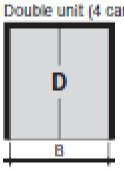
Width dimensions (underground car park)

Intermediate walls

Single unit (2 cars)

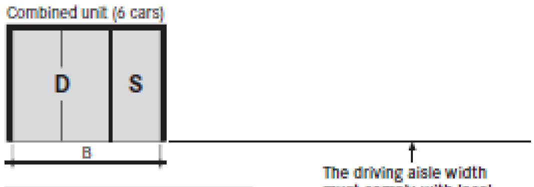
Space requirements B	clear platform width
260	230
270	240
280	**250**
290	**260**
300	**270**

Double unit (4 cars)



Space requirements B	clear platform width
490	460
510	480
530	**500**
550	**520**
570	**540**

Combined unit (6 cars)



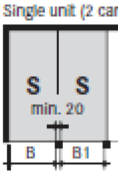
The driving aisle width must comply with local regulations

Space requirements B	clear platform width
750	460+230
780	480+240
810	**500+250**
840	**520+260**
870	**540+270**

It is possible to combine different widths

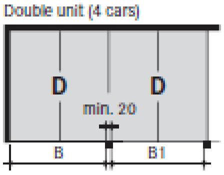
Columns external to the pit

Single unit (2 cars)



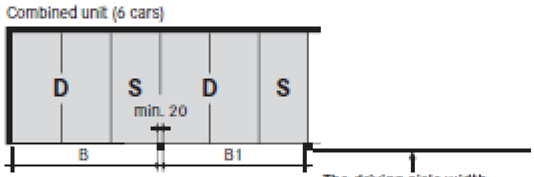
Space requirements wall-column B	column-column B1	clear platform width
250	240	230
260	250	240
270	**260**	**250**
280	**270**	**260**
290	**280**	**270**

Double unit (4 cars)



Space requirements wall-column B	column-column B1	clear platform width
480	470	460
500	490	480
520	**510**	**500**
540	**530**	**520**
560	**550**	**540**

Combined unit (6 cars)



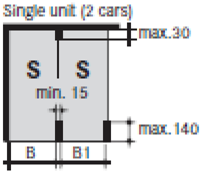
The driving aisle width must comply with local regulations

Space requirements wall-column B	column-column B1	clear platform width
740	730	460+230
770	760	480+240
800	**790**	**500+250**
830	**820**	**520+260**
860	**850**	**540+270**

It is possible to combine different widths

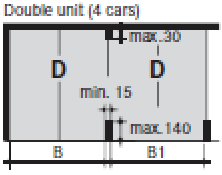
Columns in the pit

Single unit (2 cars)



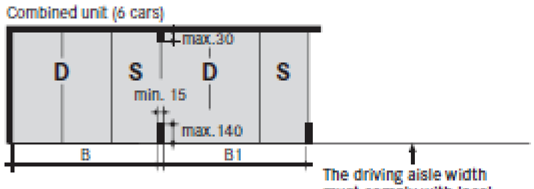
Space requirements wall-column B	column-column B1	clear platform width
255	245	230
265	255	240
275	**265**	**250**
285	**275**	**260**
295	**285**	**270**

Double unit (4 cars)



Space requirements wall-column B	column-column B1	clear platform width
485	475	460
505	495	480
525	**515**	**500**
545	**535**	**520**
565	**555**	**540**

Combined unit (6 cars)



The driving aisle width must comply with local regulations

Space requirements wall-column B	column-column B1	clear platform width
745	735	460+230
775	765	480+240
805	**795**	**500+250**
835	**825**	**520+260**
865	**855**	**540+270**

It is possible to combine different widths