DA2023/1289
Proposed Mixed Use Development

1112-1116 Barrenjoey Road, Palm Beach

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

13 September 2024

Ref 21327

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

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1. INTRODUCTION

This revised report has been prepared to accompany an amended development application to Northern Beaches Council for a mixed use development to be located at 1112-1116 Barrenjoey Road, Palm Beach (Figures 1 and 2).

In September 2023, DA2023/1289 was lodged with Council for the demolition of the existing buildings on the site and the construction of a new shop-top building, comprising a total of 7 dwellings, above a ground floor retail component with a cumulative floor area of approximately 390m^2.

Off-street parking was to be provided for a total of 23 cars in a new single-level basement parking area, with vehicular access to be provided via a new entry/exit driveway located at the southern end of the Barrenjoey Road site frontage, in accordance with Council's pre-lodgement meeting held in September 2021.

This amended scheme has been prepared in response to a number of matters raised by Council in relation to the character and built form of the proposed development and includes the removal of the fifth apartment level, resulting in a total of 5 residential dwellings (i.e. a *reduction* of 2 dwellings).

Vehicular access to the site remains provided via the southern end of the Barrenjoey Road site frontage, consistent with the previously submitted scheme. In this regard, a separate application has been submitted for the proposed relocation of the existing bus stop and associated on-street kerbside/parking changes, which is consistent with Council's recommendations.

The proposed bus stop relocation and subsequent changes to the on-street kerbside restrictions is considered straight forward with minimal impact for commuters and will allow the proposed vehicle access point to be located at the southern end of the Barrenjoey Road site frontage as well as replacing the Bus Zone to time-restricted parking, which would provide further benefit to the existing shops and customers visiting the neighbourhood centre, including the proposed development.

Written confirmation has been obtained and attached in **Appendix A**, confirming that the local bus provider, *Keolis Downer*, as well as Council in principle supports the proposed relocated bus shelter/stop outside No. 1126 Barrenjoey Road (north of the pedestrian safe crossing).

The purpose of this revised 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
- reviews the public transport services available in the vicinity of the site
- estimates the traffic generation potential of the amended development proposal and assesses the traffic implications of the proposal in terms of road network capacity
- reviews the geometric design features of the amended vehicular access and car parking arrangements for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street parking and loading provided on the site.

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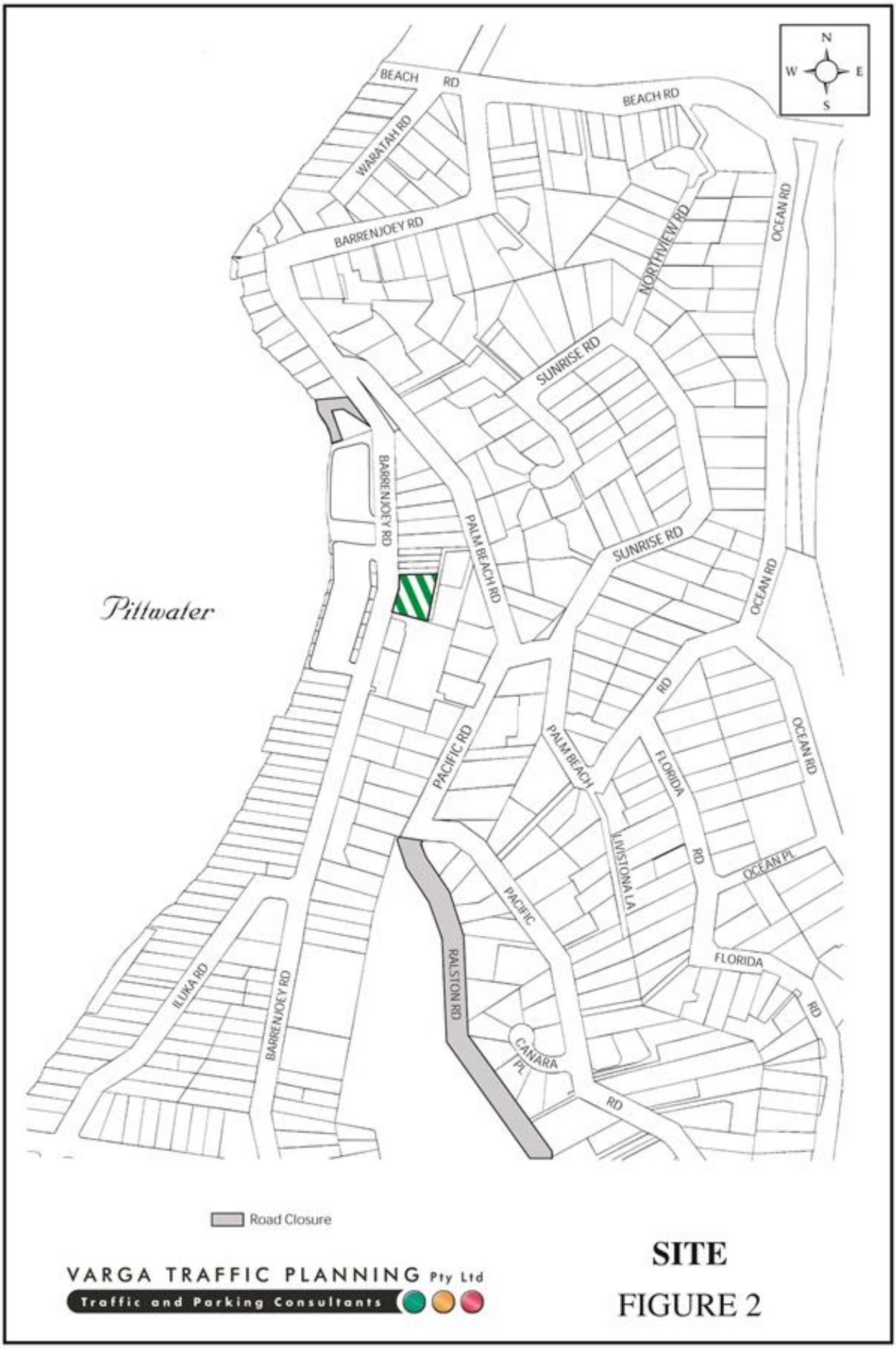
LOCATION

FIGURE 1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ILUKA RD
BARRENJOEY RD
CANARA PL
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Road Closure
VARGA TRAFFIC PLANNING Pty Ltd
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SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the eastern side of Barrenjoey Road, opposite the Pittwater Park South Car Parking area. The site has a street frontage approximately 36m in length to Barrenjoey Road and occupies an area of approximately 1,362m^2.

The subject site is currently occupied by a single weatherboard dwelling house located at the rear of the site. A small number of shops which was located in front of the dwelling, fronting Barrenjoey Road has since been demolished. The cumulative floor area of the shops comprised a floor area of approximately 360m^2. An aerial image of the site and its surroundings, along with a *Streetview* image, is reproduced below.

Off-street carparking is currently provided for 6 cars in an open car parking area located in the south-western corner of the site. Vehicular access to the car parking facilities is currently provided via an entry/exit driveway located towards the southern end of the Barrenjoey Road frontage.

Proposed Amended Development

The proposed amended development again involves the demolition of the existing building on the site, and the construction of a new shop-top building. A total of 5 apartments is proposed in the upper levels of the new building, as follows:

3 bedroom apartments:	4
4 bedroom apartments:	1
TOTAL APARTMENTS:	**5**

Two retail shops are again proposed on the ground floor level of the new building, with a cumulative floor area of approximately 372m^2.

Off-street parking is proposed for a total of 23 cars in a new single-level basement parking area. Vehicular access to the off-street parking area is to be provided via a new entry/exit driveway located at the southern end of the Barrenjoey Road site frontage.

The proposed site access driveway has been relocated to the southern end of the Barrenjoey Road site frontage, with the existing bus stop to be *relocated* just north of the site and the safe pedestrian crossing, as per Council's previous recommendations.

In this regard, the proposed entry ramp has been designed to facilitate two-way traffic flows, with passing opportunities along the top and bottom of the driveway. A centralised intercom unit is also provided, in accordance with *AS2890.1* requirements, thereby allowing drivers travelling on the left side of the ramp to access the access point.

The vehicular access ramp is to be managed by a traffic signal system, to ensure the safe and efficient operation of the car parking facilities.

Loading/servicing for the proposed development is expected to be undertaken by a variety of light commercial vehicles such as vans, utilities and wagons, which are capable of fitting into a conventional parking space.

Deliveries will be scheduled to arrive *outside* of peak periods. A shared service vehicle bay/retail space is located adjacent to the passenger lift in the basement level.

As mentioned in the foregoing, in order to facilitate the proposed vehicle access point for the subject development, which is to be located at the southern end of the Barrenjoey Road site frontage, the existing bus stop will need to be relocated and subsequently *replaced* by 1 HOUR PARKING restrictions (subject to the approval of Council's Local Traffic Committee).

This optimises the street activation of Barrenjoey Road within the neighbourhood centre area, with time-restricted parking proposed between 8:30am and 8pm (consistent with the surrounding arrangements), which also allows service vehicles to be accommodated on-street.

Plans of the amended scheme have been prepared by *Koichi Takada Architects* and are reproduced in **Appendix B**.

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by Transport for NSW (TfNSW) is illustrated on Figure 3.

Barrenjoey Road is classified by TfNSW as a *State Road* which provides the key north-south road link in the far northern beaches area, linking Mona Vale to Palm Beach. It typically carries one traffic lane in each direction in the vicinity of the site, with kerbside parking permitted at selected locations, subject to signposted restrictions.

Whale Beach Road is a local, unclassified road which performs the function of a *collector route* along the eastern side of the peninsula. It typically carries one traffic lane in each direction in the vicinity of the site with kerbside parking also permitted at selected locations only.

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:

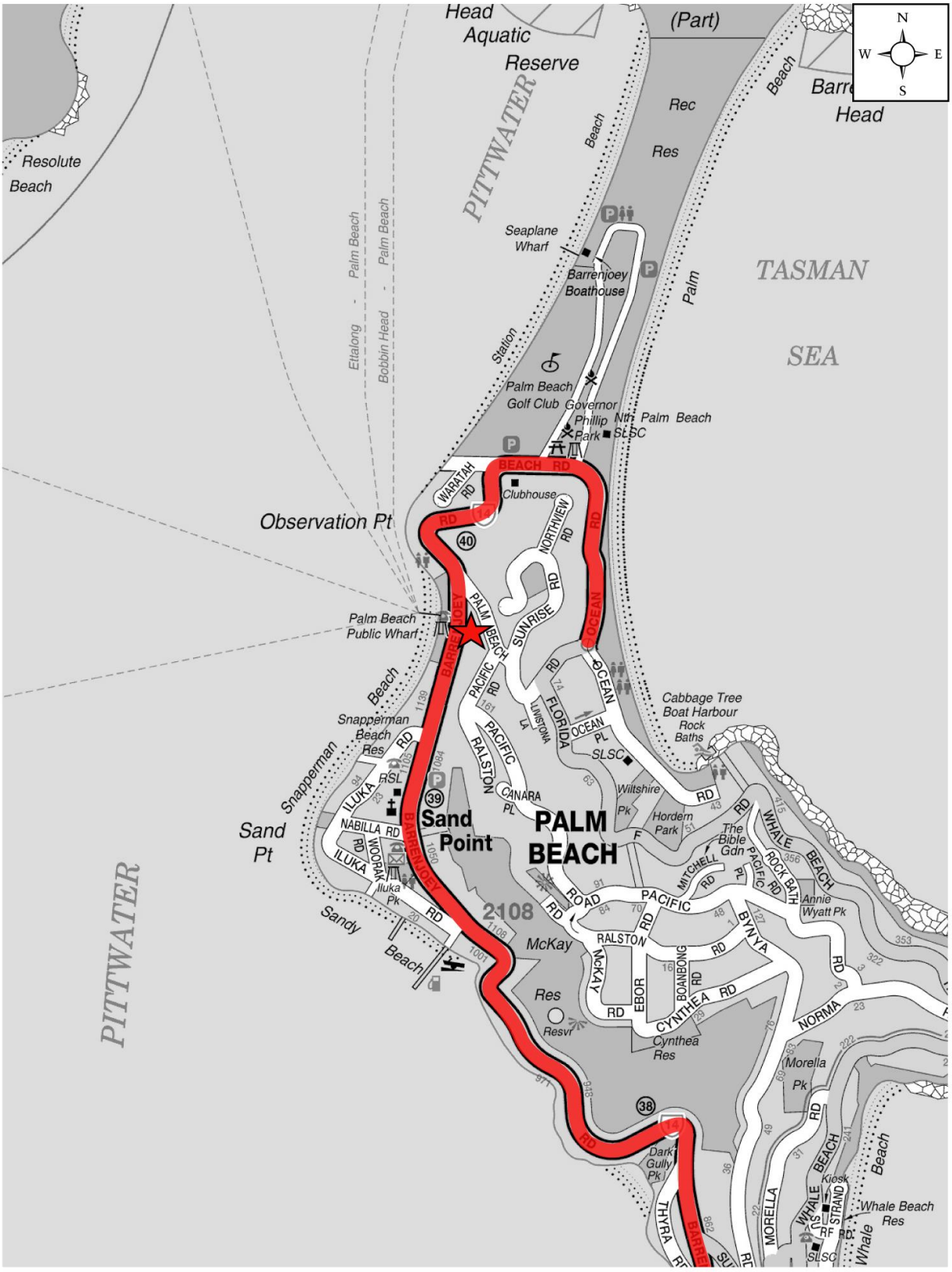
- a 50 km/h SPEED LIMIT which applies to Barrenjoey Road, south of the Pittwater Park (Car Park South)

- a 40 km/h SPEED LIMIT which applies to Barrenjoey Road in the vicinity of the Pittwater Beachfront Area, due to high pedestrian activity

- a RAISED PEDESTRIAN CROSSING in Barrenjoey Road just north of the subject site

Existing Alternate Transport & Essential Services

The 199 bus service currently traverses along the Barrenjoey Road site frontage, as indicated in the figure reproduced on the following page.



Key: State Road

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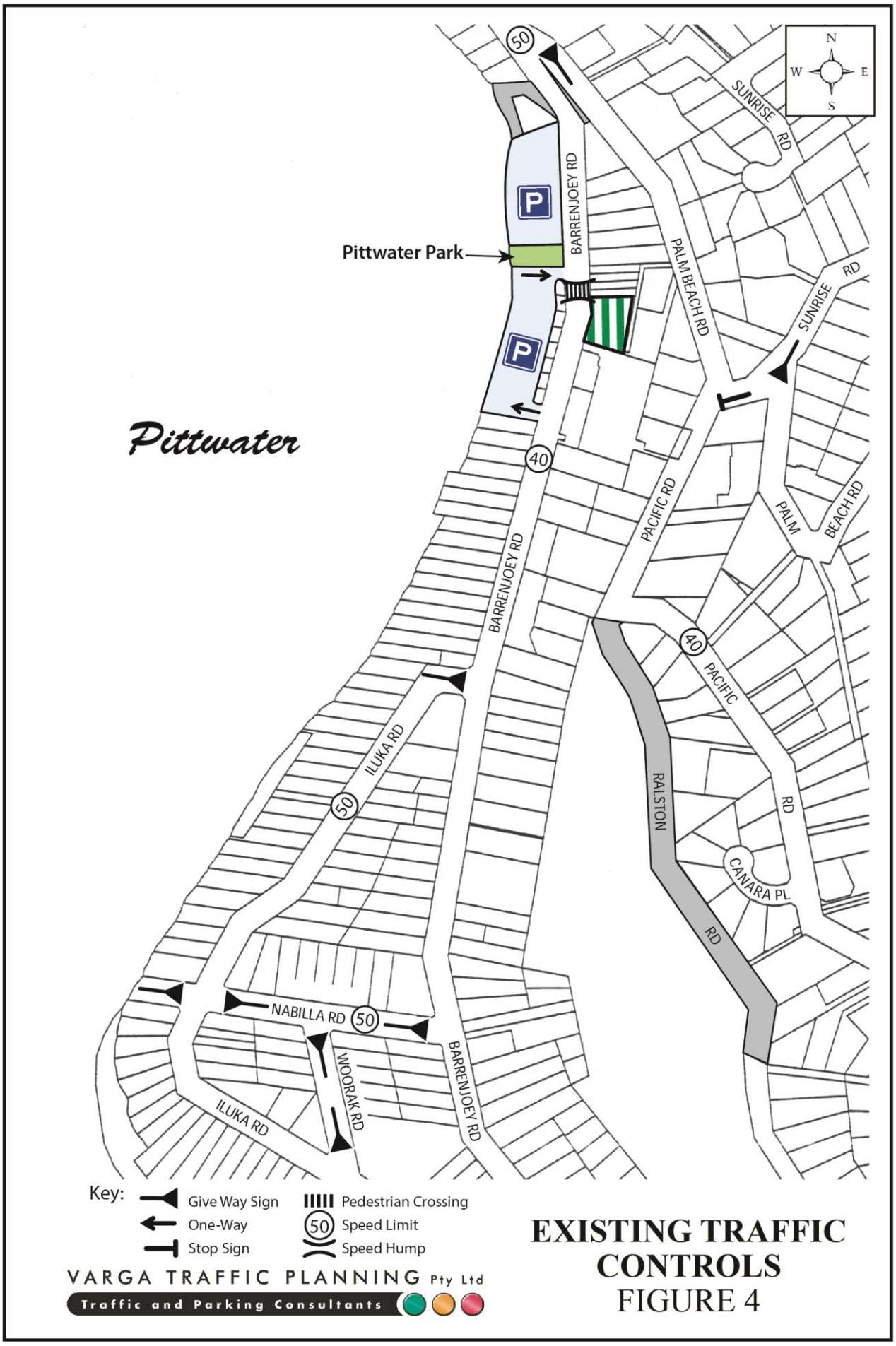
Traffic and Parking Consultants

ROAD HIERARCHY
FIGURE 3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RALSTON
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CANARA PL
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ILUKA RD
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NABILLA RD
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WOORAK RD
BARRENJOEY RD
ILUKA RD
Key:
Give Way Sign
One-Way
Stop Sign
Pedestrian Crossing
50 Speed Limit
Speed Hump
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EXISTING TRAFFIC CONTROLS
FIGURE 4

The 199 service operates 7 days per week between Manly and Palm Beach via Mona Vale and Dee Why, with the closest bi-directional bus stops located directly outside the site. Services from these bus stops operate at least once per hour between 5am and 4am, Monday to Sunday (both days inclusive). The site is therefore considered to be accessible by public transport.

Projected Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the former 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 development proposal:

Medium Density Residential Flat Buildings

3 or more bedroom apartments: 0.5-0.65 peak hour vehicle trips per dwelling

Commercial Premises

2.0 peak hour vehicle trips per 100m^2 GFA

The RMS *Guidelines* do not nominate a traffic generation rate for small, local shops, referring only to major regional shopping centres incorporating supermarkets and department stores. For the purposes of this assessment therefore, the traffic generation rate of "2.0 peak hour vehicle trips/100m^2 GFA" nominated in the RMS *Guidelines* for "commercial premises" has been adopted in respect of the retail component of the development proposal.

Application of the above traffic generation rates to the residential and retail components of the development proposal yields a traffic generation potential of approximately 11 vehicle trips per hour during the weekday peak periods, as set out below:

Projected Future Traffic Generation Potential

Residential apartments (5 x 3 or more bedrooms):	3.3 peak hour vehicle trips
Retail (372m^2):	7.4 peak hour vehicle trips
TOTAL TRAFFIC GENERATION POTENTIAL:	**10.7 peak hour vehicle trips**

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 previously approved uses of the site, in order to determine the *nett change* in traffic generation potential expected to occur as a consequence of the current development proposal.

Application of the above traffic generation rates to the 5 x 3-bedroom residential apartments and ground floor retail/commercial (347m²) approved as part of N0102/10, yields a traffic generation potential of approximately 10 vph, as set out below:

Previously Approved Development Traffic Generation Potential

Residential apartments (5 x 3-bedrooms):	3.3 peak hour vehicle trips
Kiosk/commercial (347m^2):	6.9 peak hour vehicle trips
TOTAL TRAFFIC GENERATION POTENTIAL:	**10.2 peak hour vehicle trips**

Accordingly, it is likely that the proposed development will result in a *negligible increase* in the traffic generation potential of the site, as set out below:

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

Projected Future Traffic Generation Potential:	10.7 peak hour vehicle trips
Less Previously Approved Traffic Generation Potential:	10.2 peak hour vehicle trips
NETT CHANGE IN TRAFFIC GENERATION POTENTIAL:	**0.5 peak hour vehicle trips**

Further, it is readily acknowledged that the retail/commercial components of the existing (360m^2), previously approved (347m²) and proposed (372m^2) developments on the site are all similar in size, such that the *nett increase* in traffic is primarily due to the addition of the residential apartments.

In any event, that projected *nett increase* in the traffic generation potential of the site as a consequence of the development proposal is *minimal* 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 5 and comprise:

- NO STOPPING / NO PARKING restrictions in Barrenjoey Road north of Palm Beach Road, north of the northern ticketed parking area

- NO STOPPING restrictions in the vicinity of the raised pedestrian crossing in Barrenjoey Road, including the northern portion of the site frontage

- 1 HOUR PARKING along both sides of Barrenjoey Road in the vicinity of the site

- TICKETED PARKING in both of the Palm Beach Wharf car parking areas

- BUS ZONES located at regular intervals along both sides of Barrenjoey Road, including directly outside the site frontage.

Off-Street Parking Provisions

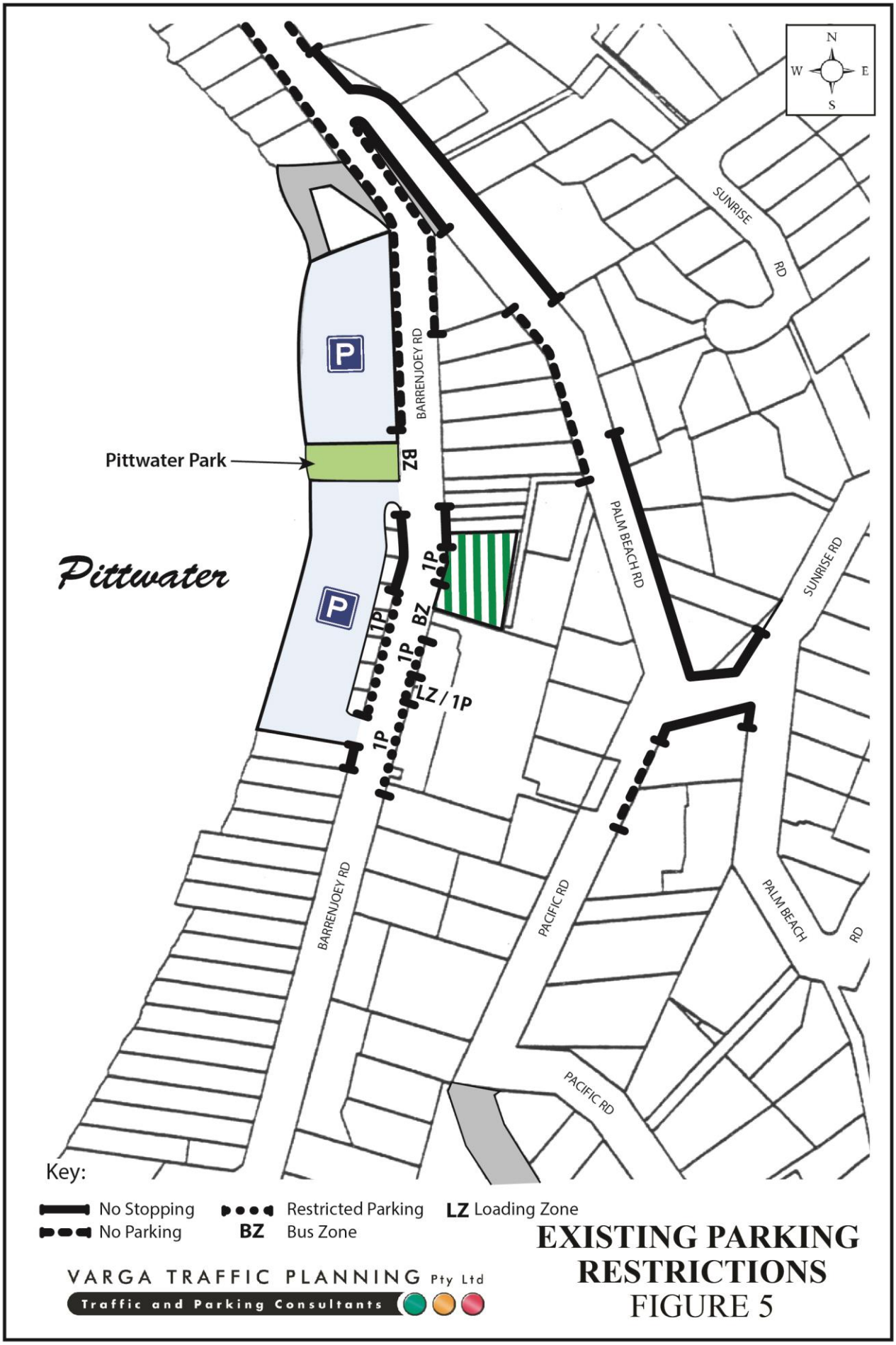
The off-street parking rates applicable to the development proposal are specified in Council's *Pittwater 21 Development Control Plan 2011, Section B6 – Access and Parking* document in the following terms:

Multi-Unit Housing/Residential Flat Buildings/Shop Top Housing

1 bedroom dwellings:	1 space per dwelling
2 or more bedroom dwellings:	2 spaces per dwelling
Visitors:	1 space per 3 dwellings

Retail

1 space per $30m^2$ of GLA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PALM BEACH RD
SUNRISE RD
BARRENJOEY RD
PACIFIC RD
PALM BEACH RD
PACIFIC RD
Key:
No Stopping
No Parking
Restricted Parking
BZ Bus Zone
LZ Loading Zone
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EXISTING PARKING RESTRICTIONS
FIGURE 5

Application of the above *DCP* parking rates to the various components of the development proposal yields an off-street parking requirement of 24 parking spaces, as set out below:

Off-Street Car Parking Requirements	
Residential (5 x 3 or more bedrooms):	10.0 spaces
Visitor parking:	1.7 spaces
Retail (372m^2):	12.4 spaces (including a shared service vehicle space)
TOTAL PARKING REQUIRED:	**24.1 spaces**

The proposed development makes provision for a total of 23 car parking spaces, comprising 10 residential parking spaces, 2 visitor parking spaces and 11 retail spaces (including a shared service bay and a disabled space), thereby resulting in a 'shortfall' of 1 retail space when assessed under Council's *DCP 2011* parking requirements.

In this regard, it is noted that the proposed "shortfall" is considered to be acceptable in this instance because:

- the proposed residential component satisfies Council's minimum parking code requirements

- the existing 199 bus service traverses directly along Barrenjoey Road, which will allow easy access to public transport and facilitate reduced car usage rates by staff and visitors/customers of the development proposal

- many Councils are favouring/encouraging "constraining" parking in private developments in accessible town centre areas such as the subject site

- the proposed development is expected to draw many of its customers from "linked trips" or "passing trade", noting that the site is located in direct walking vicinity of the popular beaches within Palm Beach. Linked trips occur when a person visits the site but also visits another premises nearby on the same trip whilst not moving their car, thereby not requiring an additional parking space

- location of Council public car park "Pittwater Park (Carpark South)", is located directly opposite the road

- Council have supported a recent parking *shortfall* of 4 retail spaces at 1102 Barrenjoey Road (DA2022/0469). Refer to attached Traffic Engineer Referral Response reproduced in **Appendix C**

- the parking shortfall of '1 retail space' is a result of the heritage preservation area which creates a constraint for the available basement footprint. The proposed single-level basement is to *minimise* the cut & fill on site, consistent with Clause 4.3 for the LEP building height control

- even if the proposed development provided the required number of parking spaces it is likely that customers to the retail premises as well as visitors to the residential apartments would likely park on the street or in the Council public car park "Pittwater Park (Carpark South)" and not on site.

In reality, given the site's location and the direct frontage to the Pittwater Park located opposite the road, the vast majority of retail customers will walk to the shops or park within the Council car park opposite the site *prior* to visiting the proposed development.

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* in respect of parking bay dimensions, overhead clearances, visibility splays and aisle widths.

Swept Turning Path Diagrams

The vehicular access arrangements have been designed to accommodate the swept turning path requirements of the B99 design vehicle as specified in *AS2890.1,* allowing them to enter and exit the site in a forward direction at all times, which is reproduced in **Appendix D**.

A passing area with a waiting bay is provided on each level to give priority to entering traffic on the single lane ramp. Convex mirrors and a signal system is also provided in order to manage entering and exiting traffic for the proposed development. The signalling system would indicate "green" at all times for all vehicles entering from Barrenjoey Road, except for when vehicles are detected exiting the site which would indicate "red", thereby minimising any potential delays for vehicles along Barrenjoey Road, consistent with the *supported* arrangement at 1102 Barrenjoey Road (DA2022/0469).

It is also noted in this regard that Clause 3.2.2 of *AS2890.1:2004* states that as a guide, *30 or more movements in a peak hour (in and out combined) would usually require the provision for two vehicles to pass on the driveway – i.e. a minimum width of 5.5m.*

As mentioned in the foregoing, the proposed development is expected to generate just 11.3 peak hour vehicle trips (*less* at other times), which is *significantly less* than the 30 vehicles per hour threshold for two-lane ramps.

The likelihood therefore of two cars entering and exiting the site at the same moment in time is *minimal* in any event, as demonstrated in the following section of the report.

The proposed single lane ramp is therefore considered acceptable, particularly given passing areas are provided within the basement parking level and on the ground floor entry level *for at least the first 6m inside the property boundary*, in accordance with Council's pre-DA recommendations.

Furthermore, a number of *swept turning path* diagrams have also been prepared which illustrate the manoeuvring requirements of a large B85 vehicle, accessing the parking spaces at the end aisles of the basement and have also been attached, confirming that these vehicles will be able to enter and exit the site whilst travelling in a forward direction at all times.

Queuing Analysis

A queuing analysis has been undertaken to assess the probability of conflict along the curved ramp between the Ground floor and the Basement level – i.e. on the one-way length of ramp.

The following inputs and assumptions were used to conduct this assessment:

- Length of conflict (d) – i.e. travel distance between the passing bay at street level and the passing bay on the basement car park level – 25m
- Travel speed (s) – 10km/hr
- Average vehicle arrivals (r) – i.e. peak traffic generation based on RMS Guidelines rates – 10.7 vehicle trip during AM (4.4 trips TO & 6.3 trips FROM), and PM (6.3 trips TO & 4.4 trips FROM).

Based on the above parameters and conflict analysis theory outlined in *Austroads* Guide to Traffic Management, Part 2: Traffic Theory (2020), Section 3.2.2 – The Poisson Distribution, the conflict analysis indicates that the probability of two vehicles travelling in opposite directions at the same time – i.e. one vehicle entering whilst another vehicle is exiting – is in the order of just 0.0170%, as demonstrated in **Appendix E**.

In this instance, the *Austroads* analysis confirms that the likelihood of vehicular conflict on the entry ramp and the subsequent queuing of vehicles out of the site is *statistically insignificant.*

The single lane ramp with passing bays at both ends, controlled by way of a traffic signal system is therefore considered acceptable in this instance.

Loading/Servicing Provisions

The *Pittwater 21 Development Control Plan* as adopted by the Northern Beaches Council does not provide servicing and loading rates applicable to the proposed development.

In this instance, the proposed retail component is expected to be undertaken by a variety of light commercial vehicles such as courier vans, utilities and the like, which are capable of using a conventional parking space.

A shared service vehicle bay/retail space has been provided within the basement parking area, in accordance with Council's pre-DA recommendations.

Furthermore, as a result of the bus stop relocation, service vehicles associated with the proposed retail component can also be conducted on-street within the proposed time-restricted kerbside parking area along the Barrenjoey Road site frontage.

Off-Street Bicycle Parking Provisions

The off-street bicycle parking rates applicable to the development proposal are specified in Council's *Pittwater 21 Development Control Plan 2011, Section B6 – Access and Parking* document in the following terms:

Residential Development

1 space per 3 dwellings

Business / Industrial Developments

1 space per 1,000m² GFA *or* a minimum of 4 bicycle racks (whichever is greater)

Application of the above bicycle parking rates to the various components outlined in the development proposal yields an off-street bicycle parking requirement of 6 spaces, as set out below:

Residential (5 apartments):	1.7 spaces
Business (372m²):	4.0 spaces
TOTAL:	**5.7 spaces**

The proposed development makes provision for a total of 6 off-street bicycle parking spaces located within a 'Class B' room on the ground floor level, thereby satisfying Council's bicycle parking requirements.

Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- the proposed development now comprises a total of 5 residential apartments and a cumulative retail floor area of 395m^2 on the ground floor level, which is expected to generate a modest volume of traffic, consistent with the current planning controls and also largely consistent with the previously N0102/10 approved scheme on the site

- the proposal includes the provision of 23 car parking spaces, resulting in a shortfall of 1 retail parking space when assessed under Council's parking requirements

- the parking shortfall of '1 retail space' is a result of the heritage preservation area which creates a constraint for the available basement footprint. The proposed single-level basement is to *minimise* the cut & fill on site, consistent with Clause 4.3 for the LEP building height control

- the provision of a service vehicle bay, capable of accommodating a large B99 vehicle will satisfy the loading/servicing requirements of the development proposal

- the proposed relocated bus stop currently outside the southern end of the Barrenjoey Road site frontage will allow increased opportunity for on-street parking and/or servicing opportunities directly outside the site frontage

- the provision of 1 accessible parking space in the revised scheme meets the requirements of *3% of parking spaces*, as outlined under Clause B6.3 of *Pittwater 21 Development Control Plan*

- the 3 x tandem parking spaces are considered acceptable, given they will be allocated to the 2 x retail and 1 x residential tenancy, and

- the *Austroads* queuing analysis confirms that the likelihood of vehicular conflict on the entry ramp satisfies the *98th percentile queue*, in accordance with *AS2890.1:2004* requirements and will not result in any unacceptable traffic implications.

In terms of the geometric design layout of the vehicular access, parking and loading facilities, the proposed arrangements have been designed in accordance with the *AS2890* series. Importantly, all vehicles are able to enter and exit the site in a forward direction at all times, as demonstrated by the attached *swept turning path* diagrams.

In the circumstances, it is considered that the proposed provision of 23 car parking spaces and 6 bicycle parking spaces will satisfy the *actual* parking demands likely to be generated by the development proposal and it is therefore concluded that the proposed development will not have any unacceptable traffic, parking or loading implications.

APPENDIX A

PROPOSED BUS STOP RELOCATION

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants
ACN 071 762 537 ABN 88 071 762 537

13 September 2024
Ref 21327

Northern Beaches Council
PO Box 82
MANLY NSW 1655

E: council@northernbeaches.nsw.gov.au

Dear Sir/Madam,

DA2023/1289
PROPOSED RELOCATION OF BUS STOP AT
1112-1116 BARRENJOEY ROAD, PALM BEACH

Please find attached a plan illustrating the proposed relocation of an existing bus stop to be implemented at the abovementioned mixed use development.

The plan was prepared in consultation with Council, who have advised the relocation of the bus stop is to be located outside 1126 Barrenjoey Road (north of the pedestrian safe crossing). This plan was subsequently submitted to the local bus provider, *Keolis Downer* for concurrence, and have since provided support of this proposal.

A copy of their email correspondence is attached indicating both authorities approve/support the relocated bus stop. In particular, the proposed parking restrictions plan incorporate the following:

- all existing kerbside parking signage in the vicinity of the site along *both* sides of Barrenjoey Road
- the *proposed* relocation of the existing Bus Stop, associated Bus shelter and sign/timetable, which extends outside the southern end of the Barrenjoey Road site frontage, to north of the pedestrian safe crossing (i.e. outside No. 1126 Barrenjoey Road)
- *retaining* of 1 x on-street parking space, outside No. 1122 Barrenjoey Road, between the relocated Bus Stop and the existing pedestrian crossing
- the *proposed* relocated bus stop will comprise a 'Bus Zone' length of approximately 45m in length, extending between the southern driveway edge of 1124 Barrenjoey Road and terminating between 1130 & 1132 Barrenjoey Road, which is in accordance with Council's recommendations
- a *new* indented bus bay will be provided for the relocated bus stop, with vertical faced kerb & gutter and a 45-degree angle transition leading up to the bus bay
- the existing (~35m long) 'Bus Zone', extending along the Barrenjoey Road site frontage is to be replaced by time-restricted kerbside parking, thereby optimising street activation along Barrenjoey Road within the neighbourhood centre.

The purpose of this submission is to allow the proposed site access driveway for the subject site to be located at the southern end of the Barrenjoey Road site frontage, as per Council's Pre-lodgement meeting held on 30 September 2021.

As such, this submission seeks to permanently relocate the Bus Zone, approximately 72m north, north of the pedestrian 'safe crossing' in Barrenjoey Road, as illustrated on the attached plan and the *Streetview* image below, noting that it currently comprises of 'No Parking' restrictions.

Proposed Relocated Bus Zone Location

As demonstrated in the attached (revised) plan, the existing Bus Zone along the Barrenjoey Road frontage will be replaced with 'No Parking' restrictions along the proposed site access driveway location, with time-restricted parking extending along the remaining site frontage and the existing Bus Zone areas.

The relocated Bus Stop will allow *retaining* of 1 x on-street parking space directly outside No. 1122 Barrenjoey Road, with 'No Stopping' restrictions at the other end of the Bus Zone – i.e. north of the indented bus bay area. The relocated bus zone will comprise an overall Bus Zone length of 45m. in accordance with Council's recommendations, Section 3.5 of the *Bus Infrastructure Guide* and also Australian Road Rule 195.

In this regard, the proposed minimum lengths for draw in/out comfortably *exceeds* the requirements outlined in Section 3.7 of the *Bus Infrastructure Guide* reproduced below.

3.7 Draw in and draw out lengths

The minimum lengths for draw in and draw out are shown in the table below.

Bus Stop Dimension (m)	Standard	Long Rigid	Articulated
Length of Bus	12.5	14.5	18.0
Minimum draw-out length	6.0	6.5	8.0
Minimum draw-in length	11.5	14.0	14.0
Bus Zone length for one bus	30.0	35.0	40.0

Note: (1) Dimensions are based on stopping at the bus stop sign with a suitable length of straight, flat standard height kerb to stop alongside.

The proposed Bus Stop relocation will include the provision of a new hardstand area and bus shelter within the Council verge area as well as a *new* 1.5m wide pedestrian pathway extending along the eastern side of Barrenjoey Road, connecting the relocated bus stop and the neighbourhood centre, and will ultimately be designed in accordance with *AS1428.1:2001 Design for Access and Mobility* requirements.

The relocated bus stop is considered to be straight forward with minimal impact for commuters, given the *minor* variation in location of the existing Bus Zone as well as the impact of the existing 199 bus service only. The 199 bus service operates between Manly and Palm Beach seven days per week, with services every 10 minutes throughout the day – i.e. *equivalent* to 6 buses in the Busiest Hour.

Reference is made to Section 3.10, 'Bus stop capacity' of the *Bus Infrastructure Guide* reproduced below, which indicates that 1 Bus space is required for *up to 15 Buses Passing Stop in the Busiest Hour*. As such, the provision of 1 Bus Space is considered acceptable, consistent with the existing Bus Zone length.

3.10 Bus stop capacity

Bus stop capacity is dependant on the frequency of bus arrival and the dwell time at the stop. The following table is provided as a guideline to the number of spaces required. It is based on a 20 – 30 second dwell time.

Minimum Bus Stop Capacity

Buses Passing Stop in Busiest Hour	Number of Bus Spaces
Up to 15	1
30 -45	2
60 – 75	3
75 – 90	4
90-120	5
120-180	6

Note: Source: TCRP Report 19. Guidelines for the Location and Design of Bus Stops
(1) Space requirements for buses dependant on operational, ticketing and scheduling.
(2) Scheduling and operational circumstances may require up to 50% more bus stop space
(3) Bus spaces required could be standard, long rigid and articulated buses depending on the type(s) of buses used.

In summary, the proposed changes to the signposted parking restrictions (including the Bus Zone relocation) will ensure the safety of the public traversing along the Barrenjoey Road site frontage and also allow the future site access driveway to be located at the southern end of the site, in accordance with Council's recommendations.

The proposed Bus stop relocation satisfy the relevant requirements specified in the *Bus Infrastructure Guide*, will ultimately be designed in accordance with *AS1428.1:2001 Design for Access and Mobility* requirements and will not have any unacceptable parking implications.

It would be appreciated if Council's Traffic Committee could grant concurrence to the proposed bus zone relocation/parking restrictions in Barrenjoey Road, in the vicinity of the site. All works are to be undertaken at *no cost* to the Council or Transport for NSW.

Please do not hesitate to contact me on telephone 9904 3224 should you have any enquiries.

Yours sincerely

Donald Lee
Director | *BE(Civil) MIEAust CPEng NER*
Varga Traffic Planning Pty Ltd

William Allen

From: MAKASIALE James <james.makasiale@keolisdowner.com.au>
Sent: Tuesday, 18 June 2024 8:30 AM
To: William Allen
Cc: Chris Webster
Subject: RE: 1112-1116 Barrenjoey Road - Bus Stop Relocation

Hi Will,

KDNB supports this proposal.

Kind regards,

James Makasiale
Customer Service Manager

Keolis Downer | PROUD OPERATOR OF NORTHERN BEACHES & LOWER NORTH SHORE BUS SERVICES

THINK LIKE A PASSENGER

james.makasiale@keolisdowner.com.au
M: 0499 506 919
www.keolisdowner.com.au

Keolis Downer
630-636 Pittwater Rd
Brookvale 2100 NSW Australia

PO Box 7438 Warringah Mall
NSW 2100 Australia

We care | We commit | We imagine | Think like a passenger | Zero Harm

We acknowledge Aboriginal and Torres Strait Islander peoples as the First Australians and Traditional Custodians of the lands where we live, learn and work.
Keolis Downer Artwork by Elizabeth Close

From: William Allen <wallen@ipmproperty.com.au>
Sent: Monday, June 17, 2024 4:21 PM
To: MAKASIALE James <james.makasiale@keolisdowner.com.au>
Cc: Chris Webster <cwebster@ipmproperty.com.au>
Subject: RE: 1112-1116 Barrenjoey Road - Bus Stop Relocation

Hi James,

Understood and agreed. Our proposal will include provision of a new hardstand area and bus seat within the Council verge area as well as a new pedestrian pathway extending along the eastern side of Barrenjoey Road, connecting the relocated bus stop and the neighbourhood centre, which will ultimately be designed in accordance with AS1428.1:2001 Design for Access and Mobility requirements.

Can you provide your support on this basis?

Kind regards,
Will

William Allen
Development Manager

M: +61 403 363 457
E: wallen@ipmproperty.com.au
W: ipmproperty.com.au

Level 3, 17 Castlereagh Street, Sydney NSW 2000
PO Box R444, Royal Exchange NSW 1225

From: MAKASIALE James <james.makasiale@keolisdowner.com.au>
Sent: Monday, June 17, 2024 3:43 PM
To: William Allen <wallen@ipmproperty.com.au>
Cc: Chris Webster <cwebster@ipmproperty.com.au>
Subject: RE: 1112-1116 Barrenjoey Road - Bus Stop Relocation

Hi Will,

The new location will not work as this takes the bus stop from a concrete footpath to an uneven grass strip.
This is a main stop for this area and will need to be DDA approved which means it will need a concrete path with tactile for the head of the stop.

Regards,

James Makasiale
Customer Service Manager

Keolis Downer | PROUD OPERATOR OF NORTHERN BEACHES & LOWER NORTH SHORE BUS SERVICES

THINK LIKE A PASSENGER

james.makasiale@keolisdowner.com.au **M:** 0499 506 919
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Keolis Downer Artwork by Elizabeth Close

From: William Allen <wallen@ipmproperty.com.au>
Sent: Monday, June 17, 2024 3:17 PM
To: MAKASIALE James <james.makasiale@keolisdowner.com.au>
Cc: Chris Webster <cwebster@ipmproperty.com.au>
Subject: RE: 1112-1116 Barrenjoey Road - Bus Stop Relocation

Hi James,

We are seeking your in-principle support to relocate the existing bus stop on the eastern side of Barrenjoey Road, currently located adjacent to 1112-1116 Barrenjoey Road.

As a refresh, the purpose of the relocation is to allow the proposed driveway for 1112-1116 Barrenjoey Road, to be located at the southern end of the site frontage, as per Council's pre-DA recommendations.

Council were not satisfied with the previous location we discussed, which was adjacent to 1102 Barrenjoey Road, as a new development is also slated for this location.

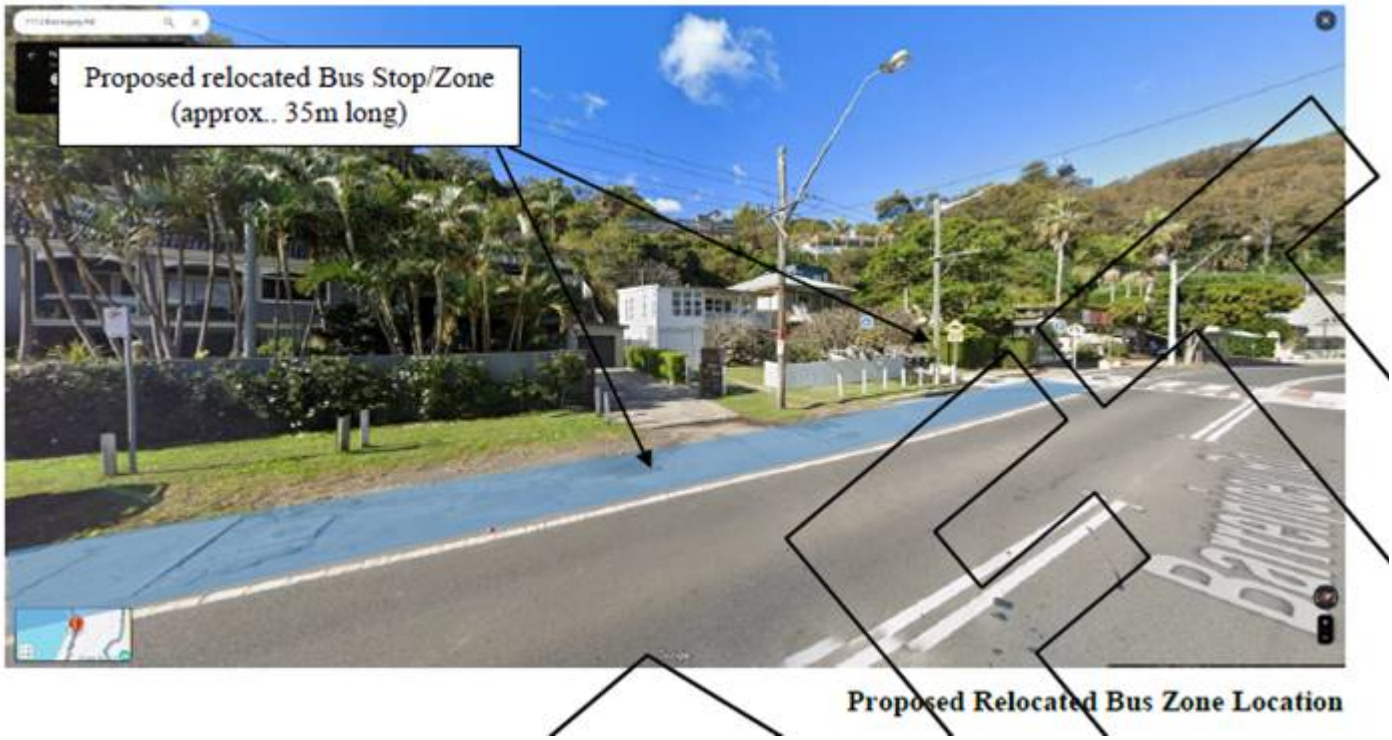
As such, we would like to propose a new location to move the bus stop north, adjacent to 1124 Barrenjoey Road.

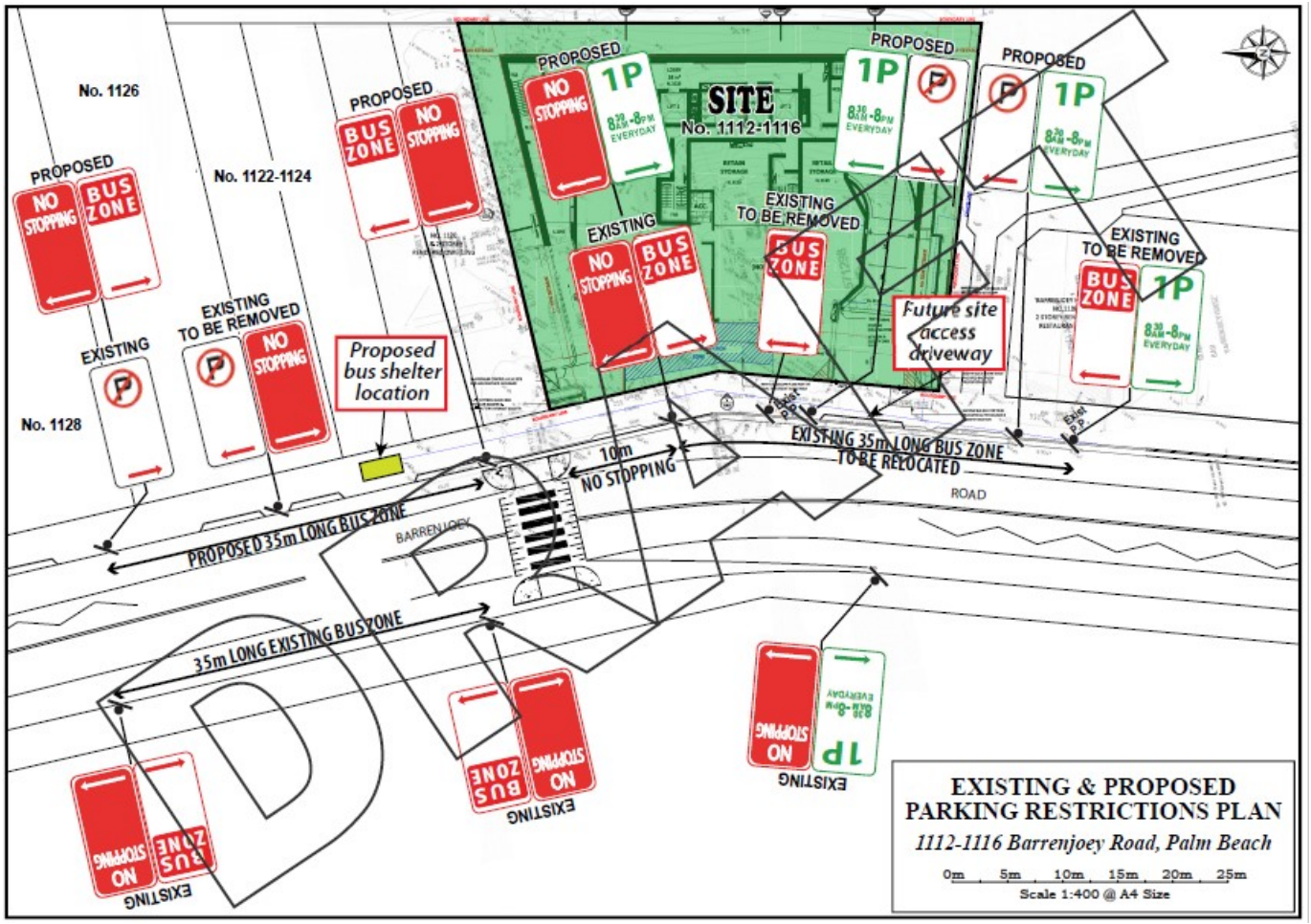
Our traffic engineer has confirmed the new location can comprise a 'Bus Zone' length of approximately 35m in length, in accordance with the NSW Government 'Bus Infrastructure Guide'.

This is basically the same arrangement as what exists on the other side of Barrenjoey Road.

Please refer images below for details of the proposal.

I'll look forward to hearing back from you.





Kind regards,
Will

William Allen
Development Manager

M: +61 403 363 457
E: wallen@ipmproperty.com.au
W: ipmproperty.com.au

Level 3, 17 Castlereagh Street, Sydney NSW 2000
PO Box R444, Royal Exchange NSW 1225

From: MAKASIALE James <james.makasiale@keolisdowner.com.au>
Sent: Tuesday, October 24, 2023 11:19 AM
To: William Allen <wallen@ipmproperty.com.au>

BUS ZONE (MINIMUM 40m) - INDICATED BUS BAY 3m WIDE
FOOT PATH 1.5m WIDE

UNRESTRICTED PARKING

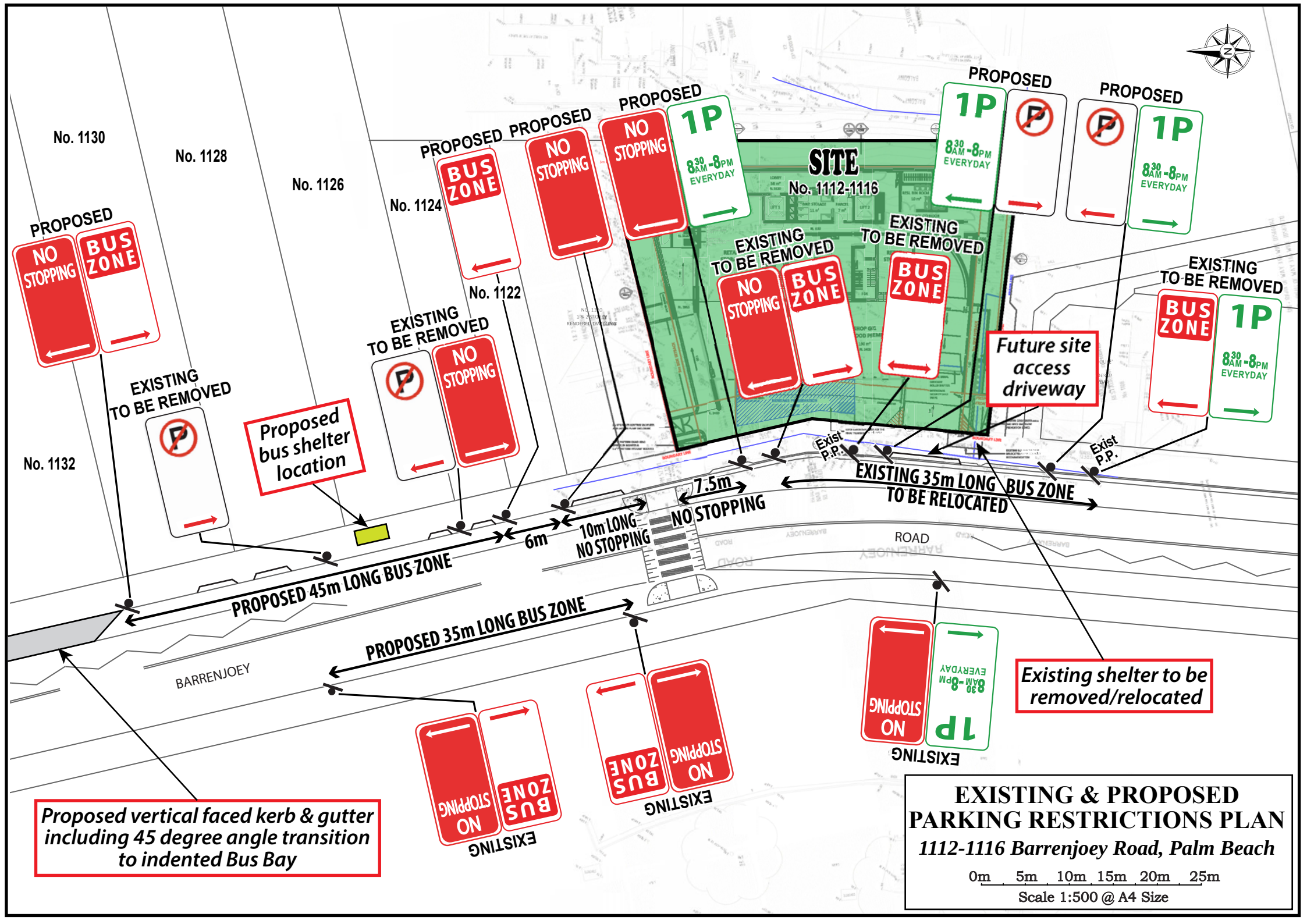
'NO STOPPING' RESTRICTIONS

'1P 8.30AM - 8PM EVERYDAY' RESTRICTIONS

BUS STOP

1112 - 1116

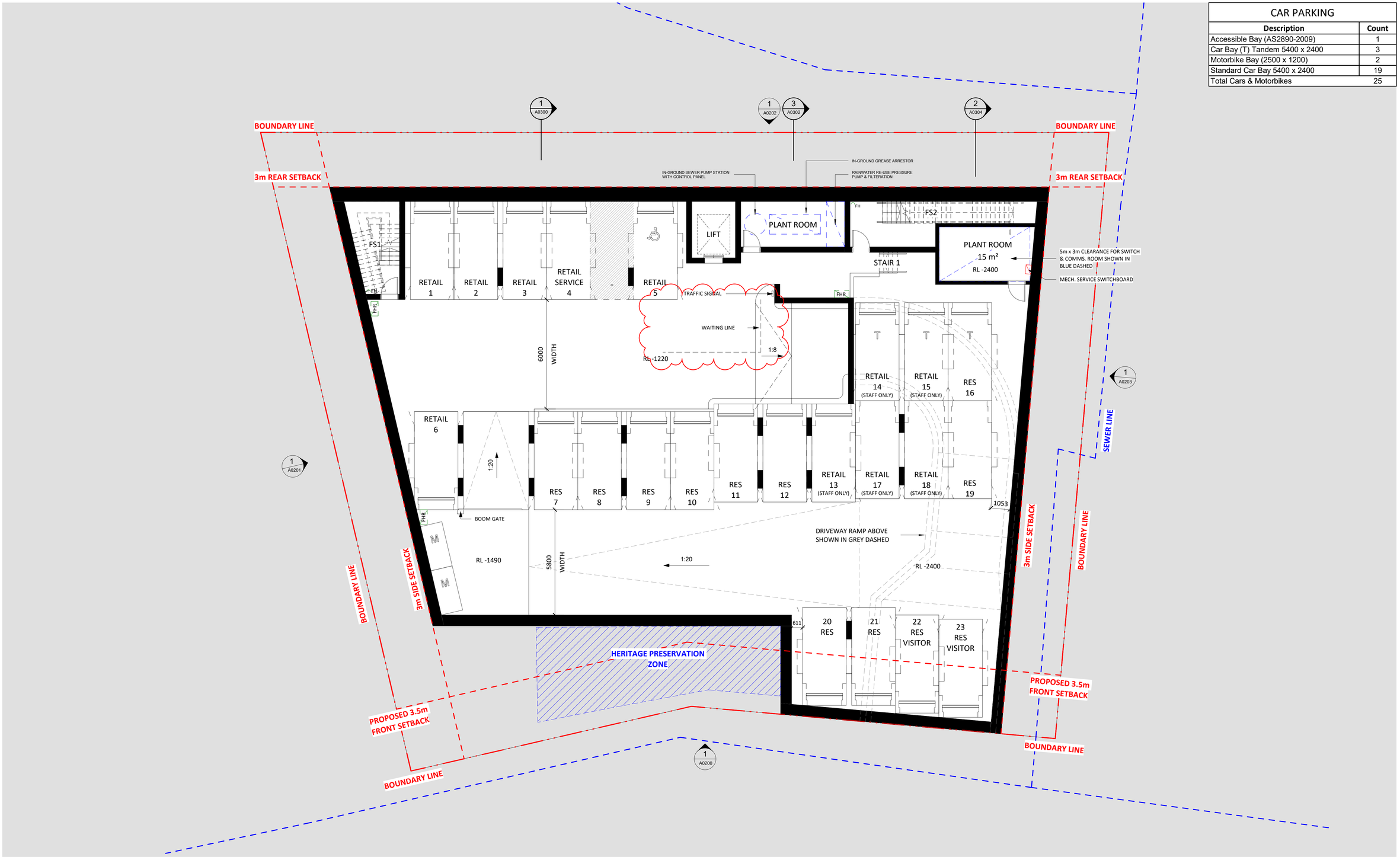
RK


No. 1130
No. 1128
No. 1126
No. 1124
No. 1122
No. 1132
SITE
No. 1112-1116
PROPOSED
NO STOPPING
BUS ZONE
1P
8:30AM-8PM EVERYDAY
EXISTING TO BE REMOVED
Proposed bus shelter location
Future site access driveway
Exist P.P.
7.5m
NO STOPPING
EXISTING 35m LONG BUS ZONE TO BE RELOCATED
6m
10m LONG NO STOPPING
ROAD
PROPOSED 45m LONG BUS ZONE
PROPOSED 35m LONG BUS ZONE
BARRENJOEY
Existing shelter to be removed/relocated
Proposed vertical faced kerb & gutter including 45 degree angle transition to indented Bus Bay
EXISTING
EXISTING & PROPOSED PARKING RESTRICTIONS PLAN
1112-1116 Barrenjoey Road, Palm Beach
0m 5m 10m 15m 20m 25m
Scale 1:500 @ A4 Size

APPENDIX B

PROPOSED ARCHITECTURAL PLANS

CAR PARKING	
Description	**Count**
Accessible Bay (AS2890-2009)	1
Car Bay (T) Tandem 5400 x 2400	3
Motorbike Bay (2500 x 1200)	2
Standard Car Bay 5400 x 2400	19
Total Cars & Motorbikes	25



NO	REVISION	BY	CHK	DATE
A	FOR DA SUBMISSION	DK	GW	16.12.21
B	FOR AMENDED DA SUBMISSION	DK	RPW	25.07.23
C	FOR AMENDED DA SUBMISSION	DK	SL	24.08.23
1	CONCEPT PLAN AMENDMENT	DK	RPW	04.04.24
2	FOR COUNCIL DISCUSSION	DK	RPW	29.04.24
D	FOR COUNCIL RFI (AMENDED)	DK	RPW	13.06.24
E	DRAFT S34 PACKAGE	DK	RPW	26.06.24
F	FOR S34 LODGEMENT	DK	RPW	03.07.24
G	FOR FINAL S34 REVIEW	DK	RPW	31.07.24
H	S34 AMENDMENT	DK	RPW	11.09.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND
REVISION
ON HOLD

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ABN 63 131 365 896
NOMINATED ARCHITECT:
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NSW ARCHITECTS 6901
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KOICHITAKADA.COM

Koichi Takada Architects

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PROJECT
1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

STATUS
DEVELOPMENT APPLICATION

0 5 m

DWG TITLE
BASEMENT 1 - FLOOR PLAN

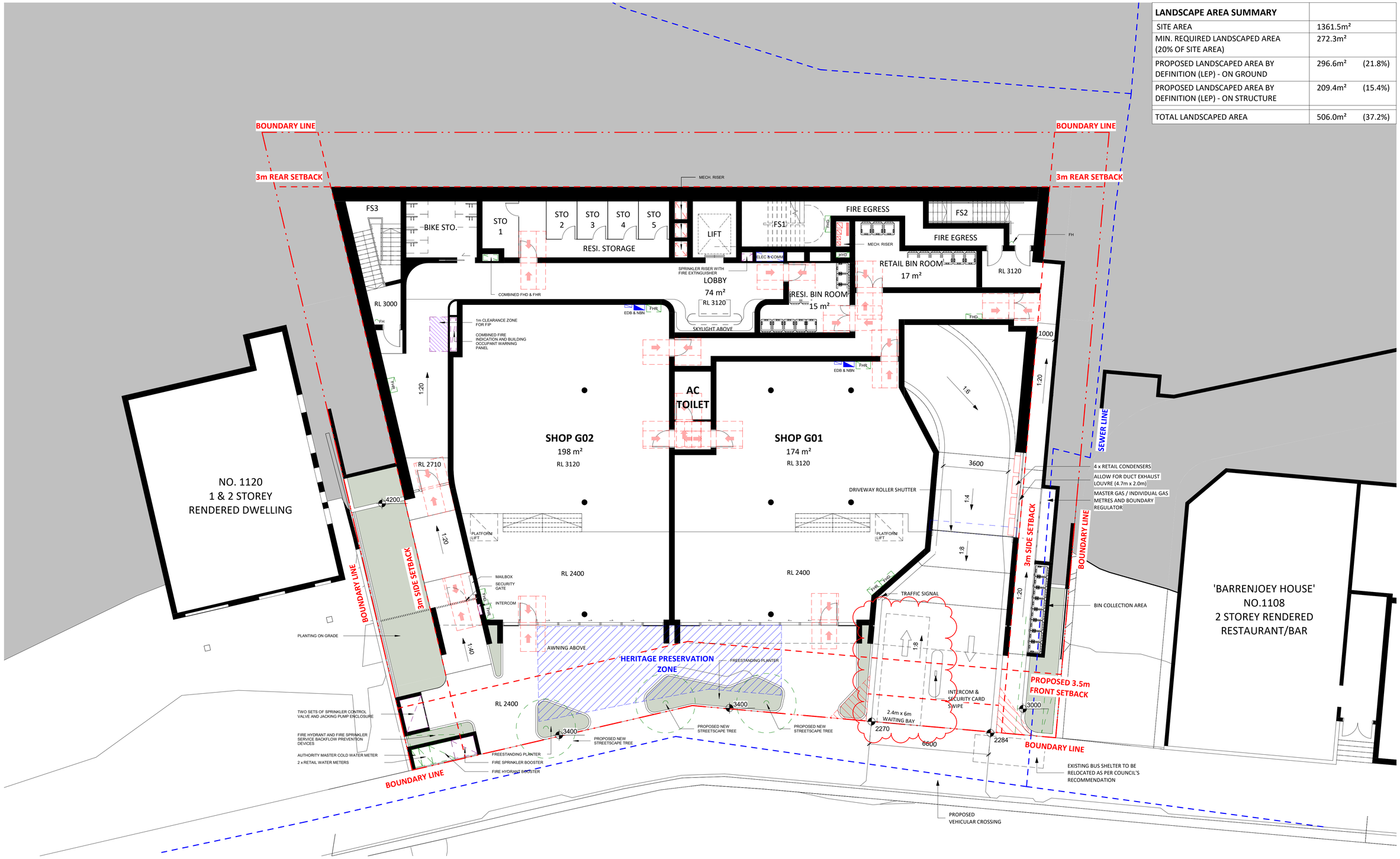
DWG NO.
A0099

REVISION
H

SCALE
1:100@A1, 1:200@A3

DATE
11.09.24

LANDSCAPE AREA SUMMARY		
SITE AREA	1361.5m²	
MIN. REQUIRED LANDSCAPED AREA (20% OF SITE AREA)	272.3m²	
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON GROUND	296.6m²	(21.8%)
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON STRUCTURE	209.4m²	(15.4%)
TOTAL LANDSCAPED AREA	506.0m²	(37.2%)



NO.	REVISION	BY	CHK	DATE
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B	FOR AMENDED DA SUBMISSION	DK	RPW	25.07.23
C	FOR AMENDED DA SUBMISSION	DK	SL	24.08.23
1	FOR MASSING STUDY REVIEW	DK	RPW	22.03.24
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G	DRAFT S34 PACKAGE	DK	RPW	26.06.24
H	FOR S34 LODGEMENT	DK	RPW	03.07.24
I	FOR FINAL S34 REVIEW	DK	RPW	31.07.24
J	S34 AMENDMENT	DK	RPW	11.09.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND
REVISION
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ABN 63 131 365 896
NOMINATED ARCHITECT:
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VIC ARCHITECTS 16179
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KOICHITAKADA.COM

Koichi Takada Architects

QA STAMP

PROJECT
1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

STATUS
DEVELOPMENT APPLICATION

0 5 m

DWG TITLE
GROUND FLOOR - FLOOR PLAN

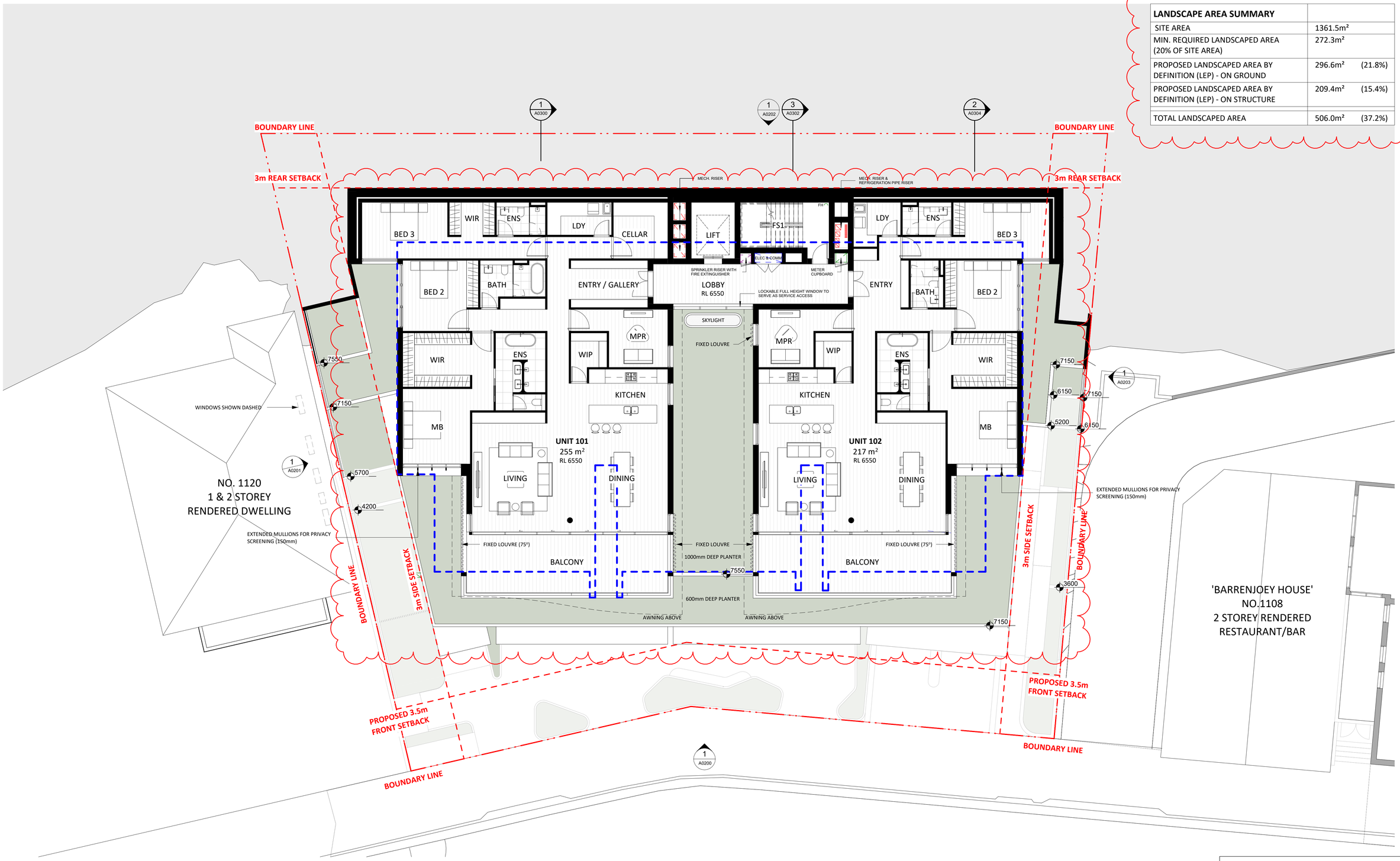
DWG NO.
A0100

REVISION
J

SCALE
1:100@A1, 1:200@A3

DATE
11.09.24

LANDSCAPE AREA SUMMARY		
SITE AREA	1361.5m²	
MIN. REQUIRED LANDSCAPED AREA (20% OF SITE AREA)	272.3m²	
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON GROUND	296.6m²	(21.8%)
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON STRUCTURE	209.4m²	(15.4%)
TOTAL LANDSCAPED AREA	506.0m²	(37.2%)



LEGEND

SUBMITTED DA BUILDING OUTLINE

NO.	REVISION	BY	CHK	DATE
1	CONCEPT PLAN AMENDMENT	DK	RPW	04.04.24
2	FOR COUNCIL DISCUSSION	DK	RPW	29.04.24
A	FOR COUNCIL RFI (AMENDED)	DK	RPW	13.06.24
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C	DRAFT S34 PACKAGE	DK	RPW	26.06.24
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E	FOR FINAL S34 REVIEW	DK	RPW	31.07.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND

REVISION ON HOLD

OTHERS

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ROZELLE NSW 2039

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Koichi Takada Architects

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PROJECT
1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

STATUS
DEVELOPMENT APPLICATION

0 5 m

DWG TITLE
LEVEL 01 - FLOOR PLAN

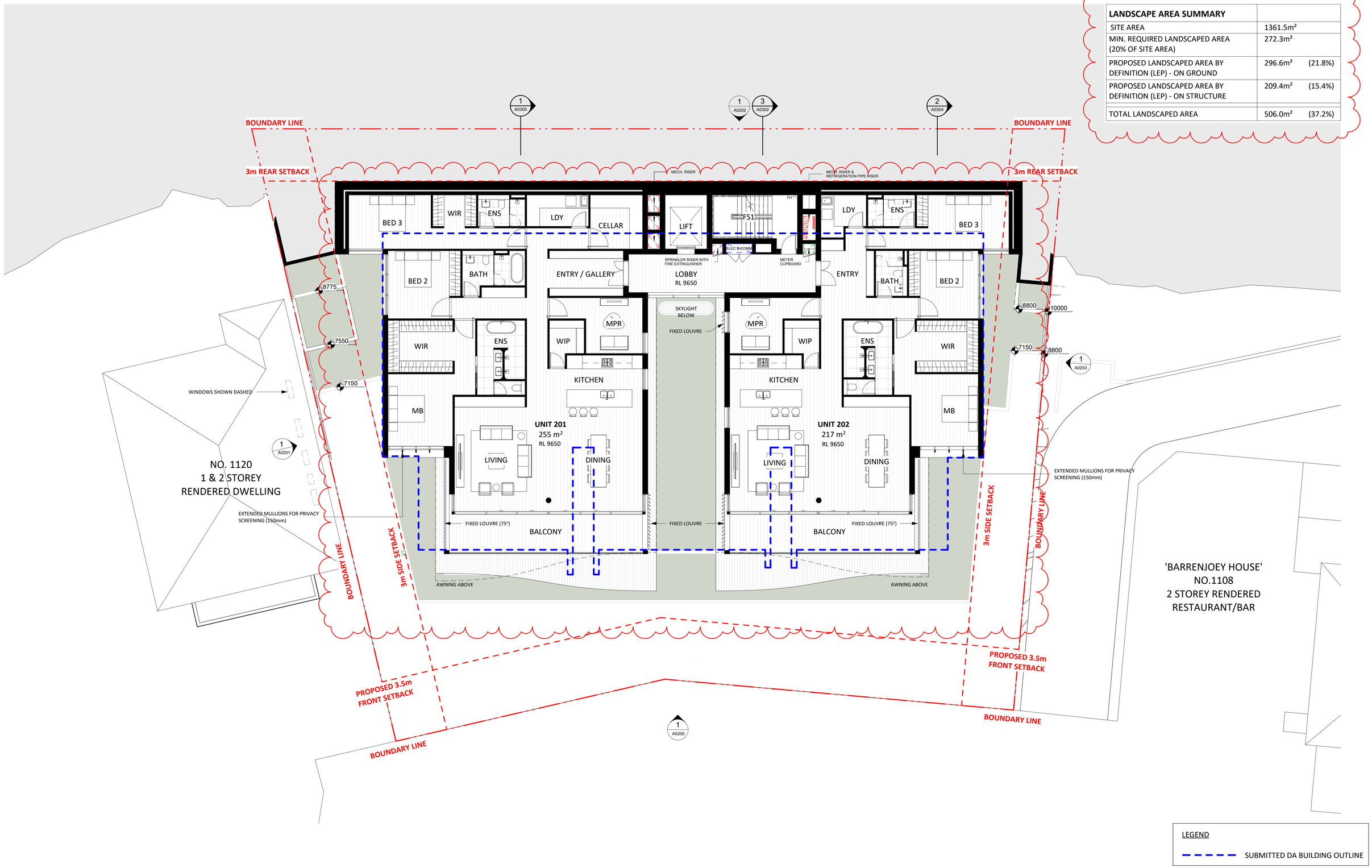
DWG NO.
A0101

REVISION
E

SCALE
1:100@A1, 1:200@A3

DATE
31.07.24

LANDSCAPE AREA SUMMARY		
SITE AREA	1361.5m²	
MIN. REQUIRED LANDSCAPED AREA (20% OF SITE AREA)	272.3m²	
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON GROUND	296.6m²	(21.8%)
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON STRUCTURE	209.4m²	(15.4%)
TOTAL LANDSCAPED AREA	506.0m²	(37.2%)



LEGEND

SUBMITTED DA BUILDING OUTLINE

NO	REVISION	BY	CHK	DATE
A	FOR DA SUBMISSION	DK	GW	16.12.21
B	FOR AMENDED DA SUBMISSION	DK	RPW	25.07.23
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F	FOR S34 LODGEMENT	DK	RPW	03.07.24
G	FOR FINAL S34 REVIEW	DK	RPW	31.07.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND: REVISION, ON HOLD

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KOICHITAKADA.COM
Koichi Takada Architects

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PROJECT: 1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

DWG TITLE: LEVEL 02 - FLOOR PLAN

STATUS: DEVELOPMENT APPLICATION

DWG NO.: A0102

REVISION: G

0 5 m

SCALE: 1:100@A1, 1:200@A3

DATE: 31.07.24

LANDSCAPE AREA SUMMARY		
SITE AREA	1361.5m²	
MIN. REQUIRED LANDSCAPED AREA (20% OF SITE AREA)	272.3m²	
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON GROUND	296.6m²	(21.8%)
PROPOSED LANDSCAPED AREA BY DEFINITION (LEP) - ON STRUCTURE	209.4m²	(15.4%)
TOTAL LANDSCAPED AREA	506.0m²	(37.2%)

NO. 1110B BARREJOEY RD.
PROPOSED 4 STOREY
RENDERED DWELLING
(DA2022/2065 APPROVED
BUT NOT CONSTRUCTED)

BOUNDARY LINE
3m REAR SETBACK
TERRACE
MECH. RISER
TERRACE
MECH. RISER
BOUNDARY LINE
3m REAR SETBACK
12825
13800
12400
13500
11200
12400
10950
CASUAL DINING
LOUNGE
P'TRY
LDRY
PWD
KITCHEN
LIFT
FS1
FHC
B4 / MPR
ENS
WIR
SPRINKLER RISER WITH FIRE EXTINGUISHER
ELEC & COMM
METER CUPBOARD
PRIVATE LOBBY
UNIT 301
282m²
LIVING
FORMAL DINING
ACCESS PANEL ABOVE
ENS
WIR
WIR
BATH
B3
B2
MB
AWNING ABOVE
AWNING ABOVE
BALCONY
SPA POOL
BALCONY
13350
13350
PLANTER
PLANTER
WINDOWS SHOWN DASHED
NO. 1120
1 & 2 STOREY
RENDERED DWELLING
BOUNDARY LINE
3m SIDE SETBACK
3m SIDE SETBACK
BOUNDARY LINE
'BARRENJOEY HOUSE'
NO.1108
2 STOREY RENDERED
RESTAURANT/BAR
PROPOSED 3.5m
FRONT SETBACK
PROPOSED 3.5m
FRONT SETBACK
BOUNDARY LINE
BOUNDARY LINE

1 A0300 — 1 A0202 — 3 A0302 — 2 A0304 — 1 A0203 — 1 A0201 — 1 A0200

LEGEND

SUBMITTED DA BUILDING OUTLINE

NO.	REVISION	BY	CHK	DATE
A	FOR DA SUBMISSION	DK	GW	16.12.21
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E	FOR S.34 COORDINATION	DK	RPW	19.06.24
F	FOR S.34 COORDINATION	DK	RPW	21.06.24
G	DRAFT S34 PACKAGE	DK	RPW	26.06.24
H	FOR S34 LODGEMENT	DK	RPW	03.07.24
I	FOR FINAL S34 REVIEW	DK	RPW	31.07.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND
REVISION
ON HOLD

OTHERS

CLIENT
PALMDEV PTY LTD
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ROZELLE NSW 2039

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ABN 63 131 365 896
NOMINATED ARCHITECT:
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NSW ARCHITECTS 6901
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QLD ARCHITECTS 5590
KOICHITAKADA.COM

Koichi Takada Architects

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PROJECT
1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

STATUS
DEVELOPMENT APPLICATION

0 5 m

DWG TITLE
LEVEL 03 - FLOOR PLAN

DWG NO.
A0103

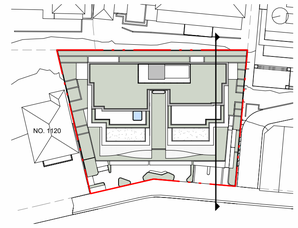
REVISION
I

SCALE
1:100@A1, 1:200@A3

DATE
31.07.24

GROUND PLANE TYPES

- 10m HEIGHT PLANE (10m ABOVE EGL)
- 8.5m HEIGHT PLANE (8m ABOVE FPL OR 8.5m ABOVE EGL, WHICHEVER IS GREATER)
- EXISTING GROUND LINE + FLOOD PLANE LINE (RL 3.12)



KEY PLAN

21A PALM BEACH RD.

2 STOREY
RENDERED DWELLING

RL 28.734

RL 22.630

RL 19.500

BOUNDARY LINE

1112-1116 BARRENJOEY RD.

BOUNDARY LINE

RL 16.400

RL 16.025

RL 15.825

APT 301

BALCONY

RL 12.725

APT 202

APT 102

RL 7.150

RL 6.550

10m HEIGHT PLANE (EXISTING GROUND)

8.5m HEIGHT PLANE (EXISTING GROUND)

DA LODGED BUILDING ENVELOPE

BARRENJOEY RD.

NGL + FLOOD PLANE RL 3.12

RL 3.120

22.35°

SLOPE ANGLE WITHIN BUILDING LINE
SHOWN IN ORANGE LINE (22.35° = 41.11%)

FS2

FIRE EGRESS

RETAIL BIN ROOM

SERVICE CORRIDOR

DRIVEWAY RAMP

PLANT ROOM

CAR PARKING

RL -2.400

ROOF RL 15.850

L03 RL 12.750

L02 RL 9.650

L01 RL 6.550

GND RL 2.400

B01 RL -1.220

3100

3100

4150

3620

1180

LEGEND

- SUBMITTED DA BUILDING OUTLINE

NO.	REVISION	BY	CHK	DATE
A	FOR DA SUBMISSION	DK	GW	16.12.21
B	FOR AMENDED DA SUBMISSION	DK	RPW	25.07.23
C	FOR AMENDED DA SUBMISSION	DK	SL	24.08.23
1	FOR MASSING STUDY REVIEW	DK	RPW	22.03.24
2	CONCEPT PLAN AMENDMENT	DK	RPW	04.04.24
3	FOR COUNCIL DISCUSSION	DK	RPW	29.04.24
D	FOR COUNCIL RFI (AMENDED)	DK	RPW	13.06.24
E	DRAFT S34 PACKAGE	DK	RPW	26.06.24
F	FOR S34 LODGEMENT	DK	RPW	03.07.24
G	FOR FINAL S34 REVIEW	DK	RPW	31.07.24

REVISION NOTES:

KEY PLAN

CLOUD LEGEND

REVISION ON HOLD

OTHERS

CLIENT

PALMDEV PTY LTD

LEVEL 1, 600 DARLING STREET
ROZELLE NSW 2039

ARCHITECT

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NOMINATED ARCHITECT:
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KOICHITAKADA.COM

Koichi Takada Architects

QA STAMP

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PROJECT
1112-1116 BARRENJOEY RD
1112 - 1116 BARRENJOEY ROAD, PALM BEACH

DWG TITLE
SECTION 02 (EXISTING GROUND)

STATUS
DEVELOPMENT APPLICATION

DWG NO.
A0301

REVISION
G

0 5 m

SCALE
1:100@A1, 1:200@A3

DATE
31.07.24

APPENDIX C

TRAFFIC ENGINEER REFERRAL RESPONSE

northern beaches council

Traffic Engineer Referral Response

Application Number:	DA2022/0469

Date:	25/11/2022
Responsible Officer	
Land to be developed (Address):	Lot 11 DP 1207743 , 1102 Barrenjoey Road PALM BEACH NSW 2108

Officer comments

Referral comments 25/11/22

The developers planner has proposed that the shortfall in retail parking be addressed by allocating parking spaces on site for car share use. The dedication of car share spaces to offset a shortfall in retail parking is not supported with the car share space(s) considered likely to be underutilised in this locality where there is a low car share membership base and a low demand for car share use. Car share parking has previously been accepted in lieu of parking only in locations where there is a high demand for car share use, only for residential parking spaces (usually associated with boarding house use) and only on sites where there were significant space constraint issues. In this location the use of car share spaces is not supported.

Upon reconsideration the retail parking provisions are considered acceptable. The parking proposal for this DA is considered an improved outcome with better layout and design and more functional than the previously approved N0119/14 for shop top housing development.

It is also the understood that all other development referral issues have been resolved either through design review of conditions for approval. Subject to conversion of parking space C7 to an accessible parking space and relocation of the vertical bicycle parking (both of which can be conditioned) the development is now considered acceptable from a traffic and parking perspective.

Referral comments 2/11/22

The amended plans do not include any changes to address the shortfall of retail parking spaces. The current proposal provides 9 retail parking spaces which is 3 less than the required 12 retail spaces. A minimum of 1 accessible retail space is also required under the DCP. Council's previous comments suggested that it may be possible to provide 1 accessible retail space if the existing vertical bicycle parking situated at the southern end of the site was relocated. The supplementary Statement of Environmental Effects (SOEE) does mention that there would be no objection should there be a suitably worded condition requiring the conversion of the commercial space C7 to an accessible commercial space.

The supplementary SOEE maintains that users of the commercial car parking space will be persons already parked in the public car park near the site when they visit the area, and can offset the shortfall

in parking. The Pittwater Park Carpark (north) is for Western Foreshore Permit holders only, which provides a parking facility for residents of Great Mackerel Beach and Coasters Retreat. The Pittwater Park Carpark (south) provides sections of 4hour parking and 8hour parking which is shared by commuters travelling between Central Coast and Palm Beach, local residents, recreational users and visitors to the area.

The proposed development contains two retail premises compared to the previous single takeaway business which operated from this location. Due to the existing high demand for parking in the vicinity of the Palm Beach ferry wharf, it is required that the necessary retail parking spaces be provided on-site which caters for both the staff and visitor parking needs of the retail premises. Alternatively an overall decrease in parking spaces could be considered for the development if there is a reduction in proposed dwellings. The current proposal is therefore not supported.

Referral comments 31/5/22

The proposed shop-top housing development contains two commercial premises (total 371m2) and five residential units (1 x 2 bedroom unit and 4 x 3 bedroom units), with basement parking for a total of 21 vehicles (9 retail, 10 residential including 2 adaptable spaces; 2 residential visitor including a disabled space). Vehicular access is via a 3.6m ramp under signal control, prioritising vehicles entering the site with marked waiting bays on the basement level and at the entry ramp within the property.

Residential and Retail Parking
Council's Pittwater 21 DCP requires the provision 24 car parking spaces, with 10 for residential use, 2 for residential visitor use and 12 for retail use. A total of 21 parking spaces is proposed, consisting of 9 retail, 10 residential including 2 adaptable spaces, and 2 residential visitor including a disabled space. In comparison the previously approved development (Consent No: N0119/14) also provides parking for 21 vehicles (11 retail including 1 disabled space, 8 residential, and 2 residential visitor spaces). The approved development however consists of three restaurant premises but with a lower GFA (total 324m2) and one less dwelling with four residential units (with 3 or more bedrooms).

The 12 residential parking spaces provided in the new proposal meets Council's DCP requirements for residential use, however is deficient in terms of retail parking with only 9 spaces proposed, a shortfall of 3 spaces. The DCP also requires that retail premises provide accessible parking spaces for people with disabilities at the rate of 3% of the required spaces, with a minimum of 1 space. The current proposal does not provide any retail accessible parking space, and under the current parking layout, conversion of an existing space to accommodate a compliant accessible parking space would result in the loss of an additional parking (given the need for an unload bay) and a net shortfall of 4 retail spaces. However, it may be possible to provide the required accessible retail parking space if the vertical bicycle parking was relocated and the parking along the southern side of the development was reconfigured to include the accessible parking.

The Traffic and Parking Impact Assessment tries to justify the shortfall in retail parking by suggesting that visitors associated with the retail component of the development will use the on-street parking. It further adds that for safety reasons the basement car park will be restricted to retail staff car parking and residential uses only (visitor and residential parking). The DCP requires that parking spaces for retail premises be accessible to the public and restricting retail spaces to use by staff only is therefore inappropriate and contrary to the DCP. The car parking needs for the development must be provided

off-street, as visitors cannot rely on the availability of on-street parking due to the high demand for parking in the vicinity of the Palm Beach ferry wharf.

Traffic Generation

The future traffic generation has been assessed in accordance with Roads and Maritime Services (RMS) 'Guide to Traffic Generating Developments 2002'. The Traffic and Parking Impact Assessment estimates that 14 trips occur during the PM peak hour period for the existing development, 19 trips for the approved development and 24 trips (21 retail trips not 20 as reported, 3 residential trips). The new development will result in an increase of 23 trips from the existing, and 4 trips from the approved development.

The existing fish and chip restaurant has a gravel parking area for two vehicles. The parking seems to be used entirely for staff as the access is chained and signposted as No Parking. Vehicle trips during the PM peak hour period could therefore be considered as 2 trips. No morning traffic is associated with the existing development as the premises are closed prior to 11:30am. As a result, Council believes that a more representative figure for traffic generation due to the new development will be an increase of 24 trips from the existing, and 5 trips from the approved during the AM peak hour period.

Construction Traffic Management

TfNSW has reviewed the application and will not permit a construction zone on Barrenjoey Road. The frontage of the development has an existing Loading Zone and 1 hour timed parking. TfNSW requires that all demolition and construction vehicles are to be contained wholly within the site and vehicles must enter the site before stopping.
Further information or a Construction Traffic Management Plan (CTMP) must therefore be provided to demonstrate that the development can be constructed without impacting the Main Road, and existing on-street loading and parking facilities.

Summary
The proposal is not acceptable as it does not satisfy the parking requirements of the Pittwater 21 DCP. The development has a shortfall in parking (up to 4 retail spaces), and proposes to restrict parking for retail visitors.
Due to the high demand for parking in the area, additional parking spaces need to be provided on site. A review of the parking layout and/or reduced dwellings or bedrooms, should be considered in order to meet the parking requirements for the development.

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Traffic Engineer Conditions:

DEVELOPMENT CONSENT OPERATIONAL CONDITIONS

Staff and Contractor Parking
The applicant is to make provision for parking for all construction staff and contractors for the duration of the project. All Staff and Contractors are to use the basement parking once available. All necessary facilities are to be provided to accommodate this requirement including lighting in the basement,

security cameras, etc.

Reason: To ensure minimum impact of construction activity on local parking amenity.

Parking Enclosure
No parking spaces, or access thereto, shall be constrained or enclosed by any form of structure such as fencing, cages, walls, storage space, or the like, without prior consent from Council.

Reason: To ensure accessibility is maintained.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

Car Parking Standards
The driveway/access ramp grades, access and car parking facilities must comply with the Australian/New Zealand Standard AS/NZS 2890.1:2004 - Parking facilities - Off-street car parking. The dimensions of car parking bays and aisle widths in the car park are to comply with Australian/New Zealand Standard for Off-Street Parking AS/NZS 2890.1-2004, noting that the shared area adjacent to the accessible parking space (space 19 -C7) will be slightly below standard.

Details demonstrating compliance with this condition are to be submitted to the Certifying Authority prior to the issue of a construction certificate.

Reason: To ensure compliance with Australian Standards relating to manoeuvring, access and parking of vehicles.

Construction Traffic Management Plan
As a result of the site constraints, limited vehicle access and parking, a Construction Traffic Management Plan (CTMP) and report shall be prepared by an RMS accredited person and submitted to and approved by the Northern Beaches Council Traffic Team prior to issue of any Construction Certificate.

Due to traffic congestion issues in peak period truck movements should be limited during the major commuter peak times being 8.00-9.30am and 4.30-6.00pm. Truck movements must be agreed with Council's Traffic Engineer prior to submission of the CTMP.

The CTMP must address following:

- The proposed phases of construction works on the site, and the expected duration of each construction phase
- The proposed order in which works on the site will be undertaken, and the method statements on how various stages of construction will be undertaken
- Make provision for all construction materials to be stored on site, at all times
- The proposed areas within the site to be used for the storage of excavated materials, construction materials and waste containers during the construction period
- The proposed method of access to and egress from the site for construction vehicles, including access routes and truck rates through the Council area and the location and type of temporary vehicular crossing for the purpose of minimising traffic congestion and noise in the area, with no access across public parks or reserves being allowed
- The proposed method of loading and unloading excavation and construction machinery, excavation and building materials, formwork and the erection of any part of the structure within the site. Wherever possible mobile cranes should be located wholly within the site
- Make provision for parking onsite. All Staff and Contractors are to use the basement parking

once available
- Temporary truck standing/ queuing locations in a public roadway/ domain in the vicinity of the site are not permitted unless approved by Council prior
- Include a Traffic Control Plan prepared by a person with suitable RMS accreditation for any activities involving the management of vehicle and pedestrian safety
- The proposed manner in which adjoining property owners will be kept advised of the timeframes for completion of each phase of development/construction process. It must also specify that a minimum Fourteen (14) days notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measure
- Include a site plan showing the location of any site sheds, location of requested Work Zones, anticipated use of cranes and concrete pumps, structures proposed on the footpath areas (hoardings, scaffolding or shoring) and any tree protection zones around Council street trees
- Take into consideration the combined construction activities of other development in the surrounding area. To this end, the consultant preparing the CTMP must engage and consult with developers undertaking major development works within a 250m radius of the subject site to ensure that appropriate measures are in place to prevent the combined impact of construction activities, such as (but not limited to) concrete pours, crane lifts and dump truck routes. These communications must be documented and submitted to Council prior to work commencing on site
- The proposed method/device to remove loose material from all vehicles and/or machinery before entering the road reserve, any run-off from the washing down of vehicles shall be directed to the sediment control system within the site
- Specify that the roadway (including footpath) must be kept in a serviceable condition for the duration of construction. At the direction of Council, undertake remedial treatments such as patching at no cost to Council
- The proposed method of support to any excavation adjacent to adjoining properties, or the road reserve. The proposed method of support is to be designed and certified by an appropriately qualified and practising Structural Engineer, or equivalent
- Proposed protection for Council and adjoining properties
- The location and operation of any on site crane

The CTMP shall be prepared in accordance with relevant sections of Australian Standard 1742 – "Manual of Uniform Traffic Control Devices", RMS' Manual – "Traffic Control at Work Sites".

All fees and charges associated with the review of this plan is to be in accordance with Council's Schedule of Fees and Charges and are to be paid at the time that the Construction Traffic Management Plan is submitted.

Reason: To ensure public safety and minimise any impacts to the adjoining pedestrian and vehicular traffic systems.

Removal of Redundant Driveways
All redundant driveways shall be removed and reinstated to Council standard kerb and gutter. Suitably prepared plans shall be submitted to for an approval under and approved by Council prior to the issue of the Construction Certificate. All costs associated with the works shall be borne by the applicant.

A plan checking fee (amount to be advised) and lodgement of a performance bond may be required from the applicant prior to the release of the approval.

Reason: To maximise on street car parking by removing driveways that are no longer needed in accordance with Council policy.

Vehicle Access & Parking
All internal driveways, vehicle turning areas, garages and vehicle parking space/ loading bay dimensions must be designed and constructed to comply with the relevant section of AS 2890 (Off-street Parking standards).

With respect to this, the following revision(s) must be undertaken;

- parking space C7 (space 19) shall be converted to an accessible retail parking space with a hatched shared area adjacent that is slightly substandard at 2.19m in width
- the vertical bicycle parking situated at the southern end of the site shall be relocated to another suitable area within the basement car park level so as not to impede access to/from the shared area by persons with a disability.

All internal driveways and vehicle access ramps must have ramp grades and transitions complying with AS 2890.1. To ensure the gradient requirements and height clearances are satisfied, a driveway profile must be prepared for all internal ramps showing ramp lengths, grades, surface RL's and overhead clearances, taken from the crest of the ramp to the base. The driveway profile must be taken along the steepest grade of travel or sections having significant changes in grades, where scraping or height restrictions could potentially occur and is to demonstrate compliance with AS 2890 for the respective type of vehicle.

Plans prepared by a suitably qualified Engineer shall be submitted to the Certifying Authority prior to the issue of a Construction Certificate.

Reason: To ensure compliance with Australian Standards relating to manoeuvring, access and parking of vehicles.

CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT

Work Zones and Permits
Prior to commencement of the associated works, the applicant shall obtain a Work Zone Permit where it is proposed to reserve an area of road pavement for the parking of vehicles associated with a construction site.

A separate application is required with a Traffic Management Plan for standing of construction vehicles in a trafficable lane and a Roads and Maritime Services Work Zone Permit shall be obtained for State Roads.

Reason: To ensure Work zones are monitored and installed correctly.

Road Occupancy Licence
Prior to commencement of the associated works, the applicant shall obtain a Road Occupancy License from Transport Management Centre for any works that may impact on traffic flows.

Reason: Requirement of TMC for any works that impact on traffic flow.

Demolition Traffic Management Plan
As a result of the site constraints, limited vehicle access and parking, a Demolition Traffic Management Plan (DTMP) shall be prepared by an suitably accredited person and submitted to and approved by the Northern Beaches Council Traffic Team prior to commencing any demolition work.

Due to traffic congestion throughout the area, truck movements should be limited during the major commuter peak times being 8.00-9.30am and 4.30-6.00pm.

The DTMP must:-

- Make provision for all construction materials to be stored on site, at all times.
- The DTMP is to be adhered to at all times during the project.
- Specify construction truck routes and truck rates. Nominated truck routes are to be distributed over the surrounding road network where possible.
- Provide for the movement of trucks to and from the site, and deliveries to the site. Temporary truck standing/ queuing locations in a public roadway/ domain in the vicinity of the site is not permitted unless prior approval is granted by Council's Traffic Engineers.
- Include a Traffic Control Plan prepared by an RMS accredited traffic controller for any activities involving the management of vehicle and pedestrian traffic.
- Specify that a minimum fourteen (14) days notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measures.
- Include a site plan showing the location of any site sheds, location of requested Work Zones, anticipated use of cranes, structures proposed on the footpath areas (hoardings, scaffolding or temporary shoring) and extent of tree protection zones around Council street trees.
- Take into consideration the combined construction activities of other development in the surrounding area. To this end, the consultant preparing the DTMP must engage and consult with developers undertaking major development works within a 250m radius of the subject site to ensure that appropriate measures are in place to prevent the combined impact of construction activities. These communications must be documented and submitted to Council prior to work commencing on site.
- Specify spoil management process and facilities to be used on site.
- Specify that the roadway (including footpath) must be kept in a serviceable condition for the duration of demolition. At the direction of Council, the applicant is to undertake remedial treatments such as patching at no cost to Council.

The DTMP shall be prepared in accordance with relevant sections of Australian Standard 1742 – "Manual of Uniform Traffic Control Devices", RMS' Manual – "Traffic Control at Work Sites".

All fees and charges associated with the review of this plan is to be in accordance with Council's Schedule of Fees and Charges and are to be paid at the time that the Demolition Traffic Management Plan is submitted.

Reason: This condition is to ensure public safety and minimise any impacts to the adjoining pedestrian and vehicular traffic systems. The DTMP is intended to minimise impact of construction activities on the surrounding community, in terms of vehicle traffic (including traffic flow and parking) and pedestrian amenity adjacent to the site.

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Implementation of Demolition Traffic Management Plan
All works and demolition activities are to be undertaken in accordance with the approved Demolition Traffic Management Plan (DTMP). All controls in the DTMP must be maintained at all times and all traffic management control must be undertaken by personnel having appropriate RMS accreditation. Should the implementation or effectiveness of the DTMP be impacted by surrounding major development not encompassed in the approved DTMP, the DTMP measures and controls are to be revised accordingly and submitted to Council for approval. A copy of the approved DTMP is to be kept onsite at all times and made available to the accredited certifier or Council on request.

Reason: To ensure compliance and Council's ability to modify the approved Construction Traffic

Management Plan where it is deemed unsuitable during the course of the project.

Implementation of Construction Traffic Management Plan
All works and construction activities are to be undertaken in accordance with the approved Construction Traffic Management Plan (CTMP). All controls in the CTMP must be maintained at all times and all traffic management control must be undertaken by personnel having appropriate RMS accreditation. Should the implementation or effectiveness of the CTMP be impacted by surrounding major development not encompassed in the approved CTMP, the CTMP measures and controls are to be revised accordingly and submitted to Council for approval. A copy of the approved CTMP is to be kept onsite at all times and made available to Council on request.

Reason: To ensure compliance of the developer/builder in adhering to the Construction Traffic Management procedures agreed and are held liable to the conditions of consent.

Ongoing Management
The applicant shall be responsible in ensuring that the road reserve remains in a serviceable state during the course of the demolition and building works.

Reason: To ensure public safety.

CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE

Allocation of parking spaces (strata title)
All carparking spaces are to be assigned to individual units. All residential units must be assigned two parking spaces. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate.

Reason: To ensure adequate parking availability for residents.

Allocated Parking Spaces (retail/commercial)
commercial parking allocated to this development must be clearly signposted and linemarked as being for the exclusive use of this development. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate.

Reason: To ensure parking availability.

Disabled Parking Spaces
Where disabled parking spaces are provided they must be in accordance with AS2890.6:2009.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate.

Reason: To ensure compliance with Australian Standards.

Shared Zone Bollard
A bollard is to be provided at the shared zone between disabled spaces in accordance to Australian Standards AS2890.6:2009.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate.

Reason: To ensure compliance with Australian Standards.

ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES

Landscaping adjoining vehicular access
The applicant must ensure that the planting chosen for any land immediately adjacent to the driveway and adjacent to any driveway intersections must not exceed a height of 1.1m

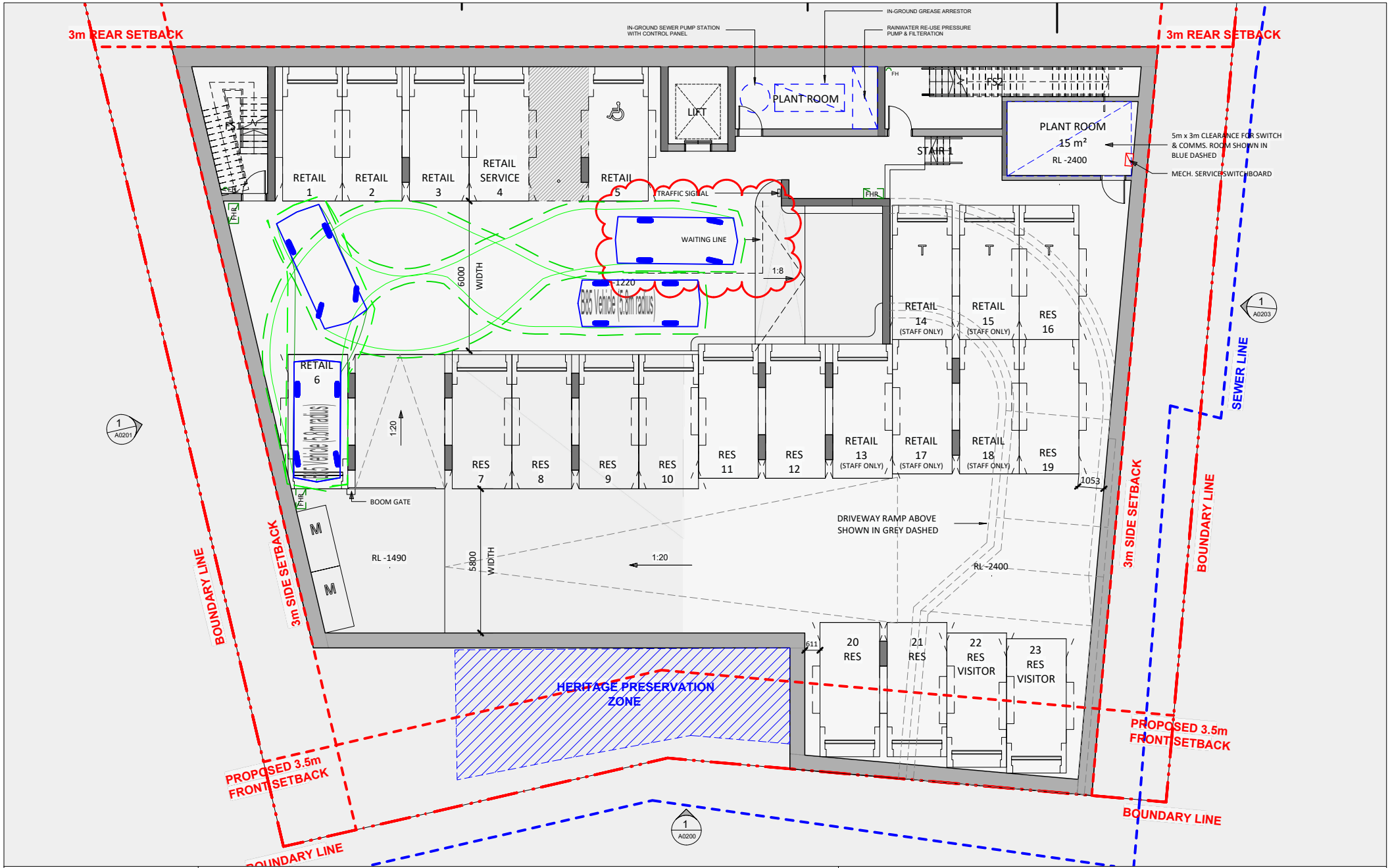
Reason: To maintain unobstructed sight distance for motorists.

Sight lines within carparks
The required sight lines to pedestrians and other vehicles in and around the carpark and entrance(s) are not to be obstructed by landscaping or signage.

Reason: To maintain unobstructed sight distance for motorists.

APPENDIX D

SWEPT TURNING PATH DIAGRAMS



VARGA TRAFFIC PLANNING Pty Ltd
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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

DRAWING TITLE
B85 TURNING PATHS - BASEMENT
Entering/Exiting End Car Space 6

ADDRESS
1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

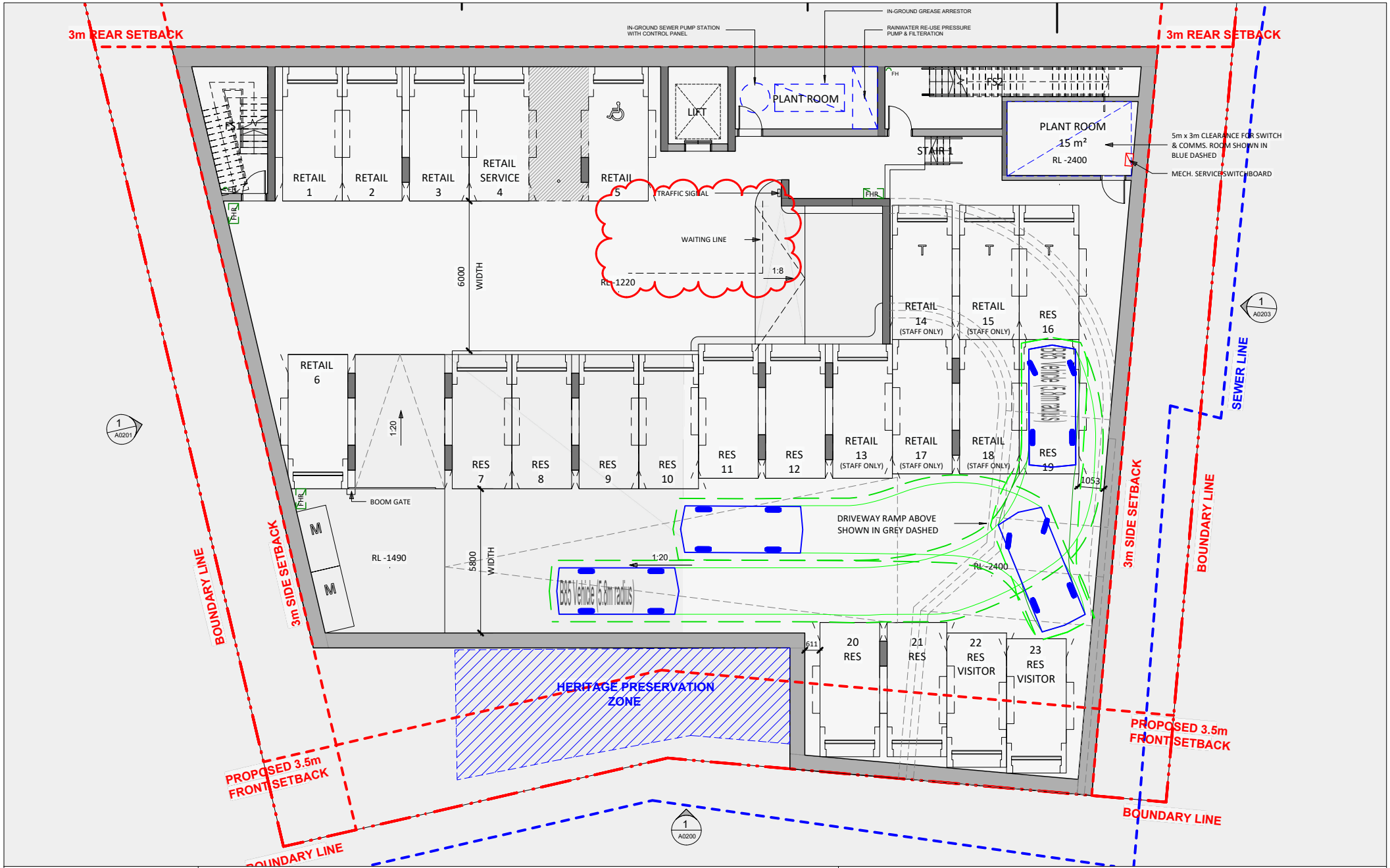
PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B85 TURNING PATHS - BASEMENT
Entering/Exiting End Car Space 19

ADDRESS
1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

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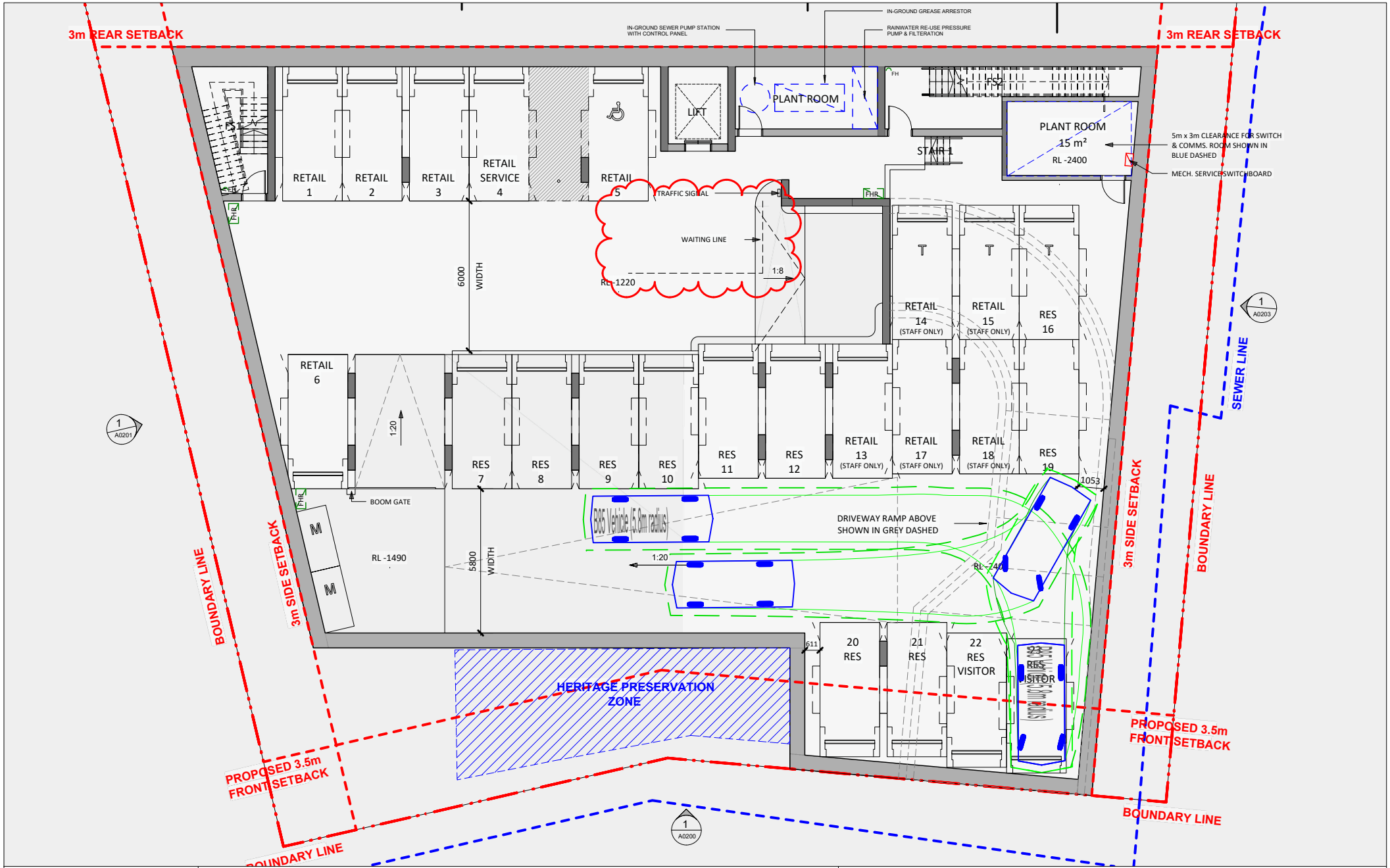

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PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B85 TURNING PATHS - BASEMENT
Entering/Exiting End Car Space 23

ADDRESS
1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

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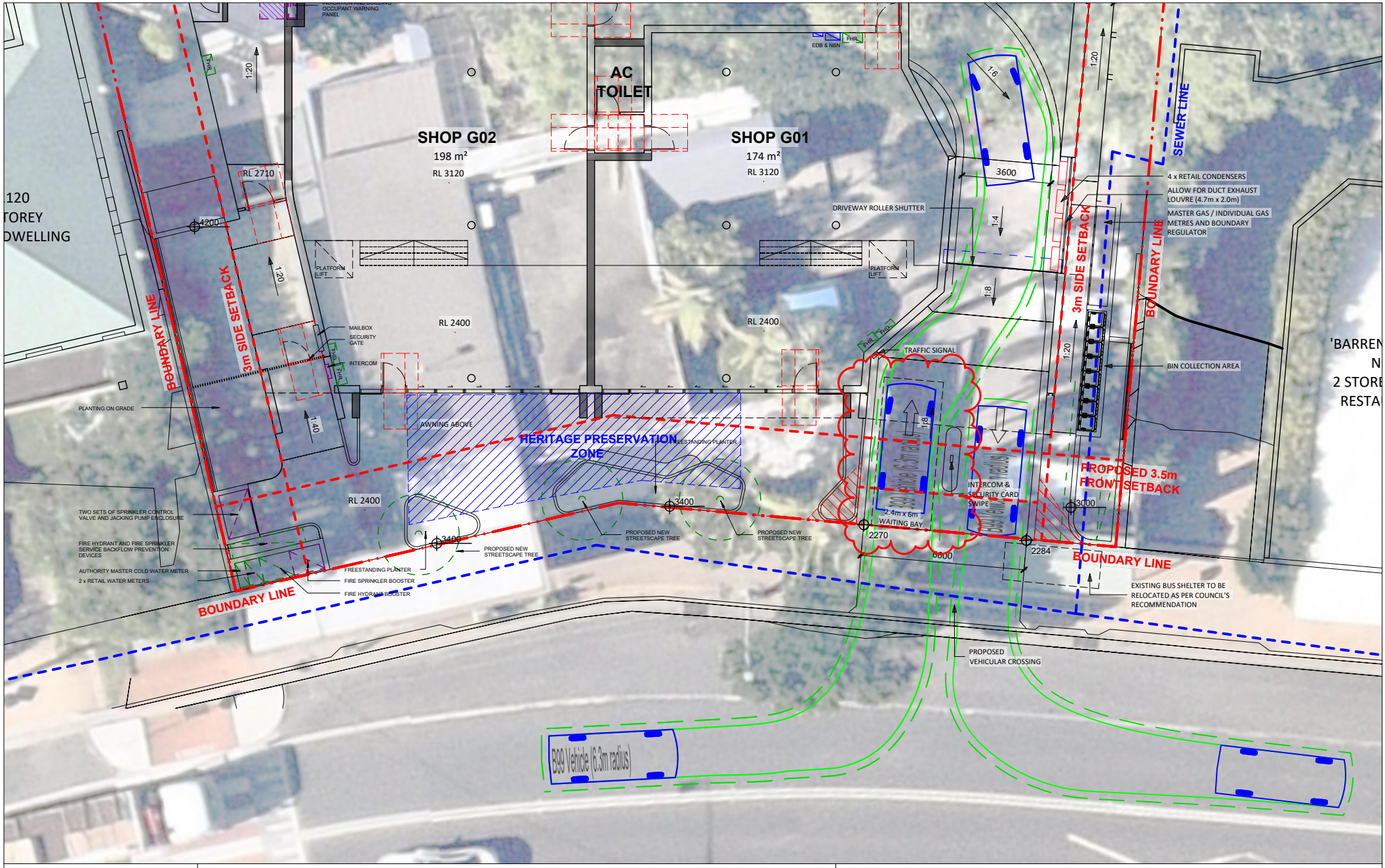

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Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B99 TURNING PATHS - GROUND
Entering/Exiting Basement

ADDRESS
1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

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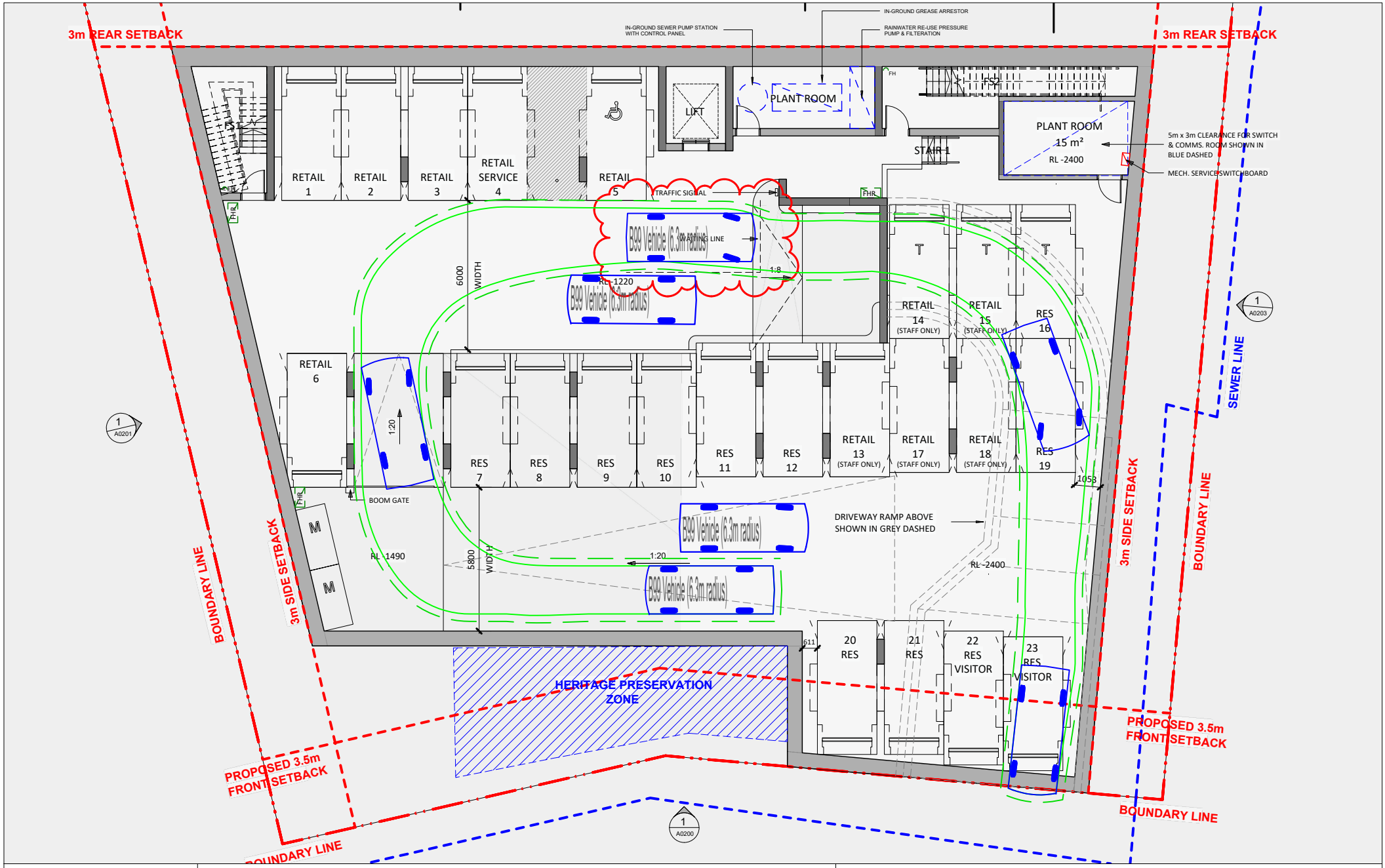

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PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B99 TURNING PATHS - BASEMENT
Entering Basement

ADDRESS
1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

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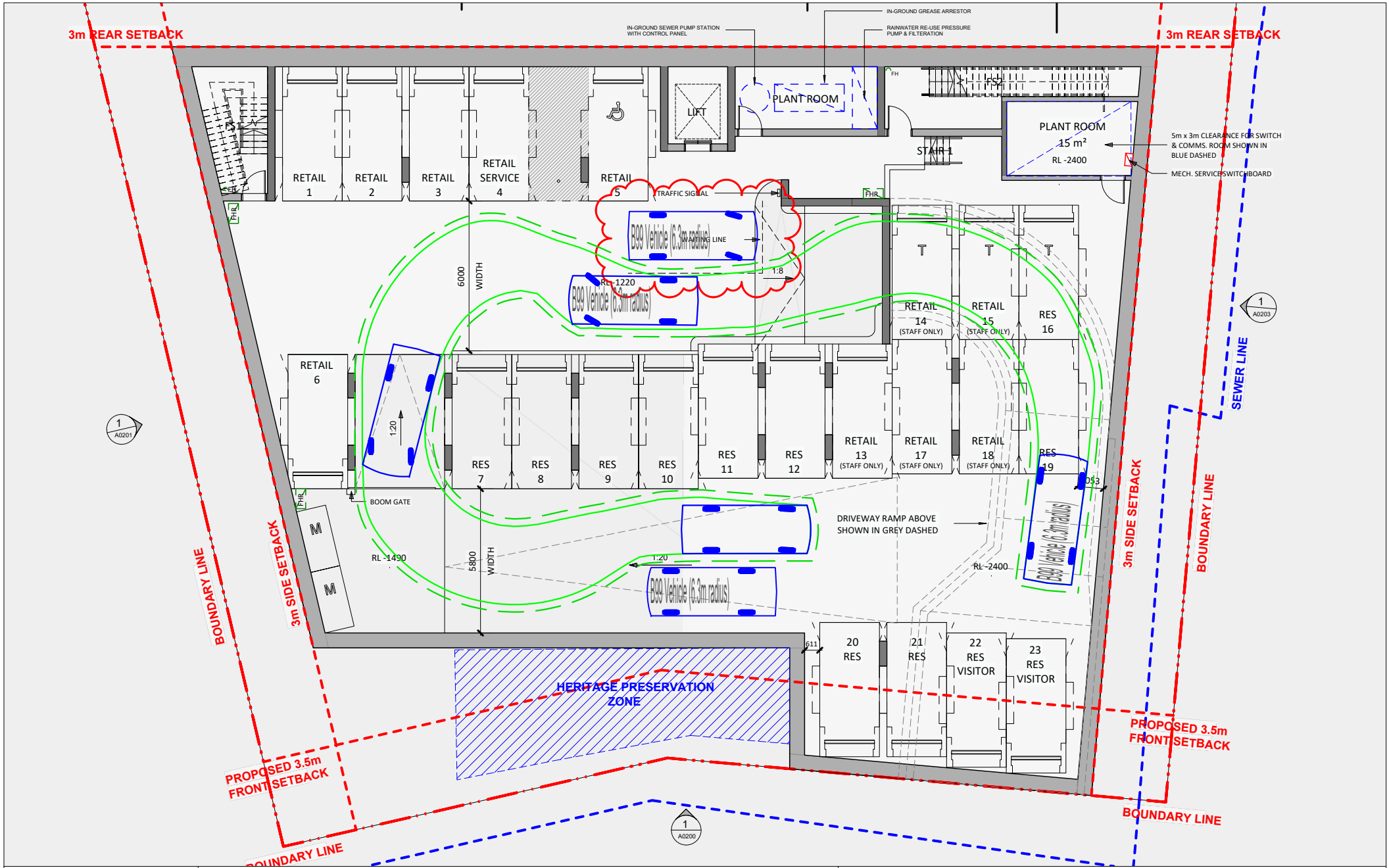

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1112-1116 Barrenjoey Road,
Palm Beach

1:200 @ A4

PROJECT NO.
21327

DATE DRAWN
2024-9-13

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

APPENDIX E

AUSTROADS QUEUING ANALYSIS

PROBABILITY OF TWO VEHICLES TRAVELLING IN OPPOSITE DIRECTIONS AT THE SAME TIME

USER INPUT

Length of Conflict (d)	25	m
Travel Speed (spd)	10	km/hr
Average Vehicle Arrivals (r)	10.7	veh/hr

FORMULAS

Travel Speed	$v = spd / 3.6$
Conflict Period	$t = d / v$
Expected Value	$m = r_{(A \text{ or } B)} / 3600 \times t$
The Poisson Frequency Distribution Function	$p(x) = e^{-m} m^{x} / x!$
Probability of Conflict	$P(A \cap B) = P(A) \times P(B)$

CALCULATED PARAMETERS

Travel Speed (v)	2.8	m/s
Conflict Period (t)	9.0	sec
Vehicles in Direction A (r_A)*	4.4	veh/hr
Vehicles in Direction B (r_B)*	6.3	veh/hr
m (A)	0.01090	veh/s
m (B)	0.01585	veh/s

**20:80 traffic split for residential,* and
50:50 traffic split for retail as per RMS Guidelines.

	Direction A	Direction B
Probability of **zero (0)** vehicles will pass during the conflict period (t) - i.e. p (0)	98.9%	98.4%
Probability of **one (1) or more** vehicles will pass during the conflict period (t) - i.e. 1 - p (0)	1.084%	1.573%
Probability of conflict - P (A ∩ B)	**0.0170%**	

1. Conflict analysis has been undertaken in accordance with Austroads Guide to Traffic Management, Part 2: Traffic Theory (2020), Section 3.2.2. The Poisson Distribution.