



STANBURY
TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

PARKING & TRAFFIC IMPACT ASSESSMENT

**PROPOSED MIXED USE DEVELOPMENT
52 – 62 MAY ROAD
NARRAWENNA**

**PREPARED FOR THE MAY GROUP
OUR REF: 19-103**



MARCH 2020

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- 1. Architectural Plans**
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1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by The May Group to prepare a Parking & Traffic Impact Assessment to accompany a Development Application to be lodged with Northern Beaches Council. The Development Application seeks consent for the demolition of an existing strip retail development and the construction of a mixed use development at 52 – 62 May Road, Narrabeena.

The mixed-use development is to contain six retail and three commercial tenancies below 16 residential apartments. The development is to be serviced by a single basement level of parking containing 34 parking spaces. Vehicular connectivity to the on-site parking area is proposed via a single combined ingress / egress driveway connecting with Poplar Lane in the north-western corner of the site.

The aim of this assessment is to investigate and report upon the potential parking and traffic consequences of the development application and to recommend appropriate ameliorative measures where required. This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the proposed development;
- Section 3 assess the adequacy of the proposed site access arrangements, parking provision, internal circulation and servicing arrangements with reference to relevant Council, Roads & Maritime Services and Australian Standard specifications;
- Section 4 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure;
- Section 5 estimates the projected traffic generating ability of the proposed development and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner; and
- Section 6 provides an indicative assessment of the traffic and pedestrian management measures likely to be implemented during the construction phases of the development.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007. The application is not of sufficient scale to be referred to the Roads & Maritime Services under this Instrument.

1.2 Reference Documents

Reference is made to the following documents throughout this report:

- The Roads & Maritime Services' *Guide to Traffic Generating Developments*;
- Warringah Council's *Warringah Development Control Plan 2011* (WDCP 2011);
- Australian Standard for *Parking Facilities Part 1: Off-Street Car Parking* (AS2890.1:2004);
- Australian Standard for *Parking Facilities Part 3: Bicycle Parking Facilities* (AS2890.3:2015);
- Australian Standard for *Parking Facilities Part 5: On-Street Parking* (AS2890.5:1993); and
- DC Traffic Engineering's *Narraweena Shopping Village Car Parking Facilities: Existing Stage Road Safety Audit*.

Architectural plans have been prepared by Benson McCormack Architecture and should be read in conjunction with this report, reduced copies of a selection of which are included as **Appendix 1** for reference.

1.3 Site Details

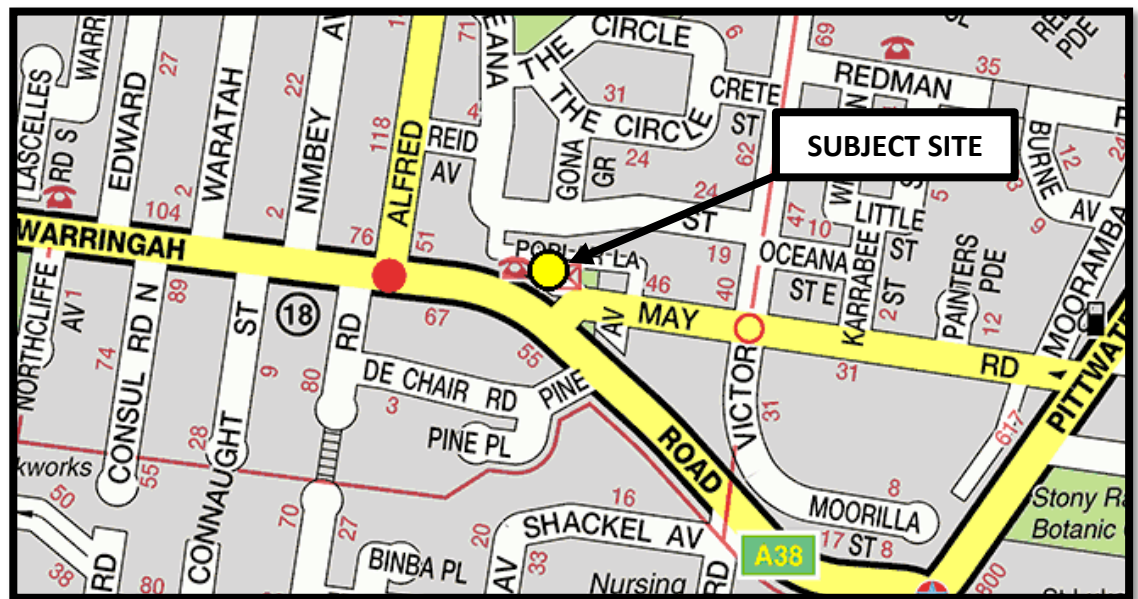
1.3.1 Site Location

The subject site is situated to the immediate north-west of the junction of Warringah Road and May Road, and also provides a northern frontage to Poplar Lane, Narraweena. The site location is illustrated overleaf within a local and aerial context by **Figure 1** and **Figure 2**, respectively.

1.3.2 Site Description

The subject site comprises five allotments, providing real property descriptions of Lots 13, 14, 15, 16 and 17 within DP 801798 and a street address of 52 – 62 May Road, Narraweena. Collectively the allotments predominantly form a rectangularly shaped parcel of land, providing an approximate frontage of 45m to Poplar Lane. The total site area is approximately 1,516m².

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD's Australian City Streets – Version 4

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT



Source: Six Maps (accessed 11/03/20)

1.3.3 Existing Site Use

The southern portion of the subject site currently accommodates a series of adjoining strip retail buildings situated in the vicinity of the north-western corner of the junction of Warringah Road and May Road. The buildings comprises a six retail / commercial tenancies providing an approximate total gross floor area of 600m², including four restaurants, a café, a swimming pool supply store and a grocery.

The central and northern portions of the subject site currently comprise a series of outbuildings and informal grassed and hardstand areas, which is currently utilised as informal private passenger vehicle parking connecting with Poplar Lane via a series of driveways.

The existing site uses are currently serviced by a Council owned public off-street car parking area, providing two rows of 90 degree angled parking, capable of accommodating up to 27 passenger vehicles. Vehicular connectivity to the public car parking area is provided via a combined ingress / egress driveway, connecting with May Road, approximately 25m to the north of Warringah Road.

Direct pedestrian connectivity between the northern Warringah Road and western May Road footpaths and the existing tenancies is provided via a connecting footpath running along the northern side of the abovementioned Council car parking area.

1.3.3 Surrounding Uses

The subject site is surrounded by:

- A children's playground to the east;
- A seafood restaurant to the west;
- Land to the north of the site, on the opposite side of Poplar Lane, is occupied by a mix of attached and detached low density residential dwellings; and
- A Council owned public off-street car parking area is situated directly south of the site, providing two rows of 90 degree angled parking, capable of accommodate up to 27 vehicles.

2. PROPOSED DEVELOPMENT

2.1 Built Form

The proposed development involves the demolition of the existing strip retail development and the construction of a mixed use development comprising the following:

- Six retail tenancies providing a total floor area of 425.5m²;
- Three commercial tenancies providing a total floor area of 182.1m²; and
- 16 residential apartments, containing:
 - 4 one bedroom dwellings;
 - 10 two bedroom dwellings; and
 - 2 three bedroom dwellings.

The retail tenancies are proposed to be provided at adjacent to the southern boundary at ground floor level, providing direct pedestrian access to the existing footpath separating the site and the adjoining Council car park to the south.

The commercial tenancies are to be provided adjacent to the northern boundary at ground floor level, providing direct pedestrian access to the southern Poplar Lane footway.

The residential apartments are proposed to be provided at first and second floor levels.

The development is proposed to be serviced by a single basement level of parking, containing the following:

- 9 retail / commercial parking spaces;
- 4 residential visitor parking spaces; and
- 21 resident passenger vehicle parking spaces.

Vehicular access is proposed via a 6.1m wide combined ingress / egress driveway connecting with Poplar Lane in the north-western corner of the site.

Pedestrian access is proposed via pathways connecting with Poplar Lane, the adjoining Council car parking area and the children's playground to the north, south and east, respectively.

3. SITE ACCESS & INTERNAL CIRCULATION

3.1 Access Arrangements

3.1.1 Vehicular Access

Vehicular access between the development site and Poplar Lane is proposed to be provided via a single 6.1m combined ingress / egress driveway located in north-western corner of the site.

AS2890.1:2004 provides driveway design specifications based on the proposed primary land use, the functional order of the access road and the number of spaces the driveway is to serve. Tables 3.1 and 3.2 of AS2890.1:2004 specify that a Category 1 type driveway is required, providing a minimum combined ingress / egress driveway width of between 3m and 5.5m based on the local (non-arterial) nature of Poplar Lane, the primarily residential land-use and the on-site passenger vehicle parking provision of less than 100 spaces. The proposed 6.1m wide combined ingress / egress driveway therefore exceeds the minimum AS2890.1-2004 specifications and is accordingly considered to be satisfactory.

Swept path plans have been prepared in order to demonstrate the ability of passenger vehicles to enter and exit the site via the driveway, copies of which are included as **Appendix 2**. It is acknowledged that due to the limited pavement width and the prevalence of kerb side parking along the northern alignment of Poplar Lane, site entry and exit movements will need to occur under courtesy conditions. Notwithstanding this, the two-way width of the driveway will ensure that vehicles are able to pass each other within the driveway. In this regard, an exiting vehicle is able to wait within the driveway to allow an entering vehicle to pass.

The safety and efficiency of access / egress movements are also proposed to be assisted by the provision of a relatively level (1:20) grade within the first 6m inside the property boundary.

It is acknowledged that sight distance between exiting vehicles and pedestrians within Poplar Lane to the west of the driveway may be somewhat slightly limited due to the proximity of the driveway to the western site boundary. Whilst it is noted that there are no existing or proposed structures which will obstruct visibility in accordance with the Clause 3.2.4(b) of AS2890.1:2004, it is acknowledged that future structures may be provided within the adjoining site to the west. To address this potential future obstruction to visibility, a convex mirror has been provided on the eastern side of the driveway facing west to ensure exiting motorists are able to view pedestrians within Poplar Lane to the west of the driveway.

Poplar Lane curves to the north approximately 30m to the west of the subject site, somewhat limiting sight distance between the proposed driveway and approaching motorists from the west. This curve in the roadway, in conjunction with the prevalence of passenger vehicle parking along the northern kerb alignment, however provides a desirable frictional effect on vehicle speeds

thereby allowing motorists adequate observation time of public road traffic flow to enter and exit abutting properties in a safe manner.

3.1.2 Pedestrian Access

Pedestrian access is proposed as follows:

- Direct pedestrian access is proposed between the retail tenancies and the existing footpath separating the site and the adjoining Council car park to the south;
- Direct pedestrian access is proposed between the commercial tenancies and the southern Poplar Lane footway;
- Pedestrian access between both the footpath adjoining the southern boundary and the southern Poplar Lane footway and the residential component of the development is proposed via paths connecting with a central courtyard, containing a lift servicing the upper development level; and
- A pedestrian stair is also proposed to provide connectivity between the abovementioned central courtyard and the adjoining children's play area to the east.

3.2 Vehicular Parking Provision

The site is to be serviced by a single basement parking level, containing 34 parking spaces as follows:

- 9 retail / commercial parking spaces;
- 4 residential visitor parking spaces; and
- 21 resident passenger vehicle parking spaces.

The following sub-sections of this report provide a discussion with respect to the suitability or otherwise of the proposed on-site parking provision with respect to Council's established requirements and the existing and proposed continued utilisation of immediately adjoining public parking infrastructure.

3.2.1 Residential Component

Northern Beaches Council relies on the following minimum parking controls for residential development relevant to the development, provided within WDCP 2011:

- 1 space per one-bedroom dwelling*
- 1.2 spaces per two-bedroom dwelling*
- 1.5 spaces per three-bedroom dwelling*
- 1 visitor space per five dwellings*

Application of the above parking requirements results in the following minimum parking calculations for the residential component of the development:

Resident Parking

$$(1 \times 4) + (1.2 \times 10) + (1.5 \times 2) = 19 \text{ spaces}$$

Residential Visitor Parking

$$(16 / 5) = 3.2 \text{ (adopt 4) spaces}$$

The residential development is therefore required to provide a minimum parking provision of 23 spaces, comprising 19 resident and four visitor spaces.

The proposed provision of 21 resident and four visitor spaces therefore complies with the minimum WDCP 2011 parking requirements and accordingly is considered to be satisfactory.

3.2.2 Retail / Commercial Components

The development is proposed to provide nine on-site passenger vehicle parking spaces dedicated to the retail and commercial components of the development. An assessment of the suitability or otherwise of such an arrangement is provided within the following sub-sections of this report.

3.2.2.1 Existing Arrangements

The existing development provides an approximate total retail floor space of 600m², relying on existing surrounding public parking infrastructure to service the site use.

Whilst it is acknowledged that the existing development site comprises of four restaurant tenancies, a conservative approach in calculating the associated parking demand has been taken, utilising Council's less onerous parking rate for retail uses.

WDCP 2011 provides the following minimum parking requirements for retail uses:

Shop

$$1 \text{ space per } 16.4\text{m}^2$$

Application of the above WDCP 2011 parking requirements to the existing development results in the following parking requirements:

Shop

$$(600\text{m}^2 / 16.4\text{m}^2) = 36.6 \text{ (adopt 37) spaces}$$

The existing site uses therefore generate a requirement for a total of 37 spaces in accordance with WDCP 2011.

Given that there is no dedicated parking provision of the existing site uses, the existing development therefore generates a demand of 37 spaces on surrounding public parking infrastructure.

3.2.2.2 Proposed Arrangements

The proposed development provides a total retail and commercial floor space of 427.6m² and 183.2m², respectively.

Application of the WDCP 2011 parking requirements to the proposed retail and commercial component of the development results in the following parking requirements:

Shop
 $(425.5\text{m}^2 / 16.4\text{m}^2) = 25.9$ (adopt 26) spaces

Business Premises
 $(182.1\text{m}^2 / 40\text{m}^2) = 4.6$ (adopt 5) spaces

The proposed retail and commercial components of the development therefore generate a requirement for a total of 31 spaces in accordance with WDCP 2011.

As previously mentioned, the development is proposed to provide nine on-site passenger vehicle parking spaces dedicated to the retail and commercial components of the development. The proposed development, generating a requirement of 31 spaces associated with the retail and commercial components, therefore results in a proposed parking shortfall of 22 spaces.

The abovementioned 22 spaces demand is proposed to be accommodated by the surrounding public parking infrastructure.

3.2.2.3 Discussion

The existing development results in a public parking demand of 37 spaces. The proposed development is expected to result in a public parking demand of 22 spaces.

The proposed development therefore results in a nett reduction in on-street parking demand of 15 spaces.

The proposed development is therefore expected to result in a reduced reliance on surrounding public parking infrastructure, compared with the current development and accordingly, is considered to be satisfactory.

3.3 Bicycle Parking Provision

A total of 18 bicycle parking spaces are provided within the south-eastern corner of the basement parking level. Further, five publicly accessible bicycle parking spaces are proposed to be provided within the central portion of the ground floor level courtyard. The total development bicycle parking provision is therefore 23 spaces.

WDCP 2011 provides the following bicycle parking requirements relevant to the development:

Resident

1 space per dwelling

Residential Visitor

1 space per 12 dwellings

Business and Retail Premises Staff

1 space per 200m²

Business and Retail Premises Visitor

1 space per 600m²

Application of the WDCP 2011 parking requirements to the proposed development yield results in the following parking requirements:

TABLE 1 BICYCLE PARKING REQUIREMENTS WARRINAH DEVELOPMENT CONTROL PLAN 2011		
Measure	No. Dwellings / GFA	Spaces Required
Resident	16	16
Residential Visitor	16	1.3 (adopt 2)
Business and Retail Premises Staff	607.6m ²	3.04 (adopt 3)
Business and Retail Premises Visitor	607.6m ²	1.01 (adopt 1)
	Total	22

WDCP 2011 therefore requires a total bicycle parking provision of 22 spaces.

The proposed total development bicycle parking capacity of 23 spaces is therefore considered appropriate.

3.4 On-Site Parking Circulation and Manoeuvrability

3.4.1 Vehicle Parking Design

Passenger vehicles, upon entry to the site, will travel in a forward direction to access the basement passenger vehicle parking area, via a roadway / ramp running along the western site boundary. The basement parking area is proposed to form standard rows of 90-degree angled parking being serviced by an adjoining parking aisles, forming an extension of the site access ramp.

The passenger vehicle parking area has been designed to accord with the minimum requirements of AS2890.1:2004, providing the following base dimensions:

- Standard resident, residential visitor and retail / commercial employee parking space width = 2.4m;

- Disabled parking space width = 2.4m plus adjoining 2.4m wide shared area;
- Additional vehicular space width where parking spaces adjoins an obstruction = 0.3m;
- Standard and disabled resident, residential visitor and retail / commercial employee parking space length = 5.4m;
- Aisle width servicing 90 degree parking spaces = 5.8m;
- Parking aisle extension past dead end 90 degree parking bays = 1.0m; and
- Headroom = 2.2m.

Safe and efficient internal manoeuvring and parking space accessibility is anticipated to result, taking into consideration the above compliance with the relevant AS2890.1:2004 specifications.

In order to demonstrate the internal passenger vehicle manoeuvrability within the vicinity of these areas and generally throughout the overall parking area, this Practice has prepared a number of swept path plans which are included as **Appendix 2**. The turning paths provided on the plans have been generated using Autoturn software and derived from B99 and B85 vehicle specifications provided within AS2890.1:2004.

Section B4.4 of AS2890.1:2004 states the following with regard to the use of templates to assess vehicle manoeuvring:

‘Constant radius swept turning paths, based on the design vehicle’s minimum turning circle are not suitable for determining the aisle width needed for manoeuvring into and out of parking spaces. Drivers can manoeuvre vehicles within smaller spaces than swept turning paths would suggest.’

It would therefore appear that whilst the turning paths provided within AS2890.1:2004 can be utilised to provide a ‘general indication’ of the suitability or otherwise of internal parking and manoeuvring areas, vehicles can generally manoeuvre more efficiently than the paths indicate. Notwithstanding this, the swept path plans illustrate that passenger vehicles can manoeuvre throughout and enter and exit the most difficult passenger vehicle parking spaces within the parking areas.

It is further noted that the basement parking area forms two dead end aisles. The alignment of the internal circulation aisles is however such that vehicles are able to turnaround in order to ensure that all parking spaces are occupied (see swept paths contained within **Appendix 2**). The proposed basement parking area layout as it relates to passenger vehicle manoeuvrability is therefore considered to be satisfactory.

3.4.2 Bicycle Parking Design

A total of 23 bicycle parking spaces have been provided within the basement parking level and the ground floor level. These bicycle spaces are proposed to be provided via horizontal bicycle parking racks, providing the following minimum characteristics complying with AS2890.3:2015:

- Bicycle parking rack spacing = 0.5m;
- Horizontal bicycle rack length (depth) = 1.8;
- Bicycle parking rack aisle width = 2.6m; and
- Minimum bicycle parking area access path width = 1.8m.

3.5 Service Vehicle Activities

The limited scale of the development and size of the retail / commercial tenancies is such that servicing requirements are expected to be minimal, being capable of being undertaken by passenger vehicles such as vans and utilities. Such servicing activities are proposed to be accommodated within the existing Council owned public car parking area directly adjacent to the site. These activities are likely to be undertaken outside of peak operational periods of the retail / commercial tenancies, in accordance with industry expectation, in order to ensure minimal interaction with customer vehicle and pedestrian movements.

Refuse collection activities associated with the subject development are proposed to be undertaken through the wheeling of bins to the Poplar Lane verge, for collection in a similar manner to abutting residential development. This will necessitate bins from the development being transported from the on-site holding areas to the Poplar Lane verge for collection and then returned on bin collection days, in order to minimise potential for interaction with existing public road traffic and pedestrian movements.

4. EXISTING TRAFFIC CONDITIONS

4.1 Surrounding Road Network

The following provides a description of the road network surrounding the subject site:

- **May Road** performs a minor collection function under the care and control of Northern Beaches Council. It provides a connection between Warringah Road in the west and Pittwater Road (via Mooramba Road) in the east.

May Road primarily provides a 10m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments. Traffic flow within May Road is governed by a sign posted speed limit of 50km/h, consistent with State Government policy for local residential roads. May Street is also governed by a sign posted 3 tonne load limit.

To the south-east of the site, May Road forms a T-junction with Warringah Road operating under 'Stop' signage control with Warringah Road performing the priority route. May Road forms T-junction with a series of low order local access roads in Pine Avenue, Poplar Lane, Karrabee Street and Painters Parade, operating under major / minor priority control with May Road performing the priority route. Pavement widening is provided within May Road in the vicinity of the site to accommodate two approach lanes to Warringah Road in conjunction with a raised concrete central median.

To the east of the site May Road intersects with Victor Road, operating under single lane circulating roundabout control. Further to the east, May Road forms a T-junction with Mooramba Road, also operating under 'Give Way' control with Mooramba Road performing the priority route.

- **Poplar Lane** performs a local access function, providing a north-west to south-east alignment between Oceana St in the north-west and May Road in the south-east, intersecting with both under major / minor control with Poplar lane performing the minor route in both instances.

Poplar Lane provides a 5.5m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along one kerb alignments. Traffic flow within Poplar Lane is governed by a sign posted speed limit of 50km/h, consistent with State Government policy for local residential roads.

The prevailing pavement width of Poplar Lane requires two-way traffic to occur under courtesy conditions in the event of kerb-side parking. The low traffic demands and the provision of breaks in kerb-side parking (primarily associated with the proliferation of driveways) however ensures that there are adequate passing opportunities and accordingly impedance to traffic flow is not unreasonable.

- **Warringah Road** performs a State Road function under the care and control of the Roads & Maritime Services. It provides an important connection between Babbage Road and Eastern Valley Way in the west and Pittwater Road in the east.

In the vicinity of the subject site, Warringah Road essentially forms a divided carriageway providing three lanes of traffic in each direction whilst widening on approach to major junctions such as Pittwater Road to accommodate exclusive turning lanes. A break in the central median facilitates the undertaking of unrestricted turning movements between Warringah Road and May Road, being assisted by the provision of a dedicated right turn lane within Warringah Road.

4.2 Existing Traffic Volumes and Network Performance

4.2.1 Poplar Lane

Traffic demands within Poplar Lane are low, being limited to that generated by the abutting development. In this regard, traffic generally occurs under free flow conditions where drivers are virtually unaffected by other vehicles, having freedom to select their desired speed and to manoeuvre as desired.

Notwithstanding the above, as previously presented, the limited pavement width of Poplar Lane is such that two-way traffic flow occurs under courtesy conditions in the event that kerb-side parking occurs. Vehicles can, at times therefore, be required to wait in breaks in kerb-side parking to allow opposing vehicles to pass. The particularly low traffic demands in conjunction with the prevalence of appropriately positioned parking restrictions have been observed to ensure that impedance / delays to directional traffic flow is extremely minimal. Similarly, traffic movements between Poplar Lane and abutting development sites (in the immediate vicinity of the site) have been observed to occur in a safe and efficient manner.

4.2.2 May Road

Traffic demands within May Road are more notable commensurate with its collector road function. Notwithstanding this, observations have indicated that regular breaks in traffic flow are provided, allowing motorists to undertake turning movements from abutting developments and intersecting roads. Some minor queuing has been observed to occur on approach to Warringah Road and Pittwater Road (via Mooramba Road) during weekday commuter peak periods, however delays have generally been observed to be minor, being assisted by forced breaks in state road resulting from the operation of nearby traffic signals (see Section 4.2.3 of this report).

4.2.3 Warringah Road

Traffic demands within Warringah Road are considerable commensurate with its arterial function in the Sydney metropolitan road network. Traffic signal controls at Alfred Street to the west and Pittwater Road to the east, however punctuate directional traffic demands, resulting in regular and extended gaps, within which motorists are able to undertake turning movements to / from May Road. Further, the abovementioned traffic signal at Alfred Street allow for exclusive turning phases to enter and exit the immediate precinct (accessed via Reid Avenue, Oceana Street and Poplar Lane).

4.3 Public Transport

4.3.1 Buses

Forest Coach Lines operates the following bus route directly adjacent to the site along the northern side of Warringah Road:

- Route 193 Warringah Mall to Austlink Corporate Park via Frenchs Forest.

Further to the above, the following bus routes operate along Alfred Street, with the closest bus stop being situated approximately within 210m walking distance to the west of the site:

- Route 169 Manly to City via Narraweena;
- Route 173 Narraweena to Milsons Point; and
- Route E69 Manly to City Wynyard via Narraweena.

4.3.2 Pedestrians

Pedestrians are provided with the following access and mobility infrastructure in the vicinity of the subject site:

- Footpaths are provided along both sides of Warringah Road and May Road;
- A footpath is provided on the western side of the north-south aligned section of Poplar Lane, connecting with the northern Warringah Road footpath;
- A pedestrian refuge is provided over May Road to the south-east of the site at the junction of Warringah Road and May Road;
- A pedestrian refuge is provided over May Road to the east of the site; and
- Signalised pedestrian crossings are provided over the eastern and northern approaches at the junction of Warringah Road and Alfred Street to the west of the site.

5. PROJECTED TRAFFIC CONDITIONS

5.1 Traffic Generation

5.1.1 Traffic Generation Rates

Traffic generation rates for various land-uses have been established through extensive surveys undertaken throughout NSW and published within their *Guide to Traffic Generating Developments*. The following provides a summary of the traffic generating rates applicable to the existing and proposed uses with respect to those rates established by the Roads & Maritime Services:

Density Residential Dwellings

0.5 trips per one and two bedroom dwelling

0.65 trips per three or more bedroom dwelling

Retail Shop

4.6 trips per 100m²

Commercial Premises

2 trips per 100m²

The following sub-sections provide a discussion with respect to the existing and proposed traffic generating potential of the site development.

5.1.2 Existing Traffic Generation

Application of the Roads & Maritime Services traffic generation rates to the existing development results in the following peak hour traffic generation:

Retail Shop

$$4.6(600\text{m}^2 / 100\text{m}^2) = 27.8 \text{ (adopt 28) trips}$$

The existing site therefore provides a traffic generating capacity of 28 peak hour vehicle trips.

5.1.3 Projected Traffic Generation

Application of the above Roads & Maritime Services traffic generation rates to the proposed development yield results in the following peak hour traffic generation:

Residential Units

$$(14 \times 0.5) + (2 \times 0.65) = 8.3 \text{ (adopt 9) trips}$$

Shop

$$4.6(425.5\text{m}^2 / 100\text{m}^2) = 19.6 \text{ (adopt 20) trips}$$

Business Premises

$$2(182.1\text{m}^2 / 100\text{m}^2) = 3.6 \text{ (adopt 4) trips}$$

The proposed development yield is projected to provide a traffic generation capacity of 33 peak hour vehicle trips.

5.2 Traffic Impacts

Section 5.1 of this report presents the following:

- The existing site uses have the potential to generate 28 peak hour vehicle movements to and from the site; and
- The proposed development is projected to generate in the order of 33 vehicle trips to and from the site during peak hours.

The proposed development has been projected to generate in the order of 33 vehicle movements to and from the site during peak hours, or five additional movements over and above that currently generated by the existing land use.

The abovementioned peak hour traffic generations equates to approximately one additional vehicle movement every 12 minutes during commuter peaks over and above that being capable of being generated by the existing site development. Such a level of additional traffic is not projected to, in itself, result in any unreasonable impact on the existing operational performance of the surrounding local road network. The previous assessment contained within this report has revealed that traffic demands within the surrounding local road network are reasonably low and accordingly motorists are provided with a good level of service with spare capacity.

Whilst it is acknowledged that traffic demands within the surrounding regional and arterial road network are considerable, the positive intersection control servicing connection to / from the local road network allows motorists to access and egress the local precinct in a safe and efficient manner.

In consideration of the above, the impact of the development is most likely to be a result of the safety and efficiency with which motorists are capable of entering and exiting the development. The low traffic demands within Poplar Lane combined with the acceptable sight distance provisions is such that it is envisaged that motorists will be capable of entering and exiting the site in a safe and efficient manner.

5.3 Parking Impacts

Whilst it is acknowledged that demand for parking within the immediate precinct vicinity of the subject site is notable, observations have indicated that there is generally adequate supply to accommodate a minor level of additional demand, should it be generated. Notwithstanding this, Section 3.2 of this report presents that the proposed development is expected to result in a nett reduction in the surrounding public parking demand of 15 spaces, when compared to the existing site development. It is accordingly expected that the development will result in an improvement to the prevailing precinct parking amenity.

5.4 Transport Impacts

The subject site is located within the immediate proximity of a number of bus stops servicing a range of bus services operating along both Warringah Road and Alfred Street. It is accordingly expected that a proportion of the future development users will utilise buses to access or depart destinations surrounding the subject site. The capacity of the existing public transport system is however not envisaged to be measurably affected by any additional demand associated with the development, given its limited scale.

6. PRELIMINARY CONSTRUCTION MANAGEMENT PLAN

6.1 Introductory Statement

This Section of the report constitutes a preliminary Construction Traffic Management Plan (CTMP) addressing the traffic access and safety issues associated with demolition and construction works associated with the proposal. CTMPs are generally prepared at Construction Certificate stage following the commissioning of a builder thereby allowing a greater appreciation of the likely construction methodology and therefore the required traffic management measures to be implemented.

The terms of the initiatives contained within the following subsections of this report are therefore somewhat generic and some modifications may be needed by or on behalf of the successful builder / civil contractor at Construction Certificate stage depending on their feasibility taking into consideration all project requirements.

6.2 Traffic Management During On-Site Works

The demolition and construction works are likely to be undertaken within four separate stages as follows:

- Stage 1 – demolition of existing site structures;
- Stage 2 – Excavation and shoring;
- Stage 3 – construction of new site structures; and
- Stage 4 – public domain works.

The scale of the development is such that the construction works will encompass a significant majority of the site. Construction vehicles larger than passenger vehicles are therefore most unlikely to be able to be wholly accommodated on-site. Construction vehicles servicing the site during the construction phases of the development will therefore need to be accommodated within a portion of the the adjoining Council owned public off-street car parking area.

It is accordingly proposed that a Works Zone be implemented along the eastern portion of the northern parking row of the adjoining Council owned public off-street car parking area in place of a portion of the abovementioned existing parking demand. The Works Zone is proposed to be implemented for a length of 30m for the frontage of the site, in place of 12 existing 90 degree angled parking spaces situated within the north-eastern corner of the Council car parking area. A crane located approximately central to the site will transport construction materials between the construction vehicles within the abovementioned Works Zone and the site.

Class B Hoarding will be required to be implemented for the full frontage of the site within the adjoining footway immediately adjacent to the Works Zone to protect pedestrians associated with this loading and unloading of materials.

Construction fencing is proposed to define the eastern, western and northern boundaries of the site.

An application to Council (and Roads & Maritime Services as necessary) will be made in relation to the Works Zone, hoarding and use of a crane, including the payment of appropriate fees.

6.3 Traffic Management during Public Domain Works

Following the undertaking of the previously presented on-site works, the development will involve the following public domain works:

- The removal of all existing driveways connecting the existing site uses to Poplar Lane; and
- The construction of the ultimate development passenger vehicle ingress / egress driveway connecting with Poplar Lane in the north-western corner of the site.

The abovementioned period of external public domain works will necessitate the staged temporary closures of the southern Poplar Lane verge adjacent to the site, as well as occupation and closure of a portion of the westbound Poplar Lane travel lane. During this period, pedestrians are to be diverted to the opposite side of Poplar Lane. Such diversion of pedestrian movements are to be supervised by appropriately qualified traffic controls. Traffic Control Plans associated with this public road occupation and traffic controller supervision will be prepared and submitted to Council and the Roads & Maritime Services for assessment. The traffic and pedestrian management measures to be implemented are to be certified on the Traffic Control Plans as being in accordance with the Australian Standard for *Manual of Uniform Traffic Control Devices* (AS1742) and the Roads & Maritime Services' *Traffic Control at Work Sites* manual.

Appropriate road use permits, including the payment of fees, will be sought and obtained from Northern Beaches Council associated with the abovementioned construction activities requiring public road occupation. Further, adjoining property owners are to be advised of the implementation of any temporary traffic control measures as required by Council.

Any other unforeseen works which may necessitate the temporary occupation of the public roadway associated with the construction works will require separate formal approval from Council (and Roads & Maritime Services), via the preparation of a Traffic Control Plan in accordance with AS1742 and the Roads & Maritime Services' manual.

6.4 Safe Ingress and Egress of Construction Traffic

It has previously been presented that construction vehicles larger than passenger vehicles are most unlikely to access the subject site, rather all construction vehicles up will service the site via Works Zone/s within the north-eastern corner of the Council owned public off-street car parking area.

Construction vehicles, up to and including 8.8m long Medium Rigid Vehicles (MRVs) accessing the Works Zone will do so via a reverse movement from the eastbound May Road travel lane. Similarly, construction vehicles will exit the Works Zone via a simple forward movement back to the westbound May Road travel lane.

All construction vehicle Works Zone/s access and egress movements are to be strictly controlled by appropriately qualified traffic controllers. Traffic controllers are not to stop traffic on the public street to allow trucks to enter or leave the Works Zone/s. They must wait until a suitable gap in traffic flows allows them to assist construction vehicles to enter or exit the Works Zone/s. The Roads Act does not give any special treatment for trucks leaving a Works Zone – the vehicles already on the road have right of way.

No queuing / marshalling of construction vehicles is to occur in any public road.

Further to the large construction vehicles described above, construction employee / tradesperson passenger vehicles are to be accommodated within the basement parking area when constructed. Access / egress associated with this passenger vehicle parking function is to occur via the existing site access driveway situated within the north-western corner of the site. These movements are to occur in a forward direction at all times.

6.5 Construction Vehicle Transport Routes

Construction vehicles are to access and vacate the subject site utilising Pittwater Road as the main approach / departure route. The following provides a description of the construction vehicle transit routes:

Inbound Route

Pittwater Road, left turn to Warringah Road, right turn to May Road and thence a reverse entry movement into the Council car parking area / Works Zone.

Outbound Route

Forward movement from the Works Zone into the Council car parking area, right turn to May Road, left turn to Warringah Road and thence a right turn to Pittwater Road.

The proximity of the site to the state road network allows construction vehicles to access and depart the site creating minimal disturbance to surrounding local road traffic flow.

6.6 Parking Control

Prior to the construction of the basement parking area, all construction employee / tradesperson passenger vehicle parking is to be accommodated off-site, either within the Works Zone or within the surrounding public road network.

Section 3 of this report presents that the existing site development generates a demand on surrounding public parking infrastructure of some 37 spaces. The proposed construction works are likely to generate less demand on the surrounding road network when compared to the existing site uses, thereby ensuring that impacts on surrounding parking amenity are unlikely to be unreasonable.

Notwithstanding the above, construction workers / tradespersons will be encouraged to do either of the following when travelling to the site in order to minimise the extent of parking demand:

- Utilise public transport to the site (the site is well serviced by previously presented bus services operating within the subject vicinity); and / or
- Car pool with other construction workers.

The above transport options will form part of the conditions of commissioning when engaging the relevant site workers and as such form part of any site induction process.

6.7 Construction Traffic Generation

The construction works are likely to generate a maximum of four heavy vehicles servicing the site per hour during peak periods, such as concrete pours, with construction vehicle traffic generation generally being notably less.

In general the construction activities are projected to generate less traffic than the existing and proposed future use, thereby suggesting that impacts will be minimal. During periods of more heavy construction vehicle generation, drivers are to be instructed by radio when to arrive at the site to ensure that there is no vehicle queuing or parking within the adjoining road network. This is to be strictly adhered to.

6.8 Traffic Impact

The recent traffic investigations of the adjoining road network and the analysis contained within previous sections of this report have indicated that motorists are provided with a reasonable level of service within the immediately adjoining public road network, despite the considerable traffic demands accommodated within Warringah Road. It is therefore considered that the limited traffic generation associated with the construction activities can be accommodated without any unreasonable impacts on adjoining vehicle movements considering the previously mentioned maximum hourly traffic generation.

Notwithstanding the above, in order to ensure that construction activities provide limited impacts on the surrounding road network during weekday commuter peak periods, construction vehicle movements to and from the site are to be minimised during these periods.

6.9 Impacts on Pedestrians

Pedestrian demands adjacent to the site are notable however pedestrian movements are to continue in an unimpeded fashion during all periods of construction. This is to be achieved through the provision of Class B Hoarding associated with the Works Zone situated within the footpath adjoining the site to the south (and abutting Council's public car parking area).

Whilst the public domain works associated with the development involve the closure of the southern Poplar Lane verge for some periods of the construction, pedestrian accessibility and mobility is to be maintained at all times through the diversion of pedestrian movements and appropriate ancillary measures, which will be governed by the preparation and implementation of appropriate Traffic Control Plans. The temporary closures of the southern Poplar Lane verge adjoining the site are therefore most unlikely to result in any unreasonable impacts on the amenity of pedestrian movements.

Unimpeded pedestrian access to adjoining developments and indeed, nearby bus stops, will be maintained at all times.

Boundary hoarding will protect pedestrians from dust and debris.

No unreasonable impacts on the safety or mobility of pedestrians are therefore anticipated during the construction works associated with the subject development.

7. CONCLUSION

This report assesses the potential parking and traffic implications associated with a mixed use development containing six retail tenancies, three commercial tenancies and 16 residential apartments at 52 – 62 May Road, Narraweena. Based on this assessment, the following conclusions are now made:

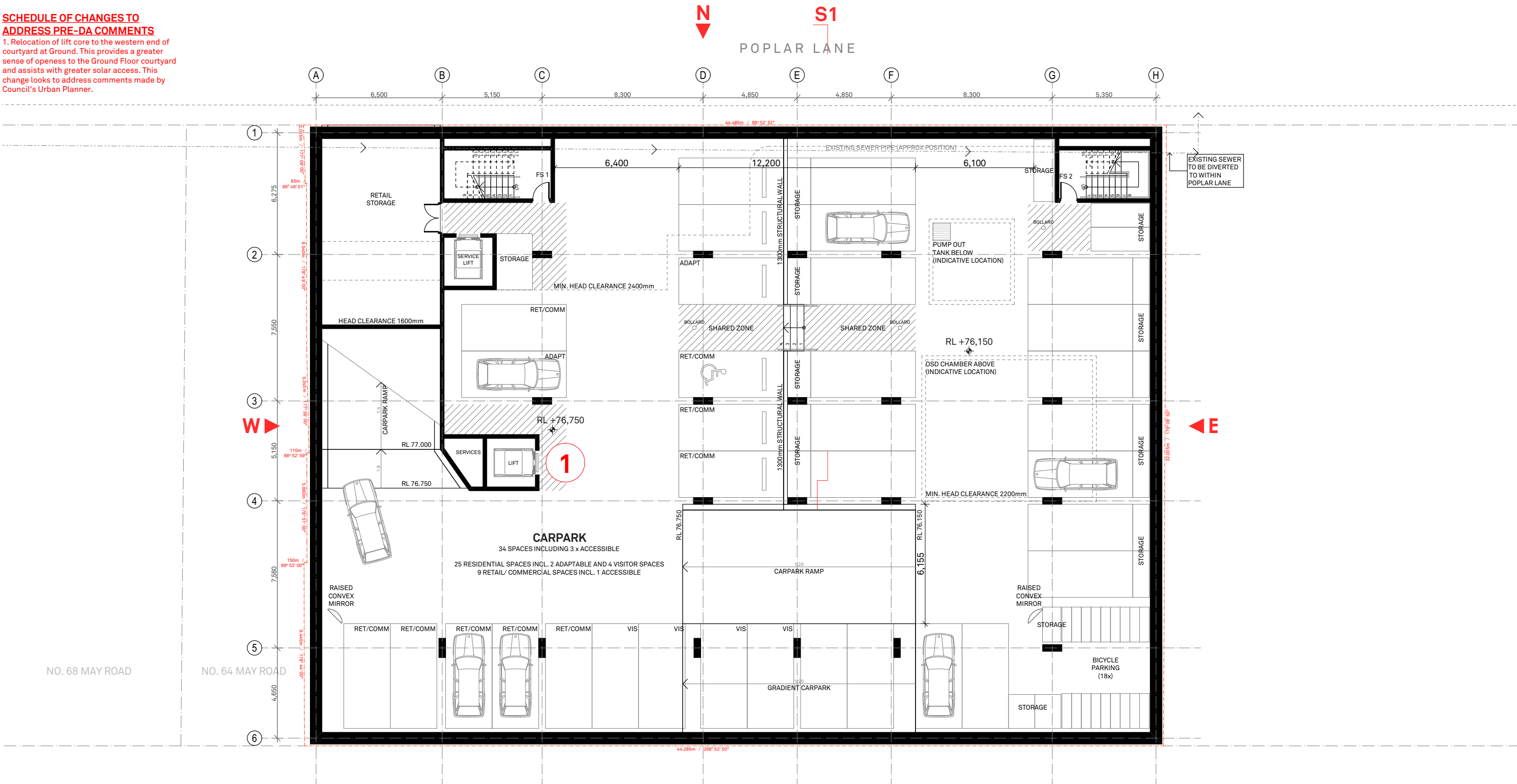
- The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner;
- The proposed residential off-street vehicular parking provision complies with the relevant requirements of WDCP 2011;
- The proposed development is expected to result in a nett reduction in demand for surrounding public parking infrastructure of some 15 spaces, thereby improving existing parking amenity;
- The internal passenger vehicle circulation arrangements are capable of providing for safe and efficient internal manoeuvring;
- The subject development has been projected to generate up to five additional peak hour vehicle trips to and from the subject site over and above that capable of being generated by the existing site uses;
- It is accordingly not envisaged that the subject development will result in any unreasonable impacts on the surrounding road network; and
- The impacts of construction activities on adjoining traffic and pedestrian traffic is not anticipated to be unreasonable or exceed that which could be expected associated with the future operation of the proposed development.

It is considered, based on the contents of this report and the conclusions contained herein, there are no traffic or parking related issues that should prevent approval of the subject application. This action is therefore recommended to Council.

APPENDIX 1

SCHEDULE OF CHANGES TO
ADDRESS PRE-DA COMMENTS

1. Relocation of lift core to the western end of courtyard at Ground. This provides a greater sense of openness to the Ground Floor courtyard and assists with greater solar access. This change looks to address comments made by Council's Urban Planner.



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REVISION

Rev	Date	Description	Chk
01	01/07/2019	ISSUE FOR PRE-DA	
02	05/12/2019	RE-ISSUE TO COUNCIL	
03	Work in Progress	ISSUE FOR DA	
WIP			

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DP	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DW	Down Pipe	GM	Gas Meter	ST	Sewer
BAL	Balustrade	F	Fridge	LY	Laundry	SD	Storage
BALC	Balcony	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BED	Bedroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
BT	Bathroom	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COL	Column	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
COMM	Comms Room	FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
JV URBAN
44 BAY VISTA LANE
EWINGSDALE NSW
2481

PROJECT DETAILS
52 M
52-62 MAY ROAD
NARRAWEENA NSW
2099

DRAWING TITLE
BASEMENT 1

SCALE
1:200
STATUS
DA
PROJECT No
1853A

DRAWING No
A-0101

NORTH
REV
03 - WIP

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BENSON
McCORMACK
ARCHITECTURE

SCHEDULE OF CHANGES TO ADDRESS PRE-DA COMMENTS

1. Relocation of lift core to the western end of courtyard at Ground. This provides a greater sense of openness to the Ground Floor courtyard and assists with greater solar access. This change looks to address comments made by Council's Urban Planner.

2. Introduction of breaks within both the Southern and Northern facades are proposed to reduce the perceived bulk and scale of the proposal, whilst providing greater solar access to the internal courtyard. These changes are proposed to address comments made by council in their Pre-DA advice.

3. The entry from May Road to the internal courtyard has been visually strengthened by widening the entry and the relocation of the passenger lift. Further to this, the design of retail units 03 - 06, provides clear lines of sight from May Road to the internal courtyard. These changes are proposed to address comments made by council in their Pre-DA advice.

4. Interfacing development with adjoining park, creating a connective transition to and from the park and the internal courtyard. By opening up the Eastern facade to the adjacent park, it also provides solar access to the internal courtyard. This aims to create visual connectivity and visual surveillance to and from the retail/commercial and internal courtyard to the park in a form of raised deck. This change looks to address comments made by Council's Urban Planner.



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LEGEND

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AHD	Aust. Height Datum	DP	Down Pipe	GFA	Screen	SCR	Screen
B	Basement	DW	Dishwasher	GM	Sewer	SW	Sewer
BAL	Balustrade	F	Dryer	H	Storage	ST	Storage
BALC	Balcony	FEX	Fire Extinguisher	LY	Study	SD	Study
BED	Bedroom	FFL	Finish floor level	MC	Stormwater Pit	STP	Stormwater Pit
BT	Bathroom	FN	Fence	MSB	Stormwater	STW	Stormwater
COL	Column	FS	Fire Stairs	NGL	Structural floor level	SFL	Structural floor level
COMM	Comms Room	FSR	Fire Stairs Ratio	OSD	Top of Fence	TOF	Top of Fence
		GBA	Gross Building Area	P	Top of Wall	TOW	Top of Wall
					VIS	VIS	Visitor Parking

CLIENT

JV URBAN
44 BAYVISTA LANE
EWINGSDALE NSW
2481

PROJECT DETAILS

52 M
52-62 MAY ROAD
NARRABEEN NSW
2099

DRAWING TITLE

GROUND FLOOR
PLAN

SCALE

1:200

STATUS

DA

PROJECT No

1853A

DRAWING No

A-0102

REV

03 - WIP

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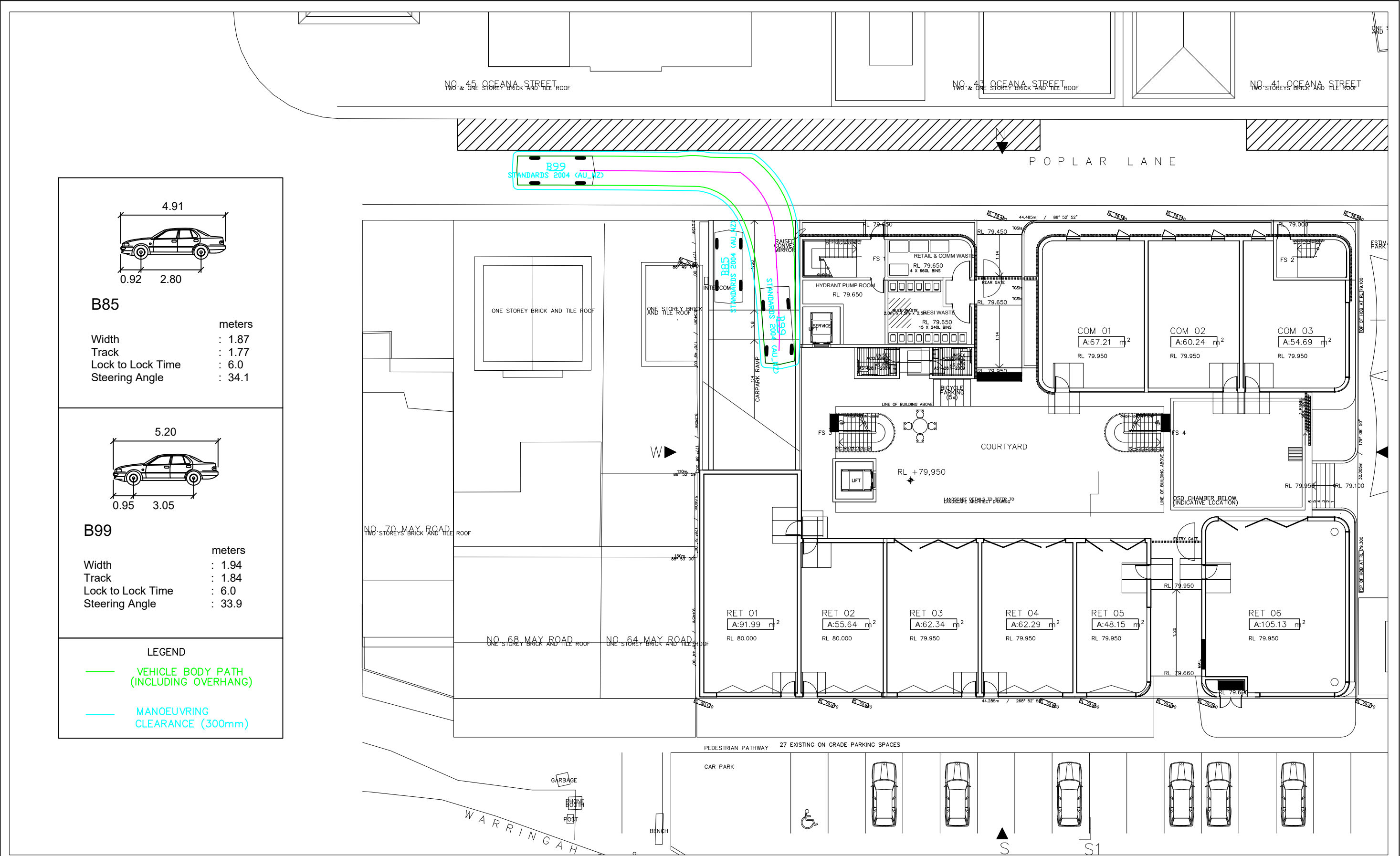
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APPENDIX 2

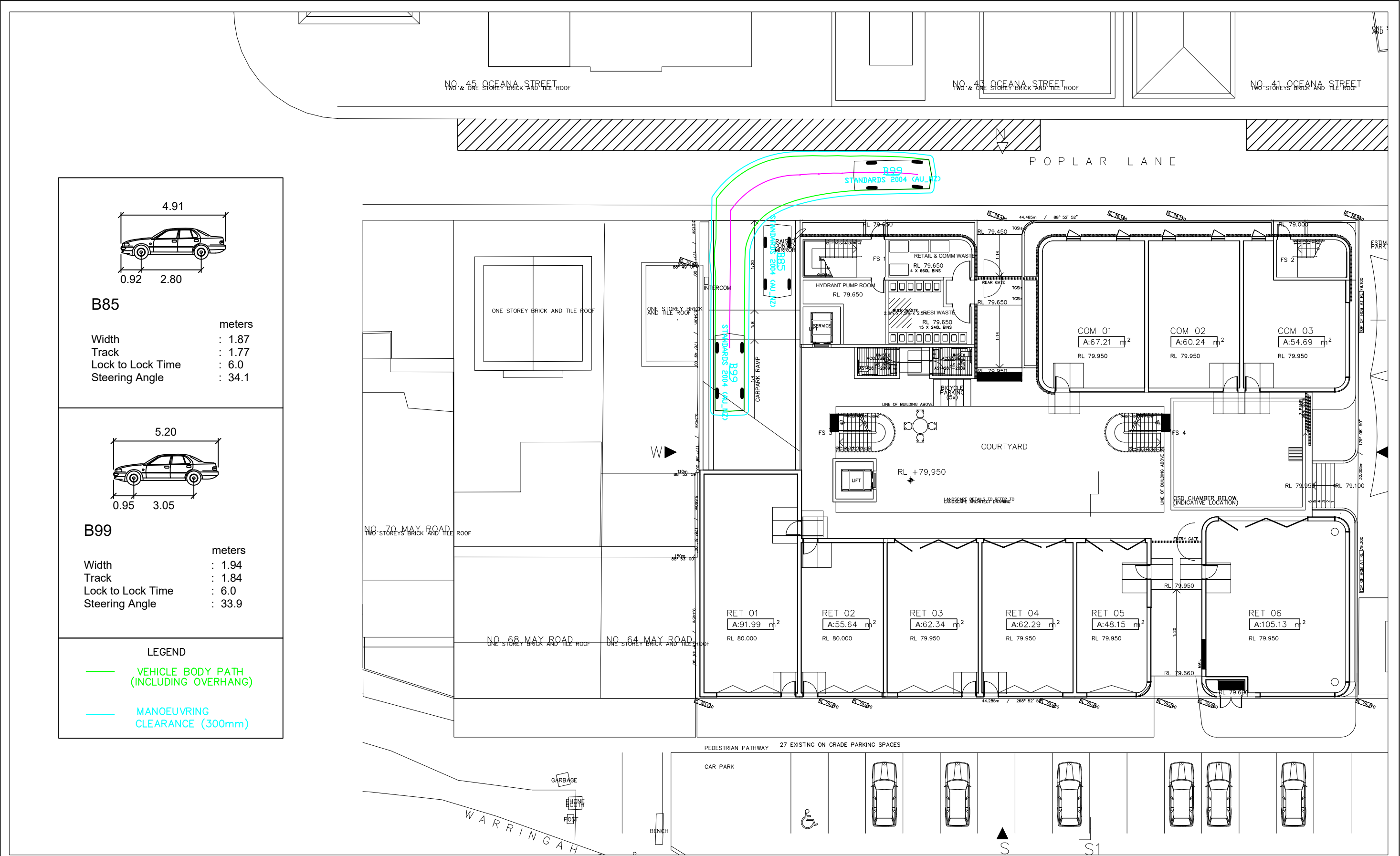


STANBURY TRAFFIC PLANNING
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WEBSITE: www.stanburytraffic.com.au

NOTES:
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2. THE SWEEP PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 10 IN CONJUNCTION WITH B99 PASSENGER VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1: OFF-STREET CAR PARKING (AS2890.1:2004).

STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
SITE INGRESS MOVEMENT
PROPOSED MIXED USE DEVELOPMENT
52 - 62 MAY ROAD, NARRAWEENA

SCALE: 1:250 AT A3		ISSUE A
FILE: 19-103	SUPERSEDES SHEET/ISSUE -	
DATE: 24/03/2020		SHEET 1

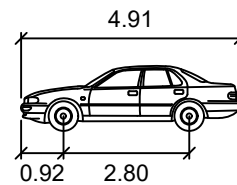


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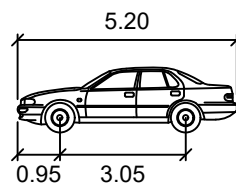
STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
SITE EGRESS MOVEMENT
PROPOSED MIXED USE DEVELOPMENT
52 - 62 MAY ROAD, NARRAWEENA

SCALE: 1:250 AT A3		ISSUE A
FILE: 19-103	SUPERSEDES SHEET/ISSUE -	
DATE: 24/03/2020		SHEET 2



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Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 34.1

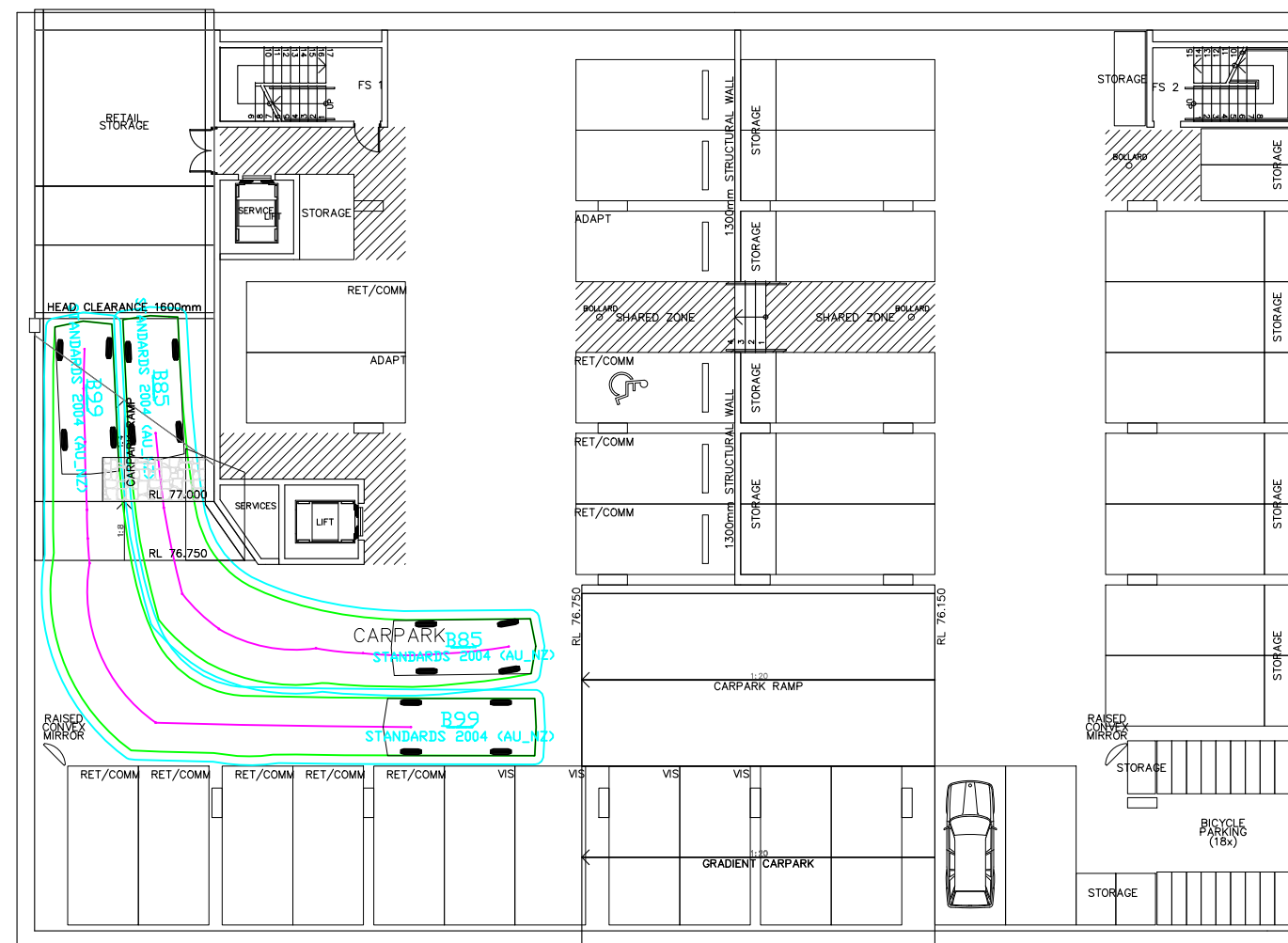


B99

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Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
— MANOEUVRING CLEARANCE (300mm)



STANBURY
TRAFFIC
PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEEP PATHS
BASEMENT LEVEL INGRESS / EGRESS MOVEMENTS
PROPOSED MIXED USE DEVELOPMENT
52 - 62 MAY ROAD, NARRAWEENA

SCALE: 1:250 AT A3

FILE: 19-103

DATE: 24/03/2020

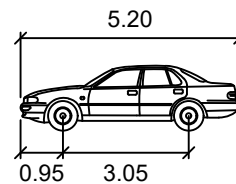
SUPERSEDES
SHEET/ISSUE

ISSUE

A

SHEET

3

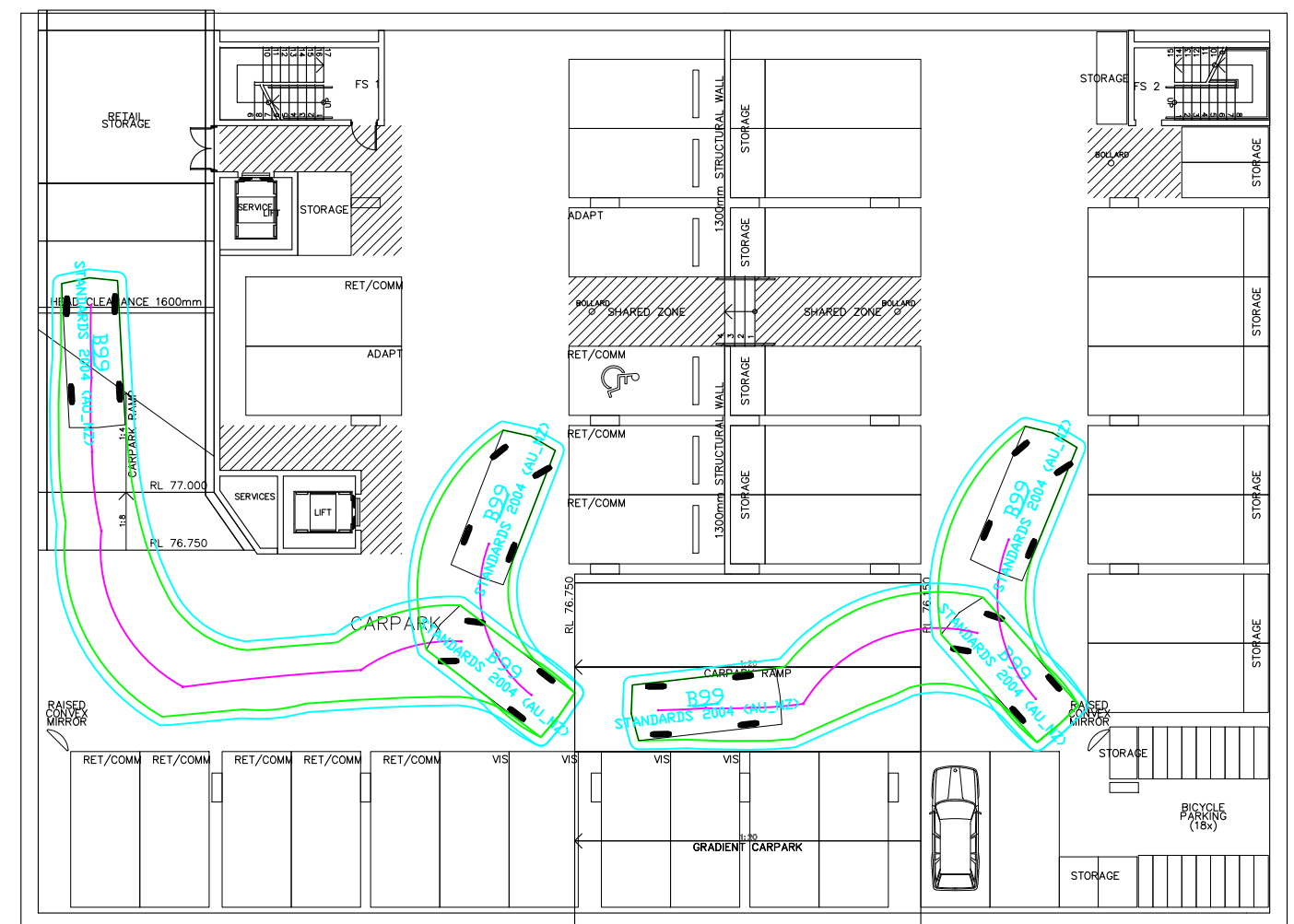
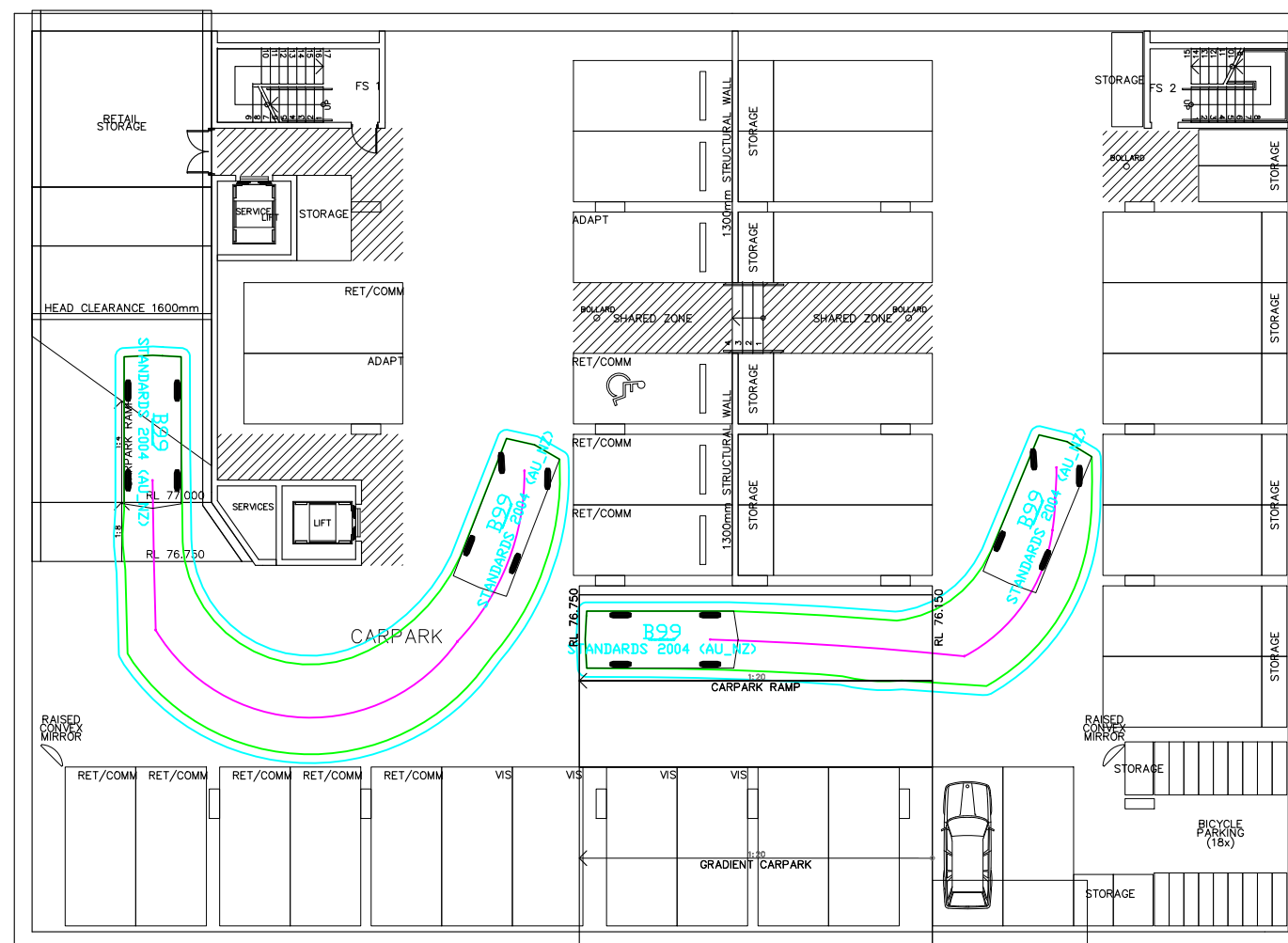


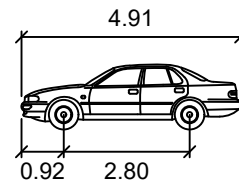
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Width : 1.94 meters
Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9

LEGEND

— VEHICLE BODY PATH
(INCLUDING OVERHANG)
— MANOEUVRING
CLEARANCE (300mm)





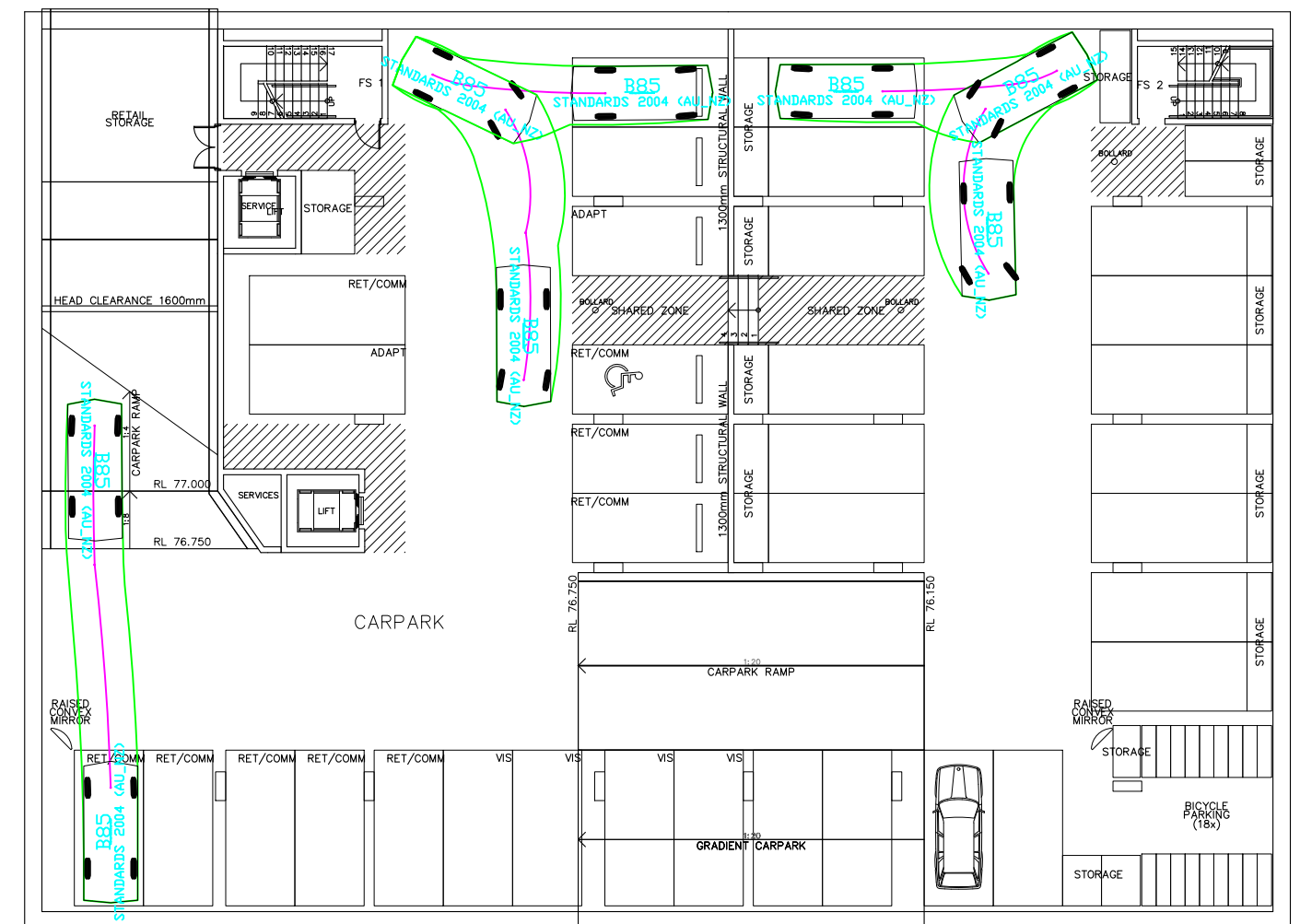
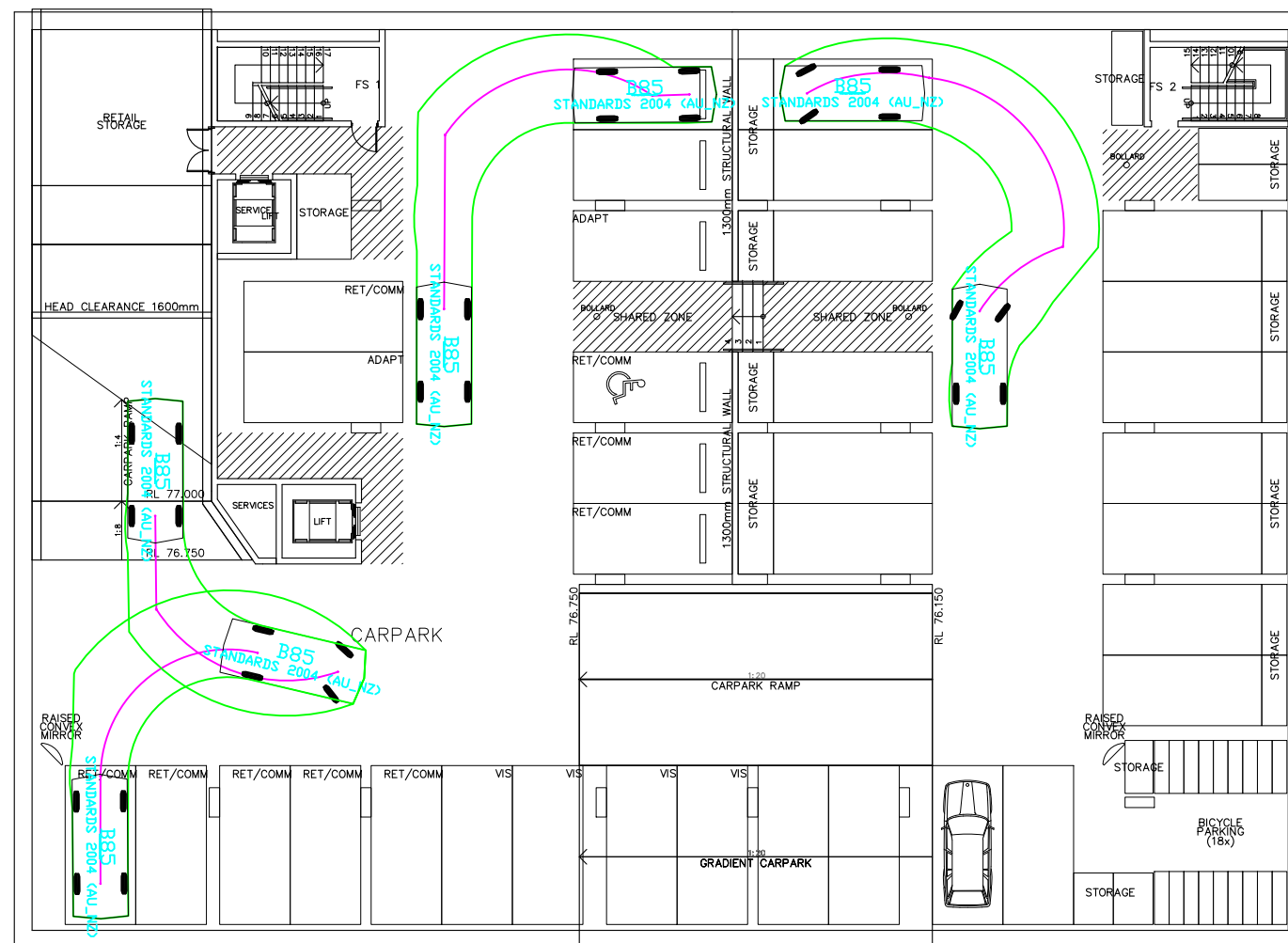
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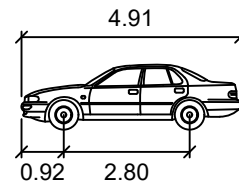
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Width : 1.87
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LEGEND

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