



57-69 Strathallen Ave, Northbridge Proposed Shop-Top Housing Development

Traffic and Parking Assessment

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1 Introduction

MLA Transport Planning (MLA) prepares this traffic and parking impact assessment report on behalf of SJD NB Pty Ltd. The report presents the findings of a traffic and parking assessment into a proposed shop-top housing development at 57-69 Strathallen Avenue, Northbridge.

The proposed development involves the demolition of all existing structures on the site and the construction of a new 5-storey building accommodating 24 residential apartments on the higher levels and retail/commercial uses on the ground floor. The proposed development includes a 2-level basement car park with 51 car parking spaces and a separate loading bay to be accessed directly from Baringa Road.

This report accompanies a development application (DA) to be lodged with Willoughby City Council (Council) seeking approval for the proposed development.

The remainder of the report is set out as follows:

- Chapter 2 discusses the existing conditions including a description of the subject site
- Chapter 3 provides a brief description of the proposed development
- Chapter 4 assesses the proposed on-site parking provision and the internal car park layout
- Chapter 5 examines the traffic generation of the proposed development and its impact, and
- Chapter 6 presents the conclusions of the assessment.

Following the lodgement of the development application, this traffic report has been amended to clarify the proposed development is not predicated on the use of the access, and/or does not have owners' consent for access over the property at 134 Sailors Bay Road, legally referred to as Lot A in DP404929.

2 Existing Conditions

2.1 Site Description

The subject site is located at 57-69 Strathallen Avenue, Northbridge and is situated at the north-eastern corner of the Strathallen Avenue intersection with Baringa Road. The site falls within Willoughby City Council local government area. The site comprises several properties with the following legal descriptions:

- Lot 6 Section 3 DP 7122
- Lot 5 Section 3 DP 7122
- Lot 4A DP 305190
- Lot 4B DP 305190
- Lot 1 DP 172561, and
- Lot 1 DP 726736.

The site has frontage to Strathallen Avenue and Baringa Road. It is currently occupied by the Northbridge Village centre including retail shops, restaurants, office suites, dry cleaning shop and a hotel. Northbridge Village provides an on-site car parking containing 22 car parking spaces which is accessed via two separate entry/exit driveways off Strathallen Avenue. In addition, the hotel has three garages (which are used as loading/waste area) located off Baringa Road.

Land use in the immediate vicinity of the subject site is generally categorised as low density housing with some medium density housing provided nearby along Baringa Road (across Strathallen Avenue) and Sailors Bay Road. In addition, a retail strip along Sailors Bay Road and the Northbridge Plaza is located in the immediate vicinity of the subject site.

In addition, the subject site is accessible by regular scheduled bus services with bus stops located at the site's doorstep on Strathallen Avenue as well as along Sailors Bay Road.

The site location and its surrounds are shown in Figure 2.1. An aerial image of the subject site is shown in Figure 2.2.

Figure 2.1: Site Locality Plan

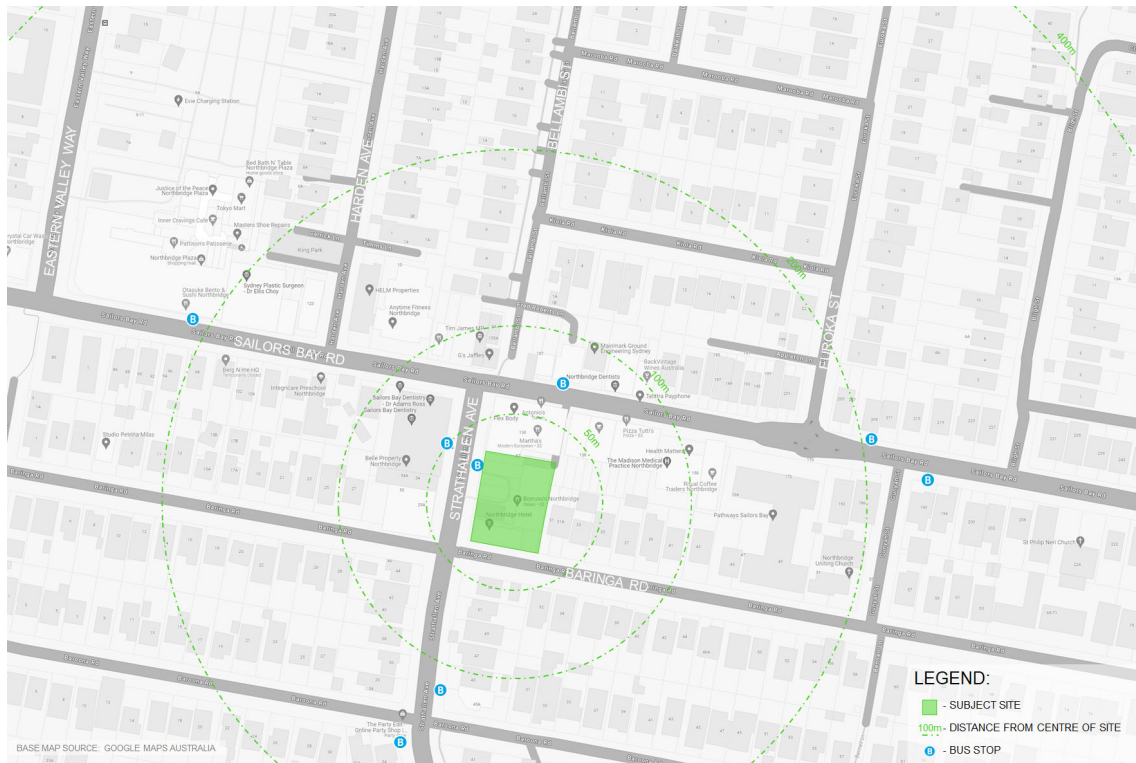


Figure 2.2: Aerial Image of Subject Site



2.2 Road Network

The road network in the vicinity of the subject site includes Eastern Valley Way, Sailors Bay Road, Strathallen Avenue and Baringa Road. Below is a description of the local road network.

2.2.1 Eastern Valley Way

Eastern Valley Way is a declared State Road under the jurisdiction of Transport for New South Wales (TfNSW). In the vicinity of the subject site, it is aligned in a north-south direction connecting Sailors Bay Road in the south to Boundary Road in the north. Together with Strathallen Avenue (including Miller Street) and Sailors Bay Road, it forms part of the arterial road network, namely Main Road (MR) 599, linking the Lower North Shore area to Sydney CBD via the M1 Motorway (Bradfield Highway and Sydney Harbour Bridge/Tunnel).

In the vicinity of the site, Eastern Valley Way is generally configured as a four-lane, two-way road. Auxiliary turning lanes are provided at select intersections along Eastern Valley Way, including at Sailors Bay Road and Edinburgh Road.

Clearway parking restrictions apply in both directions along Eastern Valley Way, namely in the southbound direction during the morning peak period (6:00am to 10:00am) and in the northbound direction during evening peak period (3:00pm to 7:00pm). Outside of the peak periods, "NO STOPPING" or "NO PARKING" parking restriction is enforced depending on the location.

Eastern Valley Way is sign posted with a speed limit of 60km/hr.

2.2.2 Sailors Bay Road

Sailors Bay Road between Eastern Valley Way and Strathallen Avenue is another declared State Road and together with Eastern Valley Way and Strathallen Avenue, it forms main road MR599 as discussed above. The other sections of Sailors Bay Road are a local road under the jurisdiction of Willoughby City Council.

The State Road section of Sailors Bay Road has a four-lane, two-way road configuration with clearway parking restriction enforced as per conditions along Eastern Valley Way while the local road sections of Sailors Bay Road has two-lane, two-way road with kerbside parking permitted. Kerbside parking is restricted to 1P parking from 10:00am to 6:00pm Mondays to Fridays and from 8:30am to 12:30pm Saturdays.

Intersections along Sailors Bay Road between Eastern Valley Way and Strathallen Avenue as well as the one with Alpha Road/Flat Rock Drive are controlled by traffic signals while other intersections are controlled by either single lane roundabouts or priority intersections.

Sailors Bay Road is also sign posted with speed limit of 50km/hr.

2.2.3 Strathallen Avenue

As noted above, Strathallen Avenue together with Eastern Valley Way and Sailors Bay Road forms part of main road MR599 and as such is a declared State Road where TfNSW is the road authority. It is aligned in a north-south direction connecting to Sailors Bay Road in the north and to Miller Street in the south. It also connects the local streets in the area to Strathallen Avenue as well as providing access to properties abutting it. Immediately adjacent to the site, it is configured as a four-lane, two-way road, but south of Cliff Avenue it is reduced to a two-lane, two-way road. Clearway parking restriction is enforced consistent with those along Eastern valley Way but kerbside parking permitted on both sides of the road outside of the clearway restriction period.

Strathallen Avenue forms a signalised T-junction with Sailors Bay Road at its northern end and a priority 4-way intersection with Baringa Road. Right turn movement from Strathallen Avenue (south) into Baringa Road is prohibited during the weekday afternoon peak periods while the right turn from Baringa Road to Strathallen Avenue (north) is prohibited at all times.

Strathallen Avenue is sign posted as a 50km/hr speed limit area.

2.2.4 Baringa Road

Baringa Road is a two-lane, two-way local road under the administration of Willoughby City Council. Time restricted kerbside (1P parking from 8:30am to 6:00pm Mondays to Fridays and from 8:30am to 12:30pm Saturdays) parking is permitted on both sides of the road west of the site, while unrestricted kerbside parking is available on Baringa Road east of the site. It has a default speed limit of 50km/hr.

2.3 Public Transport

The subject site can be accessed by regular scheduled bus services with bus stops located along Strathallen Avenue and Sailors Bay Road. The bus stop on Strathallen Avenue is immediately in front of the site, while the bus stop on Sailors Bay Road is located 350m walking distance (or 5-minute walk) from the site. The bus services are operated by CDC NSW R14 and Busways North West.

As such, the subject site is located within 400m walking catchment of a bus stop as stated in the *Integrated Public Transport Service Planning Guidelines (Sydney Metropolitan Area)* published by TfNSW.

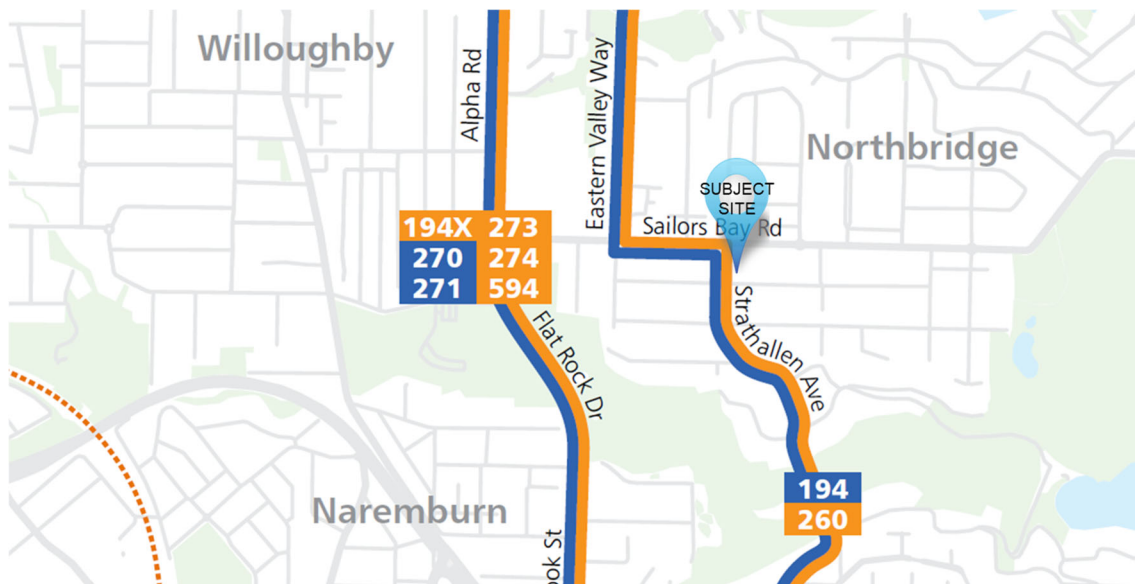
A review of public transport availability in the vicinity of the site is summarised in Table 2.1 for bus services.

Table 2.1: Available Bus Services

Route No.	Route Description	Weekday Peak Period Frequency
194	St Ives to City QVB	30 minutes
202	Northbridge to City Bridge St via North Sydney	20-40 minutes
203	Castlecrag to North Sydney	30 minutes
204	Northbridge to City Bridge St via Freeway (Operates in peak direction only)	20 minutes
205	East Willoughby to City Bridge St via Freeway (Operates in peak direction only)	10-30 minutes
206	East Lindfield to City Bridge St via Freeway (Operates in peak direction only)	10-30 minutes
207	East Lindfield to City Bridge St via North Sydney	15-30 minutes
208	East Lindfield to City Bridge St via Northbridge & North Sydney	No Service
209	East Lindfield to Milsons Point via North Sydney (Operates in peak direction only)	5-20 minutes
260	Terrey Hills to North Sydney (Operates in peak direction only)	30 minutes
267	Chatswood to Crows Nest	30 minutes

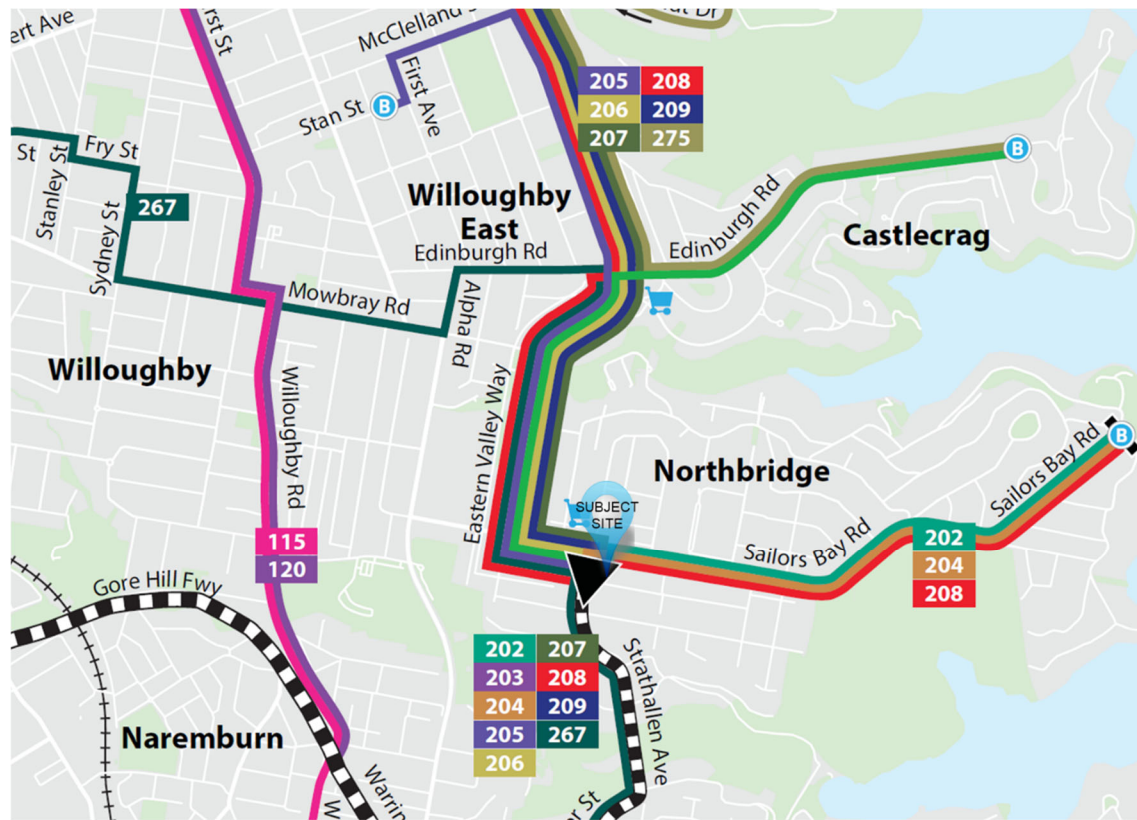
Figure 2.3 and Figure 2.4 show maps of the existing available bus services in the vicinity of the subject site operated by CDC NSW R14 and Busways North West respectively.

Figure 2.3: Bus Network – CDC NSW R14



Source: <https://transportnsw.info/>

Figure 2.4: Bus Network – Busways North West



Source: <https://transportnsw.info/>

3 Proposed Development

3.1 Development Description

The proposed development involves the demolition of all existing buildings on the subject site and construct in their place a new 5-storey building accommodating 24 residential apartments and 781m² of retail use. The residential apartments are proposed to be located on the higher levels with the following mix:

- 2-bedroom units – 1
- 3-bedroom units – 15, and
- 4-bedroom units – 8.

The retail floor area is proposed to be distributed across six retail tenancies located on the ground floor facing Strathallen Avenue. Each retail tenancy is proposed with a floor area ranging from 103m² to 158m².

The proposed shop-top housing development will be served by a combined 2-level basement car park containing 51 car parking spaces. The proposed development also includes an on-site loading facility. The car park and loading facility will be accessed from a shared driveway located off Baringa Road.

The architectural car park plan is contained in Appendix A.

3.2 Proposed Access Arrangement

Vehicular access to the basement car park will be provided via a new driveway access located off Baringa Road near the site's eastern boundary. The proposed driveway access is located at the same general location as the existing driveway that serves the existing hotel use. It is 3.0m from the site's eastern boundary.

All existing redundant driveways and vehicle crossovers will be re-instated with kerb and gutter to Council's requirements.

In addition, it is noted that the proposed development does not have owners' consent for 134 Sailors Bay Road and access over that site does not form part of this application. Any treatment of the future "through-site link" is proposed within the site boundary of 57-69 Strathallen Avenue only, and to clarify, this DA does not and cannot provide any physical link through to 134 Sailors Bay Road at present.

3.3 Loading Facility

The proposed development includes an on-site loading facility located on the ground floor adjacent to the basement car park ramp. It has been designed to accommodate a waste collection vehicle up to 10.5m long. Alternatively, the proposed loading facility can accommodate one Australian Standard 8.8m long medium rigid vehicle (MRV) or two Australian Standard 6.4m long small rigid vehicles (SRV). It has been designed to provide a headroom of 4.5m above the loading bay and any required truck manoeuvring area.

The on-site loading facility will be shared by all service vehicles including waste collection, removalist trucks, large bulky item deliveries (refrigerators, televisions, washing machines) and deliveries to the retail tenancies.

4 Parking Assessment

4.1 Car Parking Requirements

Car parking requirements for the proposed development have been assessed against the Council's *Willoughby Development Control Plan 2023* (WDCP), specifically Part F Transport and Parking Management.

The parking assessment based on WDCP requirements is presented in Table 4.1.

Table 4.1: Car Parking Assessment

Proposed Land Use	No. of Dwellings/ Floor Area	WDCP Parking Rates	WDCP Car Parking Requirement
Residential Use			
- 2-Bedroom Dwellings	1 Apts	1.0 space per dwelling	1
- 3-Bedroom Dwellings	15 Apts	1.0 space per dwelling	15
- 4-Bedroom Dwellings	8 Apts	1.0 space per dwelling	8
- Visitors	-	1 space per 7 dwellings	3.4
<i>Sub-Total</i>	-	-	27.4
Non-Residential Use			
- Retail	781m ²	1.0 space per 33m ² GFA	23.7
<i>Sub-Total</i>	-	-	23.7
Total (Say)	-	-	50.6

Based on WDCP parking requirements presented in Table 4.1, the proposed development is required to provide a total of 51 car parking spaces comprising:

- 24 x residential car parking spaces
- 3 x visitor car parking spaces, and
- 24 x retail car parking spaces.

4.2 Adequacy of Car Parking Spaces

The proposed development proposes to provide a total of 51 car parking spaces comprising:

- 24 x residential car parking spaces
- 3 x visitor car parking spaces, and
- 24 x retail car parking spaces (for shopper owners/staff).

As can be seen from the above, the proposed car parking provision complies with the WDCP required parking.

On this basis, the proposed car parking provision for the proposed development satisfactory.

4.3 Accessible Car Parking Spaces

WDCP requires accessible car parking spaces to be provided in line with Section D3.5 of the Building Code of Australia (BCA). The BCA stipulates accessible car parking depending on the building class. The proposed development is a shop top housing development with the residential component being Class 2 and the retail component being Class 6 in accordance with the BCA.

WDCP summarises the accessible car parking requirements for these building classes as follows:

- residential use (Class 2) – one accessible car parking space per four adaptable units + 1 visitor accessible car parking space for developments comprising 50 or more car parking spaces, and
- retail use (Class 6) – three per cent of the total car parking spaces to be accessible.

WDCP requires 50 per cent of the residential apartments to be adaptable i.e. 12 adaptable apartments. In relation to the total car parking requirement for the retail use, as noted previously WDCP requires 24 car parking spaces to be provided.

From the above, it follows that WDCP requires a total of five accessible car parking spaces for the proposed development. The makeup of the required accessible car parking spaces is as follows:

- residents – three accessible car parking spaces
- residential visitors – one accessible car parking space
- retail – one accessible car parking space.

A review of the architectural car park plans indicates a total of six accessible car parking spaces has been provided comprising:

- 3 x residential accessible car parking spaces
- 1 x visitor accessible car parking space, and
- 2 x retail accessible car parking spaces.

From the above, the proposed provision of accessible car parking spaces has exceeded WDCP requirement by one accessible car parking space. Therefore, the proposed provision of accessible car parking spaces is satisfactory.

4.4 Electric Vehicle Charging Bays

The proposed development includes two electric vehicle charging stations, one on each basement level.

4.5 Bicycle Parking

WDCP requires bicycle parking for residential and business uses to be provided at the following rates:

- business use
 - employees – one Class A or B bicycle parking space per 20 car parking spaces
 - visitors – one Class C bicycle parking space per 20 Class A or B bicycle parking spaces
- residential
 - residents – one Class A or B bicycle parking space per 20 units, and
 - visitors – one Class C bicycle parking space per 20 units

On this basis, the proposed development is required to provide a total of four bicycle parking spaces comprising:

- one Class A or B bicycle parking space for residents
- one Class C bicycle parking space for visitors
- one Class A or B bicycle parking space for employees, and
- one Class C bicycle parking space for retail visitors.

The architectural plans show three Class B bicycle parking spaces inside the basement and three Class C bicycle parking spaces on the ground floor. The proposed bicycle parking provision complies with WDCP and therefore is satisfactory.

4.6 Motorcycle Parking

WDCP requires motorcycle parking for residential and business uses to be provided at the following rates:

- business use
 - employees – one motorcycle parking space per 30 car parking spaces
 - visitors – one motorcycle parking space per 15 motorcycle parking spaces
- residential
 - residents – one motorcycle parking space per 20 car parking spaces, and
 - visitors – one motorcycle parking space per 10 motorcycle parking spaces.

From the above, the proposed development is required to provide four motorcycle parking spaces comprising:

- one motorcycle parking space for residents
- one motorcycle parking space for employees, and
- two motorcycle parking spaces for visitors.

The architectural plans indicate a total of four motorcycle parking spaces have been provided. The motorcycle parking spaces will be allocated as per WDCP requirement. Therefore, the proposed provision of motorcycle parking spaces is satisfactory.

4.7 Loading Facility

The proposed development includes an on-site loading facility. The loading facility has been designed to accommodate service vehicles up to 10.5m long rigid vehicle (or one MRV or two SRV) with a headroom of 4.5m above the loading bay and any required truck manoeuvring area.

The retail component within the proposed development has a total floor area of 781m² across six tenancies each tenancy having a floor area ranging from 103m² to 158m². As such, the proposed retail uses are small in scale and are expected to accommodate small local businesses similar to a take-way shop, hair salon, computer repair shop, real estate agent, medical centre etc. Under circumstances, servicing of the proposed retail uses would be conducted using light commercial vans with dimensions consistent with an Australian Standard B99 vehicle including a headroom requirement of 2.2m. In addition, servicing of the retail tenancies would be infrequent and intermittent, and typically occurs outside of the peak periods. On this basis, servicing of the retail uses would occur using visitor car parking spaces located within the basement car park and/or the service vehicle bay within the on-site loading facility as required.

In relation to deliveries of furniture and other large bulky items, it is expected that these would be conducted using a SRV. This would occur within the proposed on-site loading facility which can accommodate up to two SRVs simultaneously.

In relation to waste collection, it is noted WDCP requires compliance with the Waste Management Technical Guide and Development Controls for Multi Dwelling Housing, Residential Flat Buildings and Mixed-Use Developments by North Sydney Regional Organisation of Councils. The technical guide requires all developments to be serviced by a 12.5m long heavy rigid vehicle. It also requires the on-site collection point to be designed to permit collection vehicles to enter and exit in a forward direction.

It is noted that the subject site is relatively small (total site area less than 2,500m²). In addition, the footprint required for a 12.5m long truck to turn around so that it can enter and exit the site in a forward direction is substantial. A conforming proposal to accommodate the 12.5m long heavy rigid vehicle will have significant design implications to the proposal including the building envelope and a significant reduction in the available landscape area. This will in turn have detrimental impacts to the development yield affecting the financial viability of the proposed development. As such, it is not feasible nor is it practical to design the proposed development to accommodate a 12.5m long rigid vehicle, especially noting that waste collection vehicles servicing small scale developments like that proposed are generally not larger than an Australian Standard 8.8m medium rigid vehicle.

In addition, it is noted that Council in their pre-DA meeting minutes states that:

Provision is to be made for waste collection vehicles to collect waste on site. Council's waste vehicle is 10.5m long and 4.5m headroom is required. Swept path diagrams are required to show that the vehicle is able to enter and leave the site in a forward direction. Turntables cannot be used as the sole means to meet this requirement.

As such, the above design approach to adopt the 10.5m waste collection vehicle as the design vehicle is consistent with Council's intention as noted in the pre-DA meeting minutes.

In light of the above, it is considered the proposed on-site loading facility will be able to serve the proposed development in a functional and practical manner and at the same time is not unreasonably over designed for a future potential scenario that may not occur at the proposed development. Therefore, the proposed on-site loading facility is satisfactory.

4.8 Car Park Layout Design

The site is proposed to be accessed from a new driveway located off Baringa Road at the same general location as the driveway to the existing hotel, and 3.0m from the

site's eastern boundary. The driveway is then connected to an at-grade internal access from which the on-site loading facility is located off as well as the access into the basement car park. The access into the basement car park is proposed to be configured as a single lane, two-way curved ramp.

The car park is proposed as a 2-level basement car park. Car parking allocated to the retail use are proposed to be located on Level B1 while the residential and visitor car parking spaces are proposed to be located on Level B2.

A single lane, two-way straight ramp is proposed along the eastern boundary of the site to provide access between the basement levels. Car parking spaces inside the basement are proposed to be configured as 90-degree car parking spaces along the basement periphery.

The Australian Standard, namely AS2890.1, indicates that car parking spaces for residents and employees can be provided as Class 1A parking facility. The Australian Standard requires Class 1A car parking spaces to have dimensions of 2.4m wide by 5.4m long with an aisle width of 5.8m.

It is noted car parking for retail customers is not proposed as the retail uses will draw their customs from walk in pedestrians from the surrounding developments. All WDCP car parking requirements for retail use will be allocated to shop owners and staff.

The Australian Standard also requires the design of the accessible car spaces and the adjacent shared areas to comply with AS2890.6. AS2890.6 requires accessible car parking spaces and associated shared area to have dimensions of 2.4m wide by 5.4m long with a headroom of 2.5m.

Separately, it is noted that WDCP requires residential visitor car parking spaces to be designed to comply with AS2890.1 Class 2 i.e. 2.5m wide by 5.4m long.

MLA's review of the architectural car park plans indicates the above dimensions for the different types of car parking have been complied with.

In addition, the car park review also assessed the following design elements:

- the first 6m of all access ramps/driveways has a maximum vertical grade of 1:20 in accordance with AS2890.1
- the proposed driveways include a pedestrian sight triangle at the boundary measuring 2.0m by 2.5m as per AS2890.1 Figure 3.3
- an additional of width of 0.3m has been provided for car parking spaces adjacent to a wall
- all columns are located outside of the car parking space design envelope

- minimum clear head heights of 2.2m for general car parking spaces and 2.5m for accessible parking spaces have been provided within the basement car park as required by AS2890.1, AS2890.6 and WDCP
- maximum vertical grade of 1:4 with 2m transitions at 1:8 have been provided along ramps used by passenger vehicles in accordance with AS2890.1
- bicycle parking spaces have dimensions of 0.5m wide by 1.8m long with an aisle width of 1.5m, and
- motorcycle parking spaces have dimensions of 1.2m wide by 2.5m long.

Swept path analysis has been conducted at the driveway and along the internal ramp using an Australian Standard 5.2m long B99 vehicle as the design vehicle. The analysis indicates that a B99 vehicle can access and circulate within the car park satisfactorily and have sufficient clearance to pass one another where required. The swept path diagrams are provided in Appendix B. The overlapping of vehicle swept paths on the single lane ramps is proposed to be managed using waiting bays with red/green signals and vehicle presence sensors as discussed below.

In relation to the design of the loading areas, it has been designed to accommodate service vehicles up to a 10.5m long waste collection vehicle (noting that swept path analysis has been conducted for a slightly larger vehicle at 10.6m long as discussed below). The on-site loading area has been designed with a headroom of 4.5m above the loading bay and along travel paths to and from the loading area including any truck manoeuvring areas.

Swept path analysis has also been conducted for a 10.6m waste collection vehicle as well as an 8.8m long MRV and 12.5m HRV accessing the on-site loading facility. The swept path diagrams provided in Appendix B demonstrate an 8.8m and a 10.5m long service vehicles could access the site satisfactory but simultaneous movement by service vehicles and B99 vehicle cannot be achieved.

It is proposed to provide traffic management measures to manage the swept path overlaps between B99 vehicles and service vehicle as illustrated on the relevant swept path diagrams provided in Appendix B. This will involve provision of waiting bays at required locations with warning signs, red/green signals, vehicle presence sensors and line markings to manage the vehicle conflict.

In light of the above, the design of the proposed car park and loading area generally complies with the design requirements set out in the Australian Standard for car parking facilities in AS2890.1, AS2890.2, AS2890.3 and AS2890.6.

Therefore, the design of the proposed car park, loading area and associated elements is satisfactory.

5 Traffic Assessment

The traffic generation potential of the proposed development has been assessed using suggested traffic generation rates sourced from guidelines produced by TfNSW.

The applicable traffic generation rates (from the *Traffic Generating Developments Updated Traffic Surveys, TDT 2013/04a*) are as follow:

- morning peak period
 - residential use – 0.19 trips per peak hour per apartment
 - retail use – 1.6 trips per peak hour per 100m²
- evening peak period
 - residential use – 0.15 trips per peak hour per apartment, and
 - retail use – 1.2 trips per peak hour per 100m².

It is noted the TfNSW guidelines do not provide traffic generation rates for small local retail tenancies similar to that proposed. In addition, the proposed retail uses are expected to generate negligible traffic as the proposed retail tenancies are small scale in nature and are expected to only service the local area. The retail tenancies are expected to draw their customs from walk in pedestrians in the immediate surrounding area. Any development traffic arising from these uses would be predominantly related to shop owners and staff arriving and departing which would be likely to occur outside of the peak periods.

Notwithstanding the above, and for traffic analytical purposes, it is assumed that the retail uses would generate traffic at the same rate as that to a commercial use (traffic generation rates as provided above).

In light of the above, adopting traffic generation rates suggested by TfNSW for commercial uses to the proposed retail uses are considered to be conservative and will therefore provide a robust assessment.

Table 5.1 presents an estimate of the development traffic for the proposed development.

Table 5.1: Estimated Development Traffic

Proposed Land Use	Development Yield	Morning Peak Period	Evening Peak Period
Residential	24 Apartments	5 vph	4 vph
Retail	781m ²	13 vph	10 vph
Total	-	18 vph	14 vph

Table 5.1 indicates that the proposed development would generate 18 vehicles per hour (vph) and 14 vph during the morning and evening peak periods respectively.

This level of development traffic is considered to be low and is unlikely to create any noticeable traffic impacts especially considering that the development traffic would be diluted across the road network. In this regard, it is expected that inbound development traffic would predominantly access the site from Strathallen Avenue, while outbound development traffic would use Baringa Road and Strathallen Avenue to access destinations to the south of the subject site and use Gunyah Street and Sailors Bay Road to access destinations to the north of the site.

In addition, a recent traffic study, conducted on behalf of Council to assess the traffic effects of the closure of Bellambi Street at Sailors Bay Road, indicates that Sailors Bay Road, east of Strathallen Avenue has peak hour traffic volumes in the order of 700 vph to 850 vph. It is noted that traffic volumes on Strathallen Avenue and Sailors Bay Road west of Strathallen Avenue would carry higher traffic volumes due to its State Road status.

Notwithstanding, the estimated development traffic arising from the subject proposed development represents approximately two per cent of the peak hour traffic on Sailors Bay Road. The level of development traffic would be less than the daily variance in the background traffic.

In addition, it is noted that the estimated development traffic would represent an even lower percentage of the existing traffic volumes on Strathallen Avenue due to Strathallen Avenue carrying higher traffic volumes as noted above.

In light of the above, the proposed development is not expected to create any noticeable changes to the local intersections. The local road network will continue to operate satisfactorily following the completion of the proposed development.

6 Summary and Conclusion

This report examines the traffic and parking implications of a proposed shop top housing development at 57-69 Strathallen Avenue, Northbridge. The salient findings of this assessment are presented below.

- The proposed development involves the demolition of all existing buildings on the site and construct in their place a new 5-storey building to accommodate 24 residential apartments on the higher levels and six retail tenancies on the ground floor with a combined floor area of 781m².
- Vehicular access to the site is proposed to be provided from Baringa Road at the same general location as the existing hotel use and 3.0m from the site's eastern boundary.
- Based on WDCP requirements, the proposed development is required to provide a total of 51 car parking spaces comprising 24 resident car parking spaces, three visitor car parking spaces and 24 retail car parking spaces.
- The proposed development provides a total of 51 car parking spaces comprising 24 resident car parking spaces, three visitor car parking spaces and 24 retail staff car parking spaces. The proposed car parking provision complies with WDCP and is therefore satisfactory.
- Bicycle and motorcycle parking spaces are proposed to be provided in compliance with WDCP.
- An on-site loading facility is proposed to serve the proposed development. It has been designed to accommodate service vehicles up to a 10.5m long rigid vehicle. It is considered the proposed loading facility will provide functional and practical use for the proposed development.
- The design of the car park and the loading area complies with and/or meets the design intents stipulated in the relevant Australian Standard for car parking facilities, namely AS2890.1:2004, AS2890.2:2018, AS2890.3:2015 and AS2890.6:2022.
- The proposed development has been estimated to generate 18 vph during the busiest peak period. This level of development traffic is considered to be low and will not create any noticeable traffic impacts to the local road network.

Overall, from a traffic and parking perspective the proposed development is considered to be satisfactory.

Appendix A

Architectural Car Park Layout Plans

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and or the fabrication of any components. Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification. All drawings may not be reproduced or distributed without prior permission from the architect.

3	28.05.24	Post Lodgement Amendments	NH	TG
2	02.05.24	Development Application	EVB	TG
1	13.03.24	Development Application	Initial	Checked
Rev	Date	Description		

NORTHBRIDGE

57-69 Strathallen Ave

General Arrangement Plan
Basement Level 01

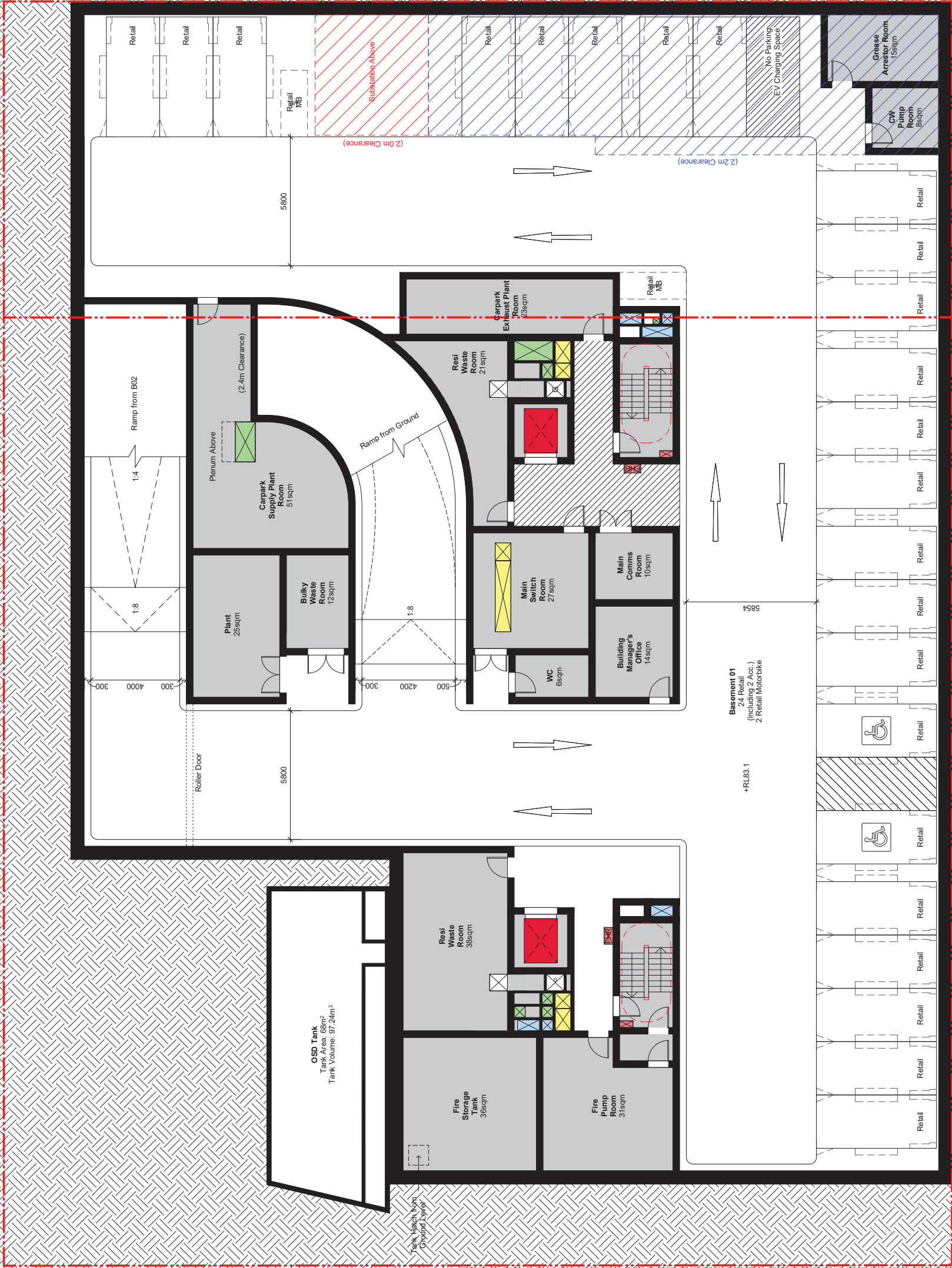


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Drawn	BS	Checked	BS
Project No.	S12751		
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BIM	C:\Users\HANAD\Documents\NORTHBRIDGE_BS_ARCH_12023_1\Heavy		

Drawing no. **A03.001** Revision **3**

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3	28.05.24	Post Lodgement Amendments	NH	TG
2	02.05.24	Development Application	EVB	TG
1	13.03.24	Development Application	Initial	Checked
Rev	Date	Description		

NORTHBRIDGE

57-69 Strathallen Ave

General Arrangement Plan
Basement Level 02



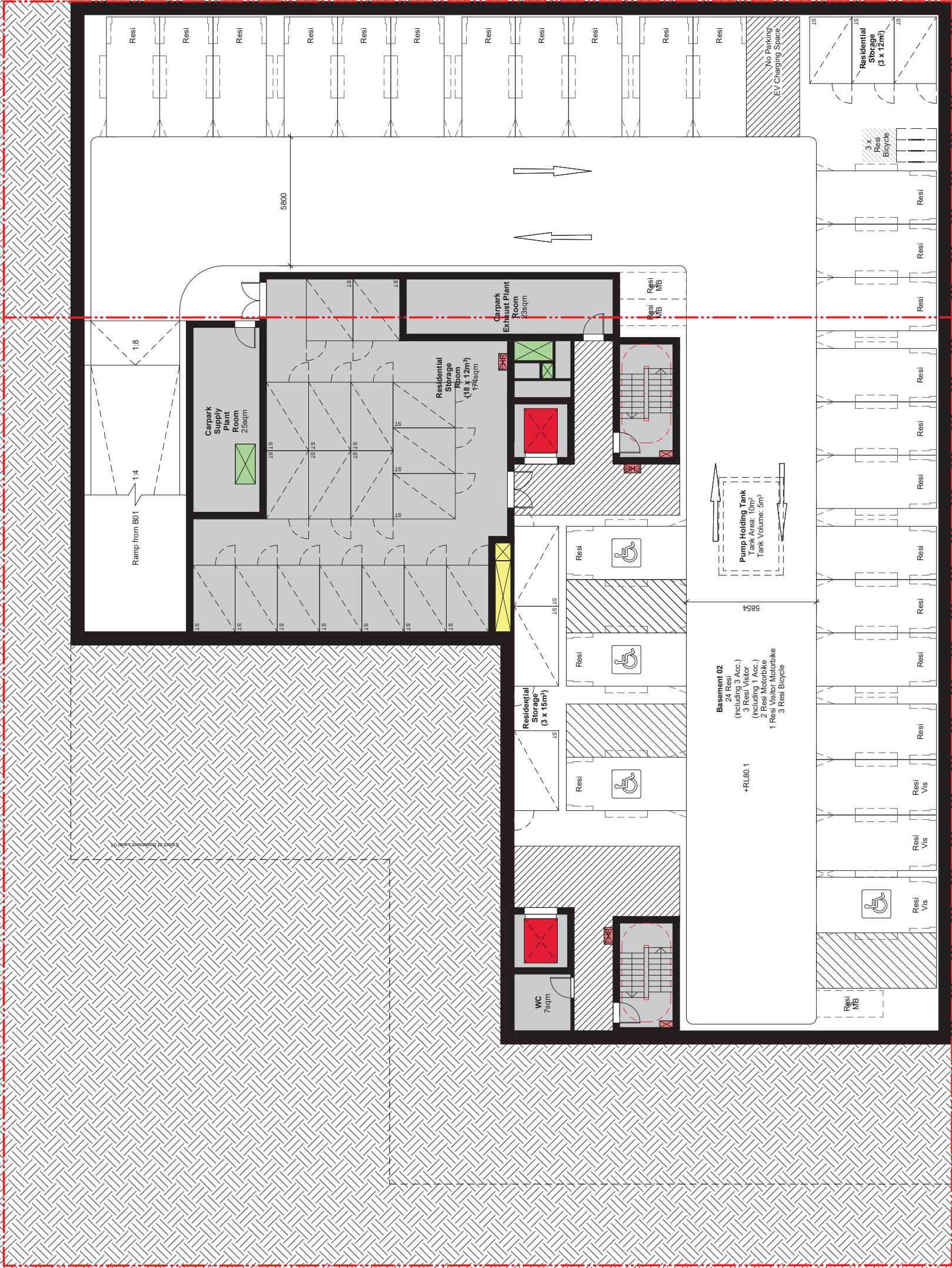
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Drawing no. **A03.002**

Revision **3**

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Legend



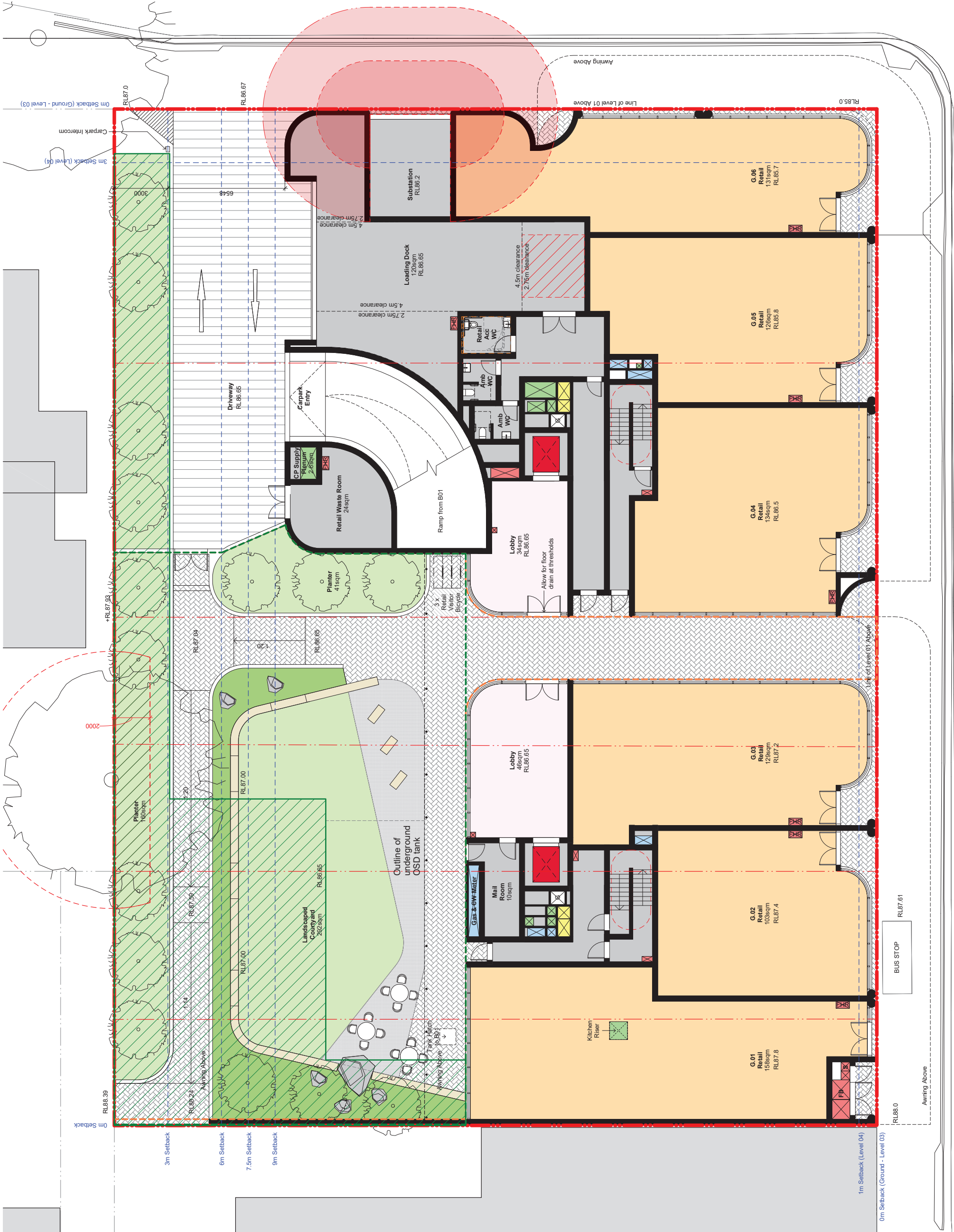
Deep soil extent



Outline of communal open space



Outline of public open space



3	28.05.24	Post Lodgement Amendments	NH	TG
2	02.05.24	Development Application	EVB	TG
1	13.03.24	Development Application	Initial	Checked
Rev	Date	Description		

NORTHBRIDGE

57-69 Strathallen Ave

General Arrangement Plan
Ground Level



Status	DEVELOPMENT APPLICATION		
Scale	1 : 100	@ A1	
Drawn	BS	Checked	BS
Project No.	S12751		
Plot Date	28/06/2024 9:58:13 AM		
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Drawing no.	Revision		

A03.100

3

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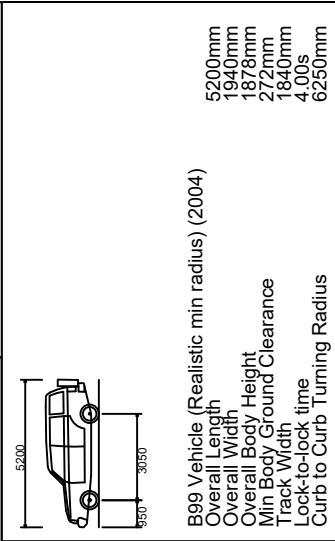
Bates Smart Architects Pty Ltd ABN 68 064 740 966
NSW Nominated Responsible Architect: Kellee Payne Reg. 6454 / Philip Vujan Reg. 6886 /
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Development Application

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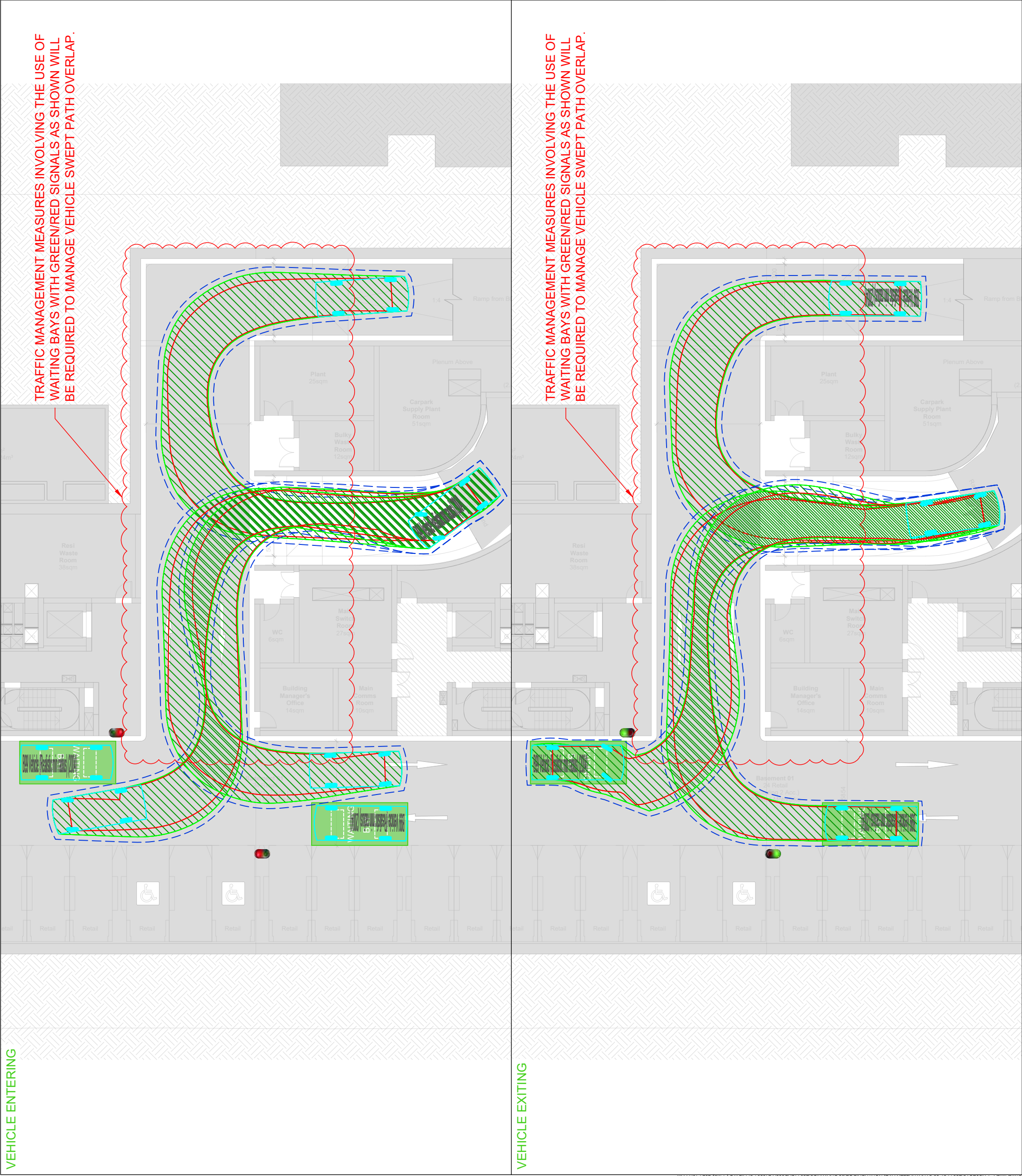
Appendix B

Swept Path Diagrams



DATE:	1 MAY 2024
SCALE:	1:200@A3

DRAWING TITLE:
SWEPT PATH ANALYSIS -
AS2890.1 5.2M B99 VEHICLE
ENTERING AND EXITING -
GROUND FLOOR



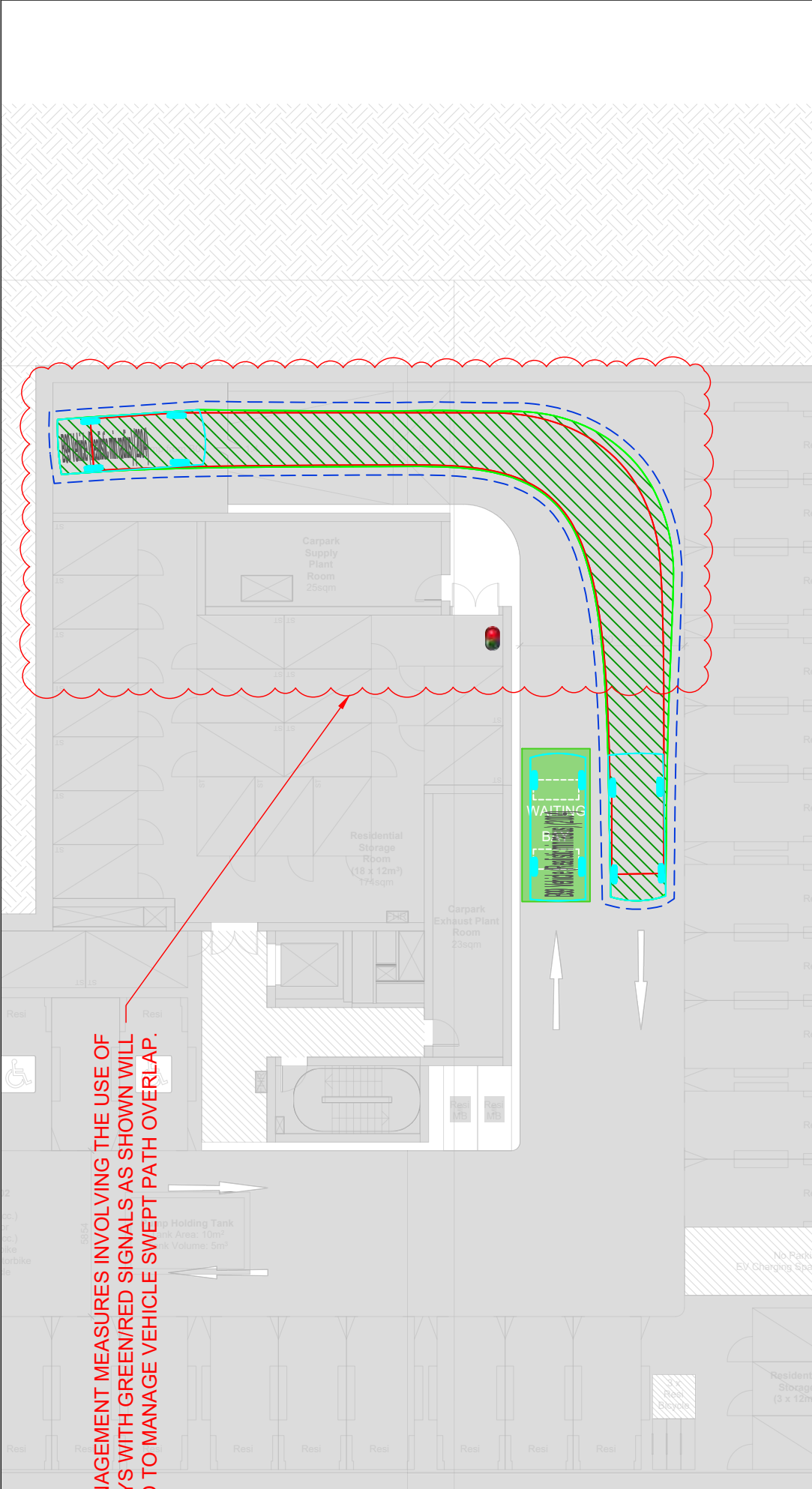
KEY:

Wheel Path	Forward	Reverse
Body Envelope		
Clearance (300mm)		

B99 Vehicle (Realistic min radius) (2004)

Overall Length 5200mm
Overall Width 1940mm
Overall Body Height 1878mm
Min Body Ground Clearance 272mm
Track Width 1840mm
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6250mm

DATE:	1 MAY 2024	SCALE:	1:200@A3
DRAWING NO.:	23044CAD006A-002	REV:	A
DRAWING TITLE:	SWEEP PATH ANALYSIS - AS2890.1 5.2M B99 VEHICLE ENTERING AND EXITING - BASEMENT 1		
PROJECT:	57-69 STRATHALLEN AVE, NORTHBRIDGE PROPOSED SHOP TOP HOUSING DEVELOPMENT		



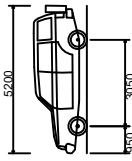
TRAFFIC MANAGEMENT MEASURES INVOLVING THE USE OF WAITING BAYS WITH GREEN/RED SIGNALS AS SHOWN WILL BE REQUIRED TO MANAGE VEHICLE SWEEP PATH OVERLAP.



TRAFFIC MANAGEMENT MEASURES INVOLVING THE USE OF WAITING BAYS WITH GREEN/RED SIGNALS AS SHOWN WILL BE REQUIRED TO MANAGE VEHICLE SWEEP PATH OVERLAP.

KEY:

Wheel Path	Forward	Reverse
Body Envelope		
Clearance (300mm)		



B99 Vehicle (Realistic min radius) (2004)
Overall Length 5200mm
Overall Width 1940mm
Overall Body Height 1878mm
Min Body Ground Clearance 272mm
Track Width 1640mm
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6250mm

DATE:

1 MAY 2024

SCALE:

1:200@A3

DRAWING NO.:

23044CAD006A-003

REV:

A

DRAWING TITLE:

SWEPT PATH ANALYSIS -
AS2890.1 5.2M B99 VEHICLE
ENTERING AND EXITING -
BASEMENT 2

PROJECT:

57-69 STRATHALLEN AVE,
NORTHBRIDGE PROPOSED
SHOP TOP HOUSING
DEVELOPMENT



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