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ADVERTISED PLAN

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6 December 2023

Project No: 300304220

Ratio
 8 Gwynne Street
 CREMORNE VIC 3121

Attention: Angela Mok (Associate)

Dear Angela

**RE: 292-300 City Road, Southbank – Proposed Amended Permit
 Transport Impact Assessment**

1. Background

A planning permit (TP-2019-979) was issued in 2021 for a proposed high-rise mixed-use development at 292-300 City Road, Southbank. The original permit was for a 26-storey building which included 20 levels of hotel rooms above a mixed-use podium, and 27 car parking spaces. An amended permit (TP-2019-979/A) was issued in September 2023 to change the use of the upper levels of the building from a residential hotel to apartments and make various amendments to the plans, including a revised basement carpark layout with 113 car parking spaces in an automatic car parking system.

Application is now being made to further amend the permit to change the use of the lower levels of the building to provide additional apartments and reduce the size of the other uses. Stantec has been engaged to provide traffic engineering services for the proposed amended development.

2. Proposal

The amended proposal involves the following key changes to the currently approved layout:

- Modifying the design of Level 01 to delete the previously proposed food and beverage tenancy, and bicycle parking, and instead contain an office tenancy, which was previously proposed on Level 03. The bicycle parking will be relocated to the Lower Ground level.
- Modifying the design of Level 02 to reduce the size of the function space and provide a health and wellness centre, including a pool, gym and change rooms, which was previously proposed on Level 05.
- Replacing the existing Levels 03 to 05, which were previously proposed to contain offices and a health and wellness centre, with 7 levels of apartments, containing a total of 70 apartments. As a consequence, the previous Levels 06-25 will be renumbered as Levels 10-29. However, it is not proposed to alter the height of the building.
- Relocating some services areas to Level 09, which will result in a net reduction of 5 apartments on this level.
- Slightly increasing the size of the automatic car parking system in the basement to contain 128 cars instead of the 113 cars shown on the currently approved plans.
- Making various other changes to the Lower Ground and Ground levels, including moving the proposed loading dock further east.

The currently approved and proposed land uses are summarised in Table 1.

Table 1 – Land Use Summary

Use	Current Approval	Amended Proposal	Difference
Dwelling	200 No.	265 No.	+65 No.
Office	1,284sqm	772sqm	-512sqm
Retail (Food & Drink Premises)	682sqm	371sqm	-311sqm

As can be seen from Table 1, the amended proposal has 65 additional apartments when compared with the currently approved proposal, with a reduction in the floor area for the office and retail uses.

The currently approved development includes a total of 113 car parking spaces within an automatic car parking system, which is proposed to be accessed via two cabins along an access aisle along the western boundary of the site, which is accessed from Haig Lane at the northwest corner of the site. It is proposed to slightly increase the size of the automatic car parking system to include a total of 128 car parking spaces. However, it is not proposed to significantly modify the access arrangements.

In addition, the approved development proposal includes a one-way covered drive-through link from City Road to Haig Lane along the eastern boundary of the site. It is not proposed to modify this arrangement.

The approved development proposal includes 200 bicycle spaces for residents in a bicycle parking room on Level 1 and 8 bicycle spaces for visitors within the site frontage to City Road on the Ground Level. The amended development proposal includes 362 bicycle spaces for residents in a bicycle parking room on the Lower Ground level and continues to provide 8 bicycle spaces for visitors within the site frontage to City Road.

Loading and waste collection for the approved development proposal was proposed to occur within a dedicated on-site loading area on the northern side of the site, with access from Haig Lane. The loading area was designed to accommodate an 8.8m long MRV truck. The amended proposal continues to provide a loading area of similar dimensions, which has been shifted slightly to the east when compared with the currently approved design. It will continue to be accessed from Haig Lane.

3. Vehicle Parking Provision

3.1 Car Parking

The site is located within the area subject to Parking Overlay 1 in the Melbourne Planning Scheme. Schedule 1 to Clause 45.09 of the Melbourne Planning Scheme specifies the following **maximum** car parking rates that are permissible within the area subject to the overlay:

- 1 space per dwelling
- 0.5 spaces per 100sqm NFA for other uses

Therefore, the amended proposal has a statutory car parking requirement of a maximum of 270 car parking spaces, including 265 resident spaces and 5 spaces for the non-residential uses.

It is proposed to provide 128 car parking spaces on-site, all of which will be allocated to residents. Whilst this is a slight increase on the currently approved provision, it is still significantly less than the statutory maximum allowable. Therefore, the proposed provision of car parking spaces is in accordance with the statutory requirements.

3.2 Motorcycle Parking

Schedule 1 to Clause 45.09 of the Melbourne Planning Scheme specifies the following with regard to motorcycle parking:

“All buildings that provide on-site car parking must provide motorcycle parking for the use of occupants and visitors, at a minimum rate of one motor cycle parking space for every 100 car parking spaces, unless the responsible authority is satisfied that a lesser number is sufficient.”

Therefore, there is a requirement to provide at least 1 motorcycle parking space for the amended development proposal. Consistent with the currently approved development, motorcycles will be able to park within the automatic car parking system.

4. Car Park Layout & Site Access

4.1 Automatic Car Parking System

It is not proposed to change the approved arrangements for the automatic car parking system. The amended proposal includes the same system model with essentially the same layout, dimensions and access arrangements, other than some minor changes to accommodate modifications to the structure and services requirements. The only significant difference is that there will be 15 additional spaces within the system.

4.2 Car Park Access

It is not proposed to significantly modify the access arrangements to the automatic car parking system. The approved proposal has a 6.4m wide ramp adjacent to the site access point, with a maximum grade of 1:4, and 1:8 transitions at both ends. The amended proposal also has a 6.4m wide ramp adjacent to the site access point, with a maximum grade of 1:4, and 1:8 transitions at both ends. There will also be a 3.9m length of 1:16 grade adjacent to the site boundary.

Swept path checks (attached) confirm that the cabins of the automatic car parking system will continue to be accessible by a B99 vehicle.

4.3 Internal Drive-Through Link

It is not proposed to significantly modify the approved design of the internal drive-through link along the eastern boundary of the site. The driveway will continue to have one-way northbound operation, and a width of at least 3.6m between obstructions, in accordance with AS2890.1 and Clause 52.06-9 of the Melbourne Planning Scheme.

5. Bicycle Parking

5.1 Statutory Requirements

Statutory requirements for the provision of bicycle parking are outlined in Clause 52.34 of the Melbourne Planning Scheme. Based on this, the statutory requirements for the provision of bicycle parking for the amended development proposal are set out in Table 2.

Table 2 - Statutory Bicycle Parking Requirements

Use	Size	Statutory Rate		Statutory Requirement	
		Employee / Resident	Visitor / Shopper	Employee / Resident	Visitor / Shopper
Dwelling	265 No.	1 space per 5 dwellings	1 space per 10 dwellings	53 spaces	27 spaces
Office	772sqm	1 space per 300 sqm LFA if >1,000sqm	1 space per 1,000 sqm LFA if >1,000sqm	0 spaces	0 spaces
Retail (Food & Drink Premises)	371sqm	1 space per 300 sqm LFA	1 space per 500 sqm LFA	1 space	1 space
Total				54 spaces	28 spaces

Table 2 indicates that the amended development proposal has a statutory bicycle parking requirement of 82 bicycle spaces, including 54 spaces for employees/residents and 28 spaces for visitors/customers.

Given that there is only a statutory requirement for 1 employee bicycle parking space, there is no requirement for showers or change rooms.

5.2 Bicycle Parking Adequacy

The amended plans include 362 bicycle spaces for residents and employees in a bicycle parking room on the Lower Ground level. This provision is significantly greater than the currently approved proposal. It is also well in excess of the minimum statutory bicycle parking requirement and will encourage the use of bicycles through providing bicycle parking at a rate of more than one space per dwelling.

The amended plans continue to provide 8 bicycle spaces for visitors within the site frontage to City Road, consistent with the currently approved proposal.

5.3 Bicycle Parking Layout & Access

The resident and employee bicycle parking will continue to be provided in double-tiered horizontal bicycle parking racks, consistent with the currently approved proposal. These spaces have been designed in accordance with the manufacturer's specifications. The visitor bicycle parking will continue to be provided by bicycle hoops, consistent with the currently approved proposal.

Access to the resident and employee bicycle parking will be via a dedicated entry adjacent to Haig Lane and the drive-through link, near the northeast corner of the site. Once residents and employees have parked their bicycle, they will be able to access the building lobby through stairs to the ground floor on the western side of the building.

6. Traffic Impact

6.1 Traffic Generation

The Traffic Engineering Assessment report previously prepared by Traffix Group for the currently approved development indicated that it was expected to generate up to 0.15 vehicle movements per car parking space in a peak hour.

Therefore, the proposed provision of 128 car parking spaces could be expected to generate up to 19 vehicle movements in a peak hour. This is only 2 more movements than were expected to be generated by the approved development with 113 car parking spaces. This volume of additional traffic is very low and will have negligible impact on the surrounding road network.

6.2 Queuing Assessment

Consideration has been given to the potential impact to Haig Lane caused by vehicles queuing out of the site whilst waiting to enter the automatic car parking system entry cabins. Clause 3.5 of AS/NZS 2890.1:2004 indicates that the storage area of a mechanical parking installation should accommodate the expected 98th percentile queue of entering vehicles.

The calculation of the 98th percentile queue was undertaken using queuing formulae from Austroads Guide to Traffic Management Part 2: Traffic Theory.

The critical peak hour for queuing will be the PM peak when most vehicles are arriving. Most of the queuing during the AM peak will relate to users waiting to exit the site, as opposed to queuing which could potentially extend back onto the road network.

Based on a derivation of Equation No.4.5 from Table 4.1 of the Austroads Guide to Traffic Management Part 2: Traffic Theory, the formula for calculating a 98th percentile queue is:

$$queue = \log_n(\text{degree of saturation}) / \log_n(\text{percentile}) - 1$$

Information provided by the automatic car parking system supplier indicates that the system will have a capacity to accommodate approximately 48 vehicle movements in an hour, including 24 vehicle movements per cabin. This allows for the time taken for the vehicle to drive into the cabin, the motorist to exit the car and the cabin, the car to be transported to a parking space, and the lift to return to the ground level ready to collect another vehicle. Assuming that the development will generate up to 19 vehicle movements per hour during the critical peak PM period, the degree of saturation = 0.4.

The 98th percentile equates to an event which occurs 2% of the time. Therefore, the percentile = 0.02.

Accordingly, the 98th percentile queue will be:

$$queue = \log_n(0.4) / \log_n(0.02) - 1 = 3.3 \text{ vehicles}$$

This 'queue' includes the two vehicles within the system (one in each cabin), and hence the 98th percentile 'queue' of vehicles not in the system would be 1.3 vehicles. Further, this 'queue' includes vehicles entering and exiting the system. During the critical PM peak period, approximately 70% of vehicles using the system would be entering the site. Therefore, the 98th percentile queue of vehicles entering the site would be approx. one vehicle.

There is sufficient space for up to two vehicles to queue within the site in the entrance aisle prior to the northern entry cabin into the automatic car parking system. Accordingly, there is adequate space on-site to cater for the 98th percentile queue of vehicles accessing the automatic car parking system in accordance with Clause 3.5 of AS/NZS 2890.1:2004. Further, it should be noted that most of the time there will be no queues of vehicles waiting to access the system.

7. Loading & Waste Collection

The currently approved development proposal includes a dedicated on-site loading area on the northern side of the site which is accessed from Haig Lane. The loading area has been designed to accommodate an 8.8m long MRV truck, which will reverse into the site from the laneway. It is not proposed to significantly alter the approved arrangements. There will continue to be a dedicated on-site loading area on the northern side of the site, accessed from Haig Lane, which has been shifted slightly to the east when compared with the currently approved design. Swept path checks (attached) confirm that it will continue to be capable of accommodating MRV trucks.

Waste collection will continue to occur from within the loading area.

8. Conclusions

Based on the above analysis and discussions, the following conclusions are made:

- The amended proposal is proposed to have 65 more dwellings than the currently approved proposal, with a reduction in the floor areas of other uses.
- It is proposed to provide a total of 128 car parking spaces in an automatic car parking system. This is a slightly increased provision when compared with the currently approved proposal, but is still less than the statutory maximum allowable.
- The amended proposal includes 370 on-site bicycle parking spaces. This is a significant increase when compared with the currently approved proposal, and is well in excess of the statutory bicycle parking requirements.
- The bicycle parking room for residents and employees has been moved to the Lower Ground level, which will make it more convenient to access.
- The amended proposal is expected to generate in the order of 2 additional vehicle movements in a peak hour when compared with the currently approved proposal. This volume of additional traffic is very low and will have negligible impact on the surrounding road network.
- The 98th percentile queue of vehicles waiting to access the automatic car parking system is expected to be in the order of 1 vehicle. This can be accommodated on-site without impacting the adjacent road network.
- It is not proposed to significantly amend the approved loading and waste collection arrangements, other than shifting the loading area slightly to the east. There will continue to a dedicated on-site loading area on the northern side of the site, which is accessed from Haig Lane, and is capable of accommodating an 8.8m long MRV truck.

Should you have any questions, please do not hesitate to contact me on 0403 242 034.

Yours sincerely

Stantec Australia Pty Ltd



David Graham
Senior Principal Transport Engineer

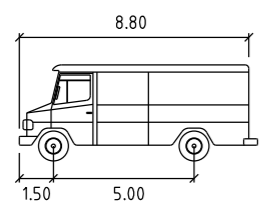
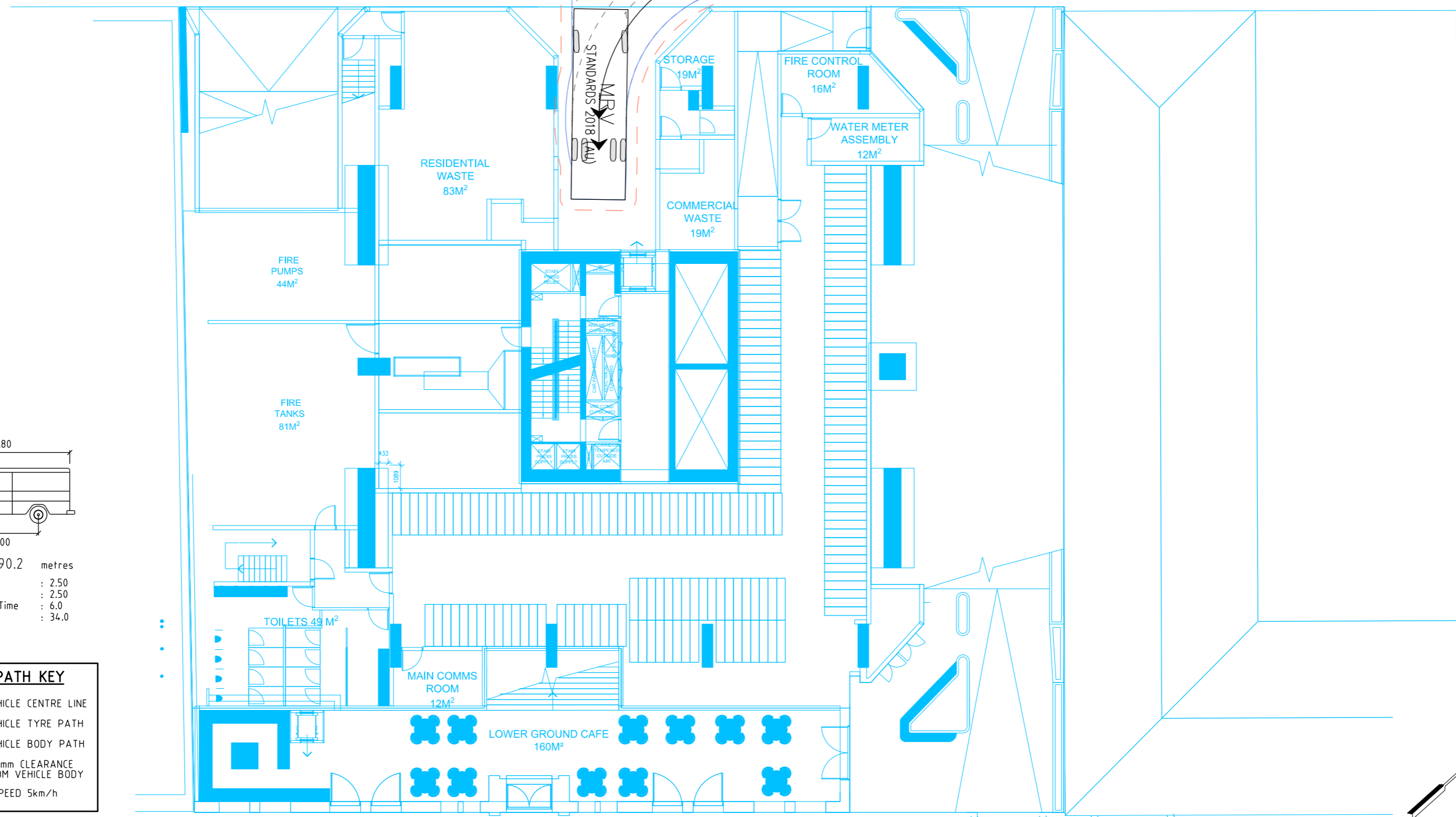
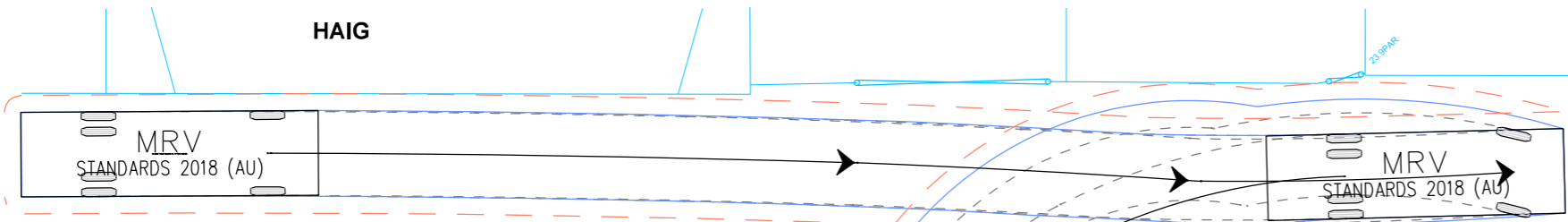
Encl

Stantec Drawing No.300304220-AT01-P1

Stantec Drawing No.300304220-AT02-P1

HAIG

LANE

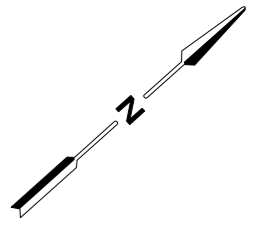


MRV AS2890.2 metres
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 Track : 2.50
 Lock to Lock Time : 6.0
 Steering Angle : 34.0

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



PLOTTED BY : skumar ON 29/11/2023 AT 10:55:58 PM



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE
 APPROXIMATE ONLY AND THEIR EXACT POSITION
 SHOULD BE PROVEN ON SITE. NO GUARANTEE IS
 GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED
S. KUMAR

 APPROVED BY
D. GRAHAM

DESIGN CHECK
D. GRAHAM

 DATE ISSUED
29 NOVEMBER 2023

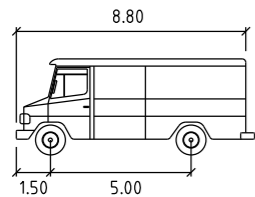
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PROPOSED DEVELOPMENT
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 SOUTHBANK
 SWEPT PATH ASSESSMENT
 DRAWING NO. 300304220-AT01-01 SHEET 01 OF 02 ISSUE P1

HAIG

LANE



MRV AS2890.2 metres
 Width : 2.50
 Track : 2.50
 Lock to Lock Time : 6.0
 Steering Angle : 34.0

SWEEP PATH KEY	
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	VEHICLE TYRE PATH
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SCALE
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 CAD FILE NO.
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PROPOSED DEVELOPMENT
 300 CITY ROAD
 SOUTHBANK
 SWEEP PATH ASSESSMENT
 DRAWING NO. 300304220-AT01-02

SHEET 02 OF 02
 ISSUE P1

HAIG

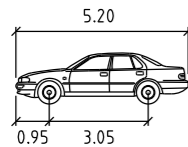
LANE

B99
STANDARDS 2004 (AU_NZ)

TILT PANEL DOOR
STANDARDS 2004 (AU_NZ)

B99
STANDARDS 2004 (AU_NZ)

B99
STANDARDS 2004 (AU_NZ)



B99 6.3mR metres
 Width : 1.94
 Track : 1.77
 Lock to Lock Time : 6.0
 Steering Angle : 34.0

SWEPT PATH KEY

- VEHICLE CENTRE LINE
 - VEHICLE TYRE PATH
 - VEHICLE BODY PATH
 - 300mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h

RETAIN
FACADE

VOID TO LOWER
GROUND CAFE

UPPER GROUND CAFE
206M²
RL 3.04

MAIL ROOM
RL 3.04

RECEPTION

LIFT LOBBY
126M²
RL 3.04

BOH
RL 3.04

DDA
TOILET

BUILDING
MANAGER
OFFICE
20
M²

LOBBY LOUNGE
24M²

VOID TO BIKE
RAMP BELOW

DAS ROOM
92M²
RL 3.650

DOWN TO
WASTE

HV
CABLE
REBERT

SUBS
EQUIP
HATCH

RAMP
1:4

RAMP
1:8

ROLLER
DOOR

ROLLER
DOOR

CAR
STACKER

REBERT

VOID TO
LOADING
BELOW

EXTENT OF GLASS CANOPY ABOVE
SHOWN DASHED

THROUGHLINK /
RIDE SHARE
PICK UP &
DROP OFF

EXTENT OF GLASS CANOPY ABOVE
SHOWN DASHED

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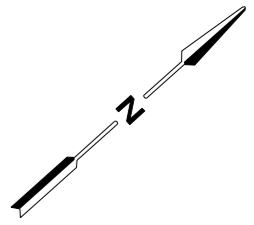
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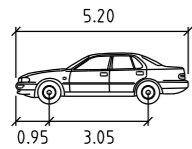
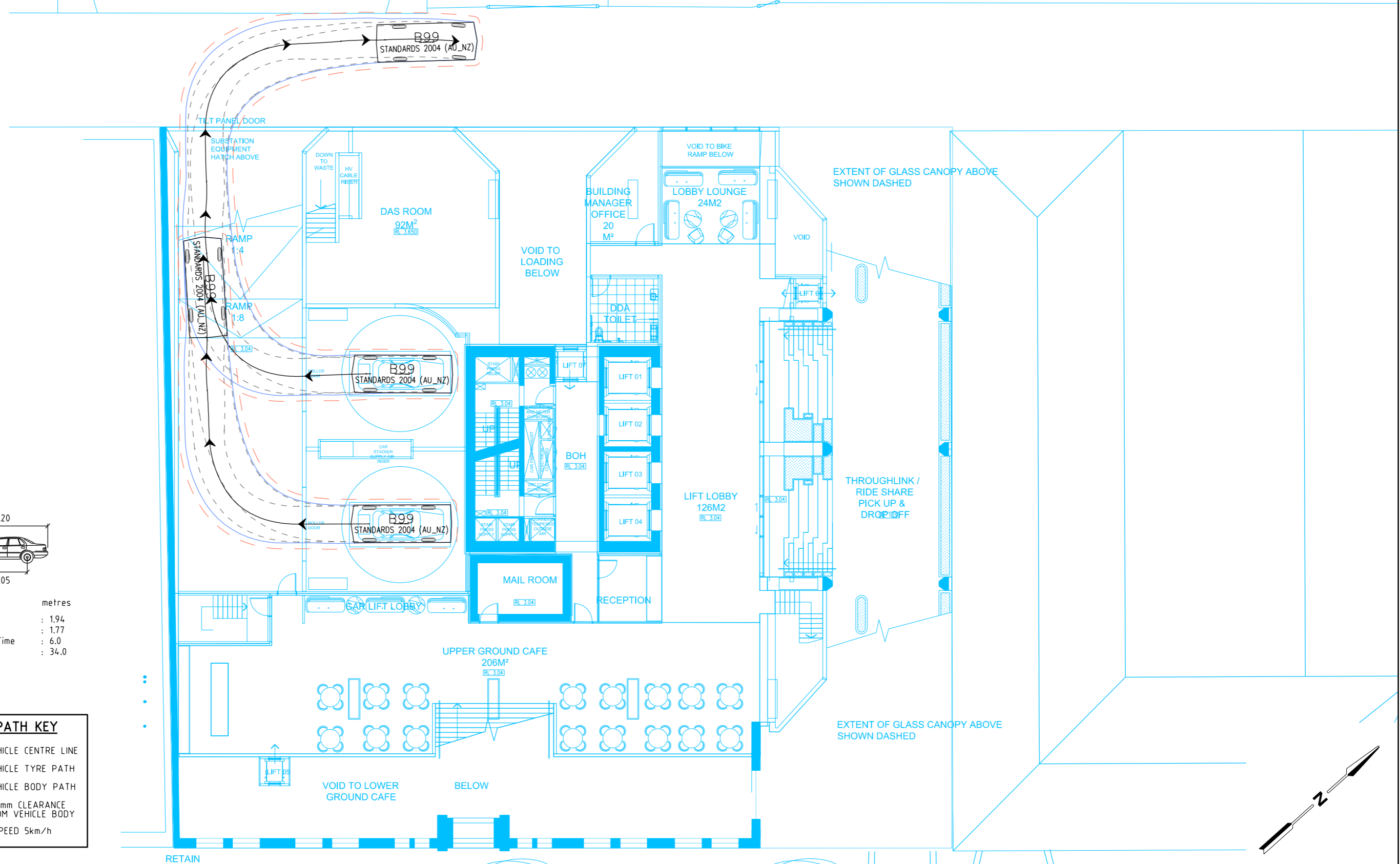
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 SOUTHBANK
 SWEPT PATH ASSESSMENT
 DRAWING NO. 300304220-AT02-01 SHEET 01 OF 02 ISSUE P1

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HAIG

LANE



B99 6.3mR metres
 Width : 1.94
 Track : 1.77
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 Steering Angle : 34.0

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 ON 29/11/2023 AT 12:06:59 PM



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SCALE
A3

CAD FILE NO.
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PROPOSED DEVELOPMENT
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 SOUTHBANK
 SWEPT PATH ASSESSMENT
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SHEET 02 OF 02 ISSUE P1