Proposed Mixed Use Development

5-9 Gordon Avenue, Chatswood

TRAFFIC AND PARKING ASSESSMENT REPORT

20 November 2023

Ref 22255

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

Suite 6, 20 Young Street, Neutral Bay NSW 2089 - PO Box 1868, Neutral Bay NSW 2089 Ph: 9904 3224

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1. INTRODUCTION

This report has been prepared to accompany a Development Application to Willoughby City Council for a mixed use development proposal to be located at 5-9 Gordon Avenue, Chatswood (Figures 1 and 2).

On 25th March 2022, Council endorsed a planning proposal following Gateway determination to rezone the site to *B4 Mixed Use* and amend the maximum height of buildings to 90m and maximum floor space ratio to 6:1 on the subject site (PP-2021-2417).

This development application therefore seeks approval for the demolition of the existing building on the site to facilitate the construction of 64 new residential apartments above a two-storey podium, comprising retail shops on the ground floor level and office suites on the upper podium level.

Off-street parking is to be provided in a new five-level basement parking area, in accordance with Council's *DCP* requirements.

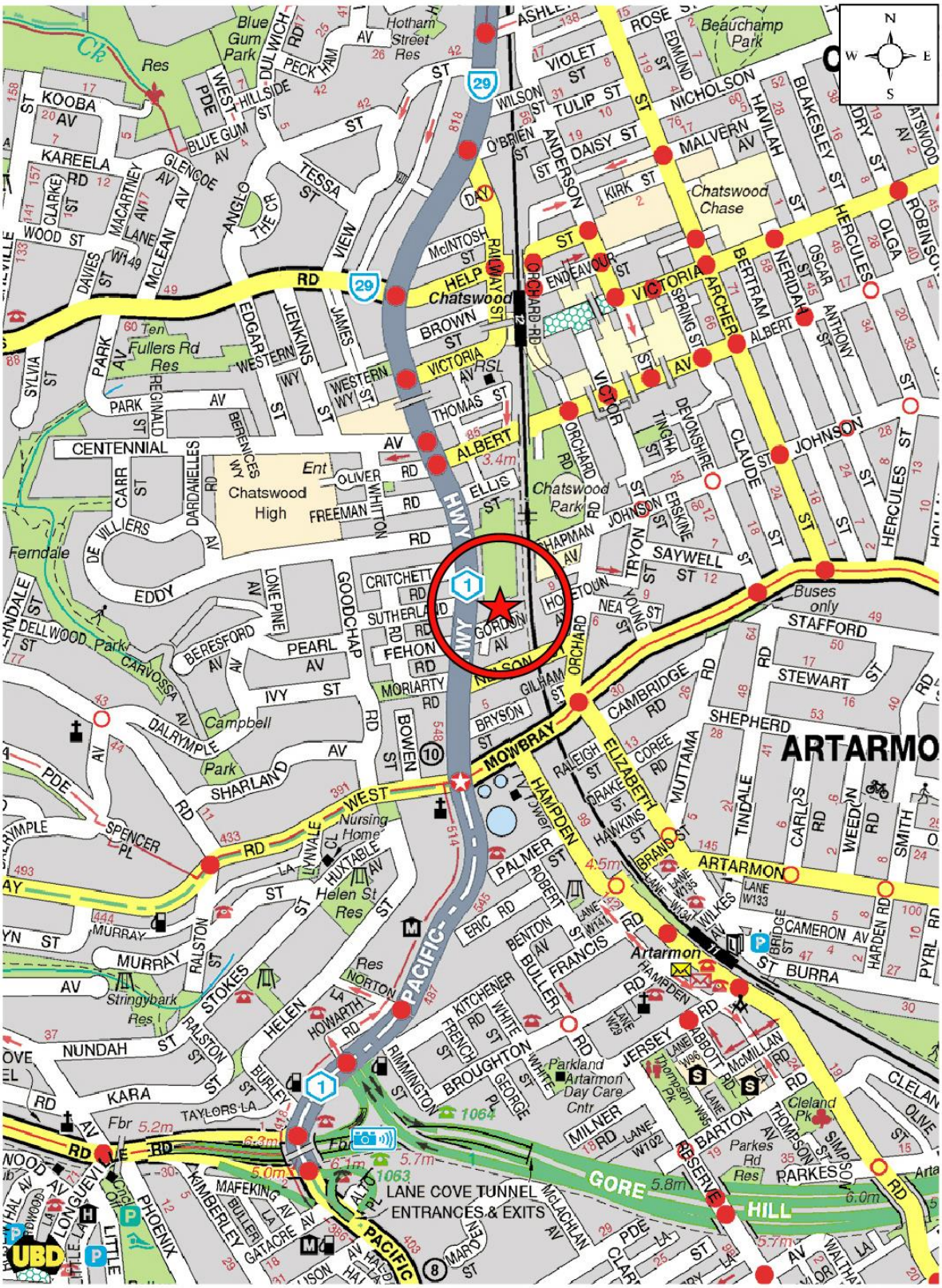
The site is situated approximately 650m south of the main entrance to Chatswood Railway Station & Bus Interchange and is within easy walking distance to the Chatswood CBD.

The purpose of this report is to assess the traffic and parking implications of the development proposal and to that end this report:

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- estimates the traffic generation potential of the development proposal
- assesses the traffic implications of the development proposal in terms of road network capacity

- reviews the geometric design features of the proposed basement car parking and loading facilities for compliance with the relevant codes and standards

- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.



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LOCATION
FIGURE 1

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SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the north-eastern corner of the Gordon Avenue and Hammond Lane intersection. The site has street frontages of approximately 42m in length to Gordon Avenue and approximately 49m in length to Hammond Lane. The subject site occupies an area of approximately 1,522m^2. A recent aerial image of the site and its surroundings is reproduced below.

The site is currently zoned *B4 – Mixed Use* and is located approximately 650m walking distance south of Chatswood Railway Station & Bus Interchange via a dedicated off-road path parallel to the railway line.

The site is currently occupied by a residential unit development comprising 10 x 2 bedroom units and 5 x 3 bedroom units.

Off-street parking is provided in a basement car parking area, with vehicular access to the car parking facilities provided via an entry/exit driveway located at the western end of the Gordon Avenue site frontage.

Proposed Development

The proposed development involves the demolition of the existing residential flat building on the site to facilitate the construction of a new mixed use development. A total of 64 residential apartments are proposed in the new development, as follows:

1-bedroom apartments:	4
2-bedroom apartments:	19
3-bedroom apartments:	34
4-bedroom apartments:	7 (including penthouse units)
TOTAL APARTMENTS:	**64**

A number of commercial/retail tenancies are proposed on the ground floor and Level 1 of the new podium, with a gross floor area of approximately 1,476m^2. A rooftop podium communal area is provided for the exclusive use of the future residents, which includes a lap pool.

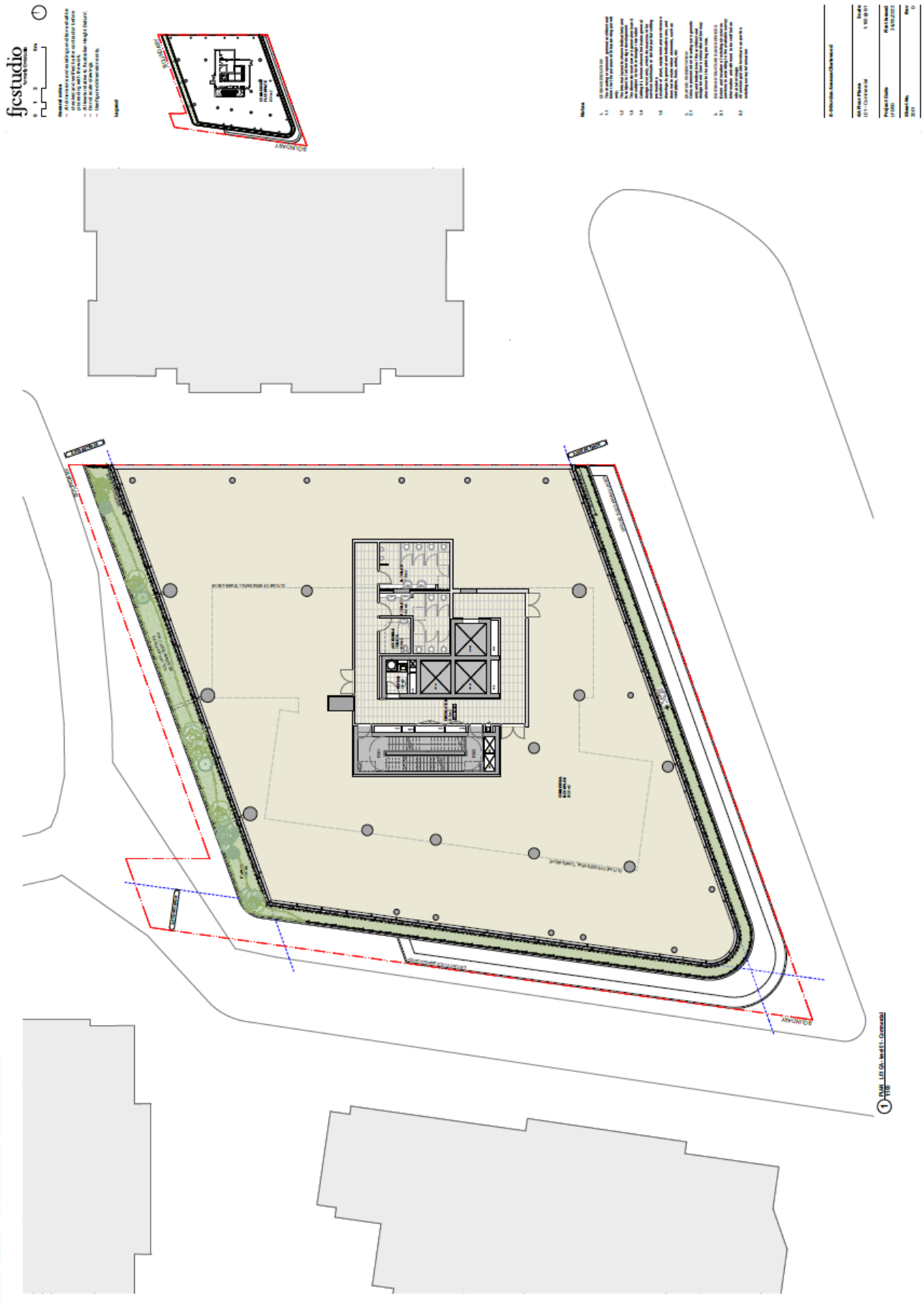
Off-street parking is to be provided for a total of 106 cars, in a new five-level basement parking area in accordance with Council's requirements.

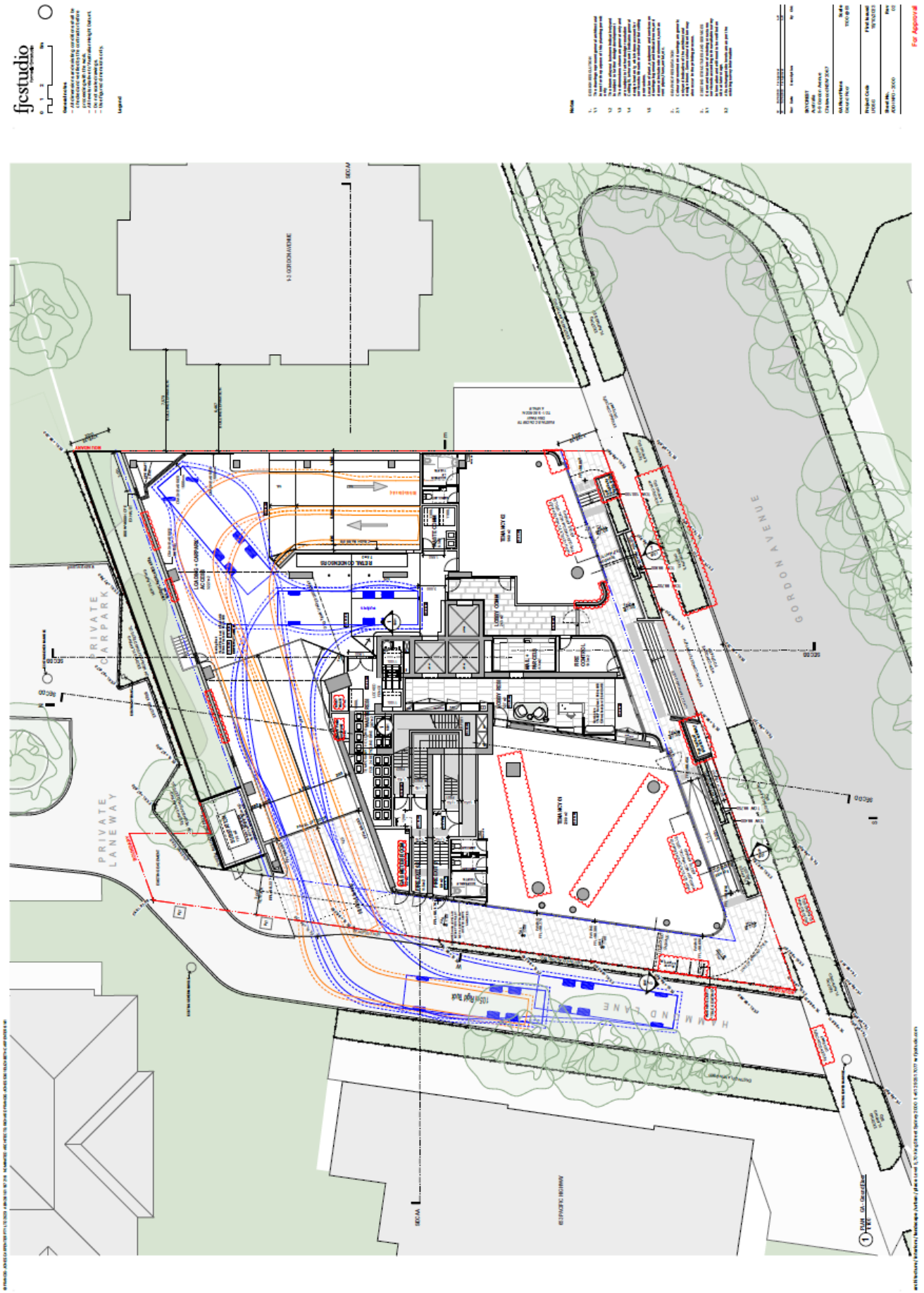
Deliveries to the retail/commercial tenancies is expected to be undertaken by light commercial vehicles up to the size of a B99 vehicle (e.g. Toyota HiAce, Hyundai iLoad, Ford Transit Custom etc.), which are capable of fitting into a conventional parking space.

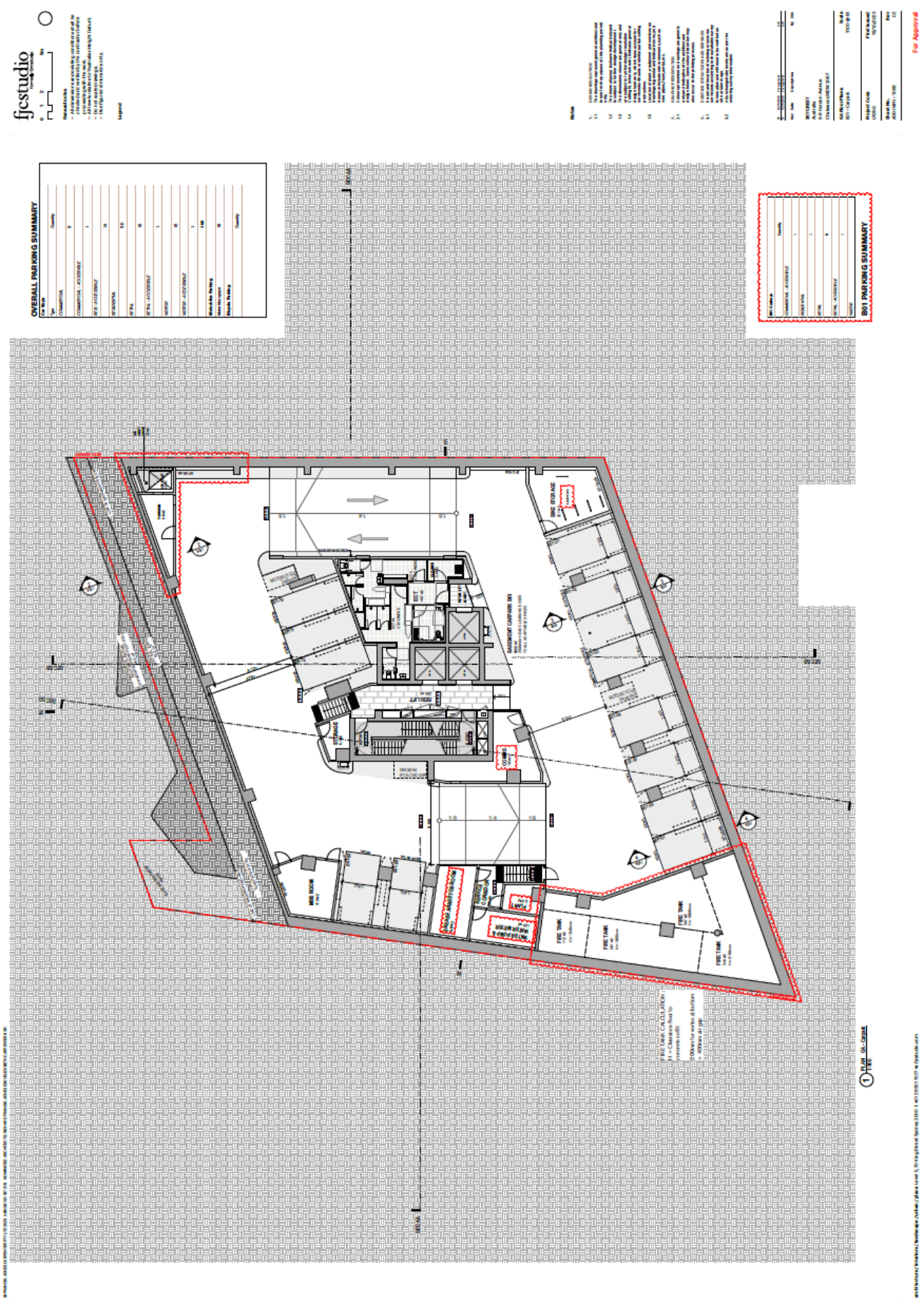
Garbage collection for the proposed development is expected to be undertaken via a variety of commercial vehicles, from vans, utilities and the like, up to and including Council's 10.5m long garbage trucks. A dedicated service area is proposed to be located on the ground floor level, adjacent the bin holding rooms and will be secured by lockable/foldable bollards, such that the building manager would remove these bollards upon arrival of the service vehicles.

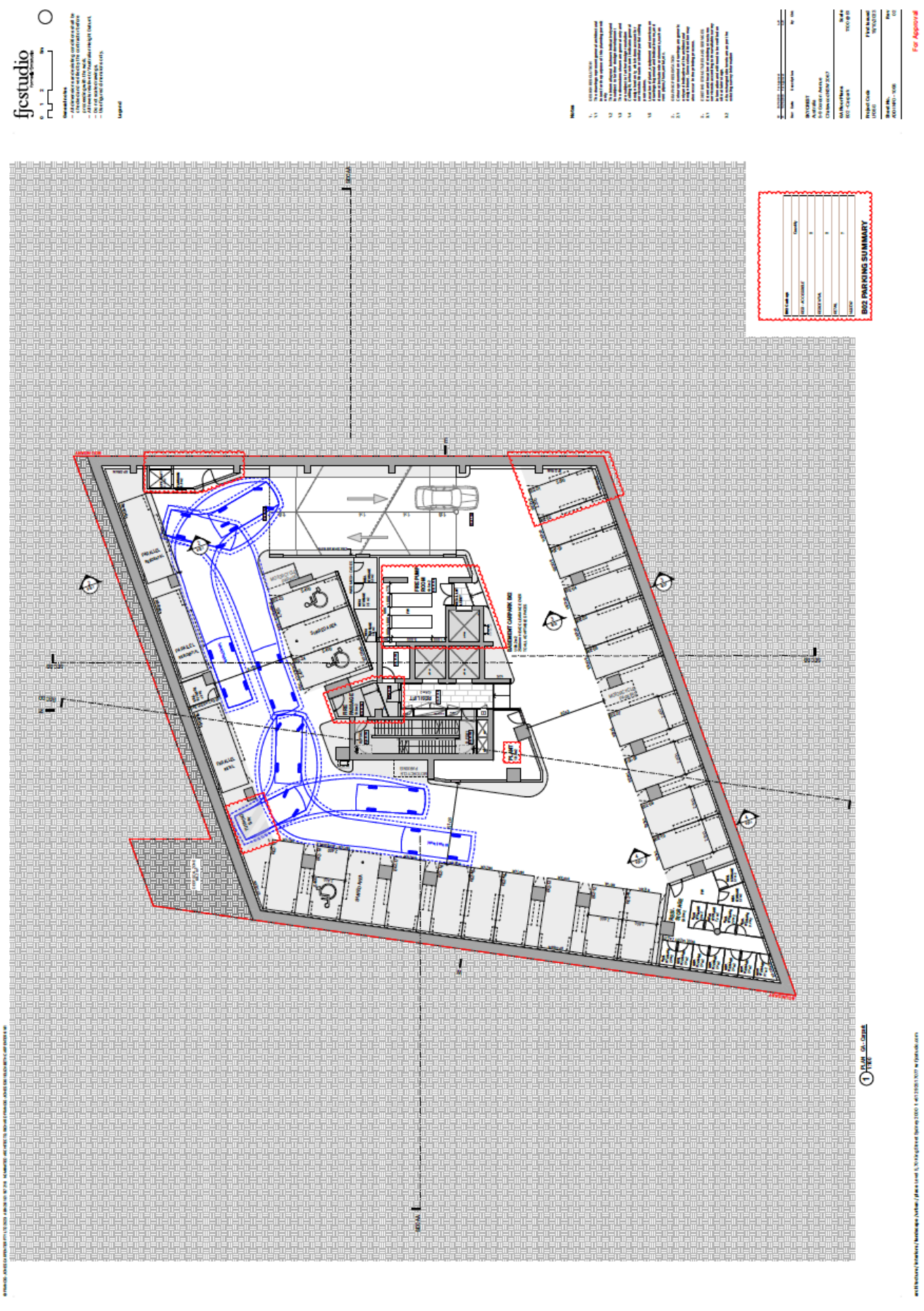
Vehicular access to the basement parking and loading facilities are to be provided via a new entry/exit driveway located at the northern end of the Hammond Lane site frontage.

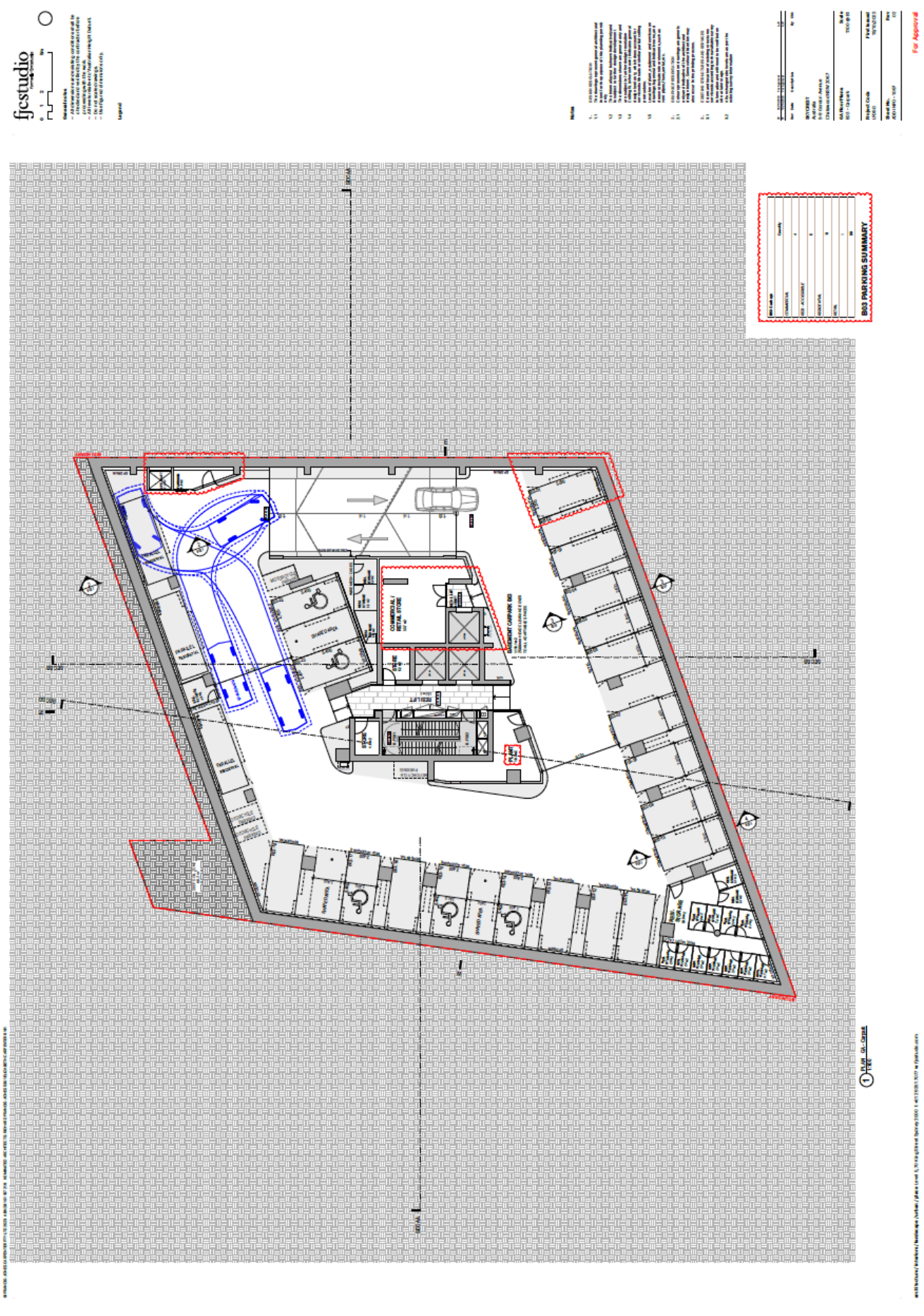
Plans of the proposed development have been prepared by *fjcstudio* and are reproduced in the following pages.




fjcstudio
PRIVATE CARPARK
PRIVATE LANEWAY
GORDON AVENUE
HAHM LANE
For Approval


fjcstudio
OVERALL PARKING SUMMARY
B01 PARKING SUMMARY
For Approval


fjcstudio
B02 PARKING SUMMARY
For Approval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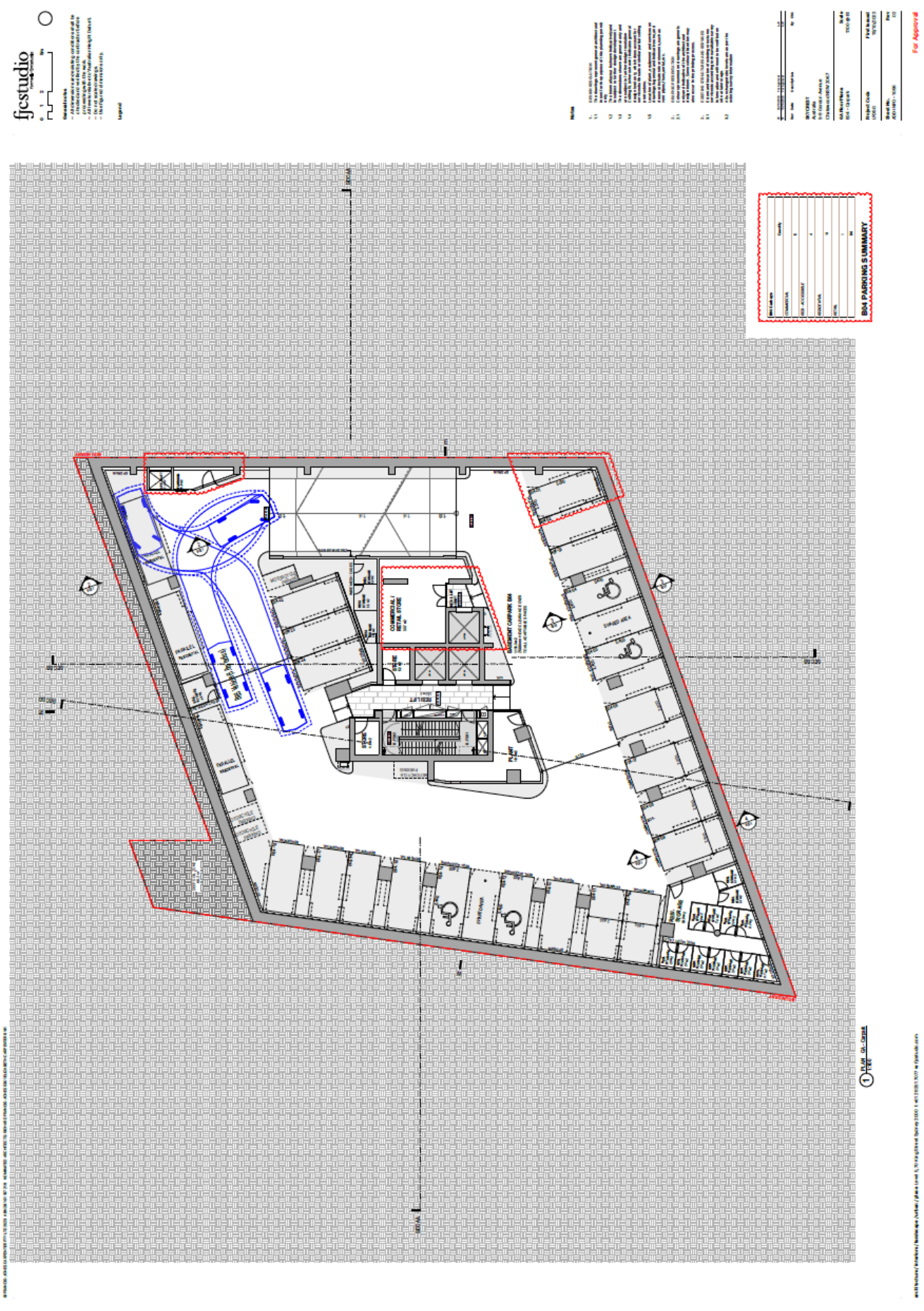
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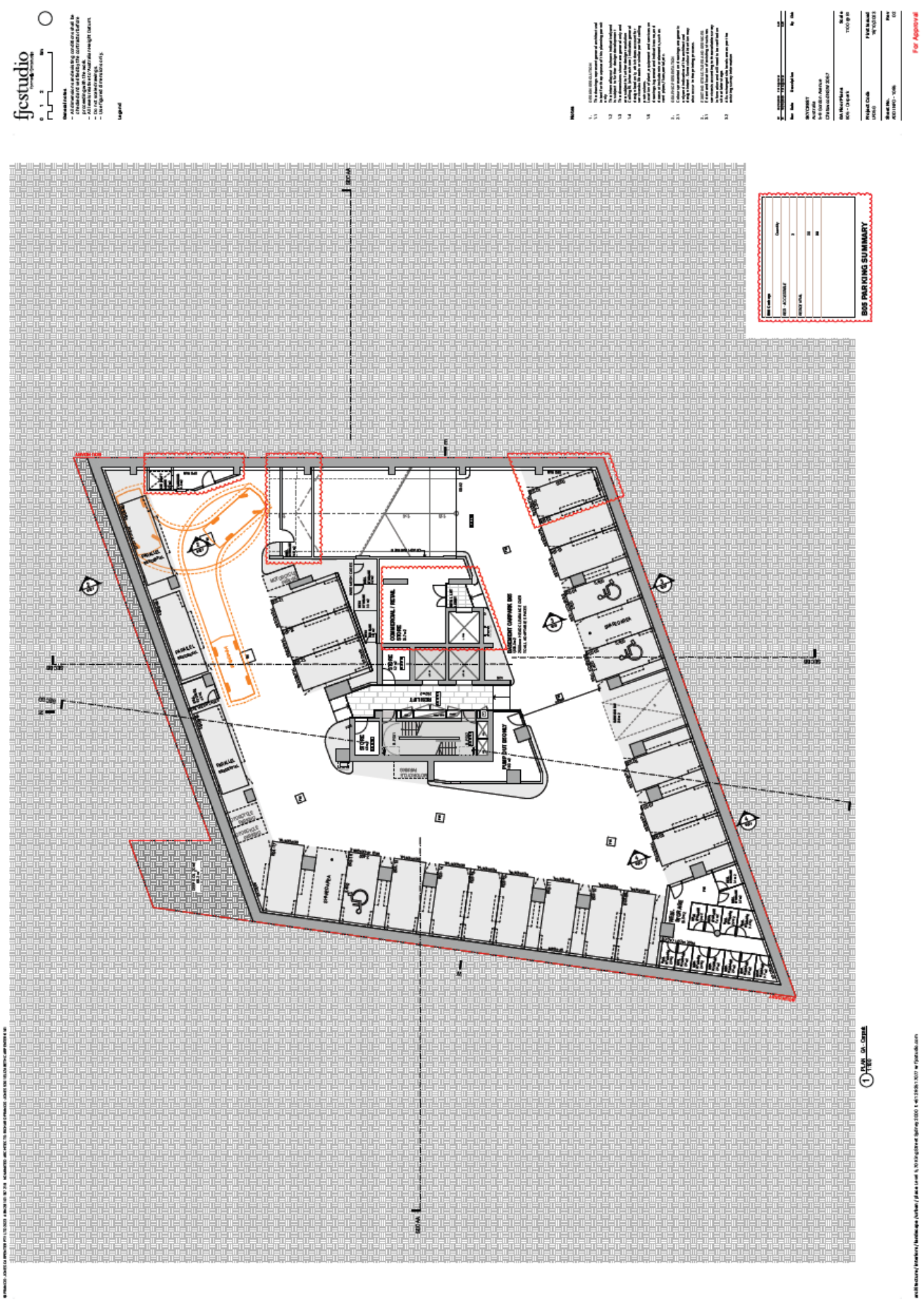
B84 PARKING SUMMARY
For Approval


fjcstudio
For Approval
B85 PARKING SUMMARY

3. TRAFFIC ASSESSMENT

Road Hierarchy

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

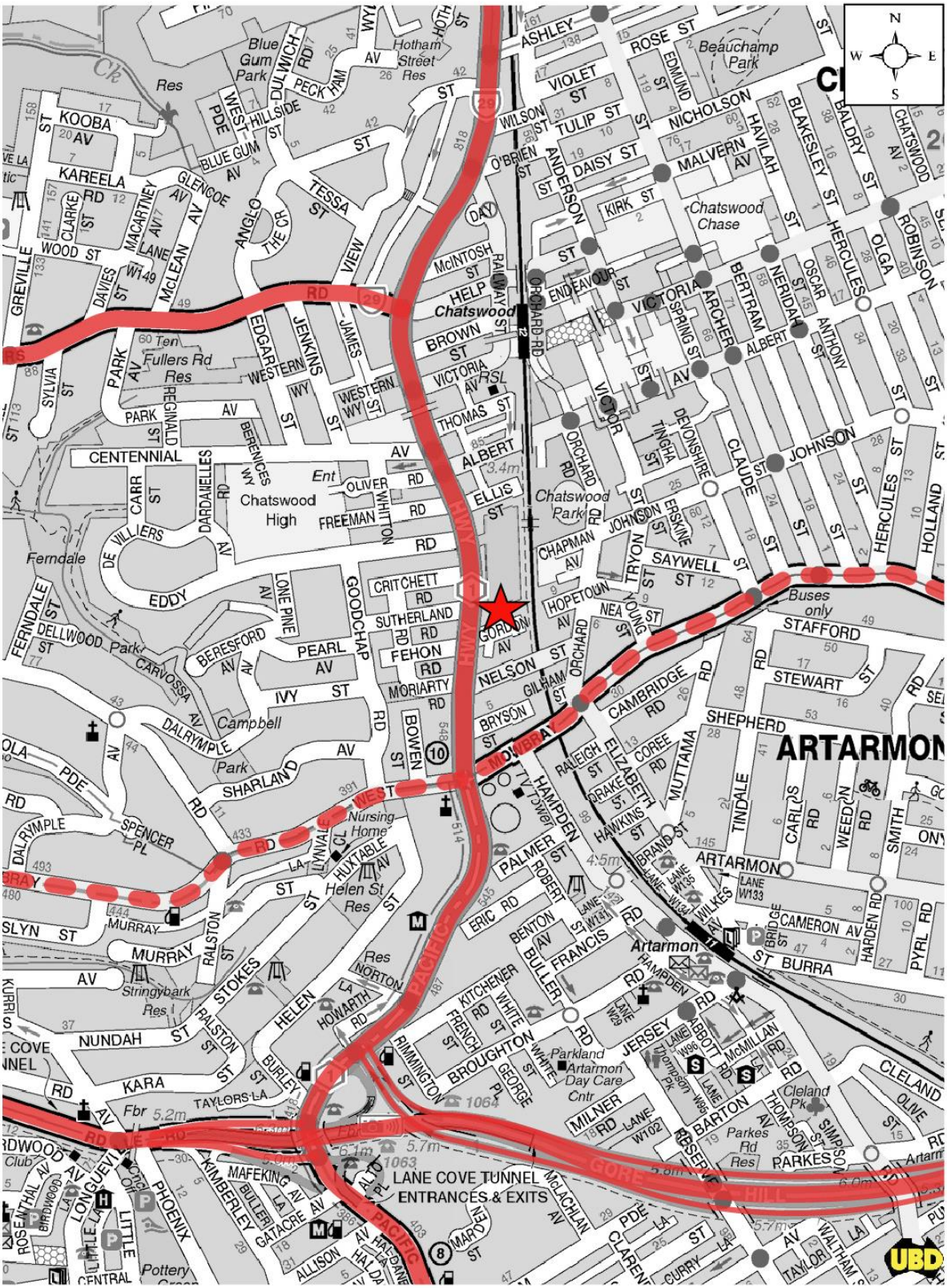
The Pacific Highway is classified by TfNSW as a *State Road* and provides the key north-south road link in the area, linking North Sydney to Hornsby and beyond. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. Clearway restrictions apply during commuter peak periods.

The Gore Hill Freeway is also classified by TfNSW as a *State Road* and provides the key east-west road link in the area, linking the Warringah Freeway to the Lane Cove Tunnel. It carries multiple traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. All intersections with the Gore Hill Freeway are grade-separated.

Mowbray Road is classified by TfNSW as a *Regional Road* which provides another key east-west road link in the local area. It typically carries two traffic lanes in each direction in the vicinity of the site, with additional lanes provided at key locations.

Gordon Avenue is a local, unclassified no-through road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of the road.

Hammond Lane is a local, unclassified no-through service lane which is primarily used to provide rear vehicular and pedestrian access to properties fronting the Pacific Highway. Kerbside parking is generally permitted along one side of the laneway only.



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ROAD HIERARCHY
FIGURE 3

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

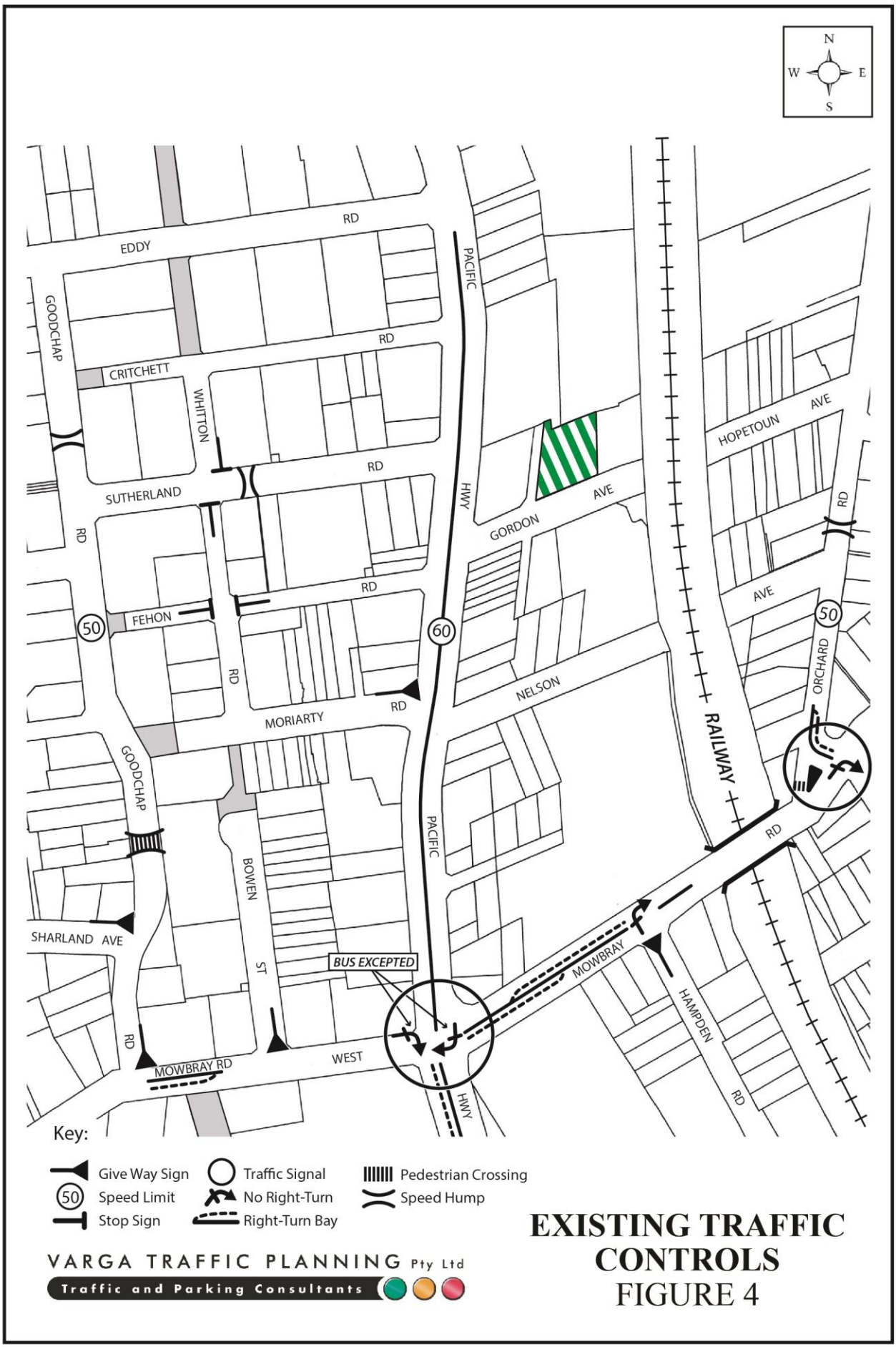
- a 60 km/h SPEED LIMIT which applies to the Pacific Highway
- a 50 km/h SPEED LIMIT which applies to Gordon Avenue, Hammond Lane and all other local roads in the area
- TRAFFIC SIGNALS in the Pacific Highway where it intersects with Mowbray Road
- a CENTRAL MEDIAN ISLAND in the Pacific Highway which precludes right-turn movements into / out of Gordon Avenue and also Hammond Lane
- a NO RIGHT TURN restriction in the Pacific Highway for southbound traffic turning onto Mowbray Road (Buses Excepted)
- a NO RIGHT TURN restriction in Mowbray Road for eastbound traffic turning onto the Pacific Highway (Buses Excepted).

Existing Public Transport Services

The existing public transport services available within the vicinity of the subject site are illustrated on Figures 5a, 5b and 5c.

The subject site is conveniently located approximately 650m walking distance south of Chatswood Railway Station via a dedicated off-road path parallel to the railway. Chatswood Station lies on the T1 North Shore, Northern & Western Line, linking Berowra, Hornsby, Epping, Richmond and Emu Plains.

Chatswood Station also accommodates a metro station, one of 12 metro stations that form part of the Sydney metro rail link, extending from Chatswood to Tallawong in Sydney' north-west, as illustrated in Figure 6.


N
W
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EDDY
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GOODCHAP
CRITCHETT
WHITTON
SUTHERLAND
PACIFIC
HWY
GORDON
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HOPETOUN
FEHON
50
60
MORIARTY
NELSON
RAILWAY
ORCHARD
BOWEN
ST
SHARLAND
BUS EXCEPTED
MOWBRAY
HAMPDEN
WEST
Key:
Give Way Sign
Speed Limit
Stop Sign
Traffic Signal
No Right-Turn
Right-Turn Bay
Pedestrian Crossing
Speed Hump
VARGA TRAFFIC PLANNING Pty Ltd
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EXISTING TRAFFIC CONTROLS
FIGURE 4

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EXISTING PUBLIC TRANSPORT SERVICES
FIGURE 5A

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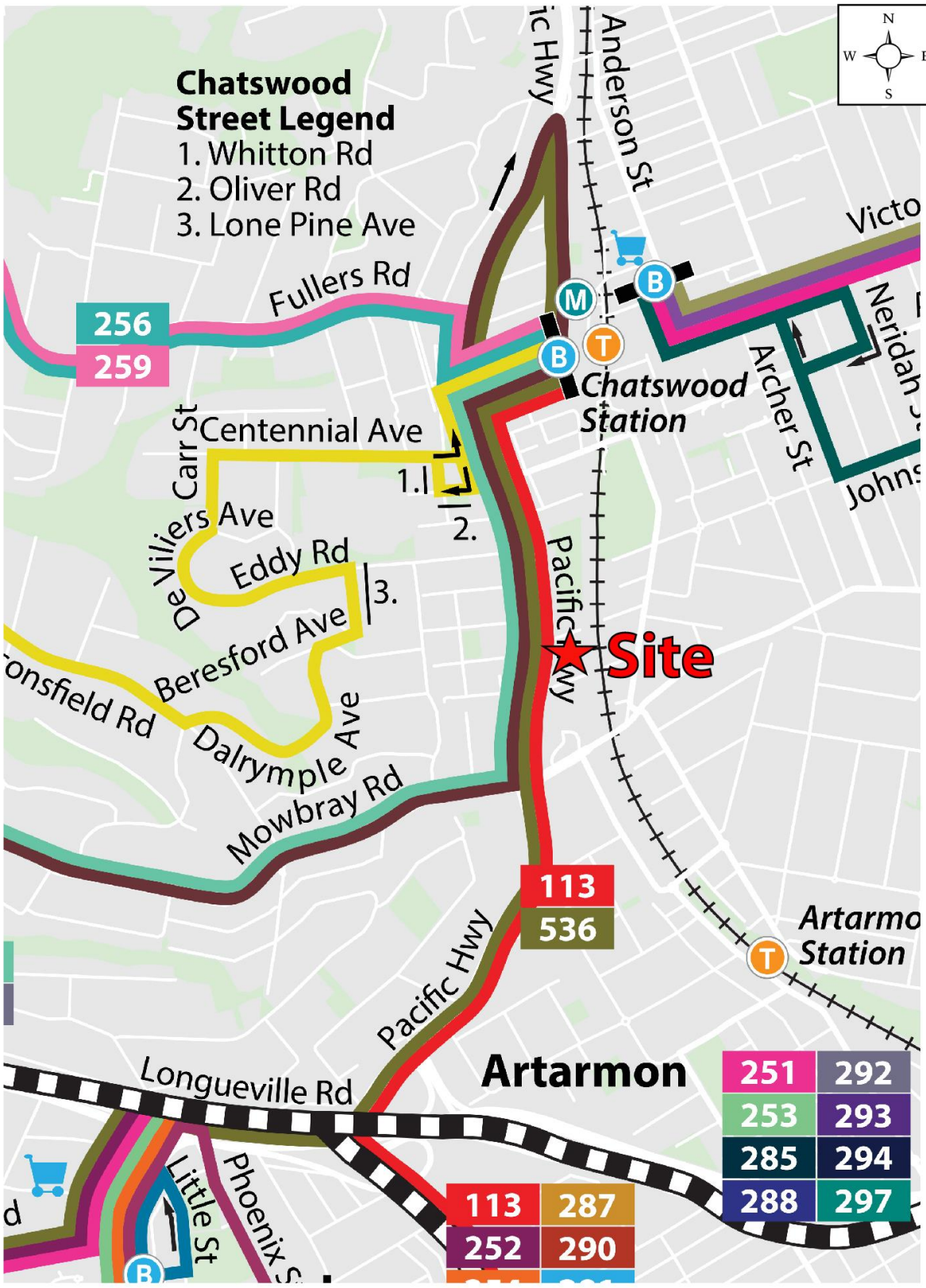
EXISTING PUBLIC TRANSPORT SERVICES
FIGURE 5B



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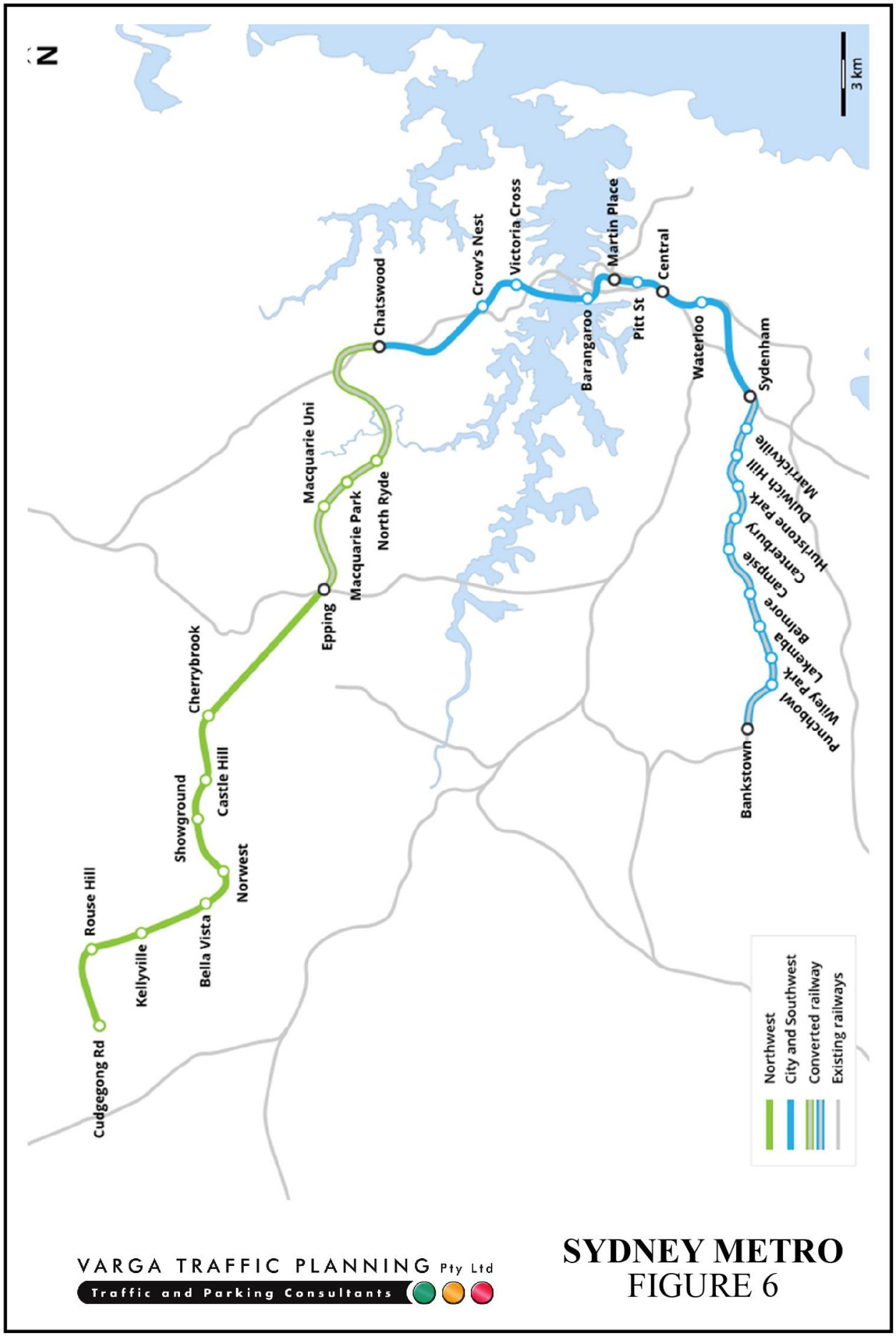
EXISTING PUBLIC TRANSPORT SERVICES
FIGURE 5C


N
3 km
Cudgegong Rd
Rouse Hill
Kellyville
Bella Vista
Norwest
Showground
Castle Hill
Cherrybrook
Epping
Macquarie Park
Macquarie Uni
North Ryde
Chatswood
Crow's Nest
Victoria Cross
Martin Place
Central
Pitt St
Barangaroo
Waterloo
Sydenham
Marrickville
Dulwich Hill
Hurlstone Park
Canterbury
Campsie
Belmore
Lakemba
Wiley Park
Punchbowl
Bankstown
Northwest
City and Southwest
Converted railway
Existing railways
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SYDNEY METRO
FIGURE 6

The Sydney metro network will ultimately comprise 31 metro stations and more than 66 kilometres of new metro rail running from Sydney's booming north-west region under Sydney Harbour, through new underground stations in the CBD, and beyond to the south west to Bankstown.

Metro is a new generation of world-class fast, safe and reliable trains easily connecting customers to where they want to go. Customers won't need timetables – they'll just turn up and go with a train every four minutes in the peak. Technology will keep customers connected at all stages of their journey, including smart phone travel apps and real-time journey information at metro stations and on-board trains.

Commuters will also gain new direct metro service to Crows Nest, Barangaroo and Martin Place when Sydney Metro City & Southwest opens in 2024.

Sydney's new metro railway will have a metro train every two minutes in each direction with a target capacity of about 40,000 customers per hour, similar to other metro systems worldwide.

Sydney Metro, together with signalling and infrastructure upgrades across the existing Sydney rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour today to up to 200 services beyond 2024.

In addition to the rail services, a major bus interchange is available outside of the Chatswood Railway Station servicing an extensive range of bus routes, including the 113, 115, 120, 137, 144, 160x, 200, 256, 258, 259, 267, 275, 281, 282, 283, 340, 343, 530, 533, 536.

An extensive range of these bus services also operates along Anderson Street, with the closest bus stops located directly adjacent to the site frontage.

A summary of those bus services is provided in the table below, revealing that there are more than 161 bus services per day travelling near the site on weekdays, decreasing to approximately 89 bus services per day on Saturdays and approximately 67 bus services per day on Sundays, as set out in the table on the following page.

Bus Routes and Frequencies							
Route No.	**Route**	**Weekdays**		**Saturday**		**Sunday**	
		IN	**OUT**	**IN**	**OUT**	**IN**	**OUT**
277	Chatswood to Castle Cove	2	16	-	5	-	-
278	Chatswood to Killarney Heights (Loop Service)	25	-	-	-	-	-
279	Frenchs Forest to Chatswood	-	4	-	-	-	-
280	Warringah Mall to Chatswood	41	39	33	34	31	31
284	Terrey Hills & Chatswood to Duffys Forest	9	9	4	3	2	3
558	Chatswood to Lindfield	8	8	5	5	-	-
Total		**85**	**76**	**42**	**47**	**33**	**34**

The site is also located within easy walking distance of the Chatswood CBD which includes a wide range of essential shops and services including licenced clubs, banks, supermarkets, gymnasiums, restaurants and specialty stores.

On the above basis it is clear that the site is extremely well served by existing & future public transport and essential services, all within easy walking distance of the site.

Existing Pedestrian Paths

Existing pedestrian footpaths located in the vicinity of the site provide suitable links for pedestrians accessing local facilities such as schools and shops in the local area. The site is also located within easy walking distance of the Chatswood CBD located north of the subject site.

In particular, a shared Off-Road Pedestrian and Bicycle Path running parallel to the railway line is easily accessed directly from the eastern end of Gordon Avenue. This shared path allows pedestrians and bicycles to travel safely along a 750m long off-road route which is linked directly to the Chatswood CBD, giving direct access to the Chatswood Railway Station.

Local Bicycle Routes

The existing bicycle routes located in the vicinity of the site are illustrated on Figure 7. The bicycle routes are readily accessible from the subject site and provide a number of on-road and off-road bicycle links through the local area, including the following routes:

- to Chatswood CBD from Gordon Avenue via the shared Off-Road Pedestrian & Bicycle Route running parallel to the railway line

- to Chatswood Public School from Gordon Avenue via the abovementioned dedicated shared Off-Road Pedestrian & Bicycle Route running parallel to the railway line

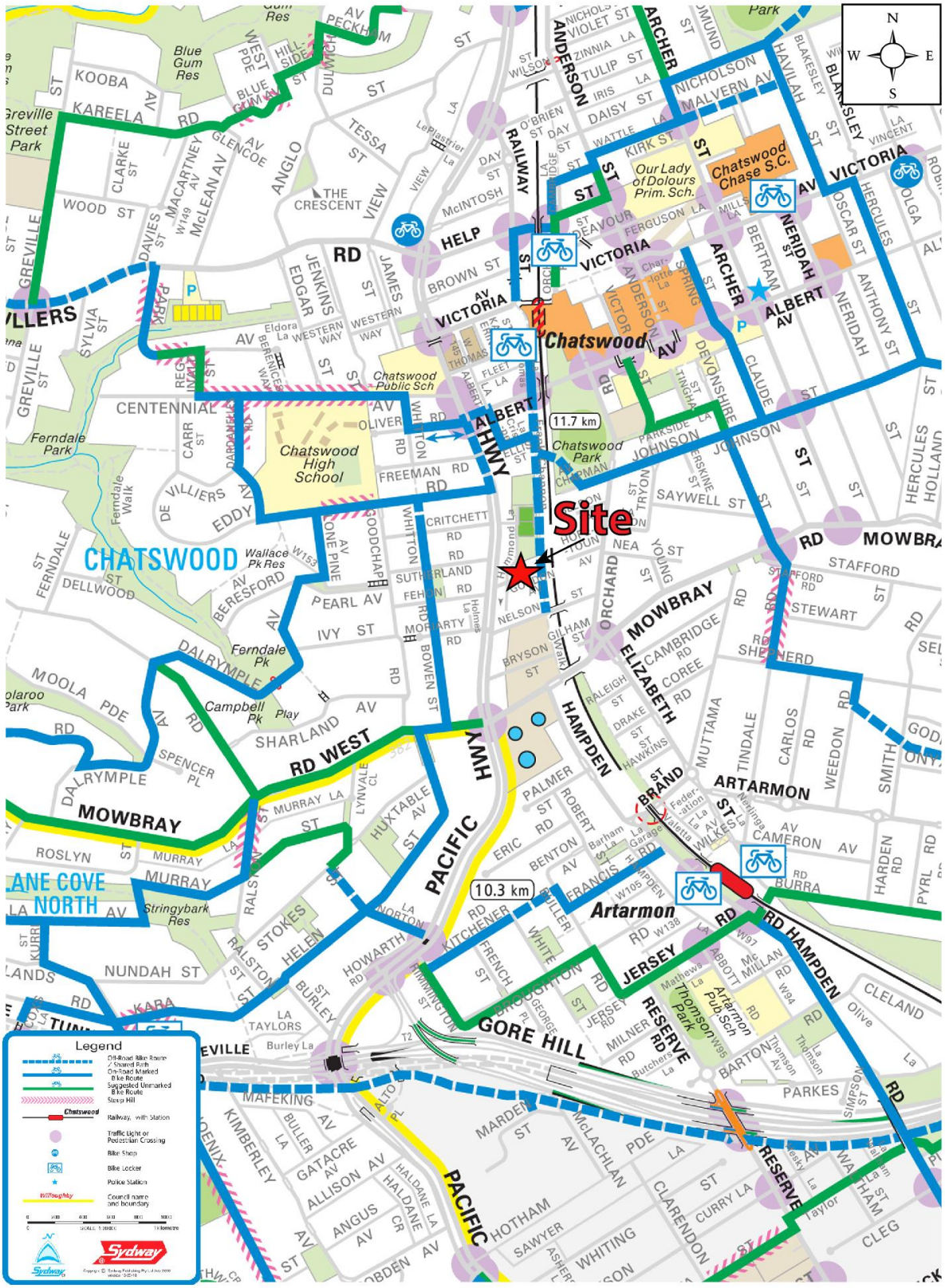
- to Willoughby via the dedicated shared Off-Road Pedestrian & Bicycle Route running parallel to the railway line and the on-road bicycle route via Johnson Street, Laurel Street & Edinburgh Road

- to Crows Nest dedicated shared Off-Road Pedestrian & Bicycle Route running parallel to the railway line, and the on-road bicycle route via Johnson Street, Devonshire Street, Shepherd Road & the shared Off-Road Pedestrian & Bicycle Route (starting along Weedon Road

The proposed development makes provision for off-street bicycle parking facilities which is to be located on the basement floor levels, easily accessible via Hammond Lane and will enhance the *active* transport options available to future occupants of the site.

Projected Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction (TDT 2013/04a)* document.



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EXISTING BICYCLE ROUTE
FIGURE 7

The *TDT 2013/04a* document specifies that it replaces those sections of the RMS *Guidelines* indicated, and that it must be followed when RMS is undertaken trip generation and/or parking demand assessments.

The RMS *Guidelines* and the updated *TDT 2013/04a* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the development proposal:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

Office Blocks

AM: 1.6 peak hour vehicle trips per 100m^2 GFA

PM: 1.2 peak hour vehicle trips per 100m^2 GFA

The RMS *Guidelines* do not nominate a traffic generation rate for small, local shops, referring only to major regional shopping centres incorporating supermarkets and department stores.

For the purpose of this assessment therefore, the abovementioned traffic generation rate for *office blocks* has been adopted in respect of the retail component of the development proposal.

Application of the above traffic generation rates to the various components of the development proposal yields a traffic generation potential of approximately 36 vph during the *morning* commuter peak period and approximately 27 vph during the *afternoon* commuter peak period as set out below:

Projected Future Traffic Generation Potential

	AM	**PM**
Residential (64 apartments):	12.2 vph	9.6 vph
Commercial/retail (1,476m²):	23.6 vph	17.7 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	**35.8 vph**	**27.3 vph**

It is clear that the above projected level of traffic activity is consistent with the FSR and height limitations on the site which has already been considered by Council as part of the rezoning of the site as well as consistent with the *Chatswood CBD Planning and Urban Design Strategy*, and will therefore not have any unacceptable traffic implications in terms of road network capacity.

In fact, when compared to the recently endorsed planning proposal (PP-2021-2417), there is a *nett reduction* of 35 apartments, which equates to a *reduction* of traffic generation potential of the site of approximately 5 to 7 vph during the weekday *morning* and *afternoon* commuter peak periods.

4. CONSTRUCTION TRAFFIC MANAGEMENT PLAN

The construction activities are expected to be undertaken over a duration of approximately 22 months and will involve between 3 and 20 staff as set out below.

Working hours should be as per the approved consent conditions which in Willoughby LGA are typically between 7:00am to 5:00pm Monday to Friday and 7:00am to 12 noon on Saturday. No work is to be carried out on Sundays or Public Holidays.

CONSTRUCTON PROGRAM - DURATION AND STAFFING LEVELS			
Stage	**Work**	**Duration**	**Number of Staff**
1	Demolition	1 month	3 - 8
2	Excavation	3 months	3 - 8
3	Construction	18 months	3 - 20

Demolition & Excavation Stage

All demolition and excavated spoil material will be loaded wholly within the site using a variety of truck sizes and types. The trucks will enter and exit the site via the existing/future driveway/s located off the Gordon Avenue and/or Hammond Lane site frontage/s.

Safe-Work accredited traffic controllers will be present at all times during truck movements to assist with vehicle manoeuvring and pedestrian safety.

Construction Stage

All construction material deliveries will also be unloaded wholly within the site where possible, with the movement of trucks across the footpath area to be supervised by an authorised traffic controller.

During the initial construction stages – i.e. construction of the basement levels, trucks would likely need to load/unload within the kerbside areas along the Gordon Avenue. As the construction progress, and the ground floor slab is completed, trucks can also unload within the future ground floor loading dock area.

Works Zone

A *Works Zone* may be required along the northern side of Gordon Avenue along a section of the site frontage.

The *Works Zone* parking restrictions, if required, would apply during working hours only and are provided specifically for the set down and pick-up of materials and not for the parking of private vehicles associated with the site.

Construction Truck Routes

All heavy vehicles involved in the demolition, excavation and construction of the proposed development would approach the site from the Pacific Highway onto Gordon Avenue, and/or Hammond Lane and depart the site back to the Pacific Highway.

Light traffic roads and those subject to load or height limits will be avoided as well as minimising heavy vehicle movements during school peak periods.

Authorised Traffic Controllers

Authorised traffic controllers will be required to supervise the movement of all vehicles across the footpath during the demolition, excavation stages of the project. Authorised traffic controllers will also be required during the construction stage of the project to facilitate major deliveries to the site, such as concrete pours.

Tradesmen and Contractor Car Parking

The site manager will ensure that adequate on-site parking is available for employee, tradesperson and construction vehicles, whenever practical. Parking shall be provided in the basement car parking area as soon as practicable.

5. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 8. Key features of those parking restrictions are:

- CLEARWAY restrictions along both sides of the Pacific Highway, between 6am-7pm Monday-Friday and 9am-6pm on Saturday, Sunday & Public Holidays

- NO PARKING restrictions along the eastern side of the Pacific Highway in the vicinity of the site at all other times

- 1 HOUR PARKING restrictions along the southern side of Gordon Avenue, between the Pacific Highway and Hammond Lane

- BUS ZONES located at regular intervals along both sides of the Pacific Highway

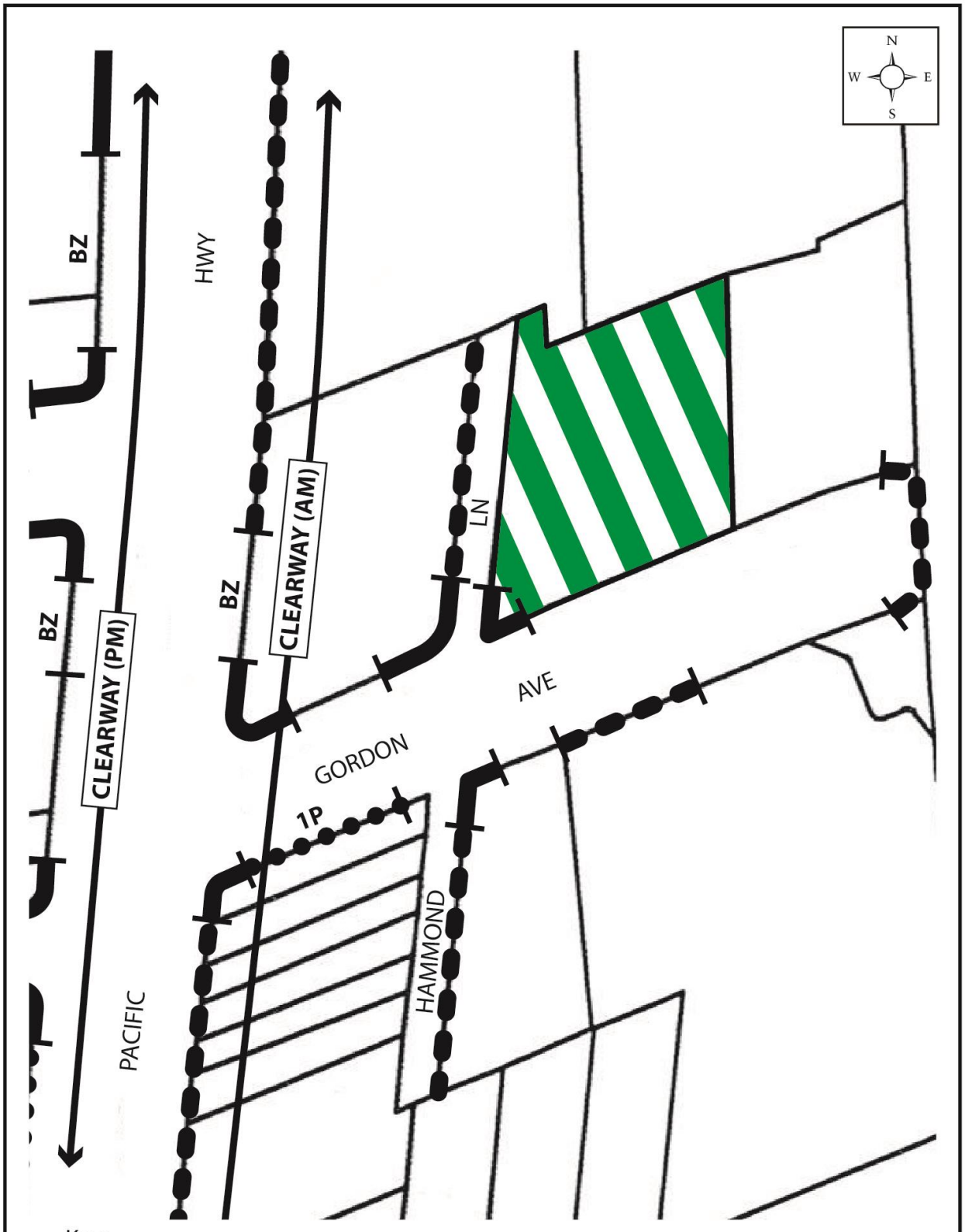
- NO PARKING restrictions along the eastern side of Hammond Lane, south of Gordon Avenue

- NO PARKING restrictions along the western side of Hammond Lane, north of Gordon Avenue

- generally UNRESTRICTED kerbside parking elsewhere along Gordon Avenue, and Hammond Lane, including along the site frontages.

Off-Street Car Parking Provisions

The off-street car parking requirements applicable to the planning proposal are specified in the *Willoughby Development Control Plan Part C.4 – Transport Requirements for Development* document in the following terms:



EXISTING PARKING RESTRICTIONS
FIGURE 8

Shop Top Housing/Residential Flat Buildings located on Major Public Transport Corridors

Studio	0.5 spaces per dwelling
Other than studios	1 space per dwelling
Visitors	1 space per 4 dwellings

Shop

1 space per 25m^2

Office/Business Premises located on Major Public Transport Corridors

1 space per 110m^2

Application of the above parking rates to the various components of the development proposal yields an off-street car parking requirement of 106 spaces, as set out below:

	REQUIRED	**PROPOSED**
Residents (64 apartments):	64.0 spaces	64 spaces
Visitors:	16.0 spaces	16 spaces
Retail (~405m²):	16.2 spaces	16 spaces
Commercial/business (~1,070m²):	9.7 spaces	10 spaces
TOTAL:	**105.9 spaces**	**106 spaces**

The proposed development makes provision for a total of 106 off-street car parking spaces, comprising 64 residential spaces (including 19 disabled spaces), 16 visitor spaces (including a disabled space), 16 retail spaces (including a disabled space) and 10 commercial spaces (including a disabled space), *plus* a dedicated car wash bay, thereby satisfying the Council's *DCP* parking requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1:2004* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6*, in respect of parking bay dimensions, aisle widths, ramp grades and overhead clearances.

In this regard, the vehicular access arrangements have been designed to accommodate the *swept turning path* requirements of a B99 & B85 passenger vehicle allowing them to simultaneously pass each other along the Hammond Lane site frontage leading up to the site access driveway, as illustrated on the attached *swept turning path* diagrams.

Further to the above, a series of *swept turning path* diagrams of a B85 design vehicle entering/exiting all parallel parking spaces have been prepared which are reproduced in the following pages, demonstrating that all vehicles will be able to enter and exit the site whilst travelling in a forward direction and maintaining sufficient clearances at all times.

Off-Street Bicycle Parking Provisions

The bicycle parking requirements applicable to the development proposal are also specified in *Willoughby Development Control Plan Part C.4 – Transport Requirements for Development* document in the following terms:

Bicycle		
Residential (lockers):	1 space per 10 units	*plus*
Residential (rail/racks):	1 space per 12 units	
Commercial (lockers):	1 space per 600m^2	*plus*
Commercial (rail/racks):	1 space per 2,500m^2	

Application of the above bicycle parking rates to the various components outlined in the development proposal yields an off-street bicycle parking requirement of 15 spaces, as set out below:

Off-street Bicycle Parking	**REQUIRED**
Residents (64 apartments):	6.4 spaces
Visitors:	5.3 spaces
Commercial Premises (1,476m²):	2.5 spaces
Customers:	0.6 spaces
TOTAL:	**14.8 spaces**

The proposed development makes provision for a total of 9 bicycle parking spaces in a Class B room, *plus* a substantial amount of private storage cages which are also capable of storing a bicycle, thereby satisfying Council's *DCP* requirements.

Off-Street Motorcycle Provisions

The motorcycle parking requirements applicable to the development proposal are also specified in *Willoughby Development Control Plan Part C.4 – Transport Requirements for Development* document in the following terms:

Motorcycle

1 motorcycle space per 25 car spaces

Application of the above motorcycle parking rate to the proposed provision of 106 off-street car spaces yield an overall motorcycle parking requirement of 4 spaces.

The proposed development makes provision for a total 18 motorcycle parking spaces, thereby comfortably satisfying Council's motorcycle parking requirements.

Loading/Servicing Provisions

Loading/servicing for the proposed development is to be undertaken by light commercial vehicles such as vans, utilities and the like, up to and including Council's 10.5m long MRV truck. A dedicated loading area is proposed within the ground floor level, adjacent the bin holding room.

The manoeuvring area has been designed to accommodate the swept turning path requirements of these 10.5m long rigid trucks, allowing them to enter and exit the site whilst travelling in a forward direction at all times, as per the attached *swept turning path* diagram.

In this regard, it is noted that given the modest scale of the proposed commercial/retail tenancies, and the relatively infrequent need for residential users to access the loading dock, the proposed retail/commercial parking spaces located within the basement parking level will be more than sufficient in accommodating the day-to-day loading requirements generated from these commercial components.

The geometric design layout of the proposed loading facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2 - Off-Street Commercial Vehicle Facilities AS2890.2* in respect of loading dock dimensions, overhead clearances and service area requirements.

Due to the constraints of the existing Hammond Lane, *swept turning path* diagrams have also been provided for the largest medium sized service vehicles (including Council's 10.5m long garbage trucks), and a B99 passenger vehicle, which confirms that these vehicles can pass each other along Hammond Lane and along the proposed site access driveway.

Given the two-way driveway can comfortably accommodate the *simultaneous* passing of B99/B85 vehicles along Hammond Lane and the site access driveway, a warning light indicating 'Caution Truck Exiting' can be installed at the Gordon Avenue/Hammond Lane corner of the building, allowing all vehicles exiting to automatically trigger the security gates as well as the warning light sign to warn any potential vehicles approaching from Gordon Avenue.

The warning light will be triggered by an in-ground induction loop sensor located *prior* to the departing the security gates of the site.

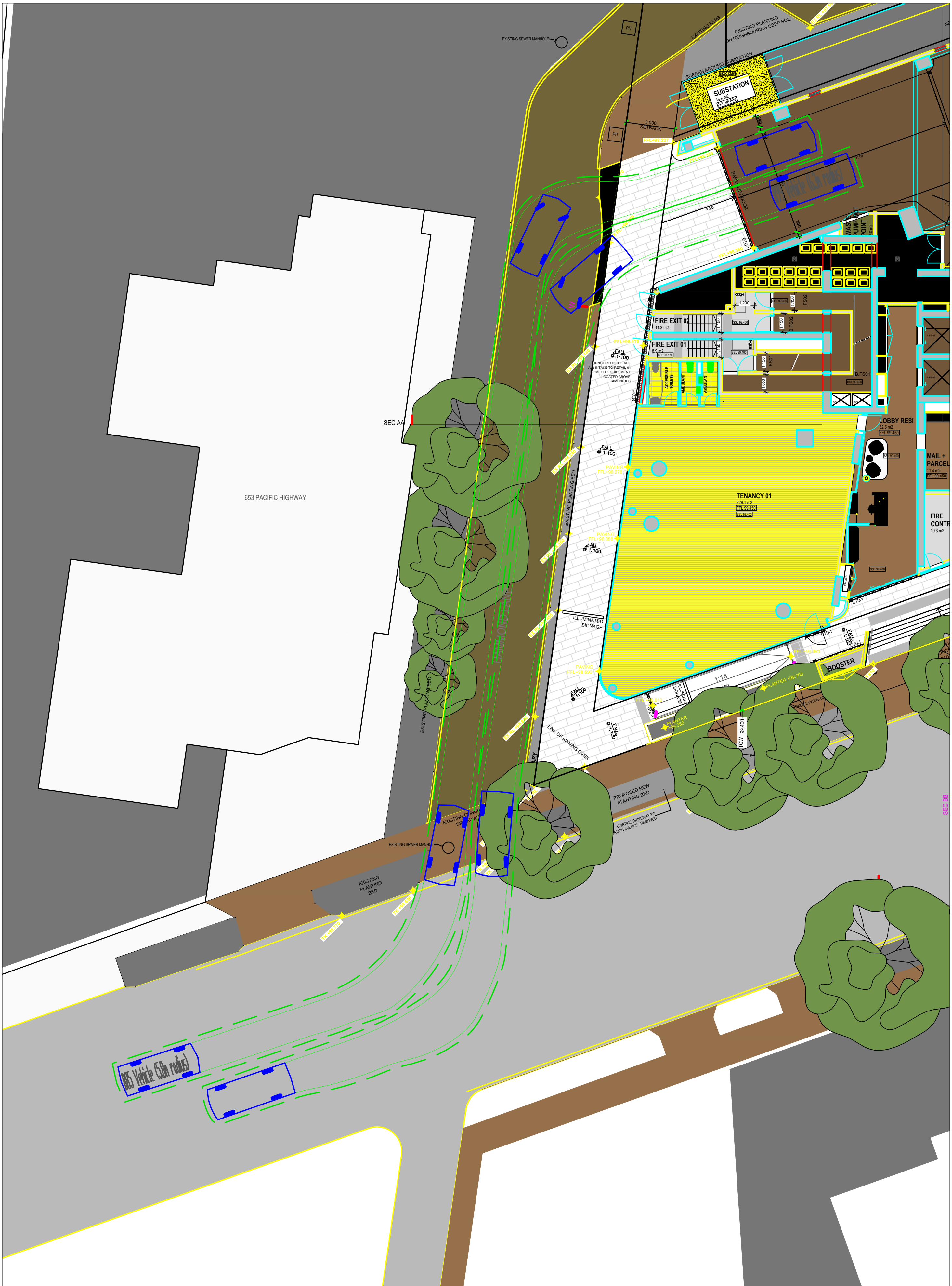
Furthermore, it is recommended that convex mirrors be installed at the top and bottom of the ramps as well as installing suitable 'Give Way' signage at the top of the site access driveway, along the exit side of the ramp advising drivers to "give way to entering vehicles", thereby allowing large vehicles entering along Gordon Avenue to be unobstructed, as demonstrated in the attached *swept turning path* diagrams.

Conclusion

The foregoing has found that the development proposal will generate a level of traffic that is consistent with the approved rezoning of the site and is therefore *not* expected to result in any appreciable increases in vehicle delays, as there is an overall *nett reduction* in the traffic generation potential of the site of approximately 5 to 7 vph during the commuter peak periods, when compared to the recently *approved* planning proposal on the site.

Furthermore, the proposed off-street parking and loading facilities satisfies the relevant requirements specified within Council's *DCP* as well as the Australian Standards.

It is therefore reasonable to conclude that the proposed development will not have any unacceptable implications in terms of road network capacity or off-street parking/loading/access requirements.



VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B99 TURNING PATHS
Entering/Exiting Hammond Lane

1:300 @ A4

ADDRESS
5-9 Gordon Avenue, Chatswood

PROJECT NO.
22255

DATE DRAWN
2023-10-12

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
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20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
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PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B99 TURNING PATHS
Entering/Exiting Loading Bay Area

ADDRESS
5-9 Gordon Avenue,
Chatswood

PROJECT NO.
22255

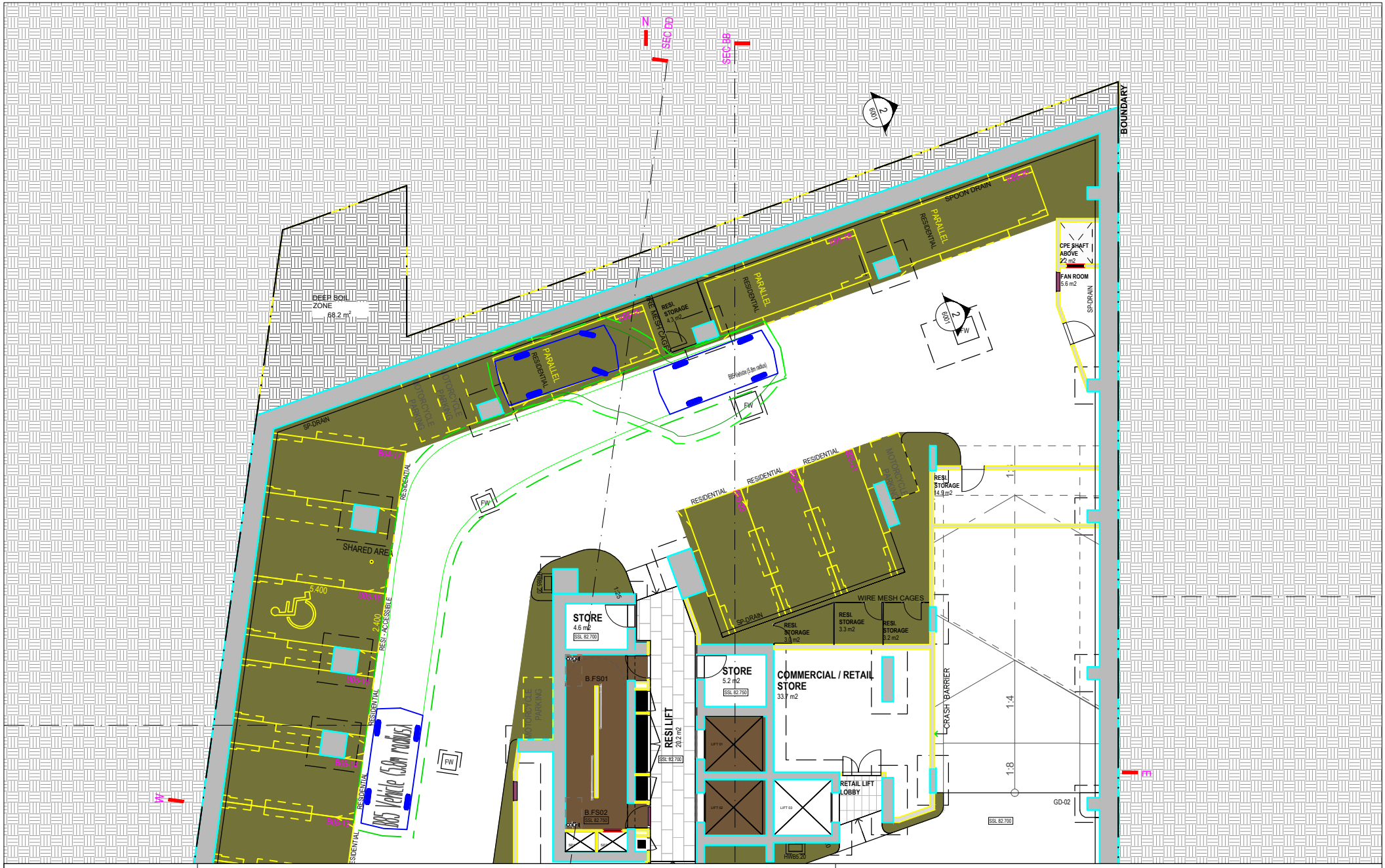
REVIEWED
DONALD LEE

1:200 @ A4

DATE DRAWN
2023-10-12

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B85 TURNING PATHS
Entering Car Space B05-18

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
22255

DATE DRAWN
2023-11-20

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
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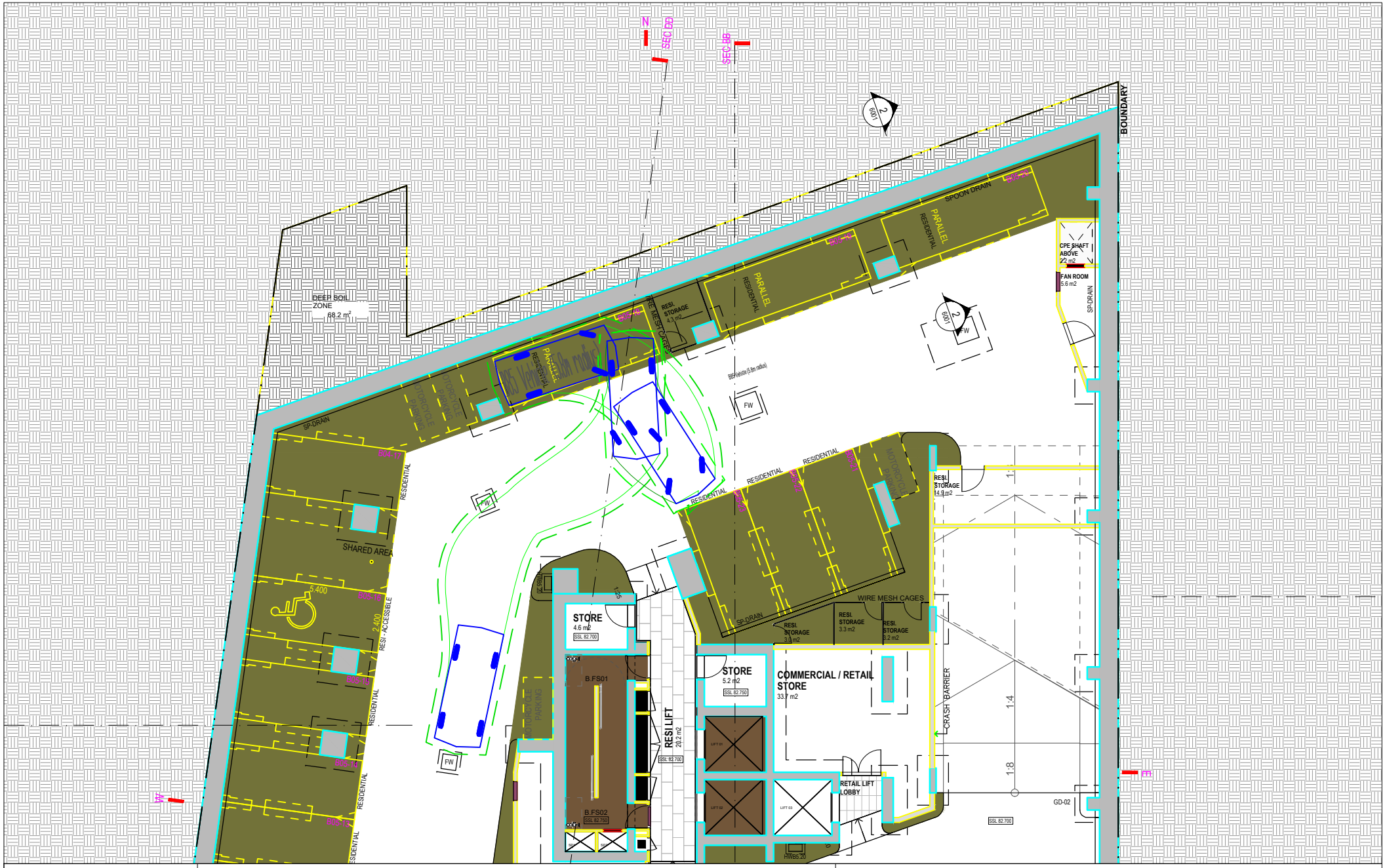

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ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
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Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B85 TURNING PATHS
Exiting Car Space B05-20

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
22255

DATE DRAWN
2023-11-20

REVIEWED
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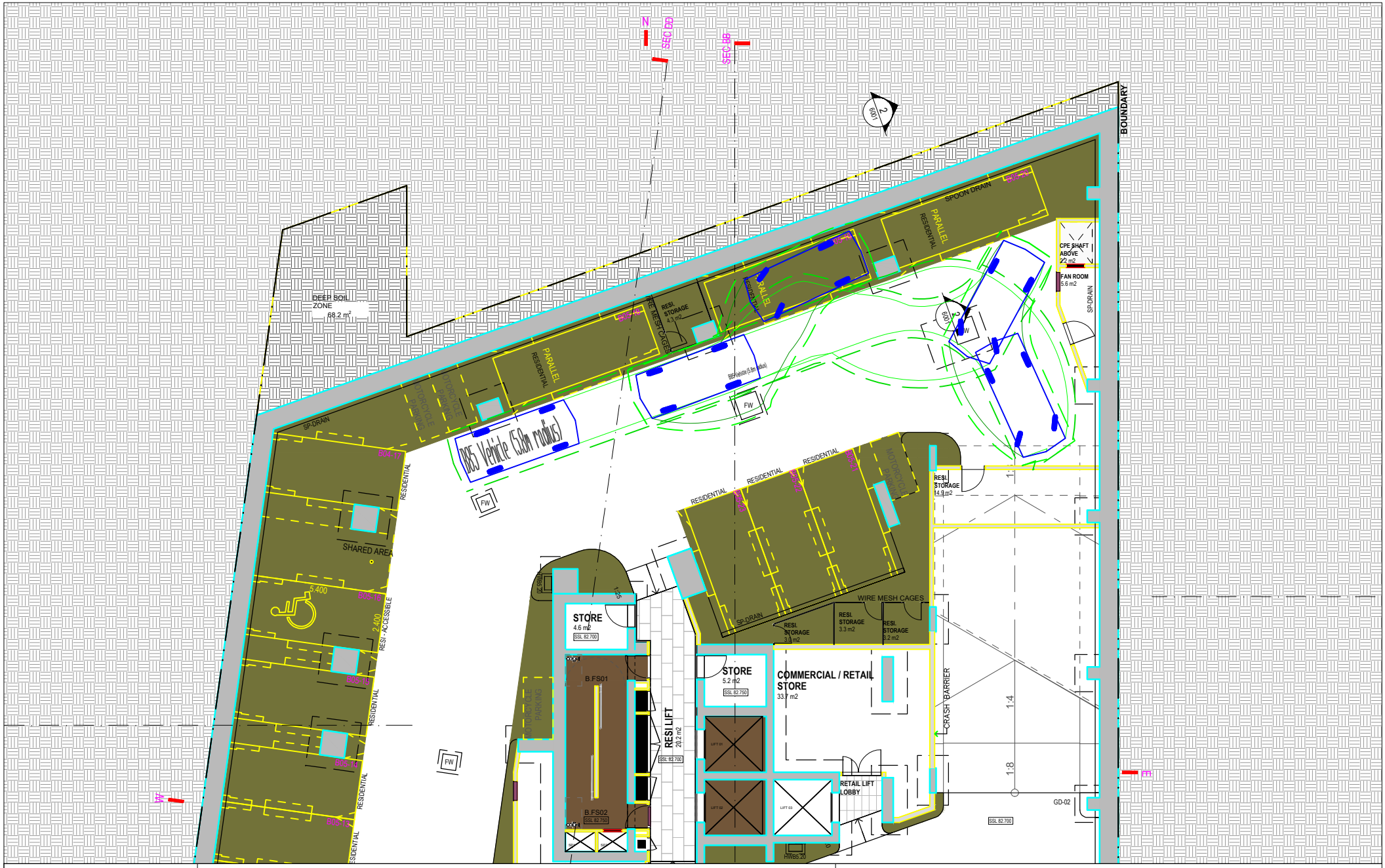

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ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
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PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B85 TURNING PATHS
Entering Car Space B05-19

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
22255

DATE DRAWN
2023-11-20

REVIEWED
DONALD LEE

PREPARED
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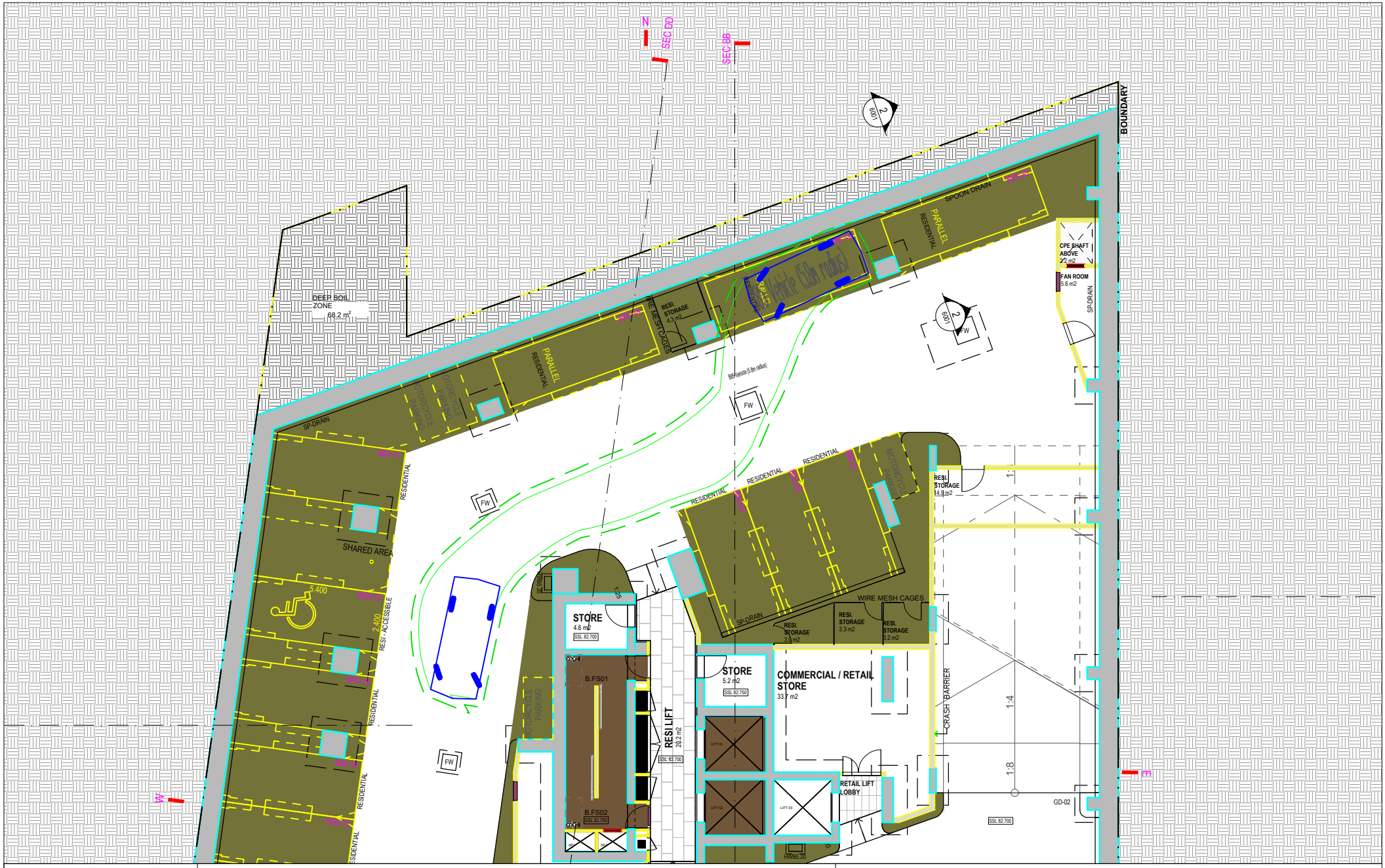

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Neutral Bay, NSW 2089

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PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
B85 TURNING PATHS
Exiting Car Space B05-19

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
22255

DATE DRAWN
2023-11-20

REVIEWED
DONALD LEE

PREPARED
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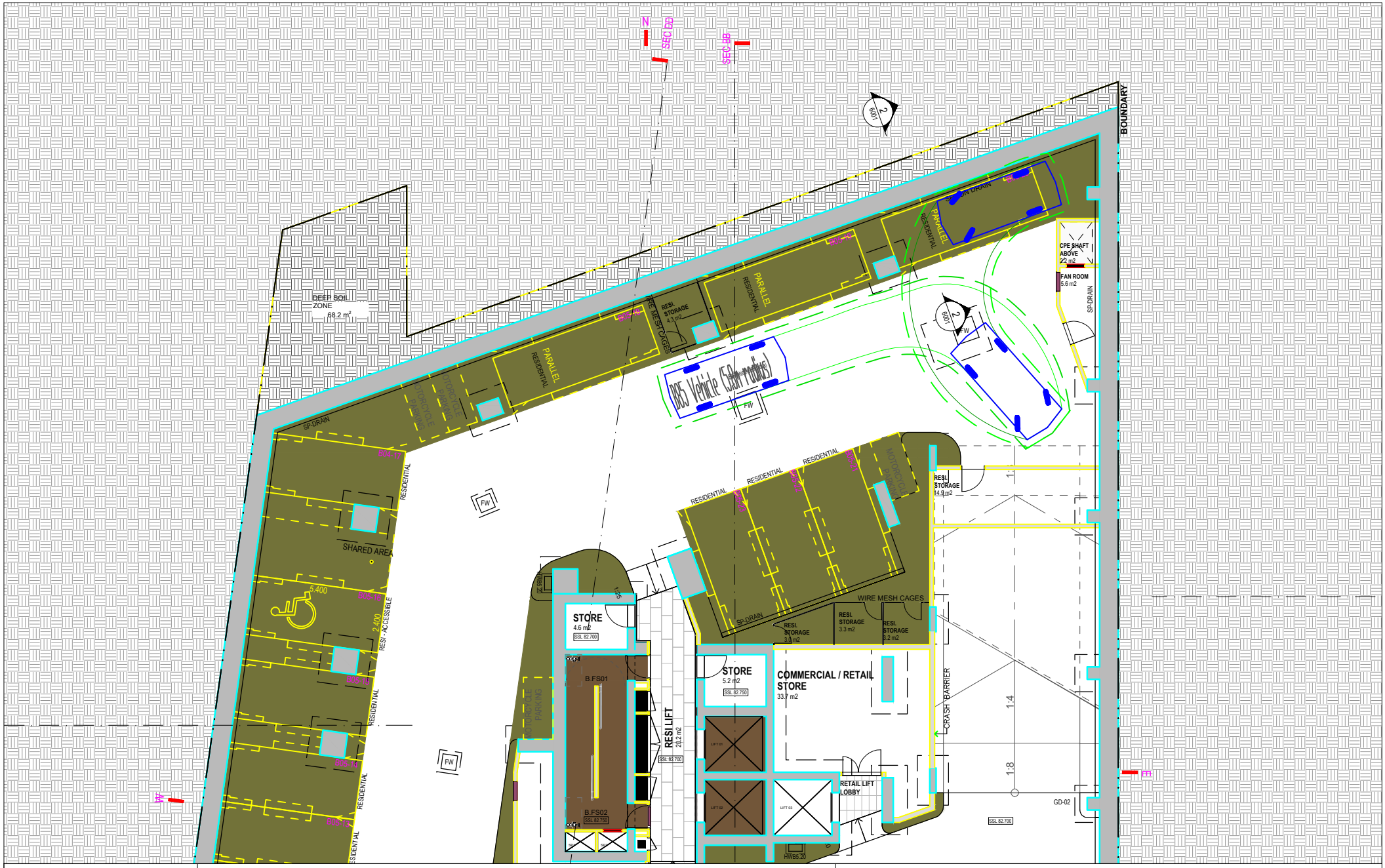

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Neutral Bay, NSW 2089

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PO Box 1868
Neutral Bay, NSW 2089
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PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B85 TURNING PATHS
Entering Car Space B05-20

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
22255

DATE DRAWN
2023-11-20

REVIEWED
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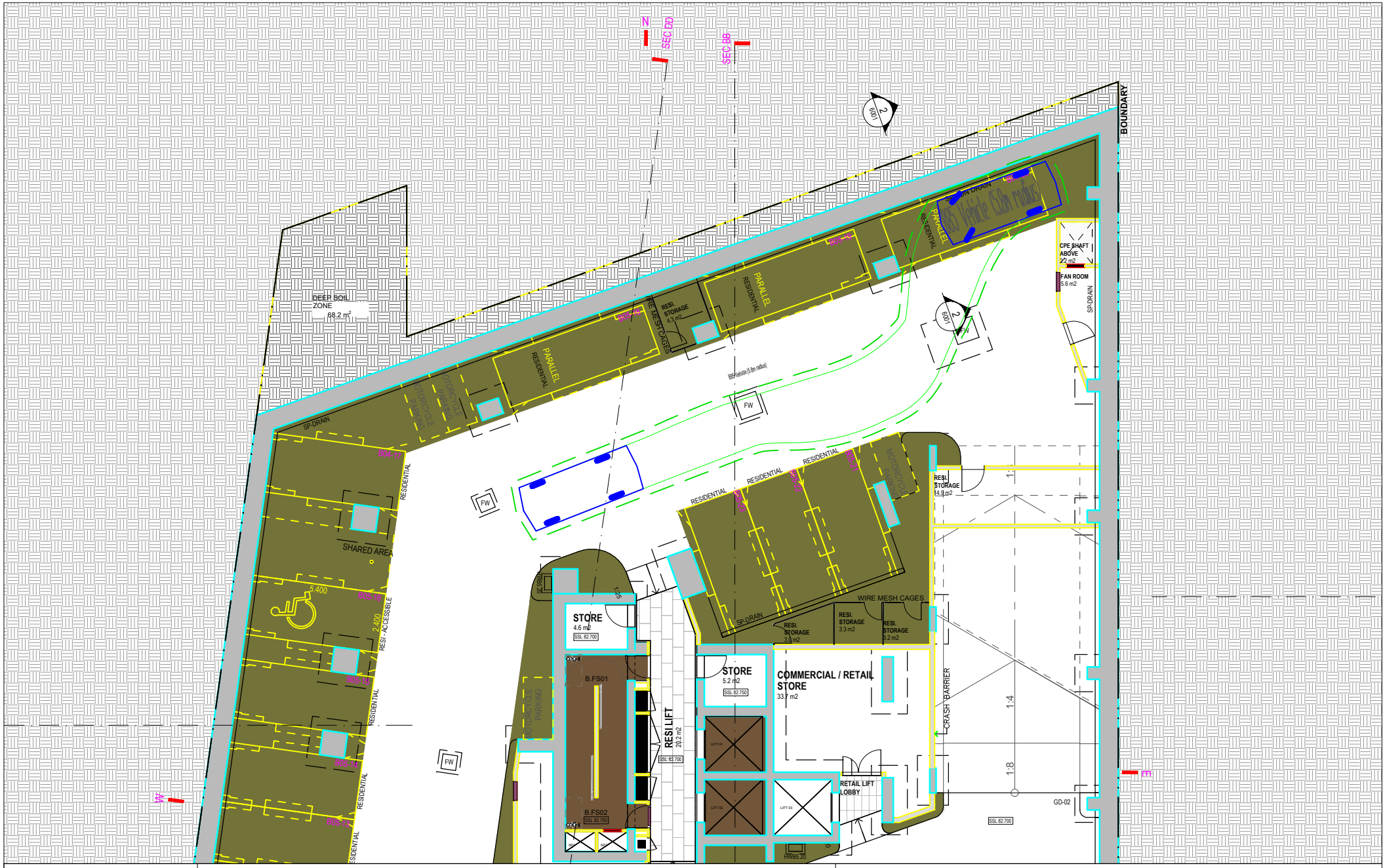

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20 Young Street
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PROJECT
MIXED USE DEVELOPMENT

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DRAWING TITLE
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Exiting Car Space B05-20

ADDRESS
5-9 Gordon Avenue,
Chatswood

1:200 @ A4

PROJECT NO.
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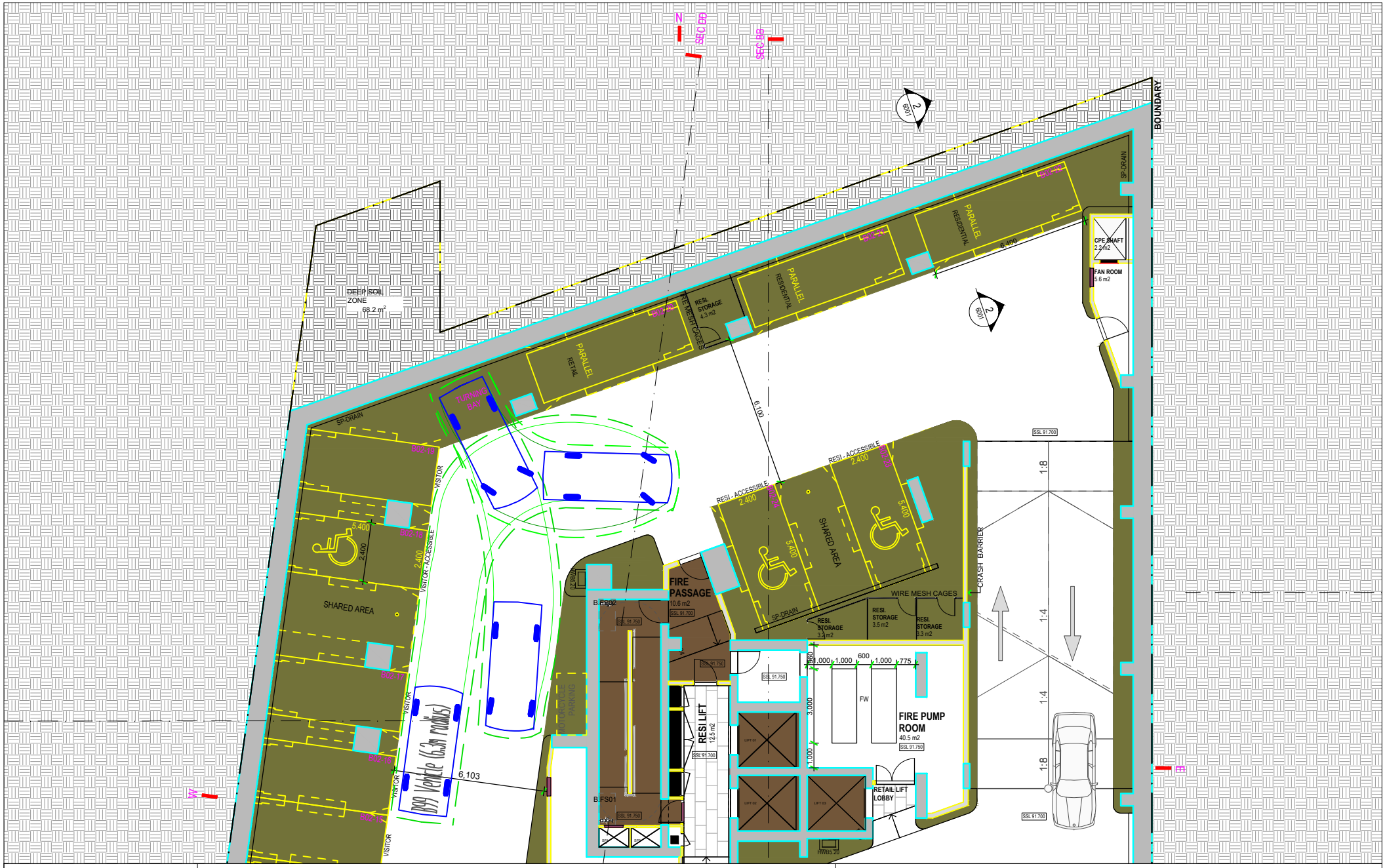

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ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
B99 TURNING PATHS
Entering/Exiting Visitor Parking Area

ADDRESS
5-9 Gordon Avenue,
Chatswood

PROJECT NO.
22255

REVIEWED
DONALD LEE

1:200 @ A4

DATE DRAWN
2023-11-20

PREPARED
ZACHARY CAI

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
10.5M RIGID TRUCK TURNING PATHS
Entering/Exiting Loading Bay Area

ADDRESS
5-9 Gordon Avenue,
Chatswood

PROJECT NO.
22255

REVIEWED
DONALD LEE

1:200 @ A4

DATE DRAWN
2023-10-12

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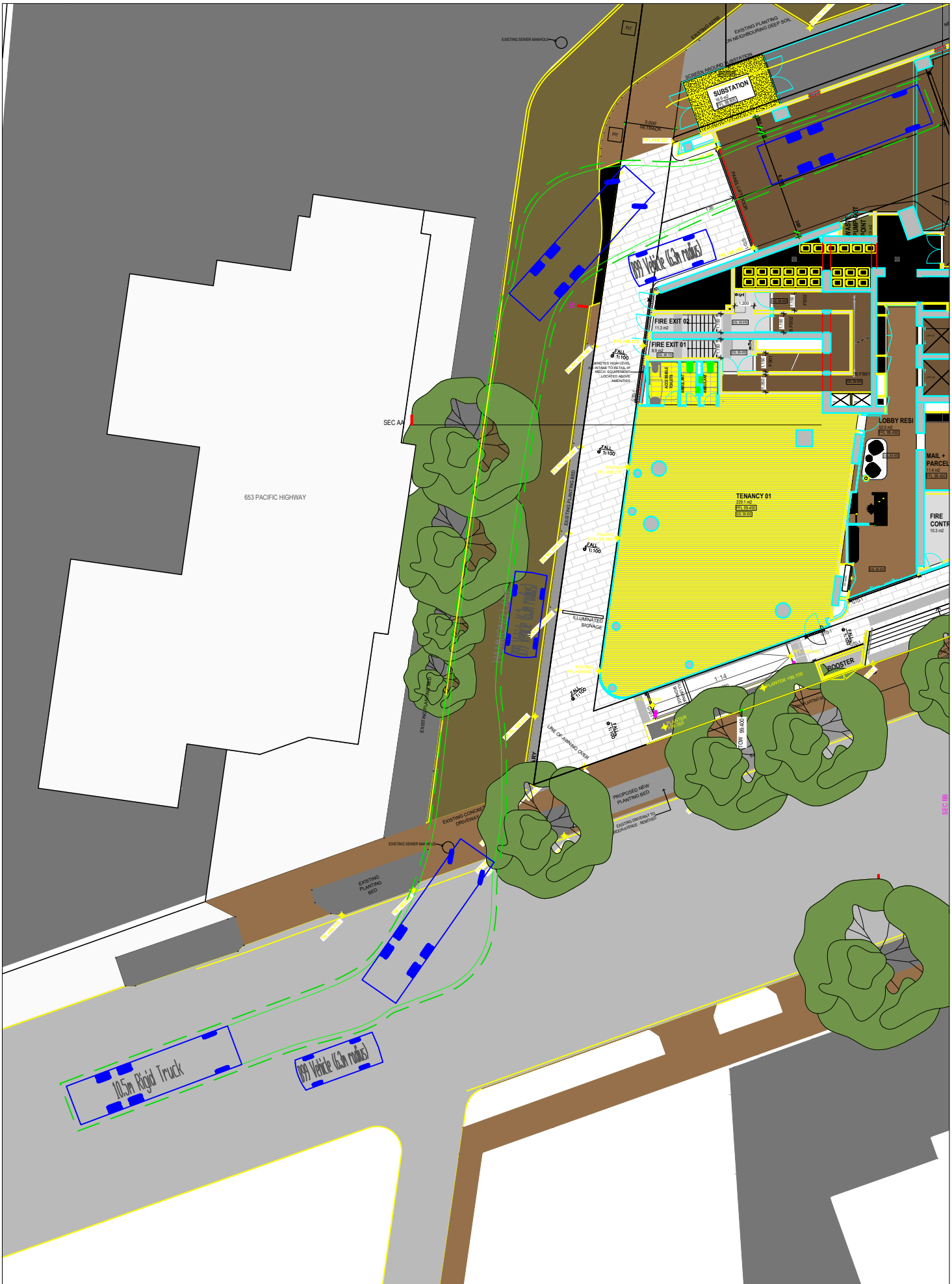

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ABN: 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
10.5M RIGID TRUCK TURNING PATHS 1:300 @ A4
Entering Hammond Lane

ADDRESS
5-9 Gordon Avenue,
Chatswood

PROJECT NO.
22255

DATE DRAWN
2023-10-12

REVIEWED
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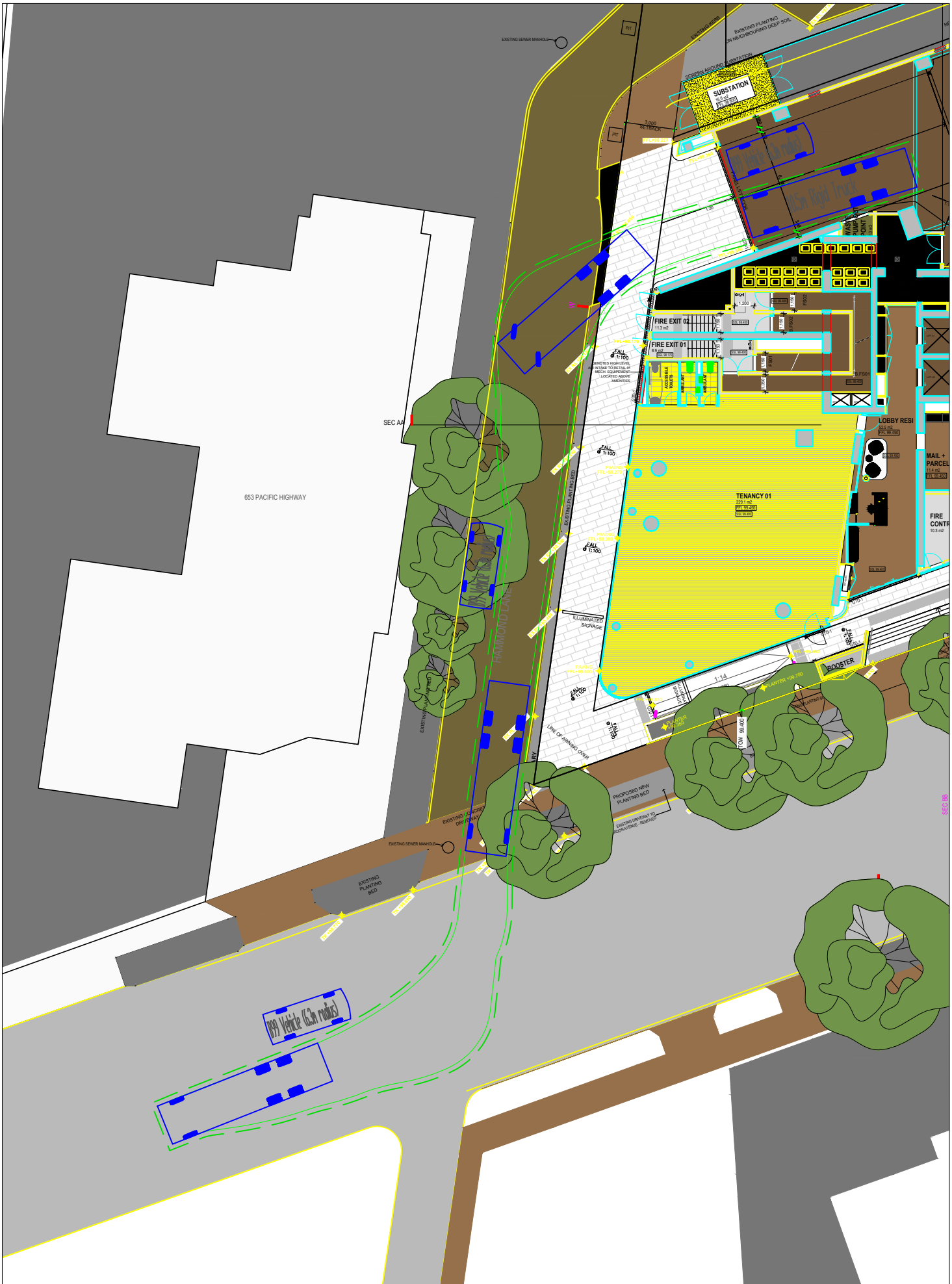

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PO Box 1868
Neutral Bay, NSW 2089
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Sydney, Australia

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DRAWING TITLE
10.5M RIGID TRUCK TURNING PATHS 1:300 @ A4
Exiting Hammond Lane

ADDRESS
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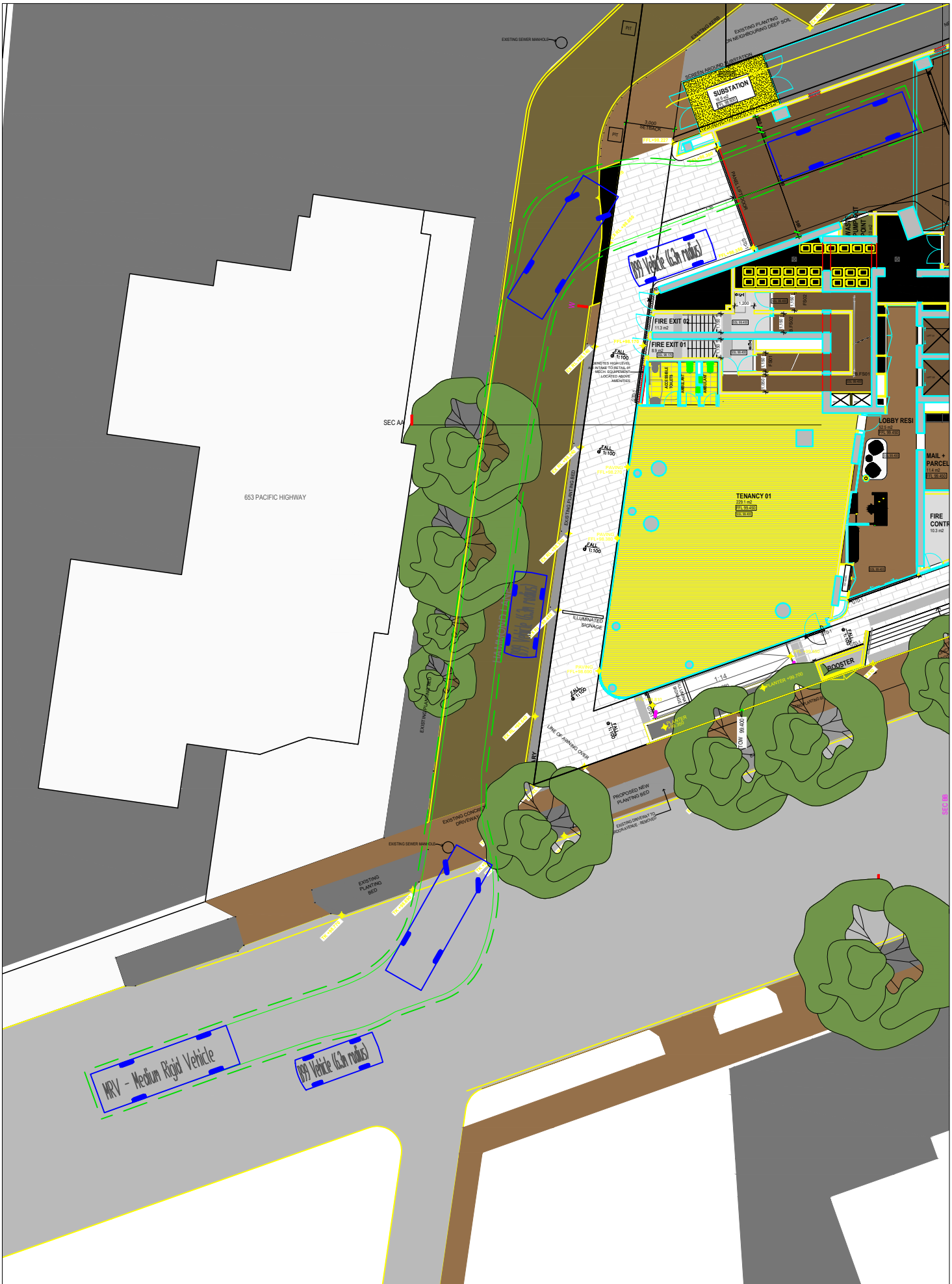

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ABN: 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

N

DRAWING TITLE
8.8M MRV TRUCK TURNING PATHS
Entering Hammond Lane

1:300 @ A4

ADDRESS
5-9 Gordon Avenue,
Chatswood

PROJECT NO.
22255

DATE DRAWN
2023-10-12

REVIEWED
DONALD LEE

PREPARED
ZACHARY CAI

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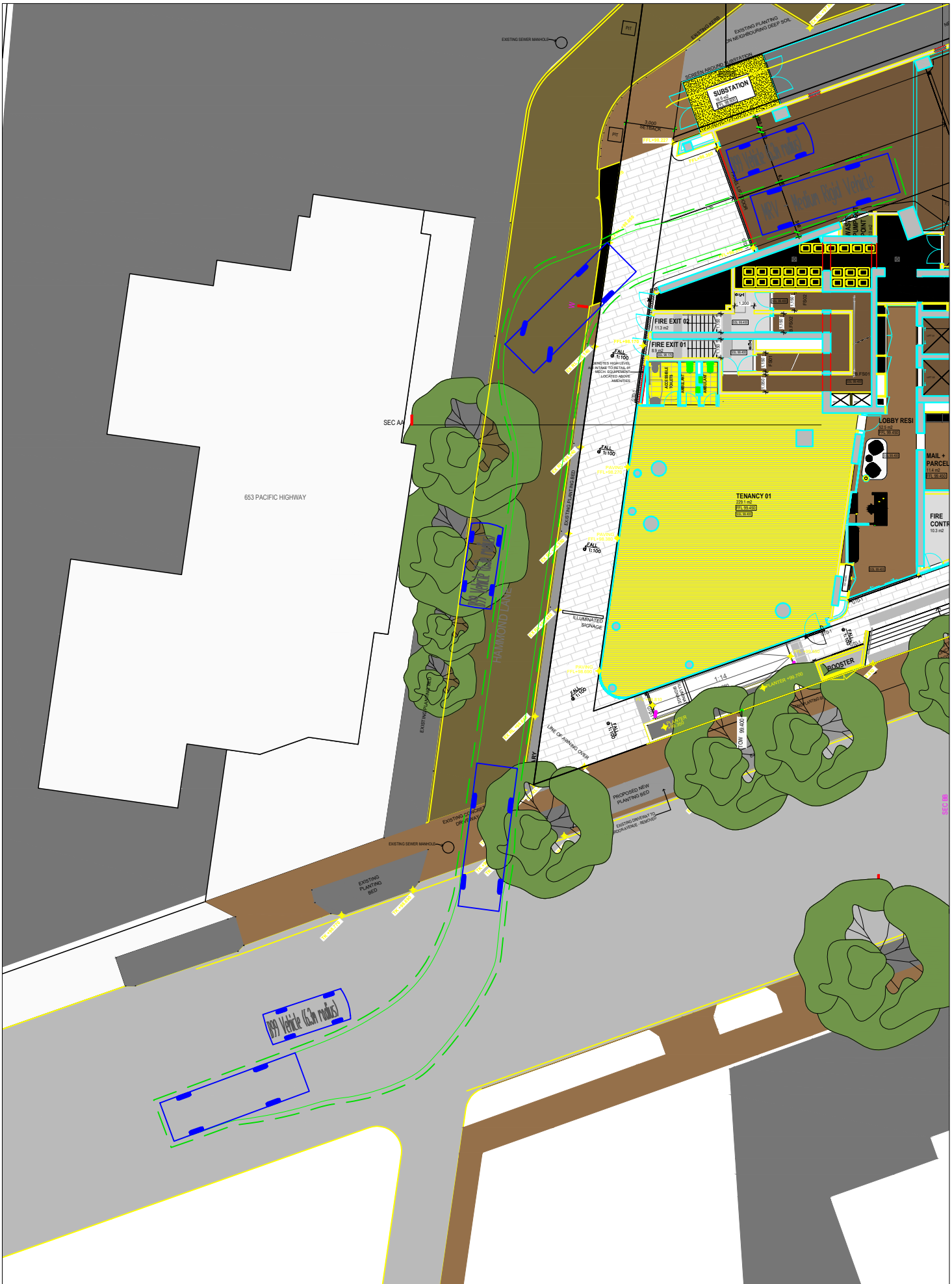

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ABN: 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
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DRAWING TITLE
8.8M MRV TRUCK TURNING PATHS
Exiting Hammond Lane

1:300 @ A4

ADDRESS
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PROJECT NO.
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DATE DRAWN
2023-10-12

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