

Traffic Impact Assessment

32 Golf Avenue, Mona Vale

Proposed Residential Development

GT24001

Prepared for

LAXDTX 2 Pty Ltd

27 June 2024



Contact Information

Genesis Traffic	Suite 3, 53 Grandview Street, Pymble
	www.genesistraffic.com.au
	ABN 34 660 055 532
Email	bernard@genesistraffic.com.au
Approved By	Bernard Lo

Document Information

Report	Traffic Impact Assessment
Client	LAXDTX 2 Pty Ltd
Proposal	Proposed Residential Development
Architect	Walsh Architects
Project Location	32 Golf Avenue, Mona Vale
Council	Northern Beaches Council
Job Number	GT24001
Date	27/06/2024

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1	09/02/2024	Draft	AX, LN	BL
2	12/02/2024	For Issue	LN	BL
3	25/06/2024	For Issue	BB	BL
4	27/06/2024	For Issue	BB	BL



Table of Contents

1	Introduction	5
1.1	Background	5
1.2	Scope of Works	5
1.3	Reference Documents	6
2	Proposed Development	7
3	Existing Conditions	8
3.1	Site and Surrounding Context	8
3.2	Road Network	9
3.3	Traffic Controls	10
3.4	Public Transport Services	11
4	Parking Assessment	13
4.1	Car Parking Requirements	13
4.2	Accessible Car Parking Requirements	13
4.3	Loading and Servicing Requirement & Arrangement	14
5	Access and Circulation Design	15
5.1	Access	15
5.2	Design Assessment and Internal Circulation	15
5.3	Swept Path Analysis	17
6	Traffic Assessment	18
6.1	Existing Traffic Conditions	18
6.2	Existing Traffic Generation	18
6.3	Development Traffic Generation	18
6.4	Overall Traffic Generation and Distribution	18
7	Conclusion	20



Attachments

Attachment 1 Architectural Plan

Attachment 2 Turning Path Assessment

Tables

Table 3-1	Surrounding Road Network	9
Table 3-2	Surrounding Traffic Controls	10
Table 3-3	Bus Services Provision	12
Table 4-1	DCP Car Parking Rates	13
Table 4-2	Required Car Parking Spaces	13
Table 5-1	Off-street Car Parking (AS2890.1:2004) Criteria	15

Figures

Figure 1-1	Site	5
Figure 3-1	Site Context	8
Figure 3-2	Road Network	9
Figure 3-3	Local Public Transport Locations	11
Figure 4-1	On-Street Accessible Parking	14



1 Introduction

1.1 Background

This report has been prepared to accompany a Development Application to Northern Beaches Council for a Proposed Residential Development at 32 Golf Avenue, Mona Vale (Figure 1-1).

Figure 1-1 Site



Source: Metromap (Modified by Genesis Traffic)

1.2 Scope of Works

The purpose of this report is to:

- describe the proposed development scheme
- describe the existing site, road network serving the site and the prevailing traffic conditions
- assess the adequacy of the proposed parking provision



- assess the potential traffic implications
- assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements

1.3 Reference Documents

Reference has been made to the following documents when preparing this report:

- Australian Standard Part 1: Off-street Car Parking (AS2890.1:2004)
- Pittwater Development Control Plan 2021
- Guide to Traffic Generating Developments, RMS, 2002
- Guide to Traffic Generating Developments, Updated Traffic Surveys, RMS, TDT 2013/14a





2 Proposed Development

The proposal seeks consent for a development outcome that involves:

- 6 three-bedroom apartments
- basement carpark - 14 car spaces

Vehicle access will be provided at Golf Avenue.

Details of the proposal are indicated in the architectural plans prepared by Walsh Architects which accompany the submission and are reproduced in part in **Attachment 1**.





3 Existing Conditions

3.1 Site and Surrounding Context

The development site (Figure 3-1) is legally known as Lots 1,2,3 and 4 in SP57603, located at 32 Golf Avenue, Mona Vale. The site occupies an area of 1,394m² and has frontage to Golf Avenue.

Figure 3-1 Site Context



Source: Metromap and Google Map (Modified by Genesis Traffic)

The existing site is occupied by four (4) townhouses at present (see inset above), with vehicle access point(s) located at Golf Avenue.

The adjoining and surrounding land uses include:

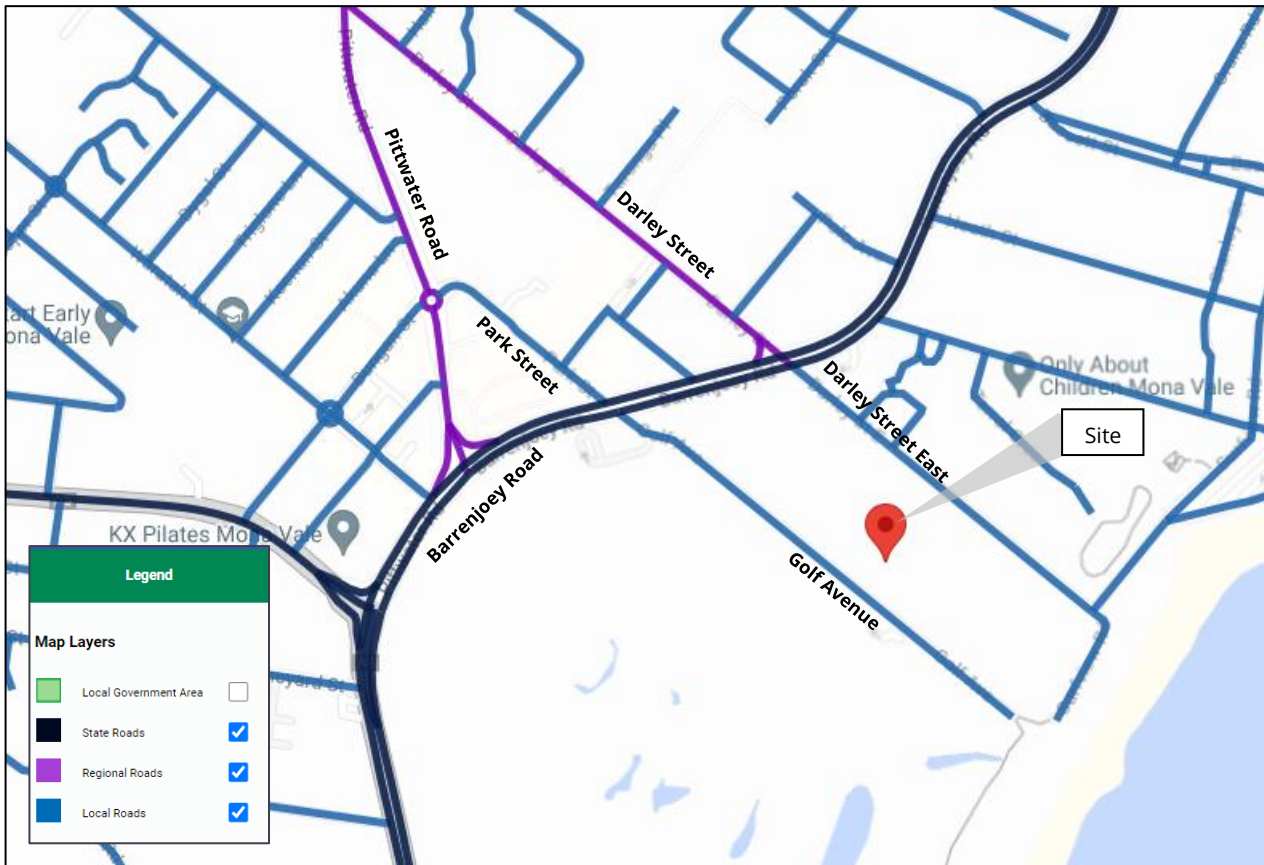
- Mona Vale Golf Club located opposite to the site
- Adjoining residential development to the north, east and west
- Retail and industrial premises 400m to the northeast
- Mona Vale Beach 350m to the east



3.2 Road Network

The existing road network serving the site area (Figure 3-2) are detailed in Table 3-1:

Figure 3-2 Road Network



Source: TfNSW (modified by Genesis Traffic)

Table 3-1 Surrounding Road Network

Road Name	Descriptions
Barrenjoey Road	<ul style="list-style-type: none"> State Road Speed limit 60km/h 3 lane(s) in each direction No Stopping restriction along west side of the street Clearway restriction between 6am - 10pm on Monday to Friday along east side of the street
Pittwater Road	<ul style="list-style-type: none"> Regional Road Speed limit 60km/h 3 lane(s) in each direction



	<ul style="list-style-type: none"> · Unrestricted on-street parking along both sides of the street except time restricted (2P) parking near the retail premises
Golf Avenue	<ul style="list-style-type: none"> · Local Road · Speed limit 50km/h · 1 lane(s) in each direction · Parallel parking along the northern side of the street and 90° angle parking along the southern side of the street
Park Street	<ul style="list-style-type: none"> · Local Road · Speed limit 40km/h · 1 lane(s) in each direction · Time restricted (1P and 2P) on-street parking between 8am-6pm on Monday to Friday and 8am-12pm on Saturday along both sides of the street

3.3 Traffic Controls

The traffic controls on the road system in the vicinity of the site comprise (Table 3-2):

Table 3-2 Surrounding Traffic Controls

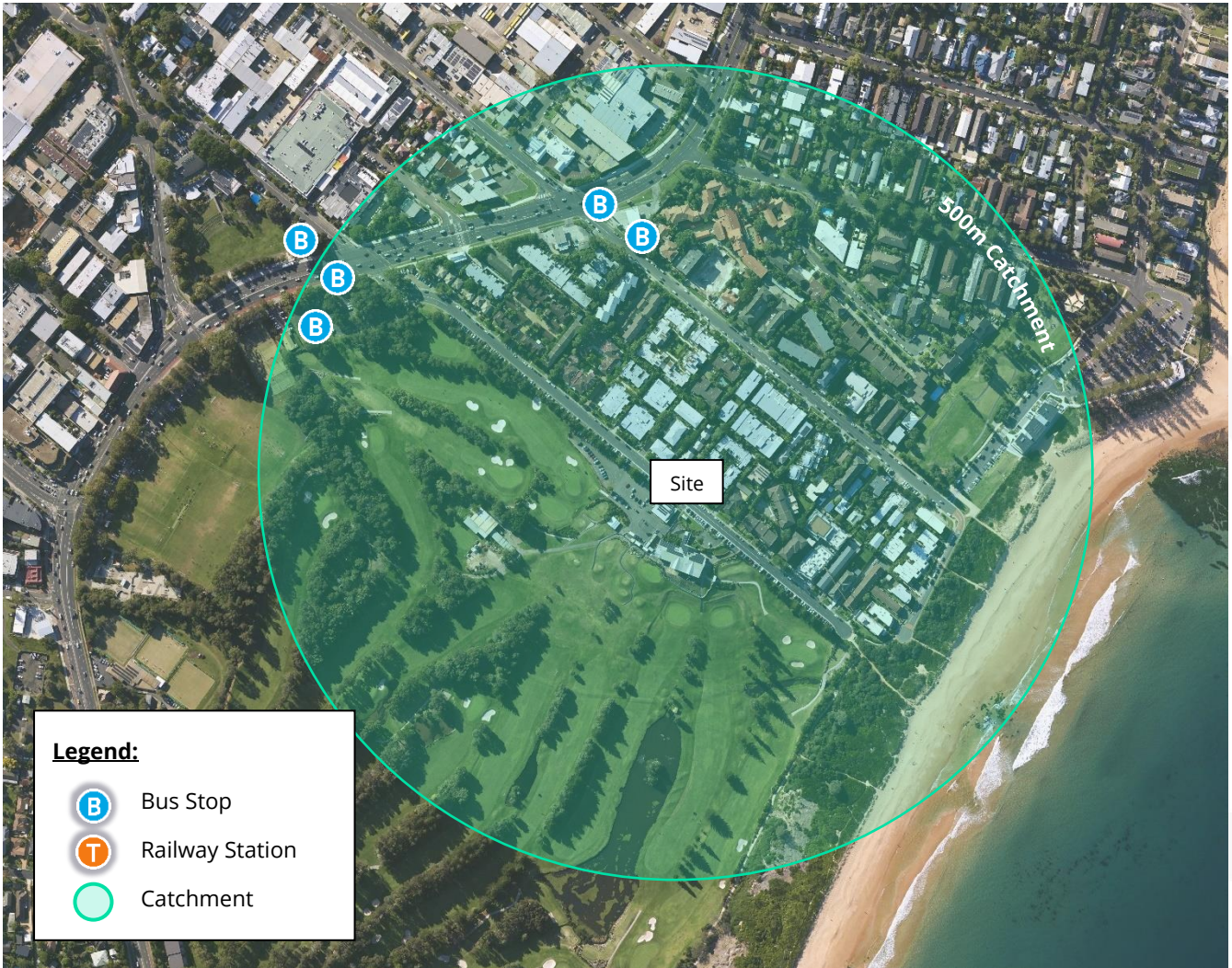
Traffic Control	Location
Traffic Signal	<ul style="list-style-type: none"> · Intersection(s) of: <ul style="list-style-type: none"> ○ Barrenjoey Road and Golf Avenue ○ Barrenjoey Road and Darley Street E ○ Barrenjoey Road and Pittwater Road
Bus Zone	<ul style="list-style-type: none"> · Along part(s) of <ul style="list-style-type: none"> ○ Barrenjoey Road
No Right Turn	<ul style="list-style-type: none"> · From Barrenjoey Road to Pittwater Road



3.4 Public Transport Services

The local public transport services are illustrated in Figure 3-3.

Figure 3-3 Local Public Transport Locations



Source: Metromap (Modified by Genesis Traffic)

Local bus service(s) is within walking distance (500m) of the site, as follows (Table 3-3).



Table 3-3 Bus Services Provision

Bus Line	Bus Route
155	Bayview Garden Village to Narrabeen and Frenchs Forest
182	Mona Vale to Narrabeen
185	Mona Vale to Narrabeen via Warriewood Valley
196	Mona Vale to Gordon
197	Mona Vale to Macquarie University via Gordon
199	Palm Beach to Manly via Mona Vale & Dee Why
190X	North Avalon to City Wynyard (Express Service)





4 Parking Assessment

4.1 Car Parking Requirements

The applicable car parking rates (Table 4-1) are provided in Section B6.3 in Pittwater DCP.

Table 4-1 DCP Car Parking Rates

Land Use	Element	Parking Rates
Multi Dwelling Housing, Residential Flat Buildings and Shop-Top Housing:	One-Bed	1.0 space(s) per dwelling
	Two- or more Bed	2.0 space(s) per dwelling
	Visitor	1 space(s) per 3 dwellings

Application of the proposal using the above criteria would indicate the following requirement(s) in Table 4-2.

Table 4-2 Required Car Parking Spaces

Element	Unit/GFA	Requirement	Provision
Three-Bed	6 unit(s)	12	14
Visitor	6 unit(s)	2	
Total		14 spaces	14 spaces

It is proposed to provide 14 parking spaces to comply with the above criteria. These spaces will include:

- 12 x Resident
- 2 x Visitor

All parking spaces will be oversized and there will be sufficient area within each parking module to accommodate bicycle spaces.

4.2 Accessible Car Parking Requirements

The applicable accessible car parking rate is:

- 3% of the required parking spaces

Therefore, the requirement based on the provided 14 car spaces is 0.42 space(s). Thus, accessible space is not required in the basement. However, if any visitors need to utilise on accessible spaces, they can rely on the on-street accessible spaces located opposite the site.



Figure 4-1 On-Street Accessible Parking



Source: Metromap (Modified by Genesis Traffic)

4.3 Loading and Servicing Requirement & Arrangement

Consistent with the surrounding waste collection arrangement, refuse collection will occur on-street along the site frontage of Golf Avenue. All loading activities related to deliveries, courier activity, maintenance etc. will rely on the ample on-street parking in the vicinity of the site, as is normal for domestic development of this nature.



5 Access and Circulation Design

5.1 Access

The proposed access driveway (s) will be located at Golf Avenue.

Details of the access design and geometry are discussed in Section 5.2.

5.2 Design Assessment and Internal Circulation

A detailed review of the carpark has been undertaken to assess its conformance with AS2890.1 design criteria. The assessment outcome is tabulated below for ease of reference.

Table 5-1 Off-street Car Parking (AS2890.1:2004) Criteria

Features	Requirement	Provision	Compliance	Notes
Access Driveways				
Access Width	(Category 1) 3.0m - 5.5m	6.1m	Yes	
Access Driveway Location	6m clear from intersection	Provided	Yes	
Sight Triangle (Pedestrian)	2.5m long x 2.0m wide	Provided	Yes	
Sight Distance (50km/h)	Min 45m	Provided	Yes	
First 6m Ramp Grade	Max 5% (1:20)	Not Provided	No	Note 1
Circulation Roadways / Ramp				
Ramp Grade	Private Carpark: Max 25% (1:4)	1:4	Yes	
Transitions	Min 2.0m	2.0m	Yes	
Grade Transitions	Max 12.5% (1:8)	12.5%	Yes	
Roadways Width (Two-way)	Min 5.5m	>5.5m	Yes	
Kerbs	300mm on both sides	Provided	Yes	
Headroom Clearance	Min 2.2m	Provided	Yes	
Parking Modules				
Car Space Dimension	User Class 1A 5.4m long x 2.4m wide	5.4m long x 2.4m wide	Yes	
Aisle Width	User Class 1A 5.8m	>5.8m	Yes	



Door Clearance	300mm	Provided	Yes	
Blind Aisle	Min 1.0m	Not Provided	No	Note 2
Headroom Clearance	Min 2.2m	>2.2m	Yes	
Gradient	Max 5% (1:20)	1:20	Yes	

Note 1:

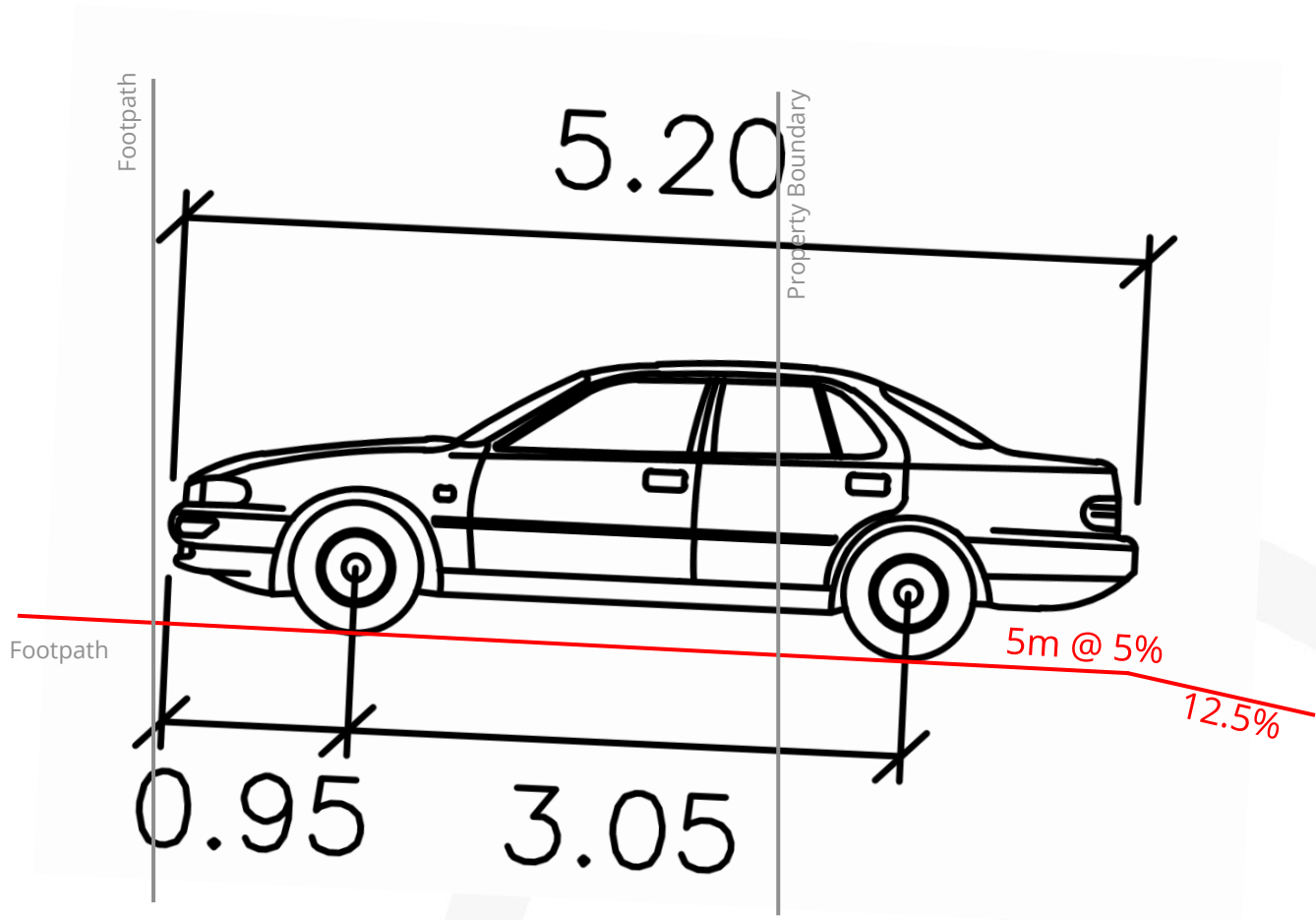
It is not possible to provide a 5% ramp in the first 6m of the ramp. The proposal is for an alternative arrangement.

The design intent of the 5% for first 6m of the ramp is to enable a departing car to stand on a relatively level surface such that its driver can see a pedestrian on/near the frontage footpath. There is a relatively level surface (approximately 3.5m) between the property boundary and the footpath frontage, as demonstrated below.



Source: Google Map (modified by Genesis Traffic)

When the departing vehicle stops before the footpath it will stand on a 5% surface, as illustrated below:



Source: AutoTurn Standard AS2890.1 B99 template

Therefore, the drivers' sightlines towards pedestrians on the footpath will be readily available under the proposed arrangement, satisfying AS2890.1's design objective for pedestrian safety.

Note 3:

A car turntable is provided in the basement to facilitate cars manoeuvring in/out from the garage. Details of a swept path assessment demonstrating a satisfactory vehicle movement are provided in **Attachment 2**.

In summary, the design provisions in relation to the access, car parking circulation and arrangement generally comply with assessed design criteria.

5.3 Swept Path Analysis

All critical vehicle movements in the proposed car parking facility have been assessed using Autoturn. Details of the assessment outcome, which demonstrate a satisfactory design provision, are provided in **Attachment 2**.



6 Traffic Assessment

6.1 Existing Traffic Conditions

Observations in the site's locality reveal generally free-flowing on Golf Avenue during peak periods. There is no apparent capacity constraint in the immediate surrounding road network during peak periods.

6.2 Existing Traffic Generation

The RMSGTTD¹ provides a peak hour traffic generation rate for medium-density residential development. The relevant trip rates are as follows:

- 0.4-0.5 vtpd per dwelling during the morning and evening peak hours

Application of this trip rate to the four (4) townhouse units would indicate a peak hour traffic generation outcome of two (2) vtpd.

6.3 Development Traffic Generation

The proposed development will apply to the aforementioned rate as the nature of both existing and proposed development is similar.

Applying this trip rate to the six (6) proposed residential units would indicate a peak hour traffic generation outcome of three (3) vtpd.

6.4 Overall Traffic Generation and Distribution

Based on the above assessment, the additional traffic generation will equal an average of:

$$\text{Development traffic (3 vtpd)} - \text{existing traffic (2 vtpd)} = 1 \text{ vtpd}$$

Accordingly, traffic generation of this order of magnitude represents an average flow of one (1) vehicle movement every 60 minutes and will not present any difficulty or perceptible impact on the intersections in the vicinity of the site.

¹ NSW Government Roads and Traffic Authority 2002, Guide to Traffic Generating Developments



On this basis, the assessment found the proposal unlikely to result in an adverse traffic implication on the local road network.





7 Conclusion

The traffic and parking assessment undertaken for the Proposed Residential Development at 32 Golf Avenue, Mona Vale has concluded that:

- the traffic generation of the proposed development will not present any adverse traffic implications
- the proposed parking provision will comply with the Council's DCP criteria and will adequately serve the development
- the proposed access, internal circulation and parking arrangements will be appropriate to AS design criteria

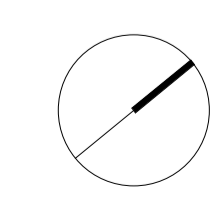
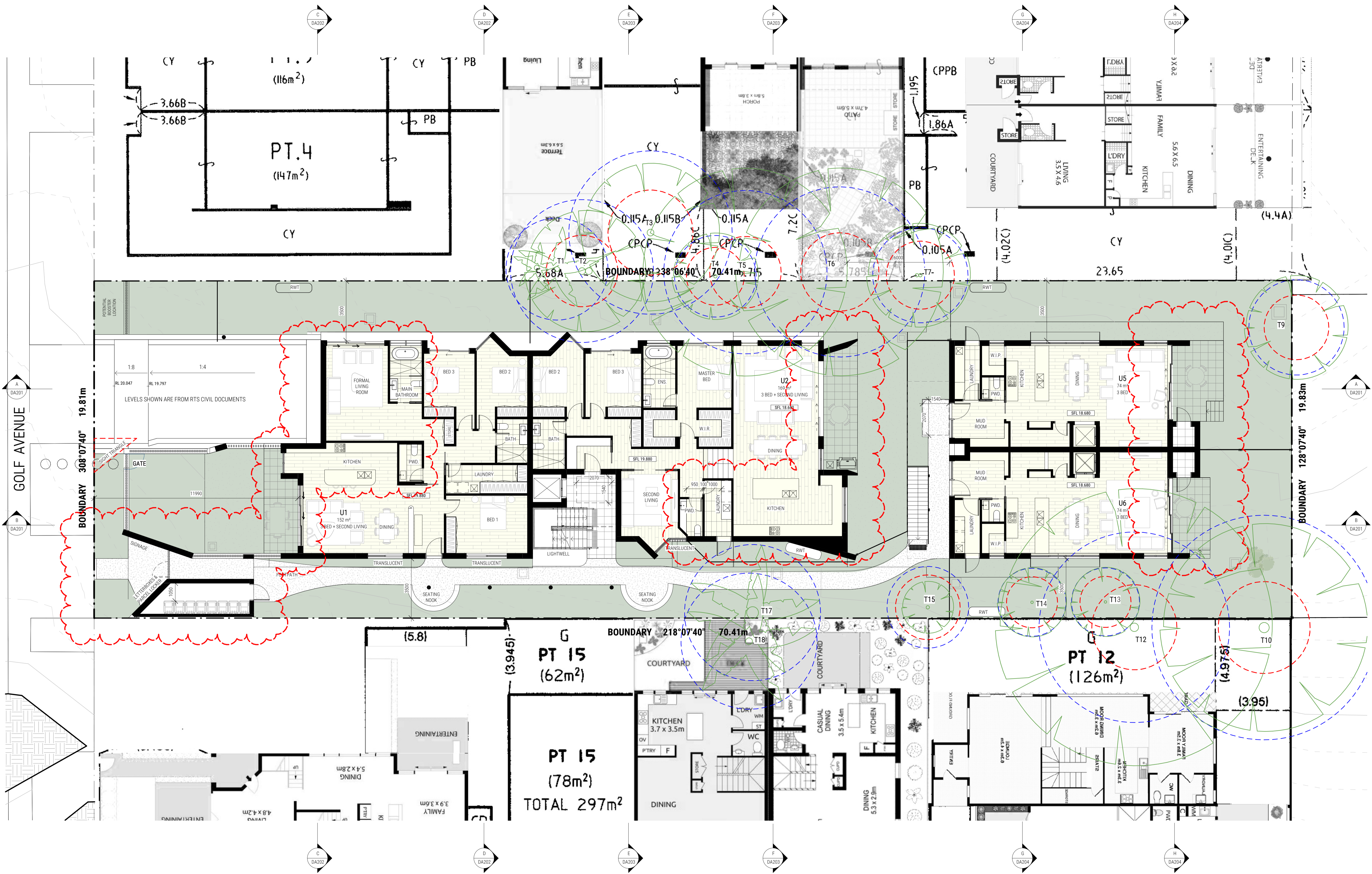




Attachment 1

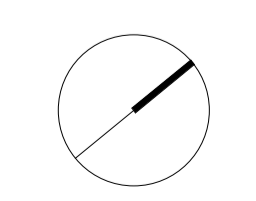
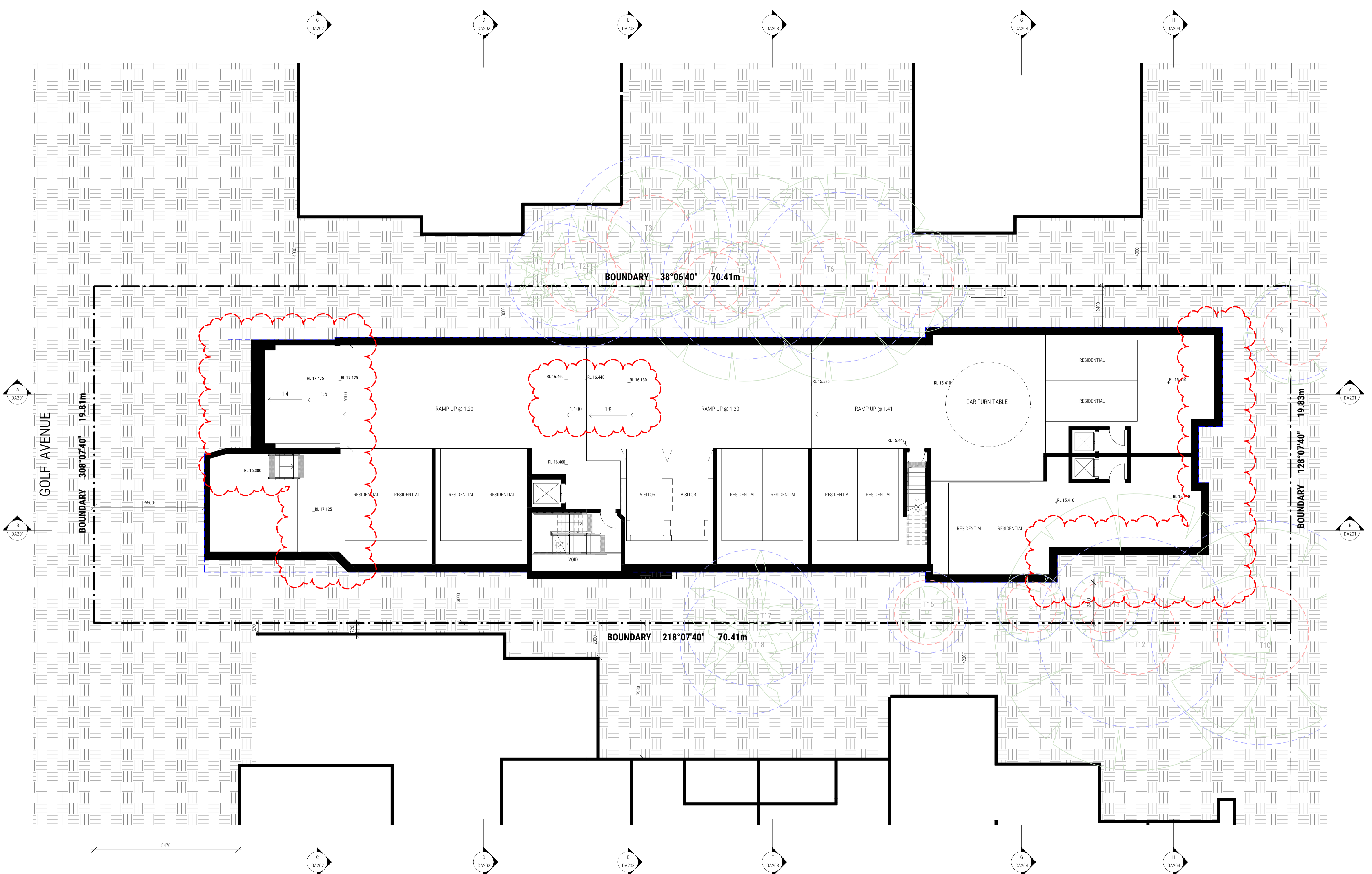
Architectural Plan





REV NO.	DESCRIPTION	REV DATE
A	ISSUE FOR DA APPROVAL	19.01.24
B	UPDATED FOR DA APPROVAL	22.06.24

GROUND FLOOR PLAN	
SHEET NUMBER	DA102
REVISION	B
SCALE @ A1	1 : 100
32 GOLF AVENUE MONA VALE	



REV NO.	DESCRIPTION	REV DATE
A	ISSUE FOR DA APPROVAL	19.01.24
B	UPDATED FOR DA APPROVAL	22.06.24

BASEMENT PLAN	
SHEET NUMBER	DA101
REVISION	B
SCALE @ A1	1 : 100
32 GOLF AVENUE MONA VALE	



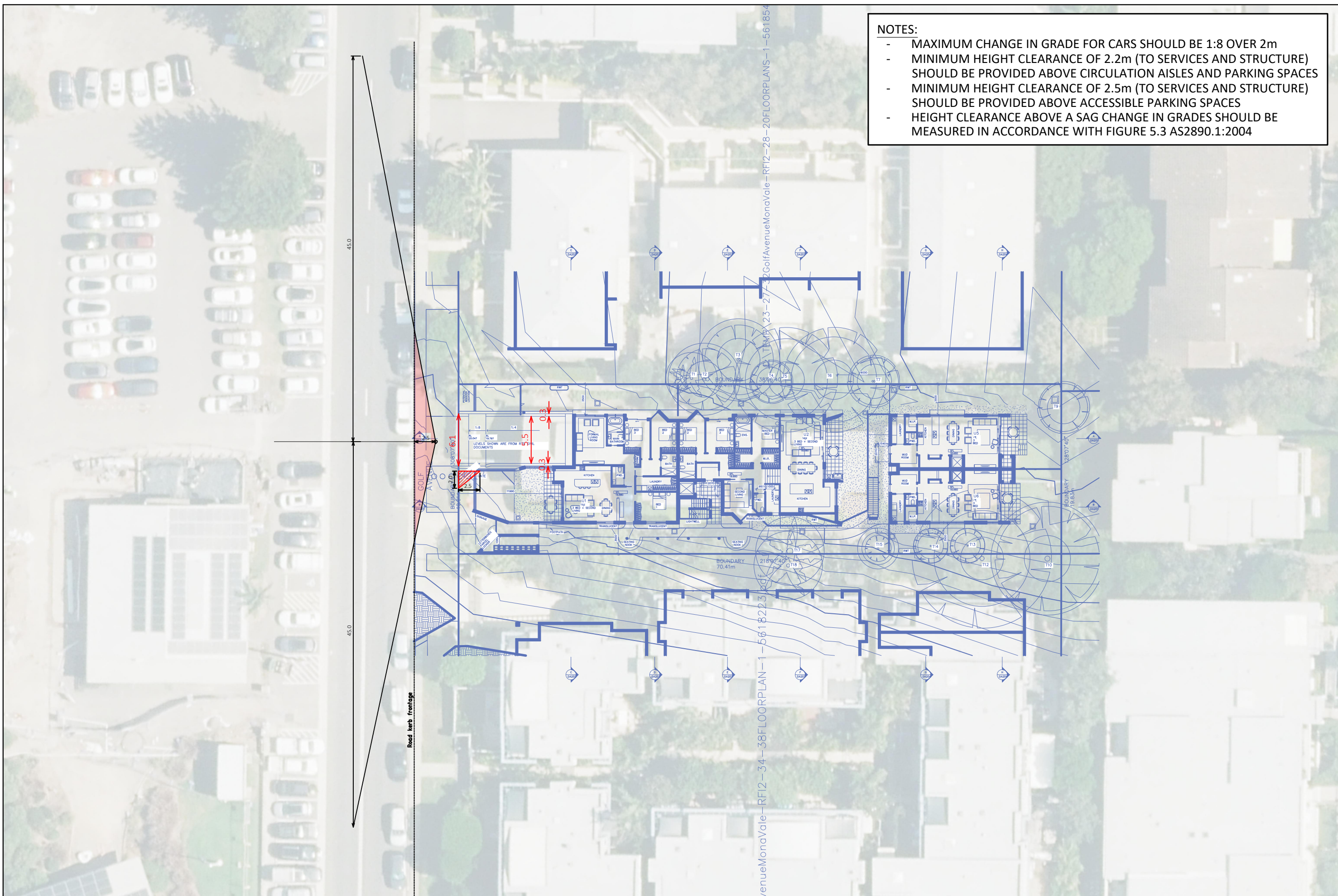
Attachment 2

Turning Path Assessment



NOTES:

- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004



Printed by Intern - Genesis Traffic 6:\2024\24001-32 Golf Avenue, Mona Vale\Drawings\24001-V1.7-SP.dwg

**32 GOLF AVENUE, MONA VALE
GROUND LEVEL
COMPLIANCE CHECK**

DRAWING REF NO. 24001-V1.7-SP

SHEET NO. 01 OF 07

DRAWING REFERENCE (SOURCE):
20240625
ISSUE DATE 25 June 2024

DESIGNED BY
B.BUI, A.XIA

REVIEWED BY
B.LO

SCALE
A3 0 40 80 1:400



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

WARNING
THE LOCATION OF UNDERGROUND SERVICES
IS APPROXIMATE ONLY.
THE EXACT LOCATION SHALL BE VERIFIED ON SITE.
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.



Plotted by intern - Genesis Traffic 6:\2024\24001-32\Golf Avenue, Mona Vale\Drawings\24001-V1.7-SP.dwg



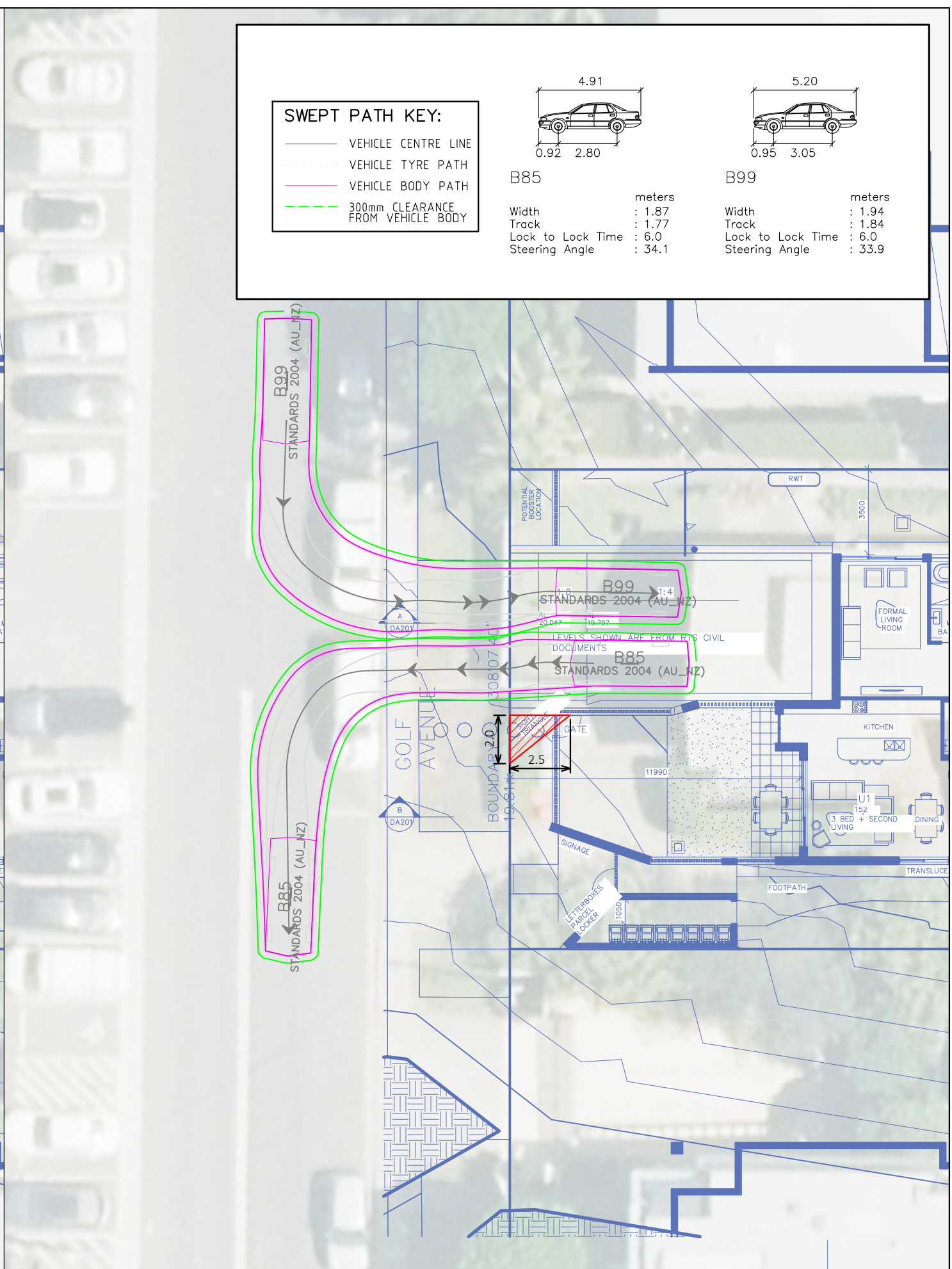
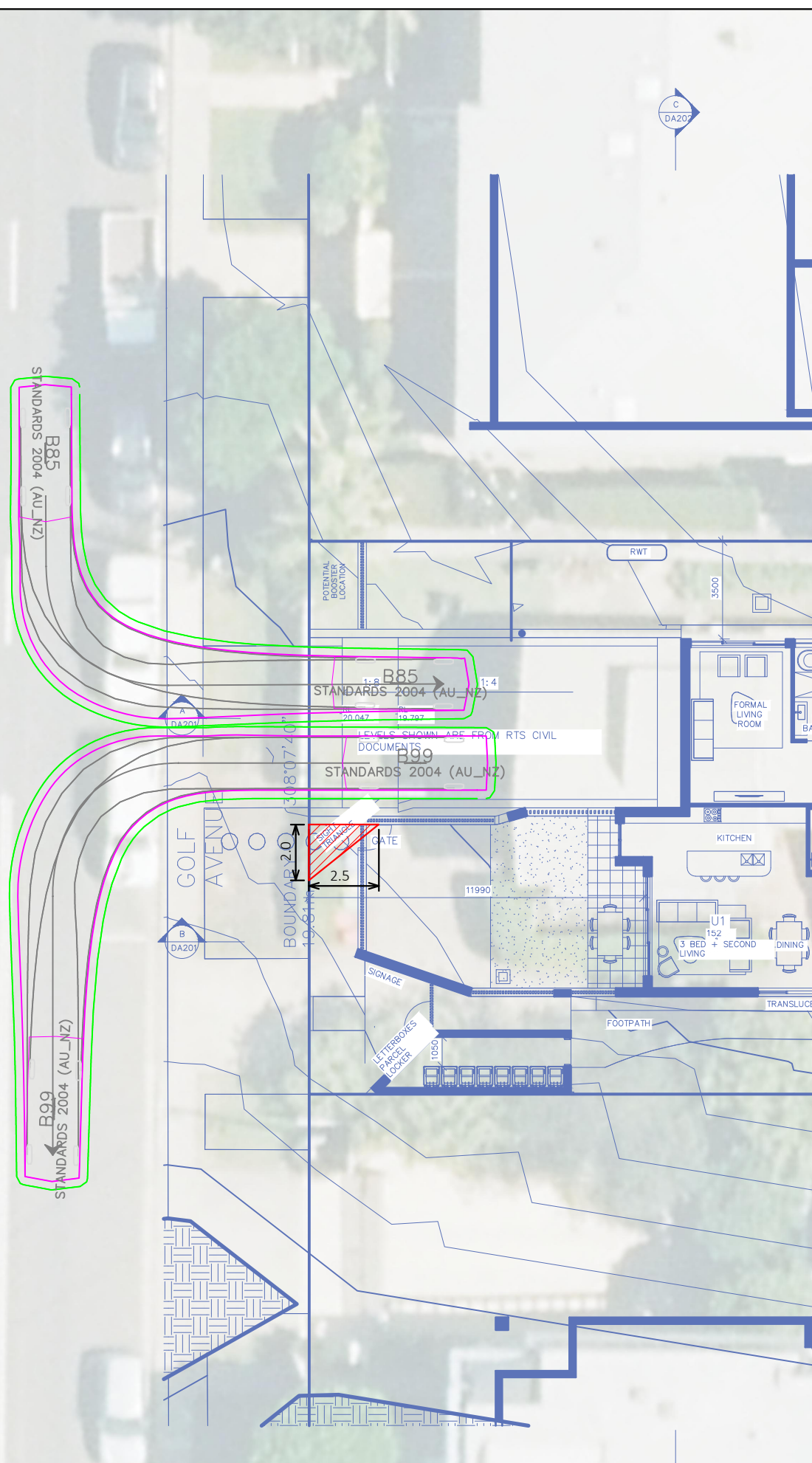
PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

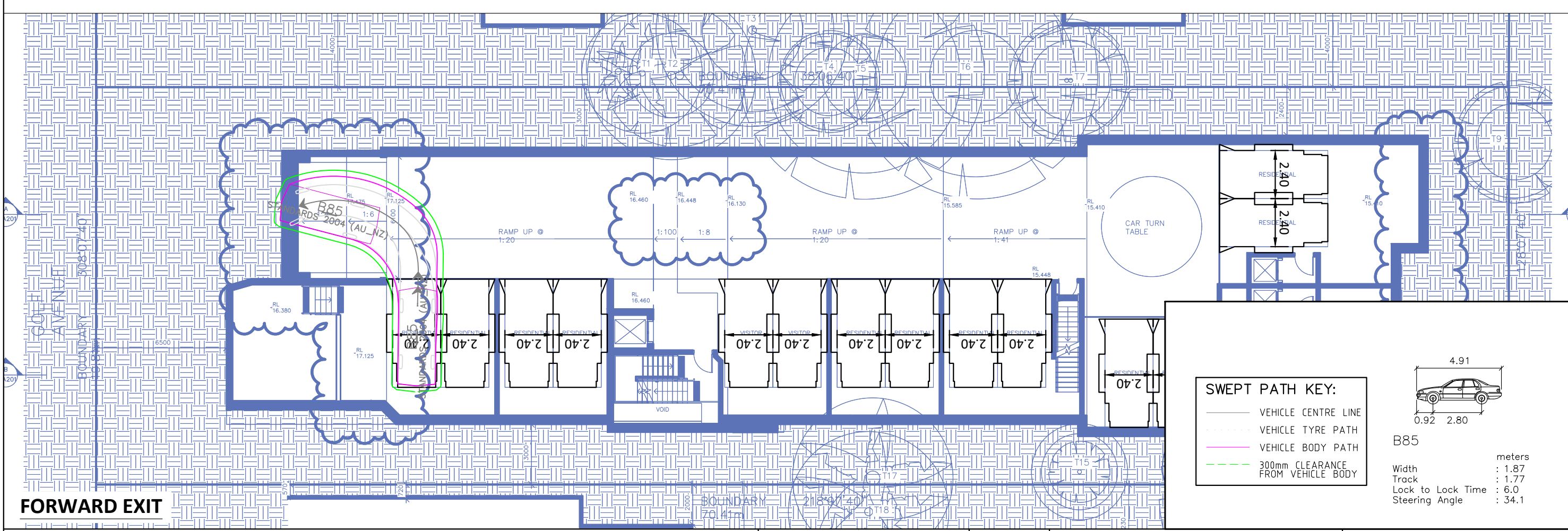
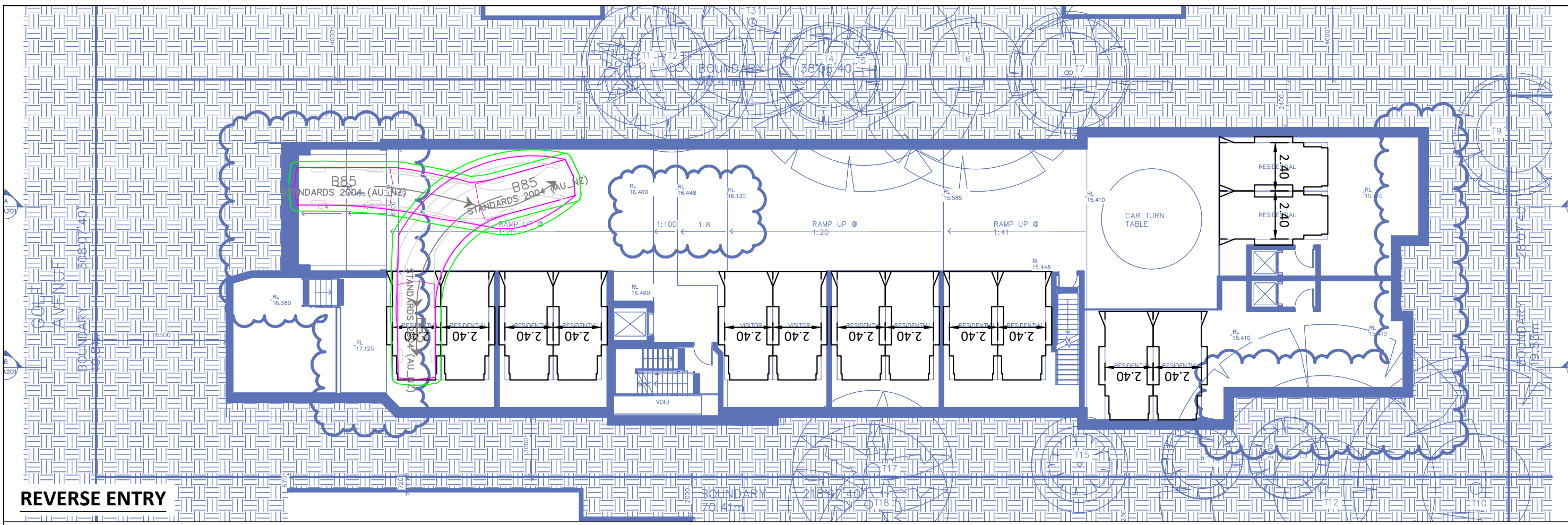
WARNING
THE LOCATION OF UNDERGROUND SERVICES
ARE APPROXIMATE ONLY
THE EXACT LOCATION SHALL BE VERIFIED ON SITE.
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - 300mm CLEARANCE FROM VEHICLE BODY

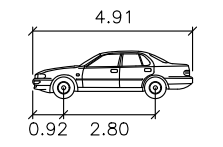
	B85 meters		B99 meters	
Width	: 1.87		: 1.94	
Track	: 1.77		: 1.84	
Lock to Lock Time	: 6.0		: 6.0	
Steering Angle	: 34.1		: 33.9	





SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - 300mm CLEARANCE FROM VEHICLE BODY



B85

Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

32 GOLF AVENUE, MONA VALE
BASEMENT LEVEL
SWEPT PATH ASSESSMENT - B99 STANDARD VEHICLE
 DRAWING REF NO. 24001-V1.7-SP SHEET NO. 04 OF 07

DRAWING REFERENCE (SOURCE):
 20240625
 ISSUE DATE 25 June 2024

DESIGNED BY B.BUI, A.XIA
 REVIEWED BY B.LO
 SCALE A3 0 20 40 1:200



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

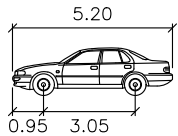
WARNING
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY
 THE EXACT LOCATION SHALL BE VERIFIED ON SITE.
 ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.



Printed by Intern - Genesis Traffic 6:\2024\24001 - 32 Golf Avenue, Mona Vale\Drawings\24001-V1.7-SP.dwg

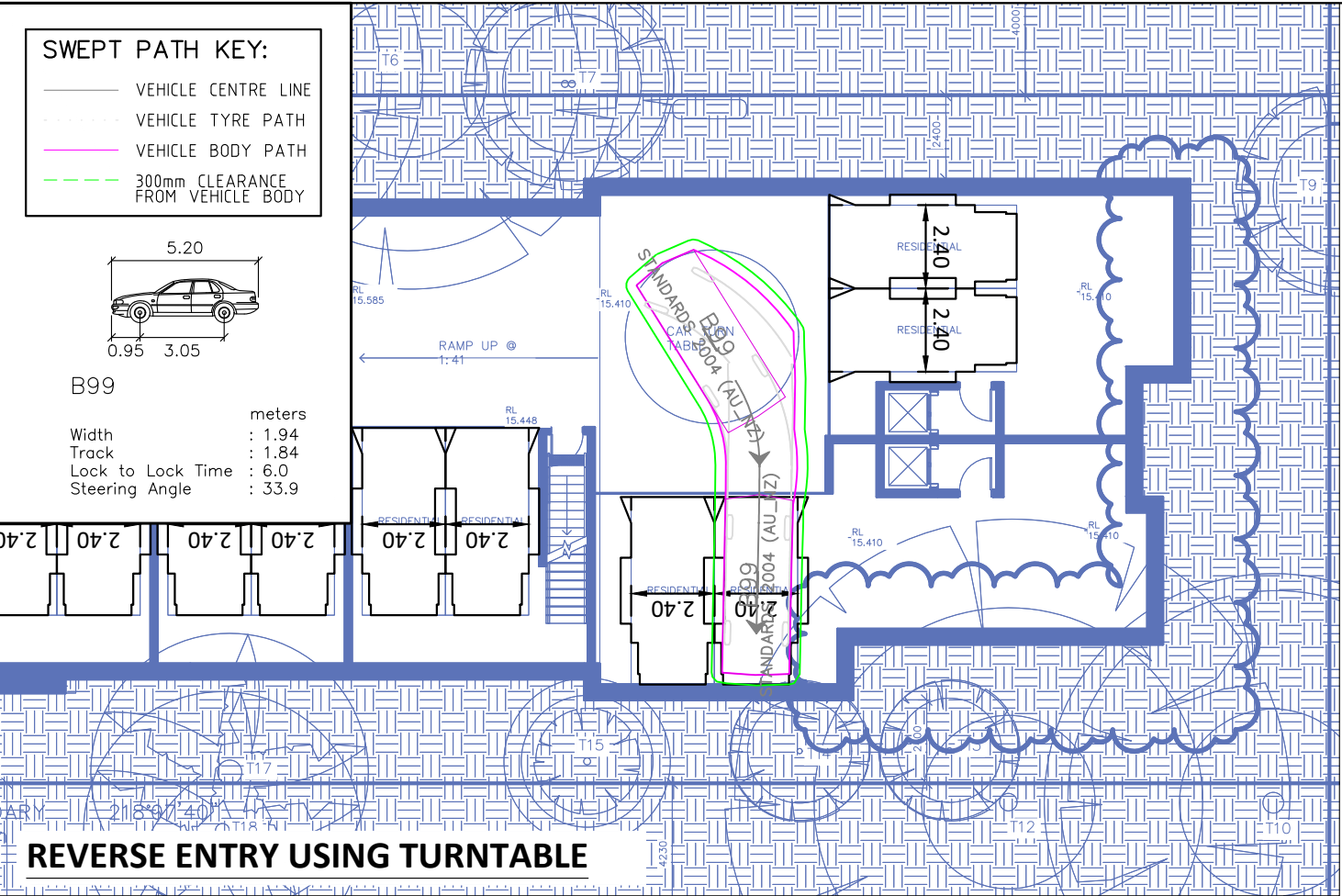
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

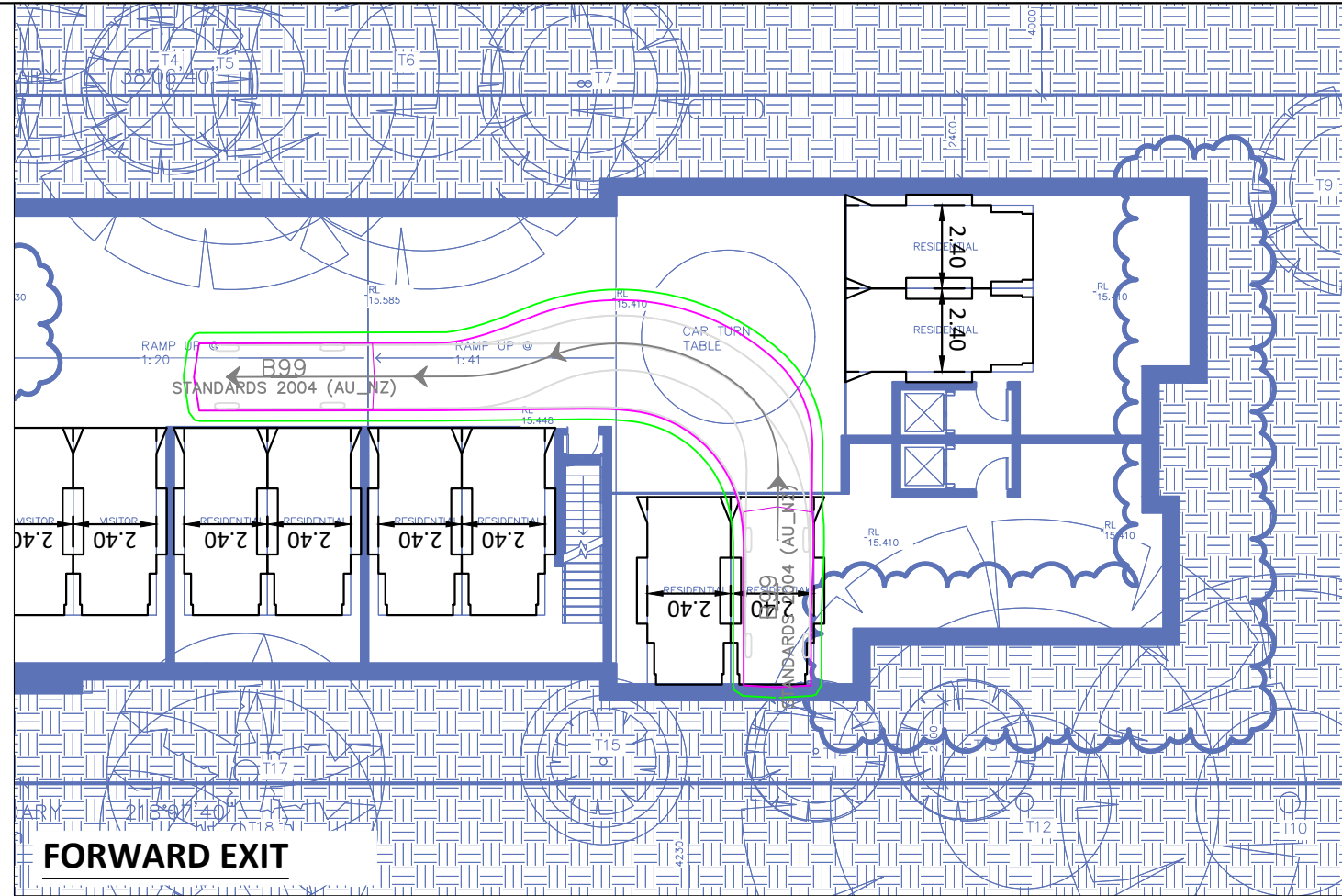


B99

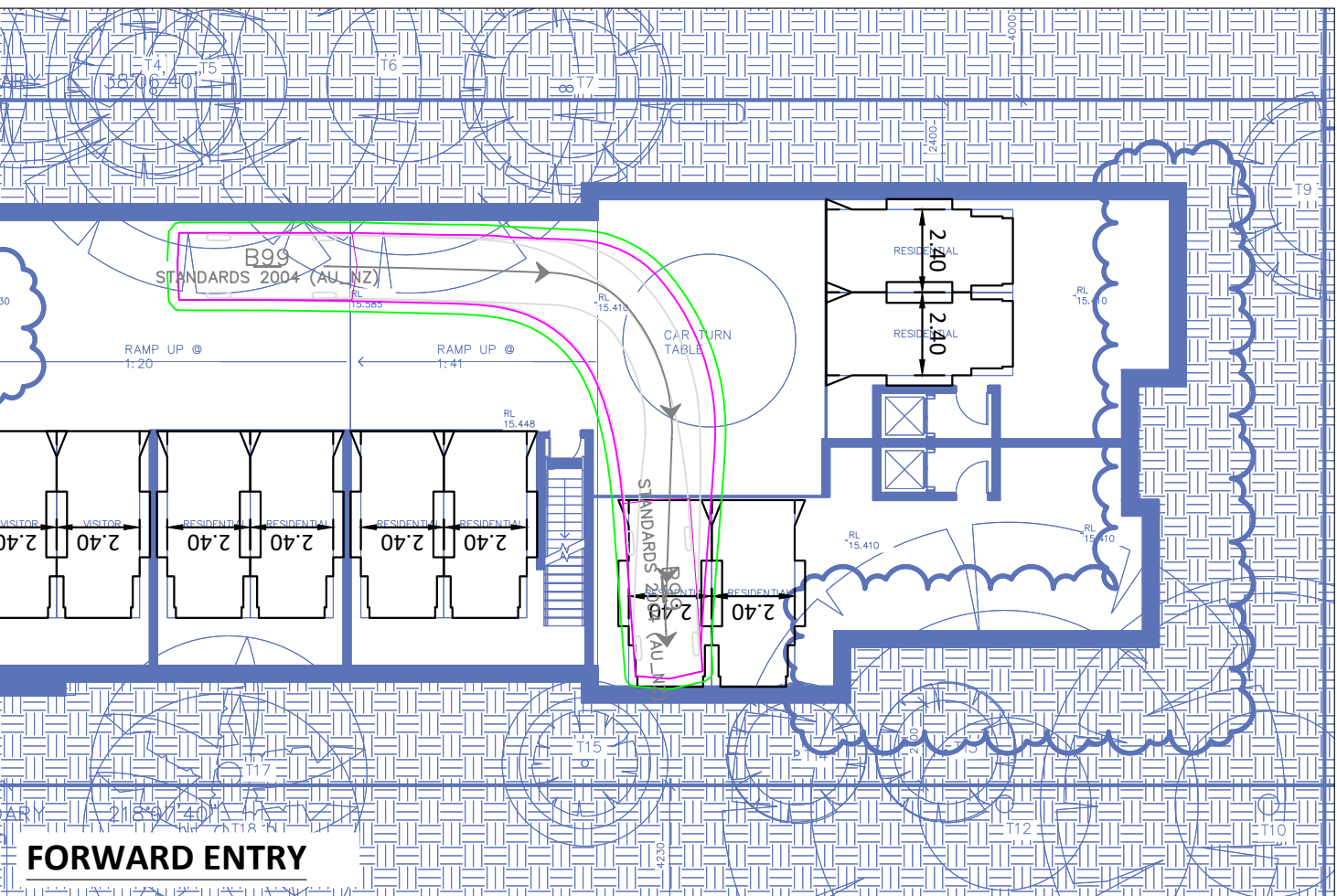
Width : 1.94 meters
 Track : 1.84
 Lock to Lock Time : 6.0
 Steering Angle : 33.9



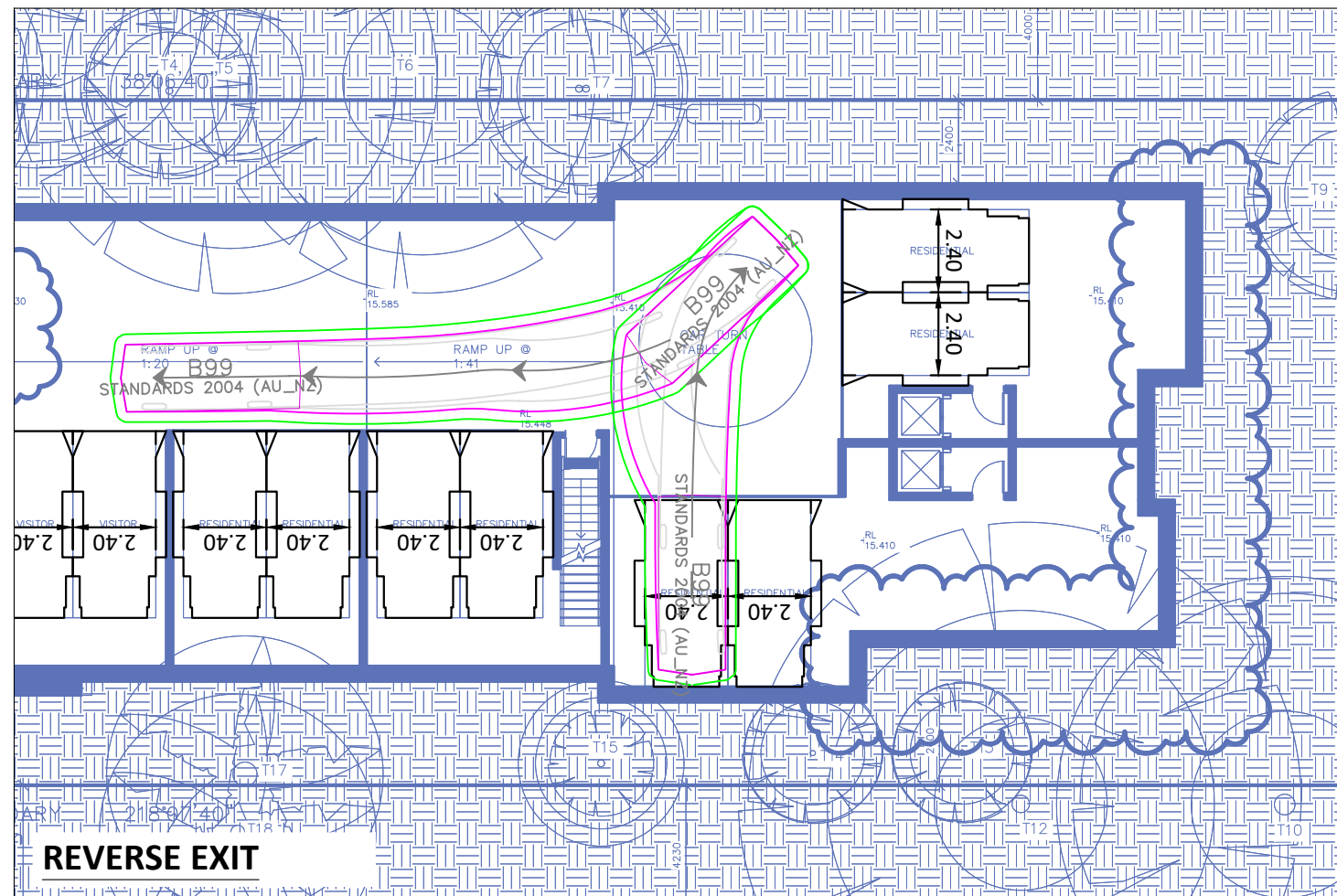
REVERSE ENTRY USING TURNTABLE



FORWARD EXIT



FORWARD ENTRY



REVERSE EXIT

Printed by Inter - Genesis Traffic 6:\2024\24001 - 32 Golf Avenue, Mona Vale\Drawings\24001-V1.7.SP.dwg

32 GOLF AVENUE, MONA VALE
BASEMENT LEVEL
SWEPT PATH ASSESSMENT - B99 STANDARD VEHICLE
 DRAWING REF NO. 24001-V1.7-SP SHEET NO. 05 OF 07

DRAWING REFERENCE (SOURCE):
 20240625
 ISSUE DATE 25 June 2024

DESIGNED BY B.BUI, A.XIA
 REVIEWED BY B.LO
 SCALE A3 0 20 40 1:200



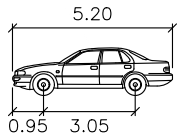
PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 THE LOCATION OF UNDERGROUND SERVICES
 ARE APPROXIMATE ONLY
 THE EXACT LOCATION SHALL BE DETERMINED ON SITE.
 ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.



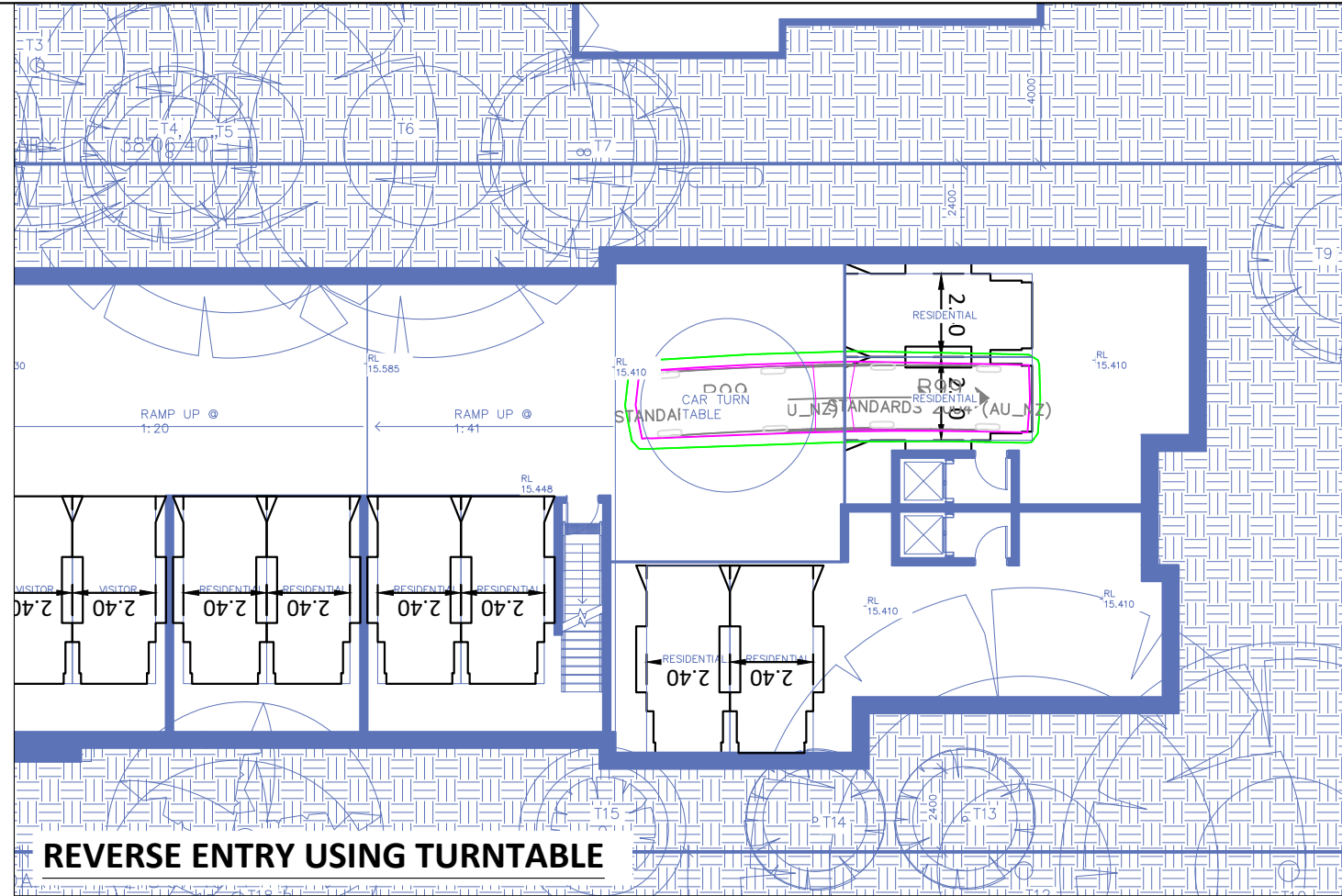
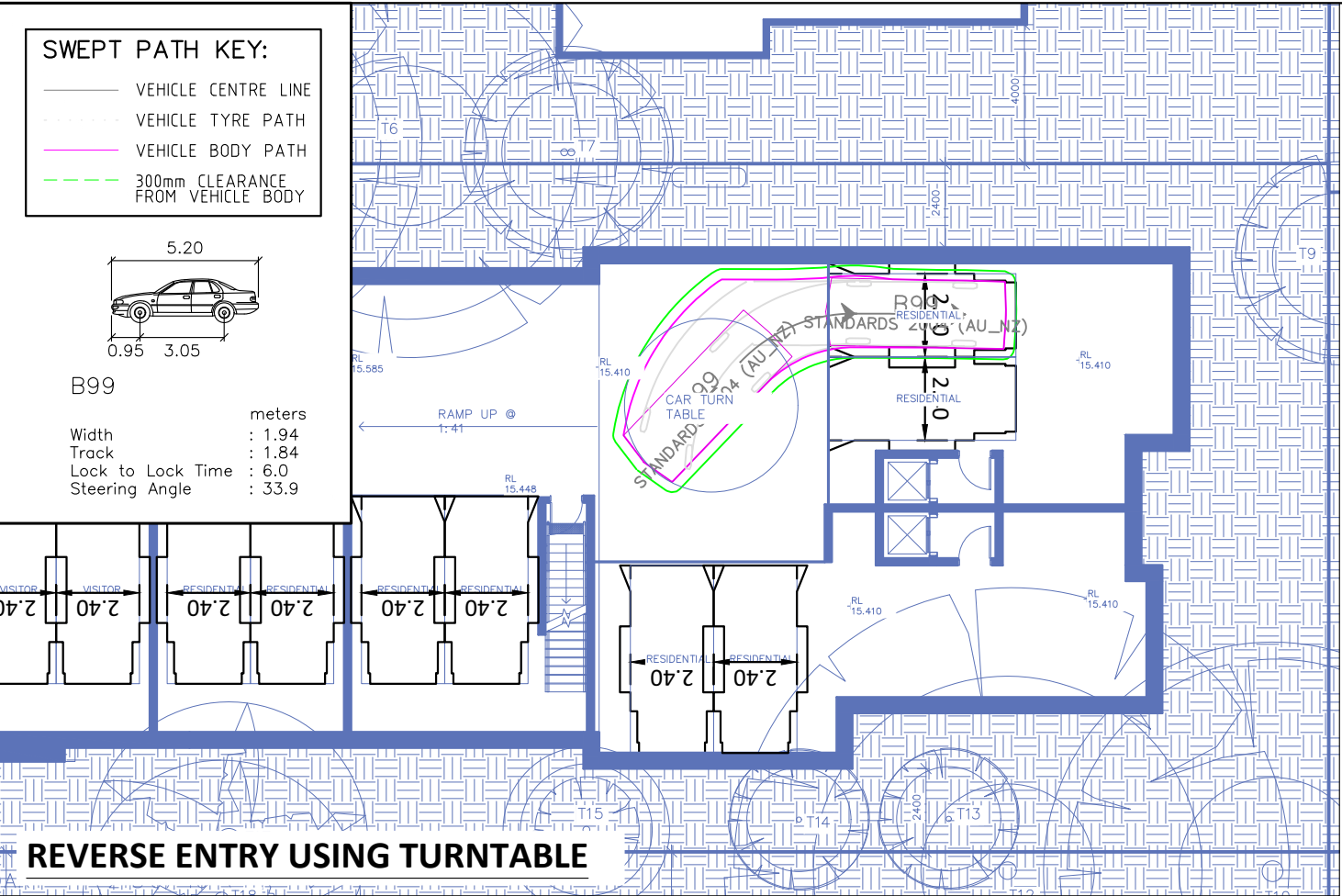
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



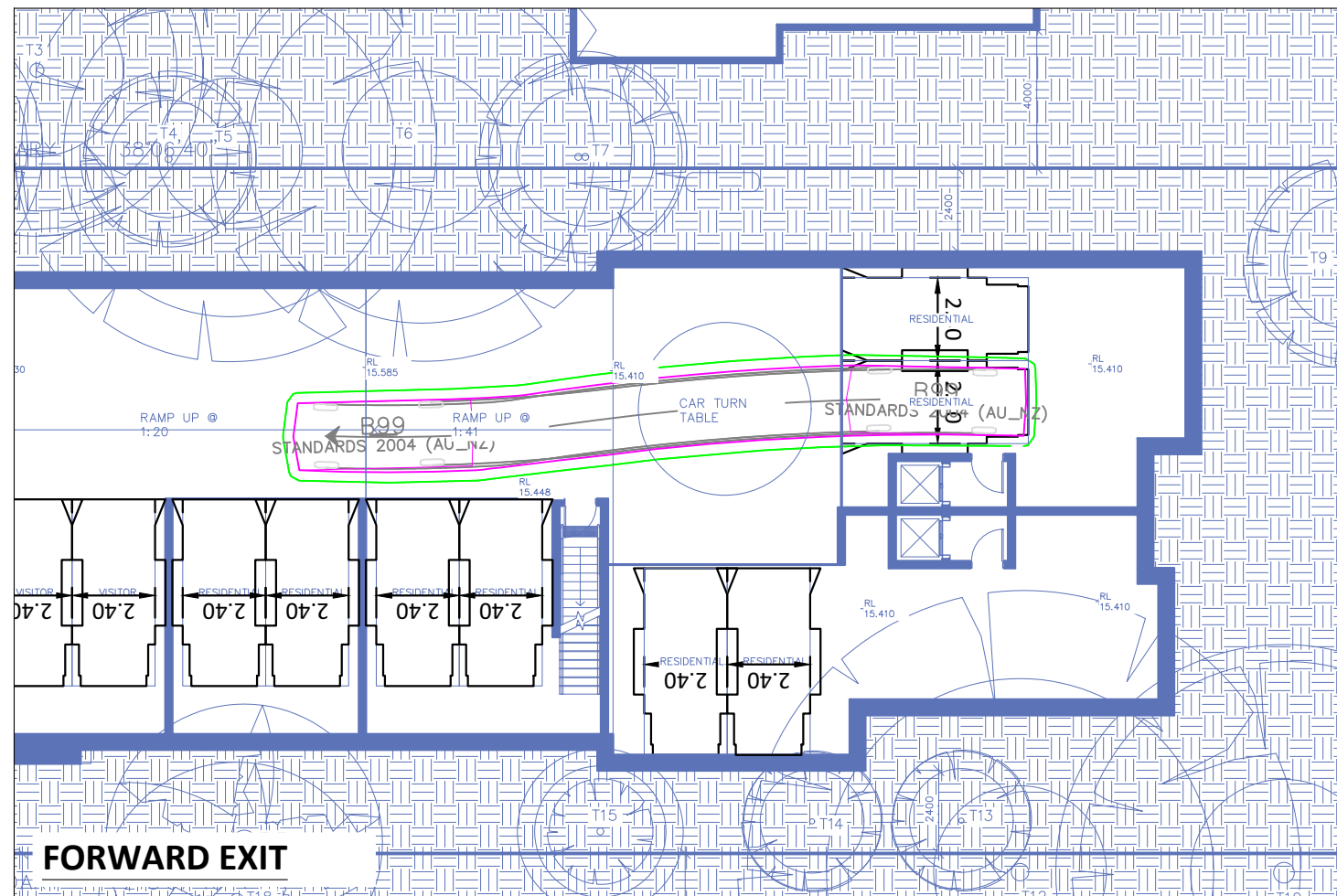
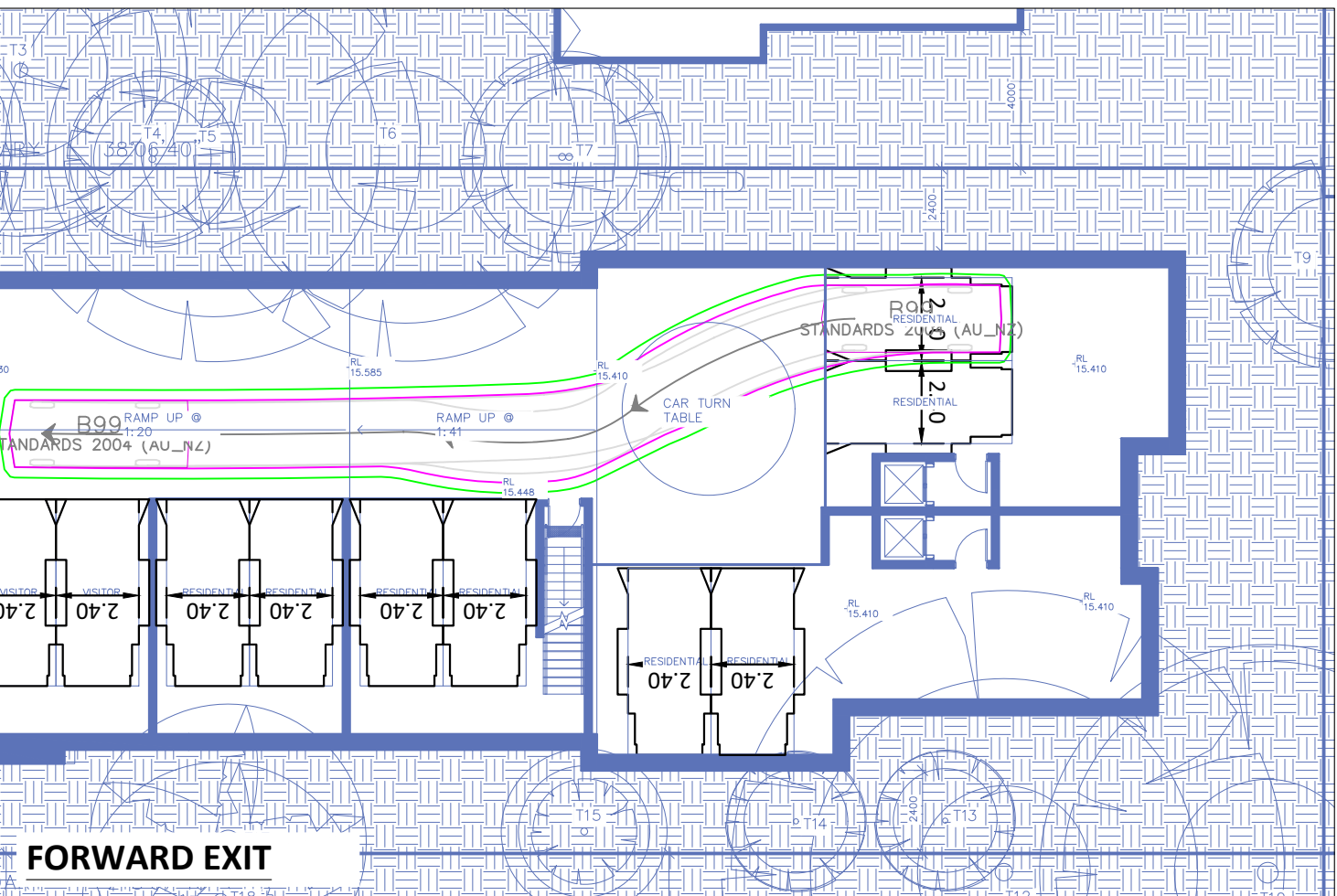
B99

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



REVERSE ENTRY USING TURNTABLE

REVERSE ENTRY USING TURNTABLE



FORWARD EXIT

FORWARD EXIT

Plotted by Intern - Genesis Traffic 6/20/24 13:00:11 - 32 Golf Avenue, Mona Vale\Drawings\24001-V1.7-SP.dwg

32 GOLF AVENUE, MONA VALE
 BASEMENT LEVEL
 SWEPT PATH ASSESSMENT - B99 STANDARD VEHICLE
 DRAWING REF NO. 24001-V1.7-SP SHEET NO. 06 OF 07

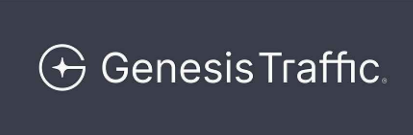
DRAWING REFERENCE (SOURCE):
 20240625
 ISSUE DATE 25 June 2024

DESIGNED BY B.BUI, A.XIA
 REVIEWED BY B.LO
 SCALE A3 0 20 40 1:200



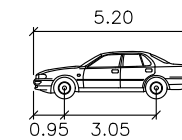
PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY. SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 THE LOCATION OF UNDERGROUND SERVICES
 ARE APPROXIMATE ONLY.
 THE EXACT LOCATION SHALL BE VERIFIED ON SITE.
 ALL EXISTING SERVICES SHOULD BE NOT GUARANTEED.

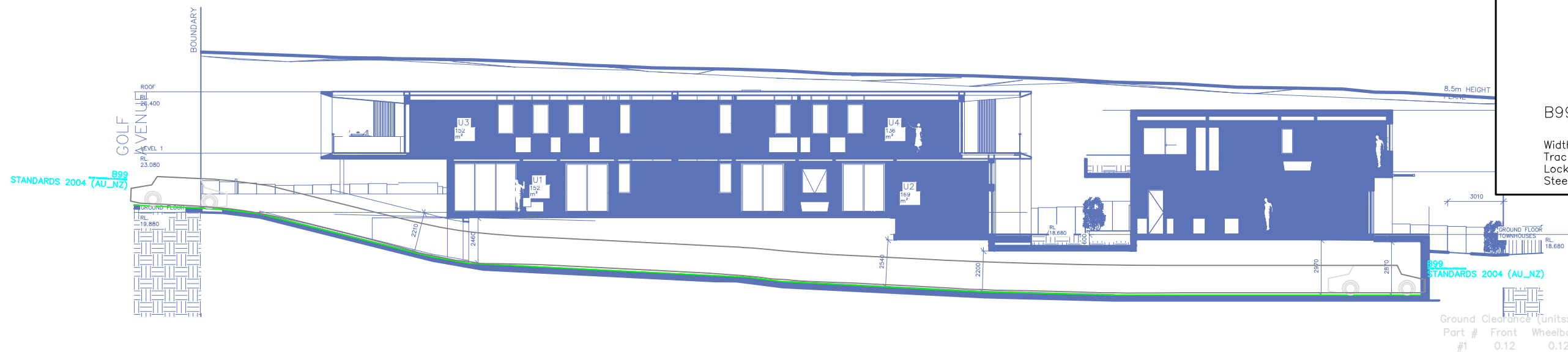


SWEPT PATH KEY:

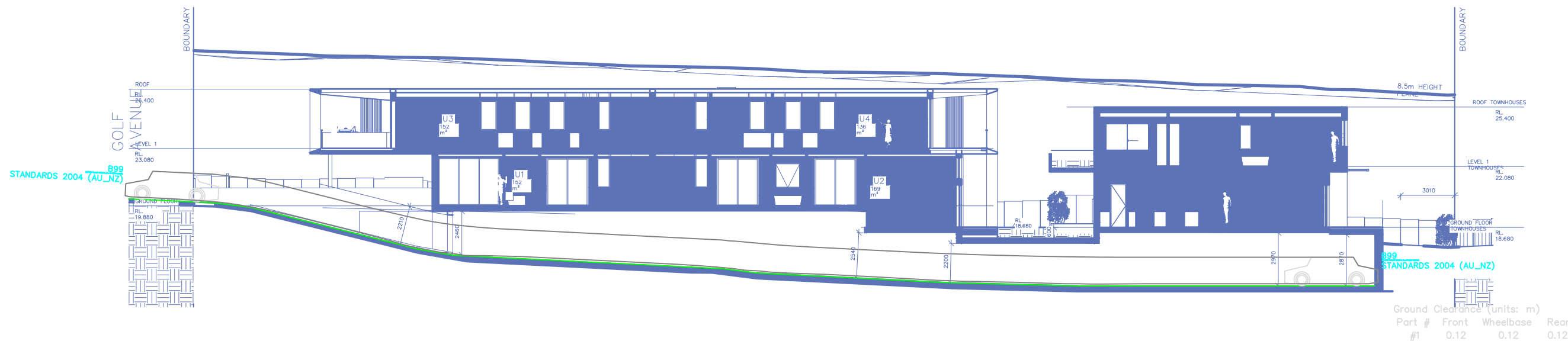
- VEHICLE CENTRE LINE
- - - - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - - 300mm CLEARANCE FROM VEHICLE BODY



B99
 meters
 Width : 1.94
 Track : 1.84
 Lock to Lock Time : 6.0
 Steering Angle : 33.9



ENTRY



EXIT

32 GOLF AVENUE, MONA VALE
 BASEMENT LEVEL
 GROUND CLEARANCE ASSESSMENT - B99 STANDARD VEHICLE
 DRAWING REF NO. 24001-V1.7-SP SHEET NO. 07 OF 07

DRAWING REFERENCE (SOURCE):
 20240625
 ISSUE DATE 25 June 2024

DESIGNED BY B.BUI, A.XIA
 REVIEWED BY B.LO
 SCALE A3 0 2.5 5.0 1:250



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 THE LOCATION OF UNDERGROUND SERVICES
 ARE APPROXIMATE ONLY
 THE EXACT LOCATIONS SHALL BE OPENED UP ON SITE.
 ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.





Better Developments with
Genesis Traffic