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- Traffic & Parking Impact Assessment - **For the Proposed Boarding House Development at** **No. 71-73 Thomas St, Parramatta.**



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1. INTRODUCTION

ANA Civil Pty Ltd has been commissioned to prepare a Traffic & Parking Report to accompany the Development Application for the proposed Boarding House Development at No. 71-73 Thomas St, Parramatta. The site is located on the Southern side of Thomas St (See Figures 1 & 2 - Site Location). The proposal consists of the demolition of two residential dwellings and the construction of a Five (5) storey boarding house development, and one (1) level of basement parking (See Figure 3&4). The architectural plans are by *Vourtzoumis Architects – Revision C; Dated 28/11/22*.

This study is in accordance with the requirements of Parramatta City Council DCP 2011 Part 3 - Development Principles - 3.6.2 Parking & Vehicular Access, Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis, and the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002).

2. SCOPE

The purpose of this report is to investigate and examine the traffic and parking requirements and implications of the proposed Boarding House Development at No. 71-73 Thomas St, Parramatta on the surrounding residences and traffic network and to recommend any necessary measures to reduce these impacts if required. The proposed Boarding House Development consists of the following:

- Five Storey Boarding house development – Sixty seven (67) Rooms;
- Rooftop Communal Open Space;
- One Level of Basement Parking to accommodate thirty-four (34) off-street parking spaces for the boarding rooms (including four (4) disabled parking spaces);
- Fourteen (14) motorcycle spaces; and,
- Twenty-four (24) bicycle spaces.

3. SITE LOCATION AND ENVIRONMENT

The subject site is located to the south of Thomas St; LOTS 14 and 15 DP9551 – 71-73 Thomas St, Parramatta, NSW 2200. The local precinct consists of a variety of low-density residential dwellings.

Thomas St is an east to west running road with vehicles travelling in both directions. It is four (4) lanes wide along the site frontage with two (2) lanes for travel and two (2) lanes



for restricted and unrestricted kerbside parking. The subject site is located on a corner block bound by Pemberton St and Thomas St.

The site has approximately 35.8m wide street frontage on 71-73 Thomas St, Parramatta with a depth of approximately 45.50m. The site occupies an area of approximately 889.6m². The existing sites are both occupied by single residential dwellings with a standard vehicular crossing for each site.

4. EXISTING CONDITIONS

4.1.Existing Vehicle Access & Egress to Proposed Parking Area

Existing access driveway for No.73 Thomas St is located on Pemberton St and for No.71 Thomas St, along the Eastern boundary of the property of Thomas St. A new two-way driveway (approx. 6.0m wide) is to be constructed at the southern side of the property boundary on Thomas St to the Council's engineering specifications. After a 8.0m transition, the driveway then reduces to a single access driveway which is to be controlled by a traffic signal system.

4.2.Road Network & Nearby Intersections

The site is located on the Southern side of Thomas St. The site is located on a block bound by Thomas St to the north, Pemberton St to the East, Morton St to the West, and Broughton St to the South as shown in Figures 1 & 2.

Thomas St is orientated east to west and is four (4) lanes wide along the site frontage with two (2) lanes for travel and two (2) lanes for restricted and unrestricted kerbside parking. The nearest major intersection is located approximate 276.6m from the boundary. This intersection is with James Ruse Drive and is un-signalised allowing a left turn only.

4.3.Existing Traffic Volumes

Thomas St and Pemberton St are Local Roads. Traffic volume is less than 20,000 Annual Average Daily Traffic (AADT) using the Map 10 of the Traffic Volume Maps for Noise Assessment for Building on Land Adjacent to Busy Roads by the RTA (Refer to Figure 4). The speed limit on both Thomas St and Pemberton St is 50km/hr.



4.4.Existing Traffic Flows

Traffic counts were undertaken by ANA Civil Pty Ltd at the front of site on Thomas St;

The traffic counts were undertaken at peak times on Friday September 24, 2021 to represent a typical weekday. The peak hours on a typical weekday we found to be 8:15am-9:15am in the morning and 4:30pm-5:30pm in the afternoon.

Peak hour traffic flows are as follows:

Table 1 – Existing Peak Hour Traffic Volumes (Vehicles/hour) on Thomas St

Peak Time	<i>Thomas St</i>⁽¹⁾	<i>Thomas St</i>⁽²⁾
8:15AM – 9:15AM	55	32
4:30PM – 5:30PM	41	38

Notes:

⁽¹⁾ Vehicles travelling along Thomas St – Travelling East

⁽²⁾ Vehicles travelling along Thomas St – Travelling West

Table 2 – Existing Peak Hour Traffic Volumes (Vehicles/hour) on Pemberton St

Peak Time	<i>Pemberton St</i>⁽¹⁾	<i>Pemberton St</i>⁽²⁾
8:15AM – 9:15AM	27	19
4:30PM – 5:30PM	8	11

Notes:

⁽¹⁾ Vehicles travelling along Thomas St – Travelling North

⁽²⁾ Vehicles travelling along Thomas St – Travelling South

From the above, we have found that Thomas St is catering for a very low traffic volume of vehicles and is free flowing. Thomas St services the local residential allotments and provides access to James Ruse Drive. Thomas St is the only access road to James Ruse Drive for dwellings in the immediate vicinity as there is Parramatta River located to the south and Victoria Rd located to the North. Macarthur St which is located approximately 600m to the West of the site provides signalised access onto Victoria St which would be used for vehicles travelling to both Parramatta City Centre or Sydney CBD. Pemberton St is also catering for a very low volume of traffic and is a short run that transitions into



Broughton St. This thoroughfare provides limited access to a return road of residential allotments, with a return back to Thomas St.

It is determined that the existing level of service in Thomas St is classified as Level A, in accordance with Table 4.4 'Urban Peak Hour Flows per Direction' of the RMS' Guide to Traffic Generating Developments (2002). See the table below.

Table 3 – Urban Peak Hour Flows per Direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Also the intersection of Thomas St and Pemberton St is extremely low volume and free flowing with little to no delays at all with an average delay of less than 14 seconds per vehicle is considered to be in 'Good Operation' with a Level of Service 'A', in accordance with Table 4.2 'Level of Service Criteria for Intersections' of the RMS' Guide to Traffic Generating Developments (2002). See the table below.

Table 4 – Level of Service Criteria for Intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode



4.5.Existing Public Parking Conditions

The existing parking restrictions which apply to the road network in the vicinity of the site comprise of the following:

- RESTRICTED kerbside parking (4P 8AM-6PM Mon-Fri) along the full length of the southern side of Thomas St;
- Generally UNRESTRICTED kerbside parking along the full length of the northern side of Thomas St;
- No parking along the full length of the western side of Pemberton St;
- RESTRICTED kerbside parking (4P 8AM-6PM Mon-Fri) along the full length of the eastern side of Pemberton St

See image attached in Figures 5-8 for relevant parking arrangements and signage on Thomas St & Pemberton St.

Street parking in the vicinity of the proposed development consists of the following:

- Approximately twenty-five (25) car spaces on the southern side of Thomas St
- Approximately twenty-three (23) car spaces on the northern of Thomas St

On a typical weekday a parking survey was conducted by this office in order to assess the existing on-street parking levels in the vicinity of the site. The parking survey was conducted at 15-minute intervals during the Friday September 24, 2021 10:00am-11:00am period

Upon inspection we found the following number of car spaces unoccupied:

Table 5 – Summary of On Street Parking Survey Friday September 24, 2021 10:00am-11:00am

Location	Minimum % Unoccupied
Northern side of Thomas St	57% (13/23) spaces unoccupied)
Southern side of Thomas St	72% (18/25 spaces unoccupied)
Eastern side of Pemberton St	91% (11/12 spaces unoccupied)

As can be seen from the above sufficient on-street parking can be found in the vicinity of the development even during peak times should street parking be required. It is to be noted that the surrounding vicinity of the subject property is of primarily single residential dwellings which each provide adequate on-site parking per dwelling. The vehicles to utilise the kerbside parking as observed above will be mostly visitors and of short-term parking.



4.6. Public Transport

The site has good access to bus stops, with the nearest located on Macarthur St and only a short walk from the site – Approximately 650m. The bus stops located on Macarthur St are Stops Number 215044 & 2150117 on the eastern side and Stops Number 215043 & 2150116 on the western side.

Buses travelling to these stops include the following:

Table 6A – Bus Routes from Stops 215044, 2150117, 215043 and 2150116

Bus Number	Bus Travelling To/From
545	Parramatta to Macquarie Park
545	Macquarie Park to Parramatta

This bus route has a short run and provides direct access to North Ryde Station, Macquarie University, Eastwood Station, Eastwood Shops to the North, and both Parramatta CBD and Parramatta Station to the South.

From this, it can be seen, that the site is serviced by transport and we expect these services to be utilized by the residents of the future Boarding house development.

4.7. Pedestrian Amenity

Pedestrian footpaths are available throughout the study area. A pedestrian footpath is located along the site frontage for occupants wishing to travel along Thomas St in either direction.

5. PROPOSED CONDITIONS

5.1. Proposed Traffic Conditions

The proposed land use is changing from two single residential dwellings to a boarding house comprising of 67 rooms. The traffic generation is expected to increase as a result of an increase in density on the site, and specifically the weekday peak hour.

The trip rates for Boarding Houses as per Section 3.4 Casual Accommodation of the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002) are as follows:

- Daily vehicle trips = 3 per boarding room
- Morning peak hour vehicle trips = 0.4 per boarding room



Table 7 – RTA Trip Rates for the proposed Boarding House

Land Use	Time	Traffic Generation for the site (67 Boarding House units)
Casual Accommodation Boarding House	Daily vehicle trips	201 trips per day
	Morning Peak Hour	27 trips per hour

As can be seen above, the application of the above trip rates yields a traffic generation potential of approximately two-hundred and one (201) vehicle trips per day, or approximately twenty-seven (27) vehicle trips per hour during peak morning hours for the proposed land use.

The existing land-use comprises of two single residential dwellings which are expected to numerically produce a much less traffic volume to the local road network.

With this, the residential allotments along Thomas Street have been rezoned for High Density development as part of a future growth precinct. There are also many proposed development applications approved and pending council approval for similar sized developments. Council has prepared a traffic study for the local catchment and is expecting an increase in traffic volume as part of a density increase, rezoning, and growth study.

In saying this, it is expected that the proposed boarding house development will increase the peak hour traffic volumes on Thomas St. However, considering the future growth masterplan, and the existing function of Thomas Street provides a performance level of service category ‘A’ with <14s delay per vehicle, the increase in traffic volume will not cause any nuisance to the surround road network.

5.2. Proposed Parking Conditions

5.2.1. Off-Street Parking Provisions

5.2.1.1. Off-Street Car Parking

Off-street parking provisions for boarding houses are to be in accordance with the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002).

RTA Guide to Traffic Generating Developments Version 2.2 (October 2002) states the following is required:



Table 3 – Parramatta City Council DCP 2011 Part 3 - Development Principles - 3.6.2 Parking & Vehicular for the Proposed Development

Land Use	Off-street Parking Requirements
BOARDING HOUSE (67 Boarding Rooms)	Car spaces - 0.5 car spaces per boarding room. Motorbike spaces – 0.2 spaces per boarding room Bicycle spaces – 0.2 spaces per boarding room

The proposed development consists of sixty-seven (67) boarding rooms, including one (1) managers room, therefore the parking requirements as outlined above yields an off-street parking requirement as follows:

- Thirty-four (34) car parking spaces for all 67 boarding rooms;
- Fourteen (14) motorcycle parking spaces;
- Fourteen (14) bicycle spaces.

As can be seen on the architectural plans, the proposal consists of thirty-four (34) car spaces, including four (4) disabled parking spaces with shared zones. The proposal also consists of fourteen (14) motorcycle spaces and twenty-four (24) bicycle spaces.

In this regard, the proposal will provide the parking spaces at the required rate of 0.5 spaces per room. The proposal also satisfies the parking requirements for Motorcycles and Bicycles. With this, the site has adequate access to public transport, amenities, and with the abundant on-Street parking availability, this proposal meets this requirement of the DCP and RMS Guidelines.

5.2.2. Proposed Off-Street Parking Area Layout

5.2.2.1. Geometric Layout of Parking Modules

The proposed geometric layout of the off-street parking modules has been checked and are in accordance with the requirements of AS2890.1 (Parking Facilities-Off Street Parking).

Driveway & ramp to be fitted with mirrors at turning points as per architectural plans. Internal access ramp accommodates for one-way traffic flow with access in a single direction at any time. Access ramp is to be fitted with **mirrors**, warning signals to addressed potential conflicts of single driveway width. A traffic signalling system will be incorporated into the proposal at Construction Certificate stage.



5.2.2.2. Minimum Line of Sight

As per Figure 3.3 'Minimum Sight Lines for Pedestrian Safety' of AS2890.1 (Parking Facilities-Off Street Parking), a triangular area with 2.5m (adjacent to the driveway) by 2.0m (adjacent to the street) will be kept clear of obstructions to visibility. Sight triangles have been accommodated on the primary entry driveway crossing along the Thomas St frontage. The entry driveways cross a pedestrian footway and therefore satisfy the pedestrian minimum line of sight.

5.2.2.3. Proposed Entry/Exit Driveway

The proposed entrance/exit driveways fronting Pemberton St have been designed to accommodate for two-way traffic flow with access in two directions to avoid queuing on Pemberton St. The driveway reduces to 4.2m width to accommodate one-way traffic flow followed by a transition into a two-way traffic flow in the parking aisles. The driveway is to be fitted with a traffic signal system. This is compliant with AS2890.1 (Parking Facilities-Off Street Parking). Figures 10-14 show a Swept Path Analysis of a B85/B99 vehicle entering each Off Street Carpark Facility in a forward direction.



CONCLUSION

This report has examined the existing traffic volume, traffic characteristics and parking requirements with the potential traffic and parking implications of the proposed boarding house at No. 71-73 Thomas St, Parramatta. The proposal will provide thirty-four (34) car spaces, including four (4) disabled parking spaces with shared zones, fifteen (14) motorcycle spaces and twenty-four (24) bicycle spaces. This meets the requirements of Parramatta City Council DCP 2011 Part 3 - Development Principles - 3.6.2 Parking & Vehicular Access.

In conclusion, it is our opinion that the proposed development will not have a negative impact to the existing traffic network, nor will it have any unacceptable parking implications.

Should you require any help or further explanations, please do not hesitate to contact us.

Yours faithfully,

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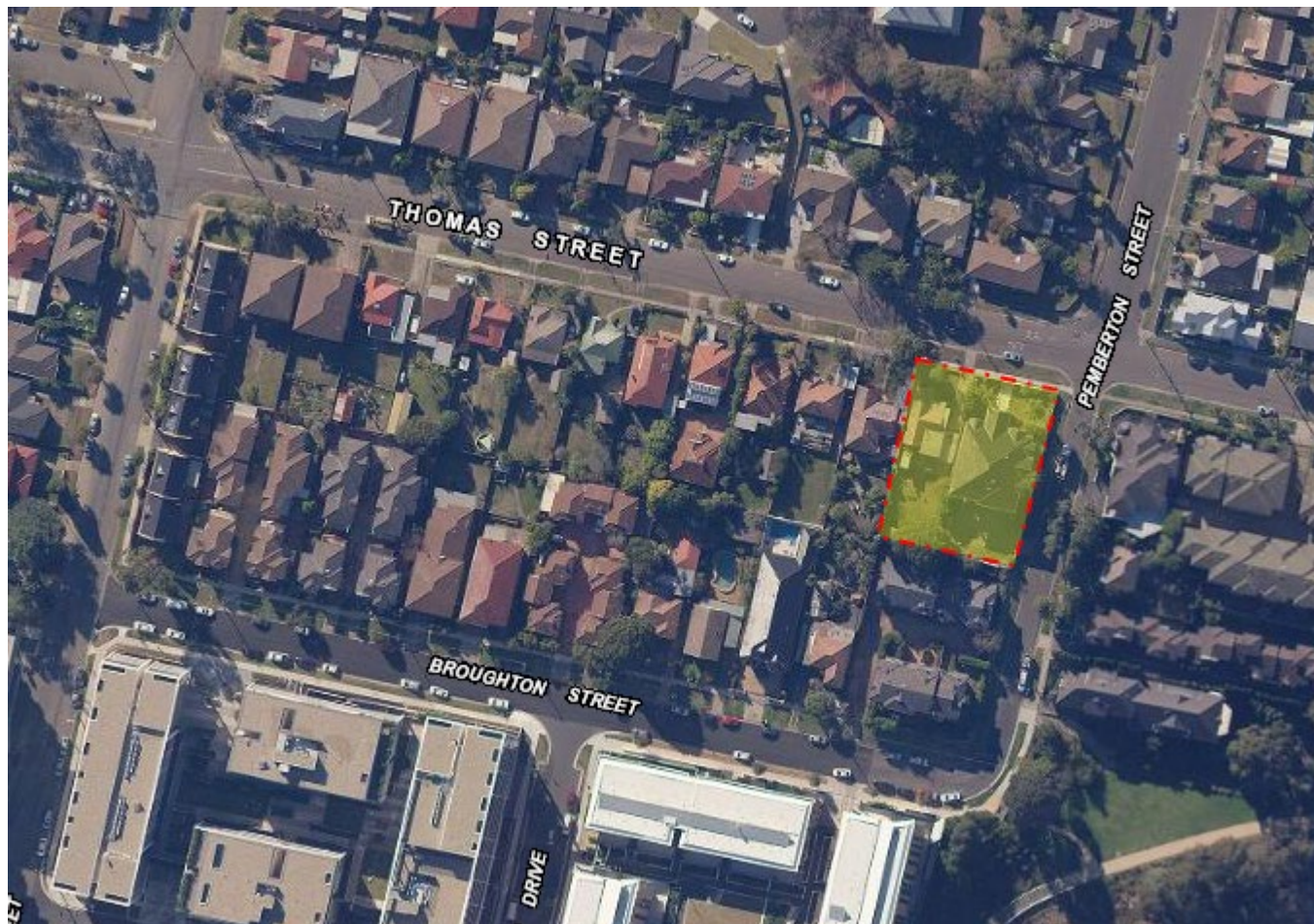


Figure 1 – Site Location (1)

Source: Imagery from SIX Maps accessed on September 2021

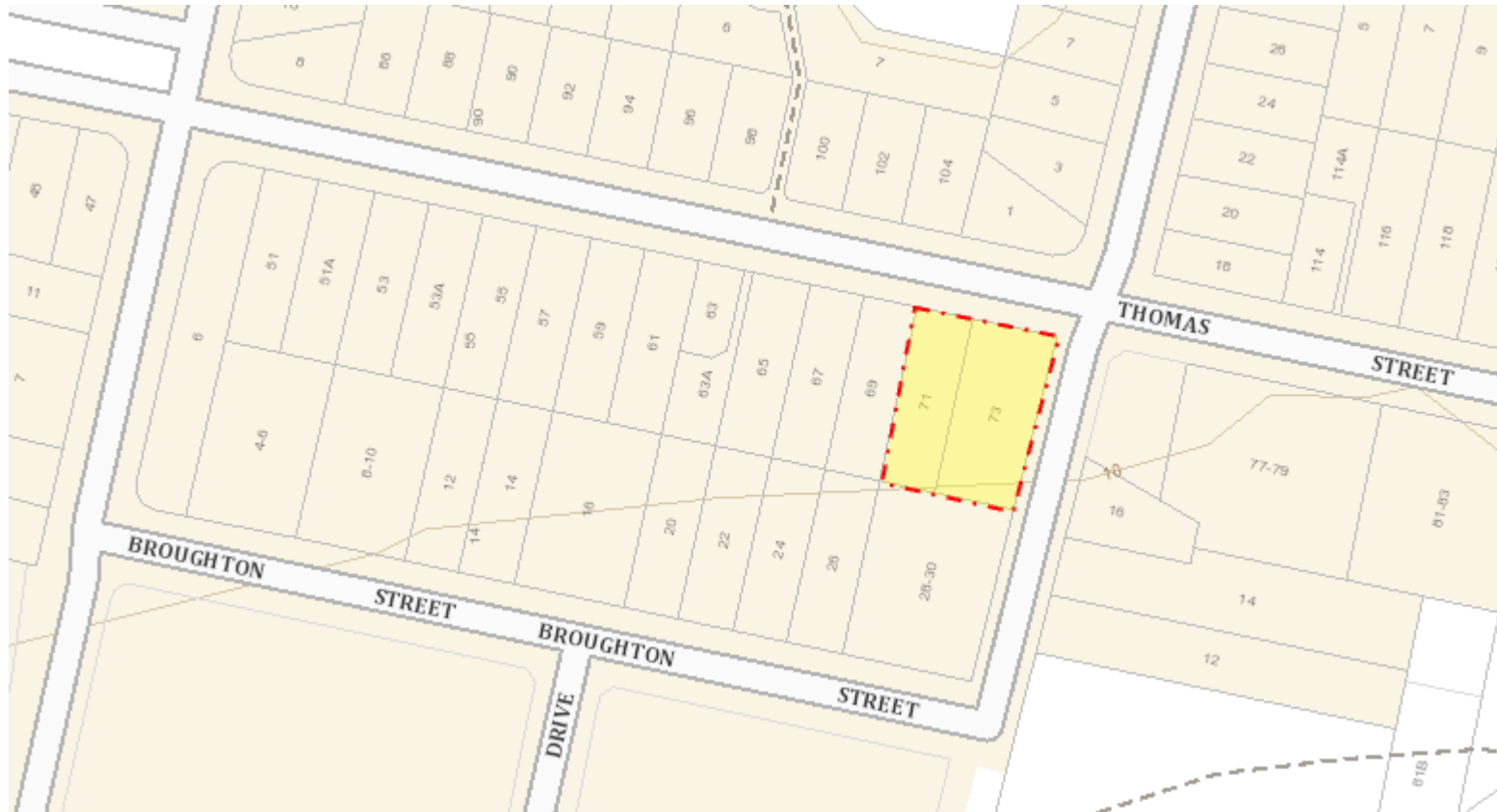






Figure 4 - Proposed Basement Plan
Source: Vourzoumis Architects – Revision C; Dated 28/11/22



Figure 5 – Front of Site
Existing dwelling No.71-73 Thomas St, Parramatta



Figure 6 – Pemberton St (Existing vehicular access)



Figure 7 – Thomas St Frontage (Restricted traffic conditions)



Figure 8 – No parking along the eastern boundary of the subject site on Pemberton St

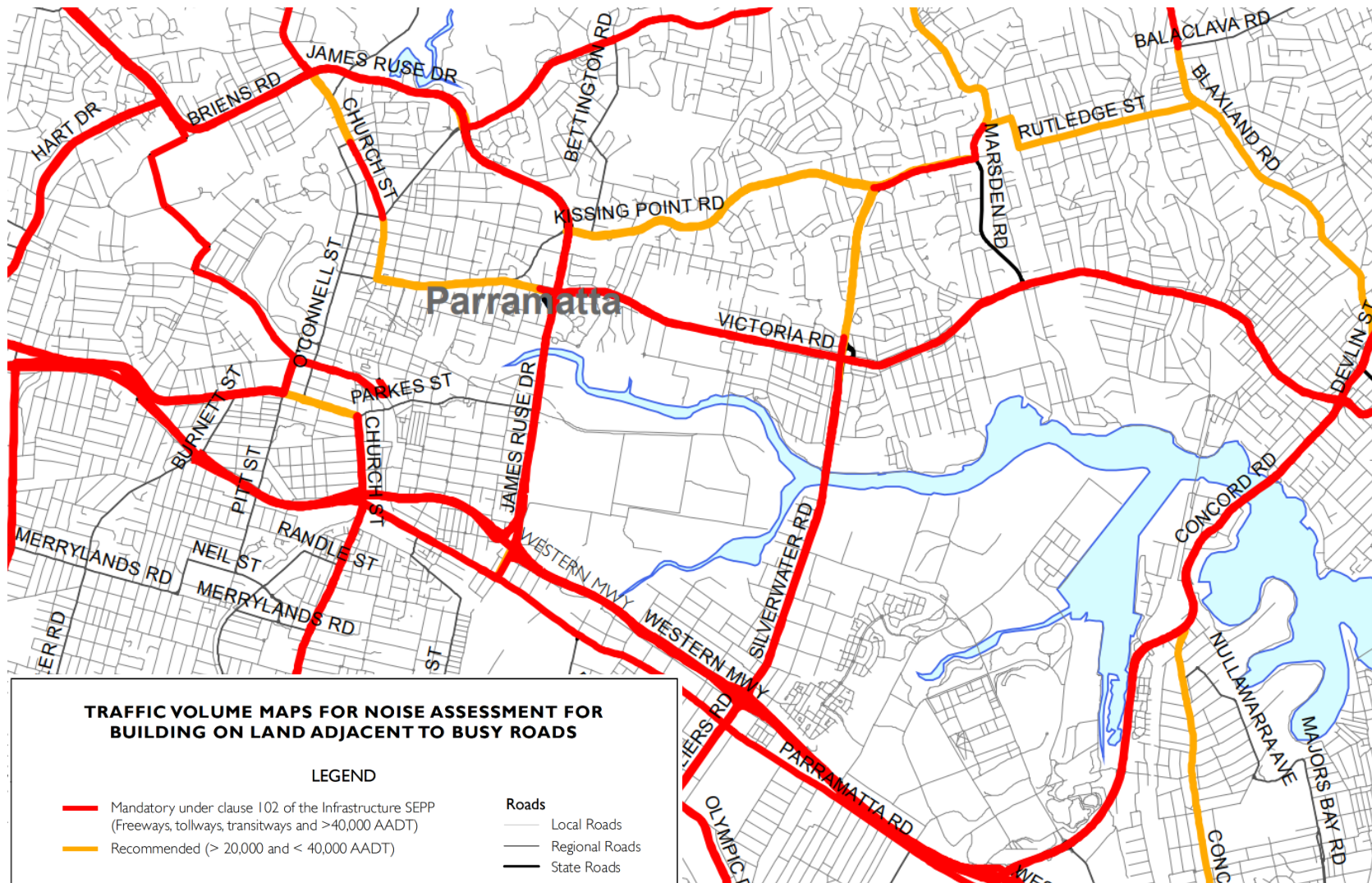


Figure 9 – RMS Traffic Volume Map 15

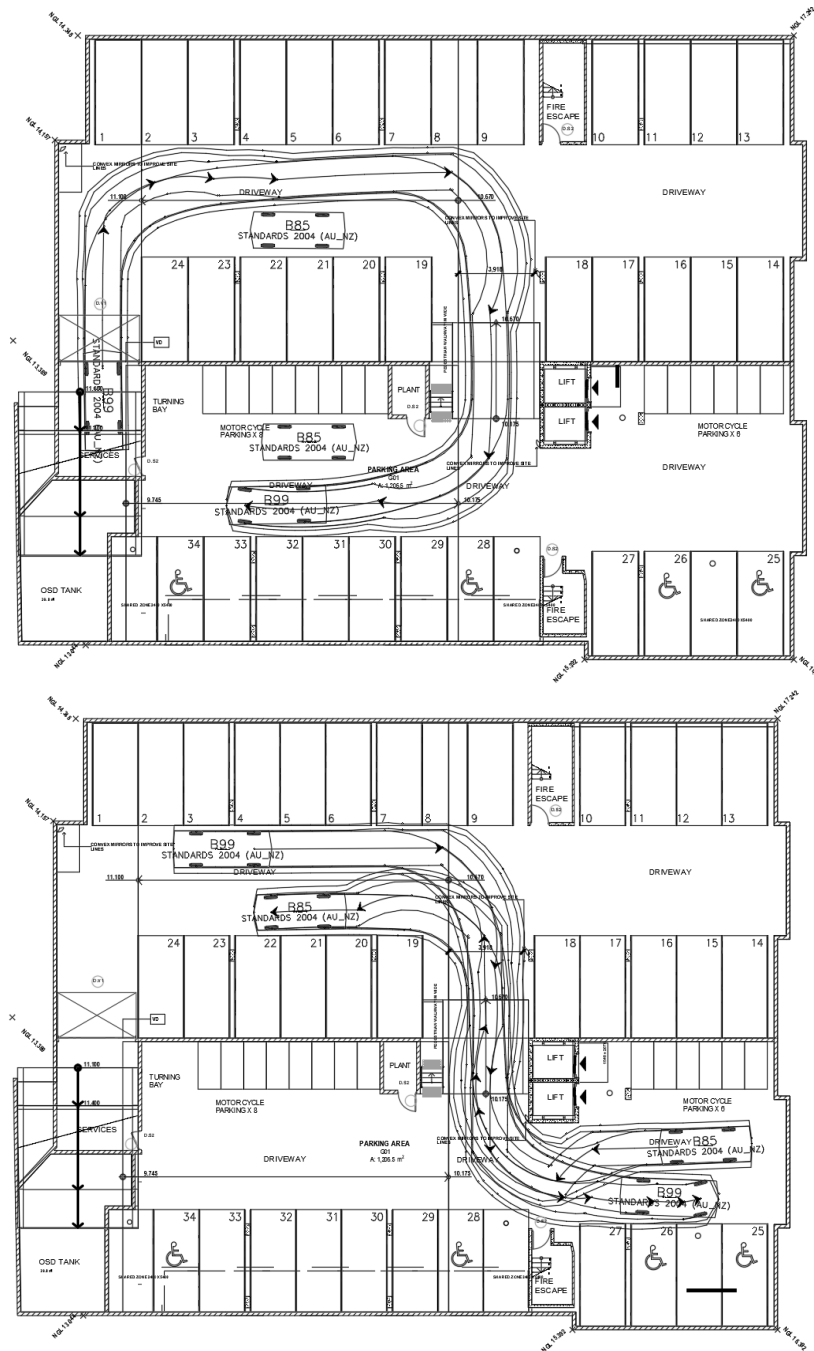


Figure 10 - Swept Path Analysis B99 Vehicle (Typical Circulation)

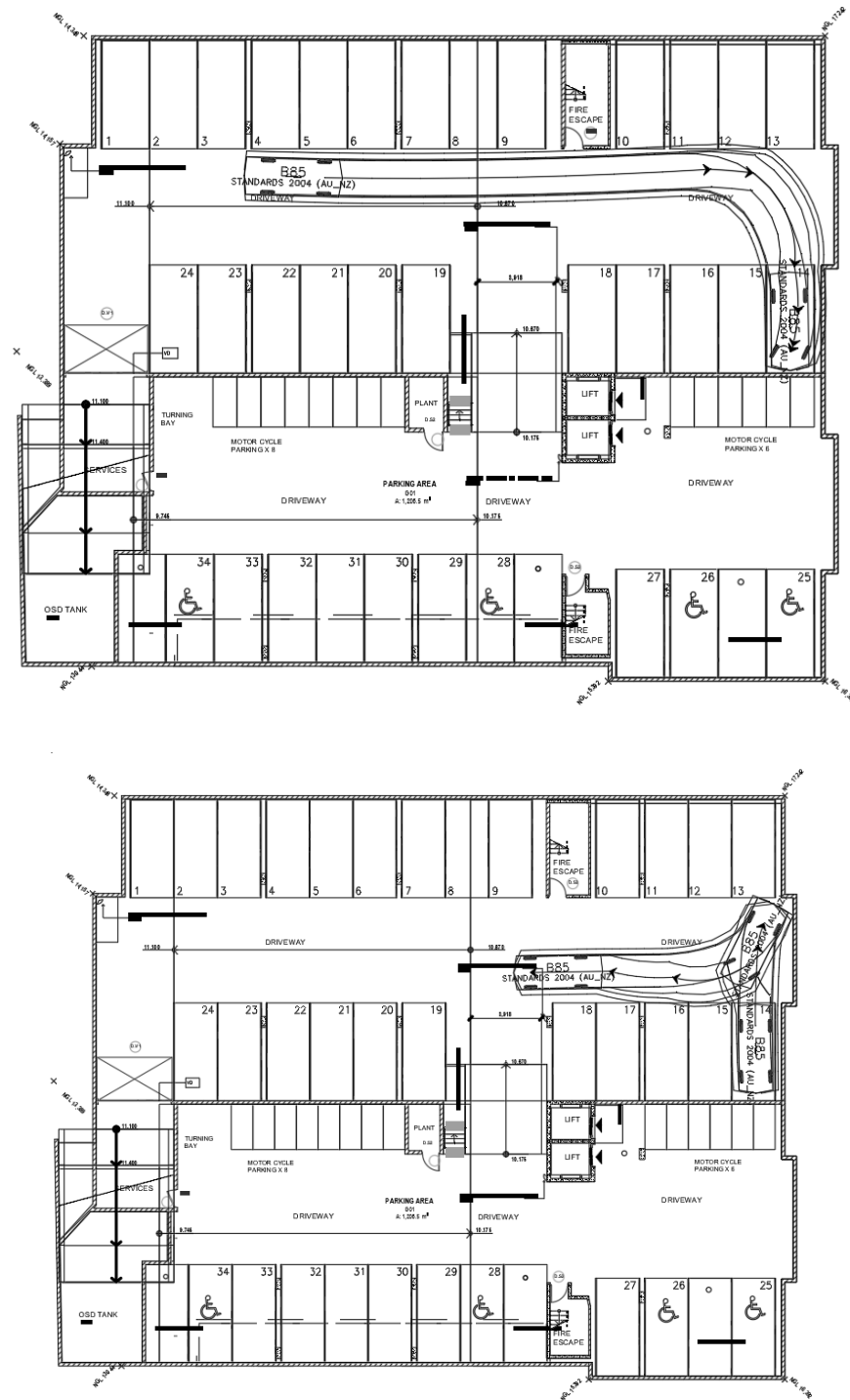


Figure 11 - Swept Path Analysis B85 Vehicle (Entering/Exiting Critical Carspace 14)

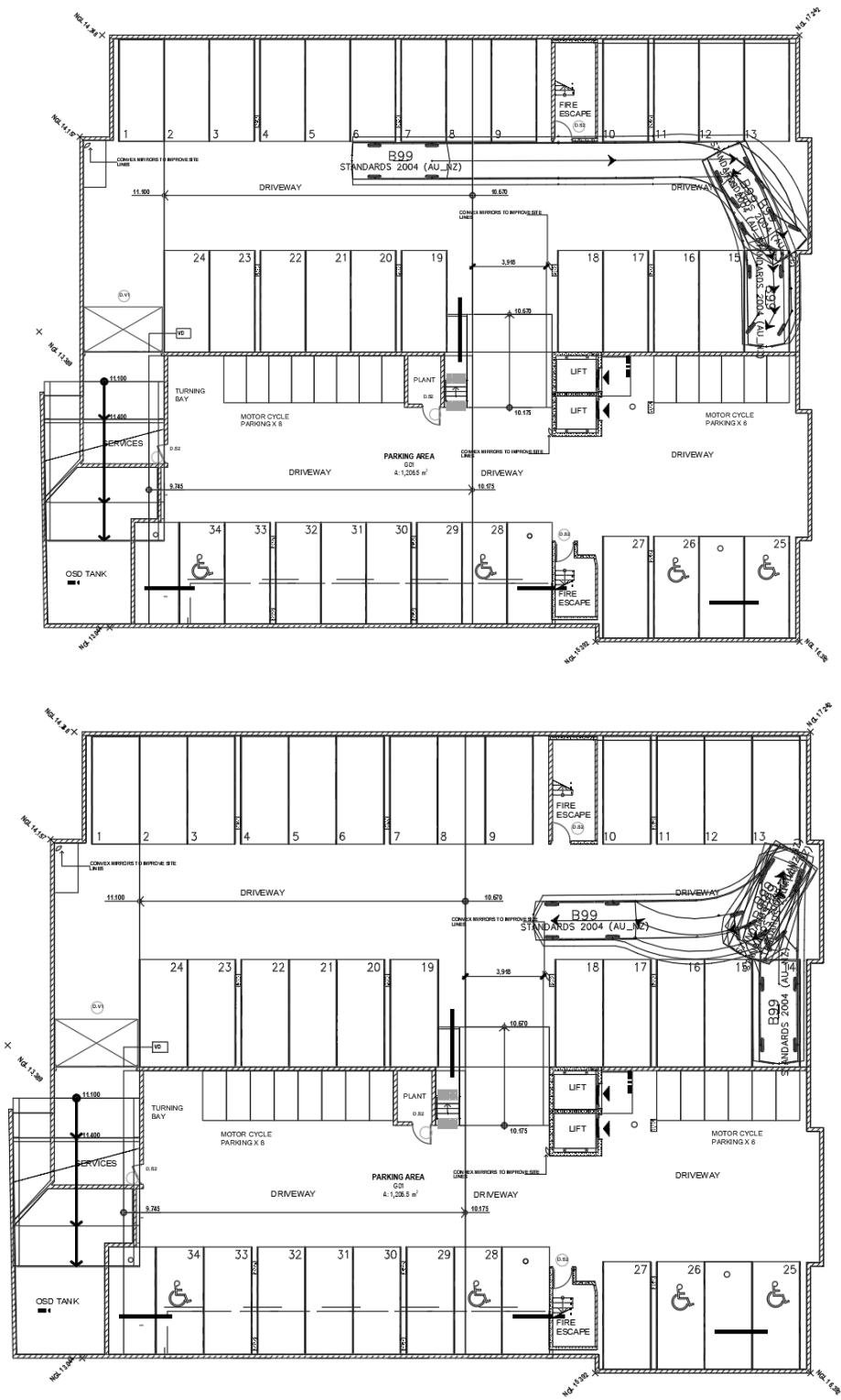


Figure 12 - Swept Path Analysis B99 Vehicle (Entering/Exiting Critical Carspace 14)



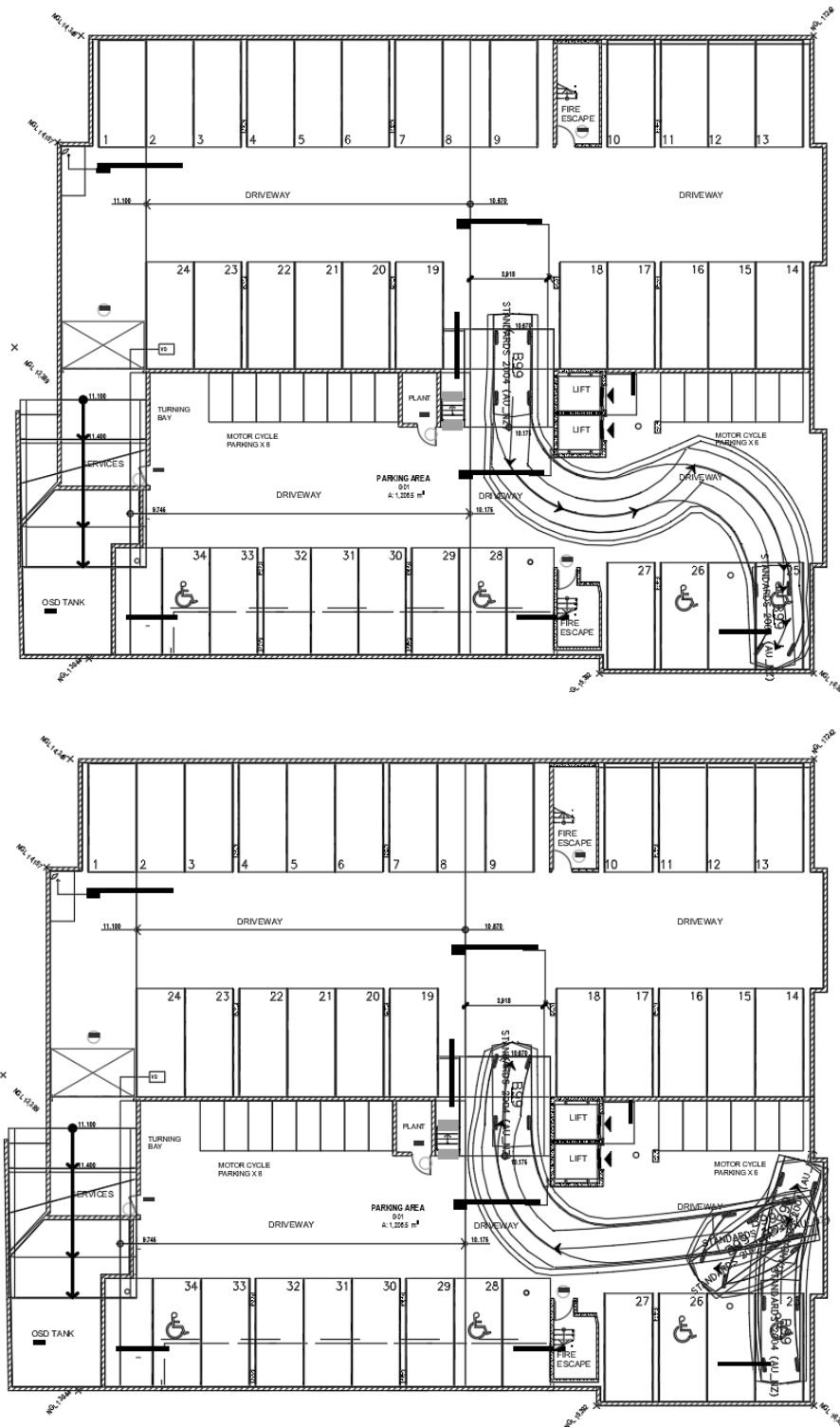


Figure 14 - Swept Path Analysis B99 Vehicle (Entering/Exiting Critical Carspace 25)

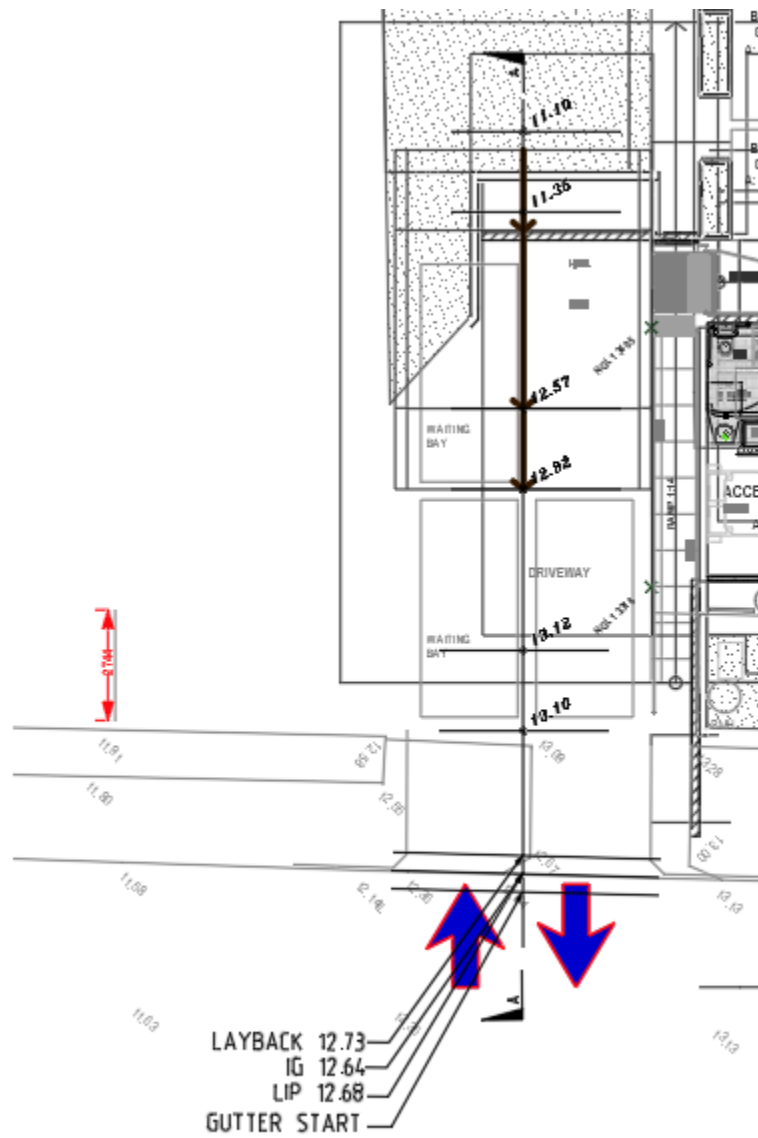
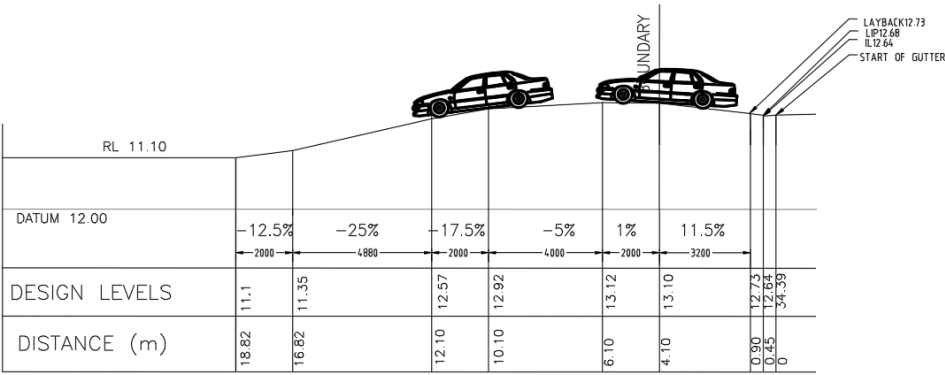


Figure 15 –Proposed Driveway Plan



VEHICULAR CROSSING LONG SECTION A-A
SCALE: 1:100 VERTICAL
1:100 HORIZONTAL

Figure 16 – Driveway Long Section