



# **613-627 Pacific Highway, Chatswood**

## *Transport Impact Assessment*

Prepared for:

**Antaeus Group**

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**JMT**  
Consulting

## PROJECT INFORMATION

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**Consulting**

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# 1 Introduction

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## 1.1 Background

JMT Consulting was engaged by Antaeus Group to prepare a transport impact assessment to support a Planning Proposal for the site at 613-627 Pacific Highway, Chatswood. The planning proposal seeks approval for an increase in height and floor space ratio (FSR) to the site consistent with the Chatswood CBD Planning and Urban Design Strategy 2036. The proposed building envelopes provided with the planning proposal will support a total gross floor area (GFA) of approximately 11,000m<sup>2</sup>.

## 1.2 Site location

The subject site is located at 613-627 Pacific Highway, Chatswood and is bounded by Gordon Avenue to the north, Pacific Highway to the west, Nelson Street to the south and Hammond Lane to the east. The Chatswood transport interchange is located just over 600m north of the site as shown in Figure 1.

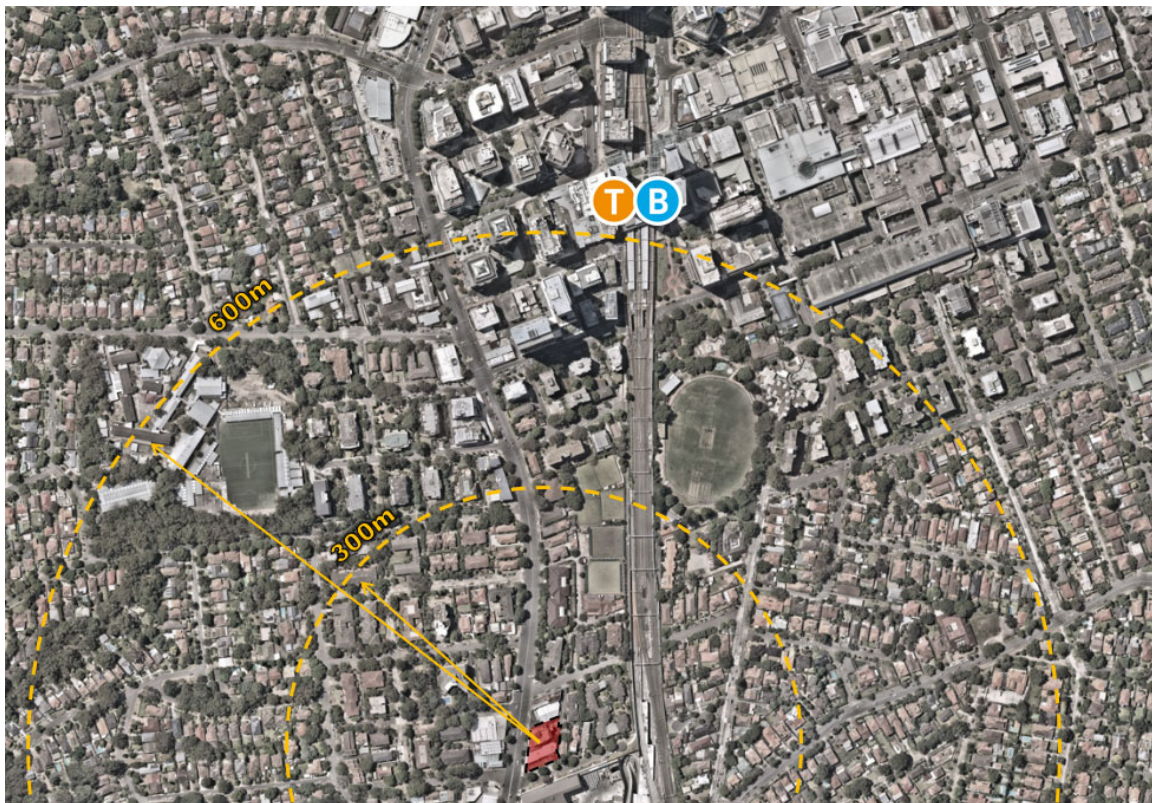


Figure 1 Site location

### 1.3 Report purpose

This report has been prepared to summarise the traffic and transport implications of the proposal. Specifically the assessment considers the following items:

- Existing transport conditions, including:
- Surrounding road network
- Vehicle site access
- Loading and servicing arrangements
- Public transport provision
- Proposed site access arrangements
- Proposed vehicle loading and servicing arrangements
- Proposed parking rates to be adopted as part of a future development application for the site, including indicative parking numbers based on the indicative architecture concept
- Additional traffic movements resulting from the Planning Proposal and impacts to the adjacent road network
- Public transport, walking and cycling measures

The report also takes into consideration feedback received from Willoughby City Council staff following the pre-planning proposal lodgement meeting on 24 February 2021 with respect to:

- Loading/unloading to take place within the site boundary.
- One vehicle entry for the entire site.
- Justification for proposed loading arrangements at the ground level.
- Vehicle swept paths demonstrating that trucks have the ability to enter and exit the site in a forwards direction.
- Reduced car parking rates for commercial and retail uses.
- Potential for the site to provide car share spaces based on future demands.
- Bicycle parking to be provided as part of future site development.
- Provision of a public pedestrian link to Nelson Street to maximise opportunities for pedestrian and cycle access to Frank Channon Walk.

## 2 Existing Transport Conditions

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### 2.1 Existing site uses

The existing site comprises of a Dulux paint store located at 613 Pacific Highway and an apartment building with ground floor retail at 621-627 Pacific Highway. On-site parking is provided for both of these existing site, with vehicle access obtained from Nelson Street for the Dulux site and Hammond Lane for the apartment building (see Figure 2).



Figure 2 Existing site access via Hammond Lane

## 2.2 Travel behaviours

Travel behaviours for residents and employees within the area surrounding the site<sup>1</sup> been analysed using 2016 Journey to Work Census data. The data demonstrates a high proportion of people travelling to and from Chatswood use public transport, accounting for over half of all trips in the case of residents travelling to work. This reflects the strong availability and accessibility of public transport in this area, which will only improve following the completion of the Sydney Metro network. A high proportion of residents walk to work, which reflects the likelihood that future residents of the site will choose to work in the Chatswood CBD. Only 12% of residents noted that they travelled to work using their own vehicle, demonstrating that the site has a very low car reliance making it suitable for future residential development.

Mode of travel	Proportion of trips	
	<i>Residents travelling to work from Chatswood</i>	<i>Employees travelling into Chatswood for work</i>
Car driver	12%	36%
Car passenger	2%	1%
Bus	4%	9%
Train	49%	41%
Walk	32%	11%
Other	1%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>

## 2.3 Road network

To manage the extensive network of roads for which councils are responsible under the Roads Act 1993, Transport for NSW (TfNSW) in partnership with local government established an administrative framework of *State*, *Regional*, and *Local Road* categories. State Roads are managed and financed by TfNSW and Regional and Local Roads are managed and financed by councils.

Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads. Key State and

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<sup>1</sup> SA1, code 12101139862

Regional roads which provide access to the site are illustrated in Figure 4 and include the following:

### **Pacific Highway (State Road)**

Pacific Highway is classified State road which serves as a major north-south arterial link, providing connectivity between the Warringah Freeway and M1 Pacific Motorway. The Pacific Highway is situated approximately 150m west of the subject site and is generally configured with a total of six traffic lanes.

### **Mowbray Road (Regional Road)**

Mowbray is a classified as a regional road which provides east-west connectivity in the local area. It typically carries two lanes of traffic in each direction, with additional lanes provided at signalised intersections.

### **Albert Avenue (Regional Road)**

Albert Avenue form part of the regional road network that provide access into the Chatswood CBD. Generally this road comprises of four lanes of traffic with parking permitted at certain locations and times of day.

### **Nelson Street and Gordon Avenue (Local Road)**

Nelson Street and Gordon Avenue forms the southern and northern frontage to the site respectively and consists of one travel lane in each direction.

### **Hammond Lane (Local Road)**

Hammond Lane (see Figure 3) is a local laneway which is primarily used to provide rear lane vehicle and pedestrian access to properties fronting the Pacific Highway, including the 621-627 Pacific Highway site.



Figure 3 Hammond Lane



Figure 4 Road network serving the site

## 2.4 Public transport

The site is located just over 600m or approximately eight minute walk away from the Chatswood transport interchange. The Chatswood Interchange provides a number of high frequency public transport services for heavy rail, metro and bus services.

The heavy rail service provides frequent train services for T1 North Shore, Northern, and Western Line. During peak hours, T1 trains travel from Chatswood to the Sydney CBD, northern and western suburbs arrive at the station approximately every two minutes.

A significant number of bus routes service the Chatswood transport interchange which include both local and regional services. Bus stops are available at the interchange itself or on nearby streets including adjacent to the site on the Pacific Highway.

The Sydney Metro northwest service commenced operations in May 2019 and provides a connection between Chatswood and Tallawong via Epping. Services operate every five to ten minutes throughout the day and provide a high quality public transport option for people travelling to and from the north-west of Sydney.

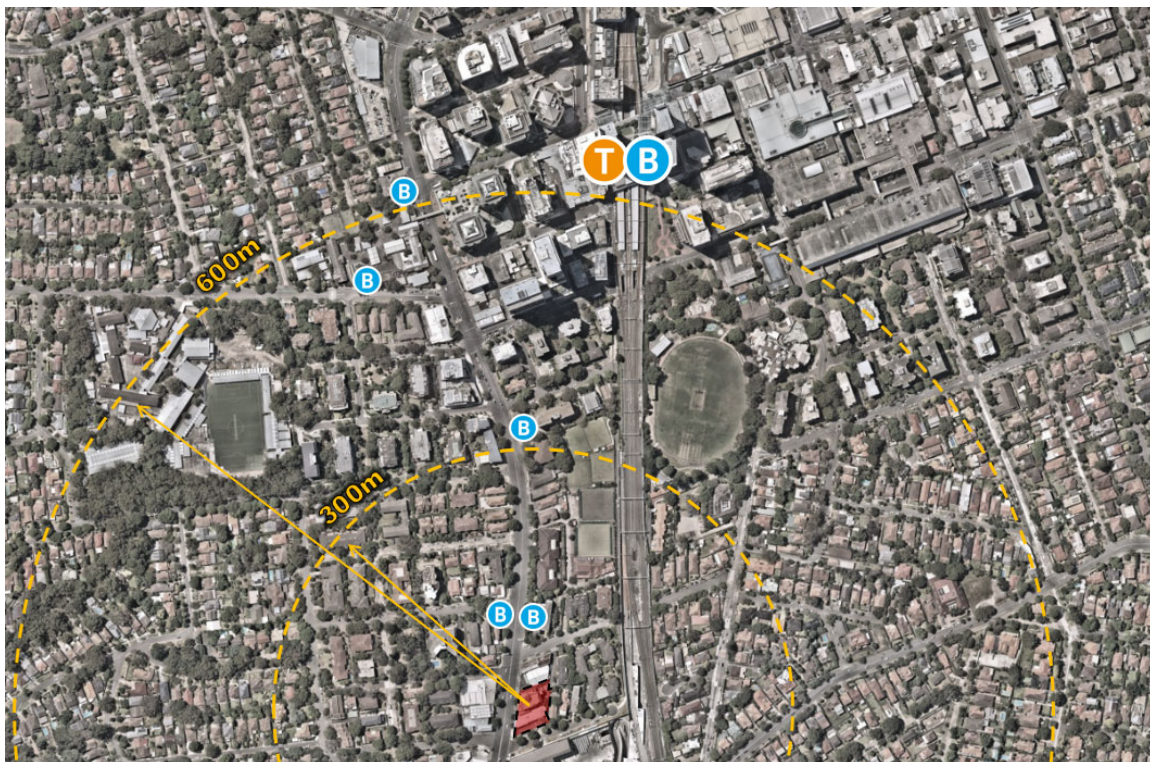


Figure 5 Public transport availability near the site

Sydney Metro is a major public transport infrastructure project currently in the construction phase within proximity of the subject site. The Sydney Metro City and Southwest metro line (currently under construction) will connect to the recently opened Sydney Metro Northwest line at Chatswood station and provide significantly improved connectivity from the southwest and Sydney CBD to Chatswood and the northwest. The expansion of the Sydney Metro network will further enhance public transport accessibility to the site and reduce car reliance for residents and employees of the Chatswood CBD.

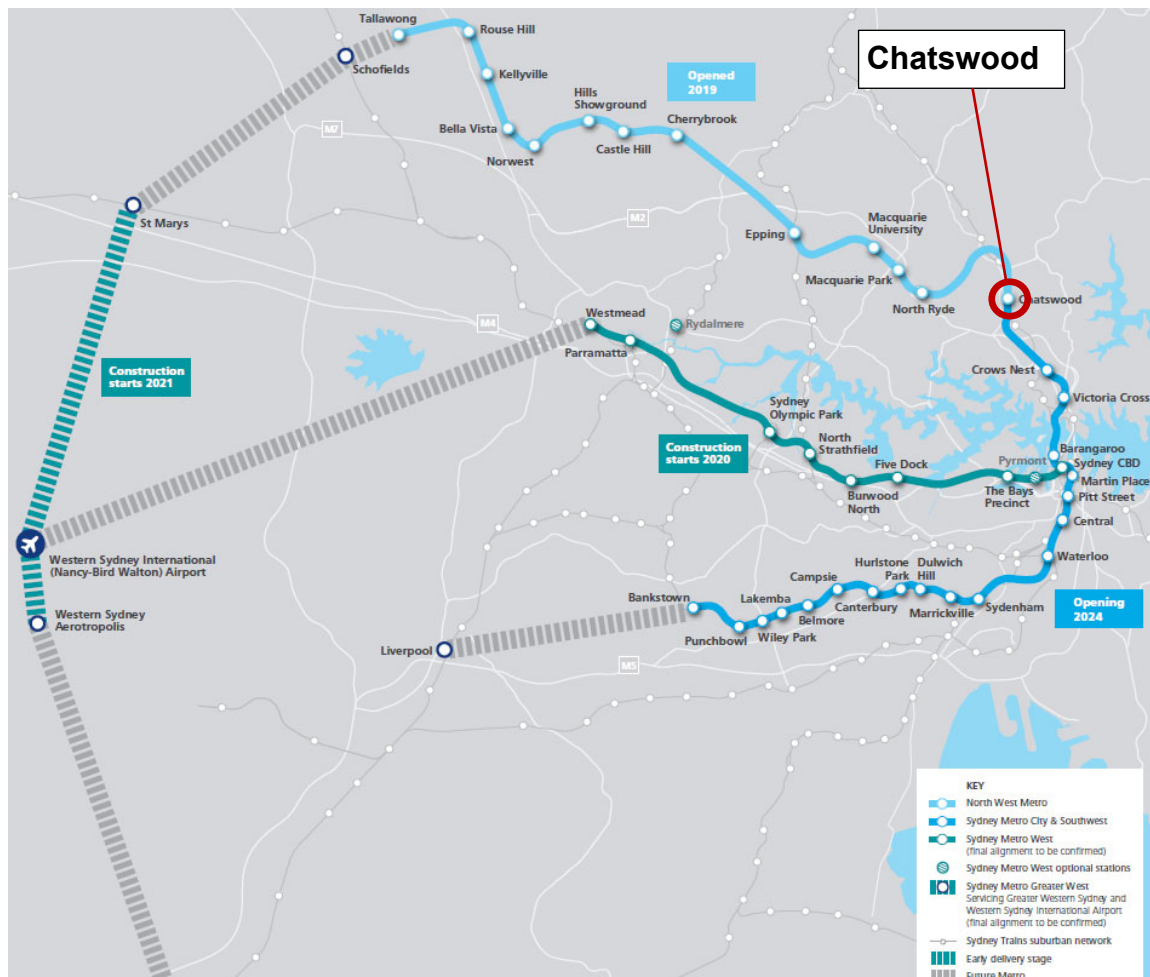


Figure 6 Sydney Metro network

Source: Transport for NSW

## 2.5 Pedestrian and cycling network

There is a well established network of pedestrian facilities in the vicinity of the site, with paved footpaths provided on both sides of all adjacent roads. The site also benefits from being surrounded by a number of on and off-road bicycle routes as shown in Figure 7 below. This includes an off-road bicycle route running parallel the railway line adjacent to the site which provides a connection through to the Chatswood transport interchange.

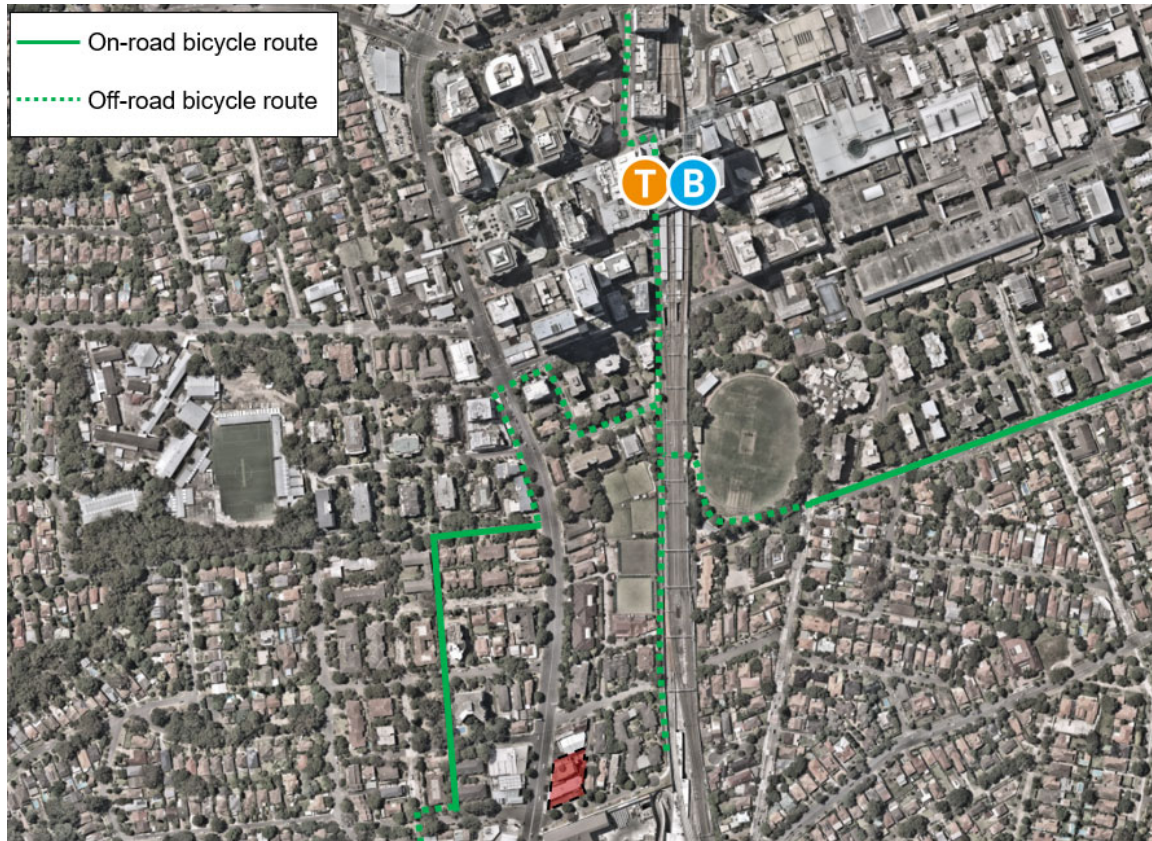


Figure 7 Existing cycling routes

## 3 Planning Proposal

### 3.1 Description of proposal

The indicative architecture concept prepared by G|WYL Architecture facilitates a total of 101 units with an additional 1,827m<sup>2</sup> commercial and retail space at the lower two levels. The concept scheme includes a loading dock, basement car parking containing approximately 122 car spaces as well as provision for bicycle and motorcycle parking spaces.

### 3.2 Vehicle access

Under the indicative architecture concept vehicle access to the site would be provided off Hammond Lane at the eastern end of the site as shown in Figure 8. This access point has been selected to minimise conflicts with pedestrians and general traffic along the Pacific Highway.



Figure 8 Proposed vehicle site access point

The vehicle access would be via a single driveway, facilitating independent two-way traffic movements and allowing access into the basement of the site from which the loading dock and car park can be accessed. This complies with the objectives of Council's 2036 CBD Planning and Urban Design Strategy, which recommends that vehicle entry points to a site are to be rationalised to minimise streetscape impact – with one entry area into and existing a site.

The vehicle access will be designed in accordance with the design requirements set out in the relevant Australian Standard, namely AS2890.1:2004 and AS2890.2:2018. This will be detailed further as part of a future Development Application for the site.

### 3.3 Car park design

As part of the indicative architecture concept developed for the Planning Proposal a basement car park has been designed to facilitate the future development. The car park and associated elements such as car parking space dimensions, circulation aisles and ramp would be designed in accordance with the relevant Australian Standard for car parking facilities, namely AS2890.1:2004 and AS2890.6:2009.

Car parking spaces have been designed to comply with a Class 1A car park facility as specified in the Australian Standard (generally low turnover long term parking) with 2.4m wide spaces and aisle widths of 5.8m.

The final design of the car park will be carried out at the Development Application stage of the project.

### 3.4 Parking provision

#### 3.4.1 Car parking

The potential on-site car parking for the development, based on the development yields envisaged under the indicative architecture concept, is summarised in Table 1. The final car parking requirements for the site will be confirmed at the Development Application (DA) stage of the project.

Table 1 Potential on-site car parking

Land Use	Type	No. of units / GFA	Parking rate	No. of spaces
Residential	1 bed	30	1 / unit	30
	2 bed	56	1 / unit	56
	3 bed	15	1.25 / unit	19
	<b>Sub-Total</b>	<b>101</b>	<b>n/a</b>	<b>105</b>
	Visitor		1 / 10 units	10
Commercial		1,101	1 / 400m <sup>2</sup> GFA	3
Retail		726	1 / 300m <sup>2</sup> GFA	2
Car share				2
<b>Total</b>				<b>122</b>

Car parking rates for the commercial and retail component of the site have been significantly reduced compared to that recommended in the Willoughby Council DCP. This has been proposed to reduce the traffic generation associated with the development and are consistent with the suggested rates provided by Council as part of consultation undertaken for this Planning Proposal.

For the residential component car parking rates have been selected to align with those in the Willoughby Council DCP. As the site is located in close proximity to the Chatswood transport interchange, with good access to local employment and services, the majority of residents will either walk or use public transport to travel to work.

Rates of car ownership for residents of Chatswood have been steadily increasing over the past 15 years, rising between 2001 and 2016. At the same time however private vehicle use for journey to work trips has decreased. This trend, as shown in Figure 9, indicates that car ownership does not necessarily lead to

car usage in the busy commuter peak periods for areas well served by public transport such as Chatswood, particularly given that the subject site is located close to the Chatswood transport interchange. It can therefore be applied that the majority of cars within the development will only generate trips occasionally and be generally on a discretionary basis - mostly outside of commuter peak periods and will not impact the operation of the road network during the busiest times of the day.

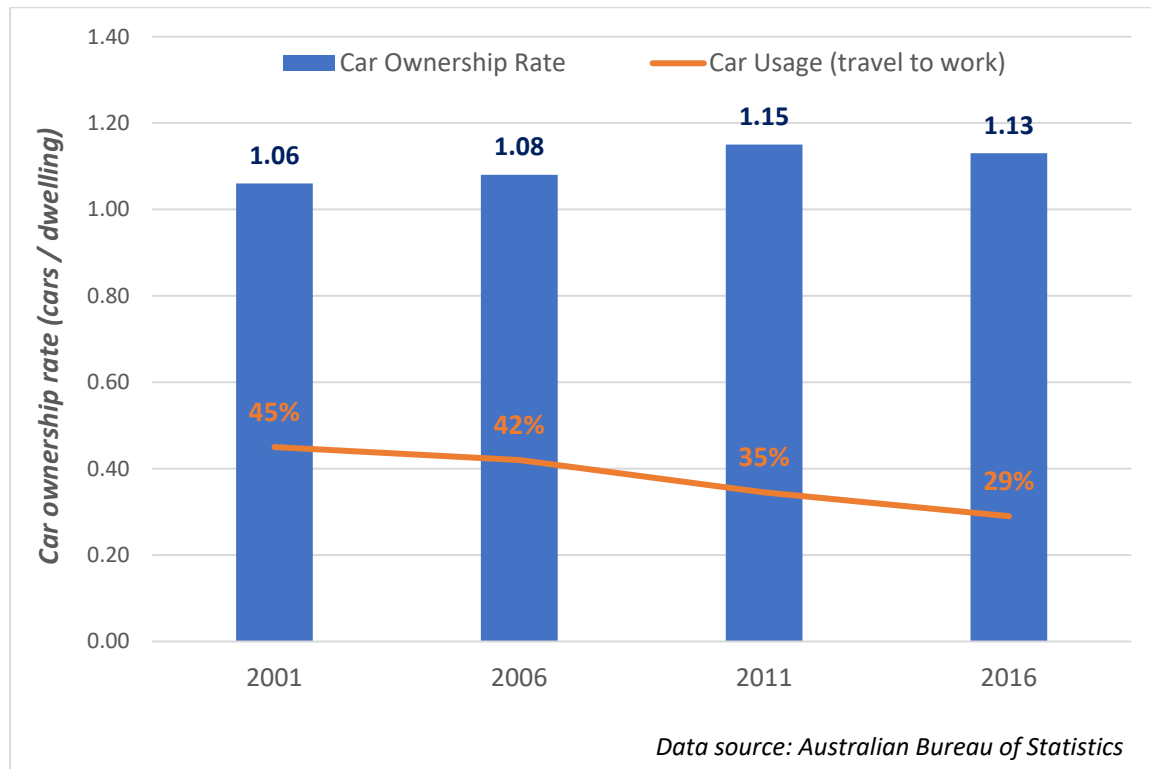


Figure 9 Car ownership vs car usage - residents of Chatswood

A further benefit of providing residential parking rates consistent with Council's DCP is that it will reduce the instances of residents using nearby on-street parking resulting in flow on impacts to local streets. The parking provision proposed is considered sufficient to fully meet the future demands of residents of the site.

### 3.4.2 Motorcycle parking

The Willoughby Council DCP requires that motorcycle parking be provided at a rate of one space per 25 car parking spaces. It is proposed to comply with this requirement, with the final number of motorcycle parking spaces to be confirmed at the Development Application (DA) stage once the design is finalised. Based on the indicative architecture concept prepared for the Planning Proposal, approximately 5 motorcycle parking spaces would be provided.

### 3.4.3 Bicycle parking

The Willoughby Council DCP outlines minimum bicycle parking requirements for new developments. Table 2 below summarises the potential bicycle parking provision based on the indicative architecture concept prepared for the Planning Proposal. This will be confirmed at the DA stage of the development.

Table 2 Potential bicycle parking requirements

Land Use	No. of units / GFA	Bicycle parking rate		Bicycle parking requirement	
		Lockers	Rails/ Racks	Lockers	Racks
Residential	101	1 / 10 units	1 / 12 units	11	9
Commercial	1,101	1 / 600m <sup>2</sup>	1 / 2500m <sup>2</sup>	2	1
Retail	726	1 / 450m <sup>2</sup>	1 / 150m <sup>2</sup>	2	5
<b>Total</b>				<b>15</b>	<b>15</b>

### 3.4.4 Car share

The installation of car share parking to replace general off-street parking is optional and at the discretion of the developer. At this preliminary stage two car share spaces have been allowed for, however this will be confirmed during later stages of planning for the site.

### 3.5 Loading dock

The indicative architecture concept includes an on-site loading dock which can accommodate a Medium Rigid Vehicle (MRVs). This loading provision is considered suitable to accommodate the needs of the site based on the indicative development yields associated with the indicative architecture concept.

The loading dock is located on the ground level of the building adjacent to the car park ramp and has been designed to comply with the objectives of Council's 2036 CBD Planning and Urban Design Strategy, notably:

- All vehicles are to enter and exit the site in a forwards direction
- All commercial and residential loading / unloading is to occur on-site and not in public streets
- The design does not rely on a mechanical solution (e.g. turntable) for loading and unloading, with vehicles able to efficiently manoeuvre within the site.

The loading dock has been designed in accordance with the requirements outlined in the relevant Australian Standard (AS2890.2, 2018). Vehicle swept paths have been developed to confirm the suitability of the indicative architecture concept to accommodate the movement of MRVs within the basement of the building, with these swept paths provided in Appendix A of this document.

Detailed investigations were undertaken to understand the potential to locate the loading dock within the basement of the building, as per the advice of Council staff. This option was determined not to be feasible given the constrained site footprint and the inability to achieve the required height clearance and truck turning circles. Vehicle swept paths indicating this (now discounted) option are also provided in Appendix A.

The final design of the loading dock will be carried out at the Development Application stage of the project.

## 4 Transport Assessment

### 4.1 Travel demand analysis

Recent surveys undertaken by the TfNSW of high density residential developments indicates a person trip generation rate of approximately 0.60 trips / dwelling. The equivalent trip generation rate for commercial/retail uses was found to be 2.26 trips per 100m<sup>2</sup> GFA in the AM peak hour and 1.73 trips per 100m<sup>2</sup> GFA in the PM peak hour. Applying these rates to the yields possible under the planning proposal results in the following total development trips:

Table 3 Development trip generation

Use	Yield	Quantum	Trip rate (per unit / 100m <sup>2</sup> )		Number of trips	
			AM peak hour	PM peak hour	AM peak hour	PM peak hour
Residential	101	units	0.60	0.60	61	61
Commercial/Retail	1827	m <sup>2</sup> GFA	2.26	1.73	41	32
<b>Total trips</b>					<b>102</b>	<b>93</b>

Based on the existing travel behaviours of residents and employees of Chatswood, existing and future public transport services, as well as the proposed parking rates for the different uses forecast mode shares have been developed. These mode shares, along with the forecast trip generation noted in Table 3, have been used to estimate the number of trips by mode to and from the site. This is summarised in the table below.

Table 4 Trip generation by mode

Travel mode	Residential trips			Retail/Commercial trips			Total	
	Mode share	AM peak hour	PM peak hour	Mode share	AM peak hour	PM peak hour	AM peak hour	PM peak hour
Car driver	10%	6	6	20%	8	6	14	13
Car passenger	2%	1	1	2%	1	1	2	2
Bus	4%	2	2	10%	4	3	7	6
Train / Metro	51%	31	31	51%	21	16	52	47
Walk	32%	20	20	15%	6	5	26	24
Other	1%	1	1	2%	1	1	1	1
<b>Total</b>	<b>100%</b>	<b>61</b>	<b>61</b>	<b>100%</b>	<b>41</b>	<b>32</b>	<b>102</b>	<b>93</b>

## 4.2 Traffic generation

The traffic generated by the site has been calculated based on the development yields associated with the indicative architecture concept prepared for the Planning Proposal. The traffic generation forecasts take into consideration:

- Traffic generation from the high density residential and commercial uses, based on traffic generation rates noted for similar sites in the Chatswood CBD as outlined in the TfNSW *Guide to Traffic Generating Developments* document (TDT 2013/04a); and
- Existing traffic generation from the 18 existing residential apartments and 884m<sup>2</sup> of commercial GFA on the site.

Given the small amount of retail this is considered ancillary to the site's main uses and will not generate traffic movements to the site.

A breakdown of the traffic generation calculations are shown in Table 5. The site is estimated to generate a net increase of no more than 9 car trips during the busiest hour of the day.

Table 5 Forecast traffic generation

Use		Number	Unit	Rate (per unit or 100m <sup>2</sup> GFA)		Vehicle trips	
				AM peak hour	PM peak hour	AM peak hour	PM peak hour
Proposed uses	Residential	101	Units	0.14	0.12	14	12
	Commercial	1,101	m <sup>2</sup> GFA	1.03	0.84	19	15
Existing uses	Residential	18	Units	0.4	0.4	-12	-12
	Commercial	884	m <sup>2</sup> GFA	1.03	0.84	-9	-7
Net trips generated						9	7

### 4.3 Road network impacts

As noted in Section 4.2 the site may generate up to 9 additional traffic movements during the AM peak hour, which is equivalent to one vehicle every six minutes. This level of traffic generation would have negligible impacts on the adjacent road network and not warrant any infrastructure upgrades. Measures are to be implemented on the site to manage traffic impacts arising from the proposal, including:

- Constrained parking provision for retail and commercial uses, well below the recommended parking rates in the Willoughby Council DCP;
- Bicycle parking and car share to be provided on site
- Green travel plan to be prepared (see Section 0) which promotes public transport, walking and cycling by site users.

It is also important to recognise that the sites at 613-627 Pacific Highway were considered as part of a broader strategic transport strategy undertaken to support the Chatswood CBD Planning and Urban Design Strategy (CCPUDS). The strategic transport study, undertaken by Arup on behalf of Willoughby City Council, considered potential new development within the Chatswood CBD consistent with the planning controls proposed in the CCPUDS. This included a Floor Space Ratio (FSR) of 6:1 for the subject site, consistent with the controls included as part of this Planning Proposal.

Detailed traffic analysis was undertaken to support the strategic transport study utilising Transport for NSW's Strategic Travel Model. This analysis was undertaken for both the future years 2026 and 2036, taking into consideration the level of development envisaged in the CBD as permissible under the proposed planning controls. The study concluded that "*most links are operating with a LoS C or better*" and "*generally internal links within the CBD have acceptable Levels of Service*".

As indicated in Figure 10, the Pacific Highway adjacent to the subject site is forecast to operate with spare capacity in the future year 2036 following the full development of the CBD. Importantly the strategy did not identify that the future development planned for the Chatswood CBD would have a detrimental impact on the road network.

Therefore it can be concluded that, given the site's location within the Chatswood CBD, the road network impacts arising from the Planning Proposal would be acceptable.

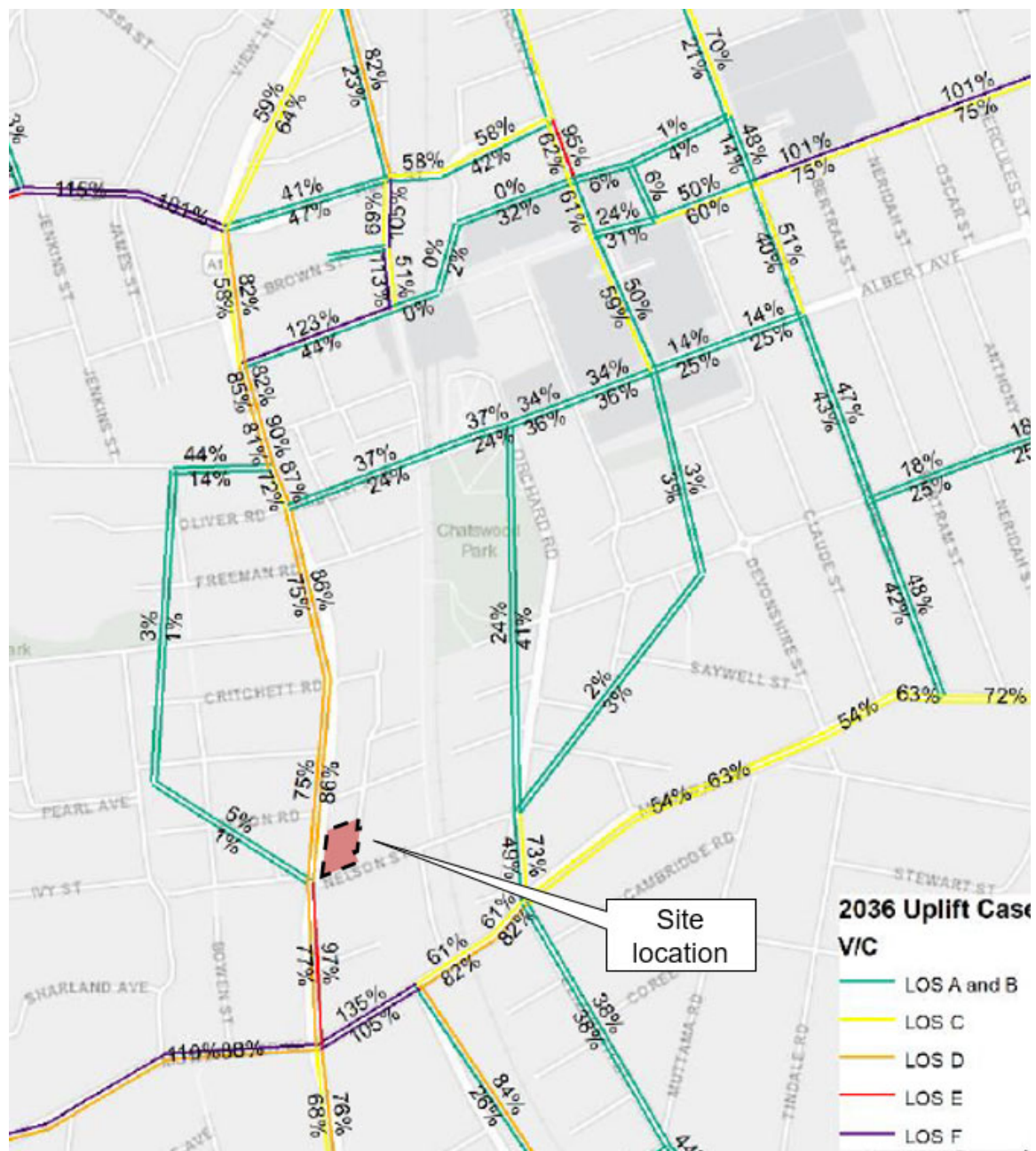


Figure 10 Future (2036) road network performance

Image source: Chatswood CBD strategic transport study (2020), modified by JMT Consulting

#### 4.4 Public transport

The travel demand analysis undertaken in Section 4.1 indicates that the proposal may generate approximately 21 train/metro trips and 4 bus trips during the morning peak hour. This increase represents less than 1% of the expected growth in public transport trips associated with the development of the Chatswood CBD up to the year 2036. A detailed public transport assessment was undertaken as part of the Chatswood CBD strategic transport study and concluded that the heavy rail and metro lines will have capacity to support the anticipated level of growth in travel demand to and from the Chatswood CBD up to at least the year 2036.

#### 4.5 Walking and cycling

As part of the future development of the site bicycle parking spaces will be provided for staff, residents and visitors. Based on the indicative architecture concept approximately 15 lockers and 15 bicycle racks would be provided, however this will be confirmed at the DA stage of the project.

The proposal includes the provision of a publicly accessible through site link which is available for use by pedestrians and cyclists as shown in Figure 11 below. The through site link will maximise opportunities for pedestrians and cyclists to access the shared path alongside the existing railway corridor (Frank Channon Walk).

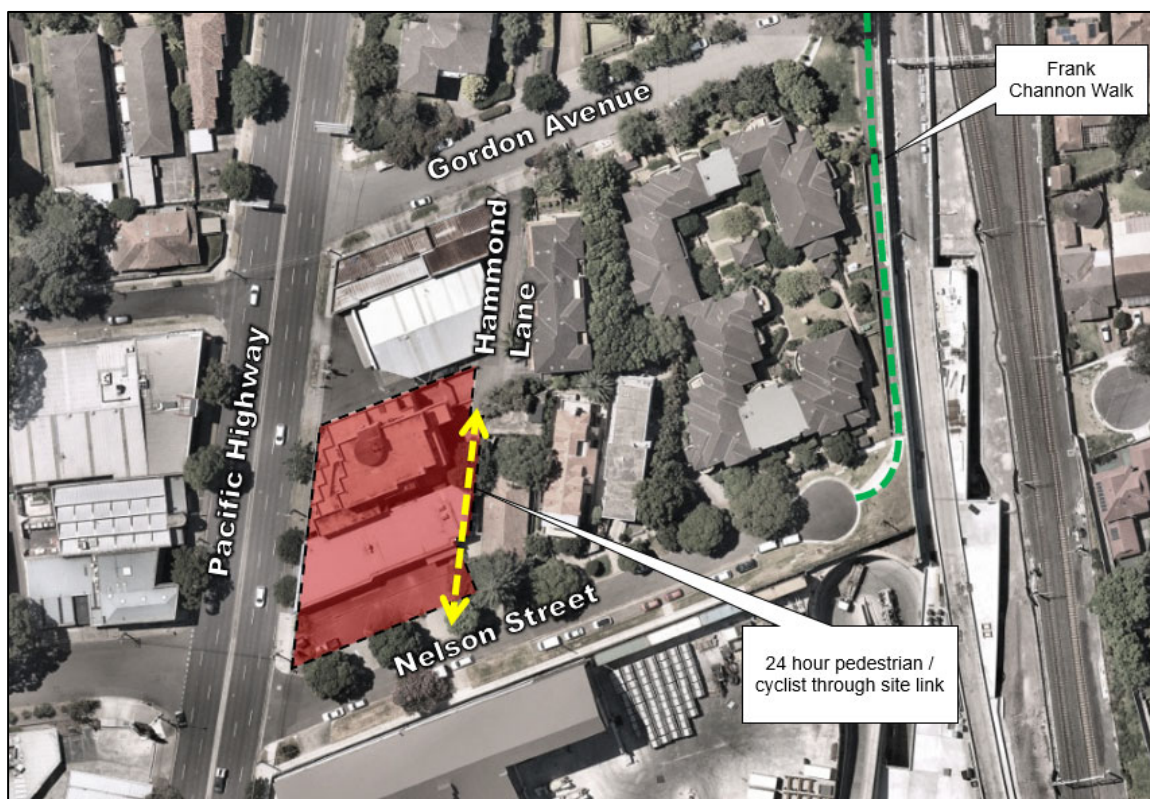


Figure 11 Proposed pedestrian/cyclist through site link

## 4.6 Green travel plan

This report includes a preliminary Green Travel Plan (GTP) identifying some key items that could be included in a more detailed plan to be completed in the DA stage of planning.

### 4.6.1 Background

A Green Travel Plan (GTP) is a package of measures put in place by the development occupants to try and encourage more sustainable travel. It is a means for a development to demonstrate a commitment and take a pro-active step towards improving the environmental sustainability of its activities.

More generally, the principles of a GTP are applied to all people travelling to and from a site. Government authorities are placing increasing emphasis on the need to reduce the number and lengths of motorised journeys and in doing so encourage greater use of alternative means of travel with less negative environmental impacts than the car.

### 4.6.2 Objectives

The main objectives of the GTP are to reduce the need to travel and promotion of sustainable means of transport. The more specific objectives include:

- High mode share for public transport, cycling and walking to work journeys;
- Ensuring adequate facilities are provided at the site to enable the tenants and visitors of the development to commute by sustainable transport modes;
- Reduce the number of car journeys associated with business travel;
- Facilitate the sustainable and safe travel of occupants; and
- Raise awareness of sustainable transport amongst residents of the development.

### 4.6.3 Potential measures

A suite of potential measures is described below to be implemented as part of the GTP, which can be developed further as the proposal progresses towards a Development Application.

Table 6 List of potential GTP measures

Action	Responsibility
<b>Cycling</b>	
Provide sufficient cycle parking to meet needs, which is easily accessible and secure	Developer
Provide adequate cycle parking facilities for visitors	Developer
Ensure cycle parking is clearly visible or provide signage to direct people to cycle bays	Building manager

Action	Responsibility
Produce a map showing cycle routes and bike stands in the area	Building manager
<b>Walking</b>	
Produce a map showing safe walking routes to and from the site with times, distances to local facilities, such as shops and bus stops	Building manager
<b>Public Transport</b>	
Develop a map showing public transport routes in the area	Building manager
Put up a noticeboard with leaflets and maps showing the main public transport routes to and from the site	Building manager
<b>Carshare / Carpooling</b>	
Put a poster on the noticeboard where residents would register their interest in carpooling by indicating their work location	Building manager
Develop a map showing car-share spots in the area	Building manager
<b>General actions</b>	
Promotion including: <ul style="list-style-type: none"> <li>An events calendar. Best in conjunction with statewide events such as National Bike Week, and Bike2Work Day, National Walk to Work Day.</li> <li>Display boards in prominent locations to show public transport maps and timetables.</li> </ul>	Building manager

#### 4.6.4 Monitoring and review

In order for the GTP to be effective, it must be reviewed on a regular basis. It is important to ensure that the GTP is meeting its objectives and having the intended impact on car use and transport choices. The GTP should be reviewed periodically by undertaking resident and other users of the building travel surveys. It is recommended that the mode shares are first reviewed at least 18 months after occupation, to allow activity levels to settle at the site.

## 5 Summary

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This transport impact assessment report has been prepared by JMT Consulting on behalf of Antaeus Group to support a Planning Proposal for the site at 613-627 Pacific Highway, Chatswood. The planning proposal seeks approval for an increase in height and floor space ratio (FSR) to the site consistent with the Chatswood CBD Planning and Urban Design Strategy 2036.

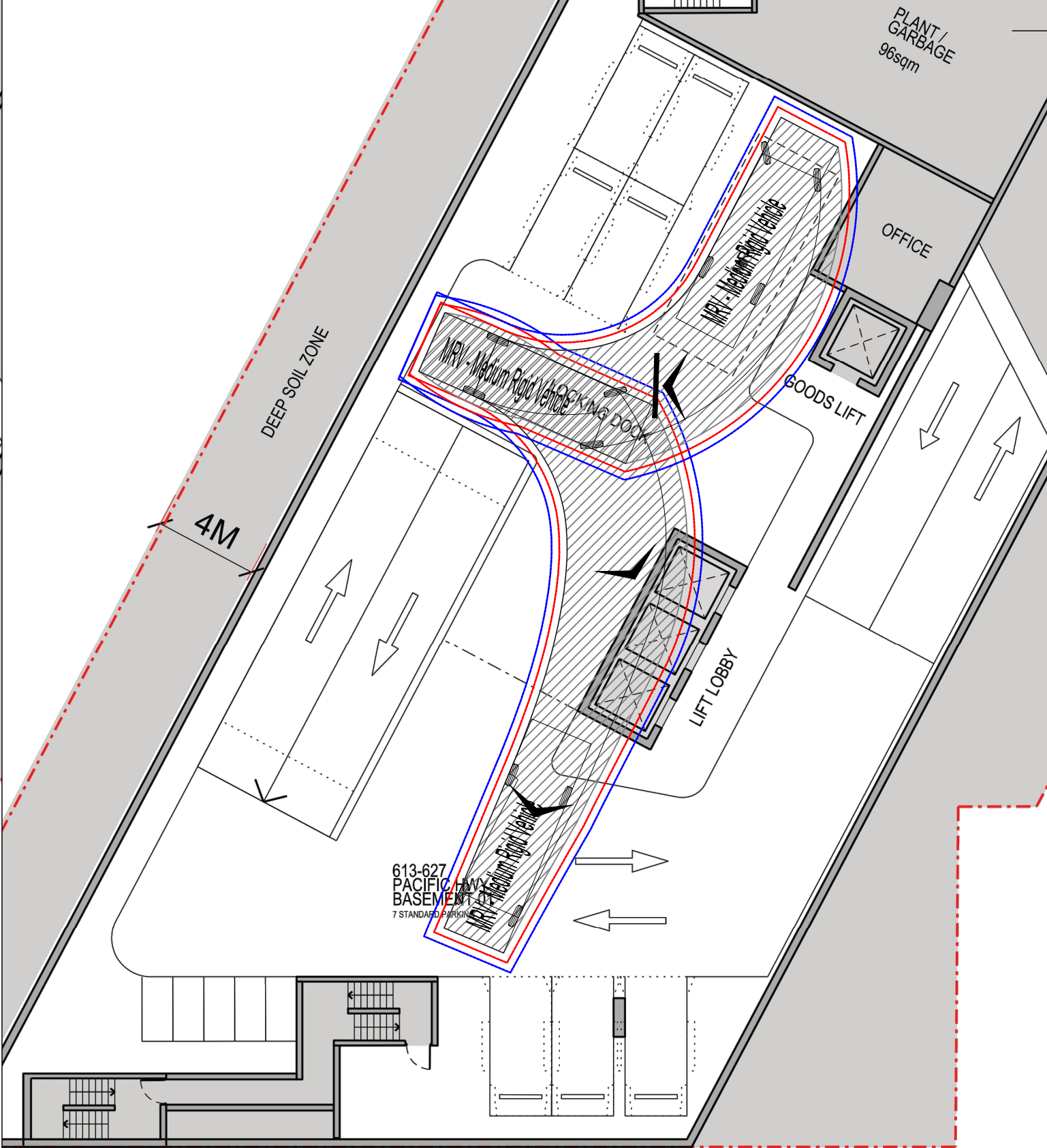
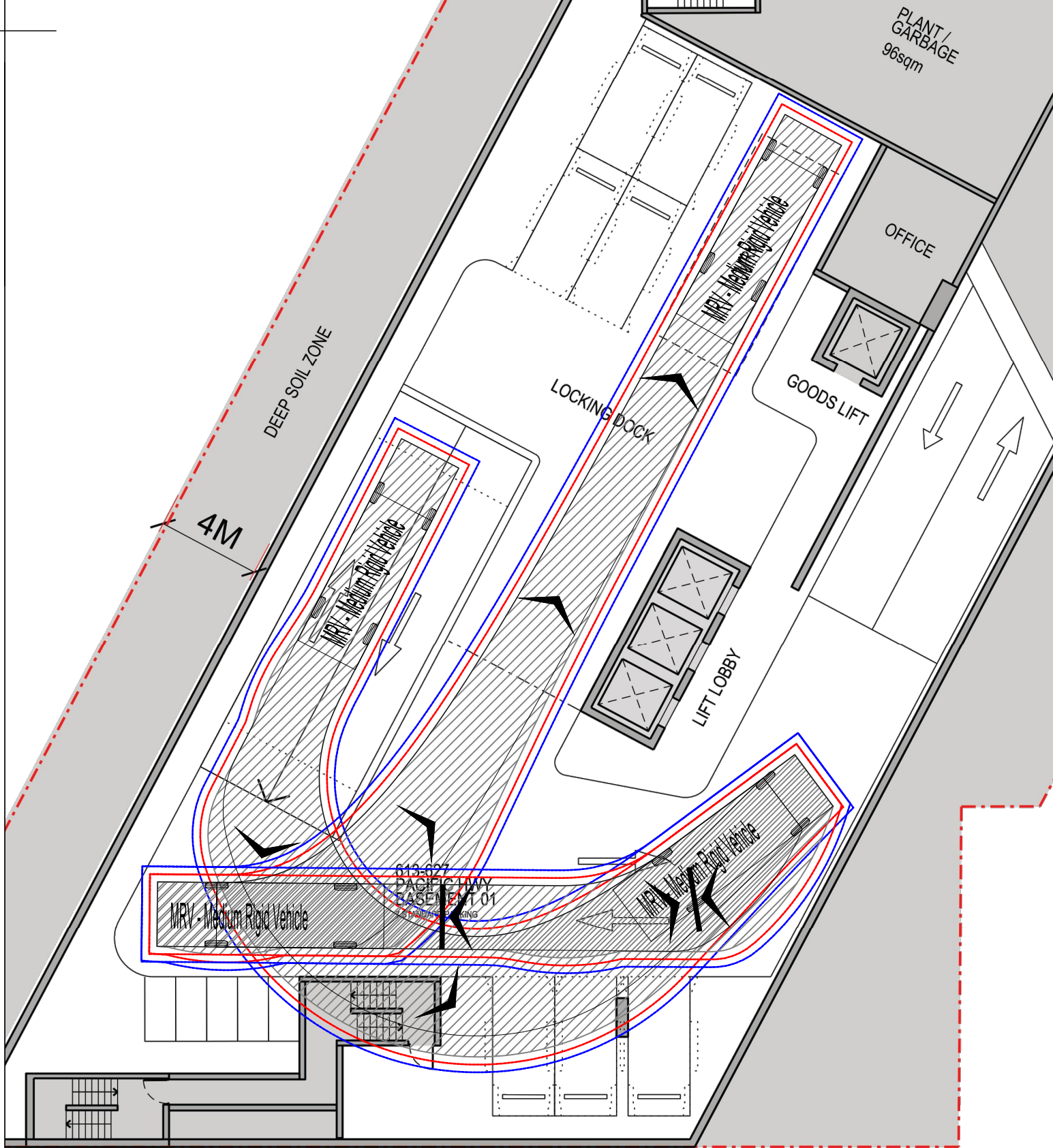
Key findings of the assessment are as follows:

- Under the indicative architecture concept vehicle access would be provided off Hammond Lane to minimise conflicts with pedestrians and general traffic along the Pacific Highway
- The indicative architecture concept includes a loading dock on the ground level of the building, with the design not reliant on a mechanical solution (e.g. turntable) for loading and unloading and still facilitating vehicle entry and exit in a forwards direction.
- The indicative architecture concept contemplates 122 off-street parking bays which is consistent with the current Willoughby Council DCP parking rates for residential uses and significantly below the DCP rates for commercial and retail uses.
- The site is located in close proximity to various public transport facilities, including Chatswood transport interchange and nearby bus stops, thus any future development is not expected to not generate significant traffic impacts.
- Analysis indicates that the potential increase in traffic as a result of the Planning Proposal is an additional 9 vehicles in the AM peak hour and 7 vehicles in the PM peak hour. This increase in traffic has been considered as part of the broader Chatswood CBD strategic transport study which considered all potential new developments in the CBD. The study did not identify that the future development planned for the Chatswood CBD would have a detrimental impact on the road network.
- Secure bicycle parking would be provided as a component of any future proposed development, in line with rates specified in the Willoughby Council DCP.
- Travel demand management measures have also been suggested to improve the mode share of public transport and active transport. These items should be considered further at detailed design stage.

In the above context, the traffic and transport impacts arising from the proposal are considered acceptable.

## **Appendix A: Vehicle Swept Path Analysis**

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**Client**  
Antaeus Group

**Date**  
30.03.21

**Job Title**  
613-627 Pacific Highway

**Job No**  
2108

**Drawing Title**  
Turning Paths  
Loading dock in basement option

**Drawing No**  
SKT01

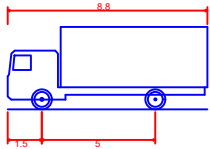
**Drawing Status**  
For Information

**Legend**

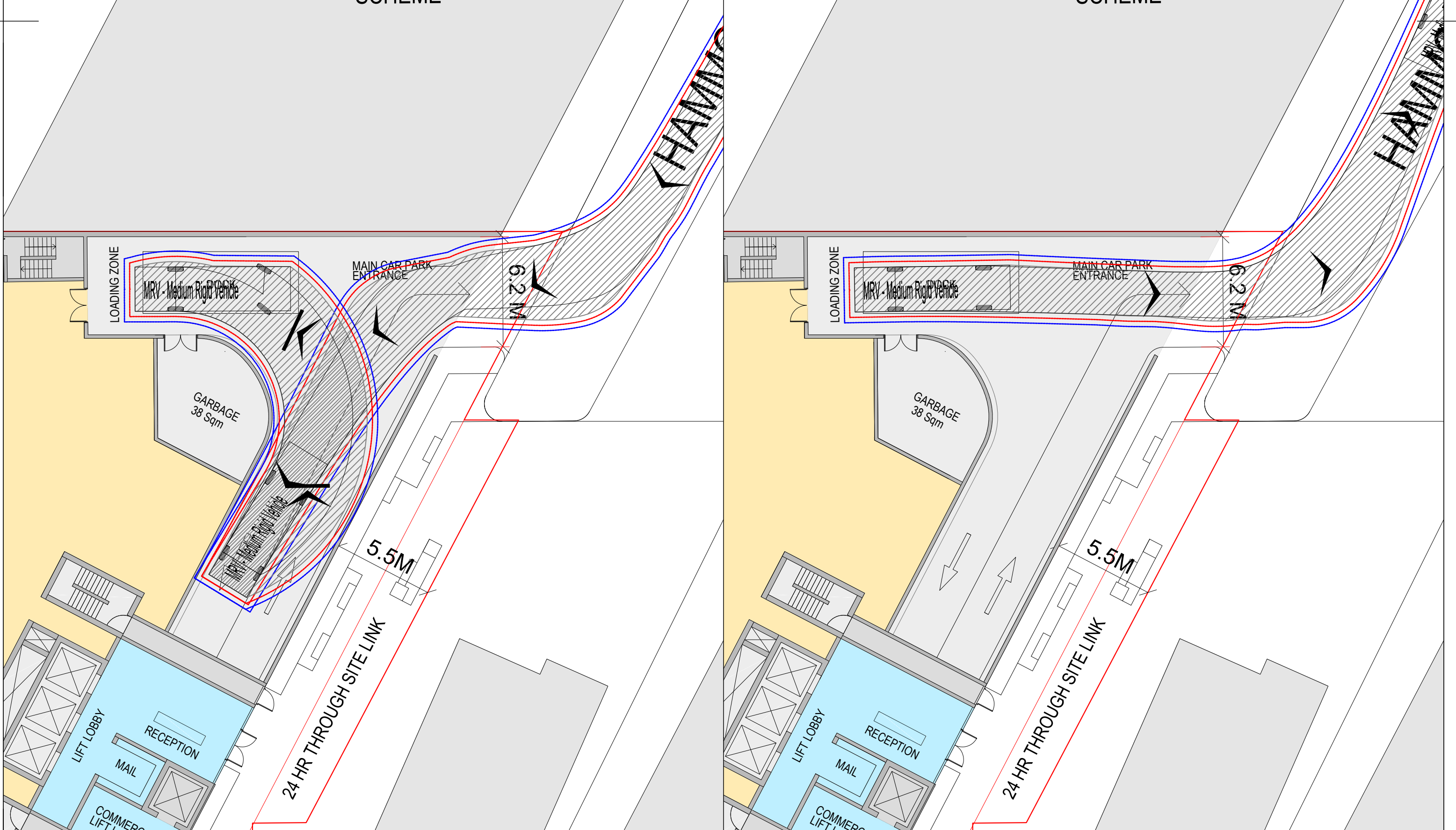
- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

**Scale at A3**  
1:200

**Vehicle type(s)**



MRV - Medium Rigid Vehicle  
Overall Length 8.800m  
Overall Width 2.500m  
Overall Body Height 3.633m  
Min Body Ground Clearance 0.428m  
Track Width 2.500m  
Lock to Lock Time 4.00 sec  
Curb to Curb Turning Radius 10.000m



**Client**  
Antaeus Group

**Date**  
30.03.21

**Job Title**  
613-627 Pacific Highway

**Job No**  
2108

**Drawing Title**  
Turning Paths  
Loading at ground level

**Drawing No**  
SKT02

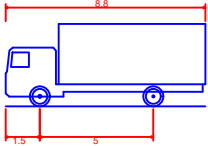
**Drawing Status**  
For Information

**Legend**

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

**Scale at A3**  
1:200

**Vehicle type(s)**



MRV - Medium Rigid Vehicle  
Overall Length 8.800m  
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