



# 93 St Hilliers Road, Auburn Traffic Impact Assessment

Prepared for:  
Good Luck Plaza Pty Ltd

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The Transport Planning Partnership

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# 93 St Hilliers Road, Auburn

## Traffic Impact Assessment

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## APPENDICES

- A. Architectural Plans
- B. Swept Paths



# 1 Introduction

A development application (DA) is to be lodged by Gold Luck Plaza Pty Ltd with Cumberland Council (Council) for the partial demolition of an existing building and the construction of a new tower building at 93 St Hilliers Road, Auburn.

The Transport Planning Partnership (TPPP) has been commissioned by Good Luck Plaza Pty Ltd to undertake a traffic and parking impact assessment of the proposed development to assess the traffic and parking implications of the site.

## 1.1 Overview of Development Proposal

The proposed new tower building will accommodate a new hotel development with associated restaurant, conference and seminar spaces and retail.

The proposal involves a seven-storey hotel comprising of the following:

- 202 hotel rooms
- restaurant with 349m<sup>2</sup> gross floor area (GFA) with 86 seats
- retail with 78m<sup>2</sup> GFA, and
- function/ conference area with 589m<sup>2</sup> GFA with 247 seats.

The existing car park located on the ground and lower ground levels would be generally be maintained. In addition, new car parking spaces, a loading zone and porte-cochere will be provided on-site.

## 1.2 Background

In April 2020 Good Luck Plaza Pty Ltd submitted a development application (DA 2020/0246) for a proposed hotel and ancillary uses. DA 2020/0246 generally reflects the development application which is the subject of this traffic and parking assessment.

DA 2020/0246 was withdrawn prior to Council determination in order for the applicant to address several key matters identified by Council through the DA assessment process.

One of the key matters identified by Council was the proposed provision of on-site parking for the development proposal.

In considering DA 2020/0246, Council provided the following comments in a letter dated 8 September 2020. This letter stated:



1. *The 66 on-site car parking spaces proposed are not adequate. In accordance with the provisions of the RMS Guide, parking is required to be provided at a rate of 1 space per 4 rooms for 3 or 4 star accommodation.*

*This equates to the requirement for 51 spaces to be provided for the 202 rooms proposed.*

*It is acknowledged that the Traffic Study submitted with the DA states that the development also includes a function/conference centre, comprising a total area of 589sqm and provision of 247 seats. The Traffic Study states that the function and conference rooms will be available to the public (i.e. non-hotel guests).*

*Given that the function/conference centre component of the development can operate independent of the hotel accommodation, i.e. it will be available for the use of non-hotel guests, the provisions of the ADCP 2010 are applicable (given the absence of a rate for conference centres in the RMS Guide).*

*The ADCP 2010 relevantly provides a rate of 15 spaces per 100sqm GFA, or 1 space per 3 seats; whichever is the greater.*

*This equates to the requirement for the provision of an additional 89 spaces (calculated on GFA of the conference centre).*

In response to the above comments, the development proposal has been modified to provide a total of 140 spaces, which includes the shared use of 61 spaces from the residual site, for function centre and staff use.

## 1.3 Purpose of this Report

As noted above, a new development application is to be submitted for the site. This report presents the findings of TTPP's assessment of the traffic and parking implications of the proposed development and is set out as follows:

- Section 2 discusses the existing conditions including a description of the subject site
- Section 3 presents a summary of Council comments from the pre-DA lodgement meeting
- Section 4 provides a brief description of the proposed development
- Section 5 assesses the proposed on-site parking provision and internal parking layout
- Section 6 examines the traffic generation and its impact, and
- Section 7 presents the conclusions of this assessment.



## 2 Existing Conditions

### 2.1 Site Description

The subject site is located at 93 St Hilliers Road, Auburn and is bounded by Parramatta Road to the north, St Hilliers Road to the west, a private access road to the south and Percy Road to the east.

The subject site forms part of a larger site (79-99 St Hilliers Road), which is currently occupied by two low rise buildings comprising of multiple commercial office and warehouse spaces that are currently vacant. At-grade parking spaces are present along the perimeter of this site.

The subject site is proposed to be sub-divided into two halves. The proposed development will be located on the north half of the sub-divided site, while the southern half is excluded from this development application and will be retained as is. The subject site including the proposed sub-division is shown in Figure 2.1.

**Figure 2.1: Site Locality**



Base Map Source: Nearmap

Access to the subject site is provided along St Hilliers Road and Percy Street. The vehicular access point along St Hilliers Road permits left in/ left out traffic movements for light vehicles.



In addition, there are several vehicle access points along the Percy Road providing convenient and direct access for both general traffic and heavy vehicle traffic. Figure 2.1 shows the existing vehicular access points.

## 2.2 Road Network

### 2.2.1 Parramatta Road

Parramatta Road (also known as Great Western Highway) is a Roads and Maritime Services classified State Road that borders the northern frontage of the site. The road is a major thoroughfare for motorists, linking Sydney to Bathurst. In the immediate vicinity of the subject site, Parramatta Road is a divided two-way, four-lane road with a posted speed limit of 60km/h.

### 2.2.2 St Hilliers Road

St Hilliers Road is a Roads and Maritime Services classified State Road that runs along the western frontage of the site. The road connects with Silverwater Road at its northern end and Rawson Street/Boorea Street to the south. St Hilliers Road is a two-way, six-lane road, separated by a central median island and has a road carriageway width of approximately 10 metres in each direction. Clearway restrictions apply in both directions between 6:00am and 7:00pm on weekdays, and 9:00am and 6:00pm on weekends and public holidays.

The posted speed limit on St Hilliers Road is 70 km/h.

### 2.2.3 Percy Street

Percy Street is a local road along the eastern frontage of the subject site. The road is an undivided two-way, two-lane road with a road carriageway width of approximately 12.8 metres. Unrestricted kerbside parking is permitted along both sides of the road. At the northern end of the Percy Street, vehicles are restricted to left in only via Parramatta Road westbound.

The posted speed limit on Percy Street is 50km/h.



## 2.3 Public Transport Services

The nearest bus stop is located on the Parramatta Road near the subject site, servicing the M92 bus routes. The bus route M92 (Sutherland to Parramatta) connects the site with a number of suburbs, such as Parramatta, Rosehill, Lidcombe, Padstow and Menai. Route M92 has a frequency of 10 minutes during peak periods and 20 minutes during off peak periods.

The site is located approximately 1.3km walking distance from Auburn Railway Station. Auburn Station is part of the T1 Western Line and T2 Inner West & South Line and provides direct connections to major train stations such as Liverpool, Parramatta and the Sydney CBD. Train services have a frequency of 6 to 10 minutes during peak periods and 15 minutes in the off-peak.

The public transport facilities in the near vicinity of the site are shown in Figure 2.2.

## 2.4 Pedestrian and Cyclist Facilities

Paved pedestrian footpaths are provided on both sides of the roads fronting the subject site. Signalised pedestrian crossings are present on all legs of Parramatta Road-St Hilliers Road-Silverwater Road intersection to facilitate pedestrian movements.

North of the site, a separate dedicated cycleway is provided at Adderley Street. To the west, the cycleway connects with the Duck River cycleway and links to further formal cycling facilities at Harris Park. To the east of Adderley Road, separate dedicated cycleways provide access to neighbouring suburbs such as Newington and Olympic Park.

In addition, a cycle route via Station Road, Simpson Street and Northumberland Road is identified on the Roads and Maritime Cycleway Finder. The existing cycle routes surrounding the site are shown in Figure 2.3.



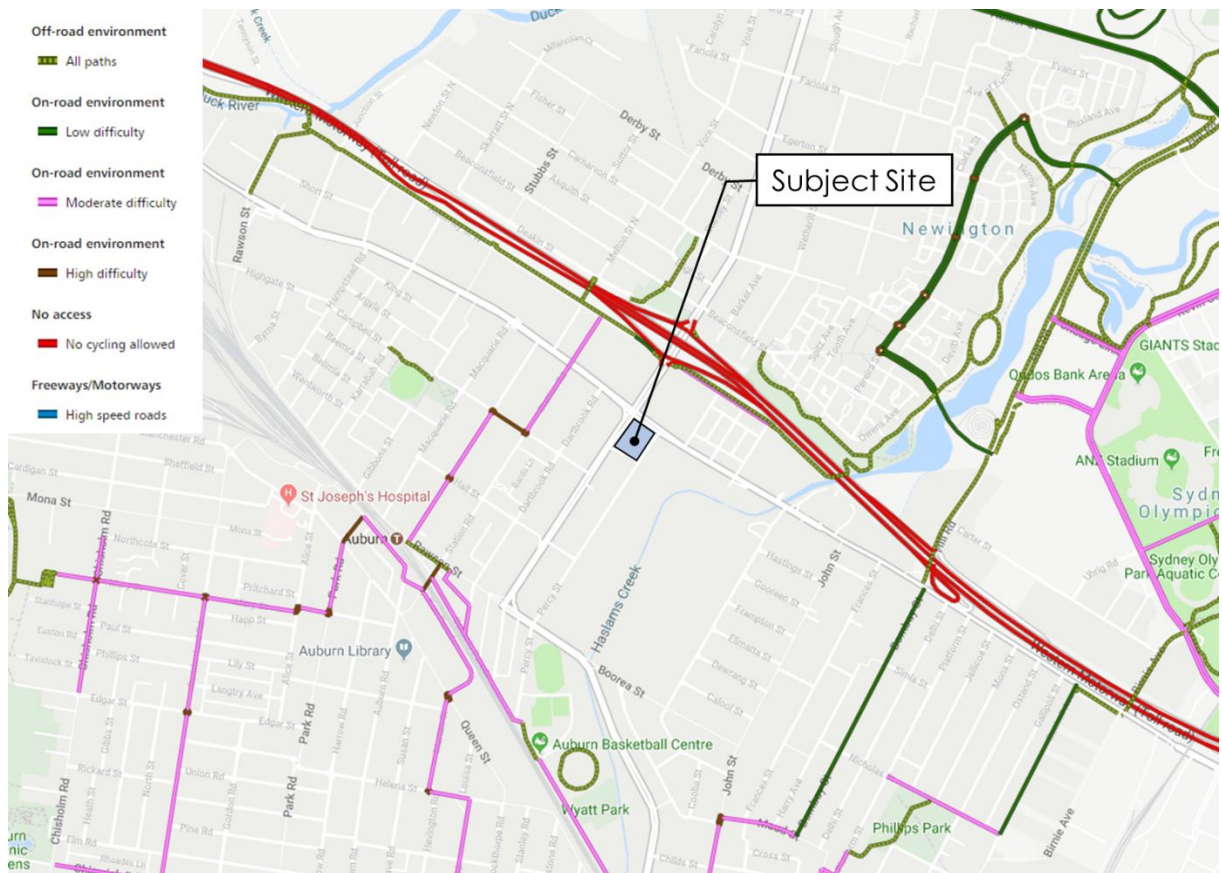
**Figure 2.2: Public Transport Facilities near the Site**



Basemap Source: Google Maps Australia



**Figure 2.3: Existing Cycle Routes Surrounding the Site**



Source: Roads and Maritime Cycleway Finder ([https://www.rms.nsw.gov.au/maps/cycleway\\_finder](https://www.rms.nsw.gov.au/maps/cycleway_finder), last accessed 08/07/2019)

## 2.5 Traffic Volumes

Intersection turning movement counts were conducted on 12 October 2017 from 6:30am to 9:30am and from 3:30pm to 6:30pm. The counts were conducted at the following intersections near the subject site:

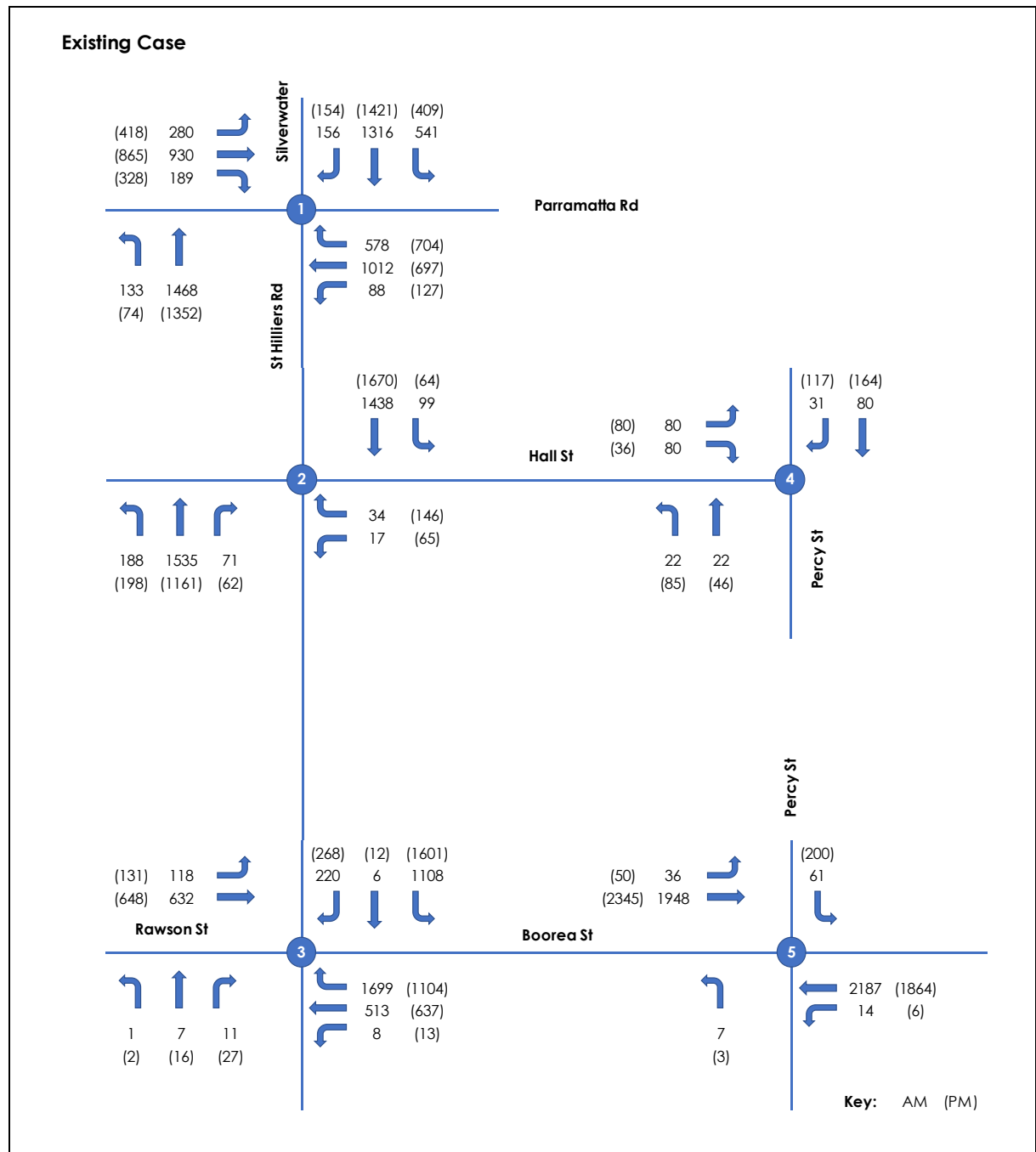
- Parramatta Road – St Hilliers Road – Silverwater Road
- St Hilliers Road – Hall Street
- Hall Street – Percy Street
- St Hilliers Road – Rawson Street, and
- Percy Street – Rawson Street – Boorea Street.

The network morning and evening peak hours have been identified being from 7:30am to 8:30am and from 4:30pm to 5:30pm, respectively.

The network peak hour volumes for the above intersections are summarised in Figure 2.4.



**Figure 2.4: Existing Peak Hour Traffic Volumes**



## 2.6 Existing Intersection Operation

The existing operation of the nearby intersections to the site has been assessed using SIDRA Intersection 8, a traffic modelling software assessing intersection performance under prevailing traffic conditions.



SIDRA calculates intersection performance measures such as 'average delay' that vehicles encounter and the level of service (LoS). SIDRA provides analysis of the operating conditions which can be compared to the performance criteria set out in Table 2.1.

**Table 2.1: Level of Service Criteria for Intersection Operation**

Level of Service	Average Delay (seconds per vehicle)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and 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
F	Greater than 70	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing; requires other control mode

Source: Roads and Maritime Guide to Traffic Generating Developments, 2002

The results of the SIDRA intersection analysis are presented in Table 2.2.

Table 2.2 indicates that under existing traffic conditions the intersections surrounding the site are currently operating well with LoS C or better during the peak periods, with the exception of Parramatta Road–St Hilliers Road–Silverwater Road intersection which is operating at LoS E/F.

LoS E/F operation indicates the intersection is operating at above capacity. However, this is not unusual for some key intersections in the Sydney urban road network, where significant queuing and delay is prevalent. In the case of the subject intersection, three approaches of the intersections are key links in the road network, with Silverwater Road (north approach) connecting to the M4 motorway immediately to the north, and the Great Western Highway being a key east-west connection in the Sydney road network.



**Table 2.2: Existing Intersection Operation**

Intersection	Intersection Control	Morning Peak Hour		Evening Peak Hour	
		Ave. Delay (sec/veh)	Level of Service	Ave. Delay (sec/veh)	Level of Service
Parramatta Road – St Hilliers Road – Silverwater Road	Signals	70	E	76	F
St Hilliers Road – Hall Street	Signals	5	A	8	A
St Hilliers Road – Rawson Street	Signals	38	C	30	C
Hall Street – Percy Street	Priority	7	A	9	A
Rawson Street – Percy Street – Boorea Street	Priority	13	A	18	B



### 3 Consultation

Several consultation sessions with Cumberland Council precedes the preparation of this DA traffic report, including a pre-lodgement meeting and post lodgement advice as discussed in Section 1.2 of this report.

Based on consultation with Council, the following items have been provided:

- an on site drop off / pick up facility for a coach
- turning area for vehicles in blind aisles (except at the valet car park, which is not required a blind aisle as discussed in Section 5.5)
- on site loading facility to accommodate vehicle access for up to an 8.8m Medium Rigid Vehicle
- on site parking provision of 140 spaces including 51 spaces for the hotel and 89 spaces for function centre use.



## 4 Proposed Development

### 4.1 Proposal Description

The subject site is proposed to be sub-divided into two halves. The proposed development is proposed to be located on the northern half of the sub-divided site.

The proposal involves the construction of a new seven storey building amalgamated with the existing building for use as a 4-star tourist hotel. The proposed development comprises the following:

- 202 hotel rooms
- restaurant with 349m<sup>2</sup> gross floor area (GFA) with 86 seats
- retail with 78m<sup>2</sup> GFA, and
- function/conference area with 589m<sup>2</sup> GFA with 247 seats.

The proposed development includes ground floor car park with 140 car parking spaces comprising:

- 41 parking spaces for hotel guests and restaurant visitors,
- 16 parking spaces for hotel and function centre staff, and
- 83 parking spaces for function/conference guests.

The car park includes 114 existing spaces and 26 proposed parking spaces (which make up the hotel's valet parking spaces).

In addition, it is proposed to provide a porte-cochere for pick up/drop off activities by coaches and taxis and for valet operation. The porte-cochere will be located adjacent to the main entrance to the lobby.

It is anticipated that the restaurant, retail space and function and conference rooms will be available to the public (i.e. non-hotel guests).

### 4.2 Site Access

All existing vehicular access points to the wider site will be retained as shown in Figure 2.1.

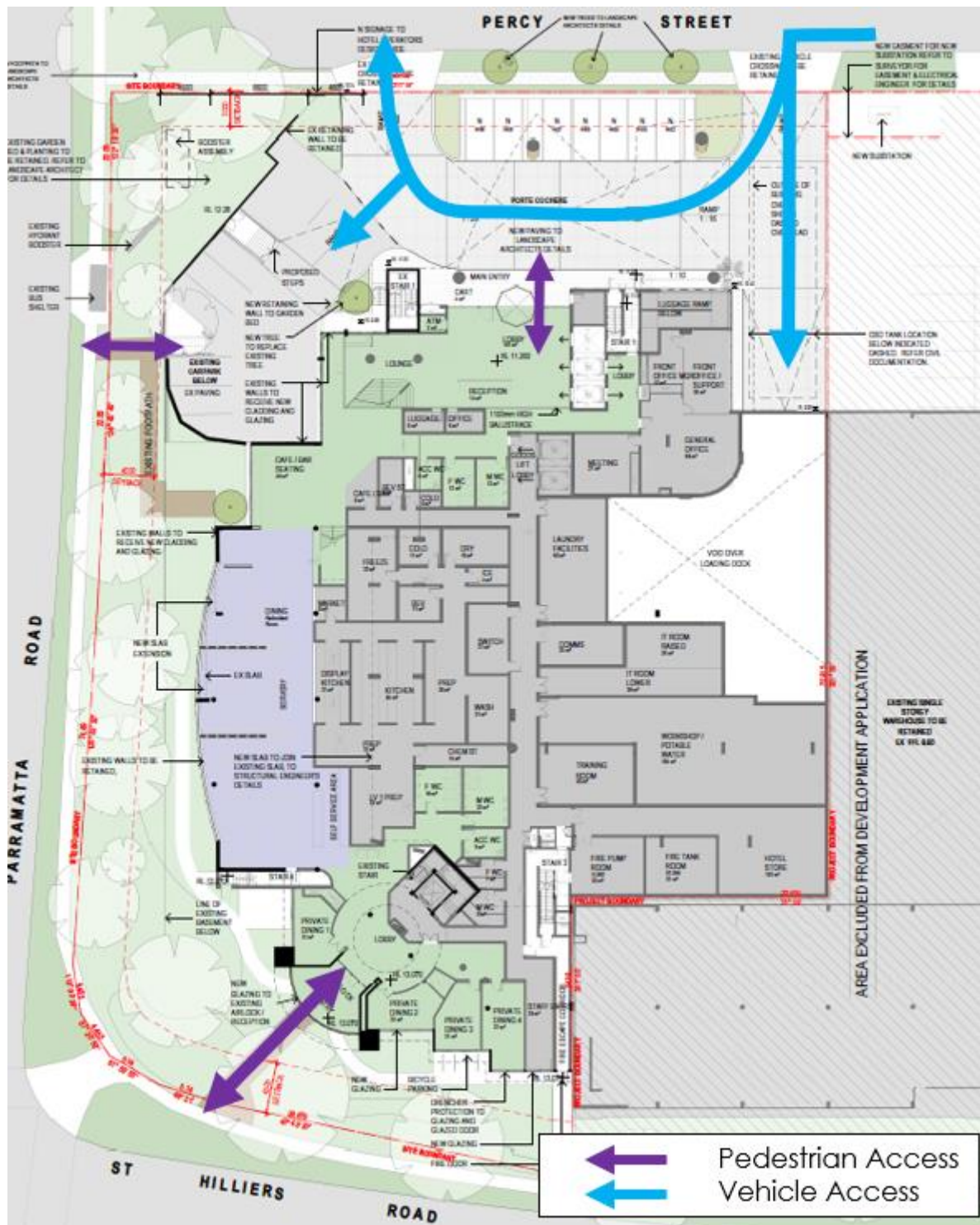
The subject sub-divided site is proposed to be accessed via the existing two access points on Percy Street. The existing southern access point on Percy Street will provide direct access to the loading dock.



In addition, the proposed porte-cochere is proposed to be accessed via the existing access points located on Percy Street.

All vehicles are to enter and exit the proposed development in a forward direction. The locations of the access points are shown in Figure 4.1.

**Figure 4.1: Vehicular and Pedestrian Site Access**

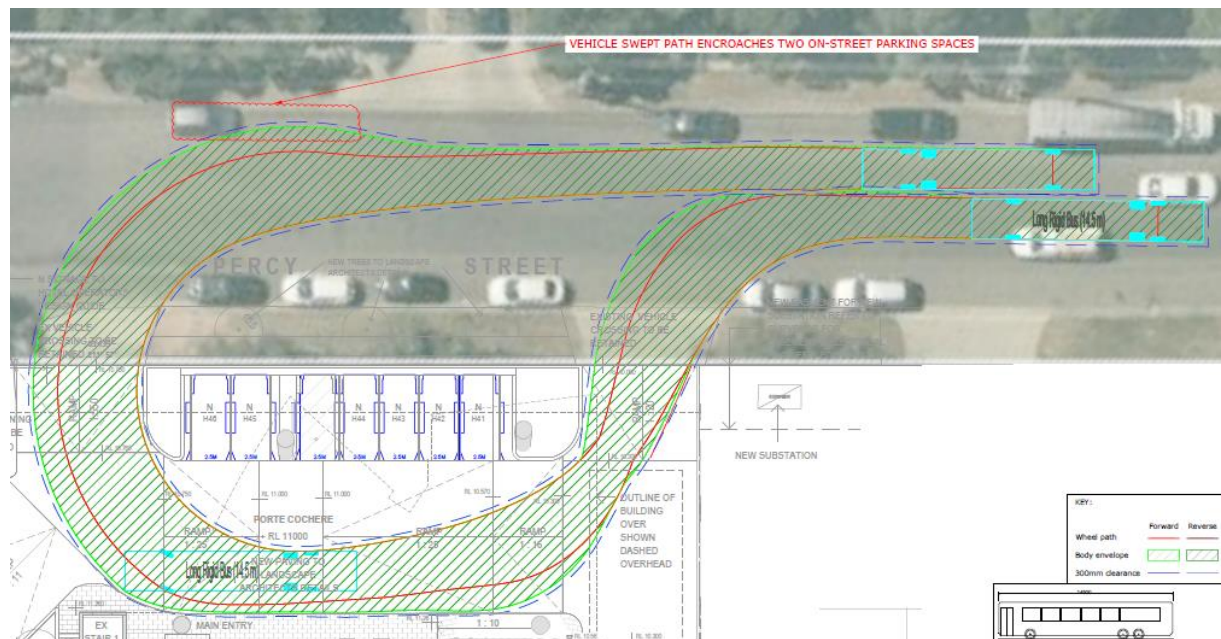




## 4.3 Coach Access

The porte-cochere is proposed to accommodate up to a 14.5m coach/ bus. Swept path analysis indicate that a 14.5m coach is able to access the site, however, will have a minor encroachment upon two on-street car spaces on the opposite side of Percy Street, as shown in Figure 4.2 (full plan in Appendix B).

**Figure 4.2: 14.5m Coach Path**



On this basis, to facilitate the development, two on-street car spaces need to be removed. It is noted that there are existing no stopping zones of either side of the affected car spaces and therefore the proposal will involve extension of an existing no stopping zone.

However, it is further noted that digital swept path analysis of vehicle manoeuvring is significantly conservative and in reality, a 14.5m coach may access the site without encroaching the on-street car spaces. Therefore, consideration could be given to an on-site trial of the bus swept path following occupation of the development to confirm whether a no stopping zone is required.

Consultation will be undertaken with Council on how to best manage coach access.



## 5 Parking Assessment

### 5.1 Car Parking Requirement

Based on previous consultation with Council, the parking requirement for the proposed development has been assessed against the Auburn Development Control Plan 2010 (DCP) and Roads and Maritime Roads and Maritime Services *Guide to Traffic Generating Developments (2002)*.

The estimated car parking provision requirement for the proposed development is presented in Table 5.1.

**Table 5.1: Car Parking Requirement**

Proposed Use	Yield	DCP Parking Rate	Parking Requirement
Hotel (incl. Restaurant and Retail)	202 Rooms	1 space per 4 hotel rooms [See Note 1]	51
Function/Conference	589m <sup>2</sup> GFA	15 spaces per 100m <sup>2</sup> GFA, or	89
	247 seats	1 space per 3 seats (whichever is greater)	
<b>Total</b>	-	-	<b>140</b>

[1] Hotel parking requirement is based on the Roads and Maritime Guide, as discussed in Section 5.1.2 and is inclusive of the restaurant (349m<sup>2</sup>) and retail (78m<sup>2</sup>) areas

[2] Function/Conference parking requirement is based on the DCP

[3] Parking calculations have been rounded up

Based on Table 5.1, the proposed development would require a total of 140 car parking spaces.

#### 5.1.1 Tenant Requirements

It is intended that Marriott International (Marriott) will be the tenant / operator of the proposed hotel and associated function area. Based on Marriott's experience and operational requirements, Marriott has recommended a parking provision of one car space per five rooms. This rate is inclusive of parking for hotel guests, hotel staff and conference and restaurant patrons.

On this basis, the proposed development comprising 202 hotel rooms would require a total of 40 car parking spaces to meet its operational parking demand.

Advice from Marriott indicated that there is an expectation that hotel guests will largely arrive by taxis and other point to point transport services and/or tourist coaches. In addition,



function, retail and conference uses in a hotel development are typically ancillary uses to the main hotel component and are not specific destinations generate any additional trips.

### 5.1.2 Roads and Maritime Guide Requirements

The Roads and Maritime Services *Guide to Traffic Generating Developments (2002)* sets out parking guidelines for tourist hotels based on Roads and Maritime Services survey data.

Roads and Maritime guidelines indicate that historically 3 and 4 star hotels have a parking demand rate in the order of 1 space per 4 bedrooms and 5 star hotels demand a parking rate of 1 space per 5 bedrooms

. The number of stars in a hotel is determined by the number of services incorporated in the hotel such as retail, health clubs, conference facilities etc. However, the above rate does not include the parking demand from conference activities.

The proposed hotel is to be a 4 star hotel, largely used by tourists. Based on the Roads and Maritime guidelines, a 4 star hotel with 202 spaces is required 51 spaces.

### 5.1.3 Proposed Parking Provision

In accordance with the above assessment and with Council's comments as described in Section 1 (Introduction), it is proposed to supply the development 140 car spaces which includes:

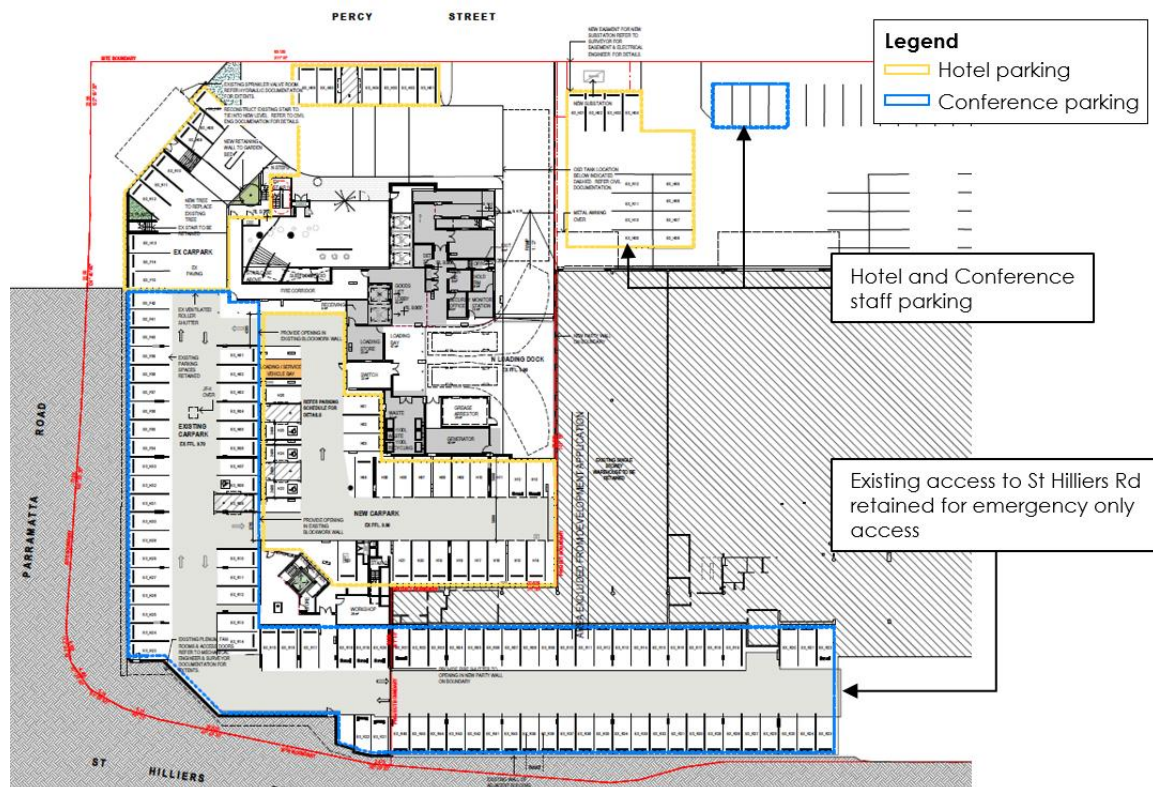
- 79 spaces within the subject site
- 61 spaces within the residual site.

The 61 spaces within the residual site would be based on a formal agreement with the adjoining landowners and appropriate subdivision such as stratum subdivision, easements, or the equivalent. Legal rights of access and ownership can be included within the consent.

Of the 61 spaces, 45 spaces would be under cover and a partition/ roller door that splits the development site and adjoining site within the existing lower ground car park. This would enable pedestrians to move from their parked vehicles to the Hotel facility without traversing through the adjacent facility. 16 spaces would be located at the frontage along Percy Street and used by staff of the hotel and function centre. The car parking layout is shown in Figure 5.1.



**Figure 5.1: Parking Layout**



Source: Jackson Teece (December 2020)

The use of car spaces from the adjoining site is feasible noting that the adjoining site has a surplus of parking. An assessment of the existing and proposed parking requirements of both subdivided sites is detailed in Table 5.2.



**Table 5.2: Parking Assessment of 79-95 St Hilliers Rd**

Land Use	Car Parking Rates	Existing			Proposed		
		Size	Parking Requirement	Parking Provision	Size	Parking Requirement	Parking Provision
<b>RESIDUAL SITE</b>							
Warehouse (see note 1)	1 space per 300m <sup>2</sup> GFA	15,414 m <sup>2</sup> GFA	51		15,414 m <sup>2</sup> GFA	51	
Office (see note 1)	1 space per 40m <sup>2</sup> GFA	4,979 m <sup>2</sup> GFA	125		4,979 m <sup>2</sup> GFA	125	
Café	1 space per 40m <sup>2</sup> GFA	30 m <sup>2</sup> GFA	1		30 m <sup>2</sup> GFA	1	
<b>Sub-Total</b>		<b>20,423 m<sup>2</sup> GFA</b>	<b>178</b>	<b>337 (+159)</b>	<b>20,423 m<sup>2</sup> GFA</b>	<b>178</b>	<b>337 (+159)</b>
<b>PROPOSED HOTEL SITE</b>							
Warehouse (see note 1)	1 space per 300m <sup>2</sup> GFA	3,295 m <sup>2</sup> GFA	11		0 m <sup>2</sup> GFA	0	
Office (see note 1)	1 space per 40m <sup>2</sup> GFA	730 m <sup>2</sup> GFA	19		0 m <sup>2</sup> GFA	0	
Hotel Rooms (see note 2)	1 space per 4 rooms	0 Rooms	0		202 Rooms	51	51
Function (m <sup>2</sup> GFA)	Greater of: 15 spaces per 100m <sup>2</sup> ; or	0 m <sup>2</sup> GFA	0		589 m <sup>2</sup> GFA	89	28
Function (Seats)	1 space per 3 seats	0 Seats			247 Seats		
<b>Sub-Total</b>		<b>4,025 m<sup>2</sup> GFA</b>	<b>30</b>	<b>59 (+29)</b>		<b>140</b>	<b>79 (-61)</b>
<b>Total</b>		<b>24,448 m<sup>2</sup> GFA</b>	<b>208</b>	<b>396</b>	<b>34,235 m<sup>2</sup> GFA</b>	<b>318</b>	<b>416</b>
<b>Surplus (+)/ Shortfall (-)</b>				<b>+188</b>			<b>+98</b>

[1] Total area of site is known. The split between warehouse and office has been estimated.

[2] Hotel parking requirement is inclusive of the restaurant (349m<sup>2</sup>) and retail (78m<sup>2</sup>) areas



Table 5.2 indicates that the residual subdivision has a surplus of 159 spaces. Therefore, upon the allocation of 61 spaces to the proposed hotel, the residual subdivision would still have a surplus of parking availability, of 98 spaces.

Therefore, the proposed parking allocation is considered acceptable and will meet the demands of the site.

#### 5.1.4 Event Traffic Management Plans

The site is considered to provide an adequate parking provision to accommodate likely parking demand of both subdivision sites. Additionally, it is pertinent to note that the adjoining site is approved for use as a warehouse. Therefore, the peak parking demand of the site is unlikely to coincide with the peak operating hours of the hotel function centre, which would typically be during the evenings and weekends.

Notwithstanding the above, it is considered that parking demand for the hotel function space can be managed by way of event specific management plans, which would include travel management measures such as:

- shuttle buses operating between the hotel and the nearest train station or transport interchange
- pre-booked parking spaces for both hotel guests and event attendees (plus instructions to attendees to not drive unless a parking space is booked), and
- event population control to manage parking demand.

An event specific management plan would only be required for functions held by external users with greater than 200 attendees that were also, not hotel guests. However, the likelihood of these events is low, with function space in other Marriott hotels, generally being ancillary space for use by hotel guests.

## 5.2 Accessible Parking Requirement

Building Code of Australia stipulates the following car parking requirements for hotel development and ancillary uses:

- hotel: total number of car parking spaces multiplied by percentage of accessible units to the total number of units
- restaurant and retail: 1 space for every 50 car parking spaces, and
- function/ conference area: 1 space for every 50 car parking spaces.

Based on the above, the estimated accessible car parking provision requirement for the proposed development is provided in Table 5.1.



**Table 5.3: BCA Accessible Car Parking Requirement**

Proposed Use	Yield	Parking Rate	Parking Requirement
Hotel	10 accessible rooms / 202 hotel rooms / 51 car parking spaces	total number of car parking spaces multiplied by percentage of accessible units to the total number of units	2.5
Function/ conference	89 car parking spaces	1 space per 100 car parking spaces	0.9
<b>Total</b>			<b>4</b>

Overall, a total of four accessible car parking spaces would be required.

It is proposed that four accessible car parking spaces will be provided on the ground floor, which satisfies the BCA requirement.

## 5.3 Bicycle Parking Requirement

The DCP does not specify bicycle parking requirements for hotel and ancillary hotel uses. Notwithstanding the above, four bicycle parking racks would be provided adjacent the new pedestrian entrance off St Hilliers Road.

## 5.4 Loading and Servicing Requirement

The provision of loading bays for service and delivery vehicles of the proposed development has been assessed against the DCP. A summary of the loading requirements is presented in Table 5.4.

**Table 5.4: Loading and Servicing Requirements**

Proposed Use	Yield	Parking Rate	Loading Requirement
Hotel	202 Rooms	1 space per 50 rooms up to 200 plus 1 space per 100 thereafter	4
Restaurant	304m <sup>2</sup> GFA	1 space per 1,000m <sup>2</sup> GFA	0
Retail	78m <sup>2</sup> GFA	1 space per 400m <sup>2</sup> GFA up to 2,000m <sup>2</sup> GFA plus 1 space per 1,000m <sup>2</sup> thereafter	0
Function/Conference	452m <sup>2</sup> GFA	1 space per 1,000m <sup>2</sup> GFA,	0
<b>Total</b>	-	-	<b>4</b>

Based on Table 5.4, the proposed development requires four loading bays in accordance with the DCP. A loading dock is proposed in the lower ground level designed to accommodate up to two Australian Standard 8.8m long medium rigid vehicles (MRV). It is



anticipated that an MRV would be the largest vehicle to access the loading dock for large deliveries or servicing.

In addition, one loading bays would be provided in the ground and lower ground levels designed to accommodate Australian Standard B99 vehicles (namely light commercial vans) for small deliveries.

The proposed provision of three loading bays (two truck bays plus one light commercial van bays) is considered sufficient to meet the needs of the site. Loading activities are to be managed by a site manager, who would ensure deliveries are scheduled and distributed through the day and week and ensure that the loading bay capacity of the site is not exceeded.

## 5.5 Parking Layout

The architectural car park and loading dock layout plans are provided in Appendix A.

The existing car parking along the perimeter of the site is to be retained as per existing conditions.

The proposed new car park, porte-cochere, loading and associated new access arrangements have been reviewed for compliance with Australian Standard design requirements, namely AS2890.1:2004, AS2890.2:2018 and AS2890.6:2009. The review included assessment of the following for new parking areas:

- driveway/ porte-cochere grades
- car park ramp grades
- car park circulation
- parking space and aisle dimensions, and
- service vehicle bays.

The new car park and new at-grade spaces fronting the porte-cochere is designed for hotel use and is compliant with Class 2 car parking spaces of the Australian Standard (which have minimum dimensions of 2.5m wide by 5.4m long with aisle width of 5.8m) and is expected to operate satisfactorily. It is noted that hotel parking would be operated as valet parking and therefore turning bays at long aisles are not required as is required for publicly accessible car parks.

The accessible spaces have been designed as per AS2890.6:2009 (with dimensions of 2.4m wide by 5.4m long and an adjacent shared space of equal dimensions with bollard).



Swept path analysis indicates that porte-cochere allows access for up to a 14.5m long rigid bus and the loading allows access for up to an Australian Standard 8.8m medium rigid vehicle. Relevant swept path diagrams are provided in Appendix B.



## 6 Traffic Generation

### 6.1 Future Traffic Generation

The potential traffic generation of the subject site has been estimated based on the rates stipulated in *Roads and Maritime Services Guide to Traffic Generating Developments (2002)*.

#### 6.1.1 Hotel Traffic Generation

The Roads and Maritime Guide sets out the following traffic generation rates for motel use which is applicable for the proposed development. According to the guide, a motel development would generate 0.4 vehicle trips per unit during the evening peak.

Based on this rate, the proposed hotel use of the development which comprises 201 rooms would generate around 80 vehicle trips per hour in the evening.

#### 6.1.2 Restaurant Traffic Generation

According to Roads and Maritime Guide, restaurant generates in the order of 5 vehicle trips per 100m<sup>2</sup> GFA during the evening peak hour.

Therefore, the proposed 349m<sup>2</sup> restaurant area is anticipated to generate about 17 vehicle trips during the evening peak period.

#### 6.1.3 Function/Conference Traffic Generation

Roads and Maritime Guide does not stipulate traffic generation rates for a function/conference room. For the purposes of this assessment, it has been assumed that the traffic generation rate of restaurant would also be applicable for function/conference use.

In this regard, the proposed 589m<sup>2</sup> function/conference area would generate in the order of 29 vehicle trips per hour in the evening peak.

#### 6.1.4 Retail Traffic Generation

The retail use of the development is anticipated to be ancillary to the hotel use and will likely to be used by the hotel visitors. Therefore, it is expected that the retail use would not generate additional traffic.



Table 6.1 provides a summary of the traffic generation estimates.

**Table 6.1: Trip Generation Estimate**

Land Use	Yield	Trip Generation Rate (veh/hr)	Peak Hour Traffic Generation (veh/hr)
Hotel	202 Rooms	0.4 per unit	81
Restaurant	304m <sup>2</sup>	5 per 100m <sup>2</sup> GFA	17
Function/Conference Area	452m <sup>2</sup>	5 per 100m <sup>2</sup> GFA	29
Retail Use	78m <sup>2</sup>	No Traffic Generated	0
<b>Total</b>	-	-	<b>127</b>

It is noted that the Roads and Maritime Guide does not include traffic generation rates of the proposed land uses for the morning peak period. However, for a conservative assessment, it is assumed that the proposed development would generate the same amount of traffic during the morning peak period.

## 6.2 Trip Distribution

Visitors and staff of the proposed hotel and ancillary uses are expected to travel to/from various areas surrounding the site. As such, the estimated development traffic has been equally distributed on to the road network with the following assumption:

- North (via Silverwater Road): 25%
- East (via Parramatta Road): 25%
- West (via Parramatta Road): 25%
- South (via Boorea Street/ Olympic Drive): 25%

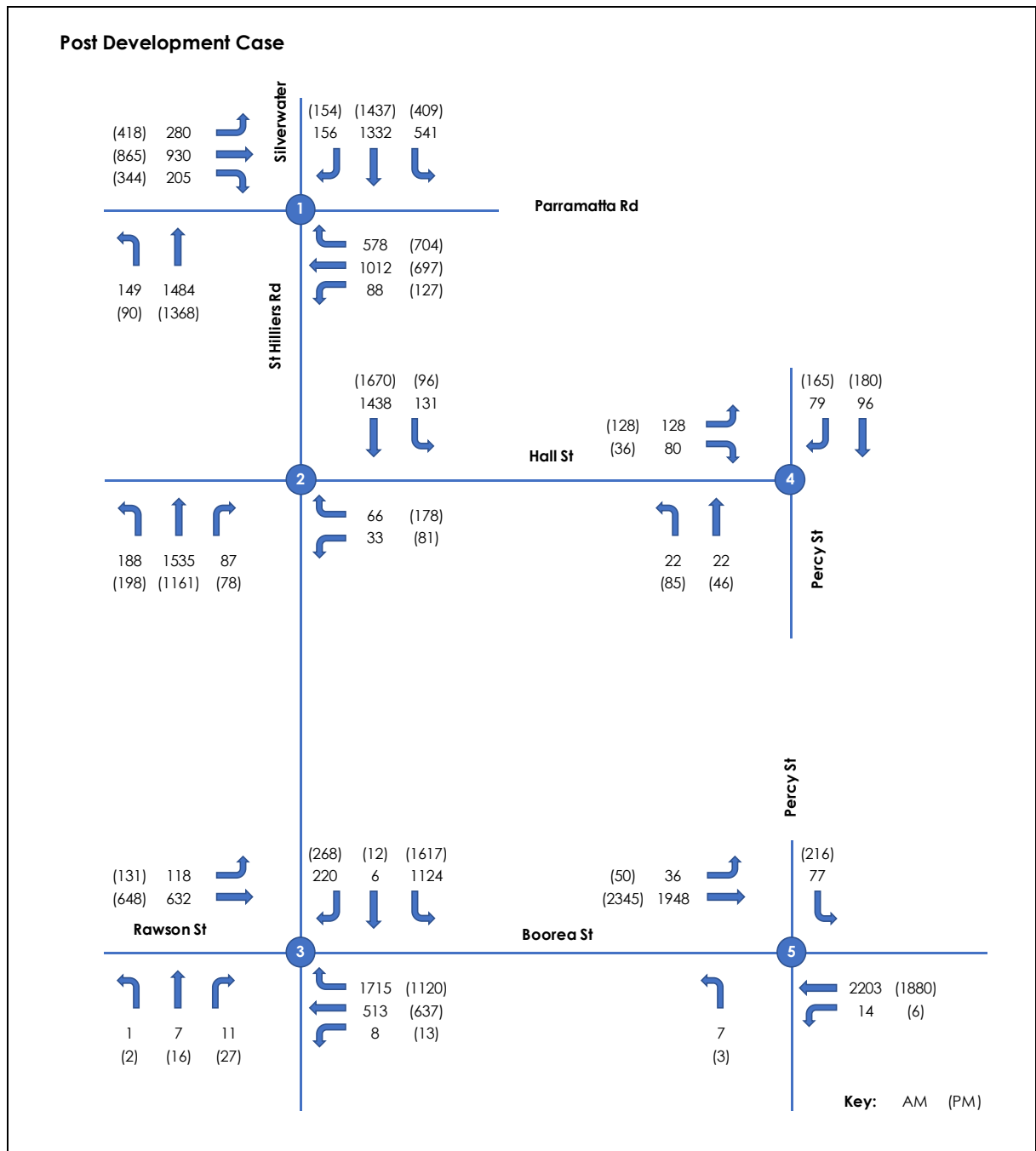
Furthermore, it has been assumed that 50% of trips would be inbound and 50% would be outbound during the peak periods.

## 6.3 2017 Post Development Traffic

The development traffic at intersection level derived above is then added to existing background traffic shown in Figure 2.4. The resultant intersection traffic flows for the post development condition is shown in Figure 6.1.



Figure 6.1: 2017 Post Development Peak Hour Traffic Volumes



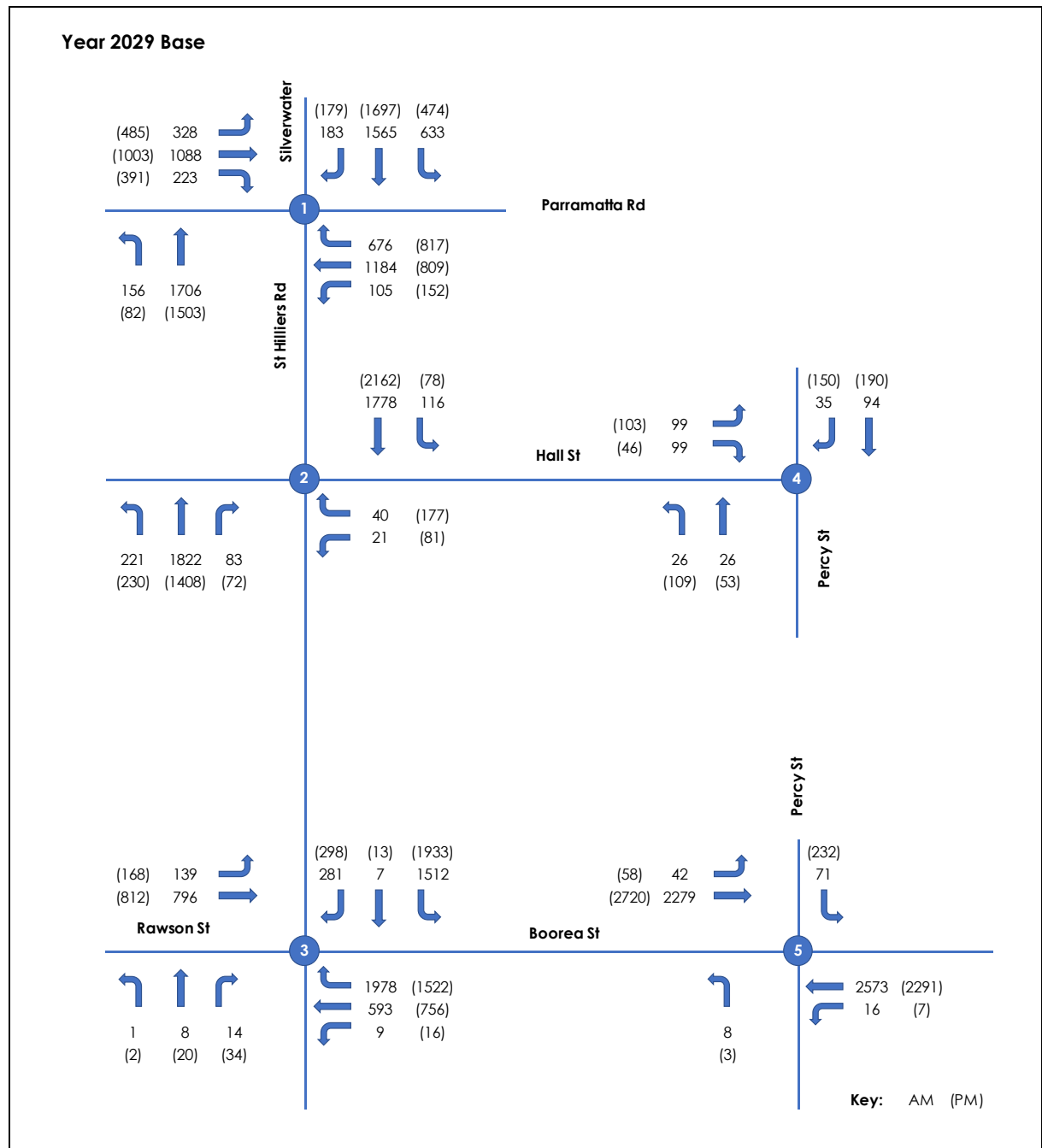
## 6.4 Background Growth

Background traffic growth has been adopted based on Sydney Traffic Forecasting Model (STFM) volume plots obtained from Roads and Maritime Services. To ensure balanced traffic flows in the SIDRA network model, TPP has adopted an average growth rate of 1.7% pa in the morning peak period and 1.6% pa in the evening peak period.



A 12-year growth of the existing background traffic has estimated based on the above growth factors. This presents a 2029 future base case traffic condition (i.e. without development traffic generated by the proposed development) and is presented in Figure 6.2.

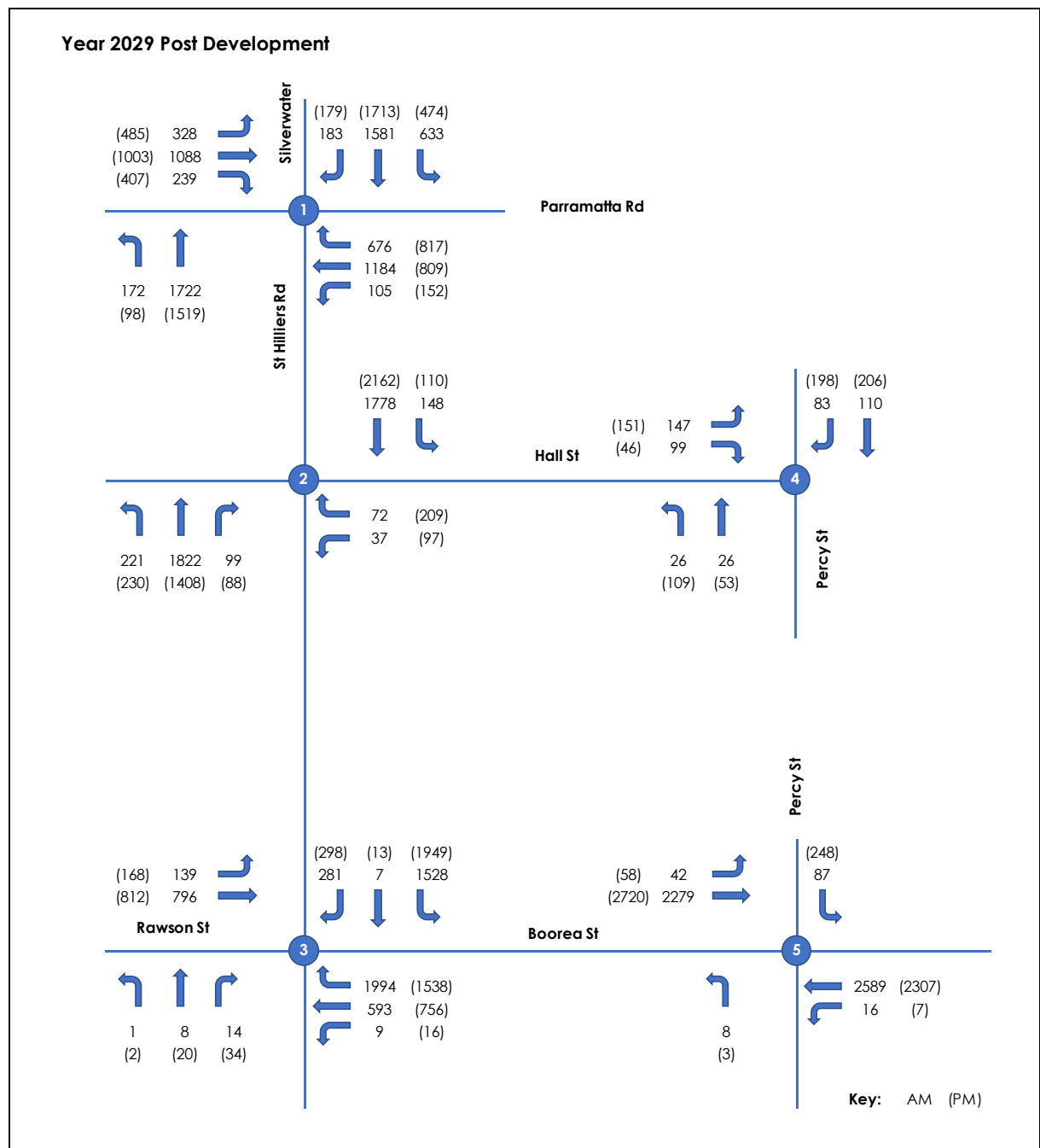
**Figure 6.2: Year 2029 Future Base Case Peak Hour Traffic Volumes**



Development traffic from the proposed development is then added to the above estimated future base case traffic flows. This is presented in Figure 6.3.



Figure 6.3: Year 2029 Post Development Peak Hour Traffic Volumes





## 6.5 Future Intersection Operation

Intersection analysis of nearby intersections have been conducted for the above scenarios.

### 6.5.1 2017 Post Development Traffic Condition

A comparison of the performance of the surrounding road network during the peak periods between the 2017 existing case and 2017 post development case is provided in Table 6.2.

**Table 6.2: 2017 Intersection Operation (Existing vs Post Development)**

Intersection	Intersection Control	Morning Peak Hour				Evening Peak Hour			
		Existing		Post Development		Existing		Post Development	
		Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS
Parramatta Road – St Hilliers Road – Silverwater Road	Signals	70	E	73	F	76	F	79	F
St Hilliers Road – Hall Street	Signals	5	A	6	A	8	A	9	A
St Hilliers Road – Rawson Street	Signals	38	C	39	C	30	C	30	C
Hall Street – Percy Street	Priority	7	A	7	A	9	A	10	A
Rawson Street – Percy Street – Boorea Street	Priority	13	A	13	A	18	B	19	B

Table 6.2 indicates that the under 2017 post development traffic condition the key intersections near the subject site would continue to operate satisfactorily with similar traffic performances as that found under existing traffic conditions. The traffic modelling results show that the proposed development would have minimal impact to the network and would only increase the delays in each network by a maximum of three seconds.



## 6.5.2 2029 Future Base Case Traffic Condition

Intersection analysis of the 2029 future base case traffic condition (i.e. without development traffic) has been conducted of the nearby intersections. Table 6.3 compares the modelling results of 2017 existing traffic conditions with 2029 future base case traffic conditions.

**Table 6.3: 2017 and 2029 Intersection Operation (No Development Traffic)**

Intersection	Intersection Control	Morning Peak Hour				Evening Peak Hour			
		2017 Existing Condition		2029 Future Base Case		2017 Existing Condition		2029 Future Base Case	
		Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS
Parramatta Road – St Hilliers Road – Silverwater Road	Signals	70	E	146	F	76	F	159	F
St Hilliers Road – Hall Street	Signals	5	A	5	A	8	A	10	A
St Hilliers Road – Rawson Street	Signals	38	C	80	F	30	C	37	C
Hall Street – Percy Street	Priority	7	A	6	A	9	A	11	A
Rawson Street – Percy Street – Boorea Street	Priority	13	A	16	B	18	B	25	B

In the future base case (i.e. Year 2029), the background traffic growth would add further capacity stress the Parramatta Road–St Hilliers Road intersection. Similarly, the intersection of St Hilliers Road–Rawson Street is also expected to above capacity. The other assessed intersections are expected to continue to operate satisfactorily.

It is noted that the capacity stress is exclusively due to the growth in the background traffic alone. However, this assumed the assessed intersections operate under similar traffic signal timing settings and phase arrangements. In reality, these would be adjusted to accommodate the prevailing traffic conditions as required.



### 6.5.3 2029 Post Development Traffic Condition

A comparison of the performance of the surrounding road network during the peak periods between the Year 2029 base case (i.e. without the development) and Year 2029 post development case is provided in Table 6.4.

**Table 6.4: 2029 Intersection Operation**

Intersection	Intersection Control	Morning Peak Hour				Evening Peak Hour			
		2029 Future Base Case		2029 Post Development		2029 Future Base Case		2029 Post Development	
		Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS	Ave. Delay (s)	LoS
Parramatta Road – St Hilliers Road – Silverwater Road	Signals	146	F	144	B	154	F	159	F
St Hilliers Road – Hall Street	Signals	5	A	6	A	8	A	10	A
St Hilliers Road – Rawson Street	Signals	80	F	82	F	36	C	37	C
Hall Street – Percy Street	Priority	6	A	6	A	10	A	11	A
Rawson Street – Percy Street – Boorea Street	Priority	16	B	16	B	24	B	25	B

Table 6.4 indicates that the proposed development would have minimal impact to the road network in the future year 2029, with minor increase to intersection delays.

Based on the above, the performance of the road network in the post development scenario would be comparable with future base case (i.e. without development traffic).

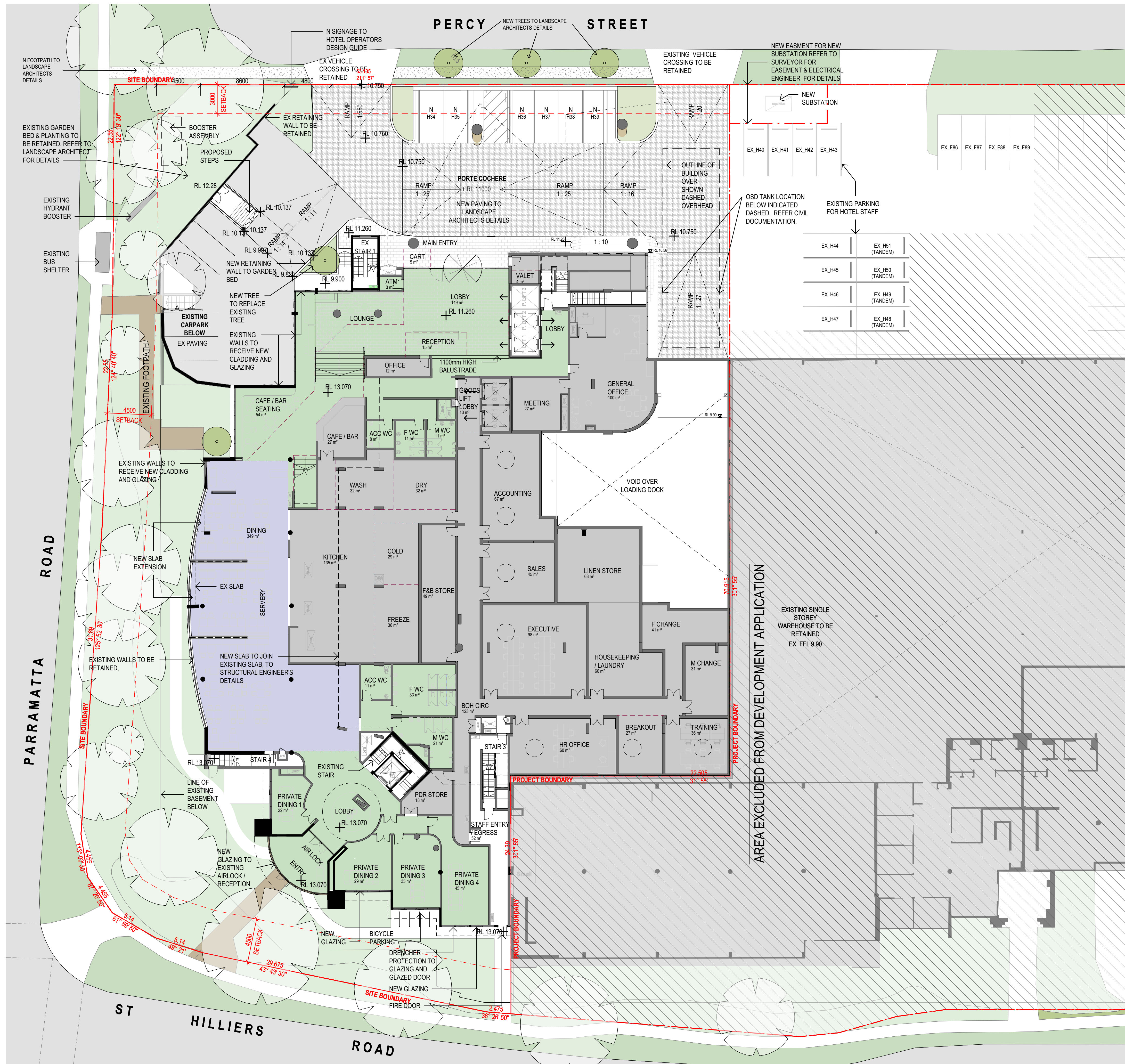
The assessed intersections operating under future conditions would operate with more efficiency than that presented herein as it is expected the traffic signal timing and phase arrangement would be adjusted to accommodate growth in the background traffic.



# Appendix A

## Architectural Plans





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#### AMENDMENTS

ISSUE	DESCRIPTION	APPROVED	DATE
B	DEVELOPMENT APPLICATION	RP	04/12/20

#### CAR PARKING KEY

- CONFERENCE
- HOTEL
- RESTAURANT
- LOADING BAY

#### NOTE:

NEW GRADING TO VEHICLE ENTRY TO CIVIL TRAFFIC ENGINEERING'S DETAIL.

#### GENERAL NOTES:

- REFER TO DEMOLITION PLAN FOR EXTENT OF EXISTING BUILDING TO BE RETAINED / DEMOLISHED
- EXISTING TREES NO. 1-16 TO BE RETAINED & PROTECTED REFER TO ARBORIST REPORT FOR DETAILS
- AREAS INDICATED ARE APPROXIMATE ONLY AND SHOULD NOT BE RELIED UPON FOR ANY PURPOSE OTHER THAN A GENERAL UNDERSTANDING OF THE ARCHITECTURAL DESIGN INTENT SHOWN ON THIS DRAWING. A REGISTERED SURVEYOR SHOULD BE ENGAGED TO CONFIRM ANY QUOTED AREAS AND EXISTING MEASUREMENTS.
- REFER TO SURVEY PREPARED BY LTS LOCKLEY DATED 30/1/17 FOR DETAILS OF BOUNDARY AND LEVELS OF EXISTING SITE FEATURES.

#### ABBREVIATIONS

BAL	BALUSTRADE
EX	EXISTING
JF-X	JET FANS
N	NEW
RL	RELATIVE LEVEL
MRV	MEDIUM RIGID VEHICLE
SD	SMOKE DOOR
TOG	TOP OF GUTTER
TOP	TOP OF PARAPET
TOW	TOP OF WALL
MRS	METAL ROOF SHEETING
RWO	RAIN WATER OUTLET
T#	TREE NUMBER REFER TO ARBORIST REPORT FOR DETAILS
V/C	VEHICLE CROSSING

#### LEGEND

- EXISTING WALL TO BE RETAINED
- NEW WALL
- EXISTING TREES TO BE RETAINED
- TREES TO BE REMOVED
- DEMOLISHED
- SKYLIGHTS ABOVE

#### PROGRAM LEGEND

- BACK OF HOUSE & SUPPORT
- PRE-FUNCTION
- CONFERENCE & SEMINAR AREAS
- HOTEL COMMUNAL AREAS
- HOTEL ROOMS
- RESTAURANT

0 2 4 6 8 10m  
1:200@A1

THIS DRAWING ISSUE HAS BEEN REVIEWED FOR

#### DEVELOPMENT APPLICATION

APPROVED BY: JS  
CHECKED BY: RP

CLIENT

GOOD LUCK PLAZA  
好運廣場

DRAWING  
FLOOR PLAN - GROUND  
FLOOR

SHEET CREATED 05/02/19 SCALE @ A1 1:200 DRAWN RP

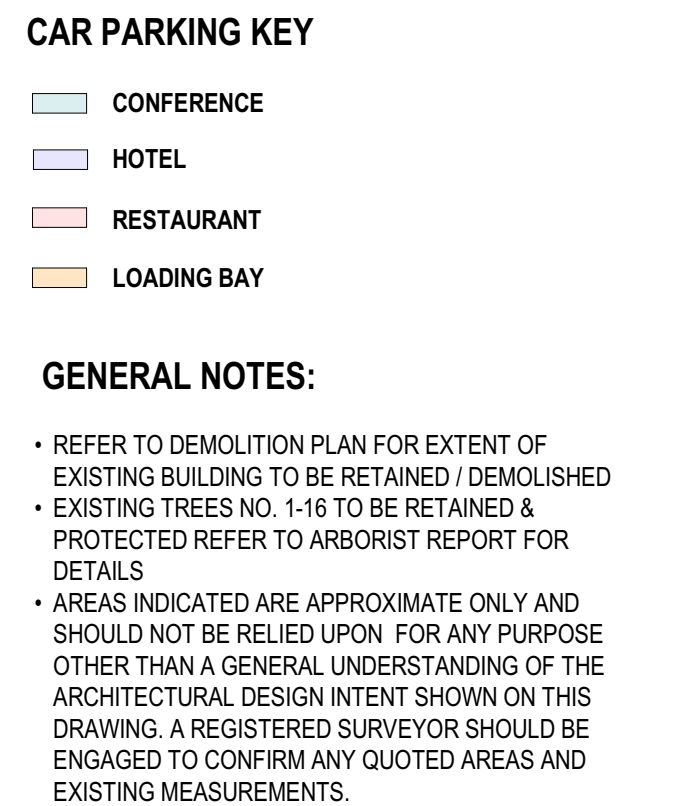
PROJECT No. 2018081 A DISCP. DA-100 DRAWING No. B

PROJECT  
AUBURN HOTEL  
93 ST. HILLIERS ROAD, AUBURN




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E sydney@jacksonteece.com  
Jackson Teece Chesterman Willis Pty Ltd  
Trading as Jackson Teece  
ABN 15 083 837 290

JACKSON TEECE











## LEGEND

	EXISTING WALL TO BE RETAINED
	NEW WALL
	DEMOLISHED

## PROGRAM LEGEND

	BACK OF HOUSE & SUPPORT
	PRE-FUNCTION
	CONFERENCE & SEMINAR AREAS
	HOTEL COMMUNAL AREAS
	HOTEL ROOMS
	RESTAURANT



APPROVED BY: JS      CHECKED BY: RP

DRAWING  
FLOOR PLAN - LOWER  
GROUND FLOOR

SHEET CREATED 02/05/19		SCALE @ A1 1 : 200	DRAWN RP
PROJECT No. 2018081	DISC. A	DRAWING No. DA-099	ISSUED B

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ABN 15 083 837 290

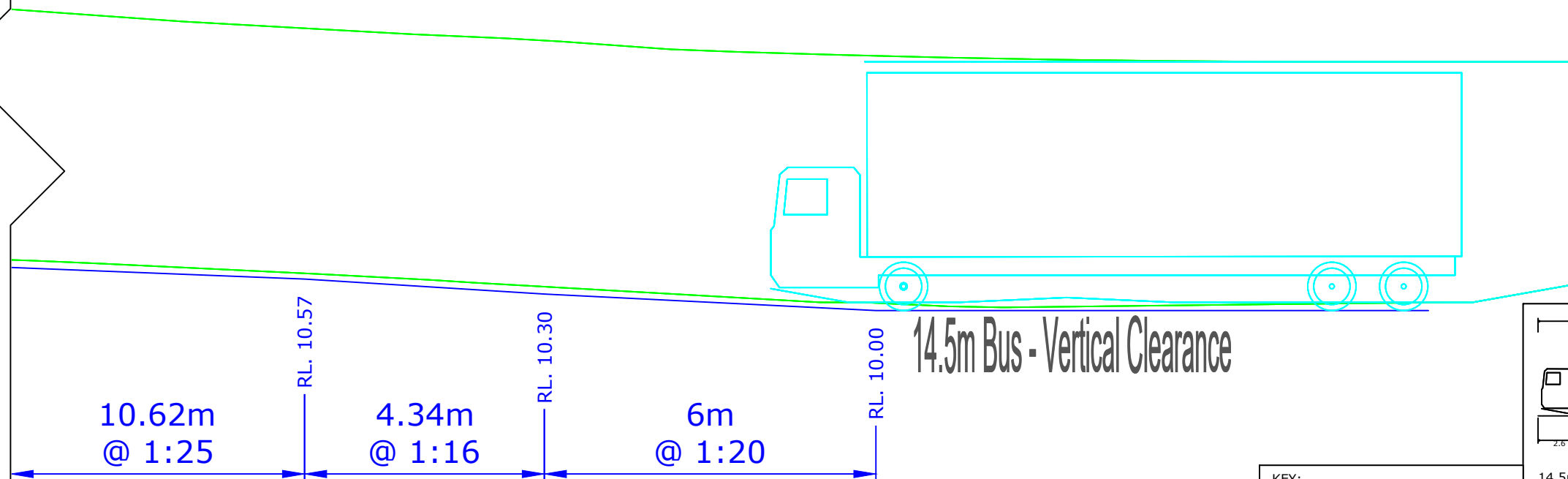
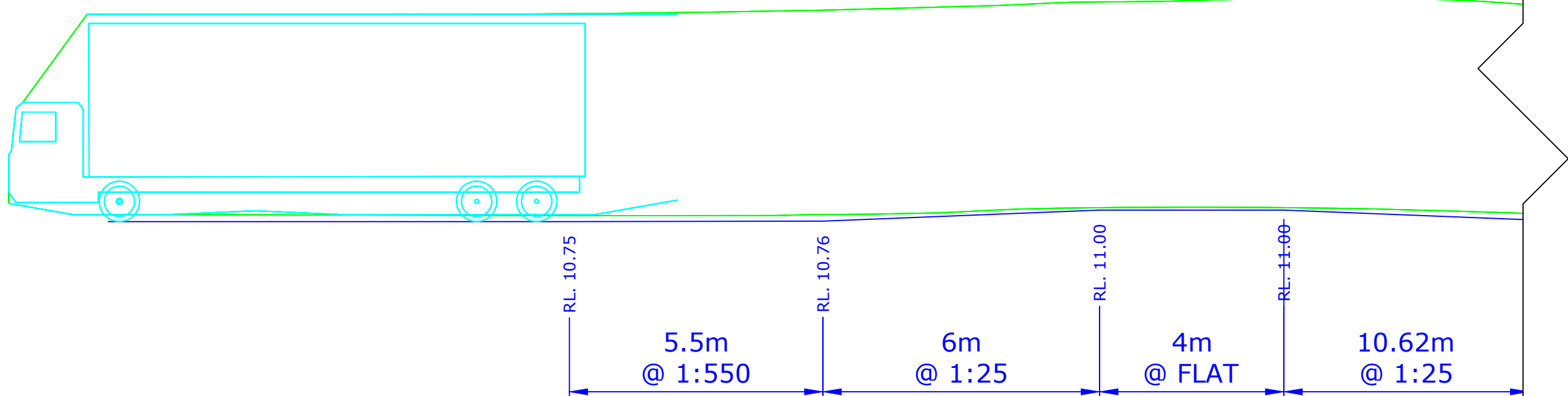


## Appendix B

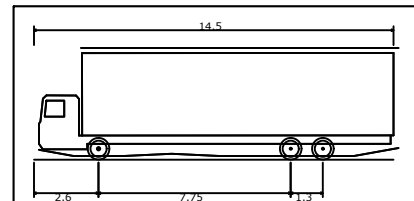
### Swept Paths



Filename: 18447CAD008-SWEET DAT-200313.dwg By: Karl.martins Date: 13 March 2020



KEY:  
— Vertical Clearance  
— Driveway / Ramp Profile



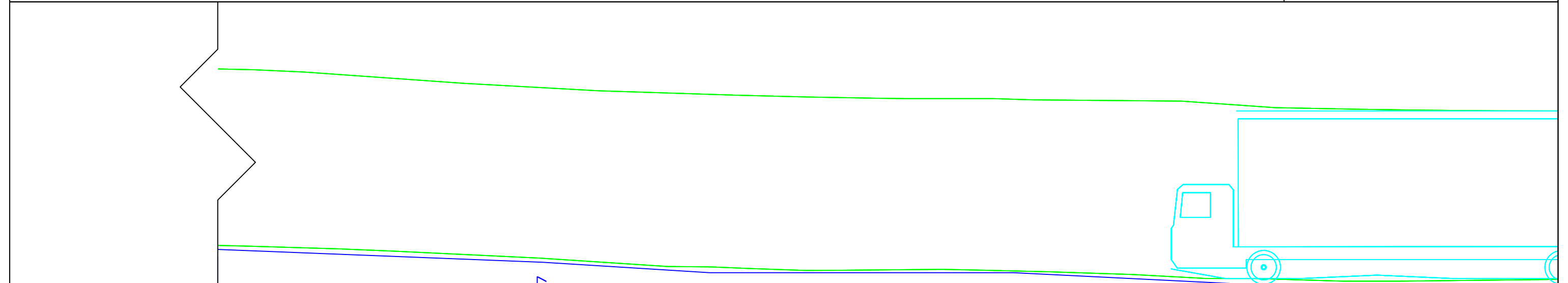
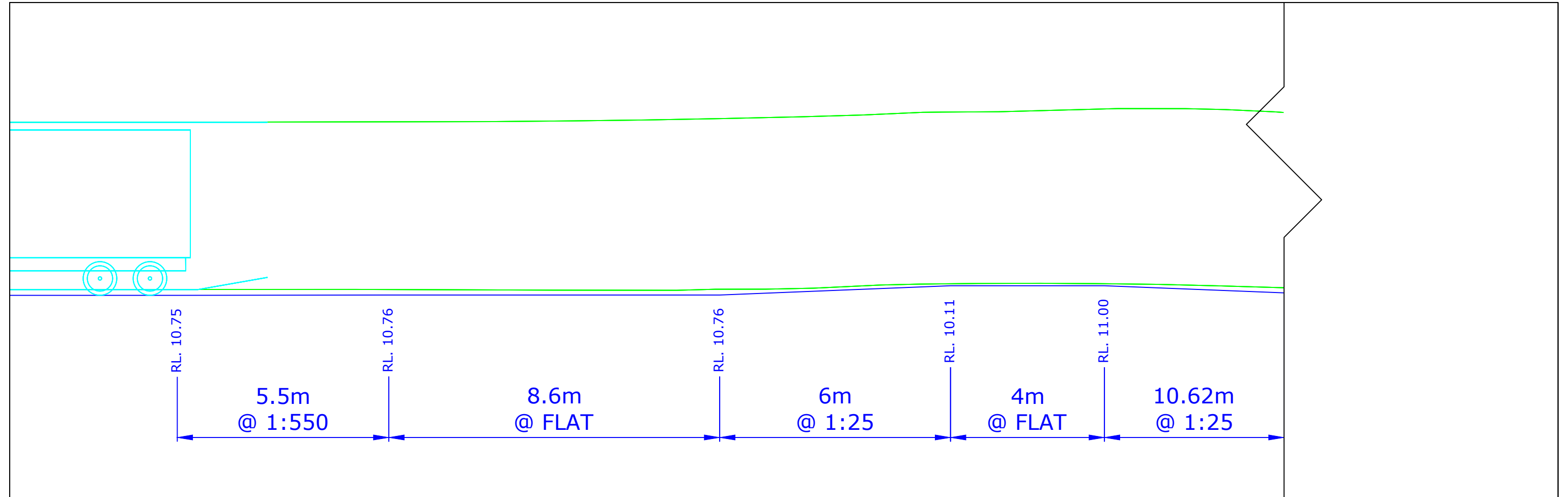
14.5m Bus - Vertical Clearance  
Overall Length 14500mm  
Overall Width 2500mm  
Overall Body Height 4500mm  
Min Body Ground Clearance 150mm  
Track Width 2500mm  
Lock-to-lock time 6.00s  
Curb to Curb Turning Radius 15000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20

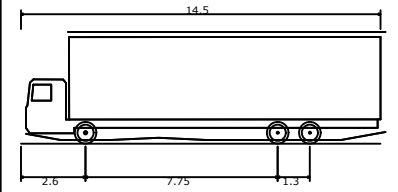


PROJECT	93 ST HILLIERS ROAD, AUBURN			DWG No. 18447CAD008 FIGURE 1	
TITLE	PORTE COCHERE VERTICAL CLEARANCE ASSESSMENT 14.5m LONG RIGID BUS - INNER LENGTH OF RAMP			DATE STAMP 13 MARCH 2020	
	PROJECT No. 18447		SCALE 1:100 @ A3		REV. A





14.5m Bus Vertical Clearance



KEY:	
<span style="color: green;">—</span>	Vertical Clearance
<span style="color: blue;">—</span>	Driveway / Ramp Profile
14.5m Bus - Vertical Clearance	
Overall Length	14500mm
Overall Width	2500mm
Overall Body Height	4500mm
Min Body Ground Clearance	150mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	15000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



PROJECT	93 ST HILLIERS ROAD, AUBURN	
TITLE	PORTE COCHERE VERTICAL CLEARANCE ASSESSMENT 14.5m LONG RIGID BUS - OUTER LENGTH OF RAMP	

DWG No.	18447CAD008		
	FIGURE 2		
DATE STAMP	13 MARCH 2020		
PROJECT No.	18447	SCALE	1:100 @ A3
REV.	A		

Filename: 18447CAD008-SWEEP PATH-200313.dwg By: Karl Madsen Date: 13 March 2020

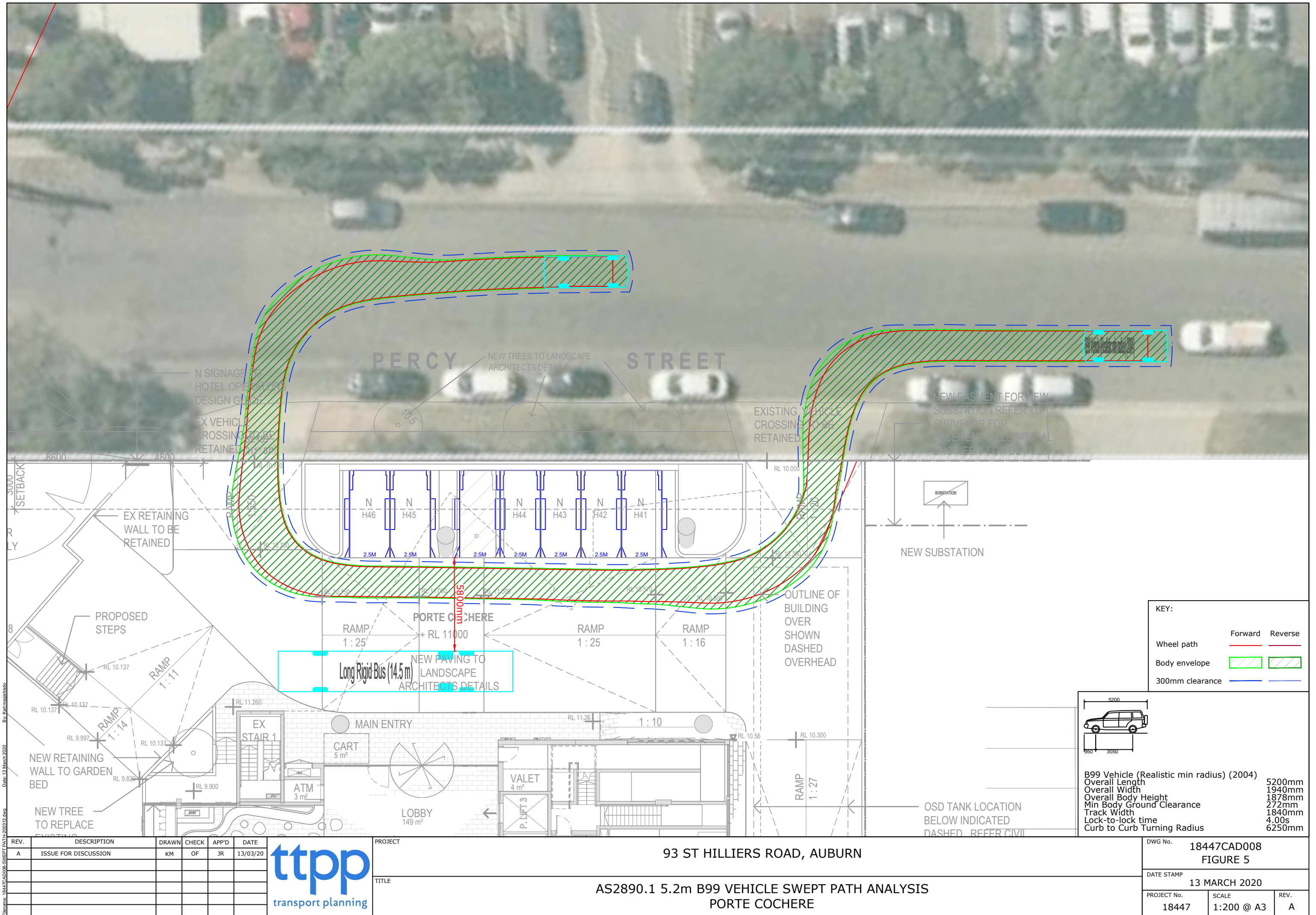




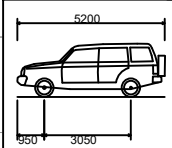








KEY:		
	Forward	Reverse
Wheel path	<span style="color: red;">—</span>	<span style="color: blue;">—</span>
Body envelope	<span style="color: green;">▨</span>	<span style="color: blue;">▨</span>
300mm clearance	<span style="color: blue;">—</span>	<span style="color: blue;">—</span>



B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



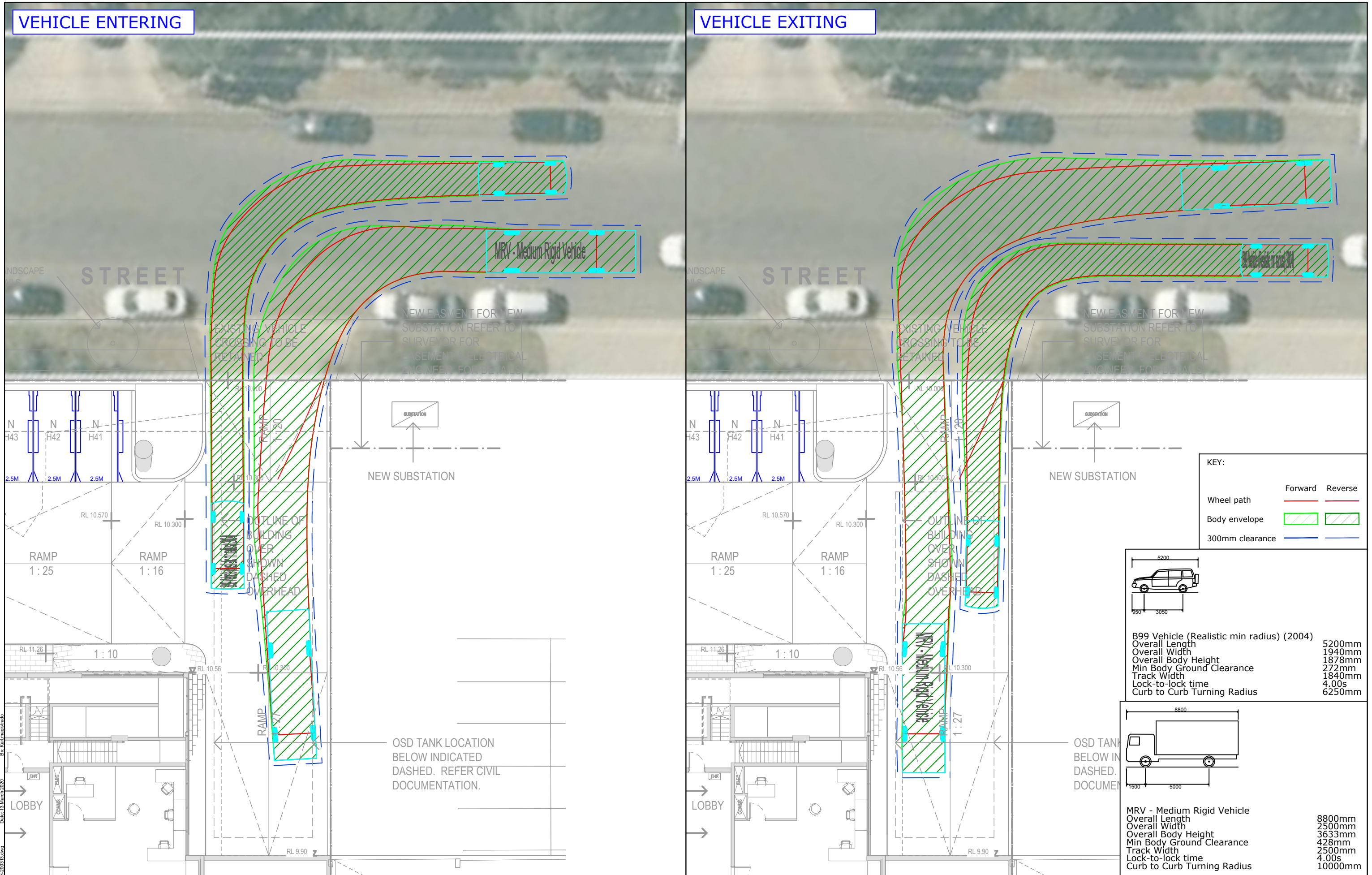
PROJECT	93 ST HILLIERS ROAD, AUBURN	
TITLE	AS2890.1 5.2m B99 VEHICLE SWEEP PATH ANALYSIS PORTE COCHERE	

DWG No.	18447CAD008 FIGURE 5		
DATE STAMP	13 MARCH 2020		
PROJECT No.	SCALE	REV.	
18447	1:200 @ A3	A	



VEHICLE ENTERING

VEHICLE EXITING



By: Karl Maitland  
Date: 13 March 2020  
Filename: 18447CAD008-SWEPT PATH-202013.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



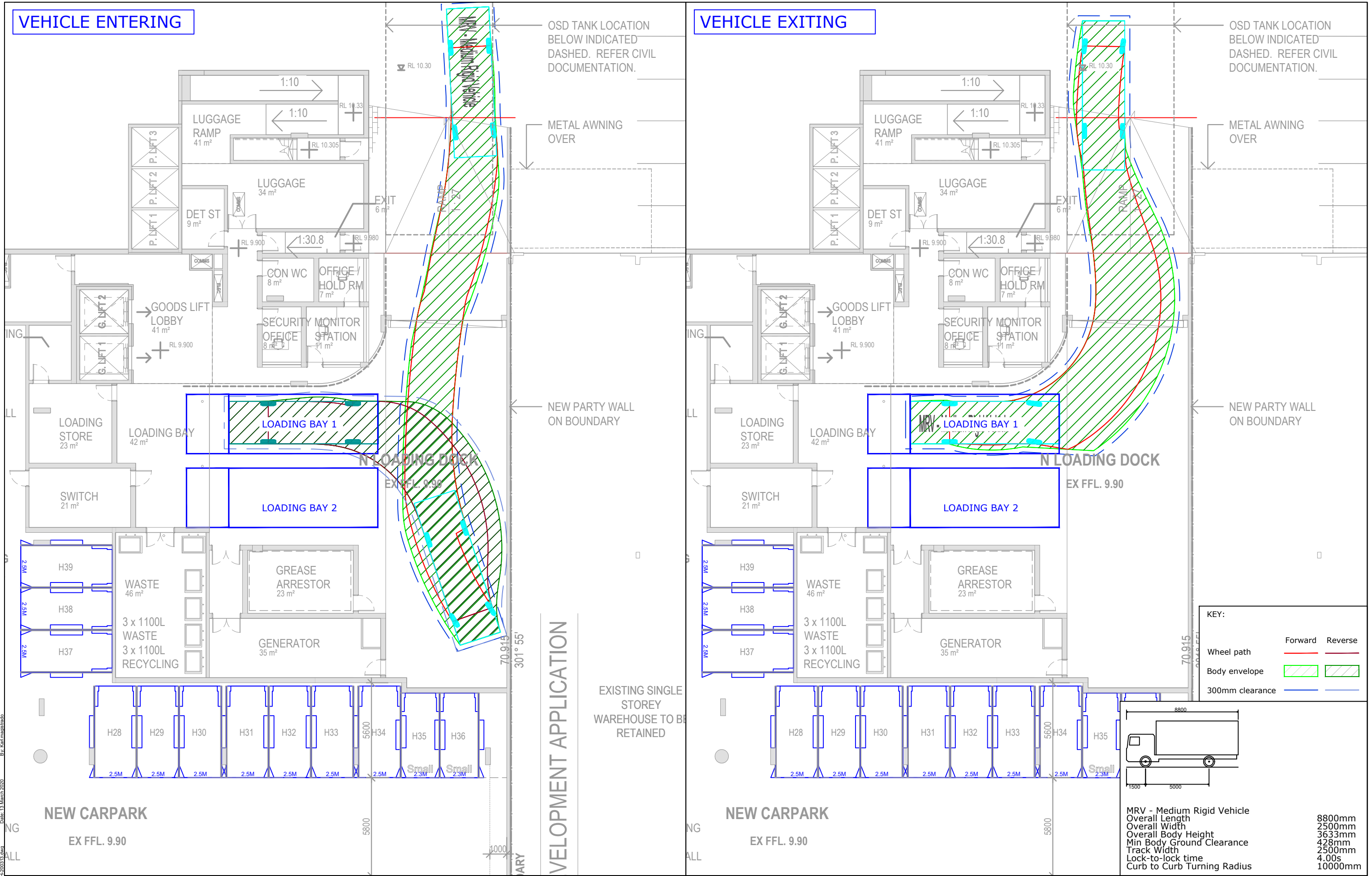
PROJECT	93 ST HILLIERS ROAD, AUBURN
TITLE	AS2890.2 8.8m MRV & AS2890.1 5.2m B99 VEHICLE SWEPT PATH ANALYSIS ENTRY & EXIT DRIVEWAY

DWG No.	18447CAD008
FIGURE 6	
DATE STAMP	13 MARCH 2020
PROJECT No.	18447
SCALE	1:200 @ A3
REV.	A



VEHICLE ENTERING

VEHICLE EXITING



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



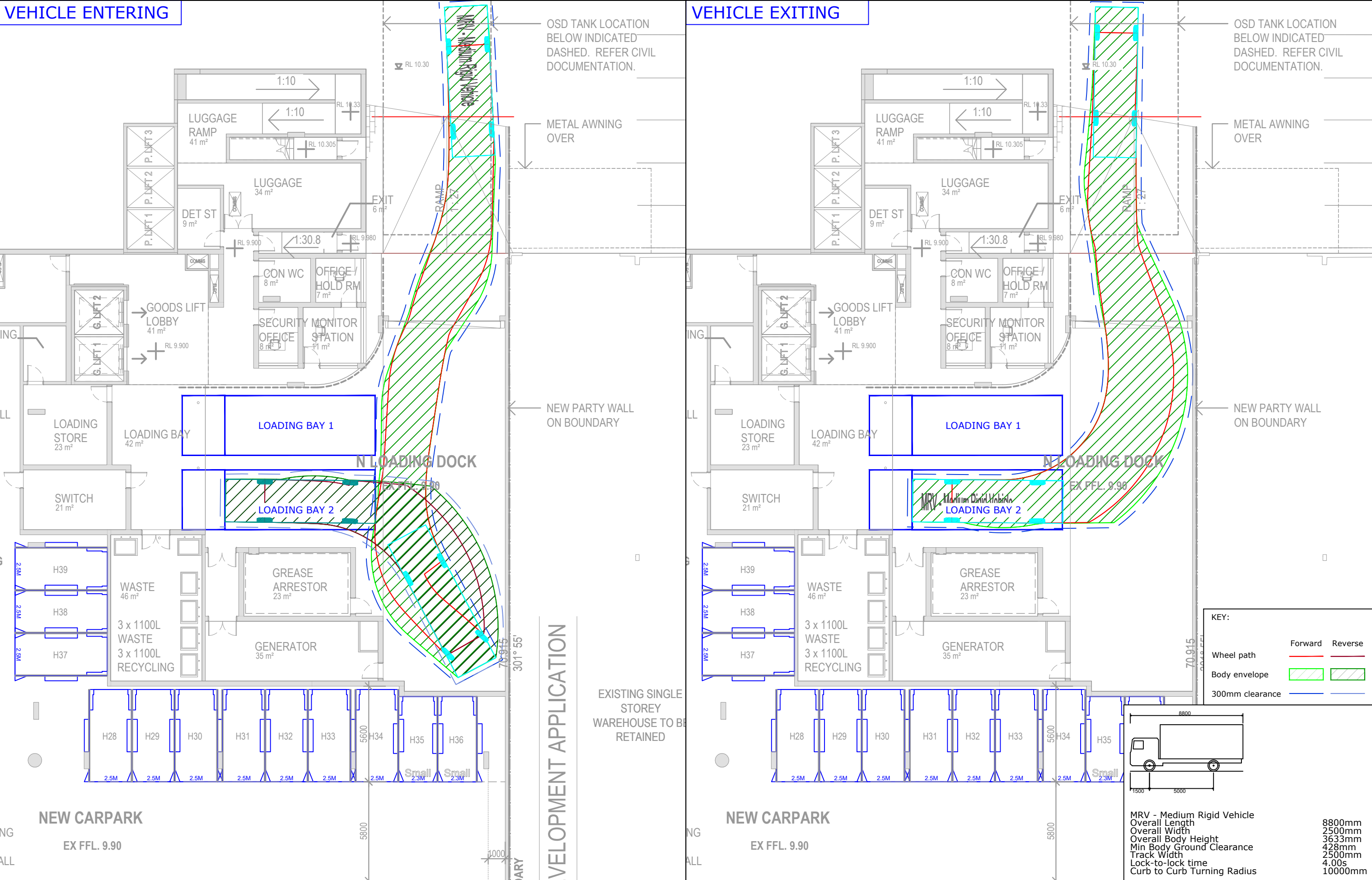
PROJECT	93 ST HILLIERS ROAD, AUBURN
TITLE	AS2890.2 8.8m MEDIUM RIGID VEHICLE SWEEP PATH ANALYSIS LOADING DOCK - LOADING BAY 1

DWG No.	18447CAD008
FIGURE 7	
DATE STAMP	13 MARCH 2020
PROJECT No.	18447
SCALE	1:200 @ A3
REV.	A



VEHICLE ENTERING

VEHICLE EXITING



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



PROJECT

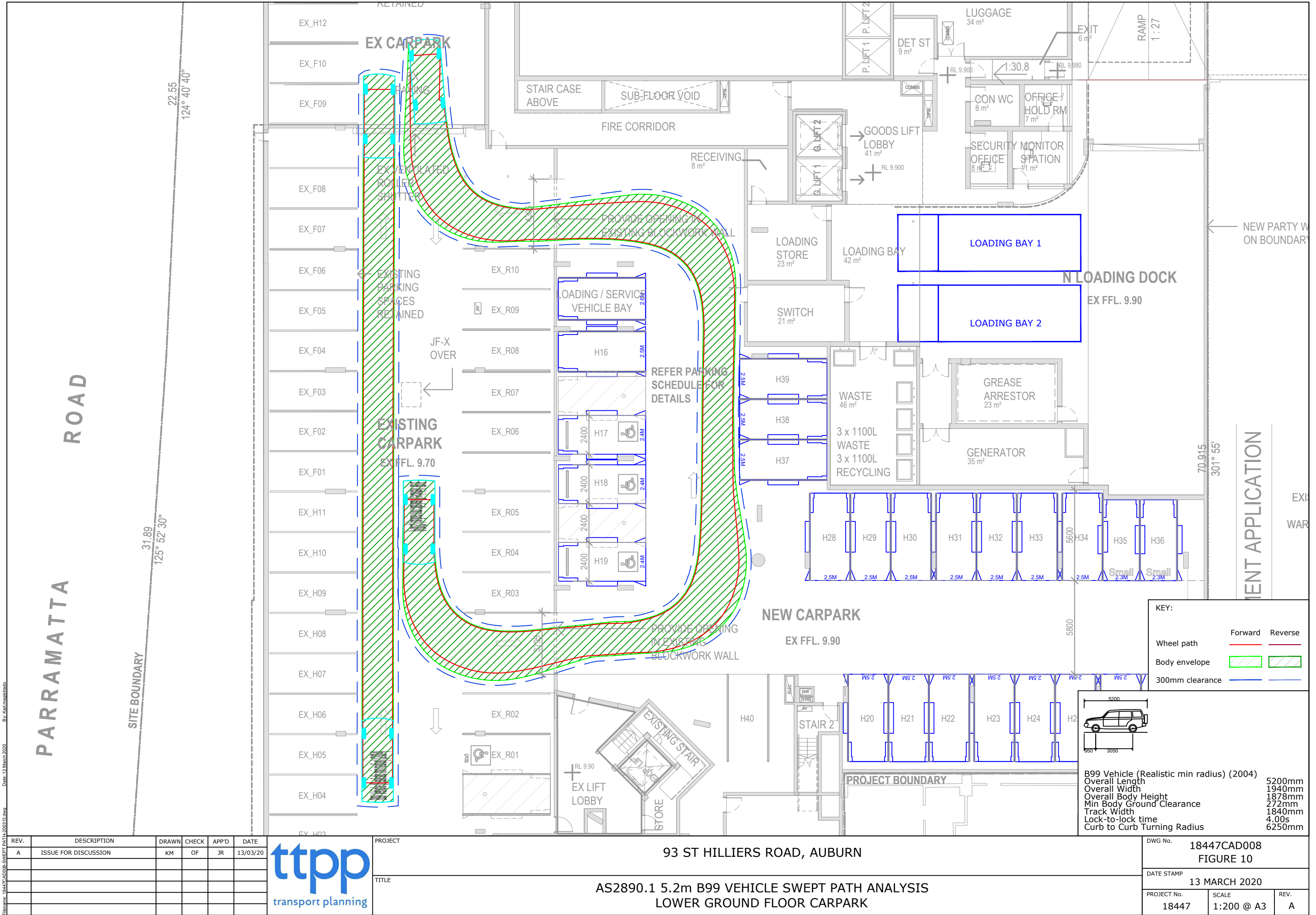
93 ST HILLIERS ROAD, AUBURN

TITLE

AS2890.2 8.8m MEDIUM RIGID VEHICLE SWEEP PATH ANALYSIS  
LOADING DOCK - LOADING BAY 2

DWG No.	18447CAD008
FIGURE 8	
DATE STAMP	13 MARCH 2020
PROJECT No.	18447
SCALE	1:200 @ A3
REV.	A





REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	JR	13/03/20



PROJECT	93 ST HILLIERS ROAD, AUBURN
TITLE	AS2890.1 5.2m B99 VEHICLE SWEEP PATH ANALYSIS LOWER GROUND FLOOR CARPARK

DWG No.	18447CAD008
FIGURE	FIGURE 10
DATE STAMP	13 MARCH 2020
PROJECT No.	18447
SCALE	1:200 @ A3
REV.	A



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