

Client
MA+Co Architects

Date
9 February 2024

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Transport Impact Assessment Report

32-38 & 40-50 Rokeby
Street, Collingwood

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Project
32-38 & 40-50 Rokeby Street,
Collingwood

Prepared for
MA+Co Architects

Our reference
19713T

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19713T-REP02-F01	19/12/2023	Final	S. Naidu	S. Dangol	B. Young
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Introduction

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1.1. Introduction

Ratio Consultants has been engaged by the permit applicant (40 Rokeby Pty Ltd) to prepare a transport impact assessment for the proposed development at 32-38 & 40-50 Rokeby Street, in Collingwood.

1.2. Purpose and Structure of this Report

This report assesses the traffic and transport matters associated with the proposed development, including the following:

- Existing traffic and car parking conditions in the vicinity of the site;
- The adequacy of the proposed pedestrian, bicycle and public transport access arrangements to/from the site;
- Adequacy of the proposed parking arrangements in terms of supply and layout including justification for parking dispensation as required;
- Adequacy of the proposed access arrangements for typical vehicles and loading & waste collection vehicles;
- Traffic generation of the proposed development and impact on the surrounding road network.

1.3. References

In preparing this report, reference to the following has been made:

- Architectural plans for the proposed development, prepared by MA+Co Architects (Drawing No.: 22015 TP110_ - 20115 TP113_, dated 13 December 2023);
- Yarra Planning Scheme;
- Australian / New Zealand Standard, Parking Facilities Part 1: Off-Street Car Parking (AS2890.1:2004);
- Australian / New Zealand Standard, Parking Facilities Part 3: Bicycle Parking (AS2890.3:2015);
- Australian / New Zealand Standard, Parking Facilities Part 6: Off-Street Parking for People With Disabilities (AS2890.6:2009);
- Traffic and car parking surveys as referenced in the context of this report;
- A desktop inspection of the subject site and surrounds; and,
- Other documents as nominated.

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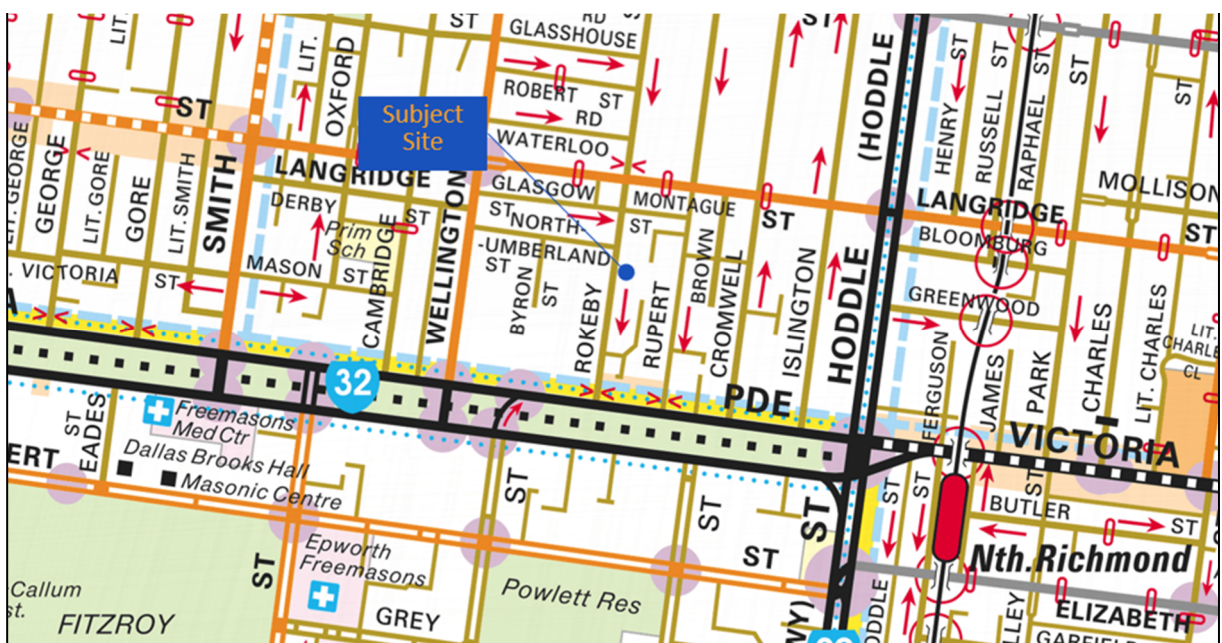
2. Existing Conditions

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2.1. Site Location and Environment

The subject site is located on the eastern side of Rokeby Street in Collingwood, approximately midway between Langridge Street and Victoria Parade. The site's location relative to the surrounding road network is shown in Figure 2.1 below.

Figure 2.1: Site Location and Surroundings



Source: www.online.melway.com.au/melway/

The site, consisting of three separately addressed lots, is generally rectangular in shape with a frontage to Rokeby Street of approximately 81.6 metres and a depth of approximately 35.5 metres. A Right of Way (ROW) intersects the site in the southeast corner, creating an indent into the site boundary of approximately 14 metres long by 5.6 metres wide, providing an overall site area of approximately 2,741 square metres.

The lot at 40-50 Rokeby Street is currently occupied by a double storey brick warehouse building which extends further north from the subject site, addressed as 40-72 Rokeby Street. Along the lot frontage, there is one double width vehicle crossover located towards the middle of the lot, providing access to/from Rokeby Street.

The lot at 32-38 Rokeby Street is currently occupied by a single-storey warehouse building, with a triple width crossover located on the western site boundary providing access to/from Rokeby Street.

The site is located within a Commercial 2 Zone (CZ2) and is predominantly surrounded by commercial uses, with some Public Use Zones and Mixed-Use Zones in the vicinity. The site is

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also subject to a Design and Development Overlay Schedule 11 (DDO11) and a Development Contributions Plan Overlay Schedule 1 (DCPO1).

Some notable non-residential land uses include:

- F45 Training Gym located approximately 300 metres east of the subject site.
- Smith Street/Gertrude Street Activity Centre located approximately 500 metres west of the subject site.
- North Richmond Railway Station located approximately 650 metres south-east of the subject site.
- Fitzroy Gardens located approximately 700 metres south-west of the subject site.

Figure 2.2 shows an aerial photograph of the subject site relative to its surroundings.

Figure 2.2: Aerial View of Site and Immediate Surrounds



Source: app.landchecker.com.au

2.2. Road Network

Rokeby Street is a Council managed local road that runs in a north-south alignment from Gipps Street in the north to Victoria Parade in the south. Rokeby Street is restricted to one-way traffic flow in a southerly direction, defined by signage and line marking.

In the vicinity of the subject site, Rokeby Street has an approximate carriageway width of 6 metres accommodating one lane of southbound traffic and kerbside parking permitted on the eastern side of the road. Parking restrictions in the immediate vicinity of the site include:

- 2P from 7:30am to 5:30pm Monday to Friday and 7:30am to 12:30pm Saturdays
- 4P from 7:30am to 5:30pm Monday to Friday.
- Loading Zone from 7:30am to 5:30pm Monday to Friday and 7:30am to 12:30pm Saturdays.

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Constructed footpaths are provided on both sides of the road and two bicycle hoops (four spaces) are provided on the footpath opposite the subject site. Rokeby Street has a default speed limit associated with built up areas of 50km/hr.

A Council managed bluestone **Right of Way (ROW)** runs east off Rokeby Street between 2-12 Rokeby Street and 14 Rokeby Street before turning northwards and abutting the rear of the properties fronting Rokeby Street. The ROW terminates at the southeast corner of 40 Rokeby Street and continues in a north-south direction at the northeast corner of 50 Rokeby Street, before turning eastwards and connecting to Rupert Street.

In the vicinity of the site, the ROW is approximately 3.5 metres wide, allows for a single direction of travel at any one time and provides rear garage access to properties along Rokeby Street and Rupert Street.

The subject site frontage is shown in Figure 2.3 and images of Rokeby Street and the ROW in close proximity of the subject site are shown in Figure 2.4 to Figure 2.6.

Figure 2.3: View of the Site Frontage



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Figure 2.4: View of Rokeby Street Looking North from the Subject Site



Figure 2.5: View of Rokeby Street Looking South from the Subject Site



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Figure 2.6: View of the ROW Looking North Towards the Subject Site



2.3. Traffic Conditions

Ratio consultants previously commissioned a turning movement survey at the Rokeby Street / Montague Street / Glasgow Street intersection on Thursday 7 November 2019 between 6.30am to 9.30am and 4.00pm to 7.00pm.

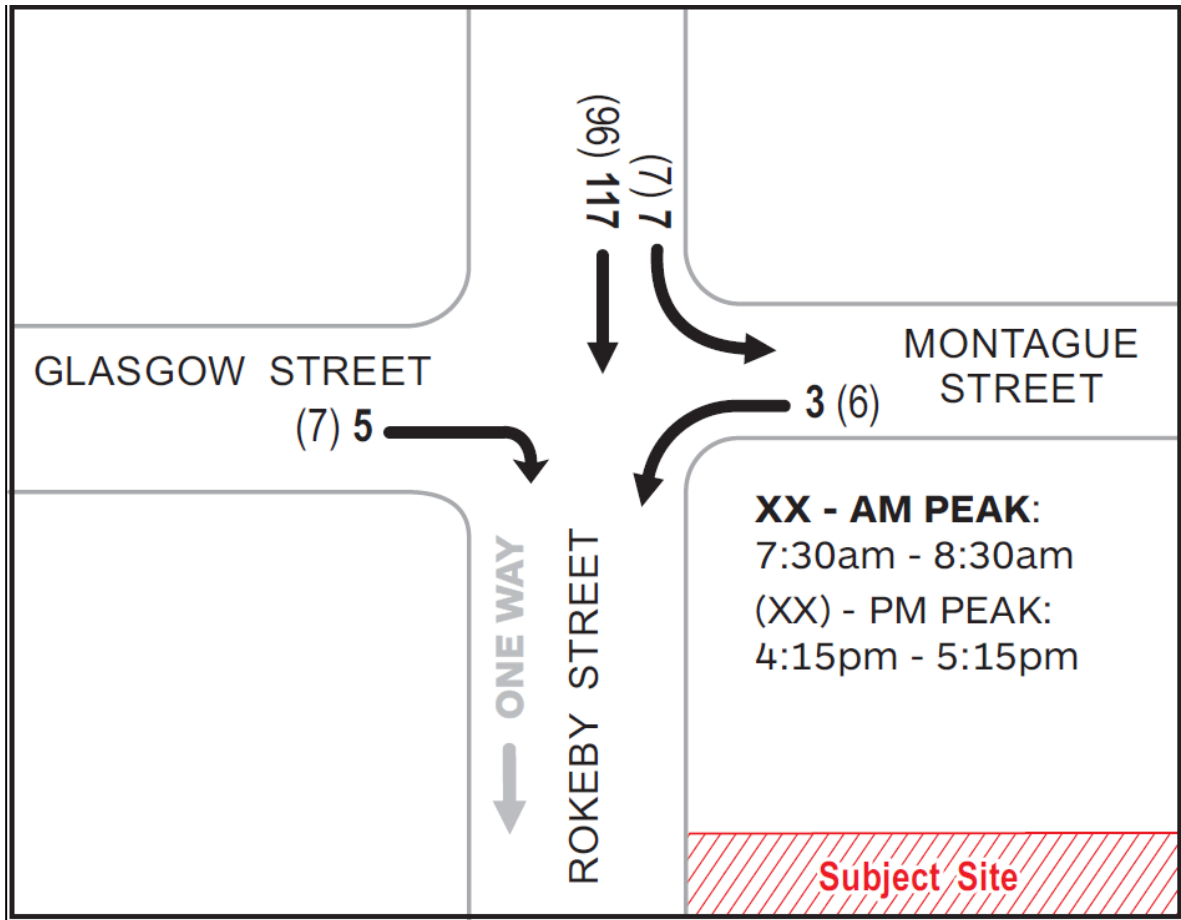
The peak hour results are shown in Figure 2.7 with the detailed survey results presented in Appendix A.

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Figure 2.7: Peak Hour Turning Movement Counts



The surveys recorded the following traffic flows during the overall and PM peak hours:

AM Peak

- The morning peak hour occurred between 7.30am to 8.30am, when a total of 132 vehicle movements were recorded at the intersection.
- The dominant movement was through traffic along Rokeby Street, with a recorded 117 southbound movements.
- There was a total of 3 vehicles recorded turning into Rokeby Street from Montague Street, with 5 vehicles recorded turning in from Glasgow Street, which equates to 125 vehicles passing by the site frontage during the AM peak hour period.

PM Peak

- The afternoon peak hour occurred between 4.15pm to 5.15pm, when a total of 132 vehicle movements were recorded at the intersection.
- The dominant movement was through traffic along Rokeby Street, with a recorded 96 southbound movements.
- There was a total of 6 vehicles recorded turning into Rokeby Street from Montague Street, with 7 vehicles recorded turning in from Glasgow Street, which equates to 109 vehicles passing by the site frontage during the PM peak hour period.

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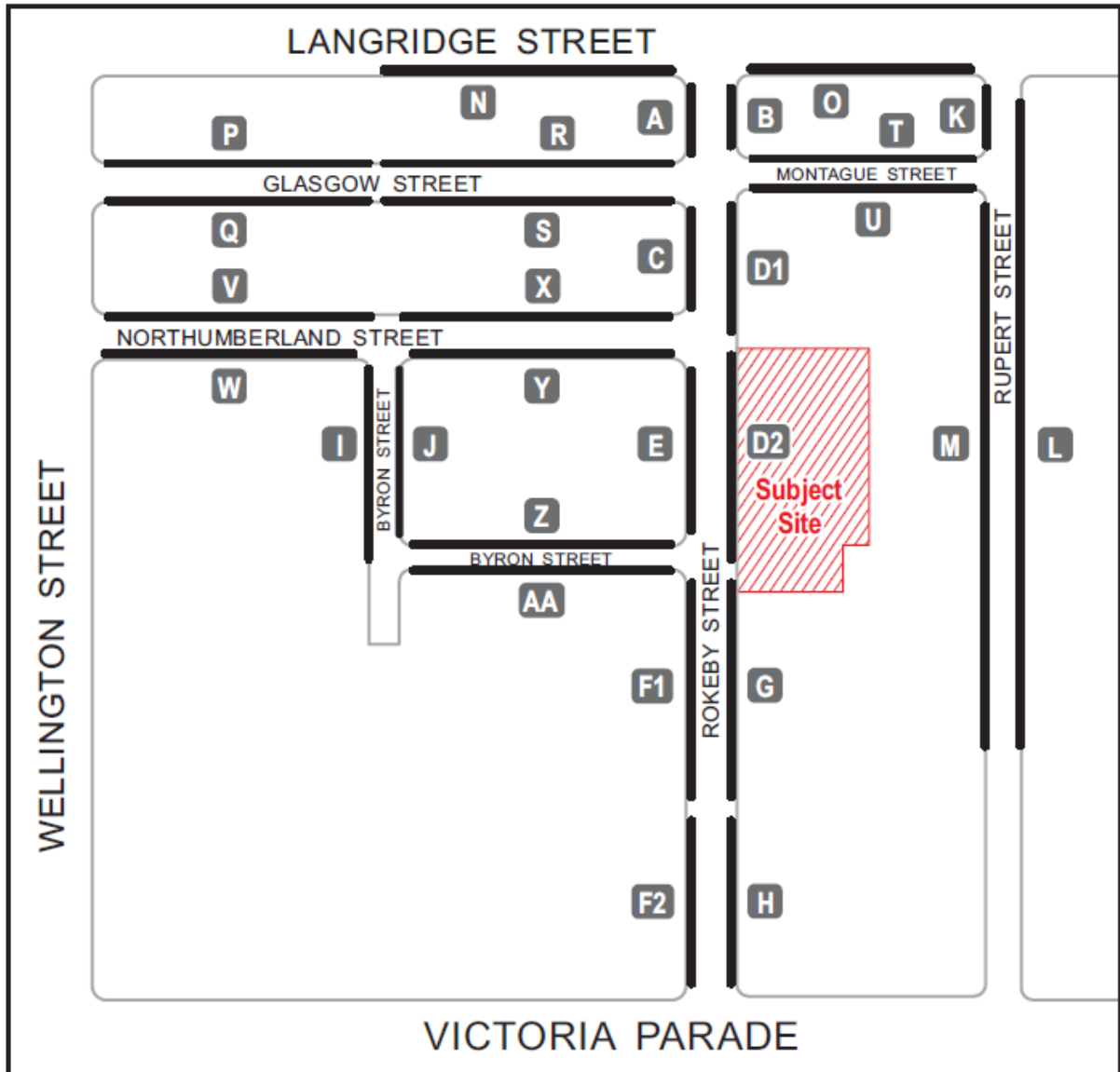
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On the basis of the surveys and by applying the generally accepted approximation that the daily level of traffic on a road is equivalent to approximately 10 times the peak hour volume, Rokeby Street in the vicinity of the site currently carries approximately 1250 vehicles per day (vpd).

2.4. Parking Conditions

Ratio Consultants previously commissioned surveys of the on-street parking supply and demand on Wednesday 20 November 2019 between 8.00am and 7.00pm. The extent of the survey area is presented in Figure 2.8, with the detailed survey results attached in Appendix A.

Figure 2.8: Extent of Area Surveyed for Parking Supply and Demand



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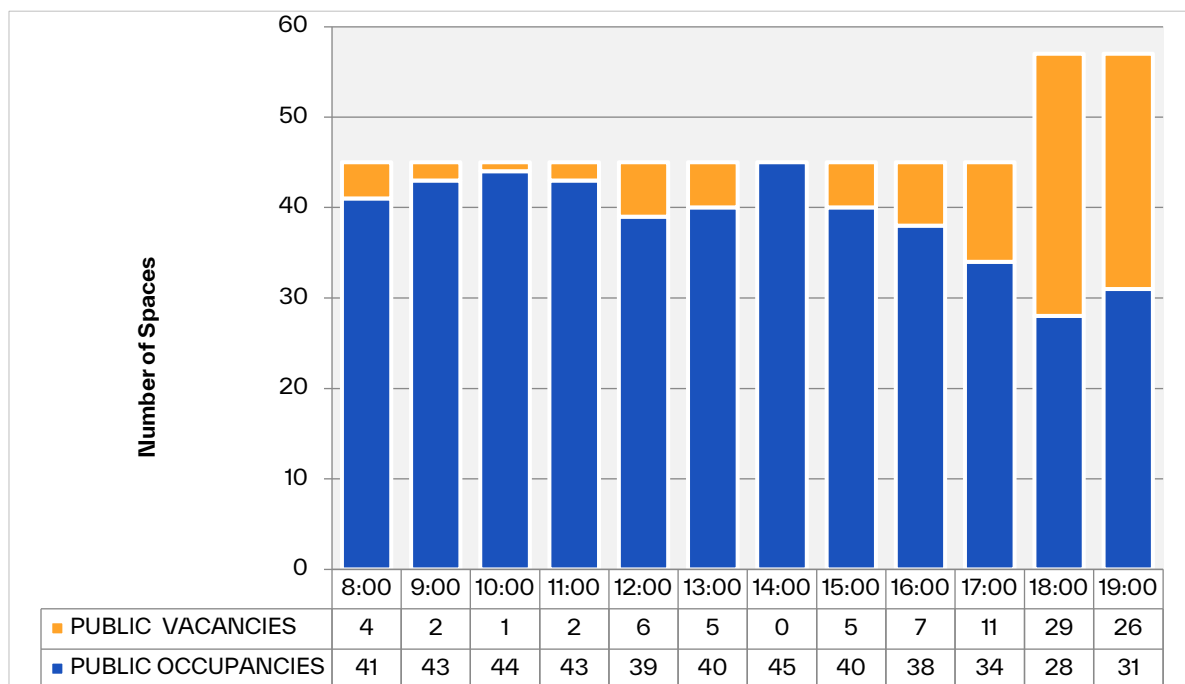
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Wednesday 20 November 2019

- There was observed to be a supply of between 45 and 57 publicly available car parking spaces within the survey area, subject to a range of parking restrictions, predominately 1P, 2P and 4P time-controlled spaces.
- The demand for parking was very strong during regular business hours of 8:00am to 5:00pm, ranging between 76% to 100% occupancy. The demand reduces to moderate after 5.00pm, with a 54% occupancy recorded at 7.00pm.
- The peak period occurred at 2.00pm when a total of 45 parking spaces were recorded as occupied out of a total parking supply of 45 spaces, representing a 100% occupancy.

Figure 2.9 provides a graphical representation of the temporal profile of the Wednesday parking demands.

Figure 2.9: Temporal Profile of Parking Demand on Wednesday 20 November 2019



Summary

The survey results indicate that the overall on-street parking demand in the precinct is very strong during normal weekday business hours, with limited spare parking available.

The very strong demand for parking in the immediate vicinity of the site will discourage any staff without an allocated on-site car parking space to seek to drive to work and park off-site. This will encourage greater use of public transport and walk/cycle modes for people accessing the site.

2.5. Sustainable Transport

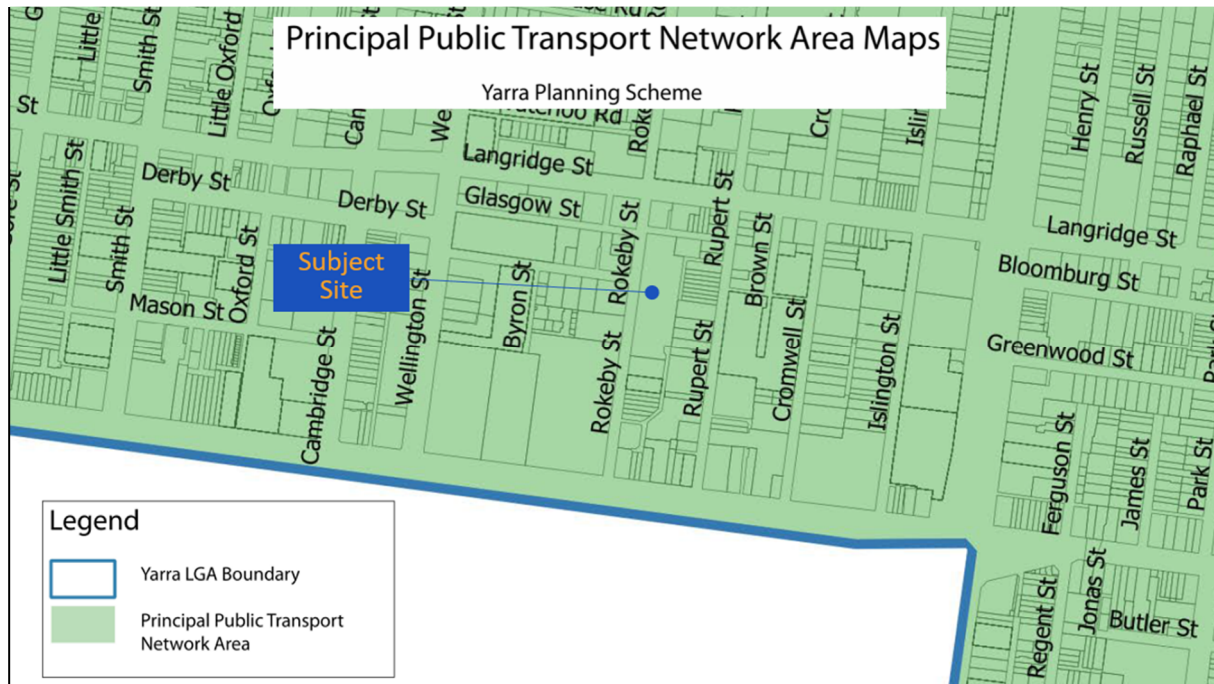
Public Transport

The subject site is located within the Principal Public Transport Network (PPTN) area as shown in Figure 2.10 on the PPTN Maps of the State Government of Victoria (August 2018).

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Figure 2.10: Subject Site with Respect to the Yarra PPTN Area



Source: www.planning.vic.gov.au

The subject site has very good access to the public transport network via train, tram and bus facilities operating within convenient proximity to the site. The public transport services in the vicinity of the site are shown graphically in Figure 2.11 and summarised in Table 2.2.1.

Table 2.2.1: Public Transport Services

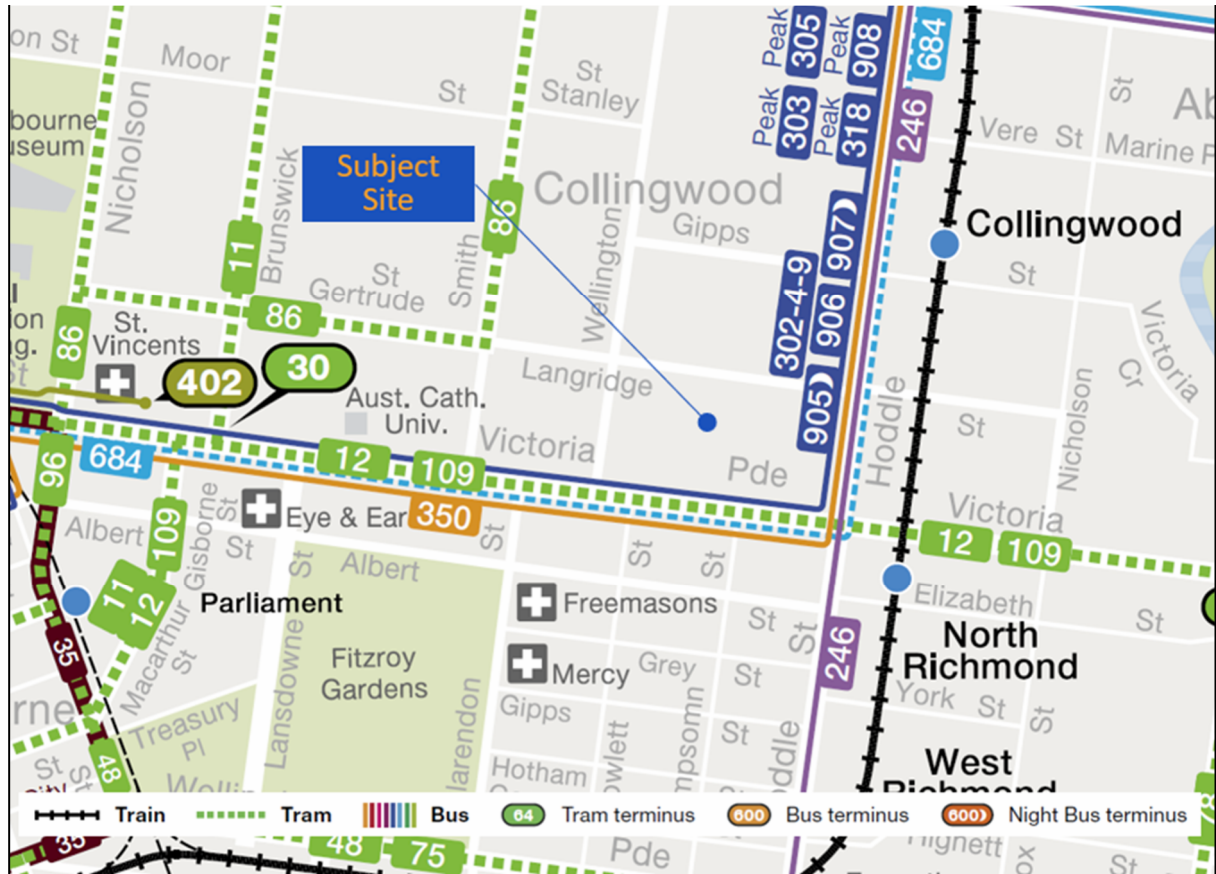
Mode	Route Number	Route	Nearest Stop	Walking Distance
Train	Hurstbridge and Mernda Lines		North Richmond Railway Station	650 metres (8 minutes)
Bus	246	Ivanhoe Shopping Centre to Upper Heidelberg Road	Hoddle Street / Langridge Street	450 metres (6 minutes)
	302/303/304	City to Box Hill to Doncaster Shopping Centre		
	305	City to The Pines SC		
	309	City to Donvale		
	318	City to Deep Creek		
	350	City to Latrobe University		
	905	City to the Pines SC (SMART)		
	906	City to Warrandyte (SMART)		
	907	City to Mitcham (SMART)		
	908	City to The Pines SC (SMART)		

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Tram	12	Victoria Gardens to St Kilda	Wellington Street / Victoria Parade	350 metres (4 minutes)
	109	Box Hill to Port Melbourne		
	86	Bundoora RMIT to Waterfront City Docklands	Gertrude Street / Smith Street	550 metres (7 minutes)

Figure 2.11: Public Transport Services Operating in the Vicinity of the Site



Source: www.ptv.vic.gov.au

Bicycle Facilities

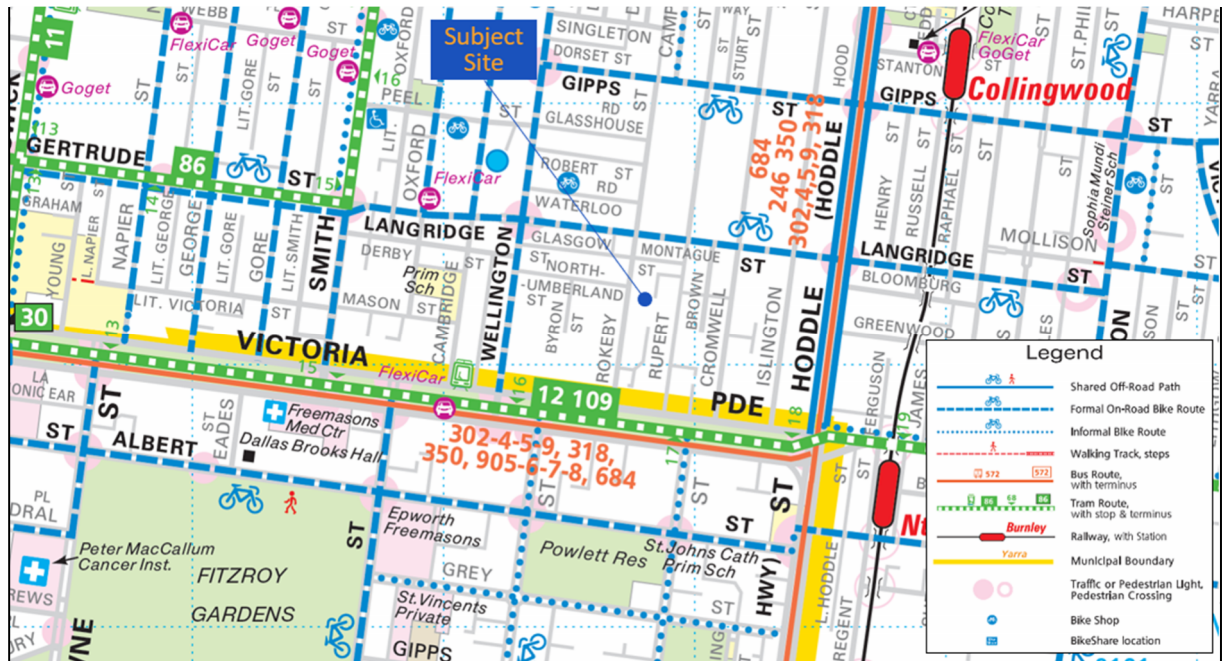
The site has excellent access to the surrounding network of on and off-road bicycle facilities, with notable connections including:

- On-road bicycle lanes are provided along Wellington Street, Langridge Street, Gipps Street, Gertrude Street and Albert Street to provide direct bicycle friendly connections to the northern and eastern suburbs and the CBD.
- Off-road shared path along Hoddle Street to the north of Victoria Parade provides a safe bicycle connection to the north and connects into the Merri Creek Trail.
- Access to the off-road Main Yarra Trail to the east is facilitated via on-road bicycle paths along Gipps Street, Langridge Street and Nicholson Street. The Main Yarra Trail follows the Yarra River in both directions, providing convenient access to the northern, eastern and southern suburbs.

Access to the nearby on and off-road bicycle facilities is available via the surrounding road network. A map of the bicycle facilities in the vicinity of the site is provided in Figure 2.12.

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Figure 2.12: Sustainable Transport Facilities within the Vicinity of the Site



Source: <https://www.yarracity.vic.gov.au/>

Pedestrian Facilities

Pedestrian footpaths are provided along both sides of Rokeby Street which fronts the subject site. The site achieves a 'Walk Score' of 98 (out of a possible 100) and is described as a 'Walker's Paradise' on WalkScore.com, noting that daily errands do not require a car.

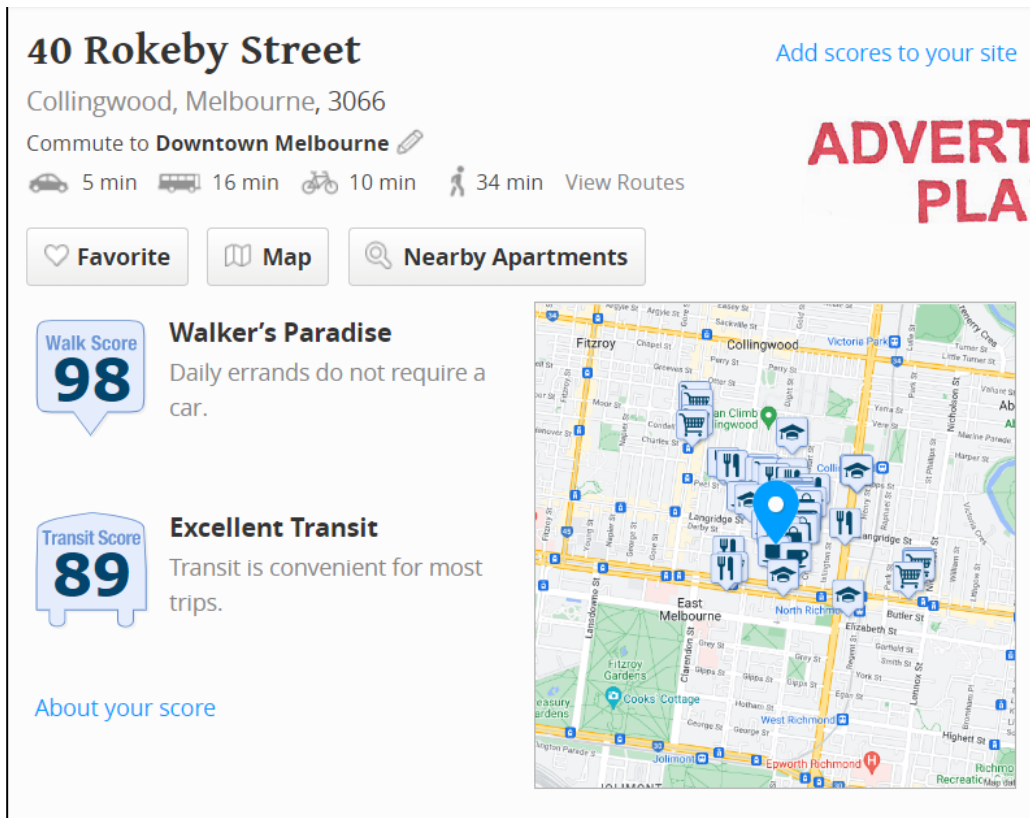
A site's walk score is calculated based on the walking distance to local amenities, such as supermarkets, schools, parks, public transport etc. Walkscore.com utilises data sources such as Google and road network data to calculate a 'Walk Score'. The convenient every day services are illustrated on the map in Figure 2.13.

The transit score of 89 (out of a possible 100) also suggests that many transportation options in close proximity are available, and transit options are convenient for most trips.

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Figure 2.13: Walkable Services from the Subject Site



Source: www.walkscore.com

Taxi/ Uber

Taxis and Uber and both provide another alternative to the private vehicle.

Taxis can be booked online or by phone. Taxis can also be found at taxi ranks or flagged down on the street as required. Uber can be booked through the Uber app.

Car Share

The subject site has access to few car pods operated by Flexicar and GoGet. A summary of the share car pods within approximately 500 metres of the subject site is provided in

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Table 2.2.2 and shown in Figure 2.14.

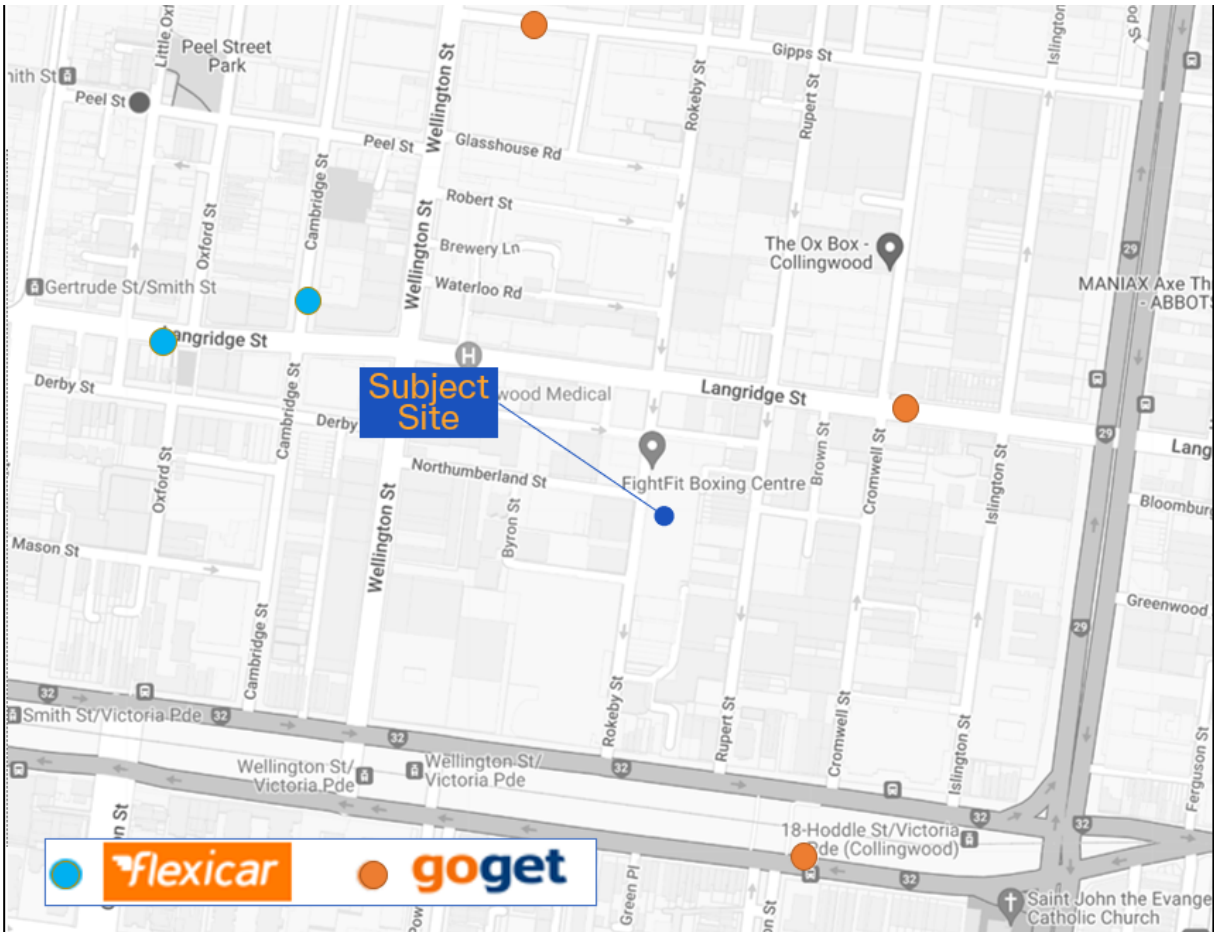
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Table 2.2.2: Car Share Pod Locations

Operator	Location	Number of Cars	Approximate Walking Distance
Flexicar	Langridge Street near Little Oxford Street	1 car	400 metres (5 minutes)
	Cambridge Street near Langridge Street	1 car	600 metres (8 minutes)
GoGet	Langridge Street near Cromwell Street	1 car	270 metres (3 minutes)
	Victoria Parade near Simpson Street	1 car	400 metres (5 minutes)
	Gipps Street near Wellington Street	1 car	450 metres (6 minutes)
Total		5 cars	

Figure 2.14: Carshare Locations in Close Proximity to the Site



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3. Development Proposal

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3.1. Development Overview

The proposed development on land 32-38 & 40-50 Rokeby Street seeks to provide the following key elements:

- 24,273 sqm net floor area for office use.
- 449 sqm of shop on the ground floor.
- A total of 169 car parking spaces within three basement levels, with the following layout:
 - 38 spaces within Basement 1;
 - 64 spaces within Basement 2 (including 6 spaces with electric charging stations); and
 - 67 spaces within Basement 3 (including 7 spaces with electric charging stations).
- A total of 19 motorbike parking spaces, with the following layout:
 - 3 spaces within Basement 1;
 - 8 spaces within Basement 2; and
 - 8 spaces within Basement 3.
- A total of 234 on-site bicycle spaces comprising:
 - 60 spaces on the Ground Floor, with 44 spaces for visitors and 16 spaces for staff.
 - 144 spaces on Basement 1.
 - 30 spaces on Basement 2, with 10 spaces equipped with electric charging capabilities.
- The vehicle access point to/from Rokeby Street at the northwest corner of the site and vehicle access to the basement car park via the internal shared zone at the northeast corner of the site.
- Loading and waste collection area is provided adjacent to the basement car park entrance and access via the internal shared zone.
- Pedestrian access to the development is provided along Rokeby Street along the site's western boundary. The development will also include an internal shared zone along the northern boundary of the site which will provide connection to the laneways which currently terminate at the northeast and southeast corners of the site. Maintain the internal laneway to provide a pedestrian connection between Rokeby Street and the proposed pedestrian walkway along the eastern boundary of the site.

3.2. Previous Application

A Planning Permit (PLN20/0168) was issued by the City of Yarra on 18 December 2020 on land at 40-50 Rokeby Street in Collingwood, allowing for the construction of a 13 storey mixed-use development with office, shop, gym and café use. The permit also allowed a reduction in the car parking requirements of the Yarra Planning Scheme for the development.

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4. Car Parking Assessment:

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4.1. Clause 52.06 Car Parking Requirements

Car parking requirements for new developments are set out under Clause 52.06 of the Yarra Planning Scheme. The purpose of Clause 52.06, amongst other things, is:

- To ensure that car parking is provided in accordance with the State Planning Policy Framework and Local Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

Table 1 of Clause 52.06 sets out the car parking requirement that apply to a use listed in the Table. A car parking requirement in Table 1 is calculated by multiplying the figure in Column A or Column B (whichever applies) by the measure in Column C.

Column A applies unless Column B applies.

Column B applies if:

- Any part of the land is identified as being within the Principal Public Transport Network Area as shown on the Principal Public Transport Network Area Maps (State Government of Victoria, 2018); or
 - A schedule to the Parking Overlay or another provision of the Planning Scheme specifies that Column B applies.
- Additionally, the car parking requirement specified for a use listed in Table 1 does not apply if:
- A car parking requirement for the use is specified under another provision of the Planning Scheme: or
 - A schedule to the Parking Overlay specifies the number of car parking spaces required for the use.

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The subject site is located within the Principal Public Transport Network (PPTN) area, as previously shown in Figure 2.10, and is not within a Parking Overlay. Accordingly, the relevant Column B rates are applicable to the proposed development, as shown in

Table 4.1.

Table 4.1: Clause 52.06 Planning Scheme Assessment

Land Use	Size/No.	Statutory Parking Rate	Statutory Requirement
Office	24,273 sqm	3 spaces to each 100 sqm of net floor area	728 spaces
Shop	449 sqm	3.5 space to each 100 sqm of leasable floor area	15 spaces
Statutory Car Parking Requirement			743 spaces

On the basis of the above, the proposal has a statutory requirement to provide a total of 743 car parking spaces. The proposal seeks to provide 169 car parking spaces. As such, the proposal seeks a reduction of 574 car parking spaces against the statutory requirements of the Planning Scheme.

The proposed car parking allocation for the development is shown in Table 4.2.

Table 4.2: Proposed Car Parking Allocation

Land Use	Size/No.	Proposed Parking Rate	Car Parking Provision
Office	24,273 sqm	0.69 spaces to each 100 sqm of net floor area	164 spaces
Shop	449 sqm	1.11 spaces to each 100 sqm of leasable floor area	5 spaces
Total			169 spaces

4.2. Car Parking Adequacy

Under the provision of Clause 52.06-7, the Responsible Authority is able to reduce the parking requirements (including reduced to zero), provided the applicant satisfies the responsible authority that the provision of car parking is justified on the basis of:

- The car parking demand likely to be generated by the use; and
- Whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the use.

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4.3. Car Parking Demand Assessment

Clause 52.06-7 states that an application to reduce the number of car parking spaces required under Clause 52.06-5 must be accompanied by a Car Parking Demand Assessment which must address the following matters:

- The likelihood of multi-purpose trips which are likely to be combined with a trip to the land in connection with the proposed use.
- The variation of car parking demand likely to be generated by the proposed use over time.
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.
- Any empirical assessment or case study.

An assessment of the relevant factors is provided below.

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The Likelihood of Multi-Purpose Trips

In some situations, a trip will serve more than one function, and this will tend to reduce the need for car parking.

The shop component of the development is likely to draw most of its trade from walk-up customers associated with visitors, nearby residents and staff of the surrounding businesses (including staff of the proposed development). Therefore, the demand for parking associated with the shop tenancies is anticipated to be significantly reduced as a result of multipurpose trips.

The Variation of Car Parking Demand Over Time

The staff of the office tenancies are expected to generate a consistent car parking demand during standard weekday business hours. Demands for car parking associated with the shop tenancies will depend largely on the nature of the business and the hours of operation. Typical operation of the shop tenancies will predominately occur during weekday business hours and potentially incorporate some weekend trade.

Short Stay/Long Stay Parking Demand

It is expected that most of the overall parking demands generated by the proposed development will be longer stay parking generated by employees.

Given the limited provision of on-site car parking and the predominately short-term parking restrictions and high on-street parking demand in the immediate vicinity of the site, it is expected that staff of the proposed use without an allocated on-site car parking space, will predominately choose to access the site via an alternative mode of transport than the private motor vehicle and thus the demand for any off-site long stay parking is expected to be minimal.

On the other hand, customers of the shop will generally generate a short stay parking demand. This demand can be supported by sustainable transport options as mentioned in Section 2.5 or short-term restricted parking within the vicinity of the site.

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The Availability of Public Transport in the Locality of the Land

As discussed in Section 2.5 of this report, the site is located within the Yarra PPTN area and therefore is identified as being in an area where high-quality public transport services are provided within convenient proximity of the site.

The site has very good access to train, tram and bus services located within convenient walking distance of the site with tram and bus routes along Victoria Parade and North Richmond Railway Station an eight-minute walk to the east.

Accordingly, given the public transport opportunities in the vicinity of the site, employees and visitors are able to travel to and from the site without having to rely on the use of a private motor vehicle.

The Convenience of Pedestrian and Cyclist Access to the Site

Footpaths are typically provided on both sides of roads within the vicinity of the site, which provides a link to the nearby public transport services.

Furthermore, the development is providing pedestrian connections between the two laneways which currently terminate at the northeast and southeast corners of the site.

In addition, the major streets within proximity to the subject site predominately have bicycle lanes, such as Langridge Street and Wellington Street.

These facilities provide a viable means of alternative sustainable transport that will reduce future reliance on private motor vehicle travel for employees and visitors to the site and accordingly, reduce car traffic and parking demands.

The Provision of Bicycle Parking and End of Trip Facilities for Cyclists

The plans include the generous provision of convenient and secure bicycle parking for employees and visitors to the site.

The Anticipated Car Ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.

Employee Demand

Journey to Work data for employees working in the statistical area of Collingwood and the Yarra municipality was obtained from the 2016 ABS Census data. ABS Census data for 2021 has been excluded as the data was collected during the COVID lockdown period.

The data applicable to the proposed development is presented Table 4.1.

Table 4.1: 2016 ABS Census Car Ownership Data – Suburb of Collingwood & Municipality of Yarra

Locality	Percentage of employees who use a vehicle to get to work	Percentage of employees who use Public Transport to get to work	Percentage of employees who use Active Transport to get to work	Other
Collingwood	52%	25%	12%	11%
Yarra	52%	24%	10%	14%

In summary, the Census data indicates:

- 52 percent of employees in Collingwood and Yarra use a motor vehicle to travel to work; and

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- The data indicates that approximately one in four employees in Collingwood use public transport to travel to work.

Allowing Fewer Spaces to be Provided

Clause 52.06-7 states that before granting a permit to reduce the number of spaces, the responsible authority must consider a number of items, as appropriate. Those items relevant to the proposal and the current assessment are provided below:

- The Car Parking Demand Assessment.
- Any relevant local planning policy or incorporated plan.
- The availability of alternative car parking in the locality of the land.
- Access to or provision of alternative transport modes to and from the land.
- Any other relevant consideration.

An assessment is provided below:

Local Planning Policies

Yarra Planning Scheme

Clause 18.01-3L – Sustainable transport

Clause 18.01-3L of the Yarra Planning Scheme is Yarra's Local Planning Policy Framework in relation to sustainable transport. The main objective of this policy is to support a sustainable transport system that reduces the impact of private motor vehicle traffic and on-street parking.

Of particular relevance to this assessment, Clause 18.01-3L contains the following strategies:

- Encourage development to prioritise transport modes in order of the following transport hierarchy:
 - Walking.
 - Cycling.
 - Public transport.
 - Commercial vehicles serving business and institutions.
 - Subscription based vehicles such as car shares.
 - Private motor vehicles.
- Support development which reduces reliance on private cars.
- Encourage lower amounts of car parking within developments.
- Encourage increased infrastructure for active transport in developments (such as high levels of bicycle parking and end of trip facilities).

Clause 18.02-1L – Walking

The objective of this policy is to improve the walking network and create high-quality pedestrian environments.

Clause 18.02-2L – Cycling

The objective of this policy is to facilitate an efficient and safe bicycle network and encourage cycling as an alternative mode of transport for people of all ages and abilities. It contains the following strategies:

- Encourage the provision of secure bicycle parking (including cargo bicycles).
- Encourage separate entrances for bicycles and motorised vehicles in developments.

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- Provide easily accessible visitor bicycle parking.
- Encourage publicly accessible and safe cycling links through large sites, where links connect with the existing cycling network.
- Encourage the provision of electric bicycle infrastructure.

Clause 18.02-4L-01 – Car Parking

The main objective of this policy is to ensure car parking is supplied and managed consistent with promoting travel by sustainable modes. Itw contains the following strategies:

- Support a reduction in the required number of car parking spaces where:
 - There is appropriate public transport accessibility and the subject land is located within walking or cycling distance to shops, jobs and amenities.
 - The use or development is unlikely to result in unreasonable impacts on existing on-street parking.
 - Increased motor vehicle traffic from the development is likely to unreasonably impact on the amenity of nearby residents.
 - The development uses the upper floors of existing commercial buildings in activity centres and employment areas more efficiently (where relevant).
 - The development provides adequate bicycle parking.
- Support a reduction in the required number of car parking spaces where alternative modes of transport are available.
- Encourage a reduction in the required number of car parking spaces, where car share bays are provided to reduce reliance on privately owned vehicles.
- Provide efficient shared car parking in activity centres and employment areas.
- Encourage the provision of parking for ride-sharing vehicles, visitors, motorcycles and scooters in large developments.
- Encourage the provision of publicly accessible car share bays in major developments.

Yarra's Transport Strategy 2022-32

The City of Yarra has recently adopted the Yarra's Transport Strategy 2022-32 which outlines Yarra's vision for future and strategy to deliver an innovative, efficient, sustainable and accessible transport system. This strategy identifies outcomes, strategic directions and policies, and the relevant matters are listed below:

Outcomes

- O1. Increased use of space-efficient forms of transport in Yarra.
- O4. Reduced independent mobility for vulnerable road users in Yarra.
- O5. Increased use of environmentally sustainable forms of transport in response to the climate emergency.

Strategic Directions

- D1. Allocate road space to preferred transport modes and other activities.
- D2. Reduce traffic speeds and volumes on Yarra's streets.
- D4. Be agile in responding to transport needs.

Policies

- P1. Prioritise walking, cycling and using public transport over car use

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- P3. Implement a New Deal for Walking – make a network suitable for all ages and abilities.
- P4. Implement a New Deal for Cycling – make the network useable for bike riders and scooter users of all ages and abilities.
- P6. Manage car parking in a way that supports the use of active and public transport and the role of cars in an urban environment.
- P11. Encourage the use of shared transport.

The proposal is considered to be in line with the strategic intent of the City of Yarra's Planning Scheme on the basis of the following:

- The reduced provision of on-site parking will reduce car dependence by promoting walking, cycling and public transport.
- There is a generous provision of on-site bicycle parking which will encourage cycling.
- The proposal has good connections to the existing pedestrian footpaths which will promote working to/from the site.

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Local Traffic Management

A reduced provision of on-site parking will reduce motor vehicle travel to and from the site, resulting in a lessened impact to traffic congestion and pedestrian amenity in the vicinity of the site than what would otherwise be incurred were more on-site parking proposed.

4.4. Adequacy of Proposed Car Parking Provision

It is proposed to provide 169 car parking spaces within the basement levels of the proposed development. In summary, it is considered that the proposed level of on-site parking provision is adequate for the following reasons:

- The development's car parking strategy aligns with the objectives sought by Council policies in seeking to reduce the dependence on private motor vehicles.
- The site is very well located to take advantage of access to sustainable transport alternatives, such as nearby public transport services, cycling, walking and rideshare/taxis. In regards to the public transport network, North Richmond Railway Station, numerous trams and numerous buses are located in very close proximity to the site.
- Given the site's location and accessibility by alternative modes of transport the car parking demand generated by the office is expected to result in a car parking demand less than the Yarra Planning Scheme rate.
- The development proposes a generous on-site provision of 234 bicycle parking spaces across the Ground Floor and Basements 1 and 2. A total of 44 bicycle spaces are provided for visitors.
- Bicycle paths and a good level of pedestrian connectivity is in accordance with the relevant state and local policy to promote walking and cycling while reducing car dependency.
- Multi-purpose trips will significantly reduce the car parking demand for retail customers of the development, with the vast majority of retail trade being drawn from surrounding businesses and visitors of the area (including staff of the proposed development).
- ABS demonstrates that there is already a significant portion of employees working in Collingwood and the broader municipality of Yarra that travel to/from work via alternate transport modes, which highlights areas excellent access to alternate transport modes and ability to travel to/from work without relying on a private motor vehicle.

On the basis of the reasons discussed above, it is considered that the proposed level of car parking is suitable for the nature, scale and location of the proposed development.

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5. Car Parking Layout and Access

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5.1. Clause 52.06-9 Design Standard Assessment

The proposed access arrangements and car parking layout have been designed in accordance with the objectives and design requirements of Clause 52.06-9 of the Yarra Planning scheme and with the relevant sections of AS/NZS 2890.1:2004.

An assessment against the relevant design standards of the Planning Scheme is provided below.

Design Standard 1 – Accessways

Design Standard 1 of Clause 52.06-9 relates to the design of accessways. The requirements of Design Standard 1 are assessed against the proposal in Table 5.1.

Table 5.1: Design Standards 1 Assessment – Accessways

Requirement	Comments
Must be at least 3m wide.	<u>Satisfied:</u> The accessway to the basement has a minimum width of 5.8 metres, exceeding this requirement.
Have an internal radius of at least 4m at changes of direction or intersection or be at least 4.2m wide.	<u>Satisfied:</u> At the change of direction, the accessway to the basement has a minimum width of approximately 5.8 metres, exceeding this requirement.
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	<u>N/A</u> – The car park is not a public car park.
Provide at least 2.1m headroom beneath overhead obstructions, calculated for a vehicle with a wheelbase of 2.8m.	<u>Satisfied:</u> The car park comprises a headroom clearance in excess of 2.1m.
If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction.	<u>Satisfied:</u> All cars can exit the site in a forward direction.
Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Transport Zone 2 or Transport Zone 3.	<u>Satisfied:</u> The access ramp to the basement car park has a width of 6.4 metres.
Have a corner splay or area at least 50% clear of visual obstructions extending at least 2m along the frontage road from the edge of an exit lane and	<u>Satisfied:</u> A pedestrian sight triangle measuring 2.0 metres along the frontage and 2.5 metres along the accessway has been provided adjacent to the

2.5m along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane Where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	egress lane of the accessway. Given that the accessway is double width, a pedestrian triangle adjacent to the ingress lane is not required. No landscaping will be provided within the sight triangle. ADVERTISED PLAN
If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6 metres from the road carriageway.	<u>N/A:</u> Accessway does not connect to land in a Transport Zone 2 or Transport Zone 3.
If entry to the car space is from a road, the width of the accessway may include the road.	<u>N/A:</u> There is no direct access to car parking spaces from a road.

Design Standard 2 – Car Parking Spaces

Design Standard 2 of Clause 52.06-9 relates to the design of car parking spaces. The requirements of Design Standard 2 are assessed against the proposal in Table 5.2:

Table 5.2: Design Standard 2 Assessment – Car Parking Spaces

Requirement	Comments
Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 of Design Standard 2.	Satisfied: All car parking spaces have been designed in accordance with Table 2 of Design Standard 2 with dimensions of 2.6 metres wide by 4.9 metres long, accessed via a minimum aisle width of 6.4 metres or with dimensions of 2.8 metres wide by 4.9 metres long accessed via a minimum aisle width of 5.8 metres.
A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1 of Design Standard 2, other than: - A column, tree or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1. - A structure, which may project into the space if it is at least 2.1m above the space.	Satisfied: All columns are located in accordance with Diagram 1 of Design Standard 2.
Car spaces in garages or carports must be at least 6m long and 3.5m wide for a single space and 5.5m wide for a double space measured inside the garage or carport.	<u>N/A:</u> No carports or garages are proposed on site.
Where parking spaces are provided in tandem (one space behind the other) an additional 500mm in length must be provided between each space.	<u>N/A:</u> No car parking spaces have been provided in a tandem arrangement.
Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover.	<u>N/A:</u> The proposed development does not include a residential component.

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Disabled car parking spaces must be designed in accordance with Australian Standards AS2890.6-2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 of Design Standard 2 by 500mm.	<u>Satisfied:</u> Disabled car parking spaces provided in the Basement Level have been designed in accordance with AS2890.6.
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Design Standard 3 – Gradients

Design Standard 3 of Clause 52.06-9 relates to the design of gradients. The requirements of Design Standard 3 are assessed against the proposal in Table 5.5.1.

Table 5.5.1: Design Standard 3 Assessments – Gradients

Requirement	Comments
Accessway grades must not be steeper than 1:10 (10%) within 5m of the frontage to ensure safety for pedestrians and vehicles. The design must have regard to the wheelbase of the vehicle being designed for; pedestrian and vehicular traffic volumes; the nature of the car park; and the slope and configuration of the vehicle crossover at the site frontage. This does not apply to accessways serving three dwellings or less.	<u>Satisfied:</u> The accessway along the shared zone is flat for its entire length and the access ramp between Ground Level and Basement Level 1 has been provided with an initial grade of 1:10 for 5.0 metres.
Ramps (except within 5 metres of the frontage) must have the maximum grades as outlines in Table 3 of Design Standard 3 and be designed for vehicles travelling in a forward direction.	<u>Satisfied:</u> The proposed grades are in accordance with Table 3 of Design Standard 3, with grades no steeper than 1:4.
Where the difference in grade between two sections of ramp of floor is greater than 1:8 (12.5%) for a summit grade change; or greater than 1:6.7 (15%) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming. Plans must include an assessment of grade changes of greater than 1:5.6 (18%) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.	<p style="text-align: center;">ADVERTISED PLAN</p> <p><u>Satisfied:</u> Appropriate transition sections have been provided to prevent scraping and bottoming.</p>

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5.2. Swept Path Assessment

An assessment of the accessibility to/from car spaces and critical car parking bays was undertaken using the B99 and B85 (99.8th and 85th percentile cars). It was found that site access arrangements and each car space could be accessed (ingress and egress) in a satisfactory manner and that cars will be able to enter/exit the site in a forward direction (refer to Appendix B).

Corrective manoeuvres may be required to access some parking spaces, which is in accordance with AS/NZS2890.1:2004 (Table 1.1). This table specifies that three-point turn movements to enter and exit 90-degree parking spaces are permitted for class 1A users, as it is recognised that such developments will have low turnover and users are generally prepared to accept some inconvenience when entering and exiting a parking space.

The assessment confirms that the access arrangements and basement car parking layout have been designed in accordance with the requirements of the Yarra Planning Scheme, and the relevant sections of AS/NZS 2890.1:2004.

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6. Bicycle Facilities:

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6.1. Clause 52.34 – Bicycle Facilities

Bicycle parking requirements for developments are set out under Clause 52.34 of the Yarra Planning Scheme. Table 1 of Clause 52.34 sets out the bicycle parking requirements that apply to use listed in that table. The development shall be assessed against Table 1 of Clause 52.34-5, as set out in Table 6.1.

Table 6.1: Bicycle Parking Statutory Requirements

Land Use	Use	Statutory Parking Rate	Size	Statutory Requirement
Office	Employee	1 to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	24,273 sqm	81 spaces
	Customer	1 to each 1,000 sqm of net floor area if the net floor area exceeds 1,000 sqm		24 spaces
Shop	Employee	1 to each 300 sqm of leasable floor area	449 sqm	2 spaces
	Customer	1 to each 500 sqm of leasable floor area		1 space
Total				108 spaces (83 employee spaces and 25 visitor spaces)

The proposal has a statutory requirement to provide a minimum of 108 on-site bicycle parking spaces, 83 for employees and 25 for visitors/customers.

6.2. Bicycle Parking Provision

The development proposes to provide a generous provision of 234 parking spaces. The bicycle parking will be configured and located as follows:

- 60 bicycle parking spaces within 30 x “Arc de Triomphe” floor-mounted horizontal bicycle parking racks on the Ground Floor out of which 44 spaces are allocated for visitor use.
- 104 bicycle parking spaces within 52 x two-tier horizontal bicycle parking racks, on Basement 1.
- 40 bicycle parking spaces within 20 x “Arc de Triomphe” floor-mounted horizontal bicycle parking racks on Basement 1.
- 6 bicycle parking spaces within 3 x “Arc de Triomphe” floor-mounted horizontal bicycle parking racks on Basement 2.

- 6 bicycle parking spaces within 3 x “Ned Kelly” wall-mounted vertical bicycle parking racks on Basement 2.
- 18 bicycle parking spaces within 9 x two-tier horizontal bicycle parking racks, on Basement 2.

Bicycle repair stations have also been provided within the secure bicycle parking area on Basement 1 for the maintenance and repair of bicycles.

The proposed bicycle parking provision readily exceeds the minimum statutory requirements of the Yarra Planning Scheme and is considered satisfactory.

Furthermore, the on-site bicycle parking is designed in accordance with the requirements of the Yarra Planning Scheme and/or AS2890.3:2015.

Specifications for the bicycle parking are provided within Appendix C.

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6.3. End of Trip Facility Requirements

In addition to bicycle parking, Clause 52.34 requires that showers and change rooms be provided for employee bicycle parking. The rates are shown in Table 6.3.

Table 6.3: End of Trip Facility Requirements – Clause 52.34-3

Component	Requirement	Required Measure	Requirement
Showers	If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter.	83 employee spaces	9 showers
Change Rooms	1 change room or direct access to a communal change room to each shower. The change room may be a combined shower and change room	9 showers	9 change rooms (or direct access to a communal change room)

On this basis, the proposal has a requirement for nine showers and nine change rooms (or direct access to a communal change room).

A total of 18 showers (including one unisex/DDA) and associated change rooms are provided within the building, as well as 232 lockers.

This generous provision of shower, change room and locker facilities readily exceeds the statutory requirement.

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7. Loading Assessment:

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7.1. Loading Arrangements

The development seeks to provide an on-site loading area at ground level capable of accommodating a Small Rigid Vehicle (SRV).

Access to the loading area will be provided via a shared zone from Rokeby Street which is located adjacent to the basement car park. Swept path diagrams showing the successful ingress and egress of a 6.4 metre SRV have been prepared and are attached in Appendix B.

7.2. Waste Collection Arrangements

It is proposed that refuse and recyclables be collected on-site within the loading area by a private waste contractor.

A Waste Management Plan has been prepared by Ratio Consultants which outlines the waste strategy. Please refer to the Waste Management Plan for further details.

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8. Traffic Assessment:

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8.1. Traffic Generation

Office Traffic Generation

The office tenancies have been allocated a total of 164 on-site car parking spaces. Based on surveys at other office developments in Melbourne, it is estimated that the development will generate 0.5 vehicular trips per car space during the morning peak hour and 0.5 vehicular trips per car space during the afternoon peak hour. Employee trips will be mainly arriving in the morning peak and departing in the afternoon peak with approximately 90% of employees assumed to arrive in the morning and depart in the evening peak.

Shop Traffic Generation

The shop tenancies are expected to generate in the order of one staff trip per allocated space during the AM and PM peak hours. The shop premises are allocated 5 car parking space in total. It is conservatively estimated that these spaces will generate one staff trip each during AM and PM peak hours, with additional customer trips.

Overall Peak Hour Staff Traffic Generation

On this basis the expected trip generation attracted to/from the on-site car park for a typical weekday AM and PM peak hours, is estimated as shown in Table 8.1.

Table 8.1: Overall Peak Hour Staff Traffic Generation

Direction	AM Peak	PM Peak
Arriving Trips	79 vph	8 vph
Departing Trips	8 vph	79 vph
Total Trips	87 vph	87 vph

8.2. Traffic Distribution and Impacts

Based on the above, the proposed development is expected to generate in the order of 87 vehicle movements to/from the site during each of the AM and PM peak hour periods.

Traffic movement surveys, presented in Figure 2.7, indicate that in the order of 125 and 109 vehicle movements occur along Rokeby Street during the AM and PM peak hours respectively. Considering the one-way operation of Rokeby Street, and the existing traffic levels, the additional 87 peak hour vehicle movements will be able to be accommodated along Rokeby Street and the surrounding road network.

As such, the traffic generated by the development is not expected to create adverse traffic impact on road network operations on Rokeby Street or the wider road network noting that endorsed development also generate same number of vehicle movements in each peak periods.

9. Conclusion

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The proposed mixed-use development at 32-38 & 40-50 Rokeby Street, Collingwood comprises of 24,273 sqm of office space and 449 sqm of shop space. The development includes a provision of 169 on-site car parking spaces within the basement car park accessed from shared zone via Rokeby Street.

Based on the above assessment, the following conclusions have been reached:

- The provision of 169 car parking spaces on-site is considered appropriate given the following:
 - The development's car parking strategy aligns with the objectives sought by Council policies in seeking to reduce the dependence on private motor vehicles.
 - The site is very well located to take advantage of access to sustainable transport alternatives, such as nearby public transport services, cycling, walking and rideshare/taxis. In regard to the public transport network, North Richmond Railway Station, numerous trams and numerous buses are located in very close proximity to the site.
 - Given the site's location and accessibility by alternative modes of transport the car parking demand generated by the office is expected to result in a car parking demand less than the Yarra Planning Scheme rate.
 - The development proposes a generous on-site provision of 234 bicycle parking spaces across the Ground Floor, Basement 1, and Basement 2. 44 of these spaces are allocated for visitor use on the Ground Floor.
 - Bicycle paths and a good level of pedestrian connectivity is in accordance with the relevant state and local policy to promote walking and cycling while reducing car dependency.
 - Multi-purpose trips will significantly reduce the car parking demand for retail customers of the development, with the vast majority of retail trade being drawn from surrounding businesses and visitors of the area (including staff of the proposed development).
 - ABS demonstrates that there is already a significant portion of employees working in Collingwood and the broader municipality of Yarra that travel to/from work via alternate transport modes, which highlights areas excellent access to alternate transport modes and ability to travel to/from work without relying on a private motor vehicle.
- The proposed car parking and site access arrangements have been suitably designed and are in accordance with the requirements of the Yarra Planning Scheme, AS 2890.6:2009 and/or the relevant section of AS/NZS 2890.1:2004.
- The proposed bicycle parking provision readily exceeds the Yarra Planning Scheme requirements to Clause 52.34-3 of the Yarra Planning Scheme.
- Waste collection will be undertaken on-site within the loading area on ground level by a private contractor.
- The development is expected to generate in the order of 87 trips during each of the AM and PM peak hour periods. The level of traffic generated by the development is low and the surrounding road network has the capacity to accommodate the additional traffic volumes in a satisfactory manner.

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Overall, the proposed development is not expected to create adverse traffic or parking impacts in the precinct.

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Appendix A : Survey Results

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TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

Intersection of Montague St and Rokeby St, Collingwood

GPS -37.807138, 144.988029

Date:	Thu 07/11/19
Weather:	Fine
Suburban:	Collingwood
Customer:	Ratio

North:	Rokeby St
East:	Montague St
South:	Rokeby St
West:	Glasgow St

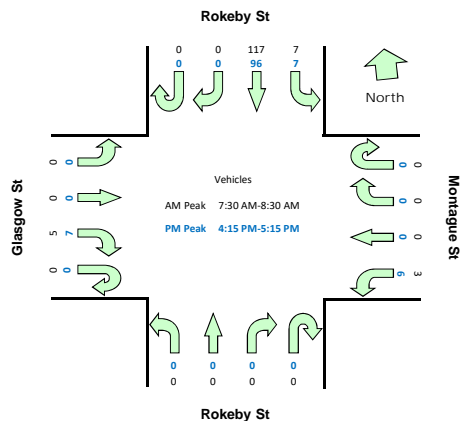
Survey Start	AM: 6:30	PM: 16:00
Vehicular Peakhour	AM: 7:30 AM-8:30 AM	PM: 4:15 PM-5:15 PM
Pedestrians Peakhour	AM: N/A	PM: N/A

All Vehicles

Time		North Approach Rokeby St				East Approach Montague St				South Approach Rokeby St				West Approach Glasgow St				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
6:30	6:45	0	0	15	2	0	0	0	0	0	0	0	0	0	1	0	0	86	
6:45	7:00	0	0	14	3	0	0	0	1	0	0	0	0	0	0	1	0	100	
7:00	7:15	0	0	17	2	0	0	0	4	0	0	0	0	0	0	0	0	114	
7:15	7:30	0	0	23	0	0	0	0	2	0	0	0	0	0	1	0	0	121	
7:30	7:45	0	0	28	2	0	0	0	1	0	0	0	0	0	1	0	0	132	Peak
7:45	8:00	0	0	25	5	0	0	0	2	0	0	0	0	0	1	0	0	124	
8:00	8:15	0	0	28	0	0	0	0	0	0	0	0	0	0	2	0	0	112	
8:15	8:30	0	0	36	0	0	0	0	0	0	0	0	0	0	1	0	0	115	
8:30	8:45	0	0	19	2	0	0	0	0	0	0	0	0	0	3	0	0	104	
8:45	9:00	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00	9:15	0	0	28	2	0	0	0	1	0	0	0	0	0	2	0	0		
9:15	9:30	0	0	25	1	0	0	0	0	0	0	0	0	0	0	0	0		
16:00	16:15	0	0	18	0	0	0	0	0	0	0	0	0	0	1	1	0	115	
16:15	16:30	0	0	34	2	0	0	0	0	0	0	0	0	0	3	0	0	116	Peak
16:30	16:45	0	0	23	0	0	0	0	4	0	0	0	0	0	3	0	0	84	
16:45	17:00	0	0	21	3	0	0	0	1	0	0	0	0	0	1	0	0	63	
17:00	17:15	0	0	18	2	0	0	0	1	0	0	0	0	0	0	0	0	51	
17:15	17:30	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	43	
17:30	17:45	0	0	7	1	0	0	0	0	0	0	0	0	0	1	0	0	46	
17:45	18:00	0	0	12	2	0	0	0	0	0	0	0	0	0	0	0	0	47	
18:00	18:15	0	0	9	0	0	0	0	2	0	0	0	0	0	2	0	0	49	
18:15	18:30	0	0	9	0	0	0	0	1	0	0	0	0	0	0	0	0		
18:30	18:45	0	0	8	0	0	0	0	1	0	0	0	0	0	0	1	0		
18:45	19:00	0	0	14	1	0	0	0	0	0	0	0	0	0	1	0	0		

Peak Time		North Approach Rokeby St				East Approach Montague St				South Approach Rokeby St				West Approach Glasgow St				Peak total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L		
7:30	8:30	0	0	117	7	0	0	0	3	0	0	0	0	0	5	0	0	132	
16:15	17:15	0	0	96	7	0	0	0	6	0	0	0	0	0	7	0	0	116	

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



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Table A1

Parking Occupancy Survey

Date:	Wednesday, 20 November 2019
Location:	40 & 50 Rokeby Street, Collingwood
Weather:	Clear and Sunny

Map Ref	Street	Section	Side	Restriction	Clear Way	Capacity	Parking Occupancy											
							8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00
A	Rokeby Street	between Glasgow Street and Langridge Street	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
B	Rokeby Street	between Glasgow Street and Langridge Street	E	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
C	Rokeby Street	between Northumberland Street and Glasgow Street	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
D1	Rokeby Street	between Montague Street and Northumberland Street	E	4P 7:30am-5:30pm Mon-Fri		2	2	2	2	2	2	2	2	2	2	2	2	2
D2	Rokeby Street	between Northumberland Street and Byron Street	E	Loading Zone 15Minute 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		4	3	3	3	3	2	2	2	2	2	1	2	2
				4P 7:30am-5:30pm Mon-Fri		3	3	3	3	3	3	3	3	3	3	2	2	2
E	Rokeby Street	between Byron Street and Northumberland Street	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
F1	Rokeby Street	between Byron Street and laneway	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
F2	Rokeby Street	between lanway and Victoria Parade	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
G	Rokeby Street	between Byron Street and laneway	E	2P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		6	6	6	6	6	5	6	6	5	5	5	4	3
H	Rokeby Street	between laneway and Victoria Parade	E	Loading Zone 15Minute 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		3	1	0	1	1	1	0	0	1	1	0	0	0
				2P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		4	3	4	4	4	4	3	4	3	4	4	3	2
I	Byron Street	between Northumberland Street and bend	W	No Parking		0	0	0	0	0	0	0	0	0	0	0	0	0
J	Byron Street	between Northumberland Street and bend	E	No Parking		0	0	0	0	0	0	0	0	0	0	0	0	0
K	Rupert Street	between Langridge Street and Montague Street	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
L	Rupert Street	between Langridge Street and #27	E	1P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		6	5	6	6	5	5	6	6	5	3	4	3	2
				1P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat, Permit Zone All Other Times		1	1	1	1	1	1	1	1	1	1	1	0	0
				4P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		3	3	3	3	3	3	3	3	3	3	3	2	3
				1/2P 7am-6pm		2	1	1	1	1	1	2	2	2	2	1	1	0
M	Rupert Street	between Montague Street and #27	W	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
N	Langridge Street	between Rokeby Street and #14/16	S	1/2P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		2	1	2	2	1	2	0	2	2	1	1	0	2
				Loading Zone 15Minute 7am-7pm		2	0	0	1	1	1	1	1	0	0	0	0	0
				1/4P 7am-7pm Mon-Sat		4	3	3	4	4	4	3	2	4	4	3	3	2
O	Langridge Street	between Rokeby Street and Rupert Street	S	2P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		7	6	6	7	7	6	5	7	7	6	5	3	4
				1/4P 7:30am-5:30pm Mon-Fri, 7:30am-12:30pm Sat		1	0	1	1	1	0	1	1	0	1	1	0	1
P	Glasgow Street	between Wellington Street and #14/16	N	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
Q	Glasgow Street	between Wellington Street and #14/16	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
R	Glasgow Street	between #14/16 and Rokeby Street	N	Unrestricted		7	7	7	7	7	5	5	7	6	5	3	3	4
S	Glasgow Street	between #14/16 and Rokeby Street	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
T	Montague Street	between Rokeby Street and Rupert Street	N	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
U	Montague Street	between Rokeby Street and Rupert Street	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
V	Northumberland Street	between Wellington Street and Byron Street	N	Works Zone		0	0	0	0	0	0	0	0	0	0	0	0	0
W	Northumberland Street	between Wellington Street and Byron Street	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
X	Northumberland Street	between Byron Street and Rokeby Street	N	2P 7am-7pm Mon-Sat		1	1	1	1	1	1	1	1	1	1	1	1	1
				Works Zone 7am-5pm Mon-Fri, 2P 7am-7pm Sat-Sun		3	0	2	2	2	2	1	1	0	0	0	0	0
				2P 7am-7pm Mon-Sat		3	3	3	3	3	3	3	3	2	3	3	2	3
Y	Northumberland Street	between Byron Street and Rokeby Street	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
Z	Byron Street	between bend and Rokeby Street	N	No Parking		0	0	0	0	0	0	0	0	0	0	0	0	0
AA	Byron Street	between bend and Rokeby Street	S	No Parking		0	0	0	0	0	0	0	0	0	0	0	0	0
PUBLIC CAPACITY						64	64	64	64	64	64	64	64	64	64	64	64	64
PUBLIC OCCUPANCIES							49	54	58	56	51	48	54	49	47	40	31	33
PUBLIC VACANCIES							15	10	6	8	13	16	10	15	17	24	33	31
PUBLIC % OCCUPANCIES							77%	84%	91%	88%	80%	75%	84%	77%	73%	63%	48%	52%
	not available for public parking																	

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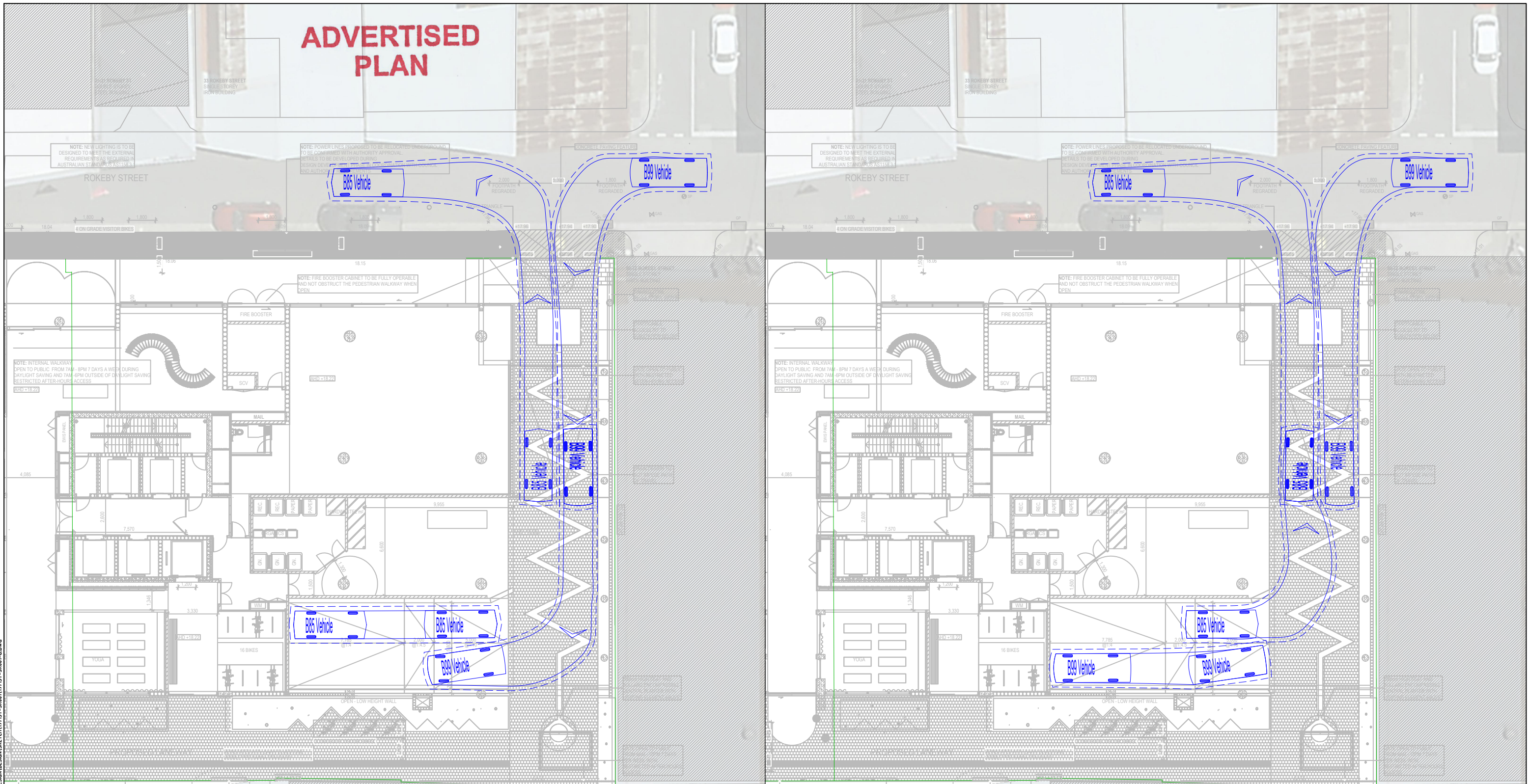
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Appendix B : Swept Path Assessment

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B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD) 300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE) 300mm CLEARANCE (REVERSE)

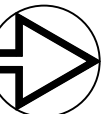
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	VEHICLE ENVELOPE (FORWARD) 300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE) 300mm CLEARANCE (REVERSE)

Proposed Mixed Use Development 32-38 & 40-50 Rokeby Street, Collingwood Swept Path Assessment - Ground Floor

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

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FACSIMILE (03)9429 3011

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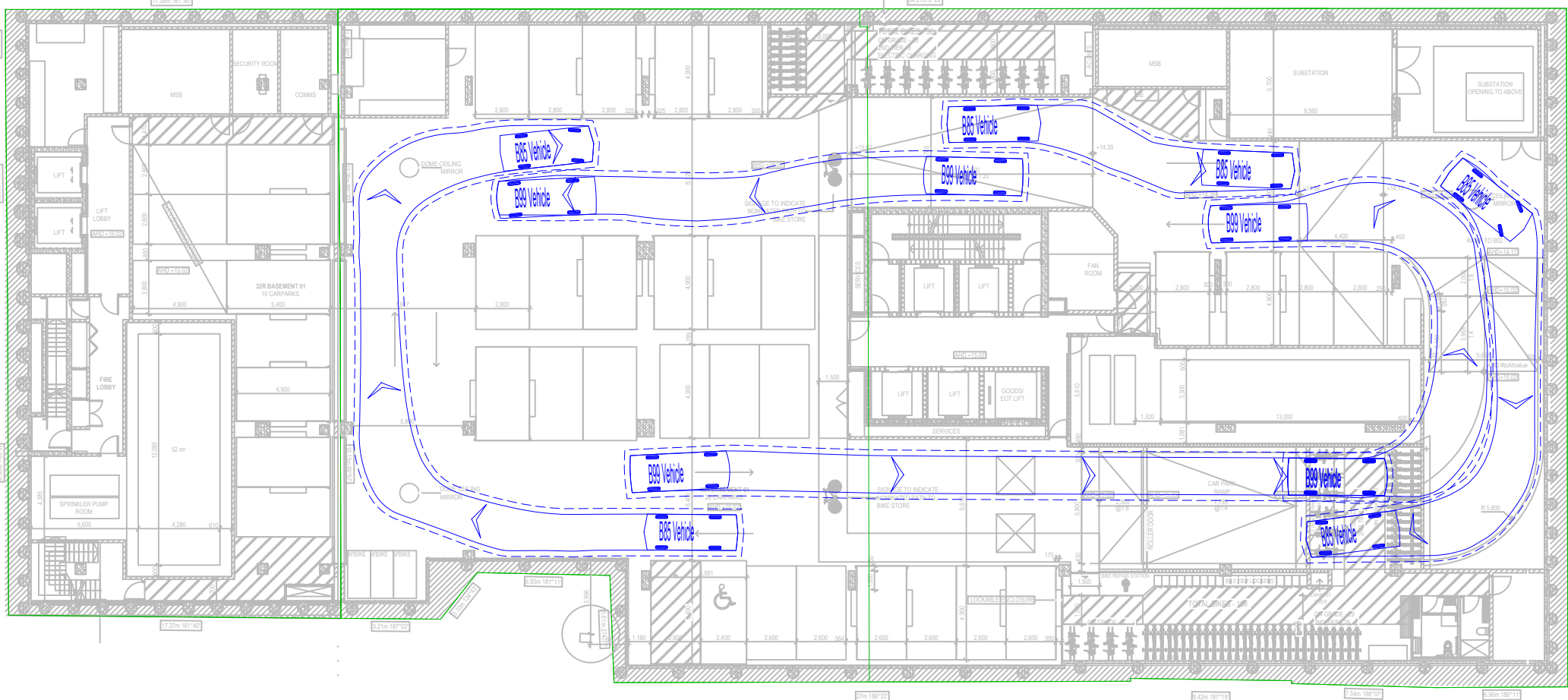
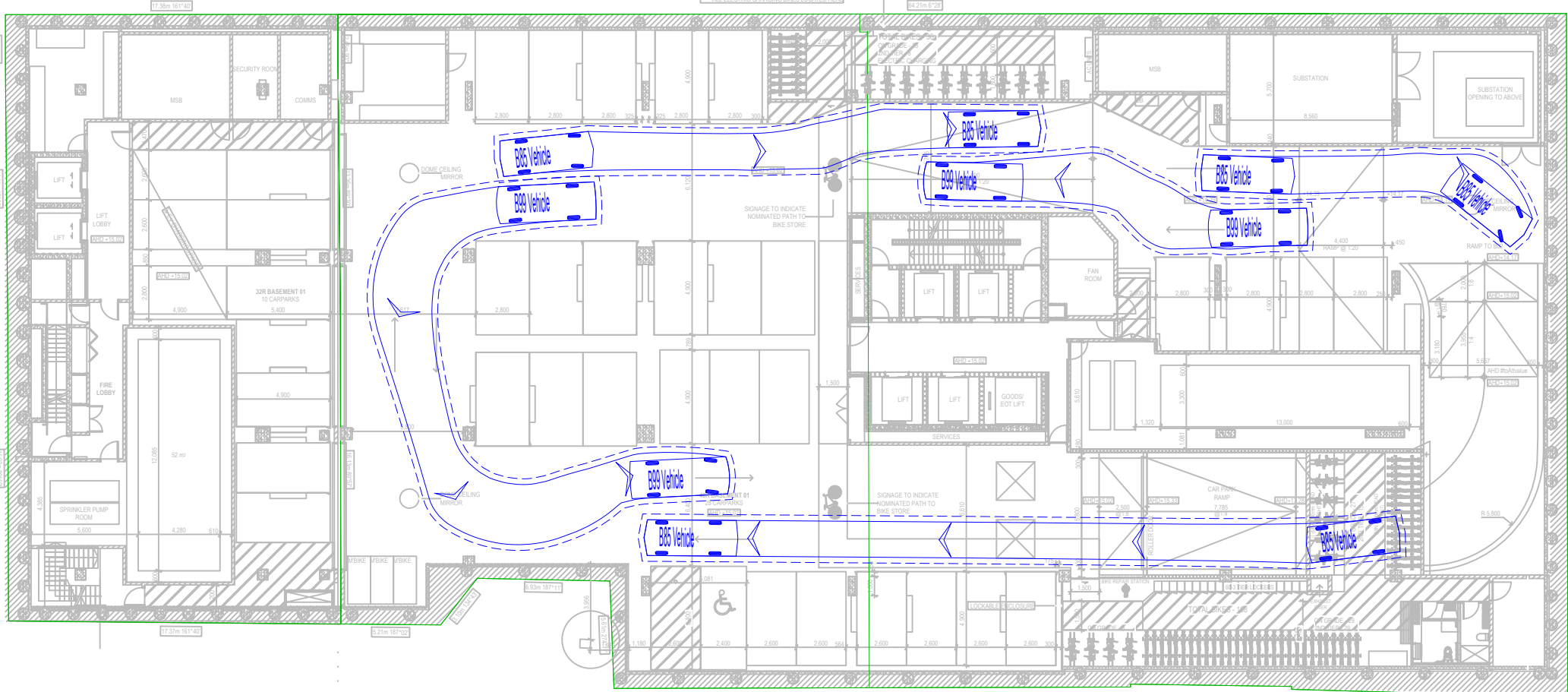
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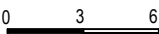
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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock to Lock Time Curb to Curb Turning Radius	4.910m 1.870m 1.421m 0.159m 1.770m 4.00 sec 5.80m
B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock to Lock Time Curb to Curb Turning Radius	5.200m 3.050m 2.200m 0.312m 1.840m 4.00 sec 6.30m

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Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Basement Level 1

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

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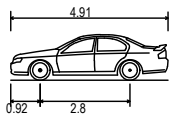
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B85 Vehicle (AS/NZS2890.1:2004)



Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Curb to Curb Turning Radius

VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

4.910m
1.870m
1.421m
0.159m
1.770m
4.00 sec
5.80m

Proposed Mixed Use Development 32-38 & 40-50 Rokeby Street, Collingwood Swept Path Assessment - Basement Level 1

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

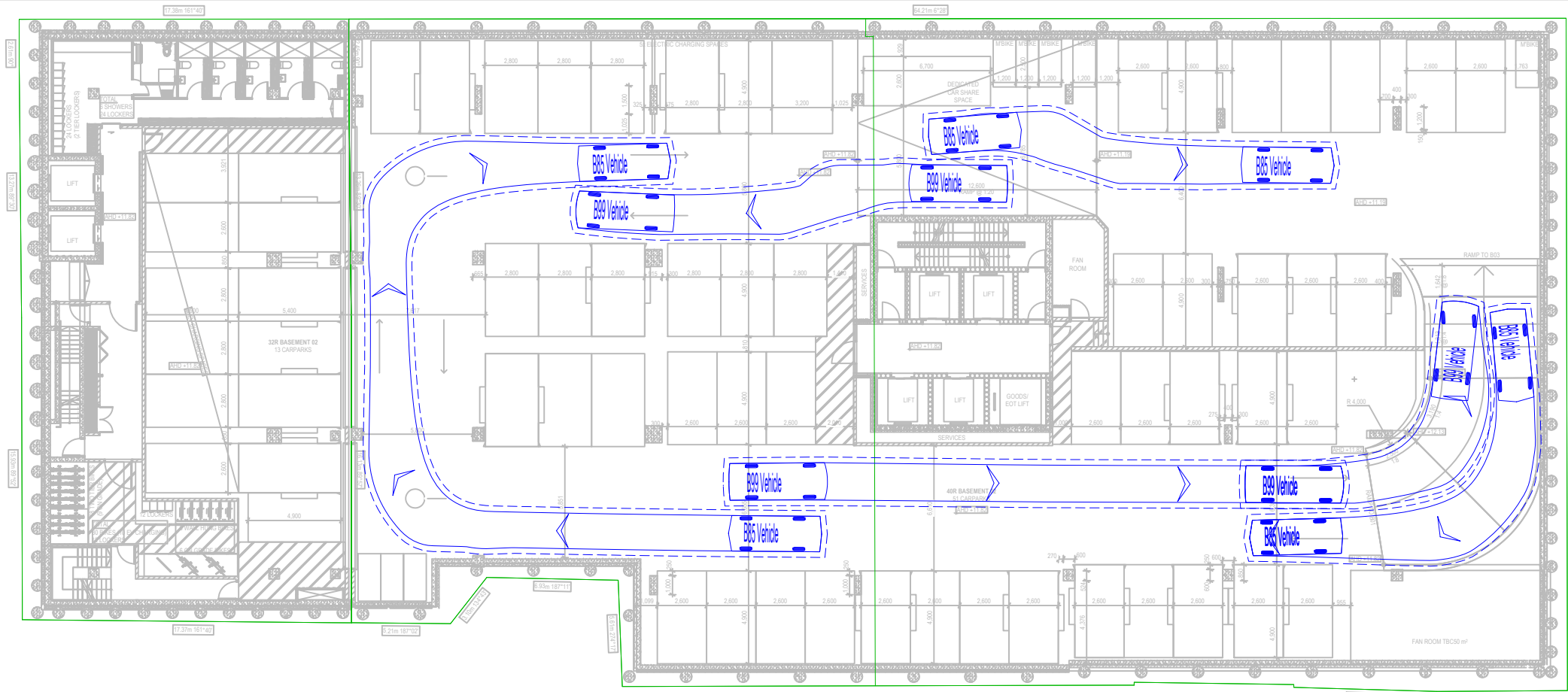
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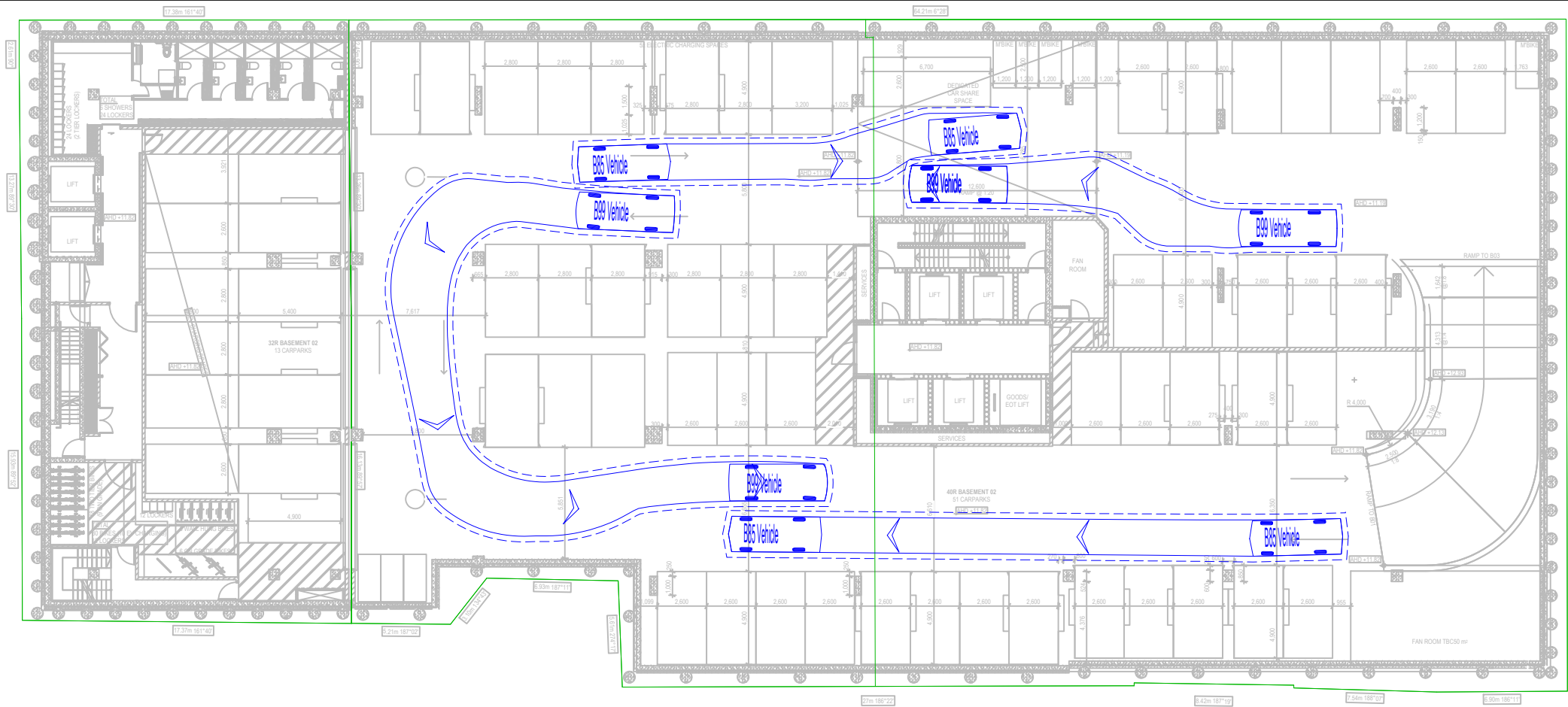
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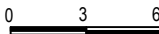
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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

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Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Basement Level 2

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

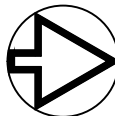
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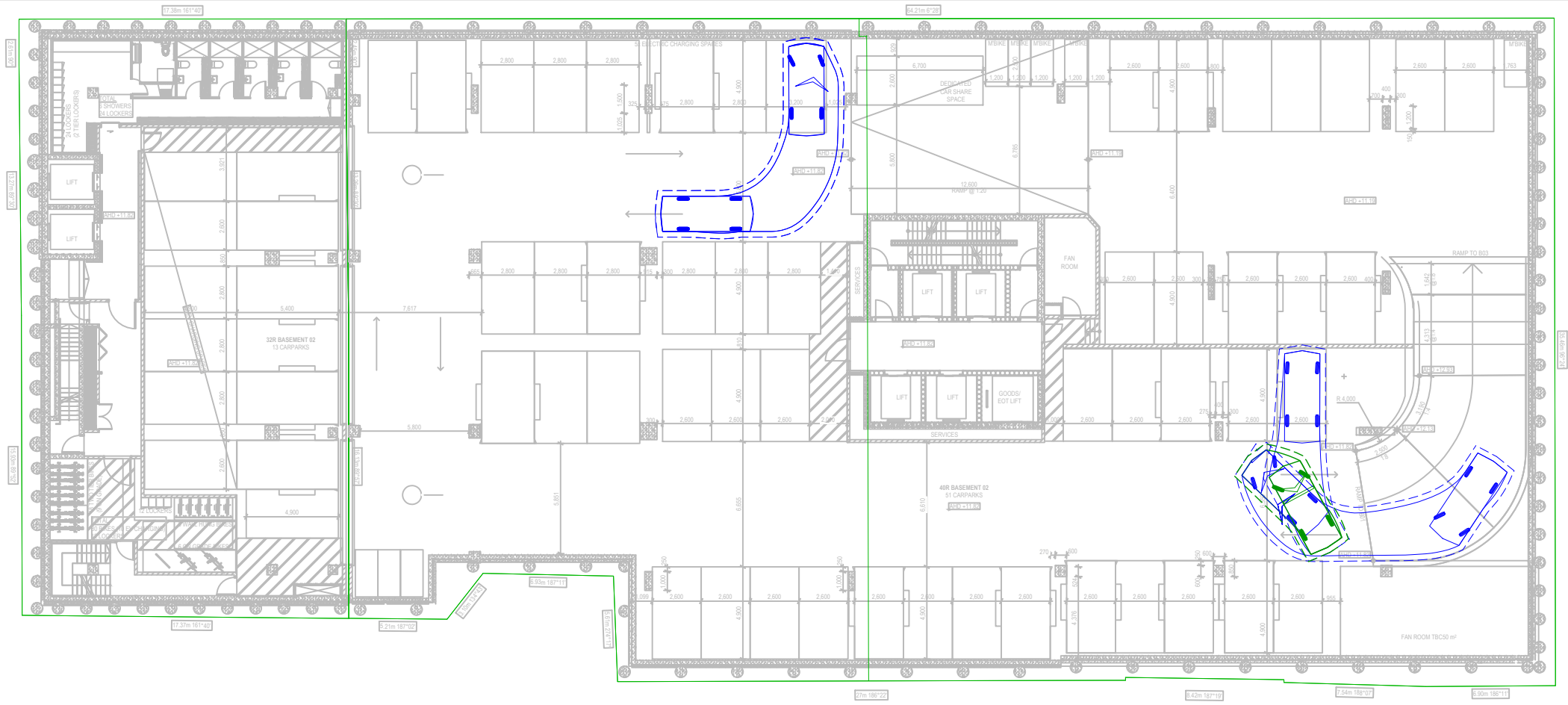
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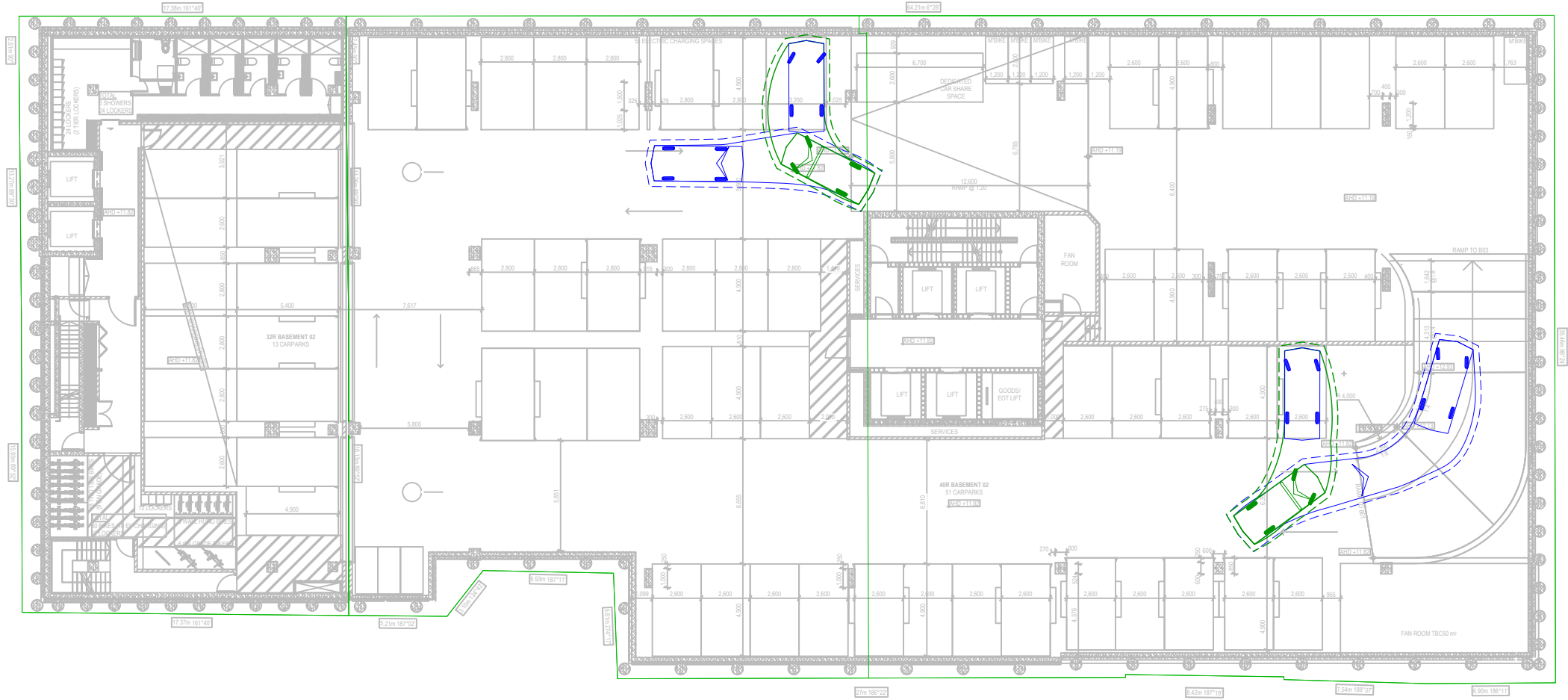
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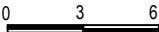




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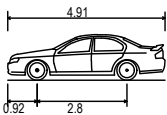


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B85 Vehicle (AS/NZS2890.1:2004)



Overall Length 4.910m
Overall Width 1.870m
Overall Body Height 1.421m
Min Body Ground Clearance 0.159m
Track Width 1.770m
Lock to Lock Time 4.00 sec
Curb to Curb Turning Radius 5.80m

VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Proposed Mixed Use Development 32-38 & 40-50 Rokeby Street, Collingwood Swept Path Assessment - Basement Level 2

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

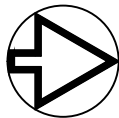
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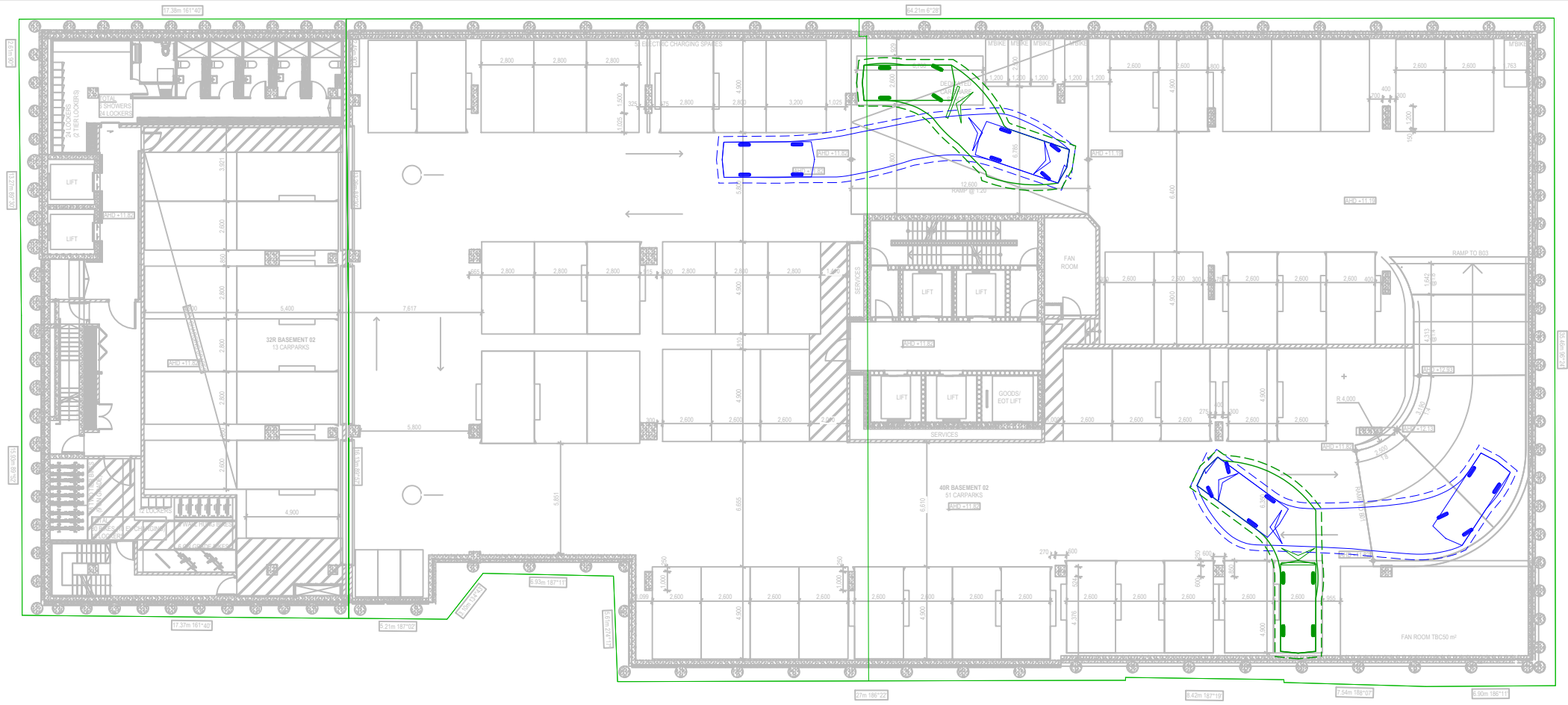
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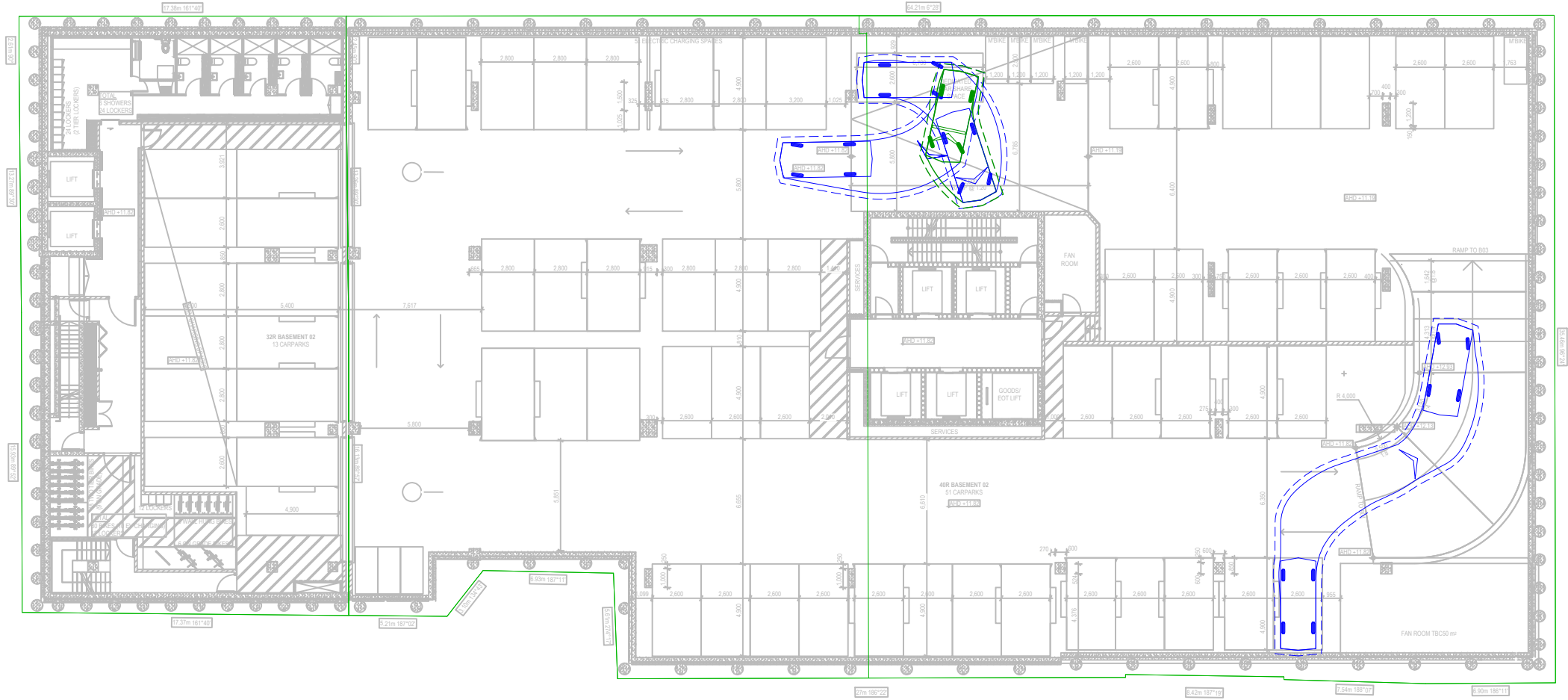
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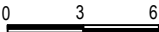




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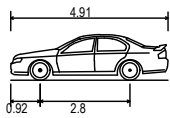


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B85 Vehicle (AS/NZS2890.1:2004)



Overall Length 4.910m
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Min Body Ground Clearance 0.159m
Track Width 1.770m
Lock to Lock Time 4.00 sec
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VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Basement Level 2

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

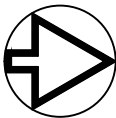
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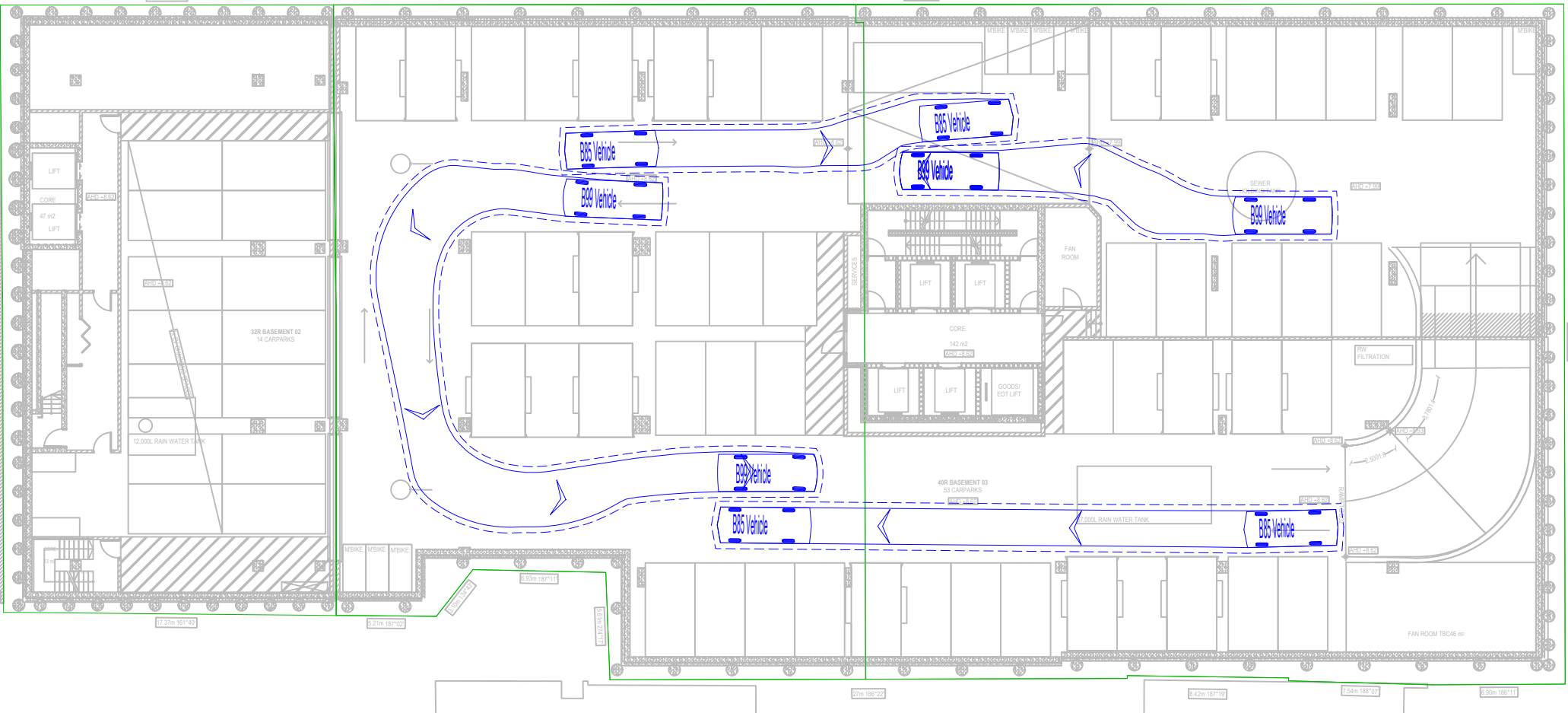
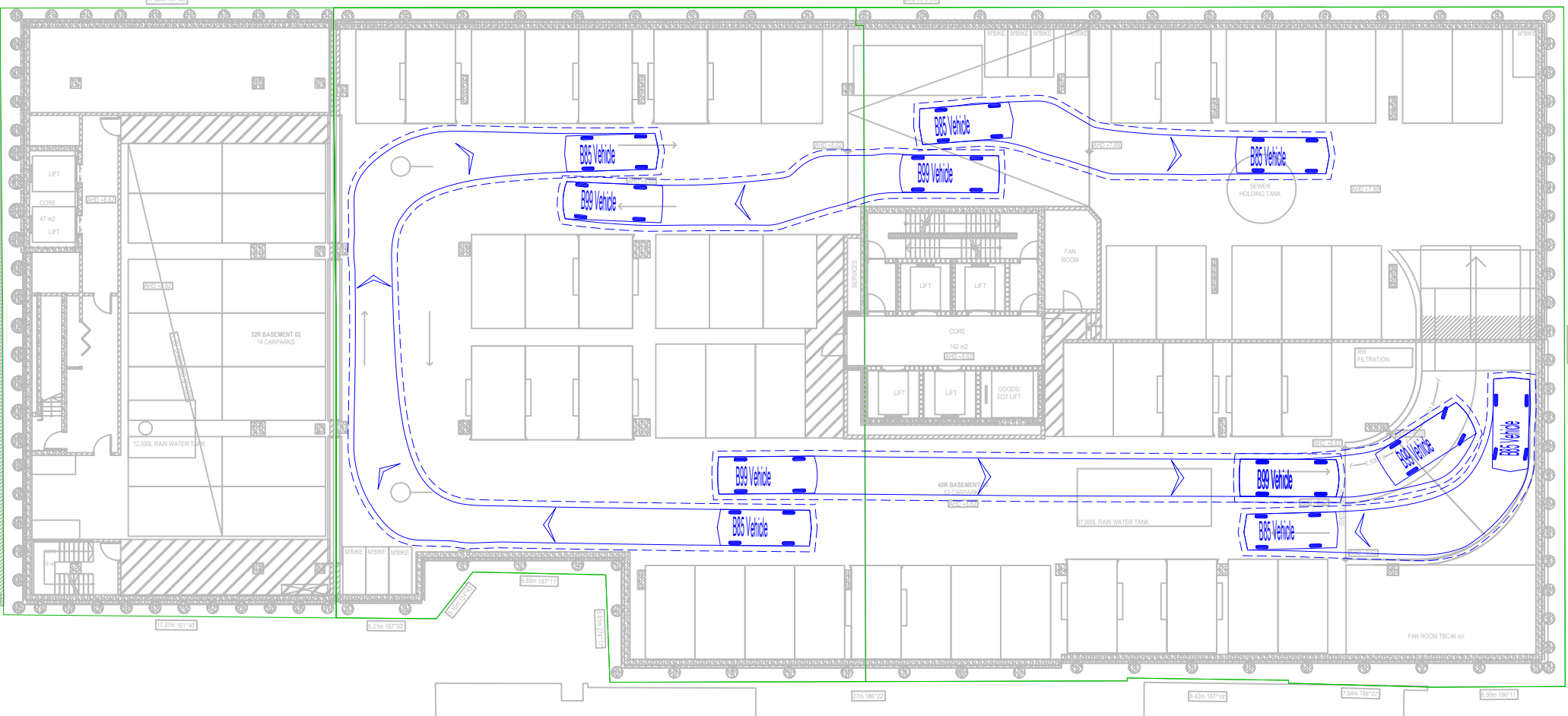
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DATE
15/12/2023



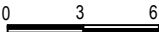
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B85 Vehicle (AS/NZS2890.1:2004)	
	<div>VEHICLE ENVELOPE (FORWARD)</div> <div>300mm CLEARANCE (FORWARD)</div> <div>VEHICLE ENVELOPE (REVERSE)</div> <div>300mm CLEARANCE (REVERSE)</div>
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

B99 Vehicle (AS/NZS2890.1:2004)	
	<div>VEHICLE ENVELOPE (FORWARD)</div> <div>300mm CLEARANCE (FORWARD)</div> <div>VEHICLE ENVELOPE (REVERSE)</div> <div>300mm CLEARANCE (REVERSE)</div>
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

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ratio:

RATIO CONSULTANTS PTY LTD
ABN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Basement Level 3

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

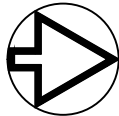
RATIO REFERENCE
19713T-SK001-G

SHEET No.
7 of 10

PREPARED BY
S.N.

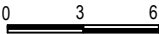
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DATE
15/12/2023



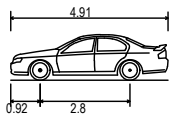
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B85 Vehicle (AS/NZS2890.1:2004)



Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Curb to Curb Turning Radius

VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

4.910m
1.870m
1.421m
0.159m
1.770m
4.00 sec
5.80m

Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Basement Level 3

NOTE:
1) Base Plan Supplied By MA+Co Architects on 2023.12.14
2) Maximum Design Speed 10km/h

RATIO REFERENCE
19713T-SK001-G

SHEET No.
8 of 10

PREPARED BY
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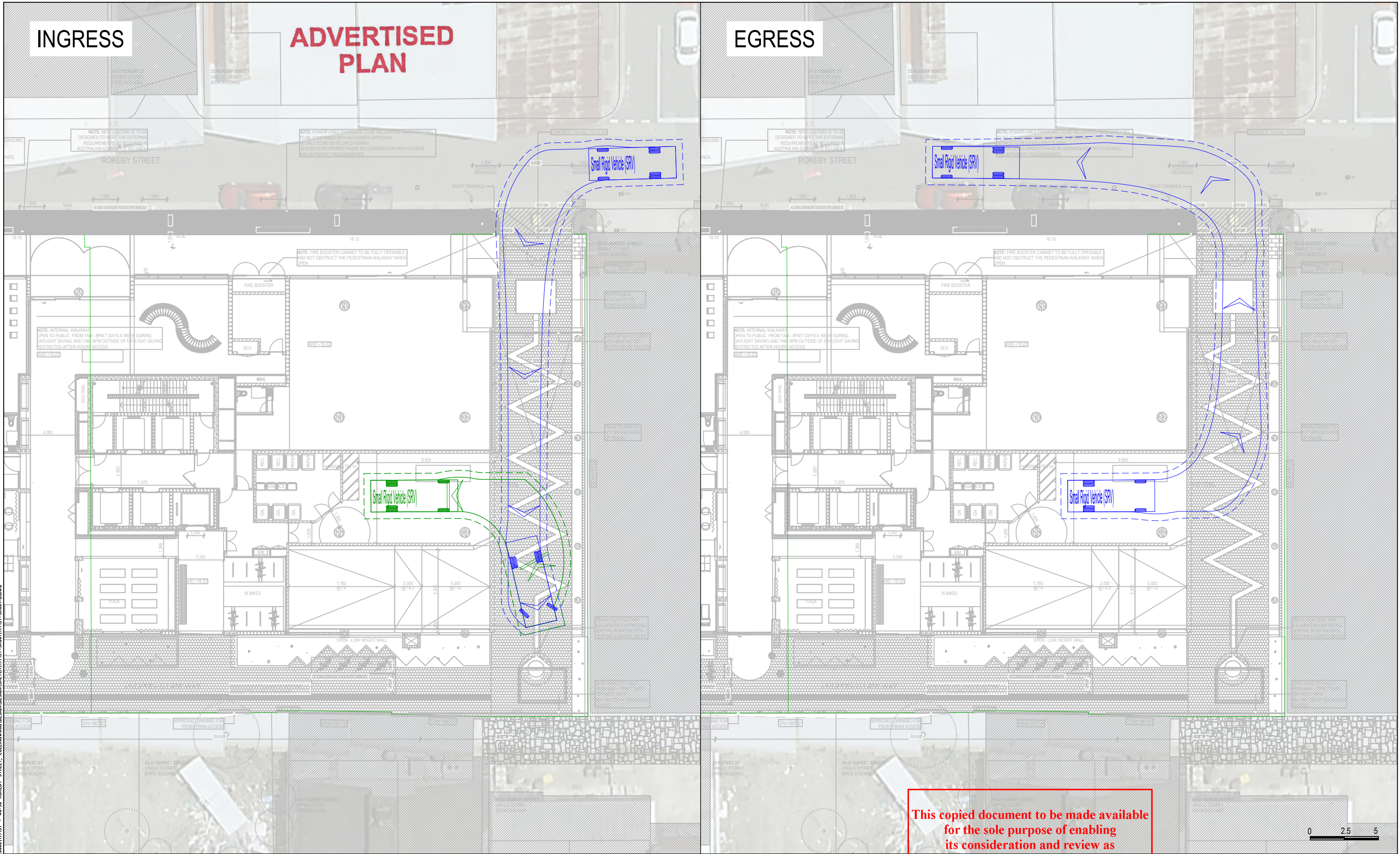
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TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

SRV - Small Rigid Vehicle (AS/NZS2890.2:2002)

VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Ground Floor

NOTE:
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2) Maximum Design Speed 10km/h

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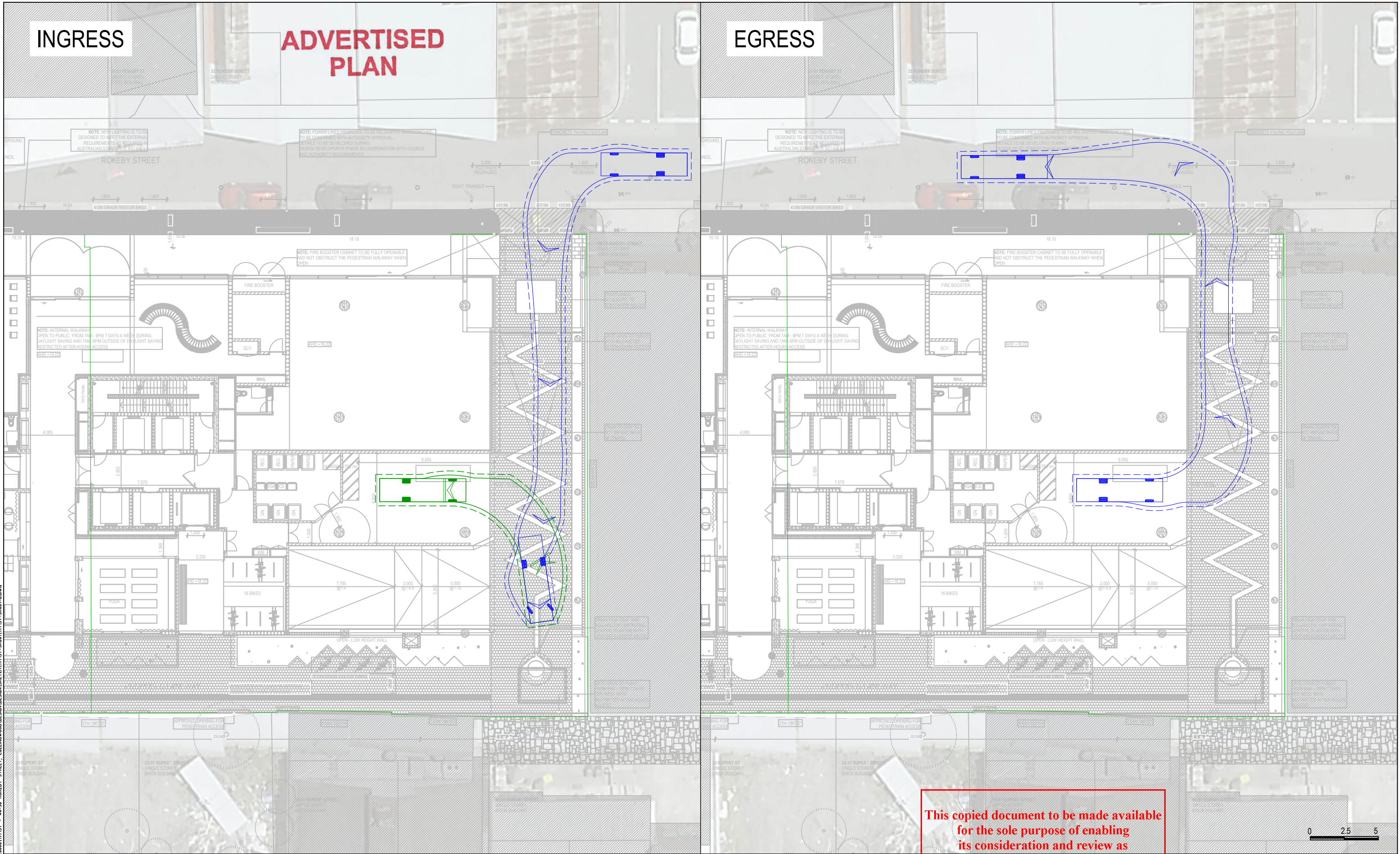
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ABN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

Mini-Rear Loader Waste Collection Vehicle

Overall Length 6.345m
Body Width 1.700m
Overall Body Height 2.080m
Min Body Ground Clearance 0.205m
Track Width 1.670m
Lock to Lock Time 4.00 sec
Curb to Curb Turning Radius 6.450m

VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Proposed Mixed Use Development
32-38 & 40-50 Rokeby Street, Collingwood
Swept Path Assessment - Ground Floor

NOTE:
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2) Maximum Design Speed 10km/h

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Appendix C : Bicycle Specifications

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Arc de Triomphe™



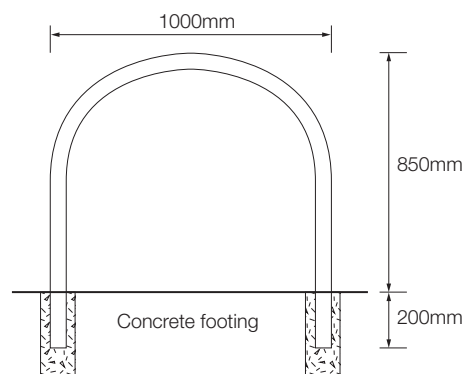
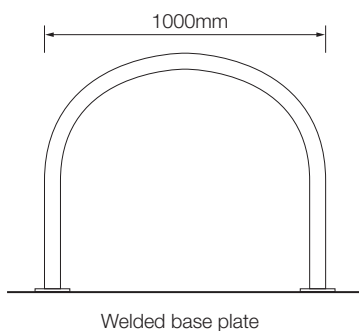
Galvanised finish / Stainless Steel finish

Features



- Each rail supports two adult bikes in an upright position
- Can be either bolted to a concrete slab or concreted in situ
- Available in stainless steel or galvanised steel
- Provides the ability to lock both wheels and frame
- Suitable for foyers and entry areas

Dimensions



Specifications

Material options

- Galvanised (Duragal)
- 316 Marine grade stainless steel

Fixing options

- Welded flange - Bolt on
- In situ

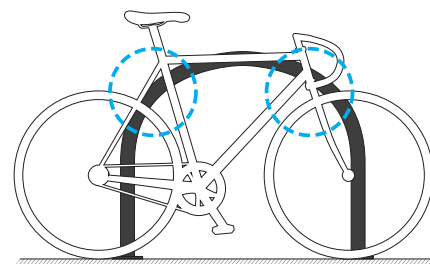
Recommended fasteners

- Galvanised Dynabolts (M10 x 65mm)
- Stainless Dynabolts (M10 x 65mm)
- Shear Nut security fasteners

Dimensions

1000mm [w] x 850mm [h]

Locking Points



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BIKE PARKING

DESIGN. SUPPLY. INSTALL.

Bicycle Network ABN 41 026 835 903

p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au

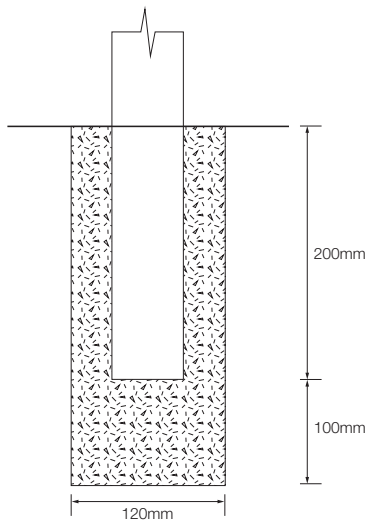
VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010

TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800

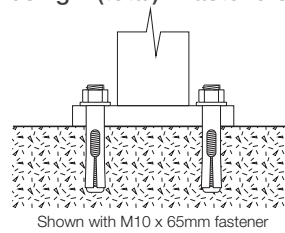
Fixing options

ADVERTISED PLAN

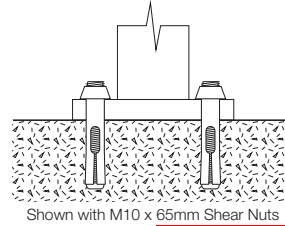
In situ (Concrete footing)



Welded flange (Bolt on)
using 4 (total) x fasteners



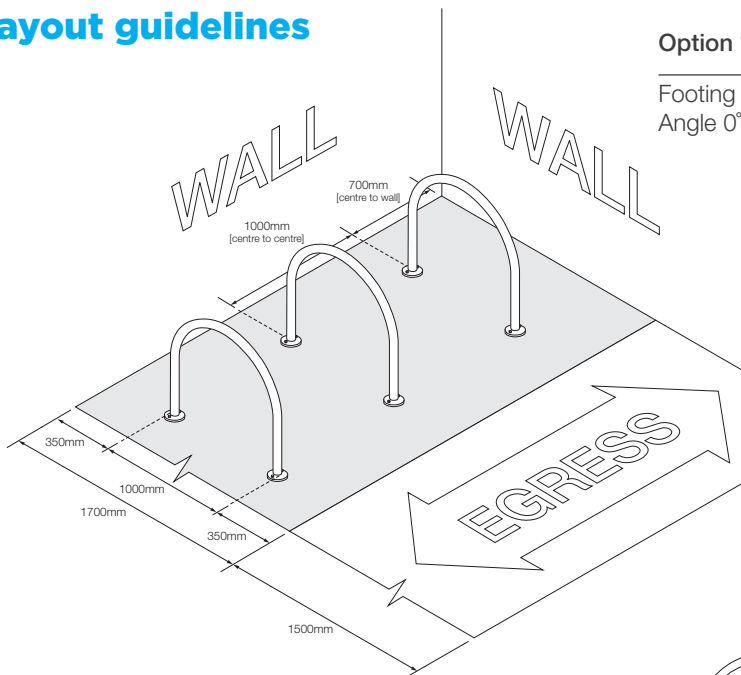
Welded flange (Security heads)
using 4 (total) x fasteners



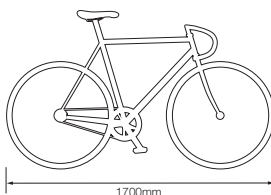
Layout guidelines

Option 1:

Footing Width 1700mm
Angle 0°

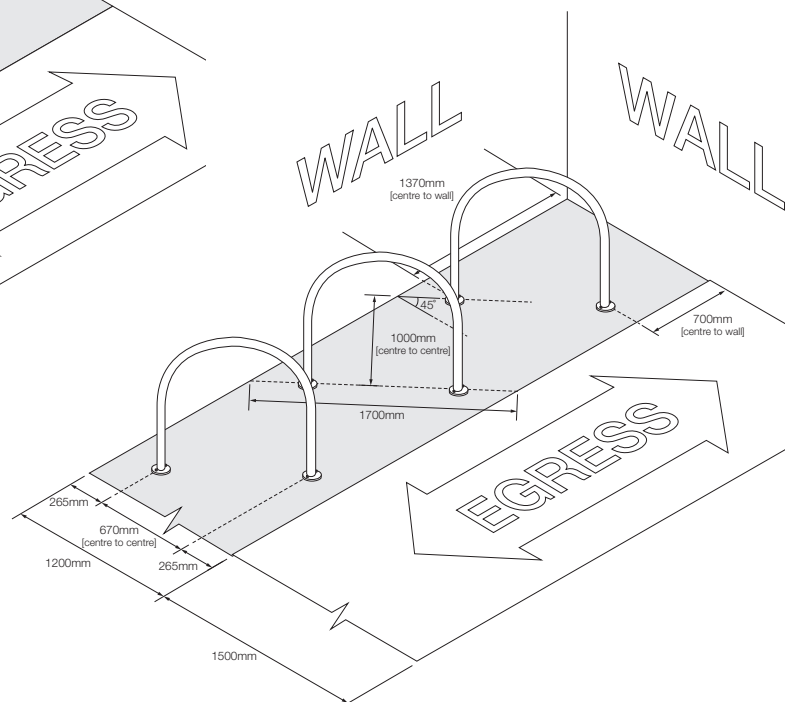


Typical Bicycle Length



Option 2:

Footing Width 1200mm
Angle 45°



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Zinc finish



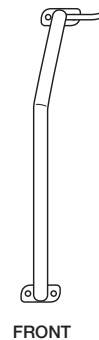
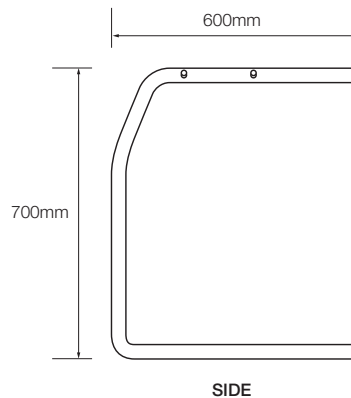
Black powder coat finish

Features



- Each rail provides storage for a single bike
- Suits bikes with full length mud guards
- Available in Zinc finish or Black powder coat over mild steel
- Provides the ability to lock the main frame and one wheel
- Support prongs with protective coating prevent damage to rim
- Can be used with custom framing - no wall needed

Dimensions



Specifications

Material options

- Zinc finish
- Black powder coat over mild steel
- Stainless steel - Pre-order only

Fixing options

- Bolt on to wall
- Fixed to support framing

Recommended fasteners - wall

- Dynabolts (M8 x 40mm)
- Shear Nut security fasteners

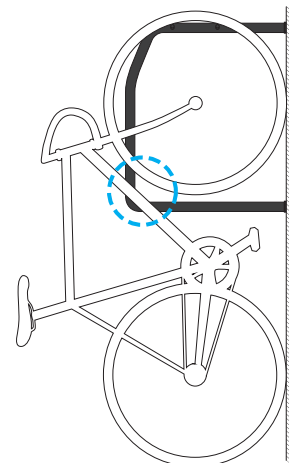
Recommended fasteners - framing

- Bolt and nut (M10 x 60mm)
- Tek screws

Dimensions

125mm [w] x 700mm [h] x 600mm [d]

Locking Points



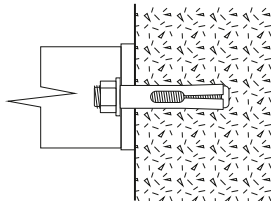
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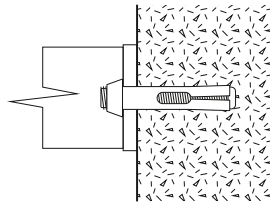
Fixing options

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Fix to a wall using 4x fasteners or Shear Nuts

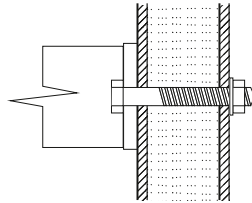


Shown with M8 x 40mm fastener

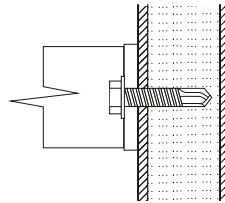


Shown with M8 x 40mm Shear Nuts

Fix to a frame using 4x bolts or Tek Screws



Shown with M10 x 60mm Bolt, Washer & Nut



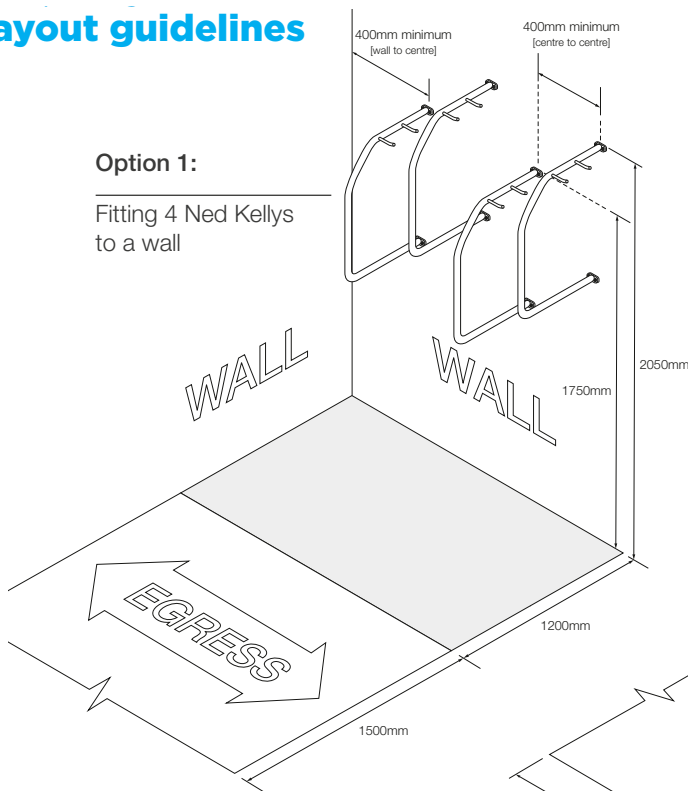
Shown with Tek Screw

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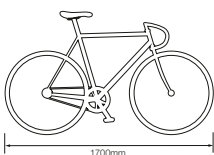
Layout guidelines

Option 1:

Fitting 4 Ned Kellys to a wall



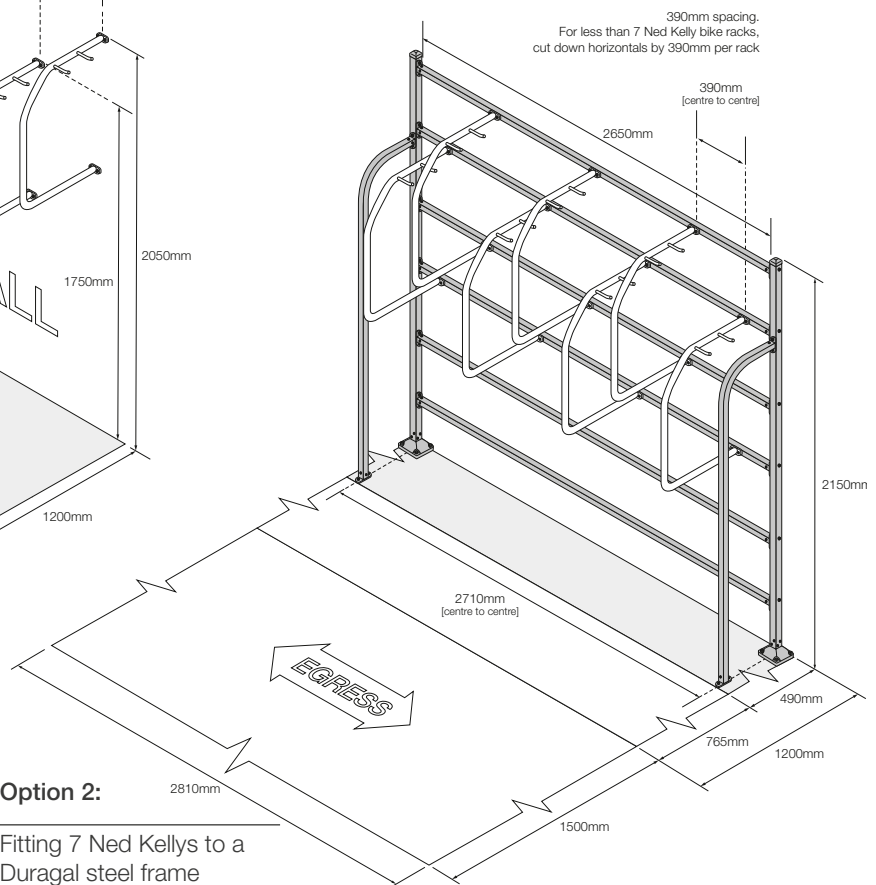
Typical Bicycle Length



1700mm

Option 2:

Fitting 7 Ned Kellys to a Duragal steel frame



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CORA BIKE RACK

PRODUCT SPECIFICATION SHEET



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Capacity

- E3ST-H: 1 bike
- E3ST-L: 1 bike
- E3GP-F: 1 bike
- E3GP-B: 1 bike

Construction

- Heavy duty high quality steel

Fixings

M10 anchor bolts with security nuts

Finishes

- Galvanised with powder coated accents on handles
- Option - Colour Powder Coat (Cora standard colour range)

Assembly

- Supplied partially assembled for assembly and mounting on site

Compliance

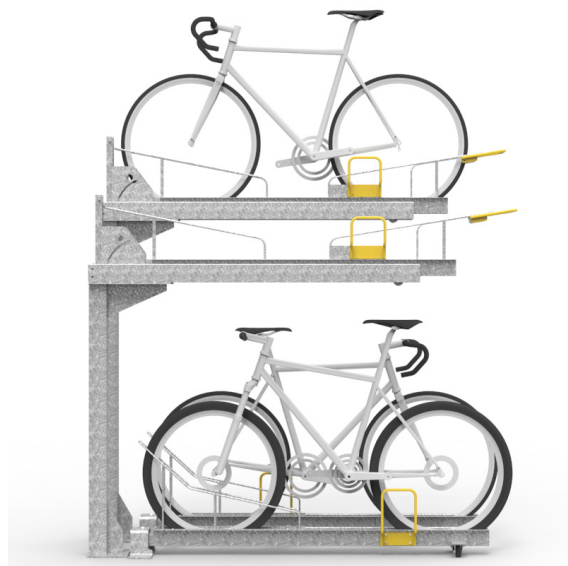
- Rack is AS2890.3 (2015) compliant

E3DT SERIES

E3DT-GP

DYNAMIC UPPER TIER DYNAMIC LOWER TIER

Australia's ONLY fully dynamic 2 tier system to provide reduced AS2890.3 compliant spacing of 400mm on both tiers. A Dynamic upper tier combined with a dynamic lower tier provides the maximum capacity possible. Upper tier includes gas assist lift for ease of use and is available in alternating heights. Lower tier uses the E3GP bike ground pivot rack that allows users to move the rack left or right for ease of access.

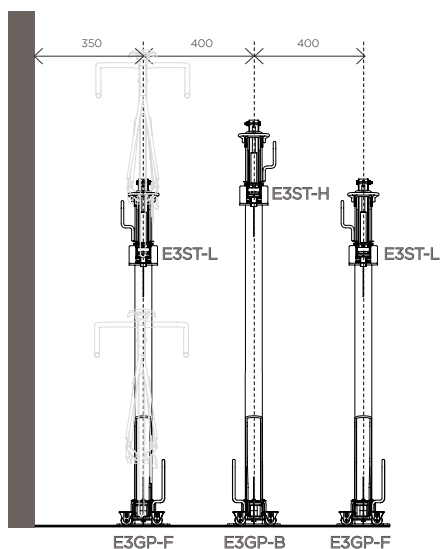


CORA BIKE RACK

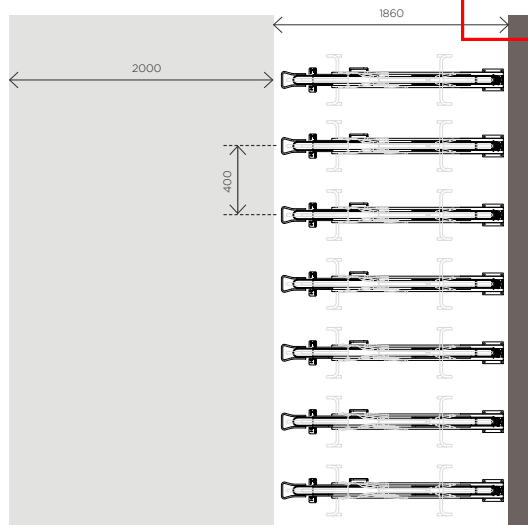
PRODUCT SPECIFICATION SHEET

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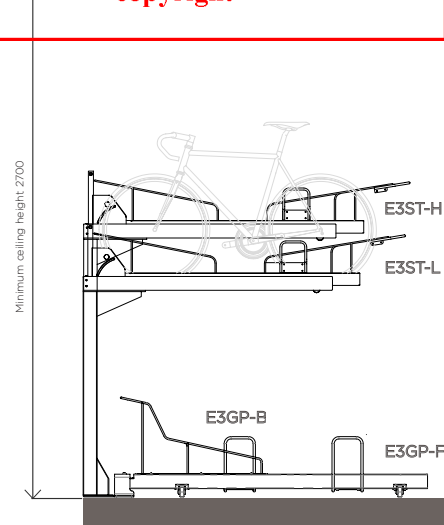
STAGGERED LAYOUT



Front view



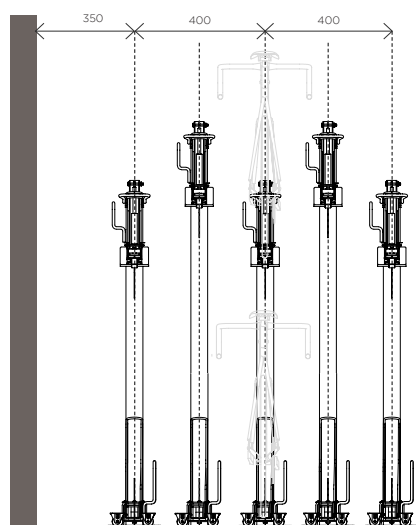
Top view



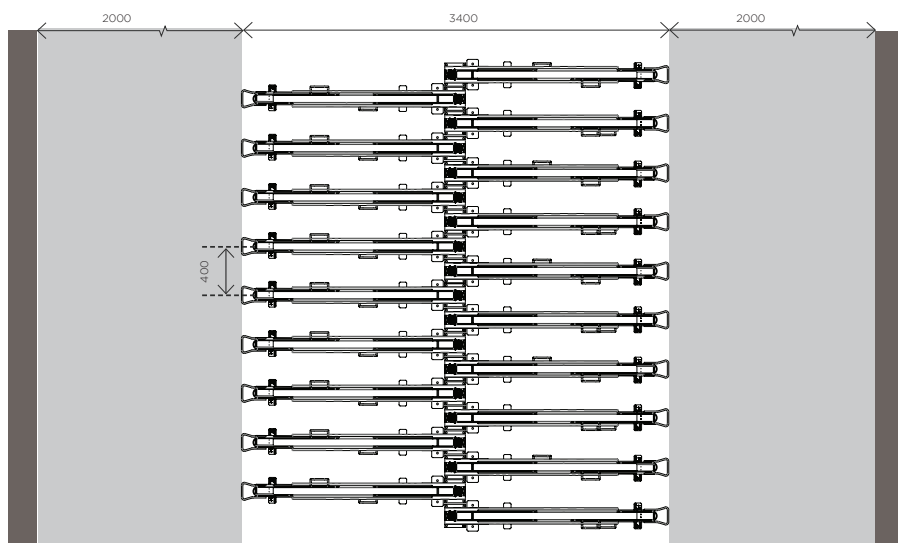
Side view

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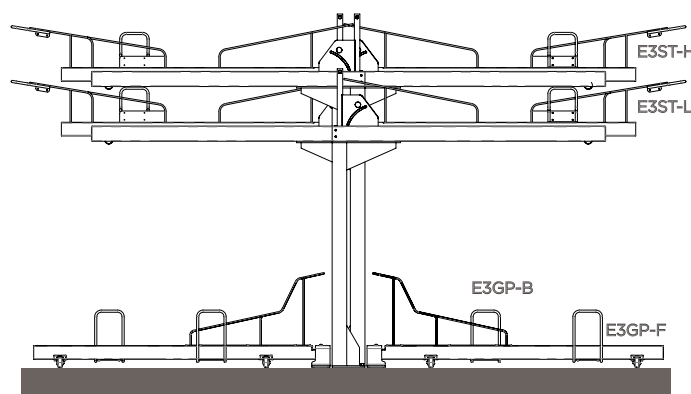
NESTED LAYOUT



Front view



Top view



Side view

E3DT-GP DYNAMIC UPPER AND LOWER TIER LAYOUT GUIDE

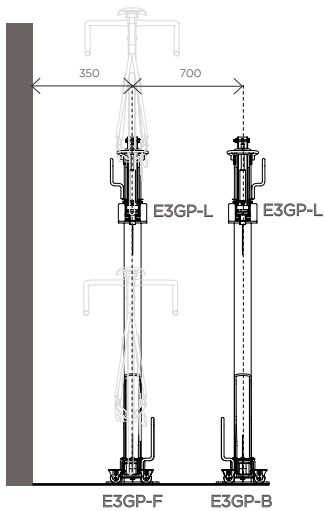
For specific assembly and installation instructions relating to E3DT-GP series racks, please refer to individual instruction information sheets.

Racks should not be installed, based on the information on this sheet alone.

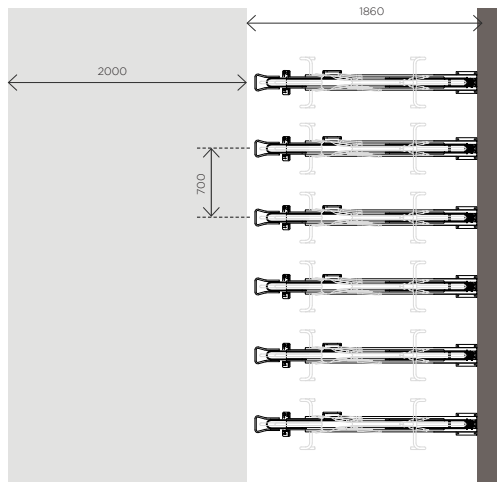
CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

SINGLE LEVEL LAYOUT

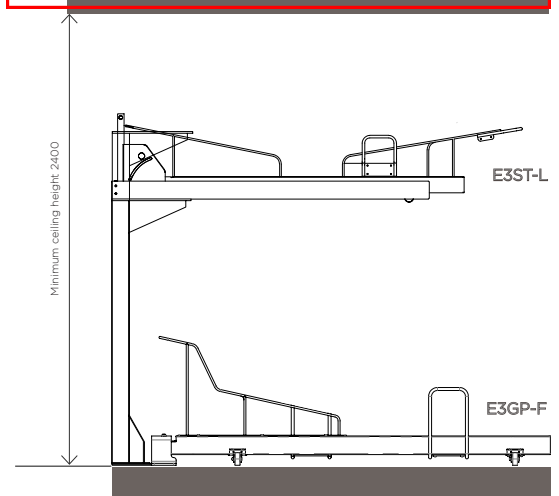


Front view



Top view

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Side view

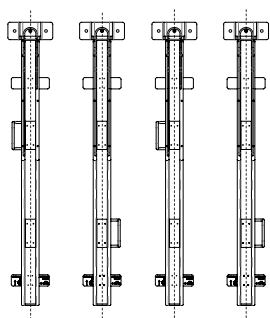
E3DT-GP DYNAMIC UPPER AND LOWER TIER LAYOUT GUIDE

For specific assembly and installation instructions relating to E3DT-GP series racks, please refer to individual instruction information sheets.

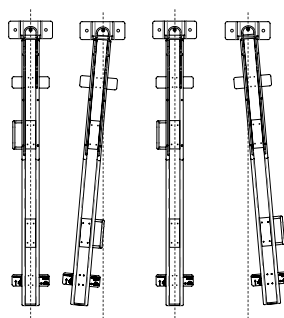
Racks should not be installed, based on the information on this sheet alone.

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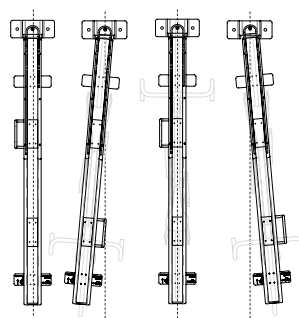
Dynamic side to side movement of lower rack



Racks in neutral position



Racks Pivoted
Racks either side of free rack, can be pivoted, to increase access for racking or removal



Bike placed in rack
Bike is wheeled in to rack, either front or rear wheel-in first depending on rack type



CORA
BIKERACK

PH 1800 249 878

sales@cora.com.au

www.cora.com.au