37°40'30"S
144°52'12"E

Data Centre: Lot 32, 140-204 Western Avenue, Westmeadows

Traffic and Transport Assessment

14 November 2022
Prepared for MAB Corporation

IMP2207045REP01F02

Impact

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Document Information

Client	MAB Corporation
Report Title	Data Centre: Lot 32, 140-204 Western Avenue, Westmeadows
Report Reference	IMP2207045REP01F02
Date of Issue	14 November 2022
Approved By	John-Paul Maina

Document Control

Version	Date	Author
F02	14 November 2022	Jake Townley
F01	19 August 2022	Jake Townley

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1 IMPACT® Snap Shot

Development Proposition

Location	37° 40' 30" S 144° 52' 12" E	Lot 32, 140-204 Western Avenue, Westmeadows
Use	Data Centre (Utility Installation)	
Yield	30,477 sq.m GLA	
Car Parking	55 Spaces	
Access Arrangements	Two (2) crossovers proposed, one to Western Avenue and another to Victoria Street	

Statutory Controls

Particular Provisions

Clause 52.06 - Car Parking

Requirement vs Provision	No Statutory Rates. Parking to be provided to Satisfaction of Responsible Authority. 55 spaces provided.
Adequacy of Provision	Data Centres operate with a relatively low employment and visitor density Studies undertaken by **IMPACT**® on Thursday 4th August 2022 and Friday 5th August 2022 at the NEXT DC Data Centre at 75 Sharps Road, Tullamarine revealed a demand rate of between 0.14 spaces and 0.17 spaces per 100 sq.m Application of this rate to the proposed Data centre equates to a forecast demand for 42- 51 spaces. The proposed provision of 55 spaces equates to a provision rate of 0.18 spaces per 100 sq.m. This provision comfortably exceeds the forecast demands and is considered adequate.
Design Considerations	The proposed car parking and access arrangements have been assessed and determined to have satisfied the relevant design guidelines / principles contained within Clause 52.06 and AS2890.6:2009.

Clause 52.34 - Bicycle Parking

Requirement vs Provision	No requirements. 8 spaces and 3 showers provided.
Adequacy of Provision	The proposed provision will encourage bicycle trips by staff to the site. Bicycle spaces are to be provided in the form of vertical bike spaces located in a secure storage area.
Design Considerations	The proposed bicycle parking spaces have been assessed and determined to have satisfied the relevant design guidelines contained within Clause 52.34

Clause 65.01 - Approval of an Application or Plan

Design Considerations	The proposed loading arrangements have been assessed and determined to satisfy the relevant design guidelines / principles contained with Clause 65.01 and AS 2890.2:2018.

Traffic Considerations

Traffic Impact	The master plan report made allowance for 63 trips to and from Lot 32. The forecast is that the Data Centre will generate a total of 42 trips during the AM and 17 trips during the PM network peak period. This volume intensity is lower than that allowed for in the Masterplan report. Accordingly, the conclusions formed in the Master plan report hold. Specifically, assessment undertaken as part of the master planning of the industrial subdivision shows that the mitigating road improvements works that will be delivered as part of the industrial subdivision will provide sufficient capacity in the road network to maintain within practical limitations, the level of safety and operational efficiency that would have existed without the development. Having regard to these mitigation works; the proposed data centre will have no adverse road network impacts in the locality.

Conclusion

- The proposed development satisfies relevant statutory requirements as they relate to design of car parking and loading areas.
- Where the statutory requirements are not explicitly stated, regarding car parking provision, the development provides parking at a rate that exceeds the findings of a car park demand assessment.
- There are no traffic and transport grounds that should prohibit the issue of a permit.

2 Introduction

2.1 Engagement

IMPACT® have been engaged by MAB Corporation to undertake a Traffic and Transport Impact Assessment for the proposed data centre at land identified as Lot 32, 140-204 Western Avenue, Westmeadows.

2.2 Scope of Engagement

This Traffic and Transport Assessment has been prepared to accompany a town planning submission. In preparing this assessment we have referenced the following:

- City of Hume Planning Scheme;
- Plans for the proposed development, prepared by Watson Young Architects
- Other technical data and documentation as noted within the body of this report.

3 Existing Conditions

3.1 Location

The subject land, Lot 2 - 4 is contained with the broader 140-204 Western Avenue, Westmeadows site. The location of the review site in the context of the larder land parcel is illustrated in Figure 1.

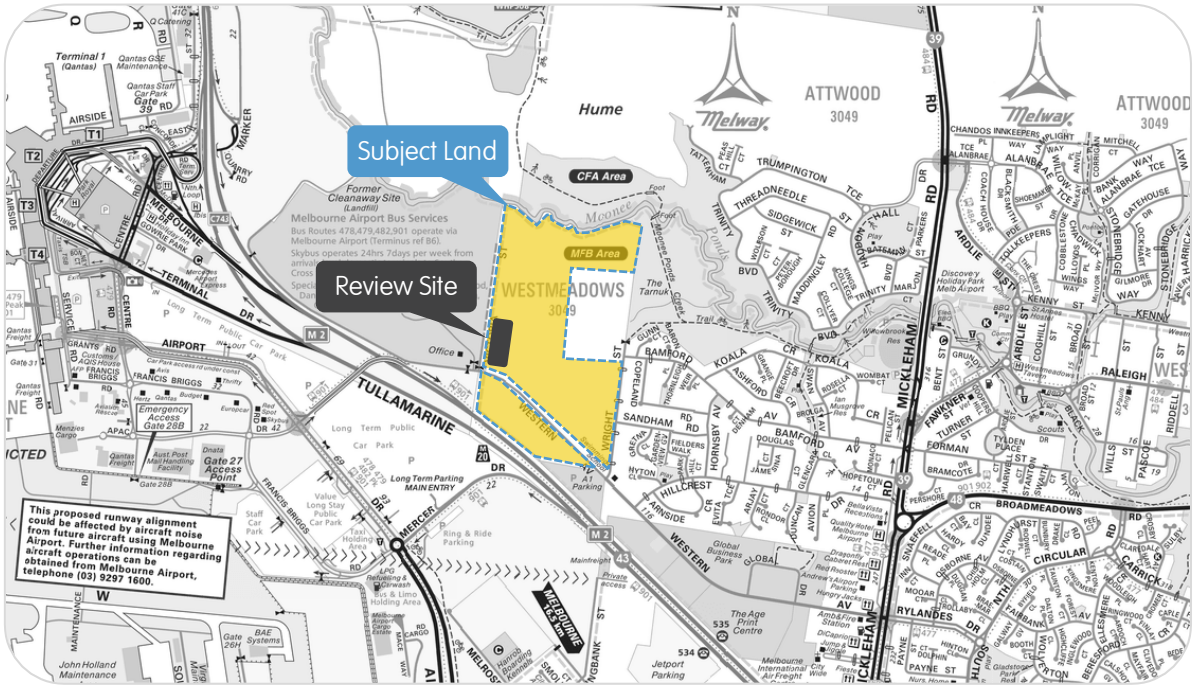


Figure 1 Location of Subject Site

Land uses in the immediate area primarily comprise industrial uses (located either side of Western Avenue to the east of the subject site) and residential uses (north of Western Avenue between the subject site and Mickleham Road).

3.2 Road Network

3.2.1 Western Avenue

Classified as a local connector street, Western Avenue extends in a general westward direction from Mickleham Road for approximately 3 kilometres until it terminates at a private property boundary.

Between Mickleham Road and Wright Street, Western Avenue provides direct access to a number of commercial / industrial uses, as well as alternative access to Mickleham Road for the residential to the north.

To the west of Wright Street, Western Avenue functions akin to a local road, providing access to the subject land and other undeveloped vacant land parcels. Western Avenue (until Wright Street) is generally contained within an approximate 24 metre road reservation and provides for a single lane of traffic in each direction and kerbside parking lanes (clear of traffic).

A footpath is provided along the northern side of Western Avenue but does not extend all the way through to Wright Street. To the west of Wright Street, Western Avenue has a central sealed pavement in the order of 6.5 metres wide, with sealed shoulders that appear to be irregularly maintained.

Its typical cross-section to the east and west of Wright Street is illustrated at Figure 2 and Figure 3.

Figure 2 Western Avenue carriageway, facing east past Wright Street

Figure 3 Western Avenue carriageway, facing west of Wright Street

3.2.2 Victoria Street

Currently unconstructed, Victoria Street is a local access road which is planned to extend north from Western Avenue, along the subject site's western boundary. This ultimate purpose for this road is to provide a local connection for the parcels of land extending along the east and west sides of Victoria Street.

The planned Victoria Street road reservation is approximately 20 metres in width and would allow the street to be developed with similar characteristics as those outlined for Wright Street (see above).

3.3 Public Transport

The subject site has limited direct access to public transport with the most accessible bus stop located at Mickleham Road / Western Avenue intersection, approximately 1,200 metres east of the subject site. Figure 4 shows the subject site in the context of existing public transport routes.

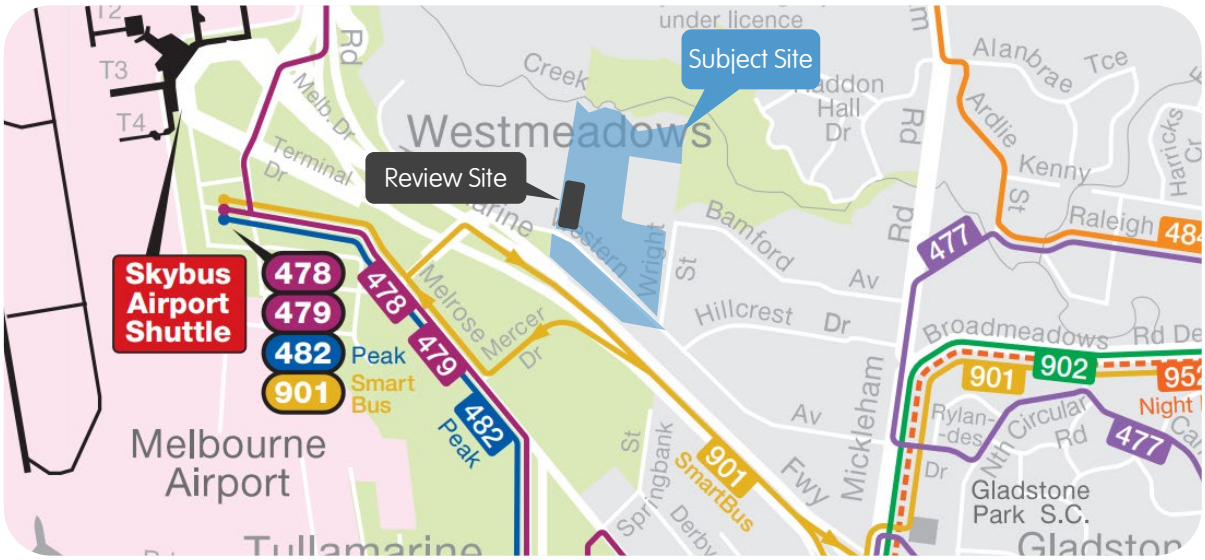


Figure 4 Public Transport Map

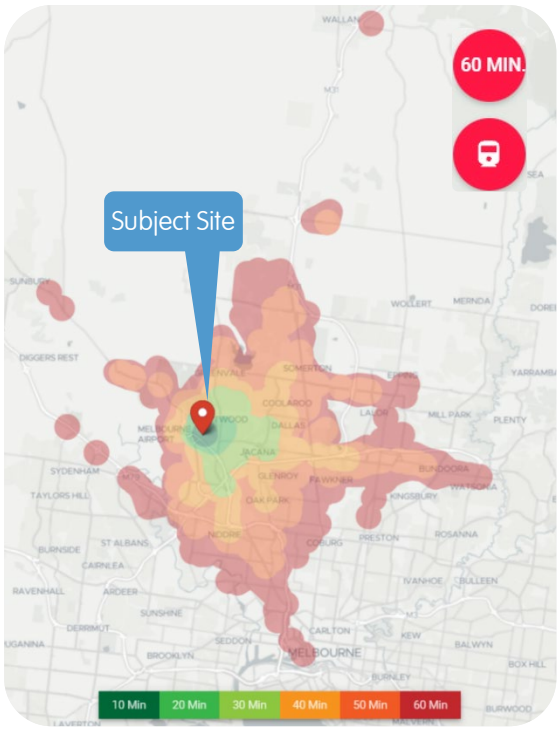
These options are described in Table 1

Table 1 Public Transport Summary

Service	Route	Description
Bus	901	Frankston - Melbourne Airport
	902	Airport West - Chelsea
	959	Broadmeadows Station - City

These services as depicted in the catchment heat map can be leveraged for transport to / from the subject within 60 minutes to the following locations

- North Wallan
- South Melbourne CBD
- West Sunbury
- East Bundoora / Watsonia



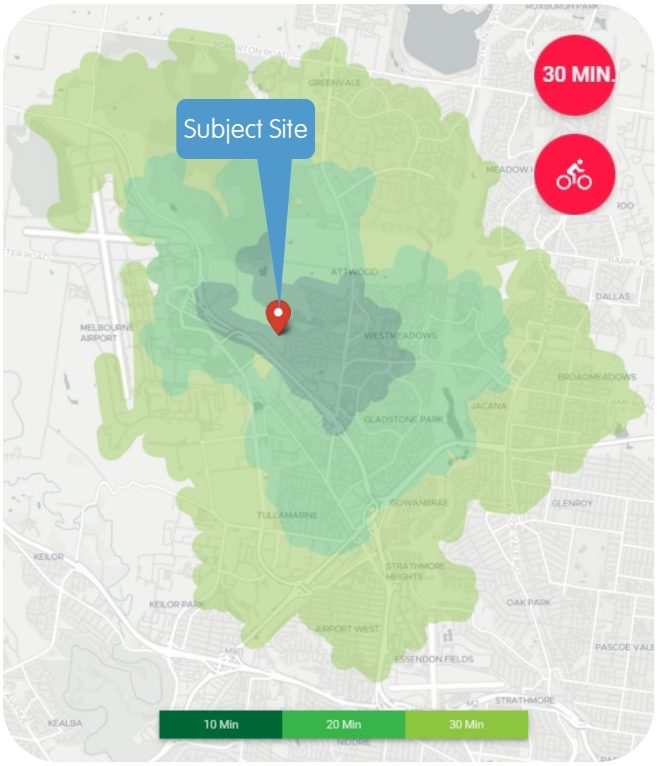
3.3.1 Active Transport

The subject site is well connected to the City of Hume's walking and cycling network. This network comprises on road and off road pathways. The location of the site relative to this active transport network is shown at Figure 5.

Figure 5 City of Hume Active Transport Network

This network as depicted in the catchment heat maps can be leveraged for transport via bicycle to / from the subject within 30 minutes to the following locations

- North Greenvale
- South Airport West
- West Bulla
- East Broadmeadows



4 Development Proposition

4.1 Proposed Development

A Data Centre with ancillary offices is planned on the review site. Details of the development are summarised at Table 2.

Table 2 Development Summary

Use	Size (sq.m)
Data Centre	29,531
Ancillary Office	946
Total	**30,477**

4.2 Parking

4.2.1 Car Parking

A total of 55 car parking spaces are contemplated.

4.2.2 Bicycle Parking

Eight (8) bicycle spaces, and three (3) shower / change room contained within the DDA Amenity is planned.

Bicycle spaces are to be provided in the form of four (4) vertical bicycle racks and two (2) horizontal hoops.

4.3 Access Arrangements

Access to the Data Centre is planned from Western Avenue and Victoria Street, with one crossover planned to each street. The location of the proposed access points shown at Figure 6.

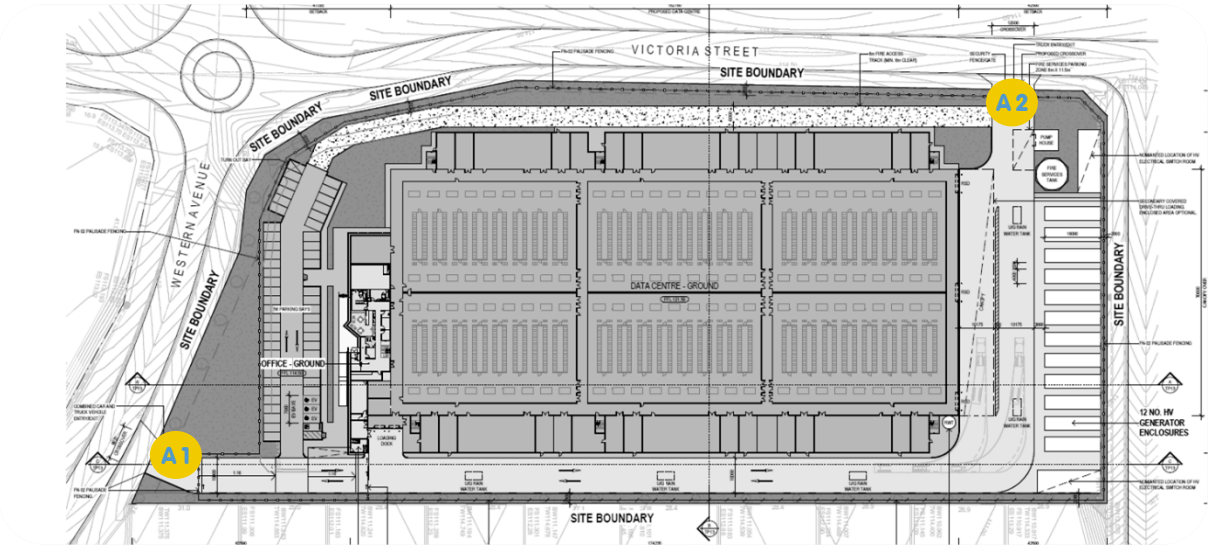


Figure 6 Crossover Locations

These access point will operate as follows:

	Commercial Vehicles		Commuter Vehicles
	Inbound	Outbound	Inbound & Outbound
Data Centre	A1 / A2	A1 / A2	A1

4.4 Loading Arrangements

A dedicated hardstand area providing access to at grade loading docks is planned along the building's northern and eastern perimeter.

Swept paths provided at Appendix A show the movement of commercial vehicles within the hardstand, and into and out of loading docks.

The hardstand area is capable of accommodating 19m semi-trailers, and 6.4m small rigid truck manoeuvres.

5 Statutory Controls

The relevant traffic and transportation Statutory Controls are:

Particular Provisions

- Clause 52.06 - Car Parking
- Clause 52.34 - Bicycle Facilities

General Provisions

- Clause 65.01 - Approval of an Application or Plan

5.1 Clause 52.06 - Car Parking

5.1.1 Purpose

The purpose of Clause 52.06 is:

- To ensure that car parking is provided in accordance with the Municipal Planning Strategy and 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 adversely 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.

5.1.2 Provision and Design Requirements

To satisfy the above purpose, Clause 52.06 of the Hume Planning Scheme specifies requirements relating to the provision and design of car parking as follows.

5.1.3 Car Parking Provision Requirements

Table 1 to Clause 52.06-05 of the Hume Planning Scheme provides rates for various land uses.

A data centre is nested within the broader Utility Installation land use category. There are no rates nominated in Table 1 to Clause 52.06-05 for a Data Centre or Utility Installation.

In this circumstance, Clause 52.06-6 states that:

- Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.

5.1.4 Proposed Provision

The development is planned with **55 spaces** on site.

This provision is both adequate and satisfactory having regard to the findings of the car park demand assessment overleaf.

5.1.5 Car Park Demand Assessment

Data Centres operate with a relatively low employment and visitor density.

This reality is confirmed by studies undertaken by **IMPACT**® on Thursday 4th August 2022 and Friday 5th August 2022 at the NEXT DC Data Centre at 75 Sharps Road, Tullamarine. At the time of the study NEXT DC Data Centre at 75 Sharps Road, Tullamarine was operating with Data Centre technical space of 16,000 sq.m

A peak demand for 27 spaces was recorded on the Thursday and a peak demand for 22 spaces recorded on Friday. This equates to a demand rate of between 0.14 spaces and 0.17 spaces per 100 sq.m.

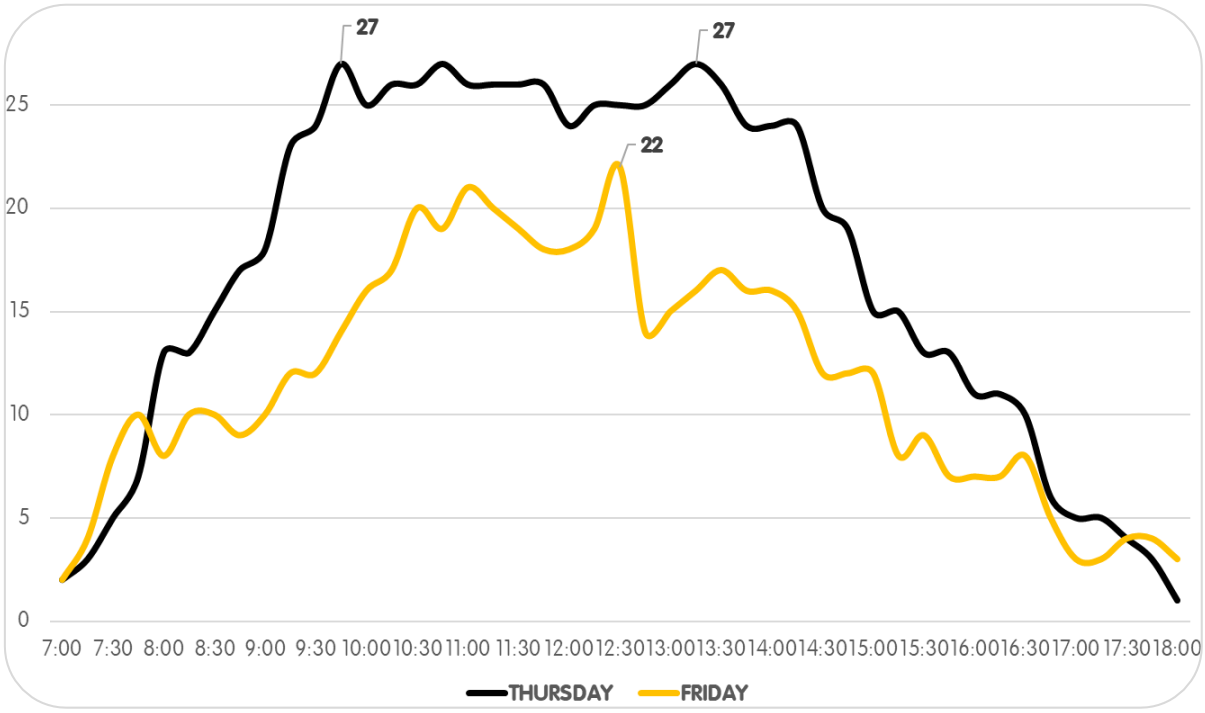


Figure 7 Parking Accumulation Profile - Next DC Data Centre, Tullamarine

5.1.6 Suitability of the Case Study Data

The case study presented in this report has drawn insights from a site in Tullamarine, located some 3.5km south of the subject site.

Notwithstanding the geographic proximity of the study site, we also referenced Australian Bureau of Statistics Journey to Work Data - Statistical Area Level 2 (SA2). The Case Study site is located in the Keilor SA2 region.

This data provides insights on transport modes for workers in the respective statistical area. A comparison of these statistics provides a basis by which a reasonable comparison can be made between various statistical areas.

The Journey to work data reveals that workers travelling to the Keilor SA2 region rely heavily on car as a mode of transport to work, with this mode of transport accounting for 90% of trips.

In comparision, the uptake of car as mode of transport is recorded at 80%.

Summary of persons commuting to the Keilor SA2

Travel Mode	Counts	%
Public Transport	316	1.80
Vehicle	15,765	89.84
Active Transport	80	0.46
Other Mode	66	0.38
Worked at home*	1,133	6.46
Mode not stated	181	1.03
Total	**17,548**	

Summary of persons commuting to the Gladstone Park - Westmeadows SA2

Travel Mode	Counts	%
Public Transport	106	2.93
Vehicle	2,893	79.96
Active Transport	49	1.35
Other Mode	31	0.86
Worked at home*	502	13.88
Mode not stated	31	0.86
Total	**3,618**	

The case study site is therefore considered representative to inform decision making on likely demand.

5.1.7 Forecast Demand Assessment

The case study has revealed that the data centre has the potential to generate parking demand at a rate of between 0.14 spaces and 0.17 spaces per 100 sq.m.

The proposed data centre is expected to generate a demand for between 42 - 51 spaces. A total of 55 spaces are planned.

A comparison of the proposed parking provision against the forecast demand is shown below.

	Area (sq.m)	Parking	Rate / 100 sq.m	Case Study Rate / 100 sq.m
Data Centre	30,477	55 Spaces	0.18	0.14 - 0.17

The proposed provision of 55 exceeds the forecast demand and is therefore both adequate and satisfactory.

5.1.8 Conclusion - Car Parking Provision

We can conclude that an adequate number of spaces are provided to cater for the projected demand.

Accordingly, the development proposition satisfies the purpose of Clause 52.06, specifically:

- 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.

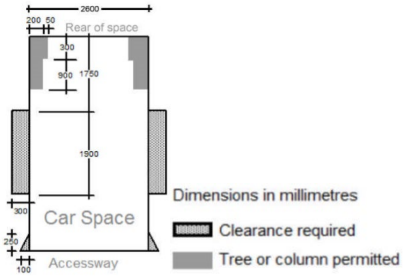
5.1.9 Design Standard for Car Parking - Clause 52.06 - 9

We have assessed the proposed car parking design and access arrangements against the requirements of Clause 52.06-9 of the Hume Planning Scheme. Our findings are as follows:

5.1.9.1 Design Standard 1 - Accessways

Requirements		Design Response	Status
Accessways Must:			
1	Be at least 3 metres wide.	Accessways exceed 3 metres in width.	**Comply**
2	Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide	At changes of direction, intersections are at least 4.2m wide.	**Comply**
3	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.	Vehicles can exit the site in a forward direction with one manoeuvre.	**Comply**
4	Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres.	2.1m headroom is provided below overhead obstructions.	**Comply**
5	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.	Accessways do not connect to a road in a Transport Zone	**N/A**
6	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.	Two-way accessways are proposed where required.	**Comply**
7	Have a corner splay or area at least 50 percent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres 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.	An area of at least 50% clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage will be kept clear of landscaping higher than 900mm in height.	**Comply**
8	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.	Accessways do not connect to a road in a Transport Zone	**N/A**
9	If entry to the car spaces is from a road, the width of the road accessway may include the road.	N/A	**N/A**

5.1.9.2 Design Standard 2 - Car Parking Spaces

<table>
<tr><th></th><th>Requirements</th><th>Design Response</th><th>Status</th></tr>
<tr><td>1</td><td>Car parking spaces and accessways must have the minimum dimensions in Table 2 of Clause 52.06-9.
<table>
<tr><th>Angle of car parking spaces to access way</th><th>Accessway width</th><th>Car space width</th><th>Car space length</th></tr>
<tr><td>Parallel</td><td>3.6 m</td><td>2.3 m</td><td>6.7 m</td></tr>
<tr><td>45°</td><td>3.5 m</td><td>2.6 m</td><td>4.9 m</td></tr>
<tr><td>60°</td><td>4.9 m</td><td>2.6 m</td><td>4.9 m</td></tr>
<tr><td>90°</td><td>6.4 m</td><td>2.6 m</td><td>4.9 m</td></tr>
<tr><td></td><td>5.8 m</td><td>2.8 m</td><td>4.9 m</td></tr>
<tr><td></td><td>5.2 m</td><td>3.0 m</td><td>4.9 m</td></tr>
<tr><td></td><td>4.8 m</td><td>3.2 m</td><td>4.9 m</td></tr>
</table></td><td>Parking spaces are designed in accordance with the requirements of Table 2.</td><td>Comply</td></tr>
<tr><td>2</td><td>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 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 of the design standard
A structure, which may project into the space if it is at least 2.1 metres above the space.
 
</td><td>Adequate clearance is provided to obstructions.</td><td>Comply</td></tr>
<tr><td>3</td><td>Car spaces in garages or carports must be at least 6 metres long and 3.5 metres wide for a single space and 5.5 metres wide for a double space measured inside the garage or carport.</td><td>No garages or carports are proposed.</td><td>N/A</td></tr>
<tr><td>4</td><td>Where parking spaces are provided in tandem (one space behind another) an additional 500mm in length must be provided between each space.</td><td>No tandem spaces proposed.</td><td>N/A</td></tr>
<tr><td>5</td><td>Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover.</td><td>No dwellings proposed.</td><td>N/A</td></tr>
<tr><td>6</td><td>Disabled car parking spaces must be designed in accordance with AS 2890.6-2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 by 500mm.</td><td>Disabled car parking has been designed in accordance with AS2890.6-2009 and located proximate to pedestrian entry points.</td><td>Comply</td></tr>
</table>

5.1.9.3 Design Standard 3 - Gradients

<table>
<tr><th colspan="2">Requirements</th><th>Design Response</th><th>Status</th></tr>
<tr><td>1</td><td>Accessway grades must not be steeper than 1:10 (10 per cent) within 5 metres 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.</td><td>Grades at accessways do not exceed 1:10.</td><td>Comply</td></tr>
<tr><td>2</td><td>Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 and be designed for vehicles travelling in a forward direction.
<table>
<tr><th>Type of car park</th><th>Length of ramp</th><th>Maximum grade</th></tr>
<tr><td>Public car parks</td><td>20 metres or less</td><td>1:5 (20%)</td></tr>
<tr><td></td><td>longer than 20 metres</td><td>1:6 (16.7%)</td></tr>
<tr><td>Private or residential car parks</td><td>20 metres or less</td><td>1:4 (25%)</td></tr>
<tr><td></td><td>longer than 20 metres</td><td>1:5 (20%)</td></tr>
</table></td><td>Minimal grading is proposed throughout the site.</td><td>Comply</td></tr>
<tr><td>3</td><td>Where the difference in grade between two sections of ramp or floor is greater that 1:8 (12.5 per cent) for a summit grade change, or greater than 1:6.7 (15 per cent) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming</td><td>Minimal grading is proposed throughout the site.</td><td>Comply</td></tr>
<tr><td>4</td><td>Plans must include an assessment of grade changes of greater than 1:5.6 (18 per cent) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.</td><td>No grade changes in excess of 1:5.6 (18 per cent) or less than 3 metres apart.</td><td>N/A</td></tr>
</table>

5.1.9.4 Design Standards 4-7

Design standards 4-7 do not apply to the development.

5.1.10 Conclusion - Car Park Design

The proposed car park and accessways have been assessed and determined to have satisfied the relevant design guidelines. Accordingly, the proposal satisfies the purpose of Clause 52.06, specifically:

- 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.

5.2 Clause 52.34 - Bicycle Facilities

5.2.1 Purpose

The purpose of Clause 52.34 is to encourage cycling as a mode of transport, and provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

5.2.2 Provision Requirements - Clause 52.34.3

To satisfy the above purpose, Clause 52.34-3 of the Hume Planning Scheme specifies the bicycle parking provision requirements for a variety of different uses within Table 1.

There is no rate listed for a data centre use.

On the basis of the above, bicycle parking is to be provided to the satisfaction of the responsible authority.

5.2.3 Proposed Provision

The development plans include provision of 8 bicycle spaces, and 3 showers.

This provision of bicycle parking spaces will contribute to encouraging active transport modes of travel to / from the subject site.

5.2.4 Design Requirements

Bicycle spaces should:

- Provide a space for a bicycle of minimum dimensions of 1.7 metres in length, 1.2 metres in height and 0.7 metres in width at the handlebars.
- Be located to allow a bicycle to be ridden to within 30 metres of the bicycle parking space.
- Be located to provide convenient access from surrounding bicycle routes and main building entrances.
- Not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure.
- Not cause a hazard.
- Be adequately lit during periods of use.

5.2.5 Decision Guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- Whether the proposed number, location and design of bicycle facilities meets the purpose of this clause.
- The location of the proposed land use and the distance a cyclist would need to travel to reach the land.
- The users of the land and their opportunities for bicycle travel.
- Whether showers and change rooms provided on the land for users other than cyclists are available to cyclists.
- The opportunities for sharing of bicycle facilities by multiple uses, either because of variation of bicycle parking demand over time or because of efficiencies gained from the consolidation of shared bicycle facilities.
- Australian Standard AS 2890.3 2015 Parking facilities Part 3: Bicycle parking facilities.
- Any relevant bicycle parking strategy or equivalent.

5.2.6 Design Response

Bicycle spaces are to be provided in the form of a mix of horizontal and vertical bicycle racks, designed to satisfy the relevant requirements.

Specification sheets for the nominated bike racks are provided as Appendix B.

5.2.7 Conclusion - Bicycle Parking

We can conclude that bicycle parking provided as part of this development satisfies the purpose of Clause 52.34, specifically:

- To encourage cycling as a mode of transport, and provide secure, accessible and convenient bicycle parking spaces.

5.3 Clause 65.01 - Approval of An Application or Plan

5.3.1 Loading Requirements and Objectives

To address the adequacy of loading for new developments, the Hume Planning Scheme specifies the following:

- Clause 65.01 - The responsible authority must consider, as appropriate, the adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

5.3.2 Adequacy of Proposed Loading Facilities

In response to the above, the data centre is designed with sufficient hardstand area capable of accommodating 19m semi-trailers.

Swept paths prepared (and attached as Appendix A) illustrate the above vehicle movements.

5.3.3 Conclusion - Loading Arrangements

The proposed loading arrangements have been assessed and determined to have satisfied the relevant design guidelines / principles contained within Clause 65.01 and AS2890.2:2018.

Accordingly, it is considered that the proposal:

- Provides adequate vehicle loading and unloading facilities, which will not result in associated amenity, traffic flow and road safety impacts.

6 Traffic Considerations

6.1 Traffic Generation

To inform traffic generation estimates, reference is made to studies undertaken by **IMPACT**® on Thursday 4th August 2022 and Friday 5th August 2022 at the NEXT DC Data Centre at 75 Sharps Road, Tullamarine.

At the time of the study NEXT DC Data Centre at 75 Sharps Road, Tullamarine was operating with a Data Centre technical space of 16,000 sq.m

The study revealed the traffic generation profile shown at Figure 8.

AM peak hour traffic was recorded at 22 trips, whilst PM peak hour traffic was recorded at 14 trips. This equates to a traffic generation rate of:

AM Peak	0.14 trips per 100 sq.m of technical space
PM Peak	0.09 trips per 100 sq.m of technical space

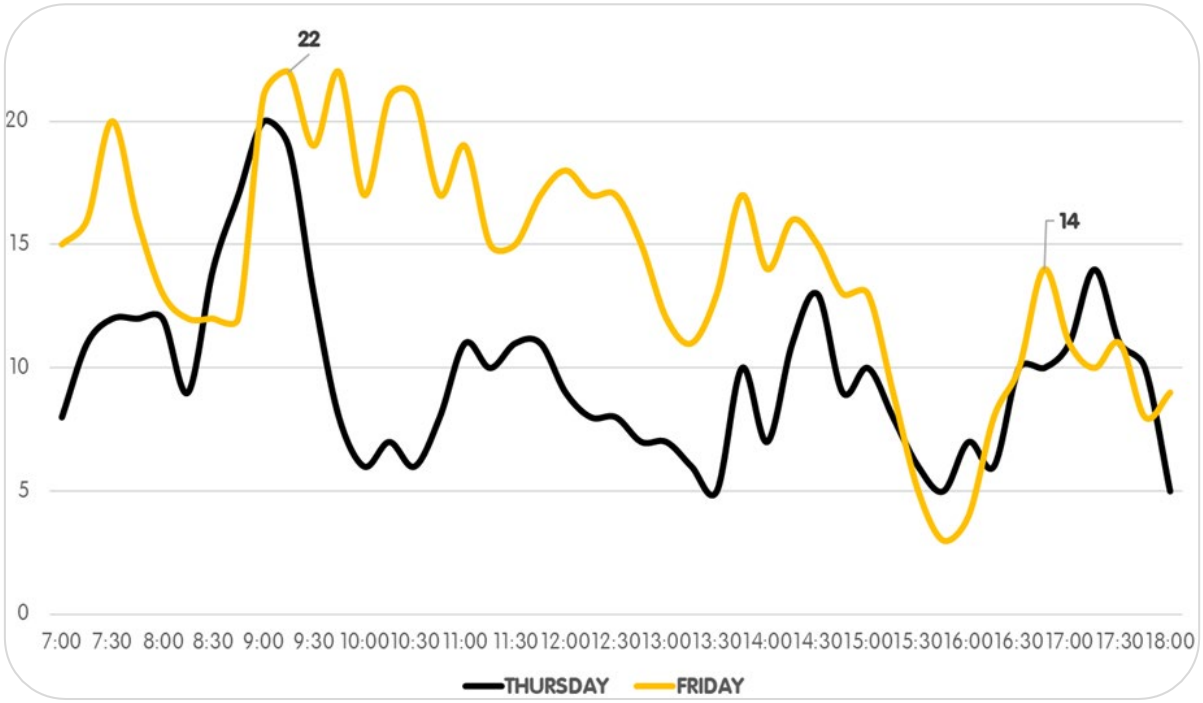


Figure 8 Traffic Generation Profile - Next DC Data Centre, Tullamarine

Based on these rates, the proposed Data Centre is expected to generate a total of 42 trips during the AM and 27 trips during the PM network peak period.

6.2 Traffic Impacts

The masterplan report prepared in support of the Industrial Subdivision of the land at 140 - 204 Western Avenue adopted a traffic generation rate of approximately 21 trips per Ha.

Lot 32 is a 3 Ha site, and based on 21 trips per Ha, the master plan report made allowance for 63 trips to and from Lot 32.

The forecast is that the Data Centre will generate a total of 42 trips during the AM and 27 trips during the PM network peak period. This volume intensity is lower than that allowed for in the Masterplan report.

Accordingly, the conclusions formed in the Master plan report hold.

Specifically, assessment undertaken as part of the master planning of the industrial subdivision shows that the mitigating road improvements works that will be delivered as part of the industrial subdivision will provide sufficient capacity in the road network to maintain within practical limitations, the level of safety and operational efficiency that would have existed without the development.

6.3 Conclusion - Traffic Impacts

The proposed Data Centre development will have no adverse road network impacts in the locality.

APPENDIX A
Swept Path Analysis

Design Vehicles:

- 6.4 metre Small Rigid Vehicle
- 19 metre Semi Trailer

VICTORIA STREET

WESTERN AVENUE

VEHICLE TURN AROUND BAY

PROPOSED CROSSOVER TO BE DESIGNED AS SHOWN
TO FACILITATE 19m SEMI-TRAILER ACCCESS

12.0

RSD

RSD

RSD

10.2

10.2

SUBJECT SITE
LOT 32, 140-204 WESTERN AVENUE, WESTMEADOWS

4.9

6.4

4.9

2.6

5.4

2.4

7.6

10.0

10.0

PROPOSED CROSSOVER TO BE DESIGNED AS SHOWN
TO FACILITATE 19m SEMI-TRAILER ACCCESS

GENERAL NOTES:
1. ALL DIMENSIONS ARE TO FACE OF KERB AND CHANNEL UNLESS NOTED OTHERWISE.
2. LOCAL ROADS - WESTERN AVENUE (SPEED ZONE 50 KM/H).
   VICTORIA STREET (SPEED ZONE 50 KM/H).
3. BASE INFORMATION FROM NEARMAP AERIAL PHOTOGRAPHY DATED 23.05.2022 AND WATSON YOUNG 22203_TP03_SITE & GROUND FLOOR PLAN_DWG (B).dwg DATED 11.11.2022

12/11/2022 2:54:27 PM

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MELWAY ONLINE REF: MAP 5 F7

SCALE
1:750 @ A3

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Status
PRELIMINARY

Project
DATA CENTRE DEVELOPMENT
LOT 32 140-204 WESTERN AVENUE, WESTMEADOWS
CITY OF HUME

Date
2022-11-11

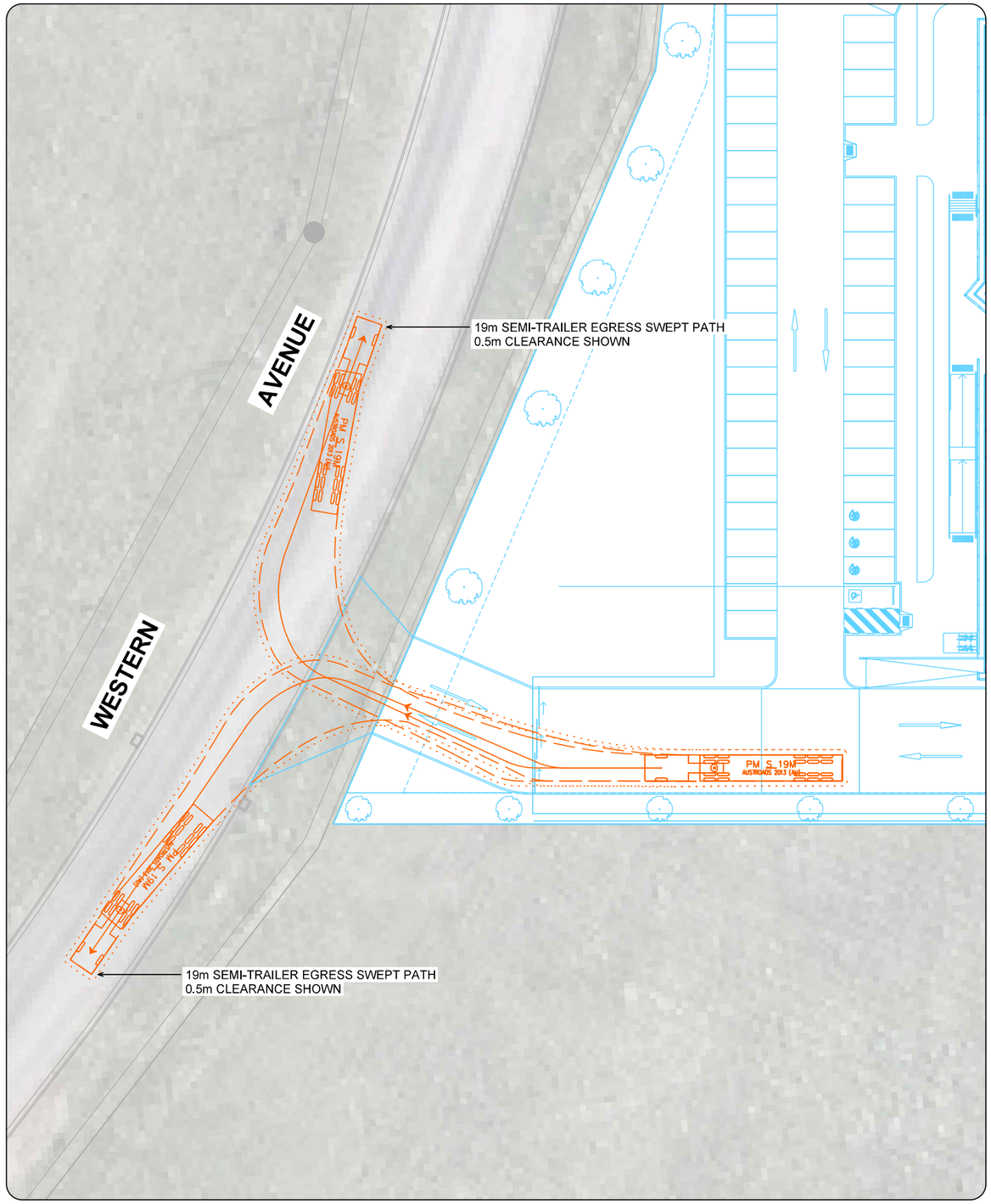
Drawn / Approved
WK / JT

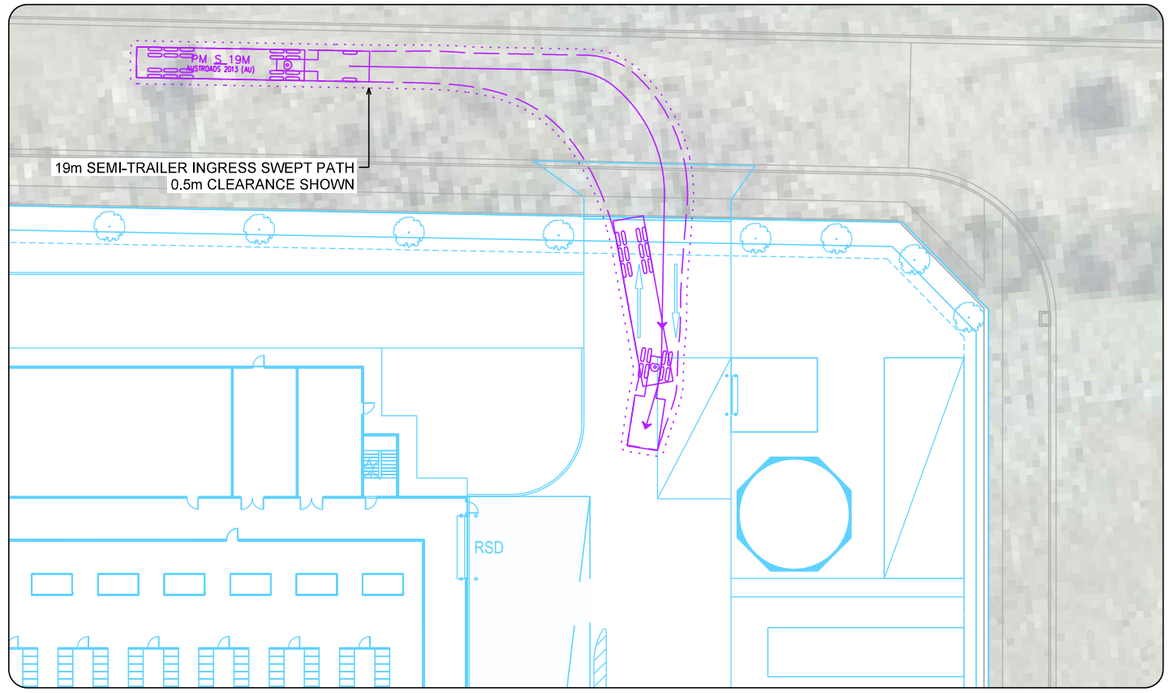
Revision Description
ISSUED FOR INFORMATION

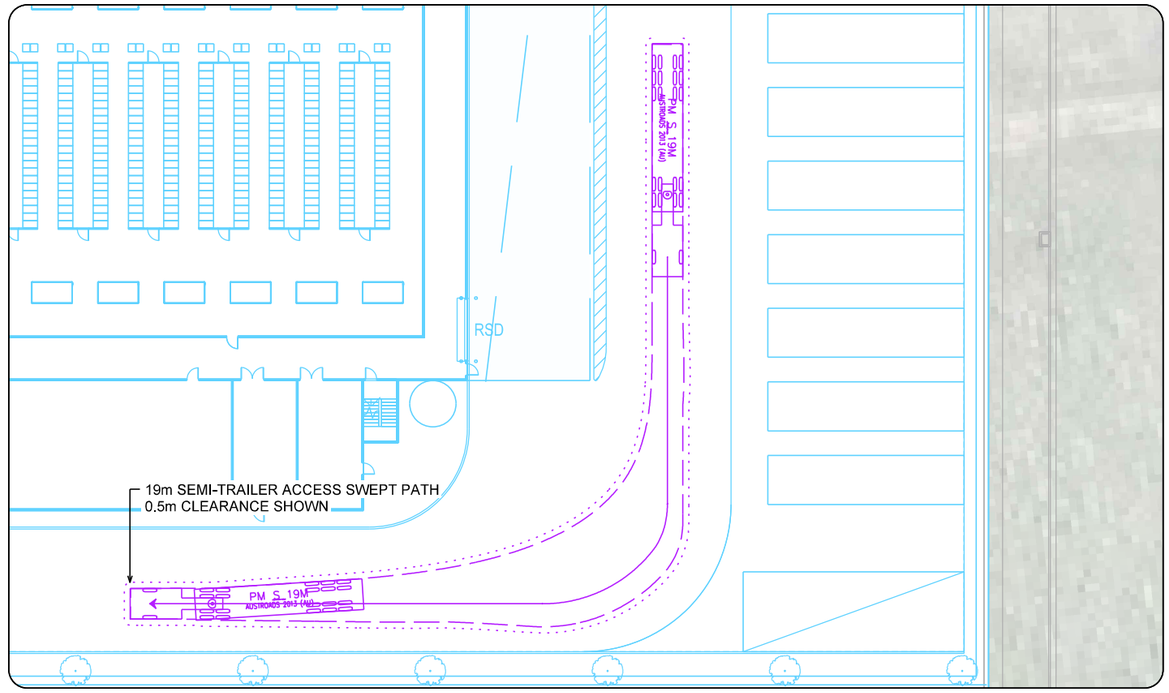
Title
TRAFFIC & TRANSPORT ASSESSMENT
SITE LAYOUT

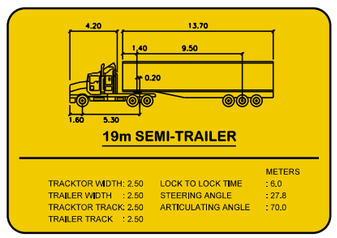
Drawing Number
IMP2207045 - DRG-01-01

Revision
D









		METERS
TRACKTOR WIDTH: 2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH : 2.50	STEERING ANGLE	: 27.8
TRACKTOR TRACK: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK : 2.50		

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LOT 32 140-204 WESTERN AVENUE, WESTMEADOWS
CITY OF HUME

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Revision Description
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Title
TRAFFIC & TRANSPORT ASSESSMENT
SWEPT PATH ANALYSIS
19m SEMI-TRAILER DESIGN VEHICLE

Drawing Number
IMP2207045 - DRG-01-02

Revision
D

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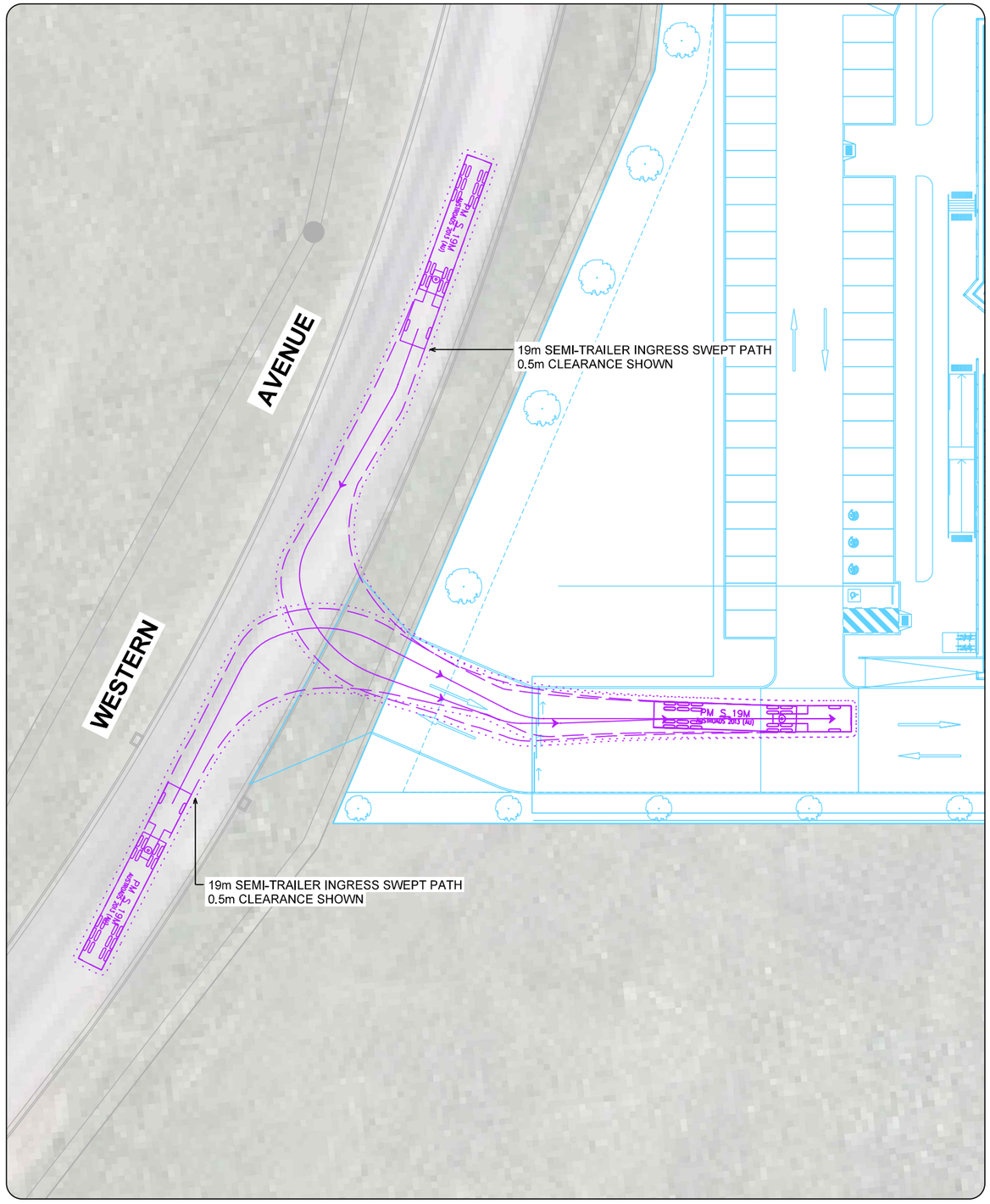

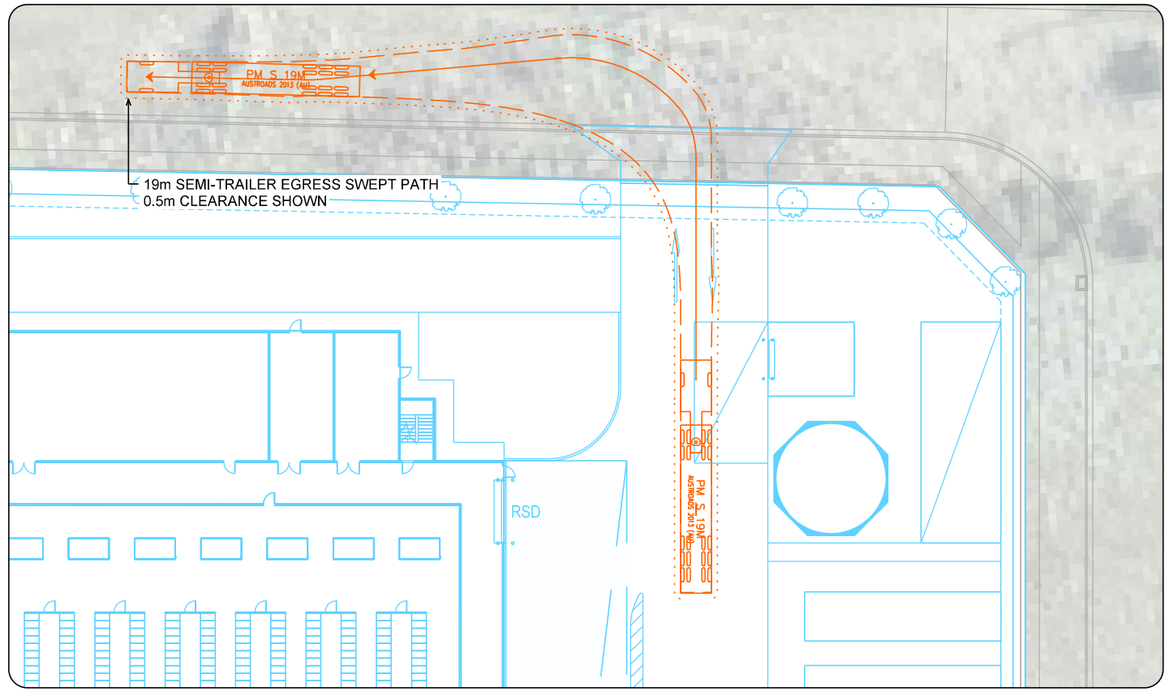

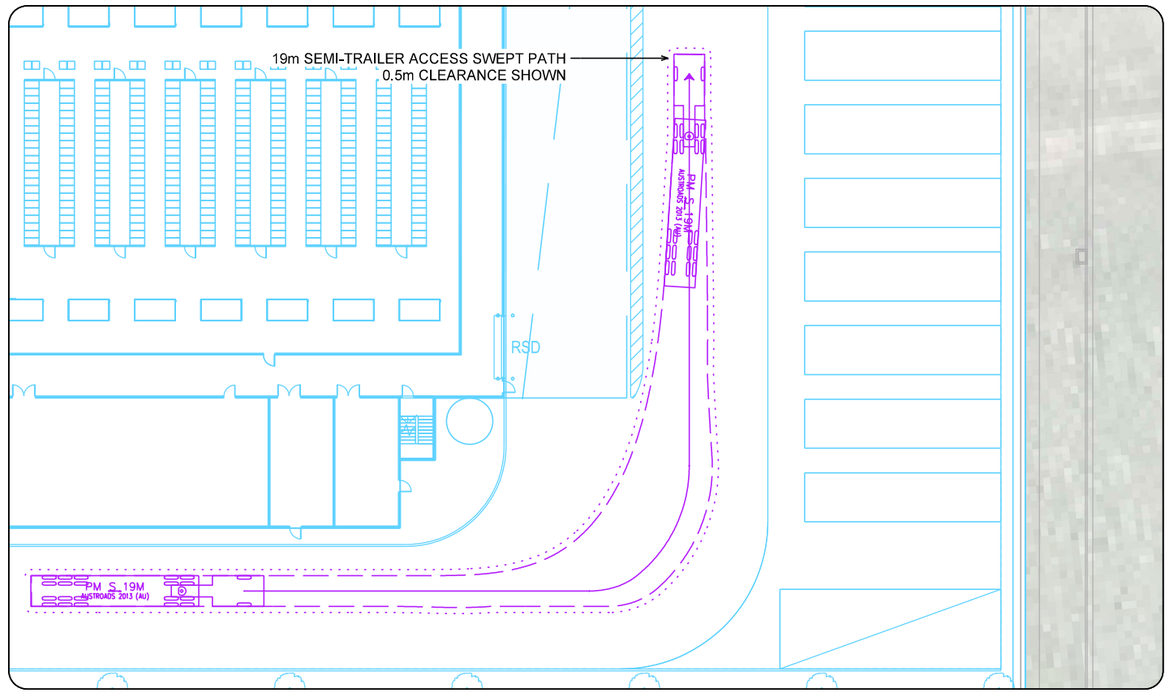

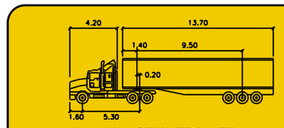

19m SEMI-TRAILER

			METERS
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TRAILER WIDTH	: 2.50	STEERING ANGLE	: 27.8
TRACKTOR TRACK:	2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

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CITY OF HUME

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Revision Description
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Title
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SWEPT PATH ANALYSIS
19m SEMI-TRAILER DESIGN VEHICLE

Drawing Number
IMP2207045 - DRG-01-03

Revision
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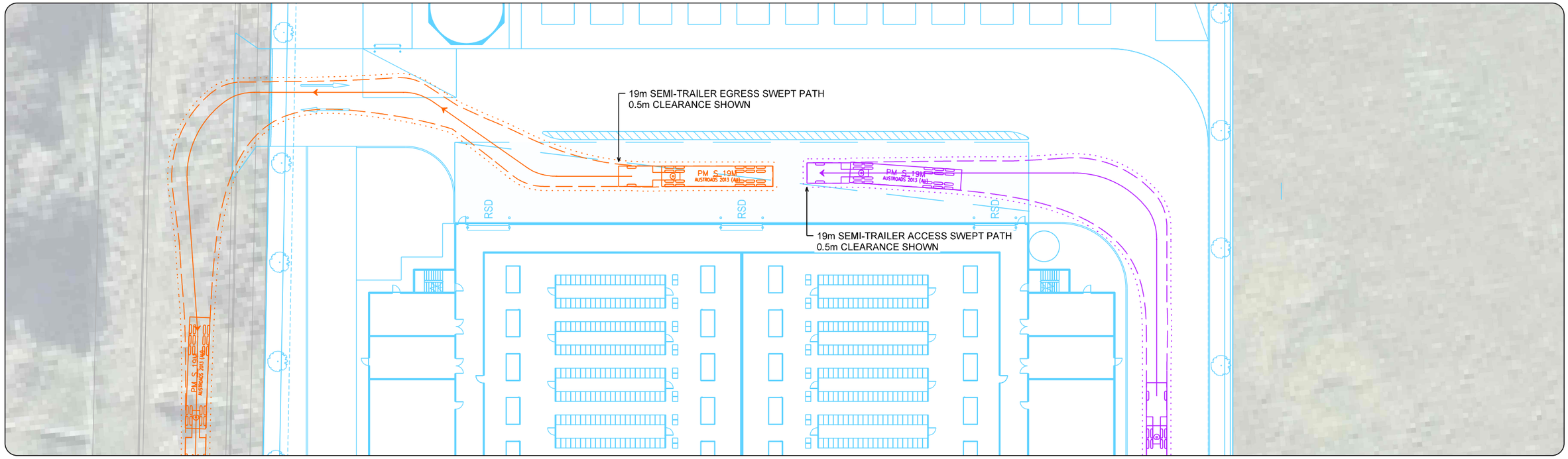

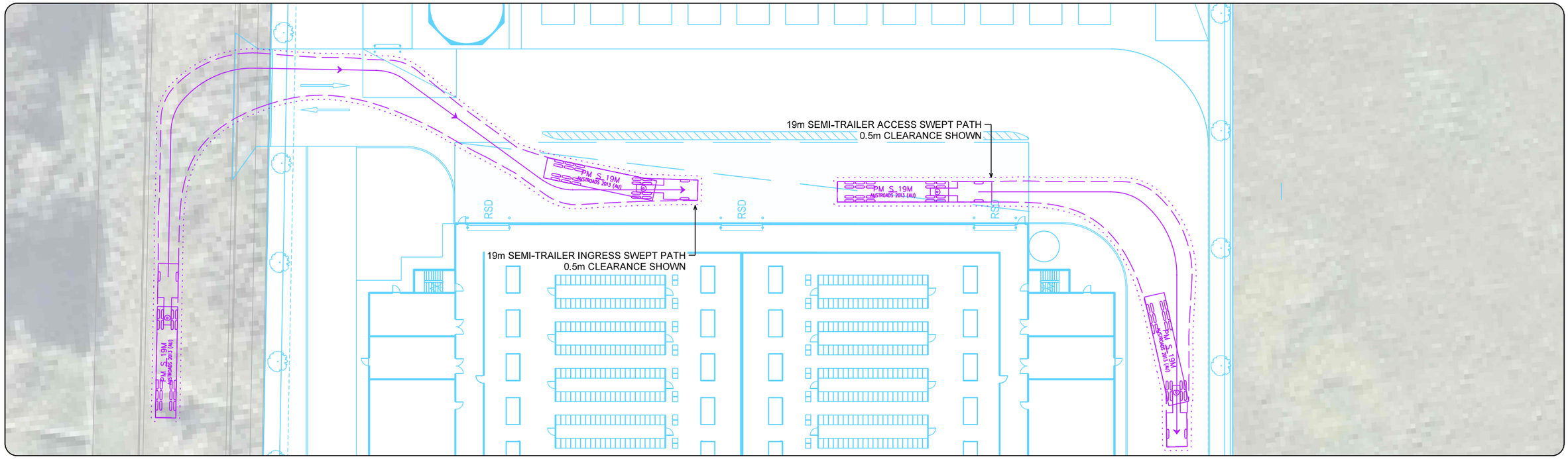

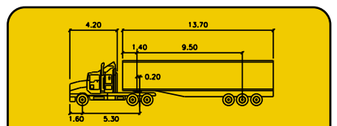

19m SEMI-TRAILER

		METERS
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TRAILER WIDTH : 2.50	STEERING ANGLE	: 27.8
TRACKTOR TRACK: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK : 2.50		

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DATA CENTRE DEVELOPMENT
LOT 32 140-204 WESTERN AVENUE, WESTMEADOWS
CITY OF HUME

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Revision Description
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Title
TRAFFIC & TRANSPORT ASSESSMENT
SWEPT PATH ANALYSIS
19m SEMI-TRAILER DESIGN VEHICLE

Drawing Number
IMP2207045 - DRG-01-04

Revision
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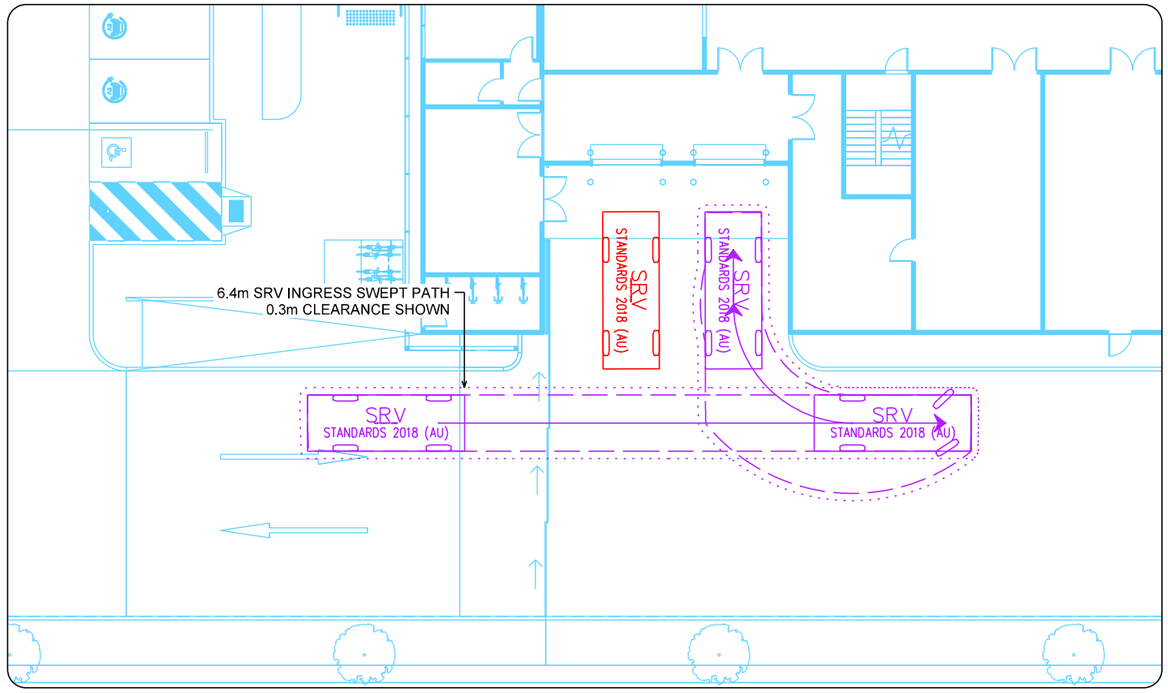

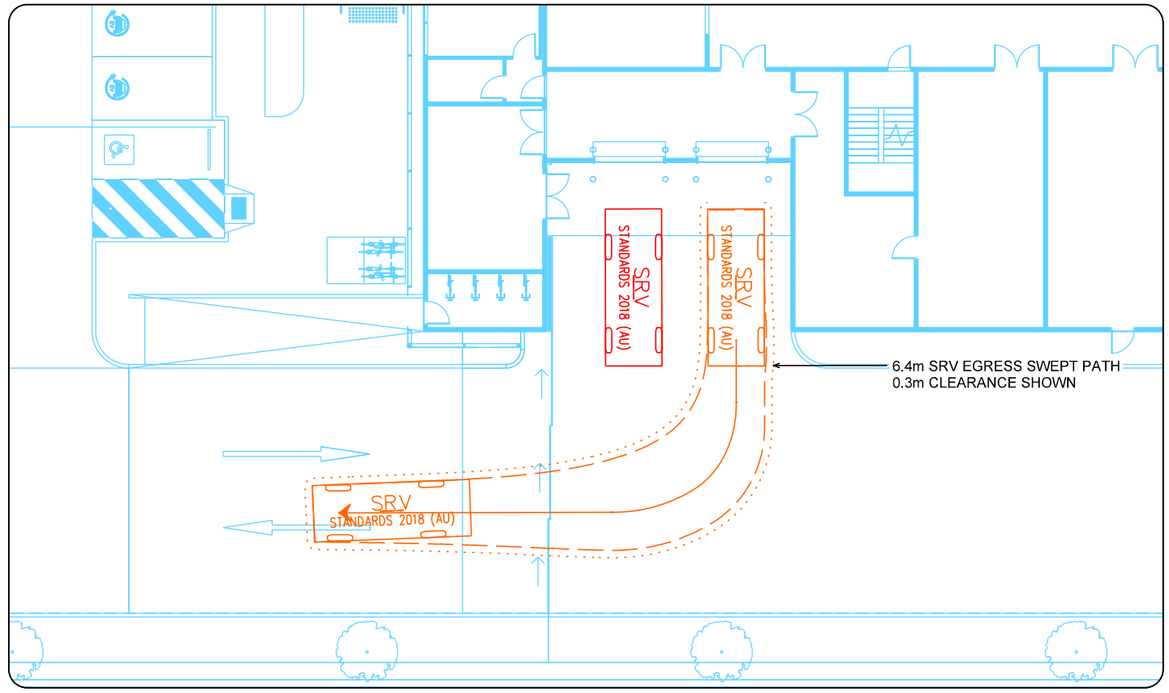

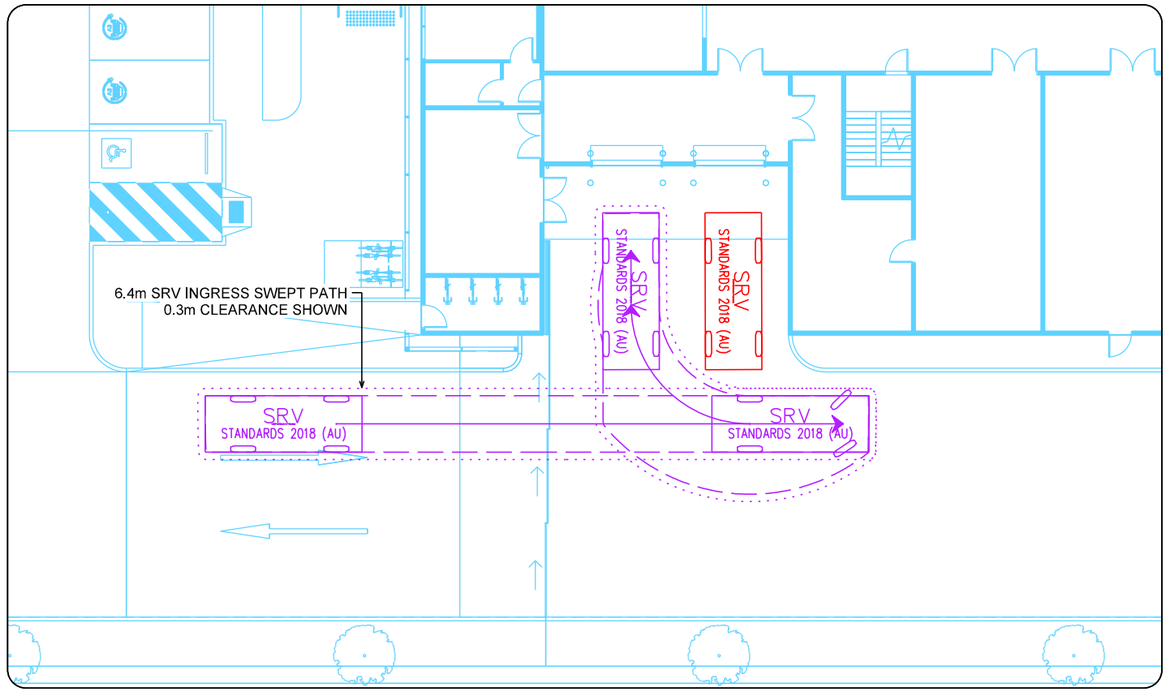

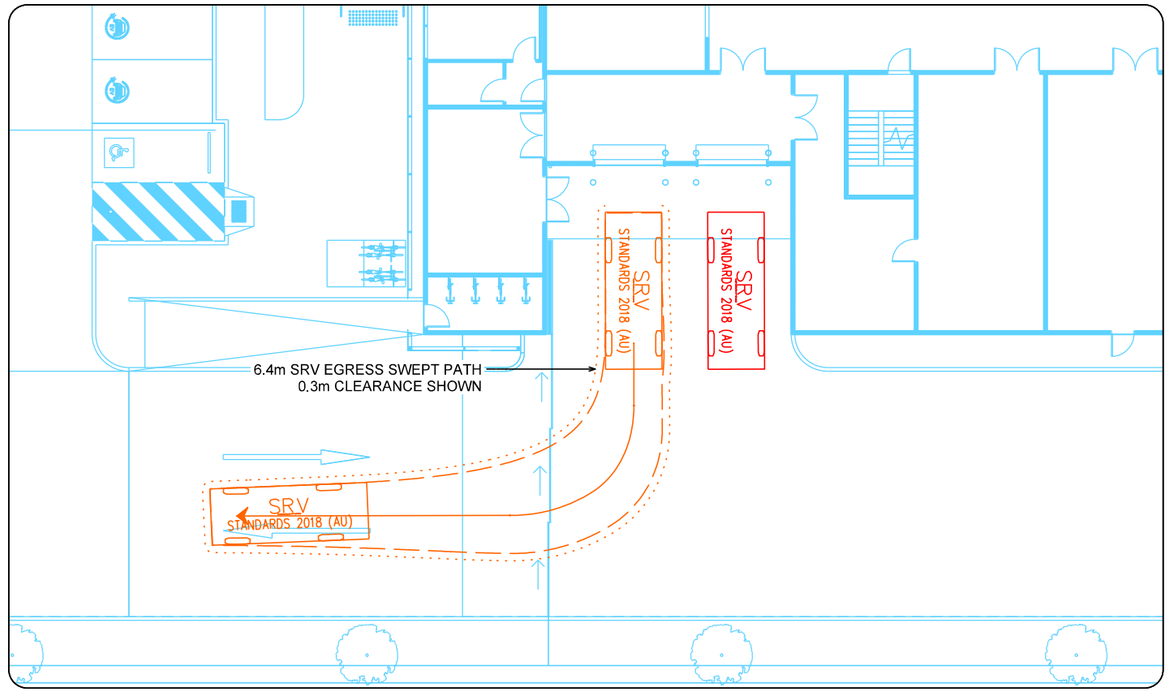

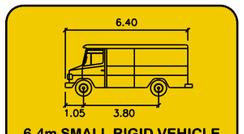

6.4m SMALL RIGID VEHICLE

	METERS
WIDTH	: 2.20
TRACK	: 2.50
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 38.0

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SCALE
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LOT 32 140-204 WESTERN AVENUE, WESTMEADOWS
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Revision Description
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Title
TRAFFIC & TRANSPORT ASSESSMENT
SWEPT PATH ANALYSIS
6.4m SRV DESIGN VEHICLE

Drawing Number
IMP2207045 - DRG-01-05

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APPENDIX B
Bike Parking Specification Sheets

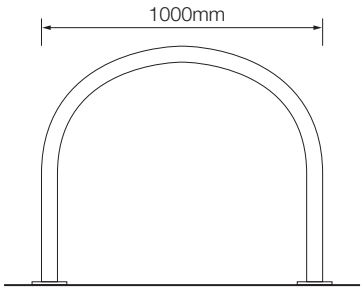
Arc de Triomphe™

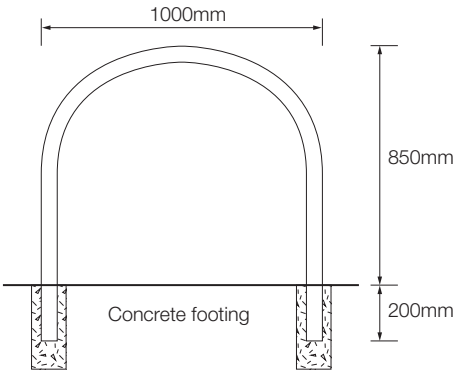
Galvanised finish / Stainless Steel finish

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

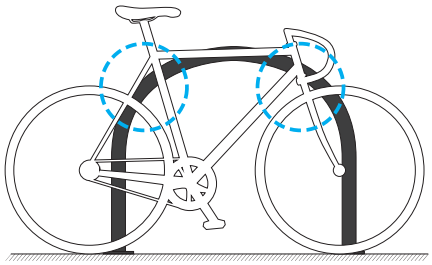
Recommended fasteners

- 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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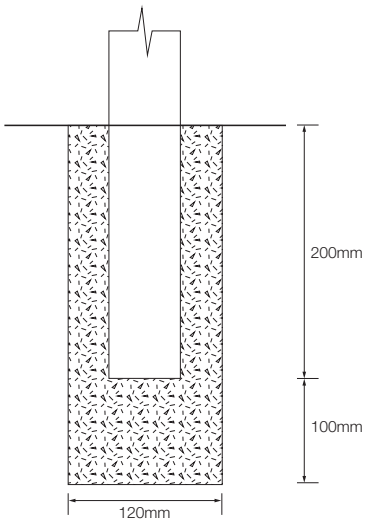
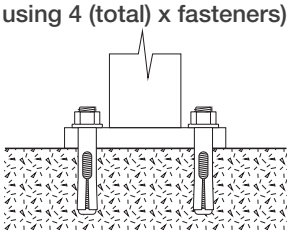
Fixing options

In situ (Concrete footing)

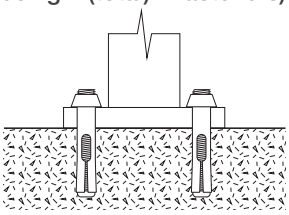


Welded flange (Bolt on)
using 4 (total) x fasteners)



Shown with M10 x 65mm fastener

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

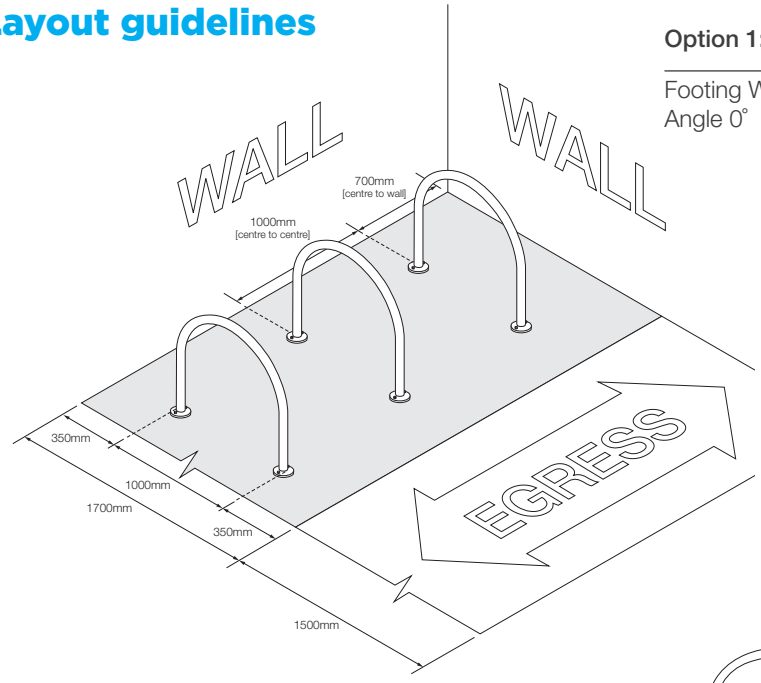


Shown with M10 x 65mm Shear Nuts

Layout guidelines

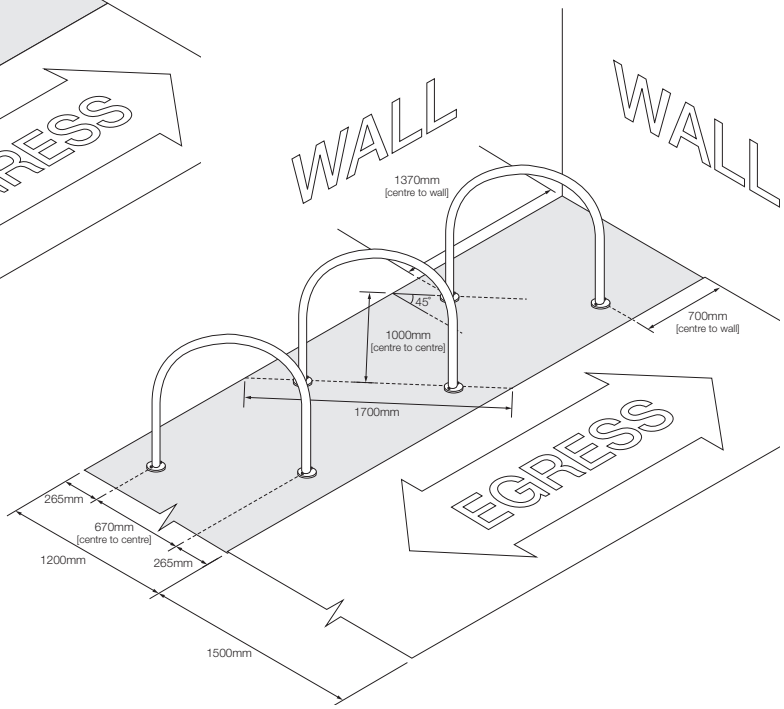
Option 1:

Footing Width 1700mm
Angle 0˚

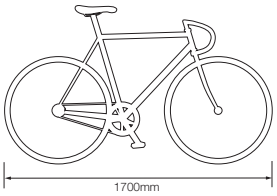


Option 2:

Footing Width 1200mm
Angle 45˚



Typical Bicycle Length



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Ned Kelly®

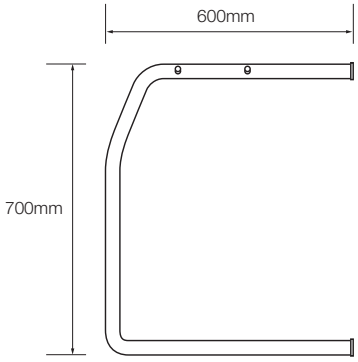
Zinc finish

Black powder coat finish

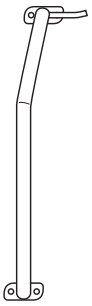
Features

- 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



SIDE



FRONT

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

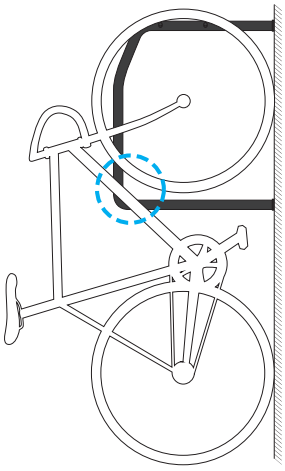
Recommended fasteners – framing

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

Dimensions

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

Locking Points



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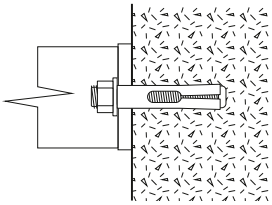
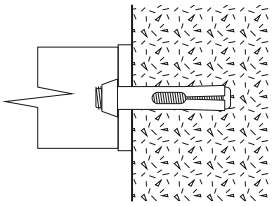
Fixing options

Fix to a wall using 4x fasteners or Shear Nuts

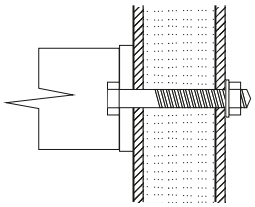


Shown with M8 x 40mm fastener

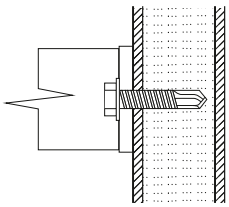


Shown with M8 x 40mm Shear Nuts

Fix to a frame using 4x bolts or Tek Screws

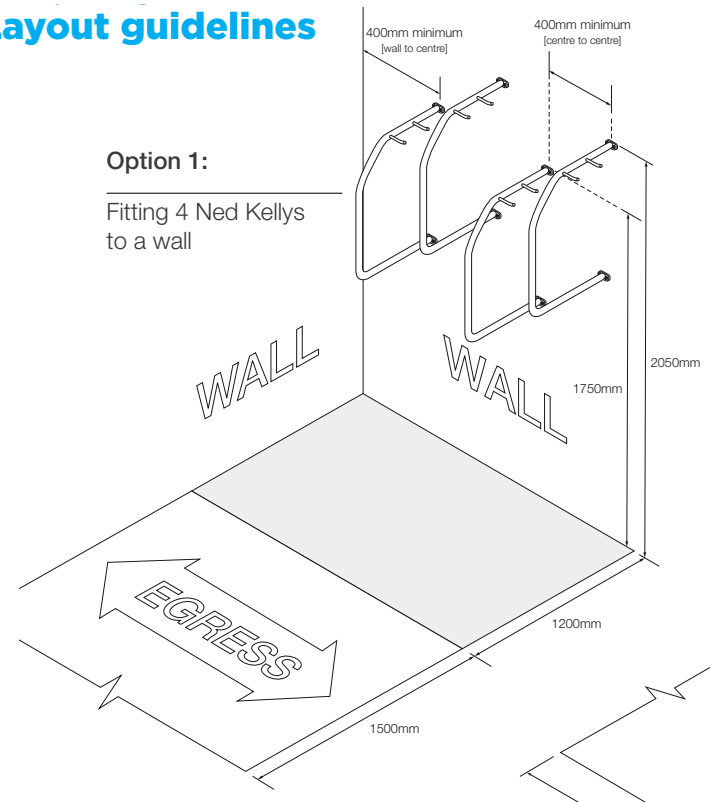


Shown with M10 x 60mm Bolt, Washer & Nut



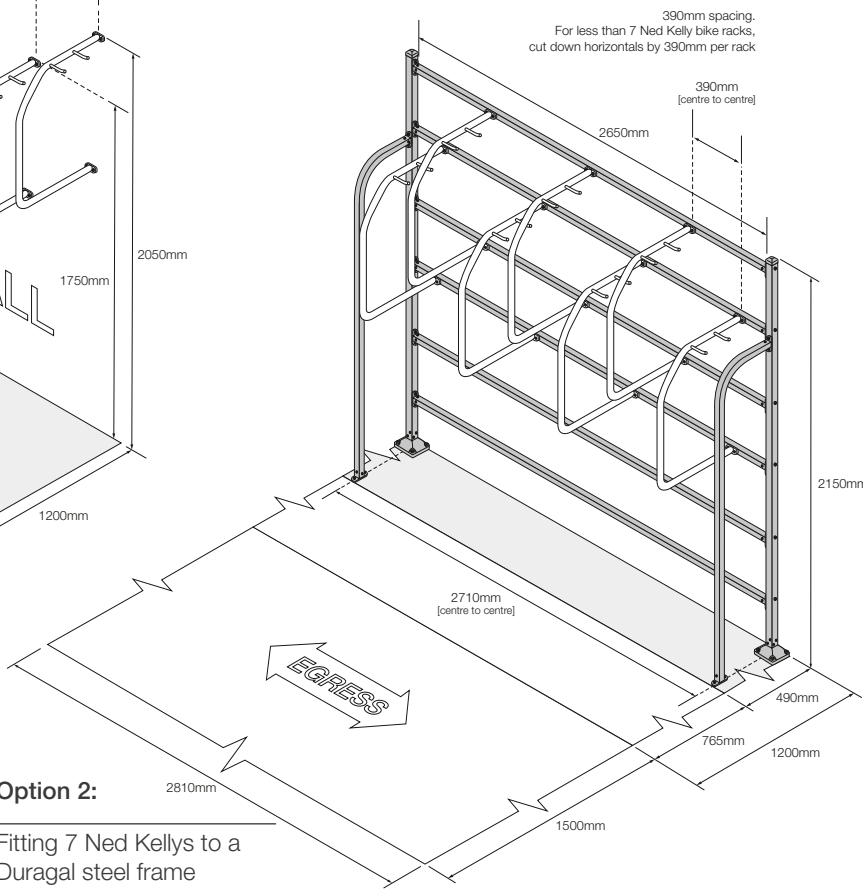
Shown with Tek Screw

Layout guidelines



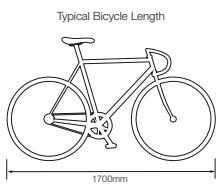
Option 1:

Fitting 4 Ned Kellys to a wall



Option 2:

Fitting 7 Ned Kellys to a Duragal steel frame



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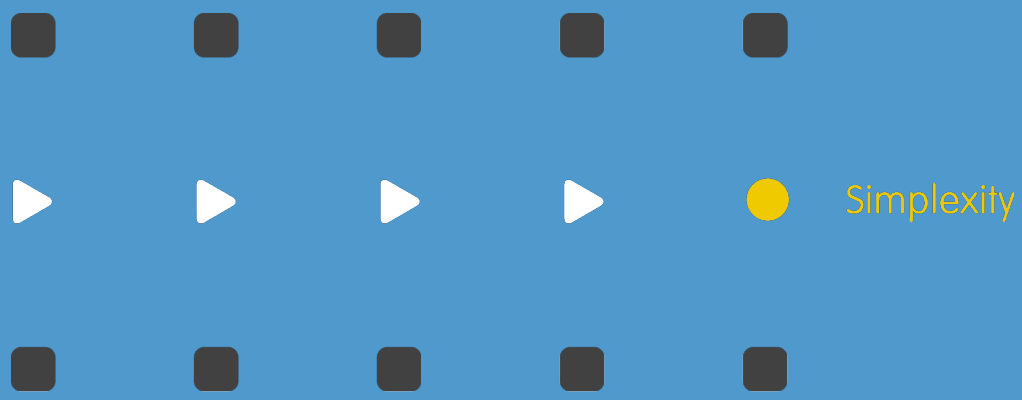
p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au
VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010
TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800


Simplexity