Warehouse 1&2, 149-155 Airds Road, Minto

Transport Assessment, Development Application

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APPENDICES

Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Campbelltown City Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
FSR	Floor space ratio
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Overview

Ason Group has been engaged by Charter Hall to prepare a Transport Assessment (TA) supporting the Development Application (DA) for a warehouse and industrial development proposal. The application relates to development of 2 warehouses, located on the southern portion of the wider site located at 149-155 Airds Road, Minto (the Site).

The Site is located within the Campbelltown City Council LGA and is therefore subject to that Council's controls. Under the Campbelltown Local Environmental Plan 2015 (LEP), the land is zoned IN1 – General Industrial.

1.2 Key References

In preparing this TA, a series of key strategic, design and planning documents have informed the assessment of the traffic and transport related elements of the project. These documents include:

- Campbelltown Local Environmental Plan 2015 (CLEP 2015).
- Campbelltown (Sustainable City) Development Control Plan 2015 (CDCP 2015).

This TA also references general access, traffic and parking guidelines, including:

- Roads and Maritime Services Guide to Traffic Generating Developments (RMS Guide);
- Roads and Maritime Services Guide to Traffic Generating Developments: Updated Traffic Surveys (RMS TDT2013/04a);
- Australian Standard 2890.1:2004 Parking Facilities – Off Street Car Parking (AS 2890.1:2004);
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2:2018).

The following reports / drawings have been referenced in preparation of this TA. These include:

- Traffic Impact Assessment Report Proposed Warehouse Development 5 & 9 Culverston Road, Minto, ref: 0191r01v2, by Ason Group, dated 27/04/2016 (Culverston Road TA).
- Proposed Floor Plan, drawing CH_149AI_DA02-100 – REV B, by Watch This Space Design Pty Ltd, dated 14/11/2023 (Proposed Site Plan).

2 Summary of Proposal

2.1 Overview

The Proposal seeks consent for 2 warehouses. In summary, the Proposal provides for construction, fit-out and operation of a warehouse and distribution centre and general industries premises of 24,417 m^2 gross floor area (GFA), comprising:

- Warehouse A: 11,358 m^2 of warehousing GFA and 570 m^2 of office GFA
- Warehouse B: 11,809 m^2 of warehousing GFA and 680 m^2 of office GFA
- Provision of 2 new vehicle crossovers from Airds Road
- Private access road and turning circle
- Hardstand and loading docks
- 156 car parking spaces
- Bulk earthworks
- Provision of site infrastructure
- Hard and soft landscaping
- Estate and building identification signage

The currently proposed Site plan is reproduced in **Figure 1**. Detailed Site plan is provided in **Appendix A.**

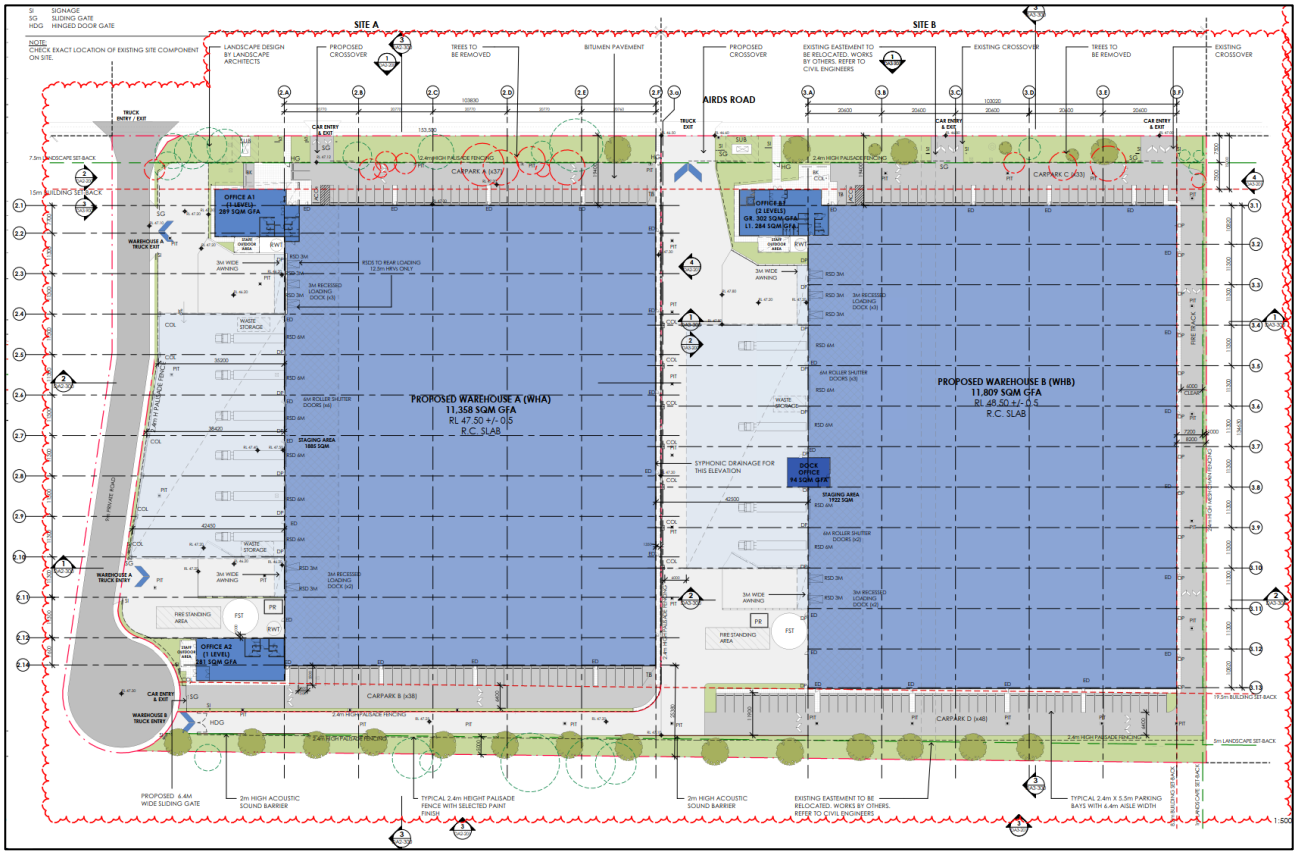


Figure 1: Proposed Site Plan

3 Site Context

3.1 Subject Site

The Site is legally known as Lot 12 in DP 251997, Lot 131 in DP 583995, and Lot 213 in DP 260735. It has approximately 300m of direct frontage to Airds Road, with 1 consolidated access point, and comprises a total area of approximately 6.72 hectares.

A drainage easement bounds the north and the west of the Site, with Airds Road bounding the east. The surrounding developments predominantly comprise of industrial facilities used for the purpose of warehousing, distribution and various extractive industries.

The Site is located approximately 3 kilometres northwest of Campbelltown, 30 kilometres southwest of the Parramatta CBD and 40 kilometres southwest of the Sydney CBD. The Site is within the Local Government Area (LGA) of Campbelltown Council. A Site and Location Plan is presented in **Figure 2**.

3.2 Road Network

The existing road network in the vicinity of the Site is shown in Figure 2, while key roads are further detailed below:

- M31 (Hume) Motorway – an TfNSW Main Road that generally runs in a north-south direction to the west of the Site between Prestons in the north (from the junction with the M7 and M5 Motorways), south towards the State of Victoria and eventually Melbourne.
- Campbelltown Road – an TfNSW State Road (MR 177) that generally runs in a north-south direction also to the west of the Site between The Hume Highway in the north and Campbelltown in the south. Campbelltown Road carries approximately 30,500 vpd (vehicles per day) in the vicinity of the Site and is subject to 'No Stopping' restrictions along both kerb sides at all times. Campbelltown Road is generally subject to a 60 km/hr speed zoning in the
- Rose Payten Drive – an TfNSW unclassified regional road that connects the Site via Airds Road to the M31 Motorway via Campbelltown Road.
- Airds Road – a local industrial access road that provides a collector road function and connects the Site to the M31 Motorway via Rose Payten Drive and Campbelltown Road.

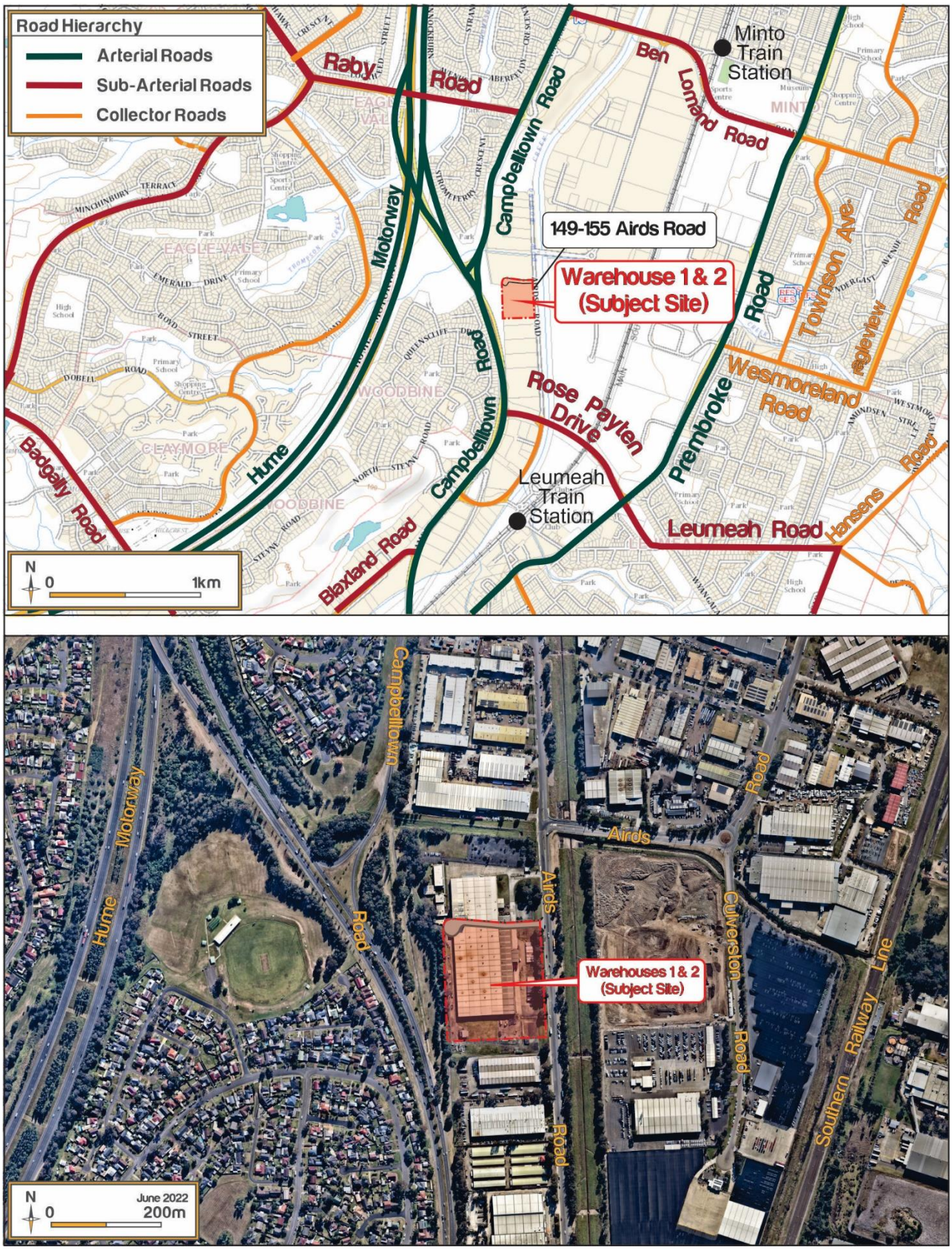


Figure 2: Site and Location Plan

3.3 Public Transport

The Site's proximity to public transport is shown in **Figure 3**, which demonstrates the locations and distances to bus and railway services surrounding the Site. The *Integrated Public Transport Service Planning Guidelines* states that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. Based on these parameters, Figure 3 demonstrates that the Site is located within 400 metres crows-fly distance to 2 bus stops on Campbelltown Road. The table below provides serviceability of bus routes within proximity of the Site.

Furthermore, the *Integrated Public Transport Service Planning Guidelines* states that railway services influence the travel mode choices within 800 metres walk (approximately 10 minutes) of a railway station. Figure 3 shows that the Site is outside the Leumeah railway station influence zone.

TABLE 1 BUS SERVICES

Bus Route	Route Description	Service Frequency
870	Campbelltown to Liverpool	~ 2 services per hour
871	Campbelltown to Liverpool via Glenfield	~ 1 service per hour
872	Campbelltown to Liverpool via Macquarie Fields	~ 2 services per hour
877	Campbelltown to Kearns via Eagle Vale & Eschol Park	~ 1 service per hour
878	Kearns to Campbelltown via Eschol Park	~ 1 service per hour

3.4 Active Transport

3.4.1 Pedestrian Infrastructure

With reference to the pedestrian network; desktop studies, as well as on-site observations, confirm that the broader road network is accompanied by pedestrian footpath, either on one or both sides of the streets. A 2.5m-wide share path is available along the western side of the Site's frontage road. Pedestrian footpaths and crossing facilities are provided on Campbelltown Road and Rose Payten Drive.

3.4.2 Cycling Infrastructure

The cycle network surrounding the Site is also shown on Figure 3. In this regard, a continuous shared path along Airds Road provides connection between the Site and Leumeah train station, providing access to Site within 6-minute cycle time. Furthermore, the Campbelltown Road on-road bicycle lane runs to the west of the Site. The bicycle lane connects to the Hume Motorway, which runs through Leumeah, St. Andrews, Varroville and Glenfield. In addition, other cycleways and shared paths connect to Pembroke Road. These provide the Site with reasonable dedicated bicycle access to locations such as Campbelltown and Ingleburn.

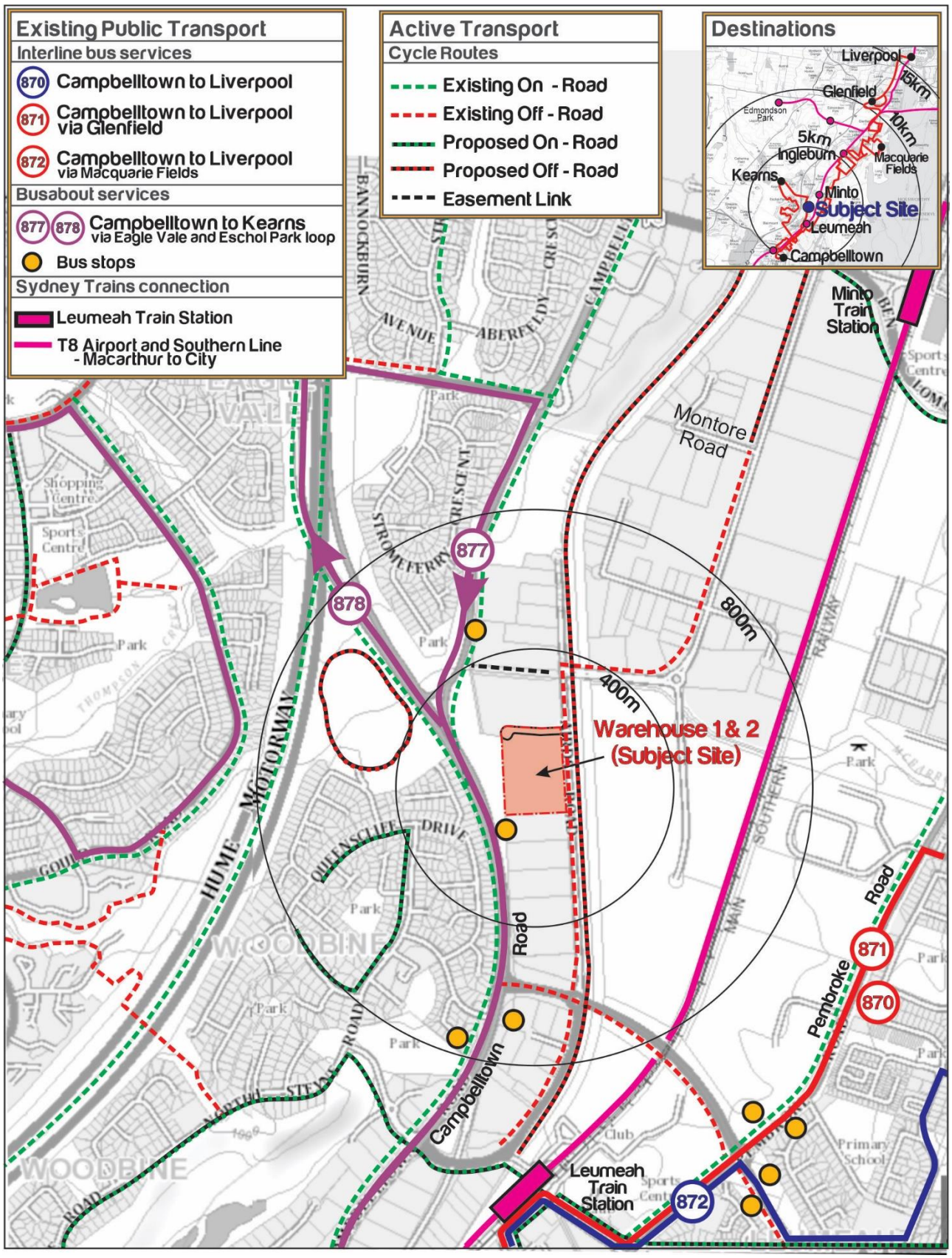


Figure 3: Public Transport Services & Cycleways

3.5 Journey to Work Data Analysis

An analysis of the ABS 2021 Census Data was undertaken to determine the existing travel mode share of trips to Place of Work into Destination Zone (114434949). **Table 2** presents the relevant mode share details.

TABLE 2: PEAK HOURLY AND DAILY PERSON TRIPS BY TRANSPORT MODE

Travel Mode[1]	Mode Share %
Vehicle	87.0%
Car (as passenger)	6.1%
Train	4.0%
Bus	0.8%
Cycle	0.4%
Motorbike	0.6%
On Foot	0.4%
Other	0.7%
Total	**100.0%**

Note: 1. Excludes people who worked from home or do not work

In summary, the table indicates that 93.1% of trips travelling to the area arrive via car including 87.0% as car drivers. The analysis indicates lower dependencies on public transport modes accounting for approximately 4.8%, including 4.0% via train and 0.8% via bus. It is clear that this level of bus use would have no material impact on the capacity of bus services in the area and pedestrian and cycling facilities would be unaffected by the Proposal.

3.6 Existing Traffic Conditions

3.6.1 Existing Traffic Volumes

Traffic surveys were undertaken on 4 August 2022 to establish the baseline traffic flows on the surrounding road network for the following key intersections:

- Campbelltown Road / Rose Payten Drive – Signalised Intersection.
- Rose Payten Drive / Airds Road – Roundabout Intersection.

The traffic survey data indicated the following:

- The morning peak hour period was between 7:45 – 8:45 AM.
- The evening peak hour period was between 16:15 – 17:15 PM.

The existing traffic volumes of the peak periods on the study road network – derived from the traffic surveys – are presented in **Figure 4** and **Figure 5**.

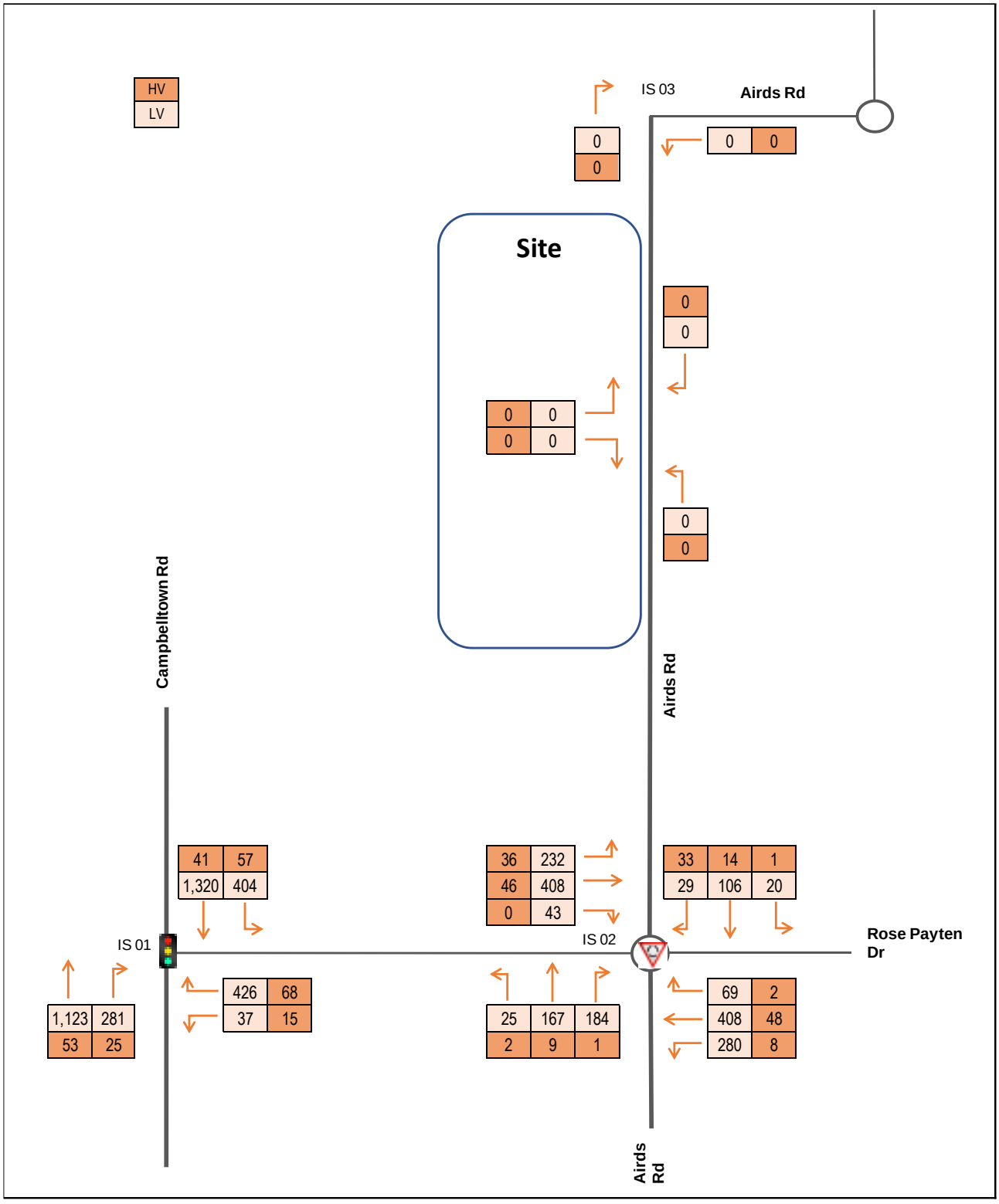


Figure 4: Baseline Traffic Volume - AM Peak

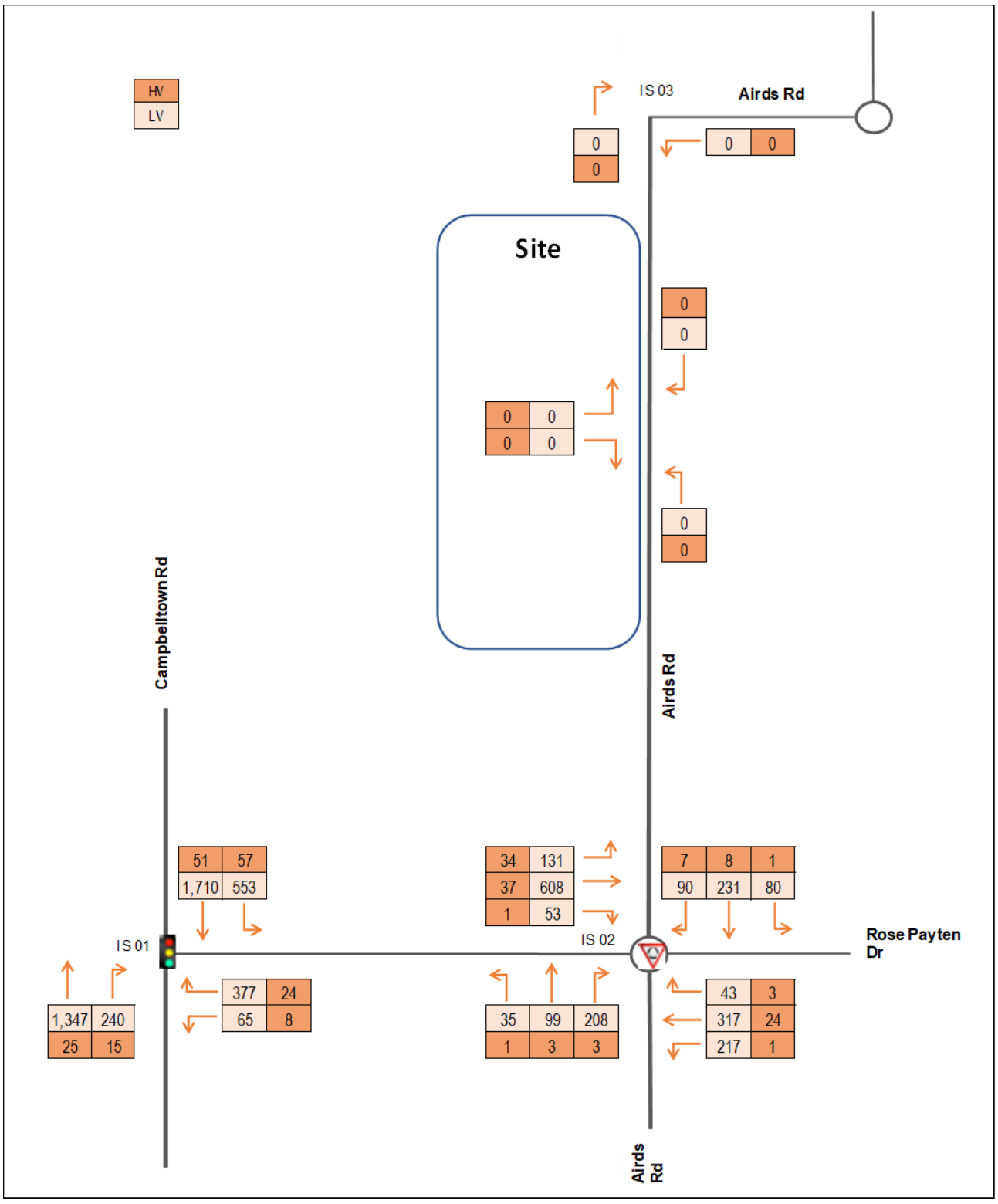


Figure 5: Baseline Traffic Volume - PM Peak

3.6.2 Intersection Performance

SIDRA intersection modelling has been undertaken to establish the baseline performance of the key intersections. In this regard, SIDRA modelling outputs a range of performance measures relevant to this assessment, including:

- *Degree of Saturation (DOS)* – The DOS is used to measure the performance of intersections where a value of 1.0 represents an intersection at theoretical capacity. As the performance of and intersection approaches DOS of 1.0, queue lengths and delays increase rapidly. It is recommended that DOS to be less than 0.9, with satisfactory intersection operation generally achieved with a DOS below 0.8.
- *Average Vehicle Delay (AVD)* – The AVD (or average delay per vehicle in seconds) for intersections also provides a measure of the operational performance and is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout controlled) intersections, the AVD reported is that for the movement with the highest AVD.
- *Level of Service (LOS)* – This is a comparative measure that provides an indication of the operating performance, based on AVD.

Table 3 provides a recommended baseline for assessment as per the RMS Guide.

TABLE 3: LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

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

The results of the SIDRA analysis for the 2 intersections in the study area is shown **Table 4** and detailed intersection performance outputs are attached at **Appendix B**.

TABLE 4: BASELINE INTERSECTION PERFORMANCE

Intersection	Period	DOS	AVD	LOS
Campbelltown Road / Rose Payten Drive	AM	0.714	25.9	LOS C
	PM	0.807	21.4	LOS C
Rose Payten Drive / Airds Road	AM	0.136	13.6	LOS B
	PM	0.270	12.9	LOS B

The results show that all key intersections are currently operating at 'satisfactory' levels of performance during the morning and evening peak hours with a LOS of C or better. The reported operation is consistent with the conditions observed on-site at the time of survey.

3.6.3 Existing Site Traffic

A 24-hour traffic video survey count of the four (4) existing access driveways, for the developments currently occupied by Lot 12 in DP 251997, Lot 131 in DP 583995, and Lot 213 in DP 260735, was undertaken to determine the existing traffic generation of the overall site.

The weekday results identified the following peak hour and daily traffic volumes:

- 21 trips during the morning peak hour.
- 10 trips during the evening peak hour.
- 172 trips per day.

4 Traffic Impacts

4.1 Traffic Generation

4.1.1 Trip Rates

For the assessment of the future traffic generation of the Proposal, reference is made to the traffic generation rates adopted in the Culverston Road TA, which supported the approved Minto Logistics Hub[1] located 5 to 9 Culverston Road (in close proximity to the Site). The approved Culverston Road TA refers to the RMS Guide Updated trip rates for Business Parks and Industrial Estates developments – based specifically on the Wonderland Business Park, Eastern Creek and the Erskine Park Industrial Estate site surveys. In this regard, the relevant rates are as follows:

- Morning Peak hour: 0.156 trips per 100 m^2 GFA
- Evening Peak hour: 0.158 trips per 100 m^2 GFA
- Daily: 2.100 trips per 100 m^2 GFA

4.1.2 Development Trip Generation

Application of the above rates to the Proposed Development yield of 24,417 m^2 GFA results in the following traffic generation forecasts:

- 38 trips during the morning peak hour
- 39 trips during the evening peak hour
- 513 trips per day.

It should be noted that the development trip assignment and SIDRA intersection analysis, demonstrated in **Section 4.2** and **4.3** below, has adopted a higher development yield of 28,126 m^2. The traffic generation forecasts based on the higher yield are:

- 44 trips during the morning peak hour
- 44 trips during the evening peak hour
- 591 trips per day.

It is evident that the traffic generation potential of the Proposal is less than that adopted for the SIDRA intersection analysis, therefore the traffic impact assessment as shown in Section 4.3 below is considered conservative.

[1] https://www.planningportal.nsw.gov.au/major-projects/projects/minto-logisitics-hub

4.2 Development Trip Distribution & Assignment

With regard to the local road network, the trips have been distributed onto the surrounding road network based generally on the travel patterns evident from the surveyed traffic flows on the network, combined with a review of Journey to Work census data for trips into Destination Zone (114434949).

Figure 6 and **Figure 7** below demonstrate the trip distribution based on the above assumptions.

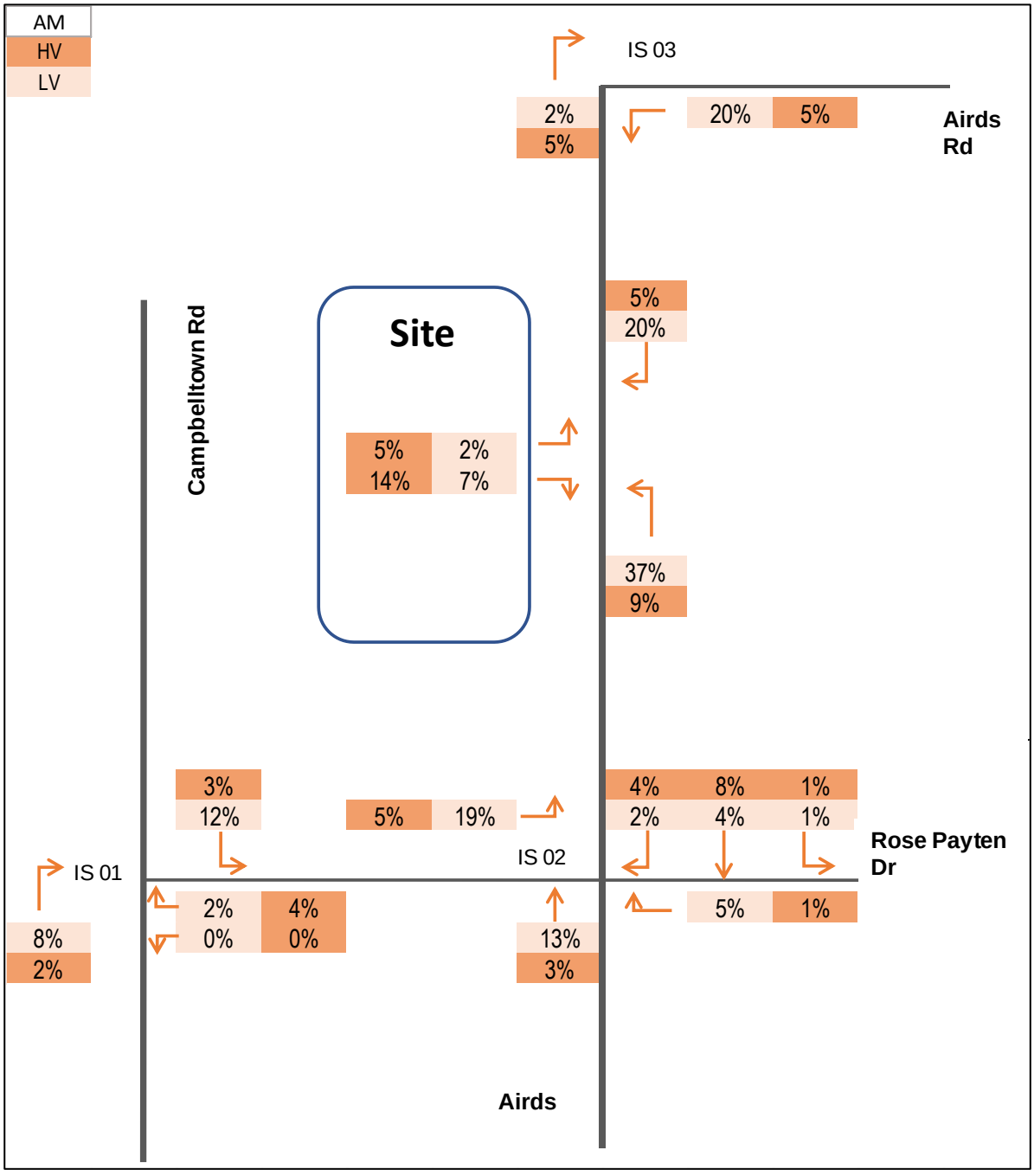


Figure 6: Trip Distribution - AM Peak

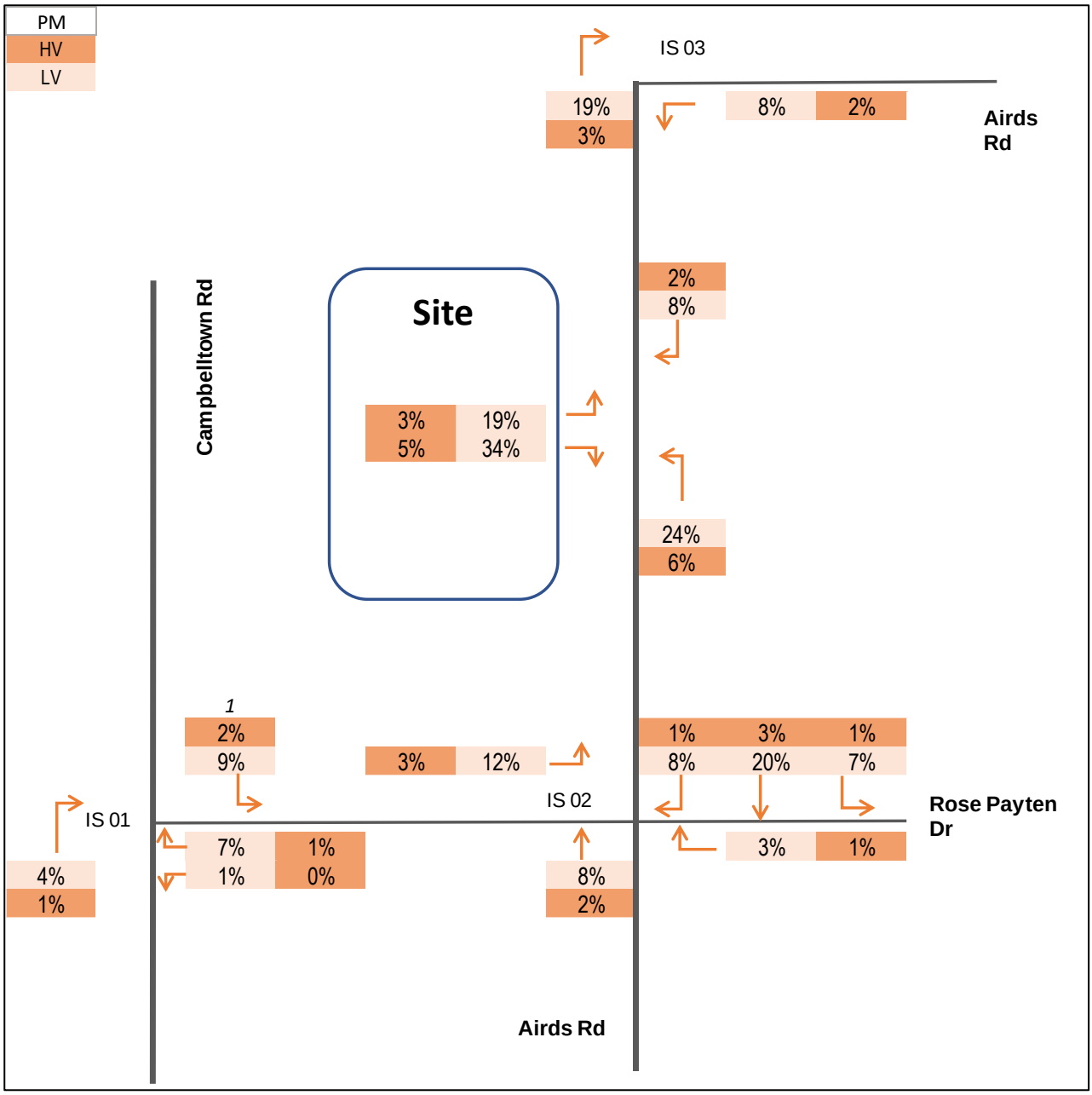


Figure 7: Trip Distribution - PM Peak

Application of the above distribution to the net development traffic generation results in the forecast trip assignment on the study road network presented in **Figure 8** and **Figure 9** below.

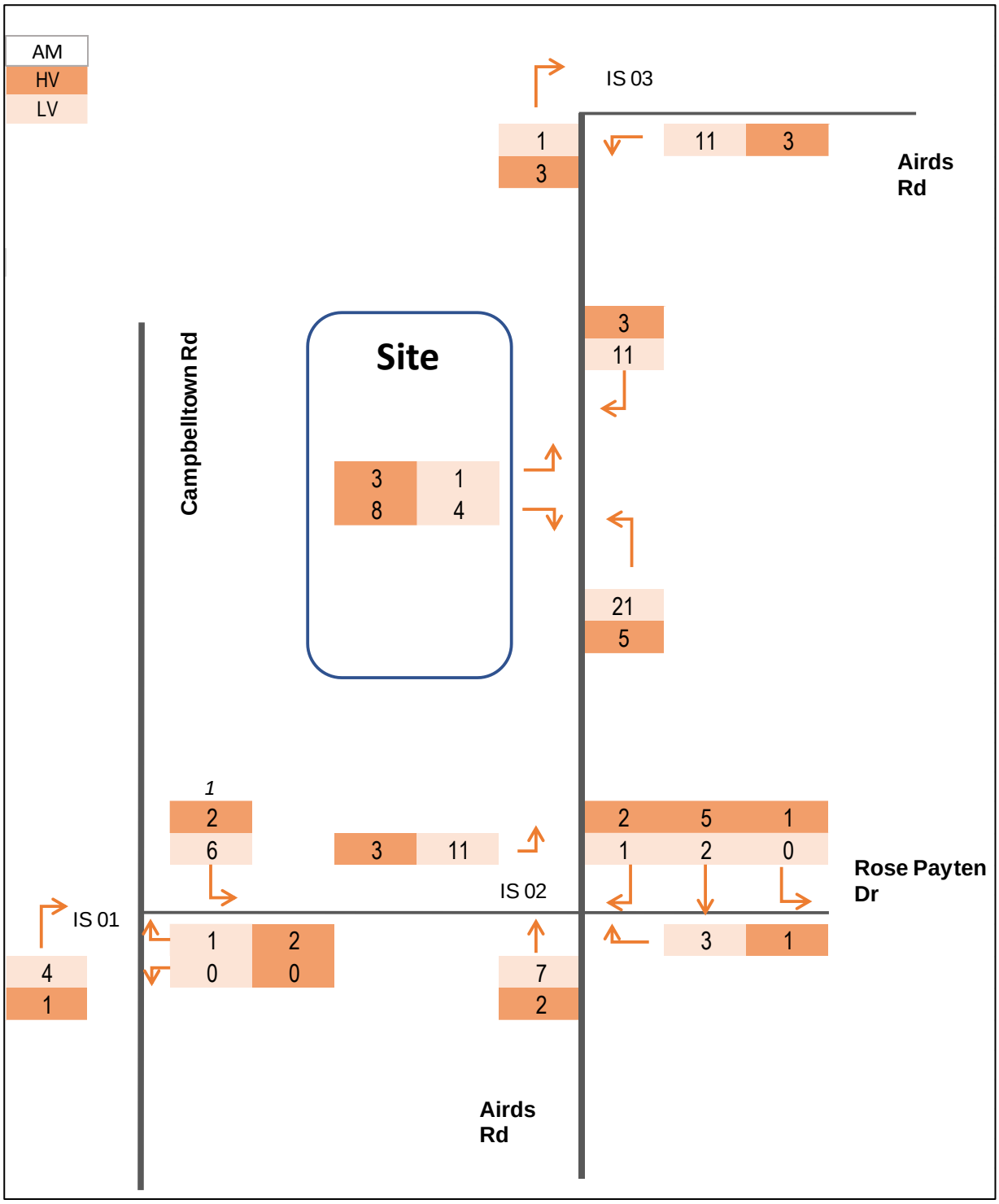


Figure 8: Masterplan Development Trip Generation - AM Peak

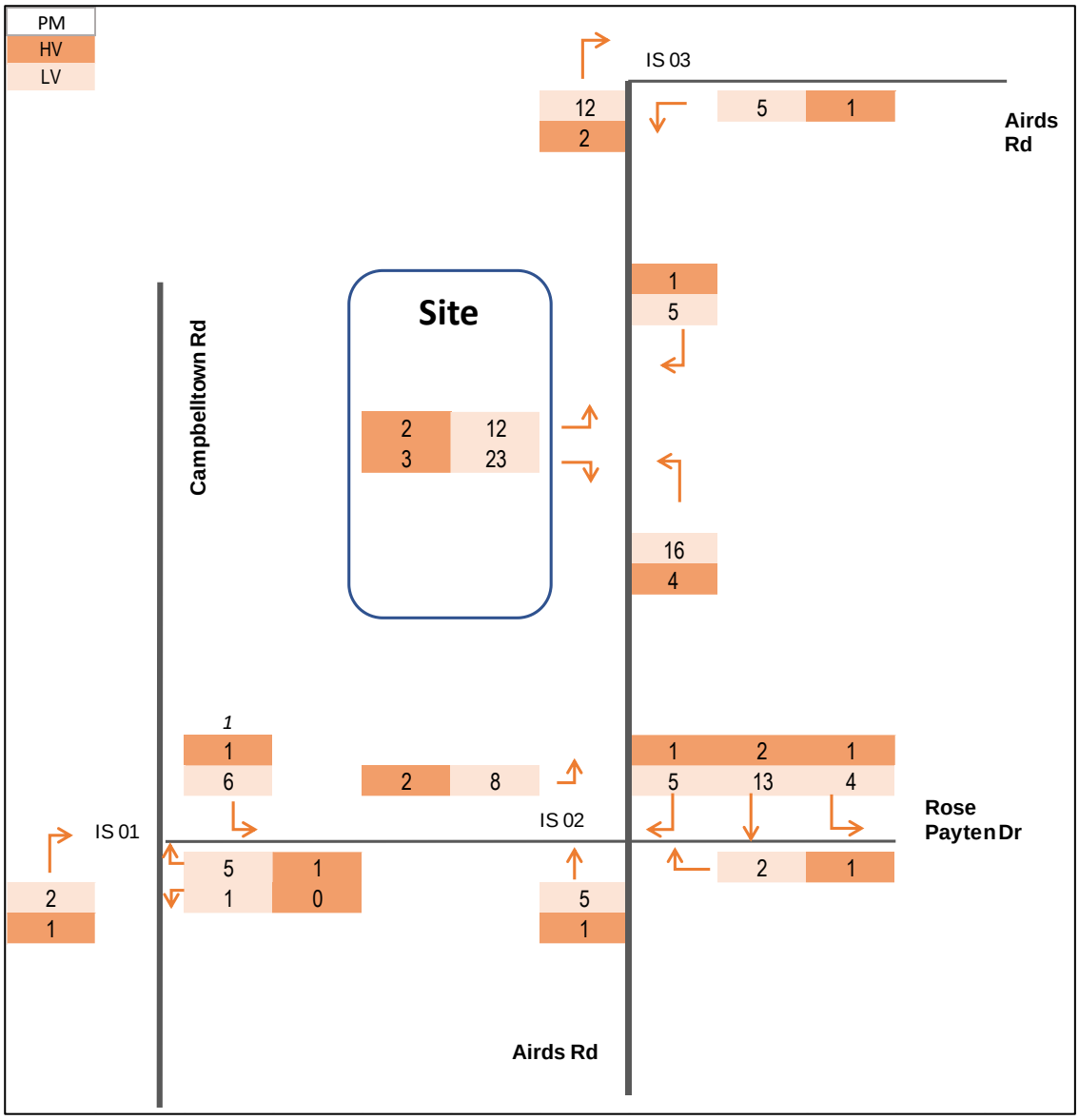


Figure 9: Masterplan Development Trip Generation - PM Peak

4.3 SIDRA Intersection Analysis

4.3.1 Scenarios

An assessment of the following scenarios has been undertaken to inform the traffic impacts of the Masterplan development:

- Base Case – Existing Baseline (see Section 3.6.2).
- Existing Baseline (2022) + Development.
- Future Base – Existing Baseline + 10 years (2032).
- Project Future – Existing Baseline + 10 years (2032) + Development.

4.3.2 Intersection Performance – Existing Baseline + Development

By combining the baseline flows (Figure 4 and Figure 5) with the development traffic volumes (Figure 8 and Figure 9), the baseline plus development scenario traffic volumes of the study road network are presented in **Figure 10** and **Figure 11** below.

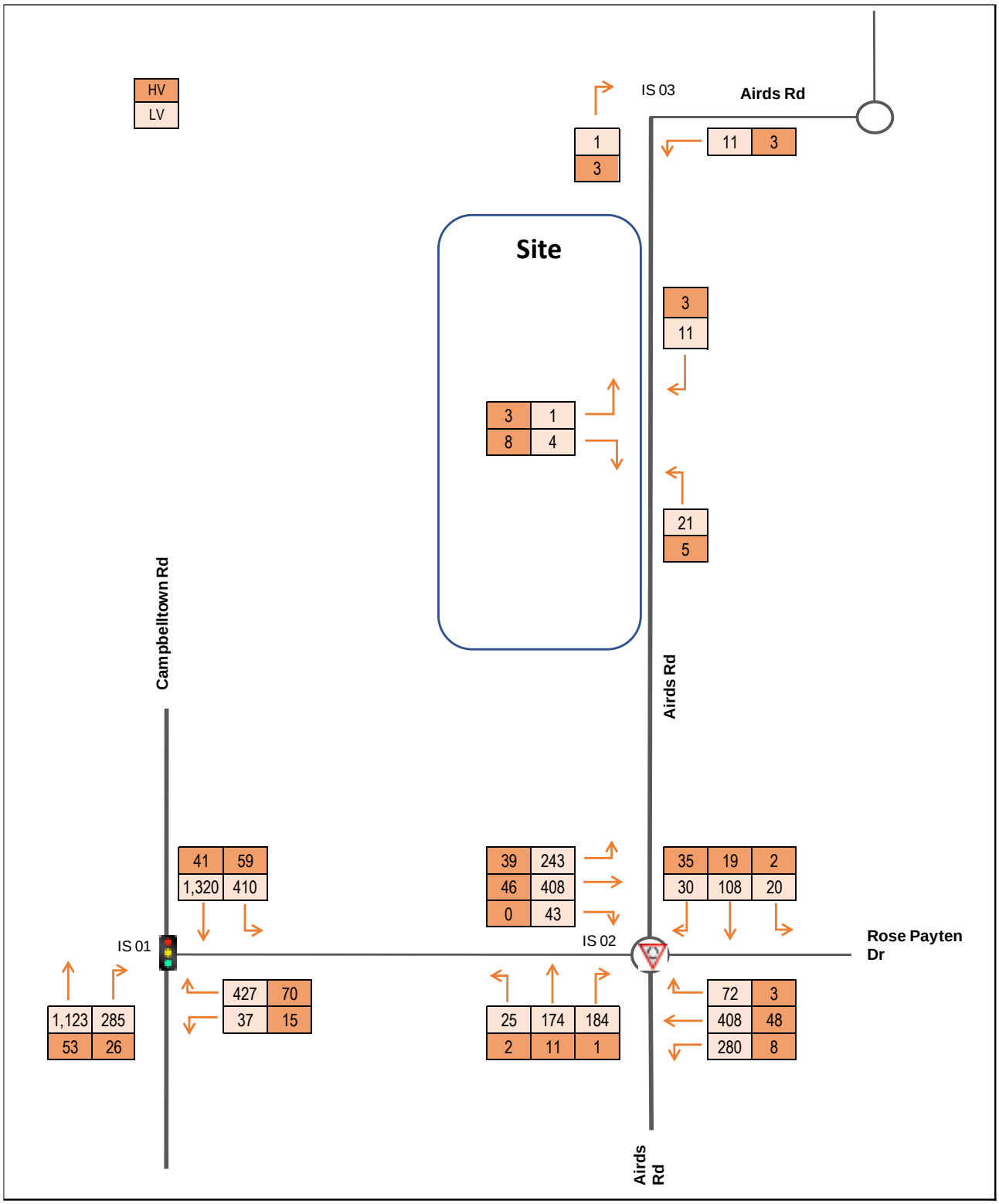


Figure 10: 2022 Baseline + Development Traffic Volume - AM Peak

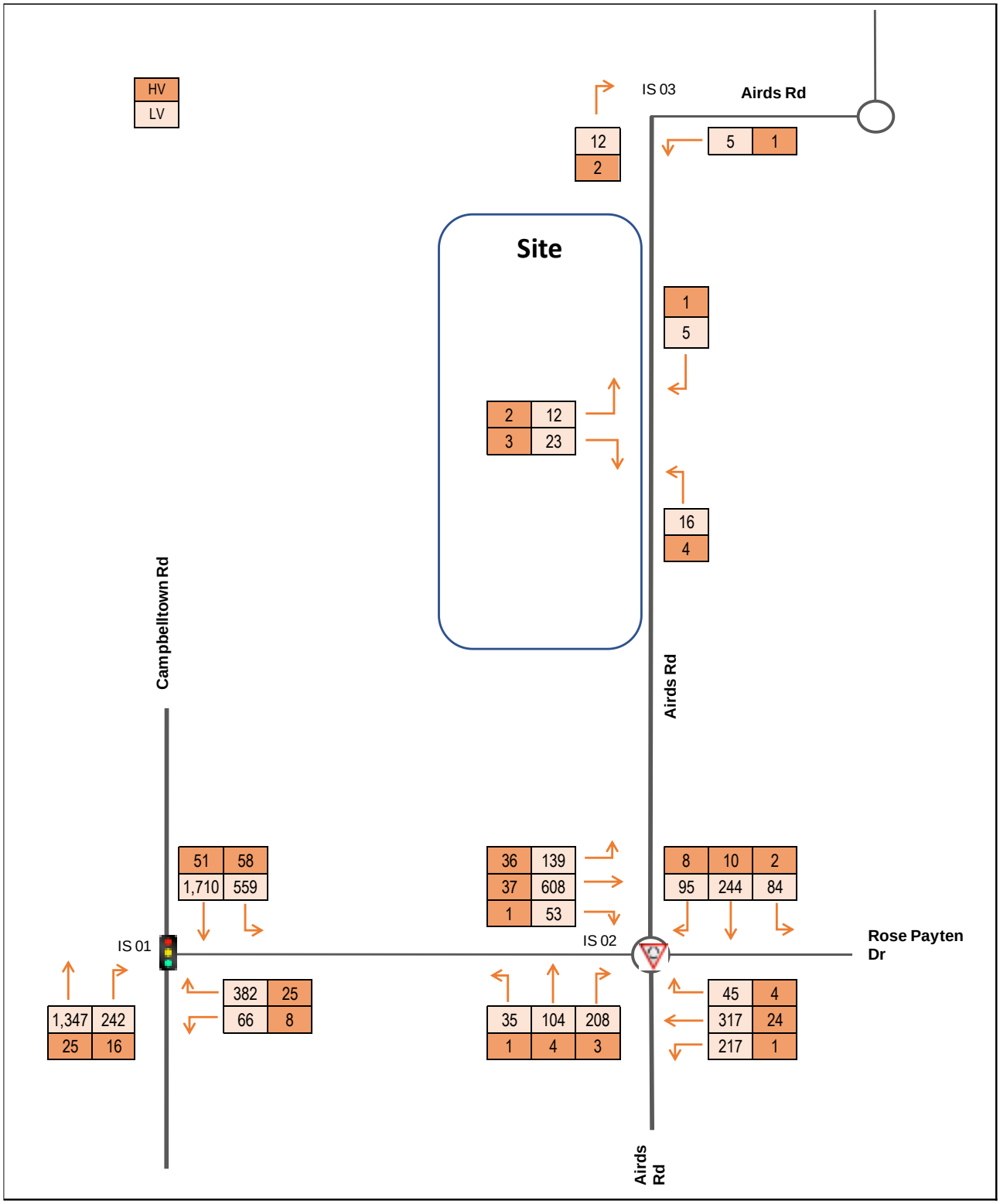


Figure 11: 2022 Baseline + Development Traffic Volumes - PM Peak

The performance of the key intersections for the existing baseline (2022) plus development scenario is presented in **Table 5** below, alongside the baseline results. SIDRA outputs are provided in **Appendix B**.

As shown, the network is expected to operate satisfactorily, following the additional traffic associated with the Proposal.

TABLE 5: 2022 INTERSECTION PERFORMANCE BASE CASE VS. BASELINE + DEV

Intersection	Scenario	Period	DOS	AVD	LOS
Campbelltown Road / Rose Payten Drive	Baseline	AM	0.714	25.9	LOS C
		PM	0.807	21.4	LOS C
	Project Case	AM	0.720	26.0	LOS C
		PM	0.808	21.5	LOS C
Rose Payten Drive / Airds Road	Baseline	AM	0.136	13.6	LOS B
		PM	0.270	12.9	LOS B
	Project Case	AM	0.145	13.7	LOS B
		PM	0.289	13.0	LOS B

The SIDRA analysis indicates that the 'net' traffic volumes arising from the development would not result in material changes to DOS and AVD and – importantly – LOS would remain unchanged. In summary, the traffic impact analysis concludes that the net traffic generation volumes are of a sufficiently low order that once distributed onto the surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate as currently occurs.

4.3.3 Future Base Intersection Performance – 2032

As assessment of the base case scenario for 2032 has also been established to assess the future traffic impacts of the Proposal.

The traffic flows on the surrounding network for base case scenarios are presented in the following figures. To establish the future forecast baseline volumes, a growth rate of 2% per annum on the major roads, and a growth rate of 1% per annum on the local roads, has been adopted.

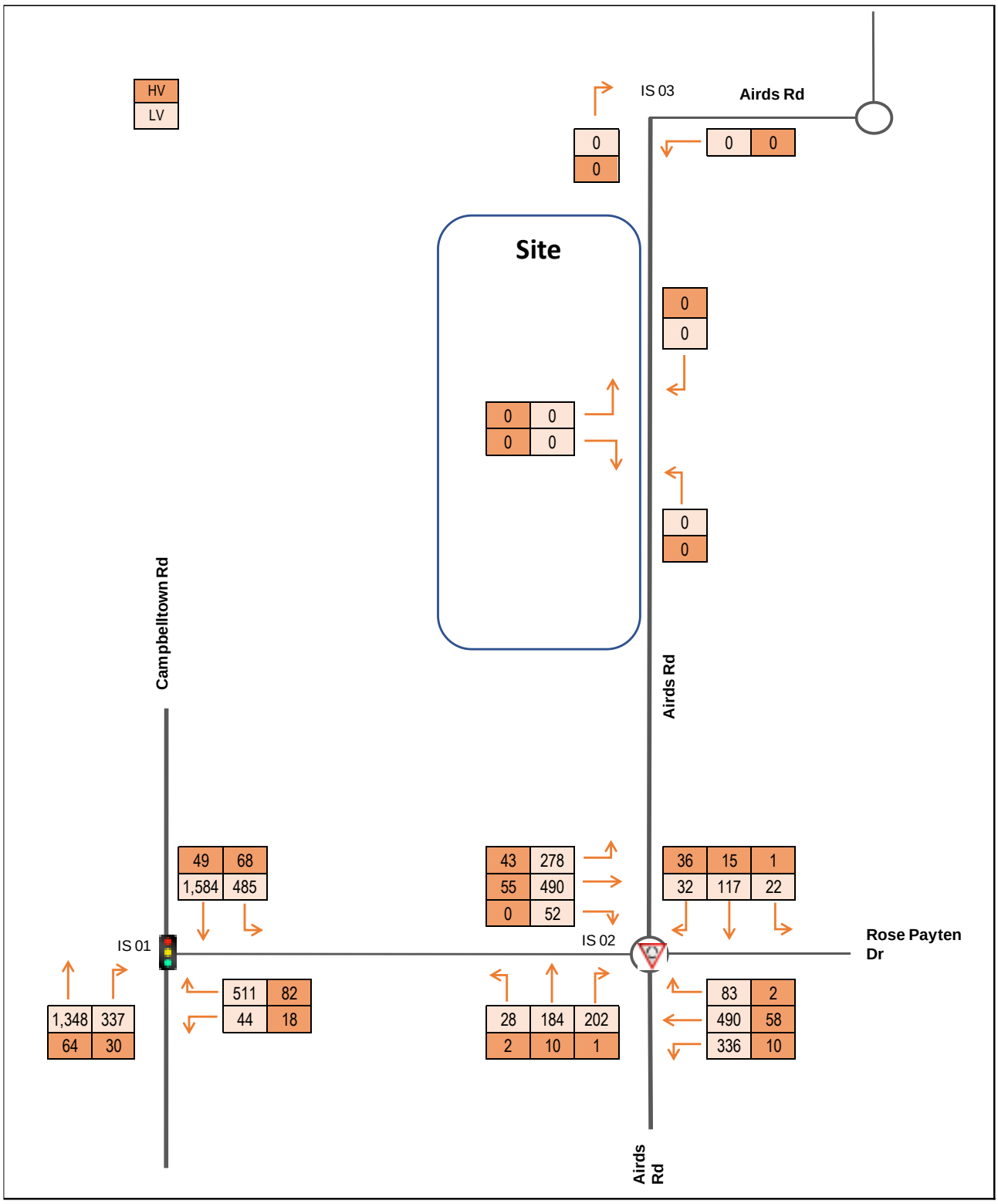


Figure 12: 2032 Baseline Traffic Volumes - AM Peak

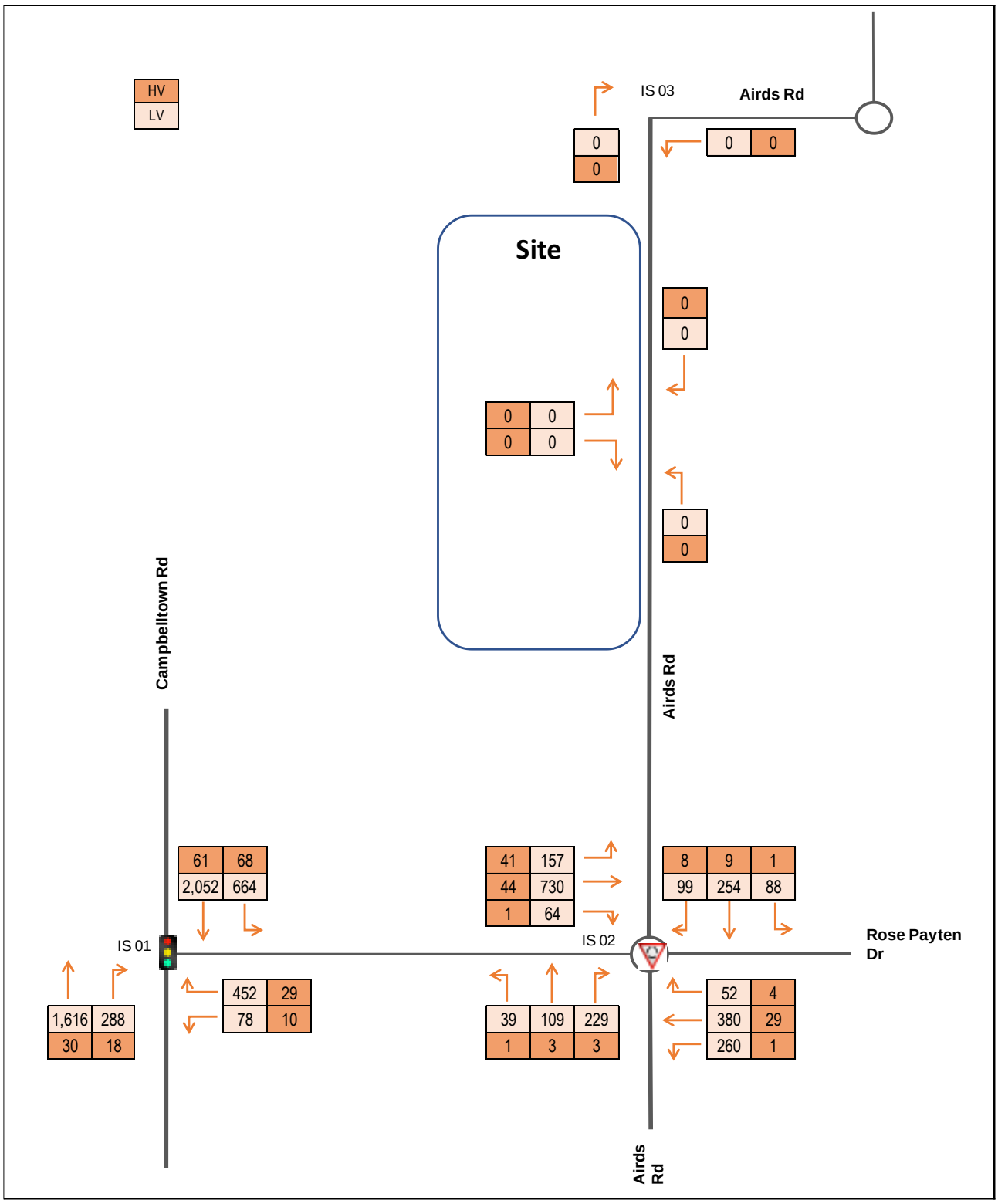


Figure 13: 2032 Baseline Traffic Volumes - PM Peak

The performance of the key intersections for the 2032 baseline year is presented below.

TABLE 6: FUTURE BASE INTERSECTION PERFORMANCE

Intersection	Period	DOS	AVD	LOS
Campbelltown Road / Rose Payten Drive	AM	0.894	32.4	LOS C
	PM	1.028	56.2	LOS E
Rose Payten Drive / Airds Road	AM	0.164	14.4	LOS B
	PM	0.336	14.0	LOS B

A comparison of **Table 4** and **Table 6** demonstrates that the performance of Campbelltown Road / Rose Payten Drive intersection has deteriorated from LOS C to LOS E during the PM peak, while the AM peak maintains the same LOS. The decrease in PM peak intersection performance level is due to the increase delay of the through movement on Campbelltown Road southbound as a result of the growth in background traffic. Despite the above, the intersection is still expected to operate within the maximum capacity.

Furthermore, the project case scenario of 10 years after development opening year has been assessed to demonstrate the impact of development traffic in section below.

4.3.4 Project Future Intersection Performance – Future Base (2032) + Development

The traffic flows on the surrounding network for 2032 project case scenarios are presented in the following figures.

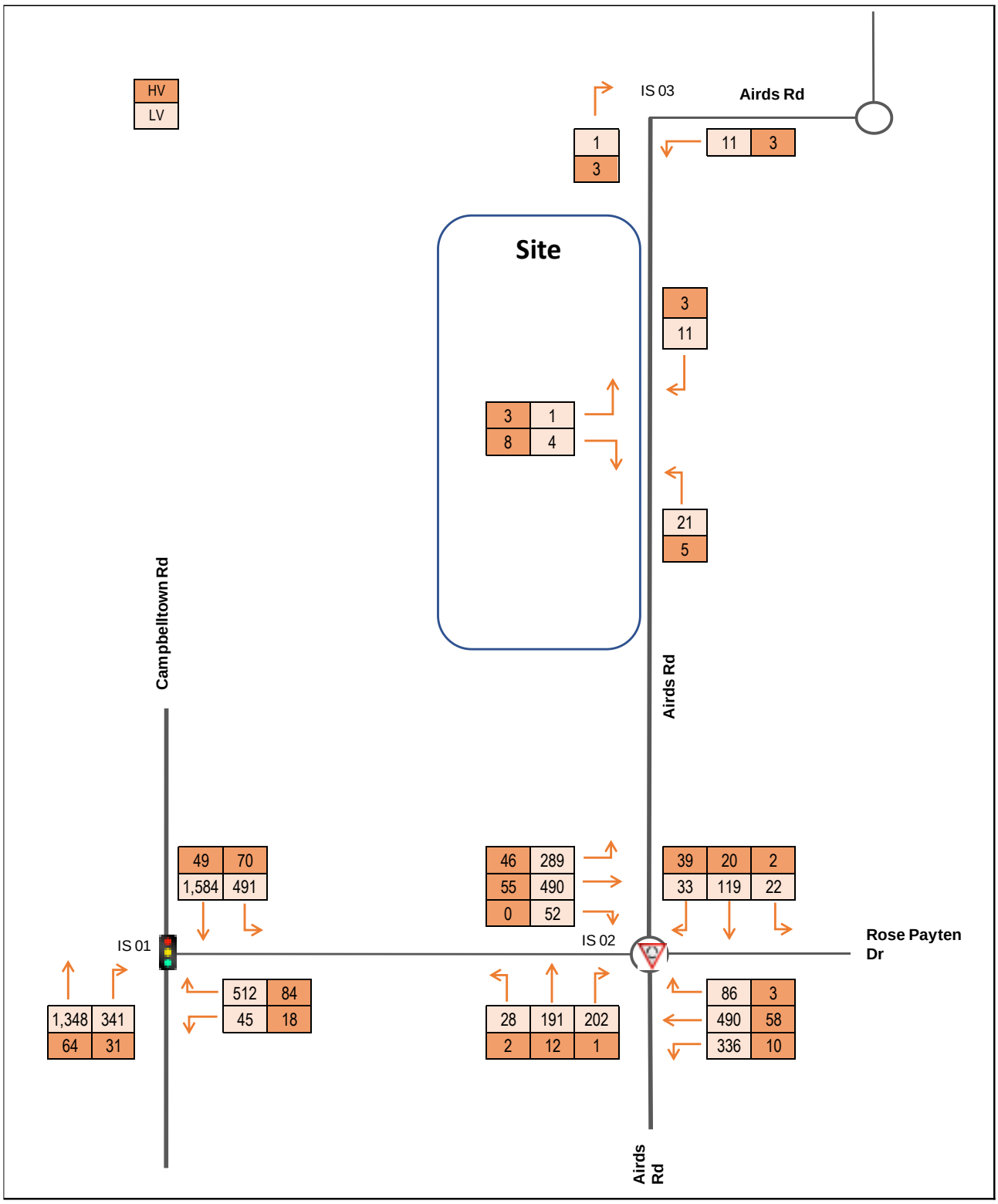


Figure 14: Project Future (2032) Traffic Volumes - AM Peak

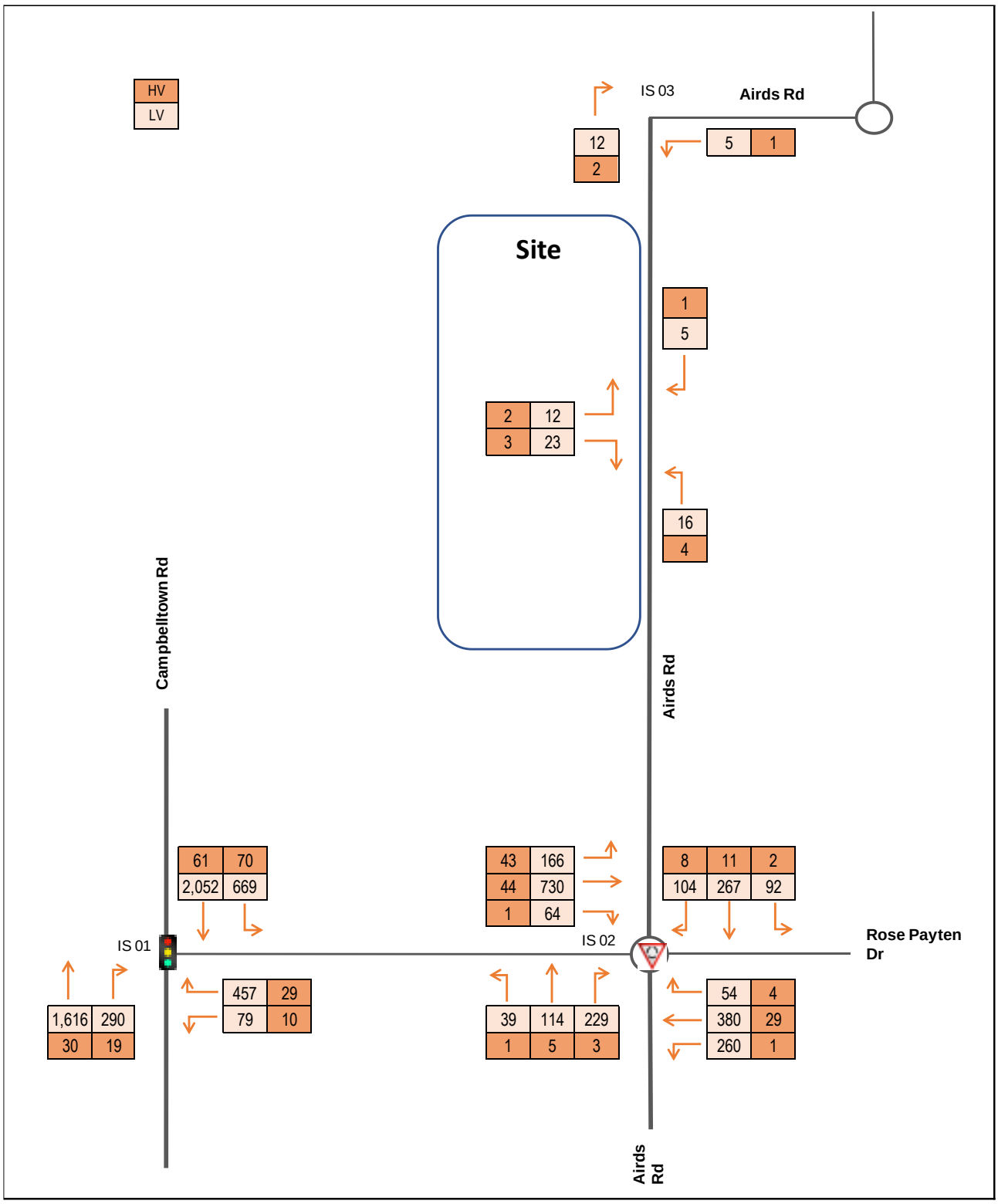


Figure 15: Project Future (2032) Traffic Volumes - PM Peak

Table 7 provides a comparison of the 2032 Base Case and Project Case scenario.

TABLE 7: 2032 INTERSECTION PERFORMANCE BASE CASE VS. PROJECT CASE

Intersection	Scenario	Period	DOS	AVD	LOS
Campbelltown Road / Rose Payten Drive	Baseline	AM	0.894	32.4	LOS C
		PM	1.028	56.2	LOS E
	Project Case	AM	0.900	33.7	LOS C
		PM	1.028	57.2	LOS E
Rose Payten Drive / Airds Road	Baseline	AM	0.164	14.4	LOS B
		PM	0.336	14.0	LOS B
	Project Case	AM	0.176	14.5	LOS B
		PM	0.357	14.2	LOS B

The SIDRA analysis indicates that the 'net' traffic volumes arising from the development would not result in material changes to DOS and AVD from the 2032 baseline modelling results. In summary, the traffic impact analysis concludes that the net traffic generation volumes are of a sufficiently low order that once distributed on to the surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate as currently occurs.

4.4 Traffic Analysis Summary

The SIDRA intersection analysis indicates that the surrounding road network is anticipated to continue to perform well in the baseline plus development scenarios assessed, with a LOS C or above reported in the assessment year of 2022.

In the 2032 assessment year, the decrease in performance level is due to the increase delay to the through movement on Campbelltown Road southbound, resulting in a forecasted LOS E in the PM Peak hour. However, 'net' traffic volumes arising from the development would not result in material changes to DOS and AVD from the 2032 baseline modelling results. It is therefore concluded that the development is acceptable from a traffic planning perspective.

Finally, as abovementioned, the development traffic generation adopted for the SIDRA intersection analysis is derived from a greater development yield than the proposed. Consequently, the traffic impact of the Proposal would be less than what was assessed. As such, the traffic impact assessment is deemed conservative.

5 Parking Requirements

5.1 Car Parking

5.1.1 Requirements

Council's DCP – Part 7 – Industrial Development, Section 7.3 – provides Council's parking controls, which are:

- A minimum of 2 spaces (per unit), plus
- 1 space for every 100 m^2 of GFA for buildings up to 2,000 m^2, plus
- 1 space per 250m^2 for that part of the building exceeding 2,000 m^2 GFA, and
- 1 space for every 35 m^2 for ancillary office GFA

The RMS Guide provides parking controls for warehouse developments, which are:

- 1 space for every 300 m^2 of warehouse GFA
- 1 space for every 40 m^2 for ancillary office GFA

5.1.2 Parking Requirements

Table 8 presents the required parking provisions based on Council's DCP rates as well as the RMS Guide.

TABLE 8: CAR PARKING REQUIREMENTS

Land Use	GFA (m^2)	DCP Parking Requirement	RMS Guide Parking Requirement
Warehouse	23,167	120	78
Office	1,250	35	32
Total		**155**	**110**

Table 8 demonstrates that the Proposal requires a parking provision of 155 spaces to comply with Council's DCP rates and 110 spaces (45 fewer spaces) to comply with the RMS Guide rates.

The Proposal currently provides a total of 156 car parking spaces which satisfies the requirement of Council's DCP controls as well as the RMS Guide.

5.2 Accessible Parking

Council's DCP – Part 7 – Industrial Development, Section 7.3 requires accessible parking be provided in accordance with the *Disability (Access to Premises – Buildings) Standards 2010, Building Code of Australia*. Accessible parking for industrial developments is to be provided at a rate of:

- 1 space for every 100 car parking spaces or part thereof

Accordingly, the required parking based on the above rates are summarised in **Table 9**.

TABLE 9: ACCESSIBLE PARKING REQUIREMENT

Warehouse	Car Parking Provision – RMS (DCP)	Accessible Parking Requirement	Accessible Parking Provision
Warehouse	110 (155)	2	2

The accessible parking spaces have been provided to comply with the BCA control in accordance with Council's DCP parking requirement. Furthermore, all accessible parking is to be designed in accordance with AS2890.6 and generally located as close as practicable to the building entrance.

5.3 Bicycle Parking

Council's DCP provides no bicycle parking provision requirement, reference is made to the *Planning Guidelines for Walking and Cycling* (December 2004).

The *Planning Guidelines for Walking and Cycling* in turn requires bicycle parking for industrial uses to be provided for 3-5% of the staff population and 5-10% of the customer/visitor population. Based on the proposed uses of the warehouses, the visitor demand is expected to be minimal to none, with any visitors likely to arrive via car. Hence, bicycle parking requirement is consideration is for staff bicycle parking only.

With reference to mode share analysis of the Journey to Work Data, the anticipated mode share of cycling as a form of travel was 0.1% for Destination Zone (114434949). Hence the lower end of the bicycle parking provision as outlined in the *Planning Guidelines for Walking and Cycling* is considered.

As such, it is recommended that end of trip facilities (EOTF) to be provided in line with the requirements of the *Planning Guidelines for Walking and Cycling*. This provides the following requirements as outlined in **Table 10.**

TABLE 10: EOFT PARKING REQUIREMENTS

Staff	Lockers	Showers	Change Rooms
0-12	**1 per 3 racks**	1	2 (1 male and 1 female)
13-49		2 (1 male & 1 female)	
50-149		4 (2 male & 2 female)	
150-299		6 (3 male & 3 female)	
300-500		8 (4 male & 4 female)	

On this basis, recommendation for bicycle parking provision are provided as follows:

- 1 locker
- 4 showers
- 2 change rooms

6 Design Review

6.1 Relevant Design Standards

The Site's access, car park and service areas should be designed to comply with the following relevant Australian Standards:

- AS2890.1:2004 for Car parking areas;
- AS2890.2:2018 for Commercial vehicle loading areas;
- AS2890.6:2009 for Accessible (disabled) parking.

It is expected that any detailed construction drawings in relation to the car park or site access would comply with these standards.

6.2 Design Vehicle

A 20m articulated vehicle has been adopted as the design vehicle for site access and circulation. 12.5m heavy rigid vehicles are generally adopted for loading dock parking, with smaller vehicles identified as required. Refer to design review in **Appendix C**.

6.3 Vehicle Access, Internal Circulation, and Parking

All access driveways are generally designed in accordance with AS 2890.1:2004 and AS 2890.2:2018. Site access points and internal hardstand areas have been designed to cater for trucks up to 20m articulated vehicles, with targeted swept paths of site access points included in Appendix C. Some minor modifications will be conducted at the detailed design stage, prior to Construction Certificate works.

Swept path assessment has also been prepared to demonstrate the suitability of the hardstand configuration for Warehouse A and Warehouse B.

All standard staff and visitor parking is provided in accordance with AS2890.1 for Class 1 user, which requires a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 6.2m. Our assessment indicates these are generally designed in accordance with AS 2890.1:2004.

7 Summary and Conclusions

7.1 Summary

Ason Group has been engaged by Charter Hall to prepare a Transport Assessment (TA) supporting the Development Application for a warehouse and distribution centre and general industries premises, located at 149-155 Airds Road, Minto.

In summary, the key findings of the TA are as follows:

- The Proposal generally seeks approval for 2 warehouses, Warehouse A and Warehouse B, and ancillary office space with a total of 24,417 m^2 of GFA with supporting infrastructure and servicing areas and 156 car parking spaces.
- The existing development generates 21 vehicle trips per hour in the morning peak, 10 vehicle trips per hour in the evening peak, and 172 daily vehicle trips.
- The Proposal is forecast to generate 38 vehicle trips per hour in the morning peak, 39 vehicle trips per hour in the evening peak, and 513 daily vehicle trips.

  SIDRA analysis indicates that the Proposal traffic volumes in the 2022 and 2032 project cases would not result in material changes to DOS and AVD over the baseline case, and – importantly – LOS would remain unchanged. The traffic impacts remain consistent with those found in the approved development.
- An initial design review of the site access, circulation, and parking areas has been conducted against AS2890.1:2004, AS2890.2:2018, and AS2890.6:2009. Swept path assessment for the largest design vehicles has also been conducted, demonstrating that the site generally complies with the relevant standards.
- It is expected that any design development and detailed construction drawings in relation to the site accesses, circulation areas, and parking areas would comply with the relevant standards.

7.2 Conclusions

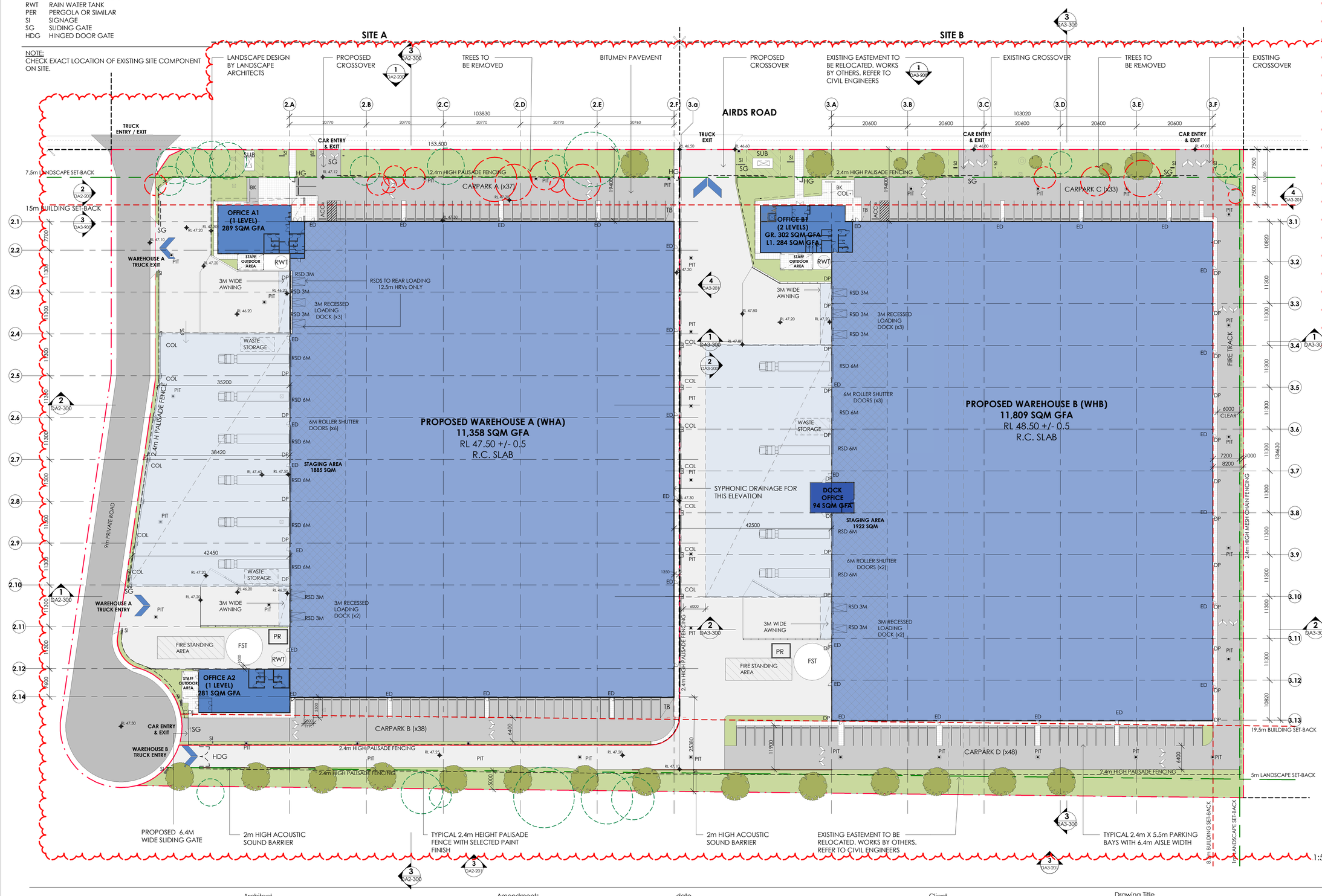
With regard for the above key findings from the transport assessment, the proposed warehouse development at 149-155 Airds Road, Minto is supportable on traffic and transport planning grounds; with no material impacts to the external road network expected over and above the previously approved development.

Appendix A. Proposed Development Architectural Site Plan

LEGEND

BR	BIKE
DP	DOWNPIPE WITH PROTECTIVE SLEEVE
ED	EXIT DOOR
FST	FIRE SPRINKLER TANK - REFER TO HYDRALIC ENG.
PR	PUMP ROOM - REFER TO HYDRALIC ENG.
RED	RECESSED LOADING DOCK
RSD	ROLLER SHUTTER DOOR
RWT	RAIN WATER TANK
PER	PERGOLA OR SIMILAR
SI	SIGNAGE
SG	SLIDING GATE
HDG	HINGED DOOR GATE

NOTE:
CHECK EXACT LOCATION OF EXISTING SITE COMPONENT ON SITE.



149 AIRDS RD, MINTO

WH A - AREA & CARPARK SCHEDULE

Total Site Area	23,080 sqm
Landscape Calculations Actual Provided 2,193 sqm (9.50% of site area 23,080 sqm)	
Warehouse GFA	11,358 sqm
Office A1 GFA (1 Level)	289 sqm
Office A2 GFA (1 Level)	281 sqm
Total Building GFA	11,928 sqm
CARPARKING	
Carpark A	37
Carpark B	38
Total carparking provided	75
Total carparking required	75

WH B - AREA & CARPARK SCHEDULE

Total Site Area	28,160 sqm
Landscape Calculations Actual Provided 2,493 sqm (8.85% of site area 28,160 sqm)	
Warehouse GFA	11,809 sqm
Office B1 Ground level GFA	302 sqm
Office B1 Level 1 GFA	284 sqm
Dock Office GFA (1 Level)	94 sqm
Total Building GFA	12,489 sqm
CARPARKING	
Carpark C	33
Carpark D	48
Total carparking provided	81
Total carparking required	80

NOTE:
ALL AREAS SHOWN ARE SUBJECT TO CHANGE
ALL PROPOSED LEVELS ARE SUBJECT TO CIVIL ENGINEER REVIEW AND ADVICE.

LEGEND

- PROPOSED SITE BOUNDARY LINE
- LOT BOUNDARY LINE
- LANDSCAPE SET-BACK
- BUILDING SET-BACK
- 2.4M HIGH MESH CHAIN FENCING
- 2.4M HIGH PALISADE FENCE LINE
- STORM WATER PIT, OSD TANK TO CIVIL ENGS DETAIL
- PYLON SIGNAGE
- CONCRETE COLUMN AS PER ENG. DETAILS
- SUB - STATION
- WAREHOUSE
- OFFICE
- AWNING
- HEAVY DUTY AREA
- LIGHT DUTY AREA
- LANDSCAPING AREA
- ESTATE ROAD
- TREES PROPOSED TO BE REMOVED. REFER TO ARBORIST REPORT FOR DETAILS.
- EXISTING TREES TO BE RETAINED. REFER TO ARBORIST REPORT FOR DETAILS.

NOTE:
CHECK EXACT LOCATION OF EXISTING SITE COMPONENT ON SITE.

[watch this SPACE design]

Architect
WATCH THIS SPACE DESIGN PTY LTD
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	Amendments	date
B	AMENDMENTS AS PER PM/CLIENT'S COMMENTS	14.11.2023

Charter Hall

Managing Consultant
MODALUS
INTERMODAL | INDUSTRIAL | INFRASTRUCTURE

Client
CHARTER HALL

Project
149-155 AIRDS ROAD,
MINTO, NSW, 2566

Drawn	Checked	Approved
GC	AV	PM
Scale	Date	Date
1 : 500	14.11.2023	14.11.2023

Drawing Title
WHA & WHB PROPOSED FLOOR PLAN

Rev
B

Project Number
CH 149AI

Drawing Number
DA2-100

Status
FOR SUBMISSION

N

Appendix B. SIDRA Results

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - AM (Site Folder: 2022 Base)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1176	53	1238	4.5	0.472	9.6	LOS A	17.5	127.5	0.49	0.45	0.49	51.8
3	R2	306	25	322	8.2	* 0.702	66.8	LOS E	10.2	76.7	1.00	0.84	1.07	22.5
Approach		1482	78	1560	5.3	0.702	21.4	LOS C	17.5	127.5	0.60	0.53	0.61	43.3
East: Rose Payten Dr														
4	L2	52	15	55	28.8	0.086	14.2	LOS B	1.2	10.7	0.42	0.65	0.42	43.3
6	R2	494	68	520	13.8	* 0.714	58.2	LOS E	15.7	123.0	0.98	0.86	1.02	24.7
Approach		546	83	575	15.2	0.714	54.0	LOS D	15.7	123.0	0.93	0.84	0.96	25.7
North: Campbelltown Rd (SB)														
7	L2	461	57	485	12.4	0.357	7.9	LOS A	6.1	47.2	0.28	0.64	0.28	48.7
8	T1	1361	41	1433	3.0	* 0.708	25.5	LOS C	34.1	245.2	0.83	0.75	0.83	42.2
Approach		1822	98	1918	5.4	0.708	21.0	LOS C	34.1	245.2	0.69	0.72	0.69	43.3
All Vehicles		3850	259	4053	6.7	0.714	25.9	LOS C	34.1	245.2	0.69	0.67	0.70	40.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - AM (Site Folder: 2022 Base)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	27	2	28	7.4	0.206	5.6	LOS A	1.0	7.2	0.56	0.55	0.56	50.1
2	T1	176	9	185	5.1	0.206	5.5	LOS A	1.0	7.2	0.56	0.55	0.56	55.2
3	R2	185	1	195	0.5	0.213	11.5	LOS B	1.0	6.9	0.57	0.79	0.57	51.9
Approach		388	12	408	3.1	0.213	8.3	LOS A	1.0	7.2	0.56	0.67	0.56	53.3
East: Rose Payten Dr (WB)														
4	L2	288	8	303	2.8	0.361	4.6	LOS A	1.9	14.3	0.43	0.51	0.43	54.3
5	T1	456	48	480	10.5	0.361	4.7	LOS A	1.9	14.3	0.44	0.51	0.44	53.0
6	R2	71	2	75	2.8	0.361	10.3	LOS B	1.9	14.4	0.45	0.52	0.45	55.6
Approach		815	58	858	7.1	0.361	5.1	LOS A	1.9	14.4	0.44	0.51	0.44	53.8
North: Airds Rd (SB)														
7	L2	21	1	22	4.8	0.136	5.8	LOS A	0.6	4.9	0.58	0.58	0.58	53.6
8	T1	120	14	126	11.7	0.136	5.9	LOS A	0.6	4.9	0.58	0.61	0.58	54.5
9	R2	62	33	65	53.2	0.136	13.6	LOS B	0.6	5.6	0.60	0.79	0.60	45.9
Approach		203	48	214	23.6	0.136	8.2	LOS A	0.6	5.6	0.59	0.67	0.59	52.0
West: Rose Payten Dr (EB)														
10	L2	268	36	282	13.4	0.391	5.4	LOS A	2.0	15.7	0.55	0.59	0.55	51.3
11	T1	454	46	478	10.1	0.391	5.4	LOS A	2.0	15.7	0.56	0.58	0.56	53.2
12	R2	43	0	45	0.0	0.391	11.0	LOS B	2.0	15.0	0.56	0.57	0.56	53.1
Approach		765	82	805	10.7	0.391	5.7	LOS A	2.0	15.7	0.56	0.58	0.56	52.5
All Vehicles		2171	200	2285	9.2	0.391	6.2	LOS A	2.0	15.7	0.52	0.58	0.52	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - PM (Site Folder: 2022 Base)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1372	25	1444	1.8	0.497	6.6	LOS A	17.6	125.1	0.43	0.39	0.43	54.1
3	R2	255	15	268	5.9	* 0.753	71.8	LOS E	8.9	65.3	1.00	0.86	1.15	21.5
Approach		1627	40	1713	2.5	0.753	16.8	LOS B	17.6	125.1	0.52	0.47	0.54	46.2
East: Rose Payten Dr														
4	L2	73	8	77	11.0	0.144	19.8	LOS B	2.3	17.7	0.54	0.69	0.54	39.9
6	R2	401	24	422	6.0	* 0.770	66.7	LOS E	13.7	100.5	1.00	0.88	1.12	22.8
Approach		474	32	499	6.8	0.770	59.5	LOS E	13.7	100.5	0.93	0.85	1.03	24.4
North: Campbelltown Rd (SB)														
7	L2	610	57	642	9.3	0.446	7.8	LOS A	8.3	63.0	0.29	0.64	0.29	49.1
8	T1	1761	51	1854	2.9	* 0.807	20.1	LOS C	46.2	331.5	0.81	0.75	0.81	45.1
Approach		2371	108	2496	4.6	0.807	16.9	LOS B	46.2	331.5	0.68	0.72	0.68	45.8
All Vehicles		4472	180	4707	4.0	0.807	21.4	LOS C	46.2	331.5	0.65	0.64	0.66	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - PM (Site Folder: 2022 Base)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	36	1	38	2.8	0.158	5.5	LOS A	0.7	5.0	0.51	0.56	0.51	51.0
2	T1	102	3	107	2.9	0.158	5.4	LOS A	0.7	5.0	0.51	0.56	0.51	55.6
3	R2	211	3	222	1.4	0.197	10.7	LOS B	0.9	6.6	0.51	0.73	0.51	52.1
Approach		349	7	367	2.0	0.197	8.6	LOS A	0.9	6.6	0.51	0.66	0.51	53.0
East: Rose Payten Dr (WB)														
4	L2	218	1	229	0.5	0.295	4.9	LOS A	1.5	10.7	0.50	0.55	0.50	54.0
5	T1	341	24	359	7.0	0.295	5.1	LOS A	1.5	10.7	0.51	0.55	0.51	52.9
6	R2	46	3	48	6.5	0.295	10.9	LOS B	1.4	10.7	0.52	0.55	0.52	55.2
Approach		605	28	637	4.6	0.295	5.4	LOS A	1.5	10.7	0.51	0.55	0.51	53.6
North: Airds Rd (SB)														
7	L2	81	1	85	1.2	0.270	6.4	LOS A	1.4	9.8	0.67	0.67	0.67	53.3
8	T1	239	8	252	3.3	0.270	6.6	LOS A	1.4	9.8	0.68	0.72	0.68	54.0
9	R2	97	7	102	7.2	0.270	12.9	LOS B	1.3	9.3	0.68	0.81	0.68	50.1
Approach		417	16	439	3.8	0.270	8.0	LOS A	1.4	9.8	0.68	0.73	0.68	53.1
West: Rose Payten Dr (EB)														
10	L2	165	34	174	20.6	0.415	5.4	LOS A	2.3	17.6	0.53	0.54	0.53	51.0
11	T1	645	37	679	5.7	0.415	5.1	LOS A	2.3	17.6	0.54	0.55	0.54	53.4
12	R2	54	1	57	1.9	0.415	10.8	LOS B	2.3	16.5	0.54	0.55	0.54	53.2
Approach		864	72	909	8.3	0.415	5.6	LOS A	2.3	17.6	0.54	0.54	0.54	52.9
All Vehicles		2235	123	2353	5.5	0.415	6.5	LOS A	2.3	17.6	0.55	0.60	0.55	53.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - AM (Site Folder: 2022 Base + Dev)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1176	53	1238	4.5	0.472	9.6	LOS A	17.5	127.5	0.49	0.45	0.49	51.8
3	R2	311	26	327	8.4	* 0.714	67.2	LOS E	10.5	78.5	1.00	0.85	1.08	22.4
Approach		1487	79	1565	5.3	0.714	21.7	LOS C	17.5	127.5	0.60	0.53	0.62	43.1
East: Rose Payten Dr														
4	L2	52	15	55	28.8	0.086	14.2	LOS B	1.2	10.7	0.42	0.65	0.42	43.3
6	R2	497	70	523	14.1	* 0.720	58.5	LOS E	15.9	124.6	0.99	0.86	1.02	24.6
Approach		549	85	578	15.5	0.720	54.3	LOS D	15.9	124.6	0.93	0.84	0.97	25.6
North: Campbelltown Rd (SB)														
7	L2	469	59	494	12.6	0.364	7.9	LOS A	6.3	48.7	0.28	0.64	0.28	48.6
8	T1	1361	41	1433	3.0	* 0.708	25.5	LOS C	34.1	245.2	0.83	0.75	0.83	42.2
Approach		1830	100	1926	5.5	0.708	21.0	LOS C	34.1	245.2	0.69	0.72	0.69	43.3
All Vehicles		3866	264	4069	6.8	0.720	26.0	LOS C	34.1	245.2	0.69	0.67	0.70	40.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - AM (Site Folder: 2022 Base + Dev)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	27	2	28	7.4	0.217	5.7	LOS A	1.0	7.6	0.56	0.56	0.56	50.1
2	T1	185	11	195	5.9	0.217	5.5	LOS A	1.0	7.6	0.57	0.56	0.57	55.1
3	R2	185	1	195	0.5	0.217	11.5	LOS B	1.0	7.0	0.57	0.80	0.57	51.9
Approach		397	14	418	3.5	0.217	8.3	LOS A	1.0	7.6	0.57	0.67	0.57	53.3
East: Rose Payten Dr (WB)														
4	L2	288	8	303	2.8	0.367	4.6	LOS A	2.0	14.5	0.44	0.52	0.44	54.2
5	T1	456	48	480	10.5	0.367	4.8	LOS A	2.0	14.5	0.46	0.52	0.46	52.9
6	R2	75	3	79	4.0	0.367	10.4	LOS B	1.9	14.7	0.46	0.53	0.46	55.5
Approach		819	59	862	7.2	0.367	5.2	LOS A	2.0	14.7	0.45	0.52	0.45	53.7
North: Airds Rd (SB)														
7	L2	22	2	23	9.1	0.145	5.9	LOS A	0.7	5.4	0.59	0.59	0.59	53.4
8	T1	127	19	134	15.0	0.145	6.0	LOS A	0.7	5.4	0.59	0.63	0.59	54.4
9	R2	65	35	68	53.8	0.145	13.7	LOS B	0.6	6.0	0.61	0.80	0.61	45.9
Approach		214	56	225	26.2	0.145	8.3	LOS A	0.7	6.0	0.60	0.67	0.60	51.9
West: Rose Payten Dr (EB)														
10	L2	282	39	297	13.8	0.402	5.5	LOS A	2.1	16.3	0.56	0.60	0.56	51.3
11	T1	454	46	478	10.1	0.402	5.5	LOS A	2.1	16.3	0.57	0.59	0.57	53.1
12	R2	43	0	45	0.0	0.402	11.0	LOS B	2.1	15.5	0.57	0.58	0.57	53.0
Approach		779	85	820	10.9	0.402	5.8	LOS A	2.1	16.3	0.57	0.59	0.57	52.4
All Vehicles		2209	214	2325	9.7	0.402	6.3	LOS A	2.1	16.3	0.53	0.59	0.53	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - PM (Site Folder: 2022 Base + Dev)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1372	25	1444	1.8	0.497	6.6	LOS A	17.6	125.1	0.43	0.39	0.43	54.1
3	R2	258	16	272	6.2	* 0.763	72.2	LOS E	9.0	66.6	1.00	0.87	1.16	21.5
Approach		1630	41	1716	2.5	0.763	17.0	LOS B	17.6	125.1	0.52	0.47	0.54	46.1
East: Rose Payten Dr														
4	L2	74	8	78	10.8	0.146	19.8	LOS B	2.3	17.9	0.54	0.69	0.54	39.9
6	R2	407	25	428	6.1	* 0.783	67.3	LOS E	14.0	102.9	1.00	0.89	1.13	22.7
Approach		481	33	506	6.9	0.783	60.0	LOS E	14.0	102.9	0.93	0.86	1.04	24.3
North: Campbelltown Rd (SB)														
7	L2	617	58	649	9.4	0.452	7.8	LOS A	8.5	64.5	0.30	0.65	0.30	49.0
8	T1	1761	51	1854	2.9	* 0.808	20.1	LOS C	46.3	332.2	0.81	0.75	0.81	45.1
Approach		2378	109	2503	4.6	0.808	16.9	LOS B	46.3	332.2	0.68	0.72	0.68	45.8
All Vehicles		4489	183	4725	4.1	0.808	21.5	LOS C	46.3	332.2	0.65	0.65	0.67	42.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - PM (Site Folder: 2022 Base + Dev)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	36	1	38	2.8	0.165	5.6	LOS A	0.7	5.3	0.52	0.57	0.52	50.9
2	T1	108	4	114	3.7	0.165	5.5	LOS A	0.7	5.3	0.52	0.57	0.52	55.5
3	R2	211	3	222	1.4	0.198	10.7	LOS B	0.9	6.7	0.51	0.73	0.51	52.1
Approach		355	8	374	2.3	0.198	8.6	LOS A	0.9	6.7	0.51	0.67	0.51	53.0
East: Rose Payten Dr (WB)														
4	L2	218	1	229	0.5	0.301	4.9	LOS A	1.5	11.0	0.52	0.56	0.52	54.0
5	T1	341	24	359	7.0	0.301	5.2	LOS A	1.5	11.0	0.53	0.56	0.53	52.8
6	R2	49	4	52	8.2	0.301	11.0	LOS B	1.5	11.0	0.53	0.57	0.53	55.1
Approach		608	29	640	4.8	0.301	5.6	LOS A	1.5	11.0	0.52	0.56	0.52	53.5
North: Airds Rd (SB)														
7	L2	86	2	91	2.3	0.289	6.4	LOS A	1.5	10.7	0.68	0.68	0.68	53.3
8	T1	254	10	267	3.9	0.289	6.7	LOS A	1.5	10.7	0.68	0.73	0.68	53.9
9	R2	103	8	108	7.8	0.289	13.0	LOS B	1.4	10.2	0.69	0.81	0.69	50.0
Approach		443	20	466	4.5	0.289	8.1	LOS A	1.5	10.7	0.69	0.74	0.69	53.0
West: Rose Payten Dr (EB)														
10	L2	175	36	184	20.6	0.423	5.5	LOS A	2.3	18.0	0.54	0.54	0.54	51.0
11	T1	645	37	679	5.7	0.423	5.2	LOS A	2.3	18.0	0.54	0.55	0.54	53.4
12	R2	54	1	57	1.9	0.423	10.9	LOS B	2.3	16.8	0.55	0.56	0.55	53.1
Approach		874	74	920	8.5	0.423	5.6	LOS A	2.3	18.0	0.54	0.55	0.54	52.9
All Vehicles		2280	131	2400	5.7	0.423	6.5	LOS A	2.3	18.0	0.56	0.61	0.56	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - AM (Site Folder: 2032 Base)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1412	64	1486	4.5	0.567	10.7	LOS B	23.3	169.8	0.55	0.51	0.55	51.0
3	R2	367	30	386	8.2	* 0.894	79.8	LOS E	14.0	104.8	1.00	0.98	1.36	20.1
Approach		1779	94	1873	5.3	0.894	24.9	LOS C	23.3	169.8	0.64	0.60	0.72	41.4
East: Rose Payten Dr														
4	L2	62	18	65	29.0	0.111	21.4	LOS C	2.0	17.7	0.55	0.68	0.55	38.4
6	R2	593	82	624	13.8	* 0.874	70.1	LOS E	22.3	174.5	1.00	0.96	1.24	22.1
Approach		655	100	689	15.3	0.874	65.5	LOS E	22.3	174.5	0.96	0.93	1.17	23.0
North: Campbelltown Rd (SB)														
7	L2	553	68	582	12.3	0.434	8.9	LOS A	9.4	72.7	0.34	0.66	0.34	47.8
8	T1	1633	49	1719	3.0	* 0.883	35.3	LOS D	55.1	395.6	0.92	0.91	1.00	37.9
Approach		2186	117	2301	5.4	0.883	28.6	LOS C	55.1	395.6	0.78	0.85	0.83	39.5
All Vehicles		4620	311	4863	6.7	0.894	32.4	LOS C	55.1	395.6	0.75	0.76	0.84	37.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - AM (Site Folder: 2032 Base)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	30	2	32	6.7	0.245	6.0	LOS A	1.2	9.0	0.62	0.60	0.62	49.8
2	T1	194	10	204	5.2	0.245	5.9	LOS A	1.2	9.0	0.62	0.60	0.62	54.9
3	R2	203	1	214	0.5	0.256	12.0	LOS B	1.2	8.7	0.63	0.84	0.63	51.7
Approach		427	13	449	3.0	0.256	8.8	LOS A	1.2	9.0	0.63	0.71	0.63	53.0
East: Rose Payten Dr (WB)														
4	L2	346	10	364	2.9	0.443	4.7	LOS A	2.6	19.0	0.49	0.53	0.49	54.0
5	T1	548	58	577	10.6	0.443	4.9	LOS A	2.6	19.0	0.51	0.54	0.51	52.6
6	R2	85	2	89	2.4	0.443	10.5	LOS B	2.5	19.1	0.51	0.54	0.51	55.4
Approach		979	70	1031	7.2	0.443	5.4	LOS A	2.6	19.1	0.50	0.54	0.50	53.5
North: Airds Rd (SB)														
7	L2	23	1	24	4.3	0.164	6.2	LOS A	0.8	6.2	0.64	0.63	0.64	53.3
8	T1	132	15	139	11.4	0.164	6.4	LOS A	0.8	6.2	0.65	0.66	0.65	54.2
9	R2	68	36	72	52.9	0.164	14.4	LOS B	0.7	6.9	0.66	0.84	0.66	45.3
Approach		223	52	235	23.3	0.164	8.8	LOS A	0.8	6.9	0.65	0.71	0.65	51.6
West: Rose Payten Dr (EB)														
10	L2	321	43	338	13.4	0.486	6.0	LOS A	2.9	22.6	0.62	0.67	0.66	50.9
11	T1	545	55	574	10.1	0.486	6.1	LOS A	2.9	22.6	0.63	0.67	0.68	52.6
12	R2	52	0	55	0.0	0.486	11.7	LOS B	2.9	21.7	0.64	0.66	0.69	52.5
Approach		918	98	966	10.7	0.486	6.4	LOS A	2.9	22.6	0.63	0.67	0.67	52.0
All Vehicles		2547	233	2681	9.1	0.486	6.6	LOS A	2.9	22.6	0.58	0.63	0.60	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - PM (Site Folder: 2032 Base)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1646	30	1733	1.8	0.590	7.1	LOS A	23.2	165.2	0.47	0.44	0.47	53.7
3	R2	306	18	322	5.9	* 0.979	102.7	LOS F	13.4	98.4	1.00	1.09	1.66	17.0
Approach		1952	48	2055	2.5	0.979	22.0	LOS C	23.2	165.2	0.55	0.54	0.66	43.2
East: Rose Payten Dr														
4	L2	88	10	93	11.4	0.197	40.0	LOS D	4.3	32.8	0.79	0.74	0.79	30.1
6	R2	481	29	506	6.0	* 0.973	98.9	LOS F	21.1	155.4	1.00	1.08	1.56	17.7
Approach		569	39	599	6.9	0.973	89.8	LOS F	21.1	155.4	0.97	1.03	1.44	18.9
North: Campbelltown Rd (SB)														
7	L2	732	68	771	9.3	0.540	8.6	LOS A	13.0	98.6	0.37	0.67	0.37	48.3
8	T1	2113	61	2224	2.9	* 1.028	95.3	LOS F	124.7	894.8	1.00	1.34	1.50	23.2
Approach		2845	129	2995	4.5	1.028	73.0	LOS E	124.7	894.8	0.84	1.17	1.21	25.8
All Vehicles		5366	216	5648	4.0	1.028	56.2	LOS E	124.7	894.8	0.75	0.92	1.03	29.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - PM (Site Folder: 2032 Base)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	40	1	42	2.5	0.186	5.9	LOS A	0.8	6.0	0.56	0.60	0.56	50.7
2	T1	112	3	118	2.7	0.186	5.8	LOS A	0.8	6.0	0.56	0.60	0.56	55.3
3	R2	232	3	244	1.3	0.229	11.0	LOS B	1.1	8.0	0.56	0.77	0.56	51.9
Approach		384	7	404	1.8	0.229	9.0	LOS A	1.1	8.0	0.56	0.70	0.56	52.8
East: Rose Payten Dr (WB)														
4	L2	261	1	275	0.4	0.367	5.1	LOS A	2.0	14.2	0.56	0.57	0.56	53.8
5	T1	409	29	431	7.1	0.367	5.4	LOS A	2.0	14.2	0.57	0.58	0.57	52.6
6	R2	56	4	59	7.1	0.367	11.2	LOS B	1.9	14.1	0.58	0.58	0.58	54.9
Approach		726	34	764	4.7	0.367	5.7	LOS A	2.0	14.2	0.57	0.58	0.57	53.3
North: Airds Rd (SB)														
7	L2	89	1	94	1.1	0.336	7.0	LOS A	1.8	13.2	0.75	0.74	0.75	53.0
8	T1	263	9	277	3.4	0.336	7.4	LOS A	1.8	13.2	0.75	0.79	0.76	53.5
9	R2	107	8	113	7.5	0.336	14.0	LOS B	1.7	12.5	0.75	0.88	0.78	49.3
Approach		459	18	483	3.9	0.336	8.8	LOS A	1.8	13.2	0.75	0.80	0.77	52.6
West: Rose Payten Dr (EB)														
10	L2	198	41	208	20.7	0.513	6.0	LOS A	3.3	25.1	0.61	0.61	0.63	50.5
11	T1	774	44	815	5.7	0.513	5.7	LOS A	3.3	25.1	0.61	0.62	0.65	52.9
12	R2	65	1	68	1.5	0.513	11.5	LOS B	3.3	23.8	0.62	0.63	0.66	52.6
Approach		1037	86	1092	8.3	0.513	6.2	LOS A	3.3	25.1	0.61	0.62	0.64	52.4
All Vehicles		2606	145	2743	5.6	0.513	6.9	LOS A	3.3	25.1	0.62	0.65	0.63	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - AM (Site Folder: 2032 Base + Dev)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1412	64	1486	4.5	0.567	10.7	LOS B	23.3	169.8	0.55	0.51	0.55	51.0
3	R2	372	31	392	8.3	* 0.854	74.6	LOS E	13.6	101.9	1.00	0.94	1.27	21.0
Approach		1784	95	1878	5.3	0.854	24.0	LOS C	23.3	169.8	0.64	0.60	0.70	41.9
East: Rose Payten Dr														
4	L2	63	18	66	28.6	0.111	22.9	LOS C	2.1	18.7	0.58	0.69	0.58	37.6
6	R2	596	84	627	14.1	* 0.881	71.1	LOS E	22.6	177.6	1.00	0.96	1.25	21.9
Approach		659	102	694	15.5	0.881	66.5	LOS E	22.6	177.6	0.96	0.94	1.19	22.8
North: Campbelltown Rd (SB)														
7	L2	561	70	591	12.5	0.443	8.9	LOS A	9.7	75.1	0.35	0.66	0.35	47.7
8	T1	1633	49	1719	3.0	* 0.900	39.6	LOS D	58.5	419.9	0.94	0.95	1.05	36.3
Approach		2194	119	2309	5.4	0.900	31.7	LOS C	58.5	419.9	0.79	0.88	0.87	38.1
All Vehicles		4637	316	4881	6.8	0.900	33.7	LOS C	58.5	419.9	0.76	0.78	0.85	36.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - AM (Site Folder: 2032 Base + Dev)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	30	2	32	6.7	0.257	6.1	LOS A	1.3	9.6	0.63	0.60	0.63	49.7
2	T1	203	12	214	5.9	0.257	6.0	LOS A	1.3	9.6	0.63	0.60	0.63	54.8
3	R2	203	1	214	0.5	0.260	12.0	LOS B	1.3	8.8	0.64	0.85	0.64	51.7
Approach		436	15	459	3.4	0.260	8.8	LOS A	1.3	9.6	0.64	0.72	0.64	53.0
East: Rose Payten Dr (WB)														
4	L2	346	10	364	2.9	0.450	4.8	LOS A	2.6	19.4	0.51	0.54	0.51	54.0
5	T1	548	58	577	10.6	0.450	5.0	LOS A	2.6	19.4	0.52	0.55	0.52	52.5
6	R2	89	3	94	3.4	0.450	10.6	LOS B	2.6	19.4	0.53	0.55	0.53	55.2
Approach		983	71	1035	7.2	0.450	5.4	LOS A	2.6	19.4	0.52	0.54	0.52	53.4
North: Airds Rd (SB)														
7	L2	24	2	25	8.3	0.176	6.3	LOS A	0.9	6.9	0.65	0.64	0.65	53.1
8	T1	139	20	146	14.4	0.176	6.5	LOS A	0.9	6.9	0.65	0.67	0.65	54.1
9	R2	72	39	76	54.2	0.176	14.5	LOS B	0.8	7.6	0.66	0.85	0.66	45.2
Approach		235	61	247	26.0	0.176	8.9	LOS A	0.9	7.6	0.66	0.72	0.66	51.5
West: Rose Payten Dr (EB)														
10	L2	335	46	353	13.7	0.498	6.1	LOS A	3.1	23.7	0.63	0.69	0.68	50.9
11	T1	545	55	574	10.1	0.498	6.3	LOS A	3.1	23.7	0.64	0.69	0.70	52.6
12	R2	52	0	55	0.0	0.498	11.8	LOS B	3.0	22.7	0.65	0.68	0.71	52.4
Approach		932	101	981	10.8	0.498	6.5	LOS A	3.1	23.7	0.64	0.69	0.70	51.9
All Vehicles		2586	248	2722	9.6	0.498	6.7	LOS A	3.1	23.7	0.59	0.64	0.61	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [IS01 Campbelltown Rd / Rose Payten Dr - PM (Site Folder: 2032 Base + Dev)]

IS01 Campbelltown Rd / Rose Payten Dr - AM
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbelltown Rd (NB)														
2	T1	1646	30	1733	1.8	0.590	7.1	LOS A	23.2	165.2	0.47	0.44	0.47	53.7
3	R2	309	19	325	6.1	* 0.990	107.8	LOS F	13.9	102.3	1.00	1.11	1.70	16.4
Approach		1955	49	2058	2.5	0.990	23.0	LOS C	23.2	165.2	0.56	0.54	0.67	42.7
East: Rose Payten Dr														
4	L2	89	10	94	11.2	0.199	40.1	LOS D	4.3	33.2	0.80	0.74	0.80	30.1
6	R2	486	29	512	6.0	* 0.982	103.1	LOS F	21.8	160.7	1.00	1.10	1.59	17.2
Approach		575	39	605	6.8	0.982	93.3	LOS F	21.8	160.7	0.97	1.04	1.47	18.4
North: Campbelltown Rd (SB)														
7	L2	739	70	778	9.5	0.547	8.6	LOS A	13.4	101.2	0.37	0.67	0.37	48.2
8	T1	2113	61	2224	2.9	* 1.028	95.9	LOS F	125.2	897.8	1.00	1.34	1.51	23.1
Approach		2852	131	3002	4.6	1.028	73.3	LOS E	125.2	897.8	0.84	1.17	1.21	25.7
All Vehicles		5382	219	5665	4.1	1.028	57.2	LOS E	125.2	897.8	0.75	0.93	1.04	29.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Campbelltown Rd (NB)												
P1	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	231.4	223.8	0.97
East: Rose Payten Dr												
P2	Full	50	53	59.3	LOS E	0.2	0.2	0.96	0.96	226.3	217.2	0.96
All Pedestrians		100	105	59.3	LOS E	0.2	0.2	0.96	0.96	228.9	220.5	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [IS02 Rose Payten Dr / Airds Rd - PM (Site Folder: 2032 Base + Dev)]

IS02 Rose Payten Dr / Airds Rd - AM
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Airds Rd (NB)														
1	L2	40	1	42	2.5	0.195	5.9	LOS A	0.9	6.5	0.57	0.61	0.57	50.6
2	T1	119	5	125	4.2	0.195	5.9	LOS A	0.9	6.5	0.57	0.61	0.57	55.2
3	R2	232	3	244	1.3	0.230	11.0	LOS B	1.1	8.1	0.57	0.77	0.57	51.9
Approach		391	9	412	2.3	0.230	8.9	LOS A	1.1	8.1	0.57	0.70	0.57	52.8
East: Rose Payten Dr (WB)														
4	L2	261	1	275	0.4	0.373	5.1	LOS A	2.0	14.5	0.57	0.58	0.57	53.7
5	T1	409	29	431	7.1	0.373	5.4	LOS A	2.0	14.5	0.58	0.59	0.58	52.5
6	R2	58	4	61	6.9	0.373	11.2	LOS B	1.9	14.4	0.59	0.59	0.59	54.8
Approach		728	34	766	4.7	0.373	5.8	LOS A	2.0	14.5	0.58	0.59	0.58	53.2
North: Airds Rd (SB)														
7	L2	94	2	99	2.1	0.357	7.2	LOS A	2.0	14.5	0.76	0.77	0.78	52.9
8	T1	278	11	293	4.0	0.357	7.6	LOS A	2.0	14.5	0.76	0.81	0.79	53.4
9	R2	112	8	118	7.1	0.357	14.2	LOS B	1.9	13.7	0.76	0.90	0.81	49.3
Approach		484	21	509	4.3	0.357	9.0	LOS A	2.0	14.5	0.76	0.82	0.79	52.5
West: Rose Payten Dr (EB)														
10	L2	209	43	220	20.6	0.522	6.1	LOS A	3.4	26.0	0.62	0.62	0.65	50.5
11	T1	774	44	815	5.7	0.522	5.9	LOS A	3.4	26.0	0.62	0.64	0.66	52.8
12	R2	65	1	68	1.5	0.522	11.6	LOS B	3.4	24.6	0.63	0.65	0.67	52.5
Approach		1048	88	1103	8.4	0.522	6.3	LOS A	3.4	26.0	0.62	0.63	0.66	52.3
All Vehicles		2651	152	2791	5.7	0.522	7.0	LOS A	3.4	26.0	0.63	0.67	0.65	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix C. Design Review

NOTE:

1. CAR PARKING PROVISION:
   1.1 WAREHOUSE A: CAMPBELLTOWN DCP 2015 REQUIRES THE PROVISION OF 75 CAR PARKING SPACES (INCLUDING 1 ACCESSIBLE PARKING SPACE) FOR THE SITE, 75 SPACES (INCLUDING 1 ACCESSIBLE PARKING SPACE) ARE INDICATED ON PLAN.

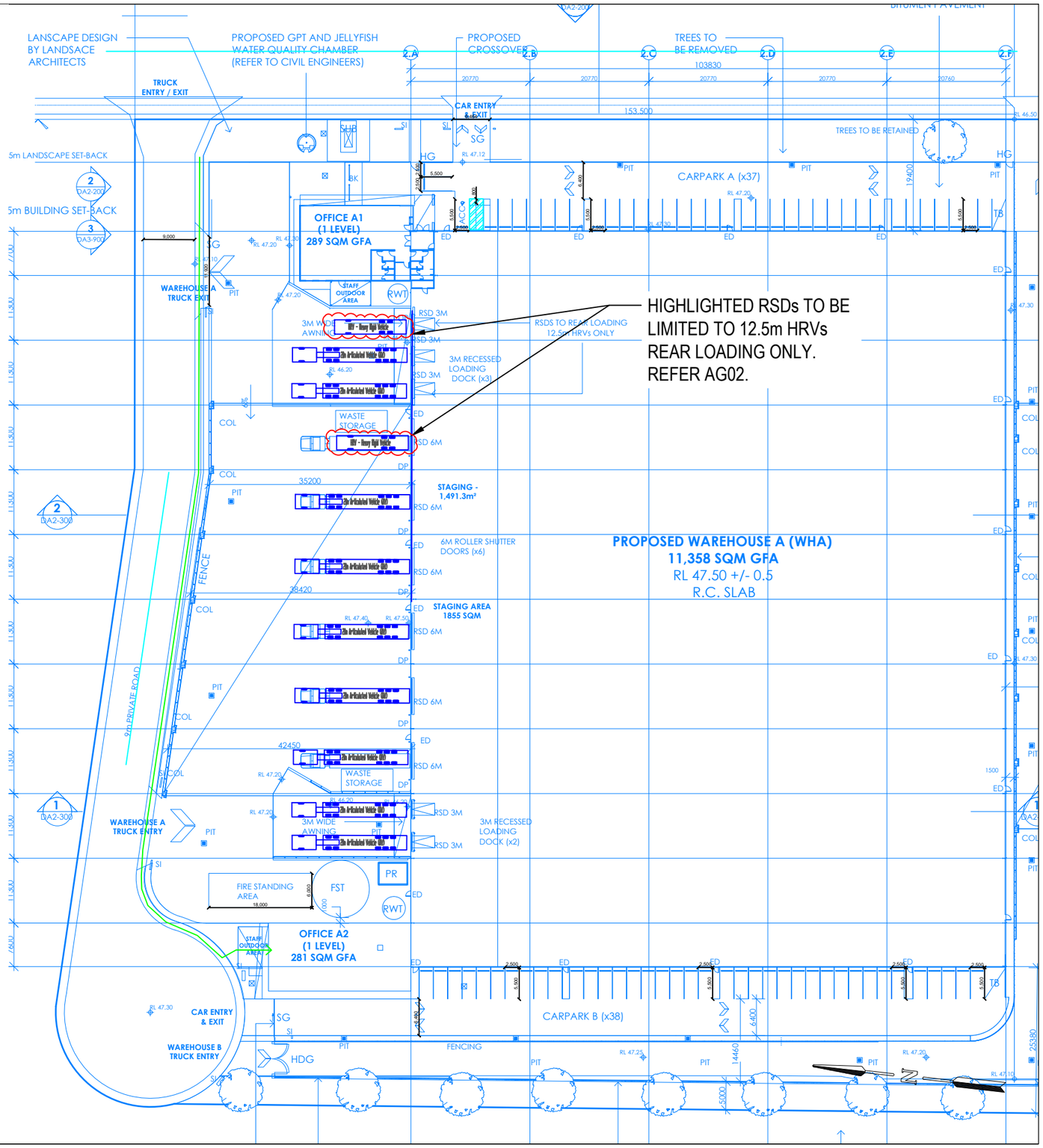
2. CAR PARKING SPACES HAVE BEEN DESIGNED TO USER CLASS 1 AS PER AS2890.1:2004, WHICH REQUIRES PARKING SPACE WIDTH OF 2.4m, LENGTH OF 5.4m, AND AISLE WIDTH OF 6.2m TO BE PROVIDED.

   2.1 PARKING SPACES OTHER THAN THOSE FOR PEOPLE WITH DISABILITIES SHALL BE DELINEATED BY MEANS OF WHITE OR YELLOW LINES 80 TO 100MM WIDE AS PER AS2890.1:2004 CLAUSE 4.4.1.

3. SITE CIRCULATION FOR HEAVY VEHICLE IS ASSUMED TO OCCUR ONE-WAY IN AN ANTI-CLOCKWISE DIRECTION.

4. DESIGN VEHICLES ADOPTED:
   4.1 SITE ACCESS AND CIRCULATION
      4.1.1 20.0m ARTICULATED VEHICLES (DESIGN VEHICLE)
      4.1.2 HRV FOR FIRE CIRCULATION.
   4.2 COMMERCIAL VEHICLE HARDSTAND AREA
      4.2.1 20.0m ARTICULATED VEHICLES (AVs)
      4.2.2 12.5m HEAVY RIGID VEHICLES
   4.3 THE ABOVE ASSUMES 20.0m AV AND HRV COMMERCIAL VEHICLES WILL BE REAR LOADED.

5. BOOM GATE TO BE OPEN DURING OPERATIONAL BUSINESS HOURS.



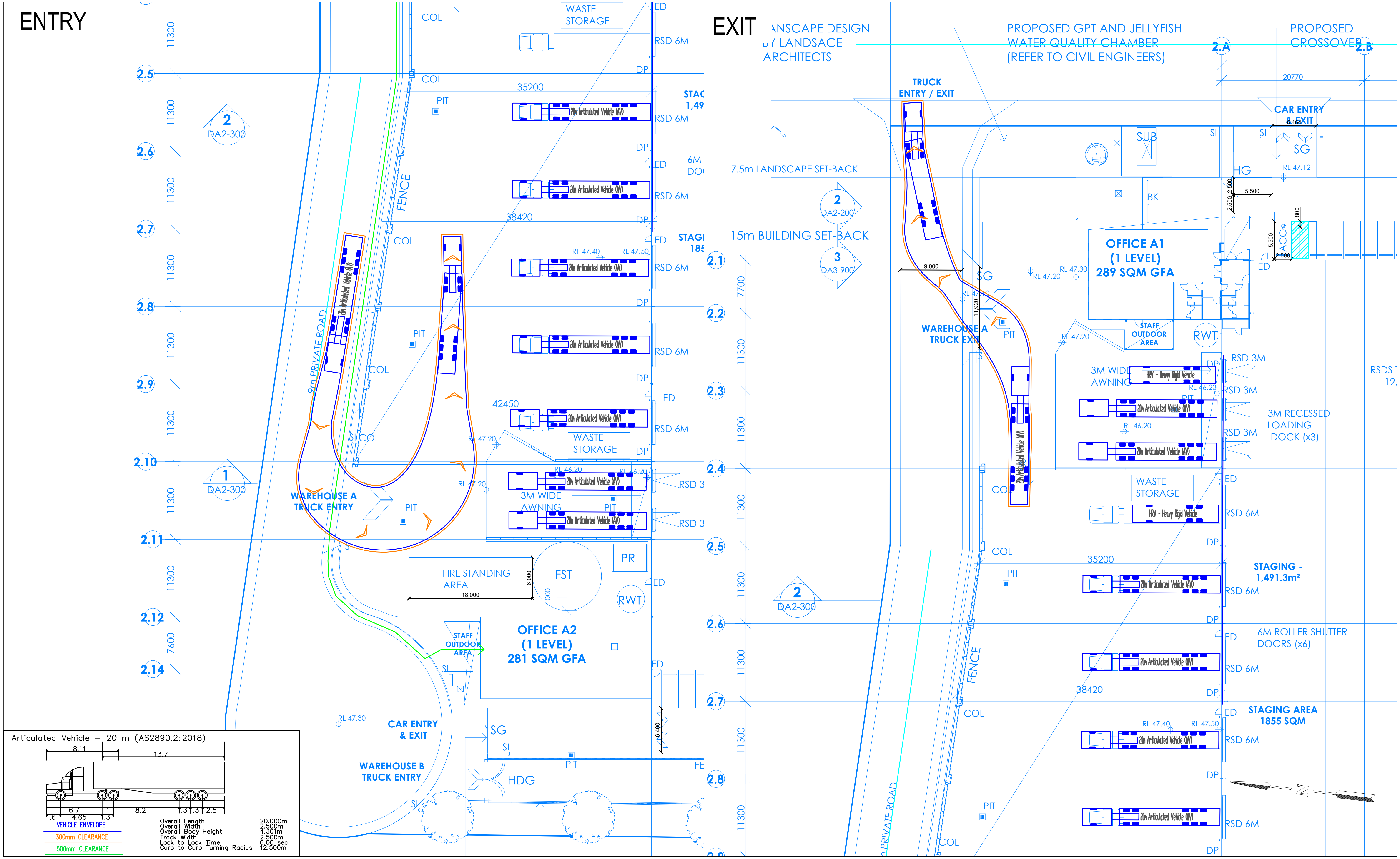
GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Watch This SPACE Design PTY LTD, received 2023.10.26.
Airds Road has a posted speed limit of 60km/hr.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION
AngelaJi	A3	Charter Hall	DESIGN REVIEW
APPROVED BY	DATE	PROJECT	
R. Butler-Madden	29.10.2023	2038	Warehouse A
SCALE			FILE NAME / SHEET
1:800	NTS	149-155a Airds Road, Minto	AG2038-02-v06.dwg / AG00

asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au


ENTRY
EXIT
WAREHOUSE A
TRUCK ENTRY
WAREHOUSE B
TRUCK ENTRY
WAREHOUSE A
TRUCK EXIT
TRUCK
ENTRY / EXIT
CAR ENTRY
& EXIT
OFFICE A1
(1 LEVEL)
289 SQM GFA
OFFICE A2
(1 LEVEL)
281 SQM GFA
FIRE STANDING
AREA
WASTE
STORAGE
STAFF
OUTDOOR
AREA
3M WIDE
AWNING
9m PRIVATE ROAD
FENCE
7.5m LANDSCAPE SET-BACK
15m BUILDING SET-BACK
PROPOSED GPT AND JELLYFISH
WATER QUALITY CHAMBER
(REFER TO CIVIL ENGINEERS)
PROPOSED
CROSSOVER
3M RECESSED
LOADING
DOCK (x3)
6M ROLLER SHUTTER
DOORS (x6)
STAGING -
1,491.3m²
STAGING AREA
1855 SQM
20m Articulated Vehicle (AV)
HRV - Heavy Rigid Vehicle
Articulated Vehicle – 20 m (AS2890.2: 2018)
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m

GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Watch This SPACE Design PTY LTD, received 2023.10.26.
Airds Road has a posted speed limit of 60km/hr.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV   Check Vehicle: 20m AV

DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	1:500

0 5 10

CLIENT
Charter Hall

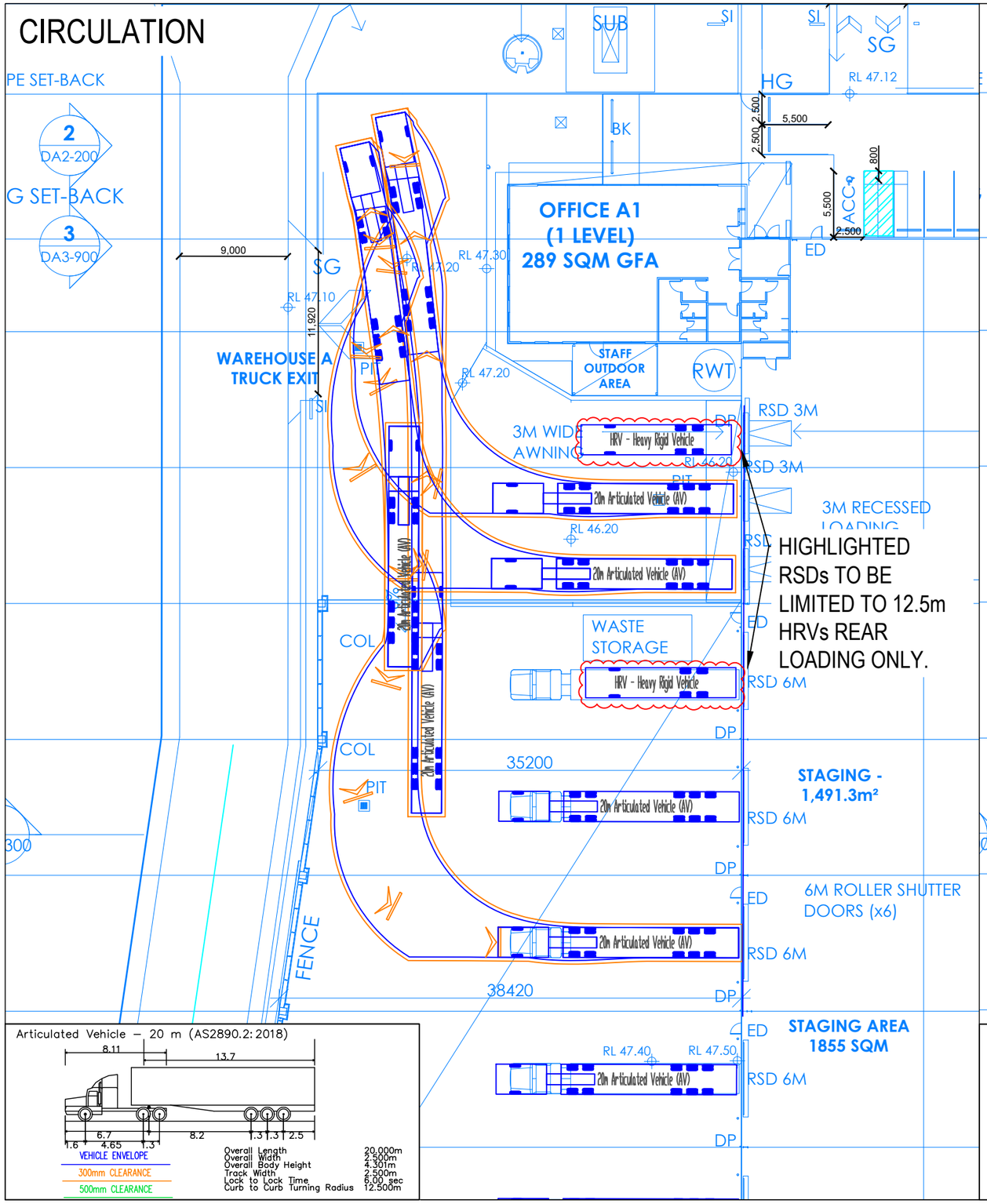
PROJECT
2038
149-155a Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - HV Site Access
20m AV

FILE NAME	SHEET
AG2038-02-v06.dwg	AG01

asongroup
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

CIRCULATION

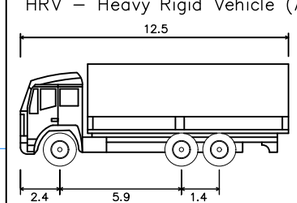


Articulated Vehicle – 20 m (AS2890.2: 2018)

VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	20.000m
Overall Width	2.500m
Overall Body Height	4.301m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

HRV – Heavy Rigid Vehicle (AS/NZS2890.2: 2002)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

GENERAL NOTES

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Base Plan prepared by Watch This SPACE Design PTY LTD, received 2023.10.26.
Airds Road has a posted speed limit of 60km/hr.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 20m AV

DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	1:400
	0 4 8

CLIENT
Charter Hall

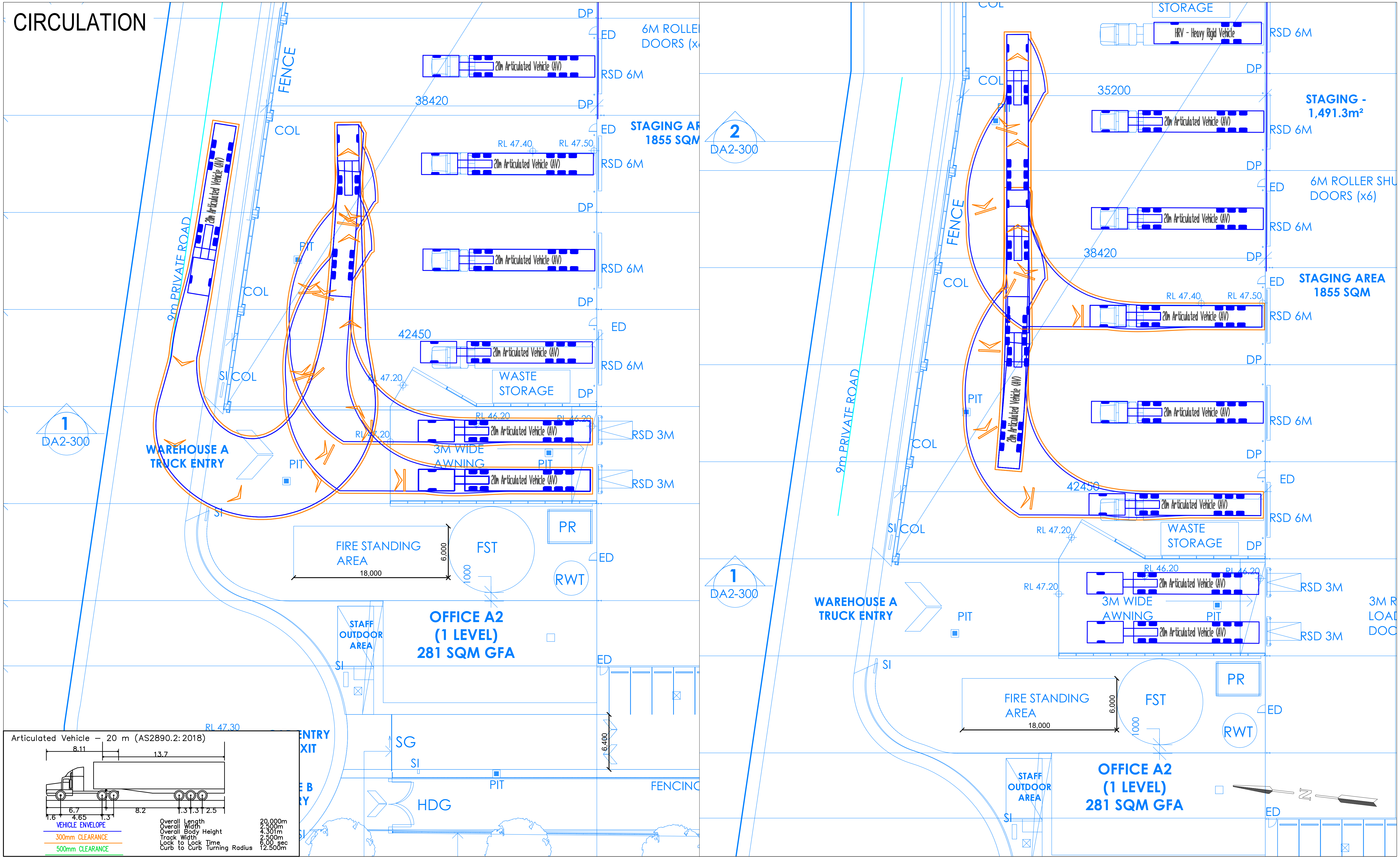
PROJECT
2038
149-155a Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - Warehouse A Hardstand
20m AV, HRV

FILE NAME	SHEET
AG2038-02-v06.dwg	AG02

asongroup
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

CIRCULATION



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Design vehicle: 20m AV Check Vehicle: 20m AV

DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	1:400 (0 4 8)

CLIENT
Charter Hall

PROJECT
2038
149-155a Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - Warehouse A Hardstand
20m AV

FILE NAME	SHEET
AG2038-02-v06.dwg	AG03

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Suite 17.02, Level 17, 1 Castlereagh St
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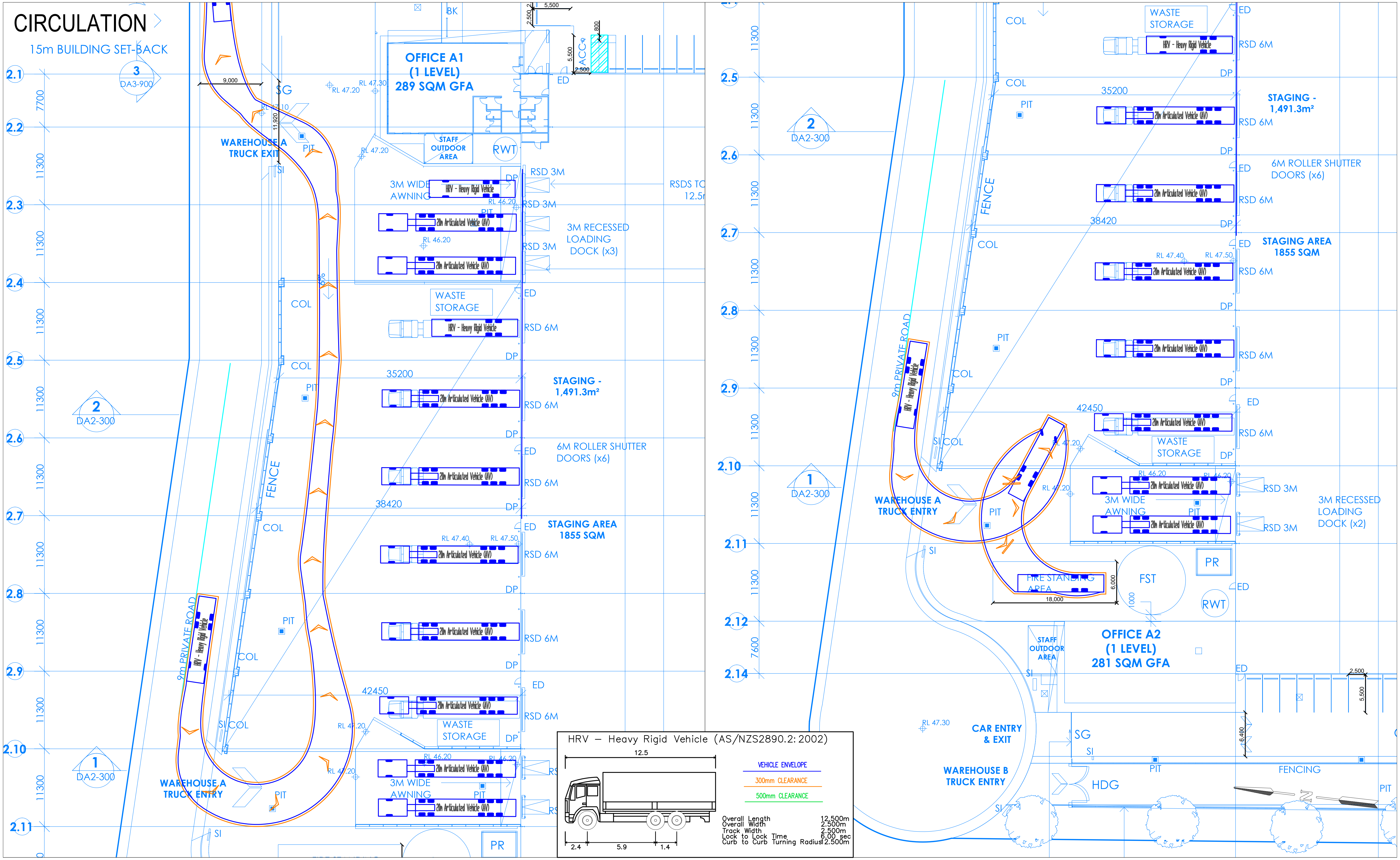
CIRCULATION



GENERAL NOTES

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Base Plan prepared by Watch This SPACE Design PTY LTD, received 2023.10.26.
Airds Road has a posted speed limit of 60km/hr.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 12.5m HRV

DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	#####

CLIENT
Charter Hall

PROJECT
2038
149-155a Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - Hardstand
Fire Truck Circulation 12.5m HRV

FILE NAME	SHEET
AG2038-02-v06.dwg	AG04

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PLOT DATE: 29/10/2023 6:16:01 PM | CAD REFERENCE: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2038\Projects\Design\AG2038-02-v06.dwg | AngelaJi |

NOTE:

1. CAR PARKING PROVISION:
   1.1 WAREHOUSE B: CAMPBELLTOWN DCP 2015 REQUIRES THE PROVISION OF 80 CAR PARKING SPACES (INCLUDING 1 ACCESSIBLE PARKING SPACE) FOR THE SITE, 81 SPACES ARE INDICATED ON PLAN (INCLUDING 1 ACCESSIBLE PARKING SPACE).

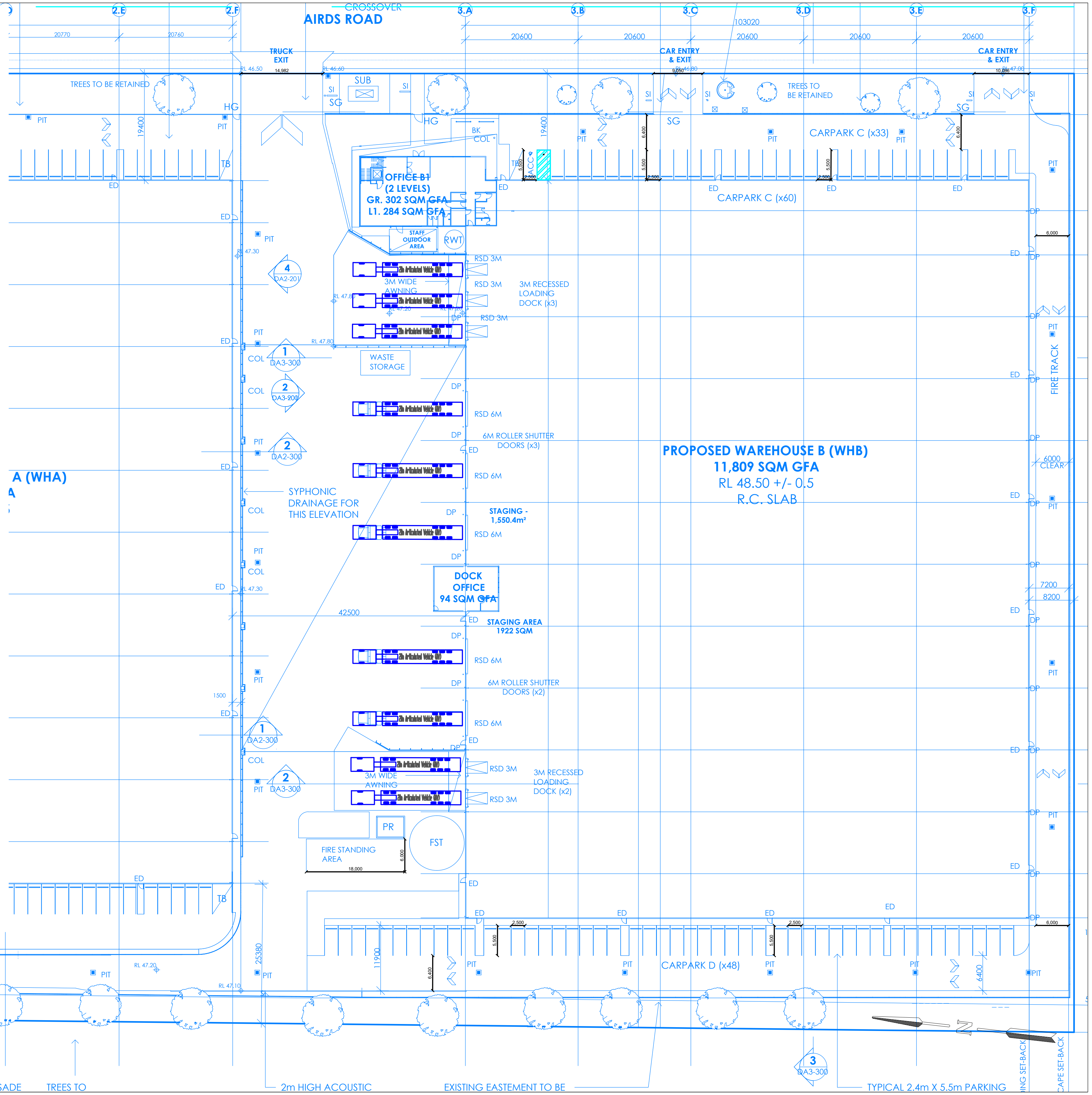
2. CAR PARKING SPACES HAVE BEEN DESIGNED TO USER CLASS 1 AS PER AS2890.1:2004, WHICH REQUIRES SPACE WIDTH OF 2.4m, LENGTH OF 5.4m AND AISLE WIDTH OF 6.2m TO BE PROVIDED.

   2.1 PARKING SPACES OTHER THAN THOSE FOR PEOPLE WITH DISABILITIES SHALL BE DELINEATED BY MEANS OF WHITE OR YELLOW LINES 80 TO 100MM WIDE AS PER AS2890.1:2004 CLAUSE 4.4.1.

3. SITE CIRCULATION FOR HEAVY VEHICLE IS ASSUMED TO OCCUR ONE-WAY IN AN ANTI-CLOCKWISE DIRECTION.

4. DESIGN VEHICLES ADOPTED:
   4.1 SITE ACCESS AND CIRCULATION
      4.1.1 20.0m ARTICULATED VEHICLES (DESIGN VEHICLE)
      4.1.2 HRV FOR FIRE CIRCULATION.
   4.2 COMMERCIAL VEHICLE HARDSTAND AREA
      4.2.1 20.0m ARTICULATED VEHICLES (AVs)
   4.3 THE ABOVE ASSUMES 20.0m AV COMMERCIAL VEHICLES WILL BE REAR LOADED.

5. BOOM GATE TO BE OPEN DURING OPERATIONAL BUSINESS HOURS.



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DESIGNED: AngelaJi	PAPER SIZE: A3	CLIENT: Charter Hall	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: R. Butler-Madden	DATE: 29.10.2023	PROJECT: 2038	Warehouse 2
SCALE: 1:800	NTS	149-155 Airds Road, Minto	FILE NAME: AG2038-03-v06.dwg — SHEET: AG00

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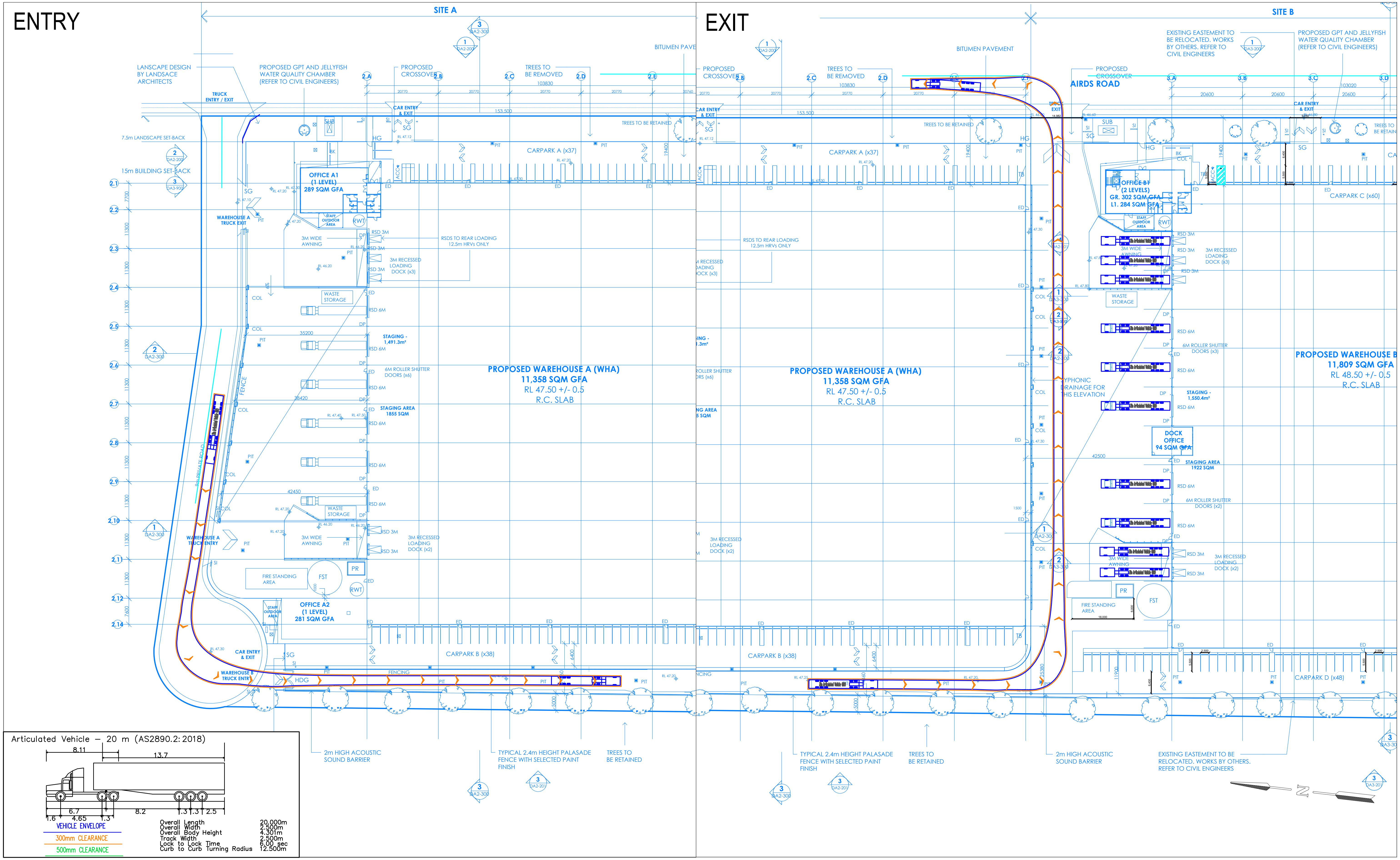
ENTRY
EXIT
SITE A
SITE B
AIRDS ROAD
BITUMEN PAVEMENT
LANSCAPE DESIGN BY LANDSCAPE ARCHITECTS
PROPOSED GPT AND JELLYFISH WATER QUALITY CHAMBER (REFER TO CIVIL ENGINEERS)
PROPOSED CROSSOVER
TREES TO BE REMOVED
TRUCK ENTRY / EXIT
7.5m LANDSCAPE SET-BACK
15m BUILDING SET-BACK
OFFICE A1 (1 LEVEL) 289 SQM GFA
WAREHOUSE A TRUCK EXIT
3M WIDE AWNING
RSDS TO REAR LOADING 12.5m HRVs ONLY
3M RECESSED LOADING DOCK (x3)
WASTE STORAGE
STAGING - 1,491.3m²
6M ROLLER SHUTTER DOORS (x6)
STAGING AREA 1855 SQM
PROPOSED WAREHOUSE A (WHA)
11,358 SQM GFA
RL 47.50 +/- 0.5
R.C. SLAB
CARPARK A (x37)
CARPARK B (x38)
WAREHOUSE A TRUCK ENTRY
FIRE STANDING AREA
OFFICE A2 (1 LEVEL) 281 SQM GFA
CAR ENTRY & EXIT
WAREHOUSE B TRUCK ENTRY
EXISTING EASTEMENT TO BE RELOCATED, WORKS BY OTHERS. REFER TO CIVIL ENGINEERS
OFFICE B1 (2 LEVELS) GR. 302 SQM GFA L1. 284 SQM GFA
PROPOSED WAREHOUSE B
11,809 SQM GFA
RL 48.50 +/- 0.5
R.C. SLAB
CARPARK C (x60)
CARPARK D (x48)
DOCK OFFICE 94 SQM GFA
STAGING AREA 1922 SQM
STAGING - 1,550.4m²
SYPHONIC DRAINAGE FOR THIS ELEVATION
2m HIGH ACOUSTIC SOUND BARRIER
TYPICAL 2.4m HEIGHT PALASADE FENCE WITH SELECTED PAINT FINISH
TREES TO BE RETAINED
Articulated Vehicle – 20 m (AS2890.2: 2018)
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m

GENERAL NOTES

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 20m AV

DESIGNED: AngelaJi	PAPER SIZE: A3	CLIENT: Charter Hall	DOCUMENT INFORMATION: Swept Path Assessment - Site Circulation
APPROVED BY: R. Butler-Madden	DATE: 29.10.2023	PROJECT: 2038	20m AV
SCALE: 1:1000	0 10 20	149-155 Airds Road, Minto	FILE NAME: AG2038-03-v06.dwg; SHEET: AG01

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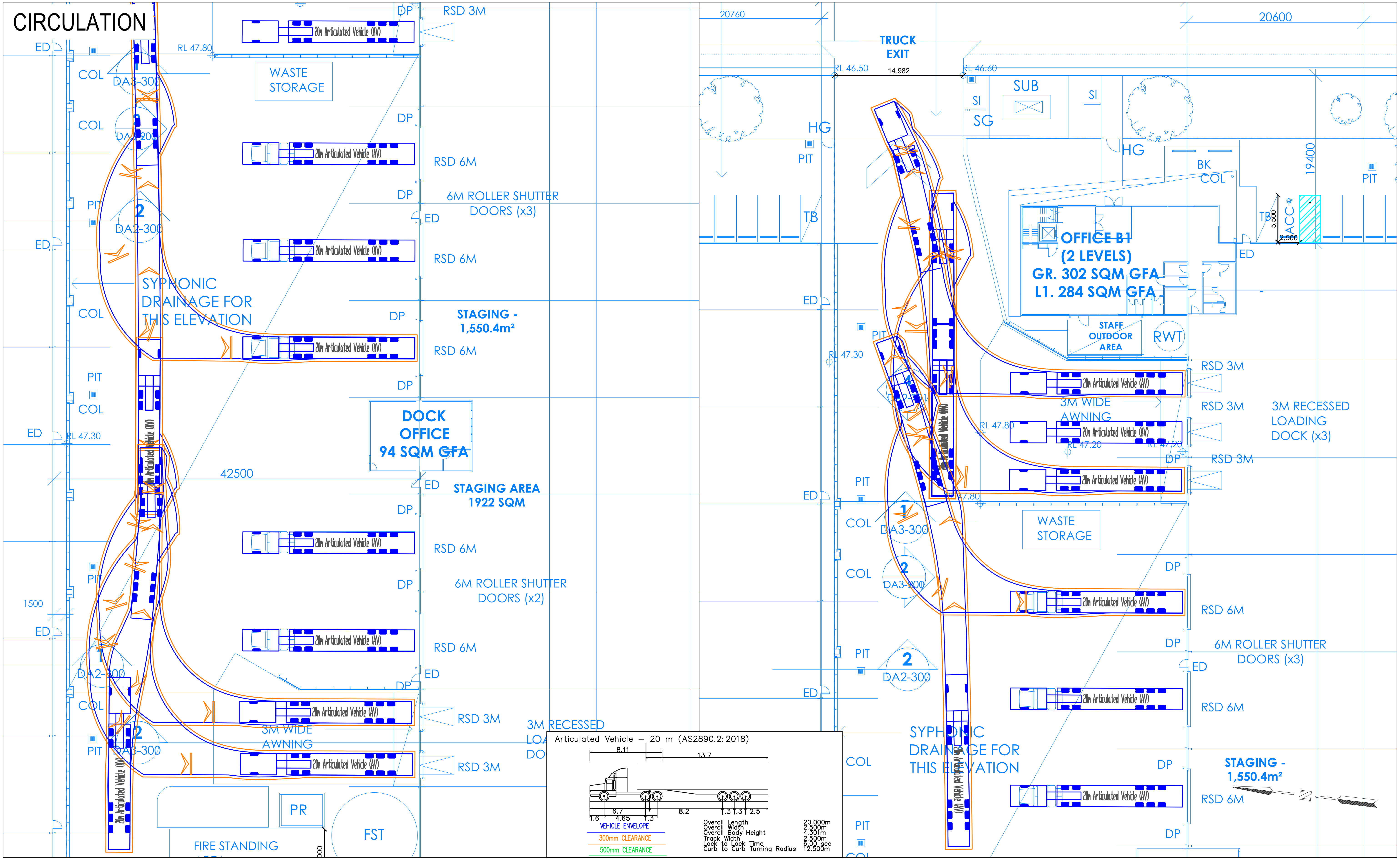

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DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	1:400
CLIENT	Charter Hall
PROJECT	2038
	149-155 Airds Road, Minto
DOCUMENT INFORMATION	Swept Path Assessment - Hardstand
	20m AV
FILE NAME	AG2038-03-v06.dwg
SHEET	AG02

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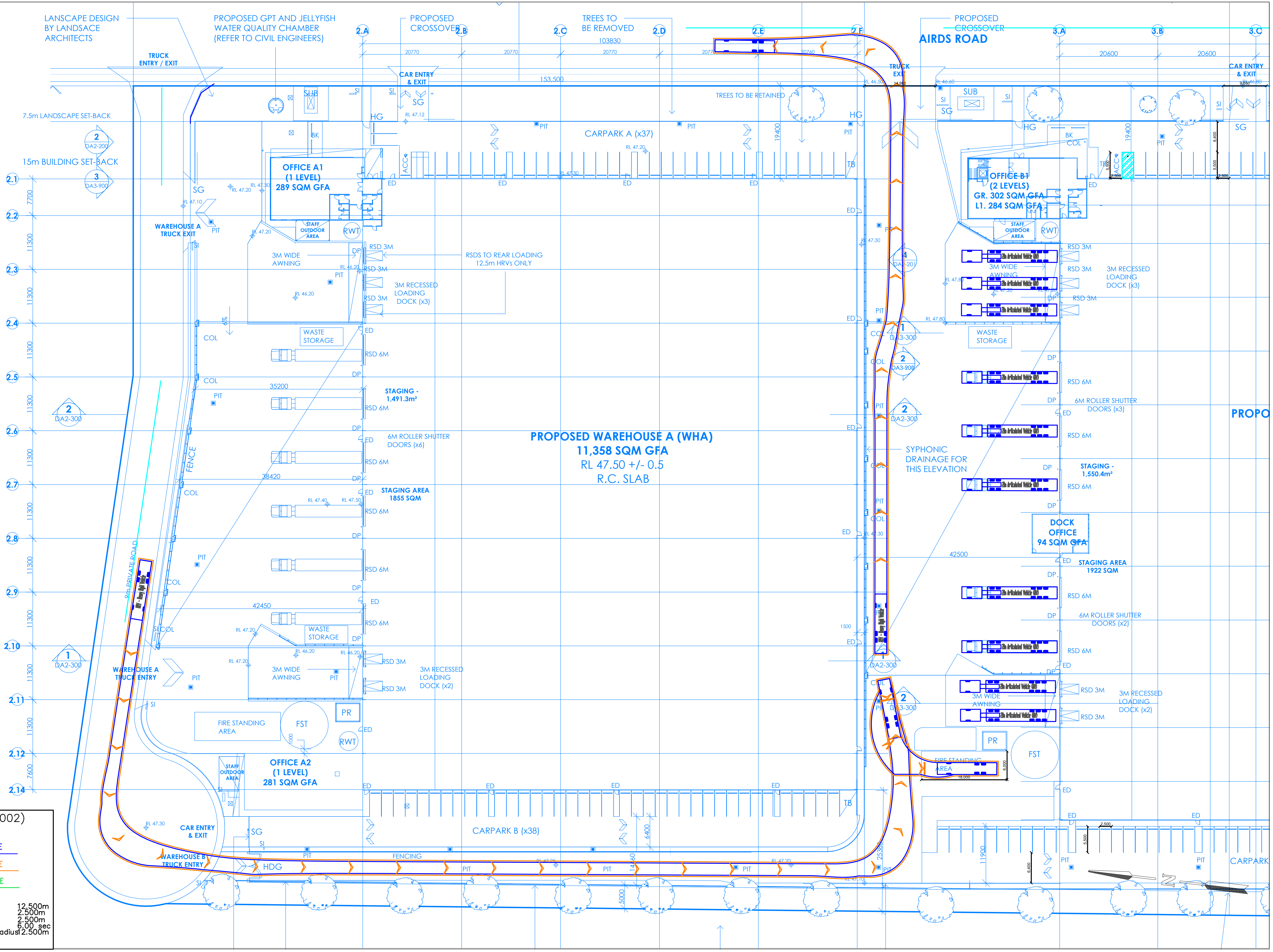
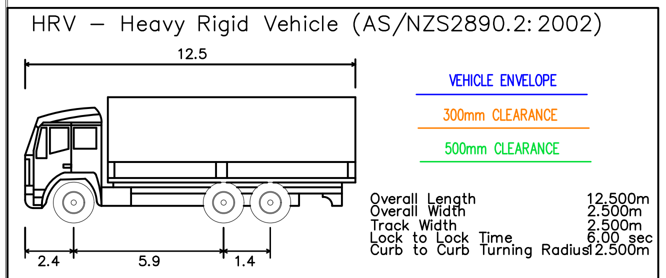
CIRCULATION





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DESIGNED	AngelaJi
PAPER SIZE	A3
APPROVED BY	R. Butler-Madden
DATE	29.10.2023
SCALE	1:800
	NTS

CLIENT
Charter Hall

PROJECT
2038
149-155 Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - Hardstand
Fire Truck Circulation

FILE NAME	SHEET
AG2038-03-v06.dwg	AG03

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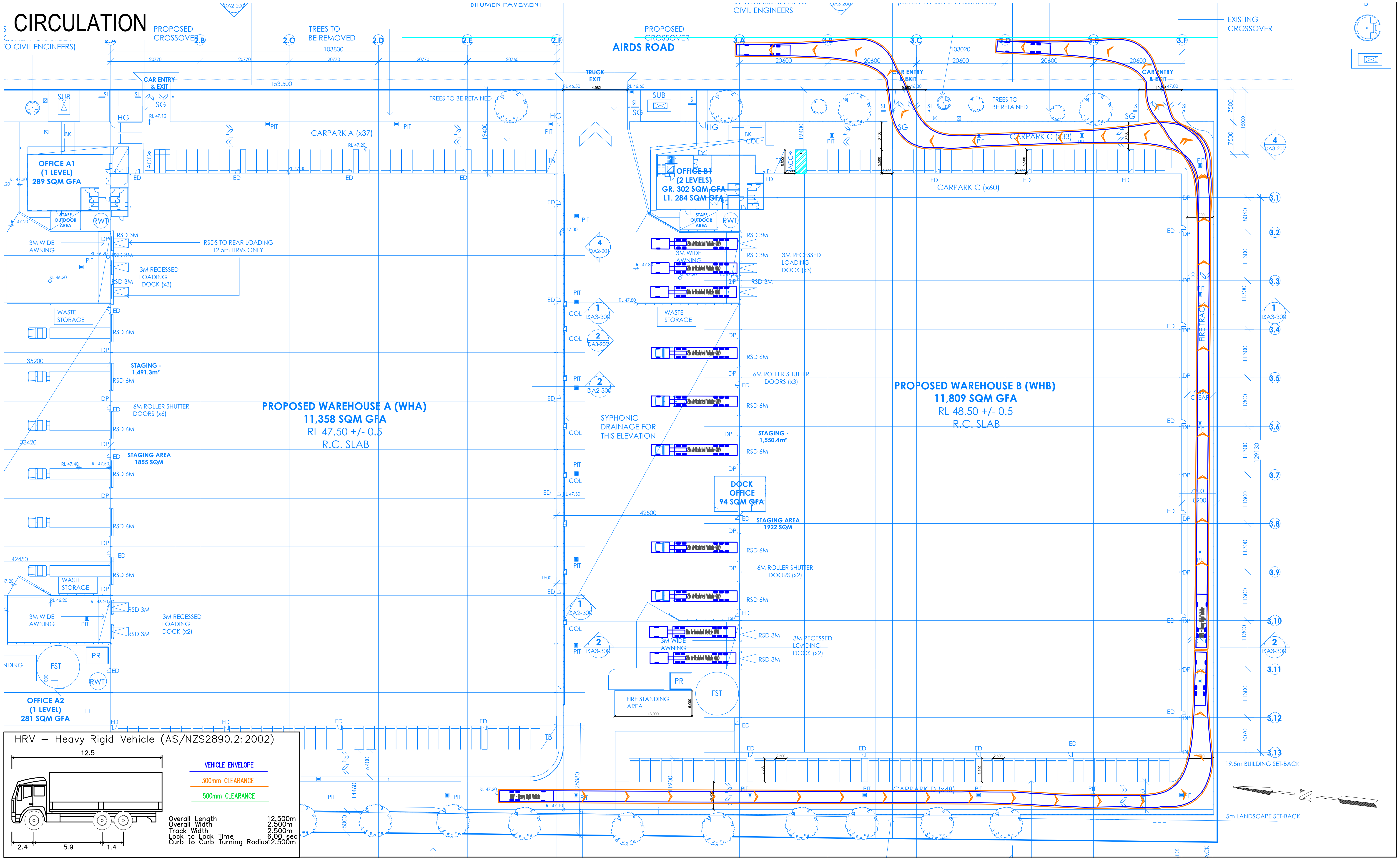

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Design vehicle: 20m AV   Check Vehicle: 20m AV

DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION
AngelaJi	A3	Charter Hall	Swept Path Assessment - Carpark
APPROVED BY: R. Butler-Madden	DATE: 29.10.2023	PROJECT: 2038	Fire Truck Anti-Clockwise Circulation
SCALE: 1:800	NTS	149-155 Airds Road, Minto	FILE NAME: AG2038-03-v06.dwg — SHEET: AG04

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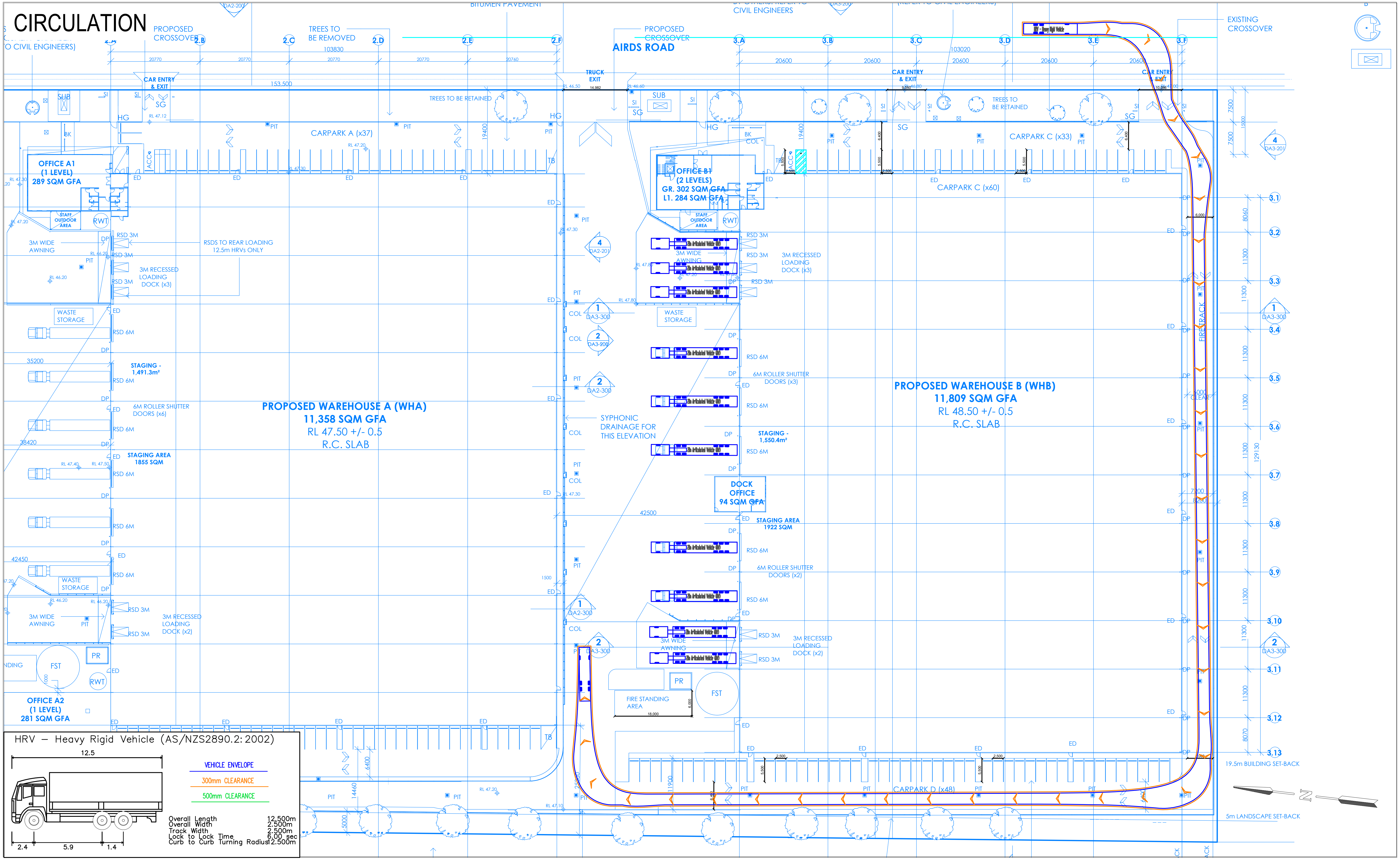
CIRCULATION



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Design vehicle: 20m AV   Check Vehicle: 20m AV

DESIGNED: AngelaJi	PAPER SIZE: A3	
APPROVED BY: R. Butler-Madden	DATE: 29.10.2023	
SCALE: 1:800		NTS

CLIENT
Charter Hall

PROJECT
2038
149-155 Airds Road, Minto

DOCUMENT INFORMATION
Swept Path Assessment - Carpark
Fire Truck Clockwise Circulation

FILE NAME	SHEET
AG2038-03-v06.dwg	AG05

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