

5-9 Culverston Road, Minto

Transport Assessment, State Significant Development Modification
Application (SSD 7500)

28/02/2022
P1821r02



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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
DPIE	Department of Planning, Industry and Environment
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 proposed modification (MOD) to the approved State Significant Development Application (SSD-7500-Mod-1). The application relates to development of a warehouse and logistics hub, located at 5-9 Culverston Road, Minto.

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 Secretary Environmental Assessment Requirements

Secretary Environmental Assessment Requirements (SEARS) for the SSD-7500 approved development were issued by the NSW Department of Planning, Industry and Environment (DPIE) on 10 March 2016.

In this regard, the SEARs appropriate for Traffic and Transport matters are reproduced in **Table 1**. A key purpose of this TA is to ensure that the assessment maintains consistency with that undertaken previously, ensuring that the relevant SEARs are satisfied.

TABLE 1: DPIE TRAFFIC & TRANSPORT SEARS – SSD 7500

Traffic & Transport SEAR	Relevant Section of TA
A Traffic Impact Assessment detailing all daily and peak traffic and transport movements likely to be generated (vehicle, public transport, pedestrian and cycle trips) during construction and operation of the development, including a description of vehicle access routes and the impacts on nearby intersections.	Section 6 covers the changes to peak hour and daily operational traffic generation for total vehicle movements as result of the MOD. With regards to construction traffic, the response and conclusion from the previous SSD assessment (that construction traffic would be less than operational traffic) remain valid.
Details of access to the site from the road network including intersection location, design and sight distance.	Section 7 provides details on direct site access and internal design requirements, including car parking and loading dock design.
An assessment of predicted impacts on road safety and the capacity of the road network to accommodate the development.	As per Section 6, the MOD is not anticipated to materially impact the operation of the road network following completion of the Proposal.
Plans of any road upgrades or new roads required for the development if necessary.	The key intersections are anticipated to operate satisfactorily under the current arrangements, with conclusions of the assessment of the approved development maintained. Accordingly, no upgrades are required in response to the traffic demands forecast for the Proposal.
Detailed plans of the proposed layout of the internal road network and parking provision on-site in accordance with the relevant Australian Standards.	Relevant architectural plans are attached at Appendix C. Section 5 covers on-site car parking provisions and Section 7 provides details of car parking design with regard to relevant AS2890 standards.

Details of any likely dangerous goods to be transported on arterial and local roads to/from the site, if any, and the preparation of an incident management strategy.	The Proposal does not include any operations that would result in the transportation of dangerous goods.
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1.3 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 (LEP)
- Campbelltown (Sustainable City) Development Control Plan 2015 (DCP)

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 background reports/ drawings have also been referenced to provide more detailed information in regard to the existing Site approvals. These include:

- Traffic Impact Assessment Report Proposed Warehouse Development 5 & 9 Culverston Road, Minto, ref: 0191r01v2, by Ason Group, dated 27/04/2016 (Ason 2016 Report)
- Modification 1 to State Significant Development Application (SSD 7500) 5-7 Culverston Road, Minto, ref: 1821r01, by Ason Group, dated 29/10/2021 (Ason 2021 Report)
- Site Masterplan (Overall), drawing 116101_A_SSD_A0006, issue 9, by Reid Campbell, dated 24/02/2017 (Previously Approved Architectural Site Plan 2017)
- Site Masterplan (Overall), drawing CH2CUL – A – 04, revision C by Watch this Space Design Pty Ltd, dated 24/09/2021 (Approved Architectural Site Plan 2021)

2 Planning Approvals

2.1 SSD-7500

2.1.1 Development

The Masterplan was initially granted approval on 23 June 2017 (SSD 7500) and included provisions for:

Construction, fit-out and operation of a warehouse and logistics hub with 112,000 m² of gross floor area (GFA) including:

- *four warehouse buildings for warehousing and distribution use, with ancillary offices, comprised of:*
 - *Warehouse 1A: 40,000 m² of warehousing GFA and 2,000 m² of office GFA*
 - *Warehouse 1B: 22,000 m² of warehousing GFA and 1,000 m² of office GFA*
 - *Warehouse 1C: 22,000 m² of warehousing GFA and 1,000 m² of office GFA*
 - *Warehouse 1D: 23,000 m² of warehousing GFA and 1,000 m² of office GFA.*
- *6.9 hectares of external hardstand storage space for warehousing and logistics uses;*
- *bulk earthworks;*
- *demolition of existing structure and hardstand areas;*
- *remediation works;*
- *upgrades to existing on-site infrastructure;*
- *loading docks;*
- *car parking;*
- *site landscaping; and*
- *estate and building identification signage.*

The approved development provided for the following parking provisions:

- 481 (and 9 accessible) parking spaces to service the Site;
- 147 future parking spaces (to be provided if required);
- 80 provisional spaces to be provided within the storage area (if required).

The Masterplan approved under SSD-7500 is reproduced as **Figure 1**.

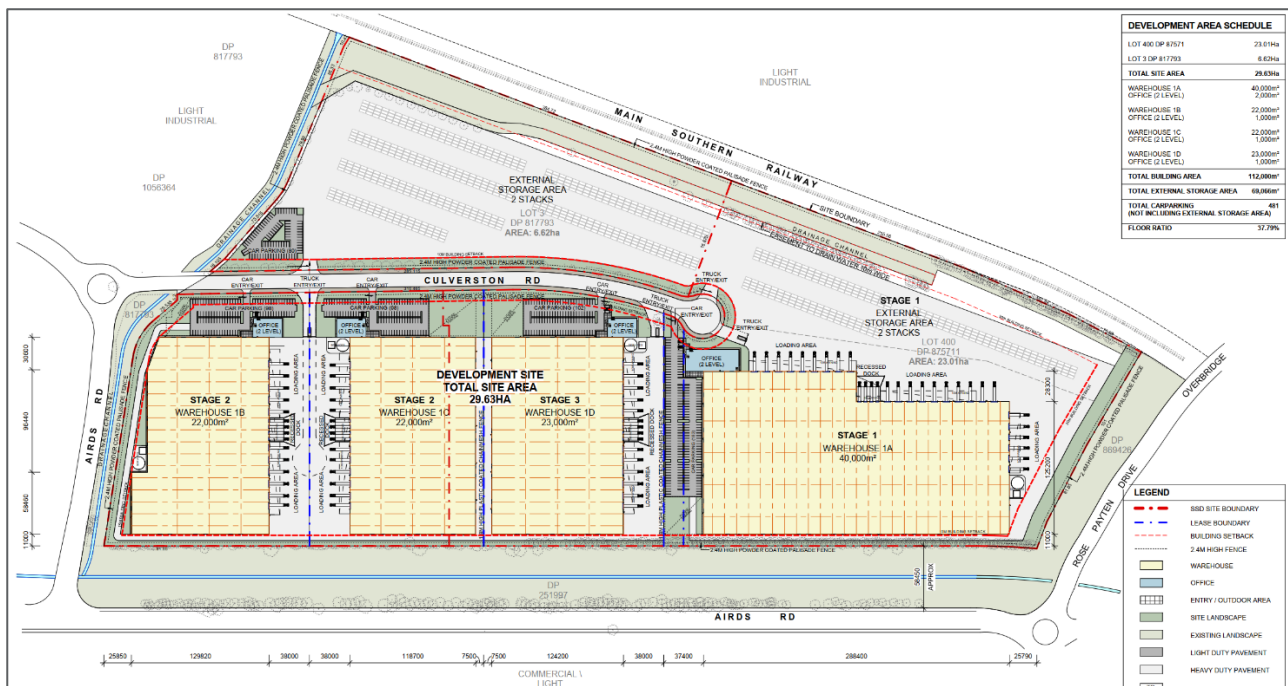


Figure 1: SSD-7500 Approved Architectural Site Plan (drawing 116101_A-SSD_A0006, issue 9, by Reid Campbell, dated 29/02/2017)

2.1.2 Traffic Generation

With reference to the original approval under SSD-7500, and the Ason 2016 Report forecast that the Site would, once fully operational, generate:

- 175 vehicle trips in the AM peak hour
- 176 vehicle trips in the PM peak hour
- 2,352 vehicles per day.

2.2 SSD-7500-Mod(s)

More recently, the Masterplan has been subject to Modification applications.

The first modification to the Masterplan, and associated staging, was approved by DPIE on 16 December 2021 (SSD-7500-Mod-1). The modifications related to the redesign of the Stage 1, Stage 2 and Stage 3 warehouses as a result of occupier specific requirements. In summary, the Masterplan was modified as follows:

- Stage 1 (formerly Warehouse 1C, Stage 2):
 - 9,078m² of warehouse GFA and 300m² of office GFA; and
 - 9,423m² of external storage area.
- Stage 2 (formerly Warehouse 1B, Stage 2):
 - 9,500m² of warehouse GFA and 500m² of office GFA; and

- 9,485m² of external storage area.
- Stage 3 (formerly Warehouse 1D, Stage 3):
 - 31,000m² of warehouse GFA and 1,000m² of office GFA.
- Stage 4 (formerly Warehouse 1A, Stage 1):
 - 40,000m² of warehouse GFA and 2,000m² of office GFA.
- Provision of a 69,066m² of external storage area.

The traffic and transport assessment relevant to this MOD was documented in the Ason 2021 Report. With regards to car parking the approved development included the following:

- 505 parking spaces inclusive of 8 accessible parking spaces to service the Site;
- 87 future parking spaces (to be provided if required);
- 80 provisional spaces to be provided within the storage area (if required).

2.2.1 Approved Traffic Generation

With reference to the previous approval, and the Ason 2021 Report forecast that the Site would, once fully operational, generate:

- 198 vehicle trips in the AM peak hour
- 222 vehicle trips in the PM peak hour
- 2,086 vehicles per day.

Some minor changes to the siting of the Stage 1 warehouse building, including access arrangements, is currently being considered by DPIE (SDD-7500-Mod-2). This Modification has had no material impact to the conclusions of the Ason 2021 Report.

The SSD-7500-Mod-2 Masterplan is provided as **Figure 2**.

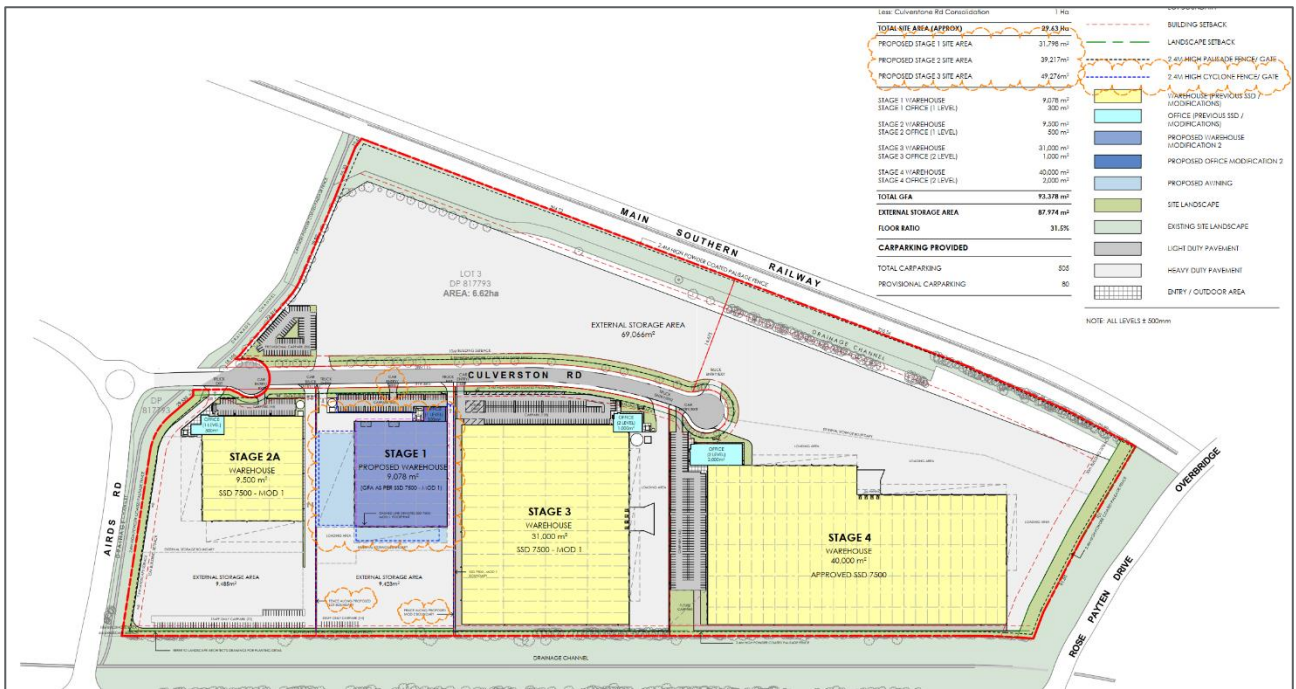


Figure 2: SSD-7500-Mod-2 Architectural Site Plan (drawing CH2CUL – A – 04, revision A, by Watch This Space Design, dated 03/02/2022)

3 Proposed Development

3.1 Summary of Proposal

Following the departure of the prospective tenant for the Stage 2 warehouse, it is now proposed to modify design back to a speculative warehouse layout that would be suitable for a wider range of future occupiers. As such the MOD proposed changes to the Stage 2 warehouse only.

The following summarises the current Proposal:

- Stage 1:
 - 9,078m² of warehouse GFA and 500m² of office GFA; and
 - 9,423m² of external storage area.
- Stage 2, comprising of a Stage 2A and Stage 2B warehouse:
 - 8,440m² of warehouse GFA and 500m² of office GFA (Stage 2A)
 - 9,050m² of warehouse GFA and 500m² of office GFA (Stage 2B)
- Stage 3:
 - 31,000m² of warehouse GFA and 1,000m² of office GFA.
- Stage 4:
 - 40,000m² of warehouse GFA and 2,000m² of office GFA.
- Provision of a 69,066m² of external storage area.

The currently proposed Masterplan is reproduced as **Figure 3**. Larger figures are provided in **Appendix C**.

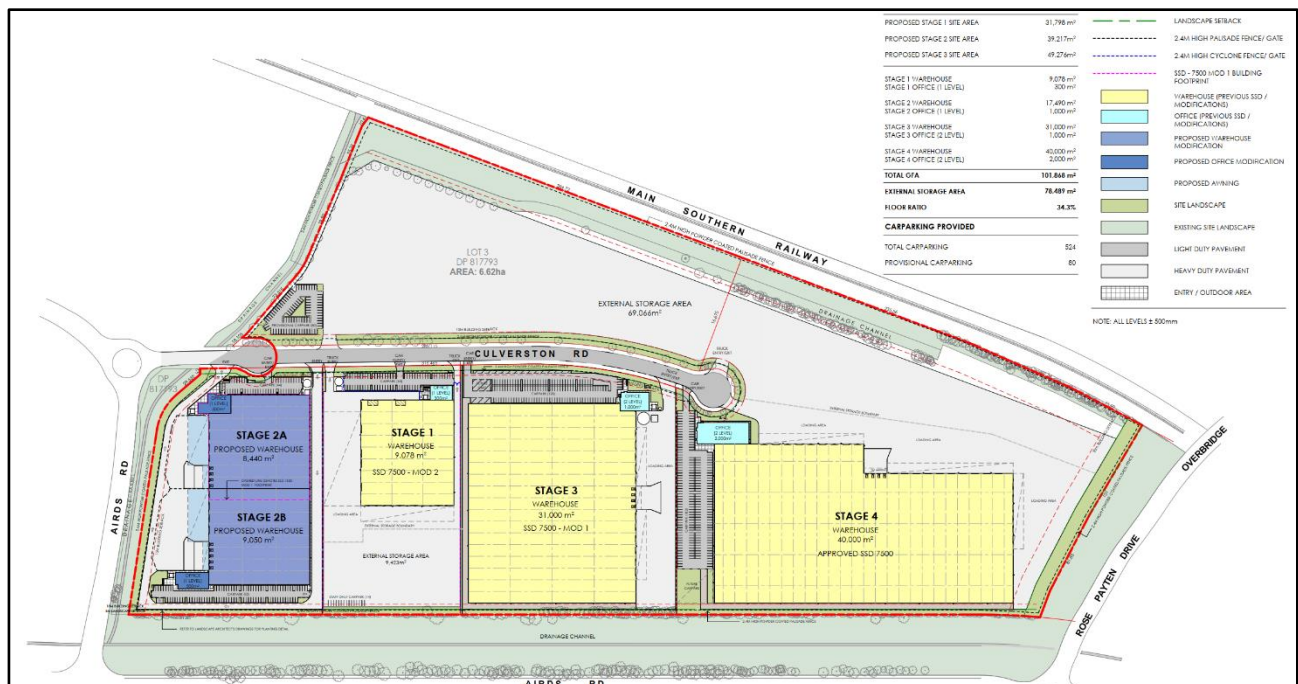


Figure 3: Proposed Architectural Site Plan (drawing CH2CUL – A – 04, revision D, by Watch This Space Design, dated 24/02/2022)

A summary of the key transport-related figures of the former approved developments and the proposed modification is presented in **Table 2**.

Further details with regard to car parking and traffic generation are detailed in Section 3 and Section 4, respectively. Traffic generation shown in Table 2 and further detailed in this report are total trips (i.e. not “net trip increase” which excludes the existing traffic generation on site).

TABLE 2: APPROVED DEVELOPMENT VS PROPOSED MODIFICATIONS				
Building		SSD-7500	Approved MOD 1 (SSD-7500 Mod-1)	Proposed MOD 3
Stage 1	Warehouse GFA (m ²)	22,000	9,078	9,078
	Office GFA (m ²)	1,000	500	300
Stage 2	Warehouse GFA (m ²)	22,000	9,500	17,490
	Office GFA (m ²)	1,000	500	1,000
Stage 3	Warehouse GFA (m ²)	23,000	31,000	31,000
	Office GFA (m ²)	1,000	1,000	1,000
Stage 4	Warehouse GFA (m ²)	40,000	40,000	40,000
	Office GFA (m ²)	2,000	2,000	2,000
Total GFA		112,000	93,578	101,868
Car Parking Spaces		490	505	524
Future Car Parking Spaces ^{Note 1}		147	87	87
Provisional Car Parking Spaces ^{Note 2}		80	80	80
Morning Peak Hour Trips (veh/ hr)		175	198	222
Evening Peak Hour Trips (veh/ hr)		176	222	224
Daily trips (veh)		2,352	2,086	2,139

Note 1: Refers to additional parking that could be provided, will be utilised for landscaping in the meantime

Note 2: Refers to the parking to be provided (if required) to service the storage area of Stage 4 (previous Warehouse 1A)

4 Site Context

4.1 Subject Site

The Site – with the street address of 5 & 9 Culverston Road and which, is legally known as Lot 400 DP 875711 and Lot 3 DP 817793 – is located approximately 3 kilometres northwest of Campbelltown, 30 kilometres southwest of the Parramatta CBD and 40 kilometres southwest of the Sydney CBD. The overall site comprises a total area of about 29.6 hectares and generally occupies the area to the immediate north of Rose Payten Drive, with Airds Road to the west and the rail corridor to the east. The surrounding developments predominantly comprise of industrial facilities used for the purpose of warehousing, distribution and various extractive industries.

The Site is within the Local Government Area (LGA) of Campbelltown Council. A Site and Location Plan is presented in **Figure 4**, which provides an appreciation of the Site and its location. It is noteworthy that Culverston Road is effectively the Site's access road, as the Site comprises all land surrounding the road.

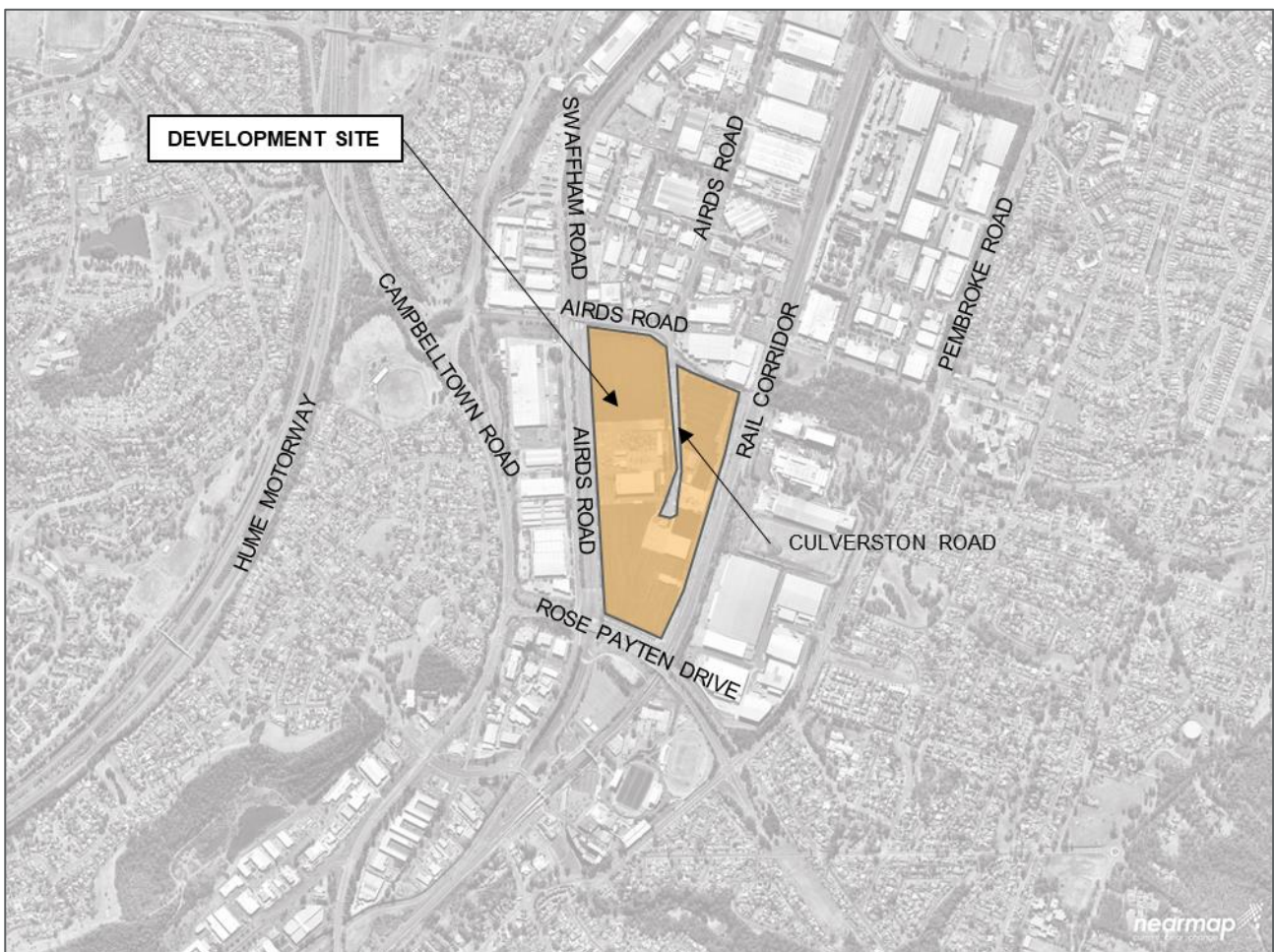


Figure 4: Site and Location Plan

5 Parking Requirements

5.1 Car Parking

Reference is made to the parking rates adopted within the approved design per the SSD-7500 consent. In this regard, the approved parking rates are outlined as follows:

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

- 1 space for every 100 m² for the first 2,000 m² GFA and 1 space per 250m² for all floor space exceeding more than 2,000 m² GFA
- 1 space for every 35 m² for ancillary office GFA

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

- 1 space for every 300 m² of warehouse GFA
- 1 space for every 40 m² for ancillary office GFA

As detailed in the Ason 2021 Report, the parking requirements of Stages 1 & 2 were established on the basis of the occupier staffing requirements. Parking for the speculative Stages 3 & 4 were calculated on the basis of the RMS Guide, with additional area to be kept available for further car parking on the Site, in the event that future occupiers of the warehouses required parking more in line with Council's DCP parking requirements.

5.1.1 Stage 2 Parking Requirements

Recognising that the key change relate to modifications to Stage 2 only, the parking for it has been reviewed against the requirements of the RMS Guide and Council's controls. It has been reviewed as per the approved methodology in the Ason 2021 Report, rather on the basis of tenant specific staffing requirements.

These requirements are detailed in **Table 3**.

TABLE 3: STAGE 2 CAR PARKING REQUIREMENTS				
Building	Land Use	GFA (m ²)	DCP Parking Requirement	RMS Parking Requirement
Stage 2	Warehouse	17,490	113	83
	Office	1,000		

It is noted that the Stage 2 warehouse is currently proposed to be provided with 136 parking spaces, which meets (and exceeds) the requirements of the DCP.

5.1.2 Stage 1, 3 & 4 Approved Parking Provision

It is noted that the parking required for Stages 1, 3 and 4 of the MOD remains unchanged from the Ason 2021 Report and Ason 2022 Report. The parking requirements and provision, as per the approved development consent, are reproduced below.

TABLE 4: PARKING REQUIREMENTS VS APPROVED PROVISION

Building	Land Use	GFA (m ²)	Parking Requirements	Approved Provision
Stage 1 ^{Note 1}	Warehouse	9,078	77	77
	Office	300		
Stage 3 ^{Note 2}	Warehouse	31,000	128 (39)	128 ^{Note 3}
	Office	1,000		
Stage 4 ^{Note 2}	Warehouse	40,000	183 (48)	183 ^{Note 4}
	Office	2,000		

Note 1: Based on First Principles Assessment

Note 2: Application of RMS rate, difference between RMS and DCP rate shown as (XX)

Note 3: Additional area has been allocated for an additional 39 spaces if required

Note 4: Additional area has been allocated for an additional 48 spaces if required

5.1.3 Parking Provision Summary

A summary of the proposed parking provision is provided in **Table 5**, compared against the parking requirements for Stages 1-4. As is shown, the MOD Proposal provides for a provision that meets this updated parking requirement assessment of 471 spaces. It is reiterated that the plans for Stage 3 and 4 have not been modified.

TABLE 5: PROPOSED PARKING PROVISION

Building	Land Use	GFA (m ²)	Parking Requirements ^{Note 2}	Provision
Stage 1 ^{Note 1}	Warehouse	9,078	77	77
	Office	500		
Stage 2	Warehouse	17,490	83 (30)	136
	Office	1,000		
Stage 3	Warehouse	31,000	128 (39)	128 ^{Note 3}
	Office	1,000		
Stage 4	Warehouse	40,000	183 (48)	183 ^{Note 3}
	Office	2,000		
Total			471 (117)	524

Note 1: Based on First Principles Assessment, as per development consent

Note 2: Application of RMS rate, difference between RMS and DCP rate shown in (XX)

Note 3: As per SSD-7500-Mod-1, additional area has been allocated to increase parking provision, if required. Area to be utilised as landscaping in the meantime.

5.2 Accessible Parking

The development consent associated with SSD-7500 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 6**.

The accessible parking provision is 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.

TABLE 6: ACCESSIBLE PARKING REQUIREMENT

Building	Parking Provision	Accessible Parking Requirement	Minimum Accessible Parking Provision
Stage 1	77	1	1
Stage 2	136	2	2
Stage 3	128 (37) ^{Note 1}	2	2
Stage 4	183 (48) ^{Note 1}	3	3
Total		8	8

Note 1: Application of RMS rate, difference between RMS and DCP rate shown as (XX)

5.3 Bicycle Parking

Condition B6 of the Consent Conditions requires a bicycle parking provision in accordance with the *Planning Guidelines for Walking and Cycling* (December 2004).

This 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, consideration is only made for staff bicycle parking.

In the mode share analysis of the Ason 2016 Report, the anticipated mode share of cycling as a form of travel was 0.2%, based on the land use and comparison to the RMS TDT2013/04a. Hence the lower end of the bicycle parking provision as outlined in the *Planning Guidelines for Walking and Cycling* is considered.

As per the Ason 2021 Report, a total of **4** (3.9) bicycle parking spaces will be provided for Stage 1, which is based on the tenant specific information.

For Stages 2, 3 and 4, bicycle parking will be provided as prescribed by Condition B6. The parking requirement will therefore be confirmed at the time that information about staff numbers is available.

Further to the above, end of trip facilities (EOTF) are to be provided in line with the requirements of the *Planning Guidelines for Walking and Cycling*, as per Condition B6. This provides the following requirements as outlined in **Table 7**.

TABLE 7: 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, requirements of Stage 1 (as per the Ason 2021 Report) have been maintained, as follows:

- Stage 1
 - 1 locker
 - 4 showers
 - 2 change rooms

Stages 2, 3 and 4 would also achieve the levels of EOTF provision as per Condition B6, to be determined at the time that information about staff numbers is available.

The Proposal would provide the above requirements as a minimum. Their use would be monitored as part of the future Work Place Travel Plan to be implemented as part of operational Condition of Consent B7.

5.4 Additional 'External Storage' Parking

As per the approved development, an area of hardstand that will provide up to 69,066m² of external (open) storage is maintained as well as the 9,423m² of external storage area approved for Stage 1.

It is recognised that there are no changes proposed to the Stage 1 and Stage 3 / 4 warehouses and as such there are no changes proposed to the parking provisions detailed in the Ason 2021 Report, which have already been deemed to be sufficient to service the Site.

6 Traffic Impacts

6.1 Traffic Generation

6.1.1 Trip Rates

To determine the traffic generation potential of the proposed MOD of the overall Site due to the increase in GFA of Stage 2, reference is made to the traffic generation rates adopted in the Ason 2016 Report and Ason 2021 Report. In this regard, the relevant rates are as follows:

- Morning Peak hour: 0.156 trips per 100 m² GFA
- Evening Peak hour: 0.158 trips per 100 m² GFA
- Daily: 2.100 trips per 100 m² GFA

These trip generation rates are from the RMS TDT2013/04a for Business Parks and Industrial Estates developments.

6.1.2 Stage 2

Application of the above rates to the modified Stage 2 development yield of 18,490 m² result in the following traffic generation forecasts:

- 29 trips during the morning peak hour
- 30 trips during the evening peak hour
- 389 trips per day.

6.1.3 Stages 1, 3 and 4

As already discussed, the Proposal for Stages 1, 3 and 4 remains unchanged from the approved development and as such there is no anticipated change in the level of traffic generation. The traffic generation for Stages 1, 3 and 4, on the basis of the methodology detailed in the Ason 2021 Report, are summarised in **Table 8**.

TABLE 8: STAGES 1, 3 AND 4 TRAFFIC GENERATION ASSESSMENT

Site	GFA (m ²)	AM Peak	PM Peak	Daily
Stage 1 ^{Note 1}	9,378	77	77	196
Stage 3 ^{Note 2}	32,000	50	51	672
Stage 4 ^{Note 2}	42,000	66	66	882

Note 1: Based on First Principles assessment as per Ason 2021 Report

Note 2: Application of RMS TDT2013/04a rate as per Ason 2021 Report

6.1.4 Traffic Generation Comparison

The traffic generation calculated for the proposed modification is summarised against the approved traffic generation under the original and current approvals, in **Table 9**.

TABLE 9: TRAFFIC GENERATION COMPARISON			
Application	AM Peak	PM Peak	Daily
Superseded SSD-7500 ^{Note 1}	175	176	2,352
Approved SSD-7500-Mod-1	198	222	2,086
Proposed MOD	222	223	2,138
Difference between Proposal and SSD-7500-Mod-1	+24	+1	+52

Note 1: As per Table 2

As seen in Table 9, the daily traffic generation of the Proposal is expected to be slightly greater (+52 trips) than the approved SSD-7500-Mod-1 due to the change in Stage 2 GFA. However, it is critical to note that the daily traffic generation is significantly lower (-213 trips) than the permissible threshold set by the Ason 2016 Report, which accompanied the originally approved design for the entire Site. This is reflective of the overall decrease in GFA from the originally approved Masterplan.

During the AM and PM peaks, the change in GFA of the Proposal compared to the approved design, would be subject to the following:

- Increase in the AM peak of 24 veh/hr (or a 12% increase)
- Increase in the PM peak of 2 veh/hr (or a 1% increase).

Figure 5 summarises the increase in the AM peak hour at the key intersections assessed by the Ason 2016 Report, and Ason 2021 Report. As is shown, when distributed across the study network, the increase in trips is minimal, with a maximum of 12 veh/hr for the right-turn movement at the Airds Road / Culverston Road roundabout. This equates to an additional vehicle every 5 minutes.

Noting that this intersection was found to be operating at a LoS A in both peak hours by the Ason 2016 Report, this volume of traffic would not have a material impact on the operation of this intersection.

Finally, it is notable that the Ason 2021 Report assessment methodology for the approved development reflects the requirements of the occupier for Stage 1. However, adoption of a traditional assessment based application of the trips rates detailed in Section 6.1.1 to the additional GFA of 8,920m², when compared against the approved development, would only result in a total of 13 additional trips in the morning and afternoon peak hours. This minor volume of trips would not have a material impact on the intersections, which have been found to be operating with a high degree of spare capacity (i.e., LoS A).

As such, it is concluded that the development remains acceptable on traffic planning grounds.

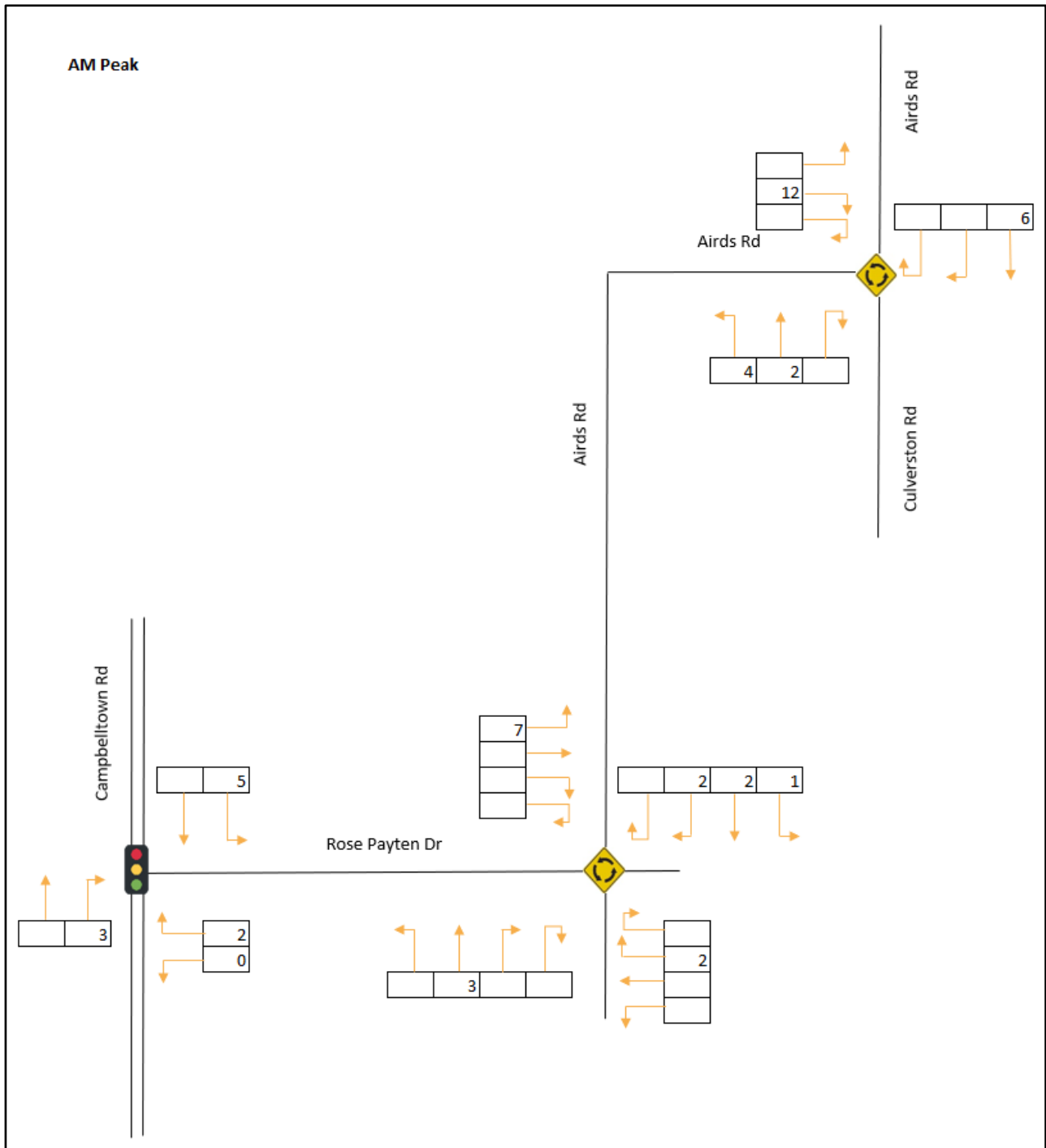


Figure 5: AM Development Traffic Flows

7 Design Review

7.1 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.

7.2 Design Vehicle

A 26m B-double has been adopted as the design vehicle for site access and circulation. 20m semi-trailers are generally adopted for loading dock parking, with smaller vehicles identified as required. Refer to design review in Appendix C.

7.3 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 26m B-doubles, with targeted swept paths of site access points (which have changed from the approved SSD 7500 design) 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 revised hardstand configuration for Stage 2.

No alterations to the truck access and parking configurations are proposed for Stages 1, 3 and 4.

Minor alternations to car parking areas are proposed. Our assessment indicates these are generally designed in accordance with AS 2890.1:2004.

8 Summary and Conclusions

8.1 Summary

Ason Group has been engaged by Charter Hall to prepare a Transport Assessment (TA) supporting the proposed modification (MOD) to the approved State Significant Development Application (SSD-7500) for development of a warehouse and logistics hub, located at 5-9 Culverston Road, Minto.

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

- The Proposal seeks approval for a modification to the previously approved warehouse and logistics hub (SSD-7500-Mod-1).
- The Proposal seeks to increase the previously approved GFA from 93,578m² to 101,868m².
- The approved development is required to provide a total of 505 car parking spaces (inclusive of 8 accessible spaces, with an area maintained for future parking for Stages 3 and 4, as well as allocation of an area for a provisional 80 car parking spaces).
- The Proposal seeks to revise this to be a provision of 524 car parking spaces (inclusive of 8 accessible spaces), with an area maintained for future parking for Stages 3 and 4 (as per the approved development), as well as allocation of an area for a provisional 80 car parking spaces.

The parking provision for Stages 2, 3 and 4 has been informed through adoption of Council's DCP and RMS Guide rates while the Stage 1 parking provision remains on the basis of the tenant specific requirements (as per the approved development).

- The approved development was forecasted to generate 198 vehicle trips per hour in the morning peak, 222 vehicle trips per hour in the evening peak, and 2,086 daily vehicle trips.
- The Proposal is forecast to generate 222 vehicle trips per hour in the morning peak, 224 vehicle trips per hour in the evening peak, and 2,139 daily vehicle trips.

This represents an increase of 24 vehicle trips per hour in the morning peak, and increase of 1 vehicle trip per hour in the evening peak, and an increase of 52 daily vehicle trips (note that there will be a decrease of 214 vehicle trips when considered against the originally approved development under SSD-7500).

- When distributed across the study network, the increase in trips is minimal, with a maximum of 12 vehicle trips per hour for the right-turn movement at the Airds Road / Culverston Road roundabout. This equates to an additional vehicle every 5 minutes.

Noting that this intersection was found to be operating at a LoS A in both peak hours, this volume of traffic would not have a material impact on the operation of this intersection.

- Finally, it is notable that the MOD will result in an increase in overall GFA of some 8,490m² of total building area. The MOD is required to accommodate the design changes to revert back the Stage 2 warehouse to a larger GFA due to a prospective tenant's withdrawal from the Site, rather than as a result of a change in the permissible use.

As such, it is anticipated that the traffic impact of the Site would be consistent. This especially notable when considered against a methodology of adoption a trip rate per 100m² of GFA (as detailed in Section 6.1.1) for the whole Site. Application of the trip rates detailed to the additional 8,490m² GFA, would result in an increase in traffic generation associated with the Site of 13 veh/hr in both the AM peak and PM peak hours. This equates to 1 additional vehicle every 5 minutes.

This minor volume of trips would not have a material impact on the intersections, which have been previously found to be operating with a high degree of spare capacity (i.e., LoS A).

- 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.

8.2 Conclusions

With regard for the above key findings from the transport assessment, the proposed warehouse and logistics hub at 5-9 Culverston 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. Original SSD-7500 Architectural Site Plan

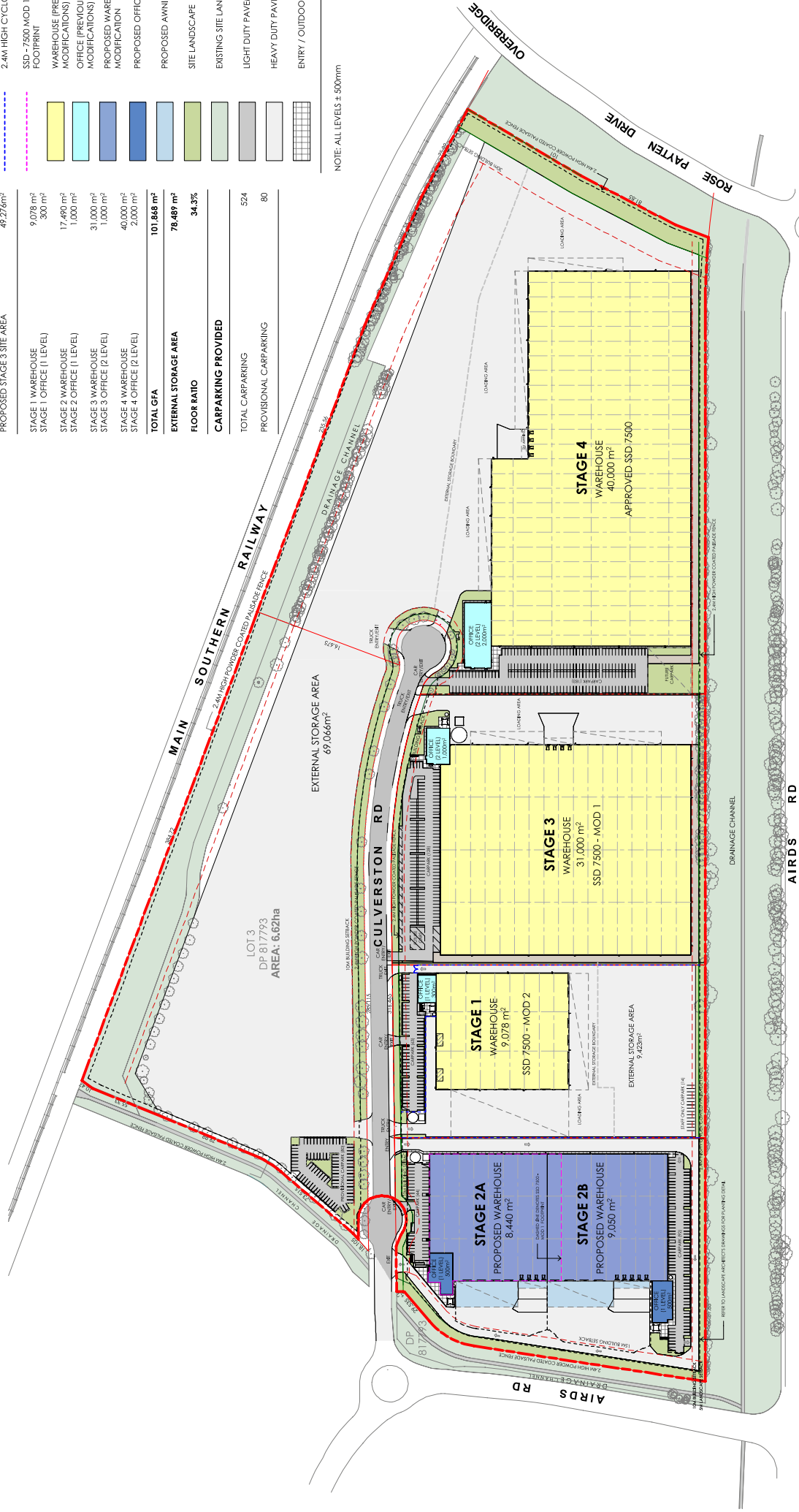
Appendix B. SSD-7500-Mod-2 Architectural Site Plan

Appendix C. Proposed Mod-3 Architectural Site Plan

DEVELOPMENT SUMMARY	
LOT 400, DP82571	24.01 Ha
LOT 3 DP817793	6.62 Ha
Less: Culverstone Rd Consolidation	1 Ha
TOTAL SITE AREA (APPROX)	29.63 Ha
PROPOSED STAGE 1 SITE AREA	31,798 m ²
PROPOSED STAGE 2 SITE AREA	39,217 m ²
PROPOSED STAGE 3 SITE AREA	49,276 m ²
STAGE 1 WAREHOUSE	9,078 m ²
STAGE 1 OFFICE (1 LEVEL)	300 m ²
STAGE 2 WAREHOUSE	17,490 m ²
STAGE 2 OFFICE (1 LEVEL)	1,000 m ²
STAGE 3 WAREHOUSE	31,000 m ²
STAGE 3 OFFICE (2 LEVEL)	1,000 m ²
STAGE 4 WAREHOUSE	40,000 m ²
STAGE 4 OFFICE (2 LEVEL)	2,000 m ²
TOTAL GFA	101,868 m²
EXTERNAL STORAGE AREA	78,489 m²
FLOOR RATIO	34.3%
CARPARKING PROVIDED	
TOTAL CARPARKING	524
PROVISIONAL CARPARKING	80

LEGEND	
	SSD SITE BOUNDARY
	LOT BOUNDARY
	BUILDING SETBACK
	LANDSCAPE SETBACK
	2.4M HIGH PALISADE FENCE/ GATE
	2.4M HIGH CYCLONE FENCE/ GATE
	SSD - 7500 MOD 1 BUILDING FOOTPRINT
	WAREHOUSE (PREVIOUS SSD / MODIFICATIONS)
	OFFICE (PREVIOUS SSD / MODIFICATIONS)
	PROPOSED WAREHOUSE MODIFICATION
	PROPOSED OFFICE MODIFICATION
	PROPOSED AWNING
	SITE LANDSCAPE
	EXISTING SITE LANDSCAPE
	LIGHT DUTY PAVEMENT
	HEAVY DUTY PAVEMENT
	ENTRY / OUTDOOR AREA

NOTE: ALL LEVELS ± 500mm



COMMERCIAL \
LIGHT
INDUSTRIAL

1:500 @A1 0 15 30 40 120m

Architect WATCH THIS SPACE DESIGN PTY LTD 10/100 CULVERSTONE STREET, SURREY HILLS NSW 2015 Email: info@watchthisspacedesign.com www.watchthisspacedesign.com	Amendments A FOR INFORMATION B FOR INFORMATION C DRAFT ISSUE D SSDA ISSUE	date 10/02/2022 14/02/2022 18/02/2022 24/02/2022	Client Charter Hall Project 5-9 CULVERSTONE ROAD, MINTO NSW Managing Consultant TACTICAL	Drawing Title SITE MASTERPLAN - STAGE 1, 2, 3 & 4 Project Number CH 2CUL Status SSD-7500 MOD 3	Rev D Drawing Number A - 04

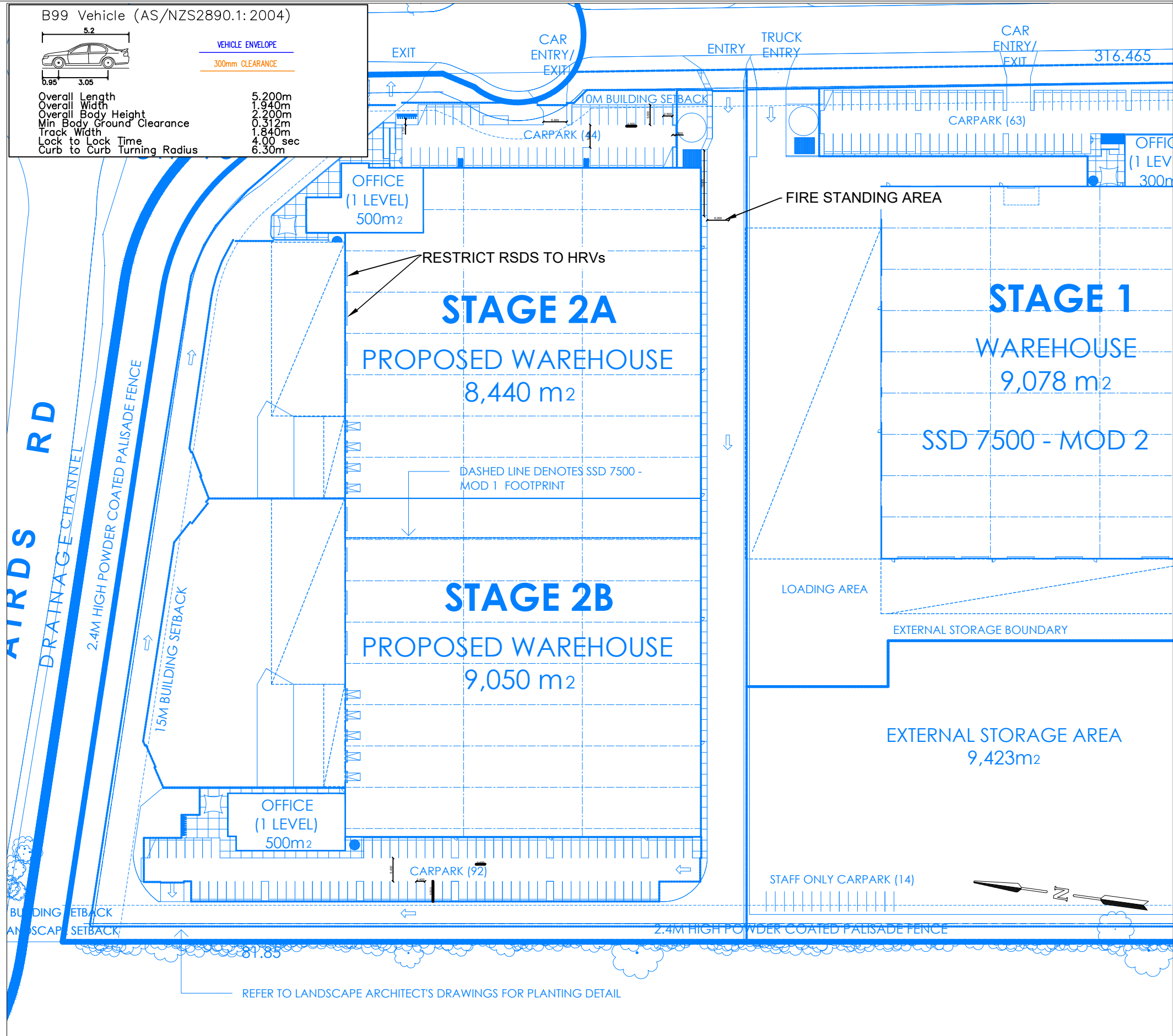


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Appendix D. Design Review

NOTE:

- HARDSTANDS SHOWN ON THIS SITE PLAN HAVE BEEN REVIEWED AGAINST AS2890.2:2018 AND WE NOTE:
 - HARDSTAND AREAS HAVE BEEN REVIEWED FOR THE LARGEST VEHICLE, 26M B-DOUBLE. AMENDMENTS WILL BE REQUIRED AS SHOWN ON AG02 AND AG03.
 - RECESSED DOCKS AND RSDs HAVE BEEN TESTED FOR REAR LOADING 20.0m AVs.
 - RESTRICT 2 DOCKS TO 12.5M HRVS IN STAGE 2A, AG06.
- CAR PARKING AREAS HAVE BEEN REVIEWED AGAINST AS2890.1:2004 AND WE NOTE:
 - CAR PARKING SPACES ARE SUPERIOR TO USER CLASS 1/1A (2.4m X 5.4m) AND USER CLASS 2 FOR STAGE 2B AND 2A CARPARK RESPECTIVELY.



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Culverston Road has a posted speed limit of 50km/h.
Swept path assessments completed at 10 km/h and 300mm clearance.

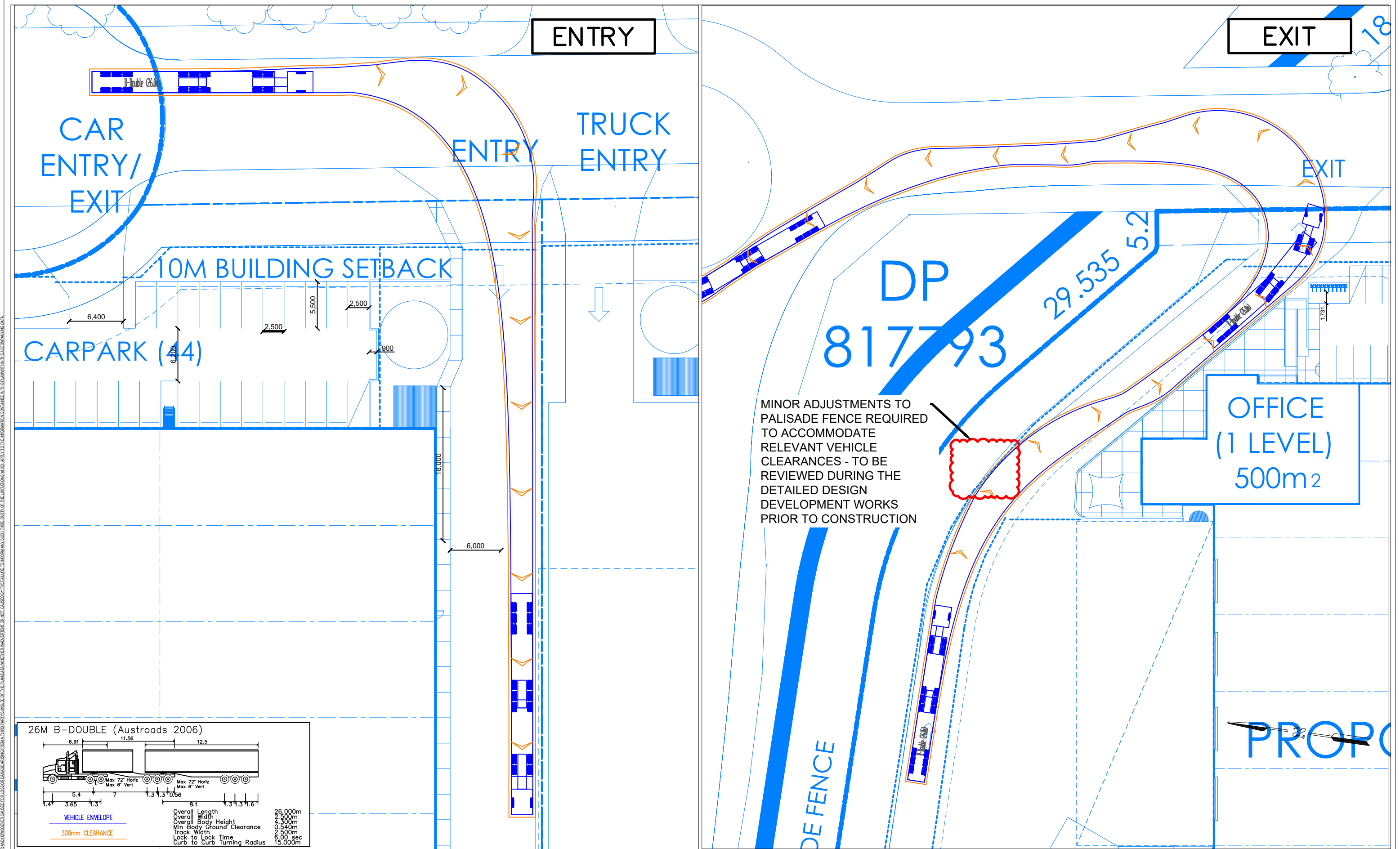
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APPROVED BY	X.XXXX
SCALE	Custom
PAPER SIZE	A3
DATE	28.02.2022
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CLIENT	CHARTER HALL
PROJECT	1821
5-9 CULVERSTON ROAD, MINTO	

DOCUMENT INFORMATION	DESIGN COMENTARY
SITE OVERVIEW	
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SHEET	AG01

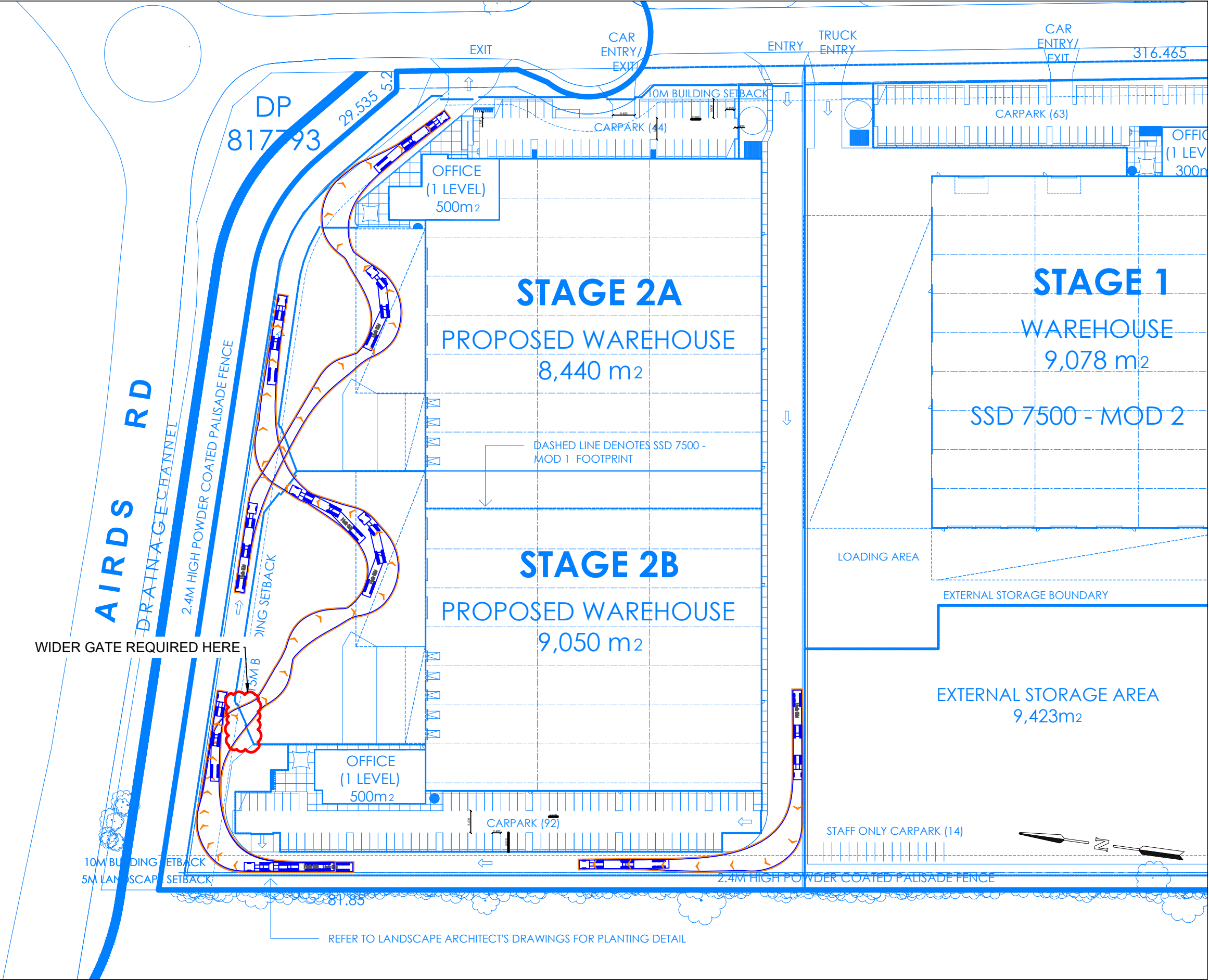
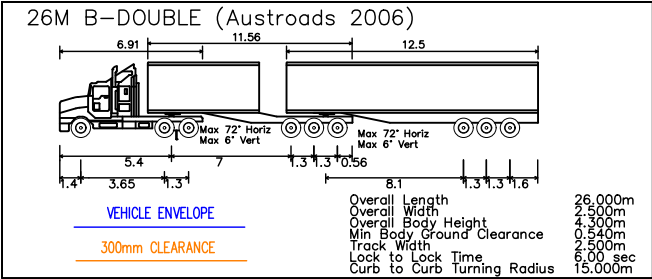
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	APPROVED BY X.XXXX	DATE 28.02.2022	PROJECT 1821	DESIGN COMMENTARY	
	SCALE 1:500		5-9 CULVERSTON ROAD, MINTO	ACCESS ENTRY/EXIT	
				FILE NAME AG1821-03-v02.dwg	SHEET AG02

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DESIGNED

Jasmine Wong

APPROVED BY

X.XXXX

SCALE

Custom

PAPER SIZE

A3

DATE

28.02.2022

012

CLIENT

CHARTER HALL

PROJECT

1821

5-9 CULVERSTON ROAD, MINTO

DOCUMENT INFORMATION

ENTRY / EXIT

26 M B-DOUBLE SWEEP PATHS

FILE NAME

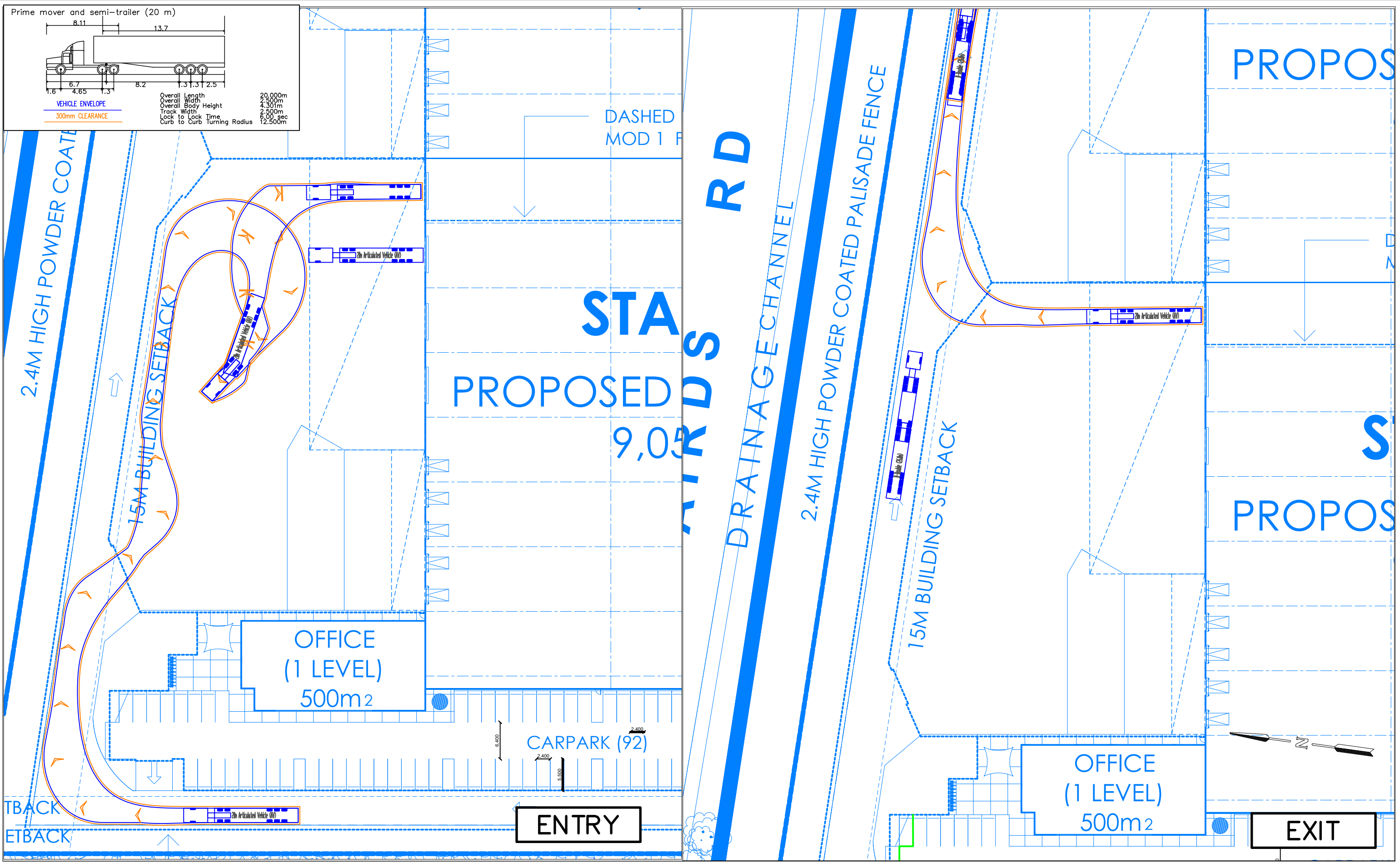
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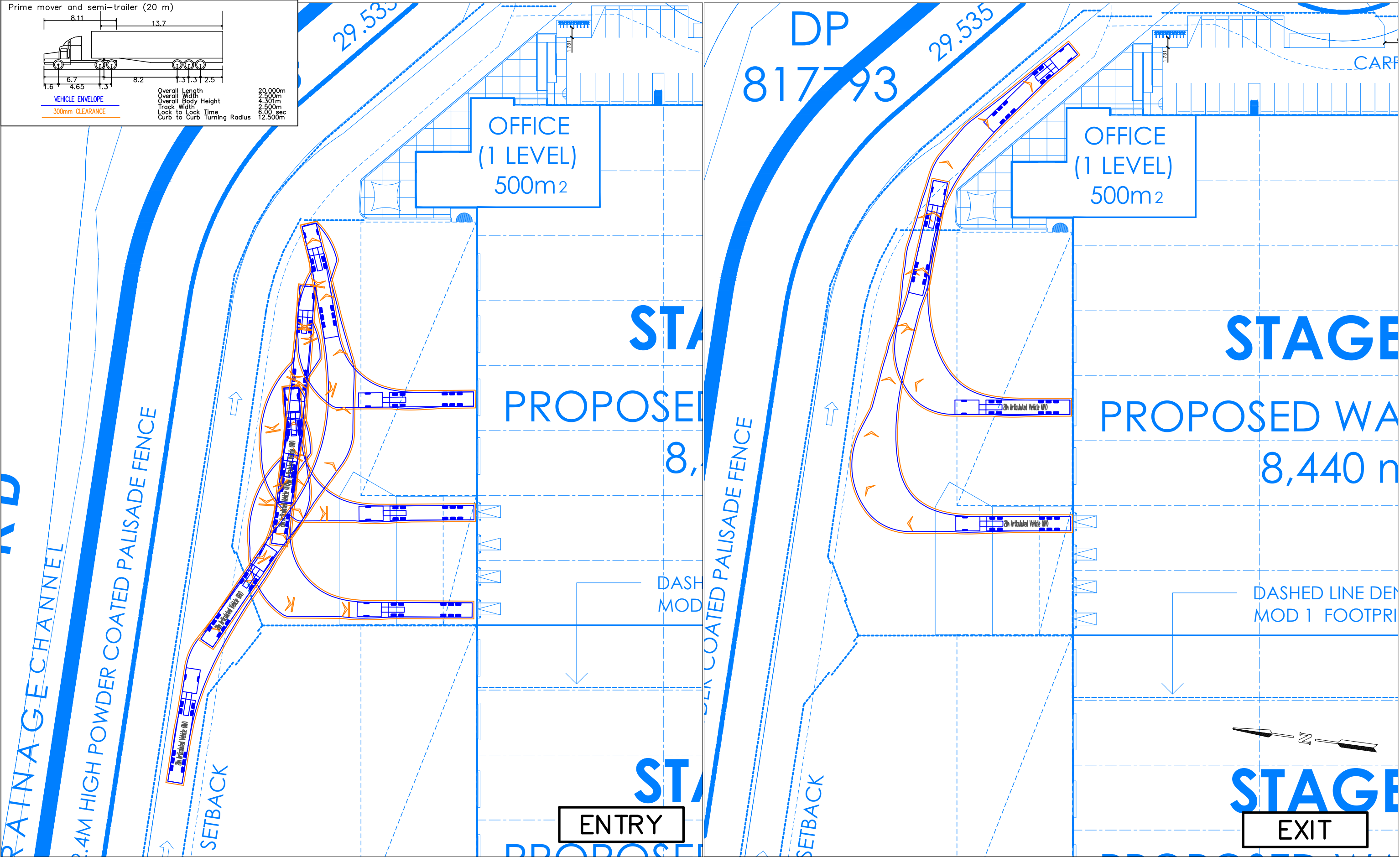
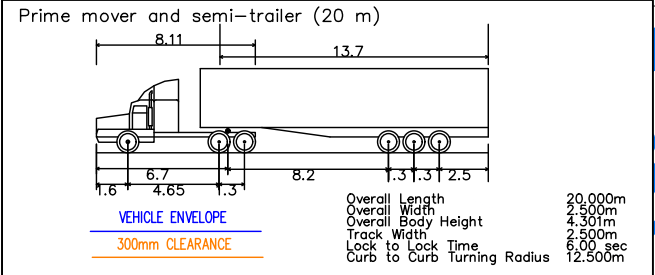
AG03

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	APPROVED BY X.XXXX	DATE 28.02.2022	PROJECT 1821	20 M AV SWEEP PATHS ENTRY/EXIT (GATE CLOSED)		
	SCALE 1:600		5-9 CULVERSTON ROAD, MINTO	FILE NAME AG1821-03-v02.dwg	SHEET AG04	



GENERAL NOTES	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION		 Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au
	Jasmine Wong	A3	CHARTER HALL	STAGE 2A		
	APPROVED BY	DATE	PROJECT	20 M AV SWEPT PATHS ENTRY/EXIT		
	X.XXXX	28.02.2022	1821			
Culverston Road has a posted speed limit of 50km/h. Swept path assessments completed at 10 km/h and 300mm clearance.	SCALE		5-9 CULVERSTON ROAD, MINTO	FILE NAME	SHEET	
	1:600			AG1821-03-v02.dwg	AG05	

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

12.5

VEHICLE ENVELOPE

300mm 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

2.500m

The diagram is a detailed site plan for a vehicle access area. It features a large blue curved line representing a 'COATED PALISADE FENCE'. Two buildings are shown, both labeled 'OFFICE (1 LEVEL) 500m²'. A large blue area is labeled 'DP 817793' with a bearing of '29.53°'. A path for a '20m Articulated Vehicle (AV)' is shown, with a note 'RESTRICT TO A 12.5M HRV USING THESE DOCKS'. Another path for an 'HRV - Heavy Rigid Vehicle' is shown. The plan includes various dashed lines for vehicle envelopes and clearance zones. Labels 'ENTRY' and 'EXIT' are placed at the bottom of the plan. A north arrow is located in the bottom right corner.

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	APPROVED BY X.XXXX	DATE 28.02.2022	PROJECT 1821	STAGE 2A	
	SCALE 1:400		5-9 CULVERSTON ROAD, MINTO	12.5 M HRV SWEPT PATHS ENTRY/EXIT	SHEET AG06
				FILE NAME AG1821-03-v02.dwg	

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PLOT DATE: 28/02/2022 10:25:16 AM | CAD REFERENCE: C:\Users\Jasmine Wong\OneDrive - Ason Group\Documents\project\1821 - Minto Mod 2\MOD 3 New Plans\AG1821-03-v02.dwg | Jasmine Wong |