Transport Assessment

Development Application

Lot 4C & 4D – Oakdale West Industrial Estate
19/01/2023
Ref: P2157r01v3

Info@asongroup.com.au
+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000

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Glossary

Acronym	Description
CC	Construction Certificate
Council	Penrith City Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
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
MOD	Section 4.55 Modification (also referred as a S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TA	Transport Assessment
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Summary

The proposed development seeks approval for construction, operation, use and fit-out of Lot 4C and Lot 4D (the Site) at Goodman's Oakdale West Industrial Estate (OWE). Further, the Site is located at Lot 111 DP1262310 which falls within the Penrith City Council Local Government Area (LGA).

It is noted that the latest approved modification with the Department of Planning and Environment (DPE) since 16 December 2022 is known as Modification 11 (MOD 11).

The proposed developments comply with MOD 12 of SSD 7348 Concept Plan that is currently with the Department of Planning & Environment for assessment.

The applications will be submitted to Penrith City Council as a local council development application.

The proposed buildings form part of the larger OWE which comprises 154 hectares of land within the Western Sydney Employment Area (WSEA) and is owned by a Joint Venture (JV) between Goodman and Brickworks Limited.

Building 4C spans 30,020 m^2 GFA of warehouse space and 1,200 m^2 GFA of office space, creating a total Gross Lettable Area of 31,220 m^2 GFA.

Building 4D spans 5,200 m^2 GFA of warehouse space and 400 m^2 GFA of office space, creating a total Gross Lettable Area of 5,600 m^2 GFA.

24/7 operations are proposed with a focus on warehouse and industrial use.

Key details of the developments are outlined as follows.

- **Lot 4C – Comprised of one building:**
  - Building 4C
    - Warehouse spanning 30,020m^2;
    - Two level office spanning 1000m^2;
    - Two level dock office spanning 200m^2;
    - 12x on grade docks with 20m awning;
    - 8x recessed docks with 3m awning;
    - 36m hardstand for truck manoeuvring;
    - Separate car and truck entry / exit;
    - 14 bicycle spaces; and
    - 136 car spaces.

- **Lot 4D – Comprised of one building:**
  - Building 4D
    - Warehouse spanning 5,200m^2;
    - Two level office spanning 400m^2;
    - 4x on grade docks with 20m awning;
    - 2x recessed docks with 3m awning;
    - 50m hardstand for truck manoeuvring;

- Separate car and truck entry / exit;
- 6 bicycle spaces; and
- 28 spaces.

1.2 Overview

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd to prepare a Transport Assessment (TA) relating to the proposed warehouse development known as Building 4C and Building 4D within Precinct 4. This precinct forms part of the wider Oakdale West Industrial Estate (OWE).

Located within the Penrith City Council LGA, the Site is subject to that Council's controls as well as the site-specific controls implemented for the wider Estate as included under the state significant development approval for the Concept Plan accompanying the original application (SSD-7348).

This TA provides an assessment of the relevant traffic, transport, and parking implications of the Proposal.

1.3 Key References

In preparing this TA, Ason Group has referenced key planning documents, these include:

- Penrith City Council Development Control Plan (DCP 2014);
- Penrith City Council Local Environmental Plan (LEP 2010); and
- State Significant Development – Oakdale West Estate (SSD 7348).

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

- Roads and Maritime Services, *Guide to Traffic Generating Developments* (RMS Guide 2002);
- 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); and
- Australian Standard 2890.6:2022 – Parking Facilities – Off Street Parking for People with Disabilities.

In addition to the above references, this TA intends to build upon the wider Oakdale West Industrial Estate, with reference to the previously **APPROVED** Modification 7 traffic report with other similar traffic reports for DAs in OWE including:

- Ason Group, Transport Statement – Oakdale West Industrial Estate – SSD 7348 Modification 7, dated 31 May 2021 (MOD 7 Report); and
- Ason Group, Transport Assessment – Oakdale West Industrial Estate – Lot 4E, dated 24 June 2021 (Lot 4E Report).

2 Overview of Proposal

2.1 Summary

A detailed description of the proposal is included in the Statement of Environmental Effects (SEE) that this assessment accompanies. The proposed development comprises of the construction of Building 4C and Building 4D within Precinct 4 of the OWE. The Proposal also includes fit out and use as a warehouse and distribution centre. The proposed development will facilitate warehouse and distribution uses consistent with the IN1 General Industrial zone under the State Environmental Planning Policy (Western Sydney Employment Area) 2009. In summary, the Proposal consists of the following characteristics (as shown in **Table 1**):

TABLE 1 PROPOSAL YIELD

Component	Building 4C	Building 4D
Warehouse GFA (m^2)	30,020	5,200
Office GFA (m^2)	1,200	400
Total GFA (m^2)	31,220	5,600
Loading Dock Provision	20[1]	6[2]
Car Parking Provision (Spaces)	136[3]	28[4]

Note: 1) This provision includes 8 recessed docks and 12 Roller Shutter Doors (RSDs).

2) This provision includes 2 recessed docks and 4 RSDs.

3) This provision includes 3 accessible spaces and 6 Electric Vehicle Charging stations.

4) This provision includes 1 accessible space and 2 Electric Vehicle Charging stations.

Detailed architectural plans have been prepared by SBA Architects and accompany the submission. For reference, the proposed Site plan for Lot 4C and Lot 4D is provided in **Figure 1** at a reduced scale.

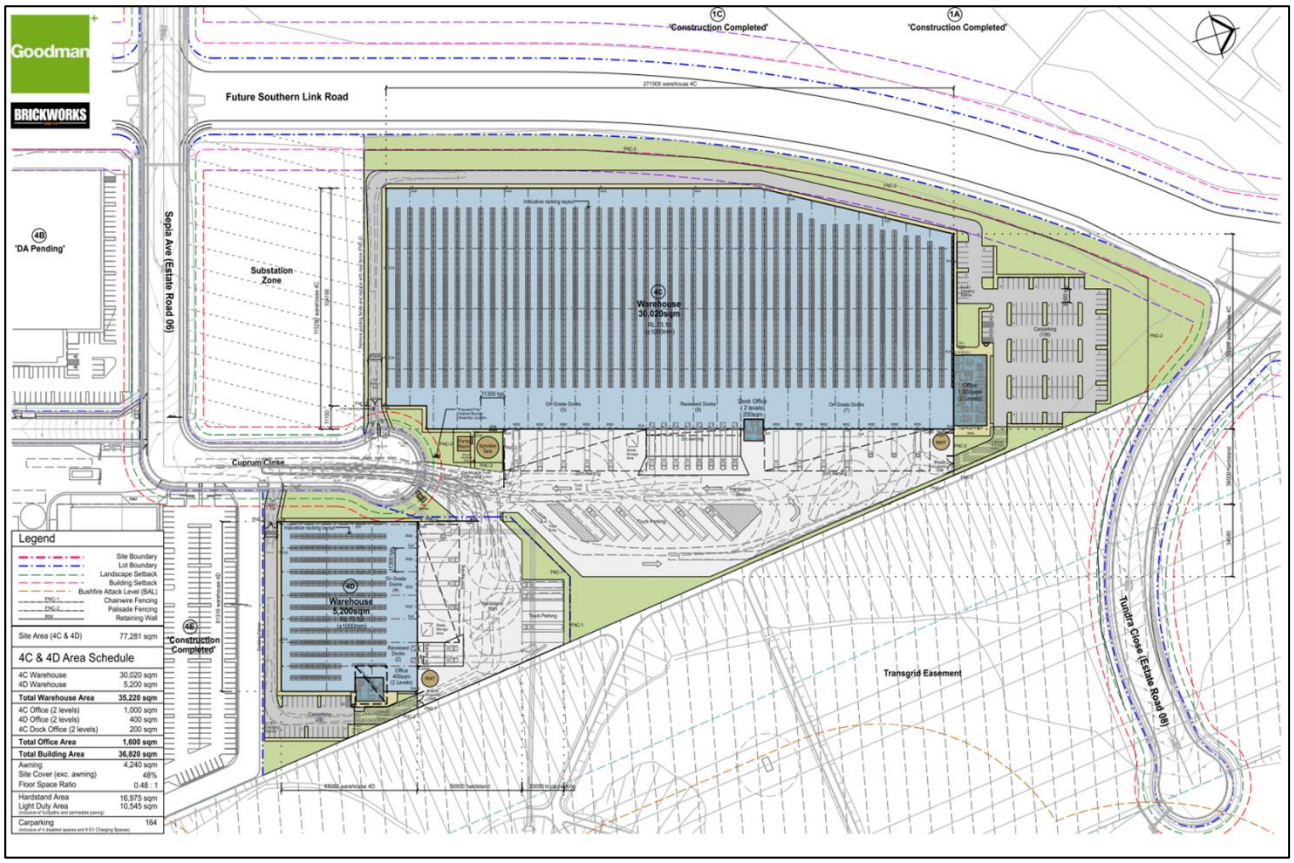


Figure 1: Reduced Lots 4C & 4D Site Plan

2.2 Vehicular Access Strategies

The proposed truck access to Buildings 4C & 4D will be facilitated via a shared access driveway at the cul-de-sac. Separate car and truck entry / exit points are provided for Lots 4C & 4D on Cuprum Close as shown in **Figure 2**.

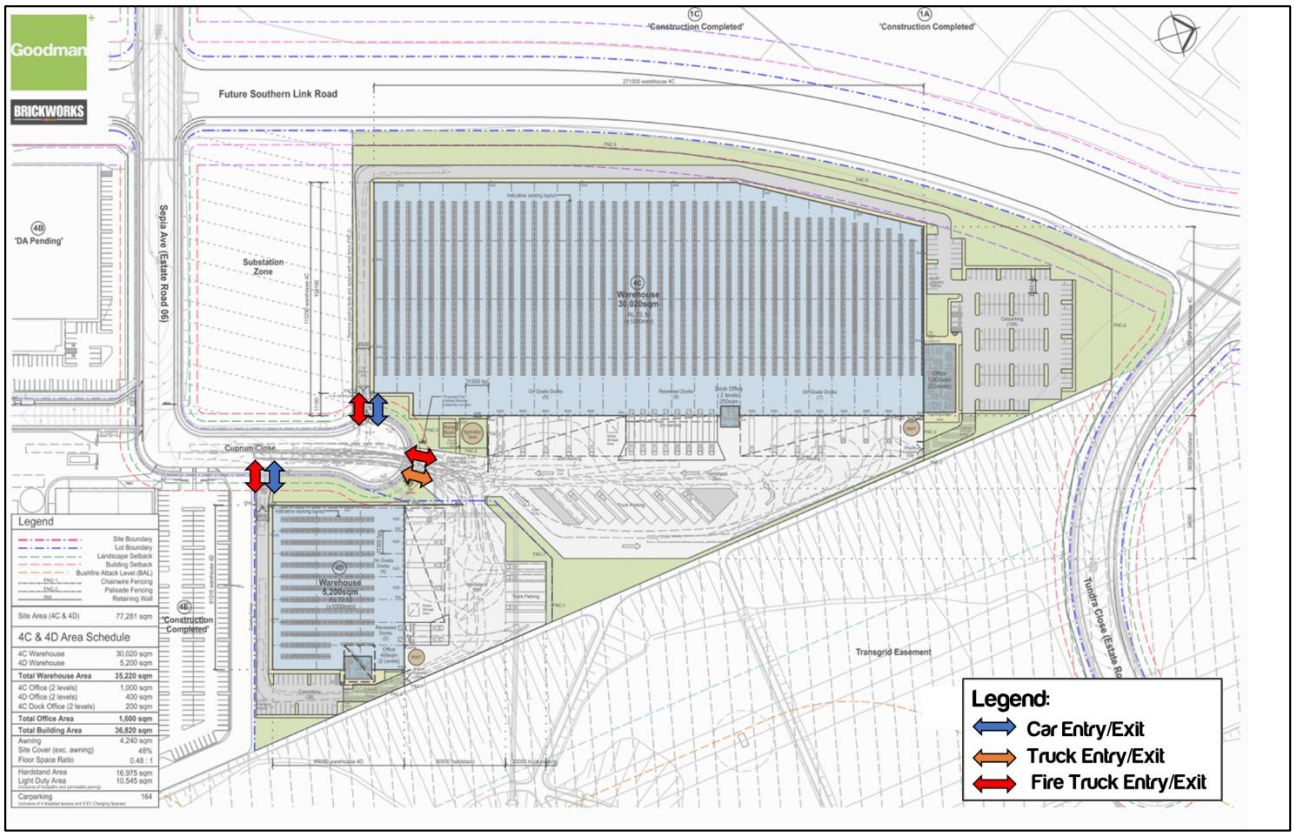


Figure 2: Proposed Vehicular Access Strategy – Lots 4C & 4D

2.3 Planning Context – Oakdale West Industrial Estate

2.3.1 Concept Plan Approval

The original SSD approval for the Oakdale West Industrial Estate (SSD 7348) was granted on 13 September 2019 and envisaged a total GFA of approximately 475,269m^2 across the entire Estate spanning 5 precincts. Since that approval, the Estate has gone through several modifications, some of which are discussed further below to provide more context to this TA.

2.3.2 Approved Modification 3

MOD 3 to the SSD 7348 (approved on 3 April 2020) involved major changes to the built form of Precincts numbers 2 to 5 within the approved concept plan at OWE, with some moderate changes to the GFAs of Precinct numbers 4 and 5. Ason Group has previously undertaken detailed traffic assessment and SIDRA modelling for MOD 3. The following tables provides a comparison between the approved GFA from the concept approval to the approved MOD 3.

TABLE 2 APPROVED MOD 7 YIELD

Original Application SSD-7348 Approved GFA	Approved MOD 3 Total GFA
475,269m^2	595,765m^2

2.3.3 Approved MOD 7

MOD 7 for OWE was formally lodged in July 2021 and subsequently approved in October 2021. The modification primarily related to changes in the configurations and built form of Precincts 3 and 4. **Table 3** broadly refers the uplift in GFA for MOD 7 against the approved Concept Plan.

TABLE 3 APPROVED MOD 7 YIELD

Original Application SSD-7348 Approved GFA	Approved MOD 7 Total GFA
475,269m^2	599,455m^2

It should be considered that the construction of the proposed Building 4C and Building 4D – subject of this TA – does not deviate or seek substantial change to the configuration and built form of Precinct 4 (as approved) as part of MOD 7 and that the DA application should be considered separately from previous applications. The latest traffic assessment (prepared by Ason Group) was completed for the approved MOD 7.

2.3.4 Approved MOD 9

MOD 9 for OWE was formally lodged in November 2021 and subsequently approved in December 2021. The modification primarily related to amendments to the layout of Buildings 2A, 2C and 2D and increased height of Building 2C. **Table 4** outlines the total GFA changes for MOD 9 against the approved Concept Plan.

TABLE 4 APPROVED MOD 9 YIELD

Original Application SSD-7348 Approved GFA	Approved MOD 9 Total GFA
475,269m^2	599,455m^2

2.3.5 Approved MOD 10

MOD 10 sought to update Precinct 1 signage plans, including façade signage, and was approved on 17 August 2022. It is noted that this modification is not necessarily traffic / transport related. However, the GFAs under the MOD 10 masterplan have been referenced to assess the Site's traffic generation.

The table below outlines the total GFA changes for MOD 10 against the approved Concept Plan.

TABLE 5 APPROVED MOD 10 YIELD

Original Application SSD-7348 Approved GFA	Approved MOD 10 Total GFA
475,269m^2	599,455m^2

Recognising that the total Estate GFA is identical between MOD 7 and MOD 10. There are, however, differences in the GFA distribution between the two MODs across each Precinct. As it relates specifically to this application for Lots 4C & 4D, the comparison is shown in .

TABLE 6 MOD 7 AND MOD 11 COMPARISON FOR PRECINCT 4

Precinct	MOD 7 GFA	MOD 10 GFA	Difference (MOD 10 – MOD 7)
4	111,678m^2	120,557m^2	8,879m^2

The Site location in appreciation of the approved MOD 10 plan is shown overleaf for reference.

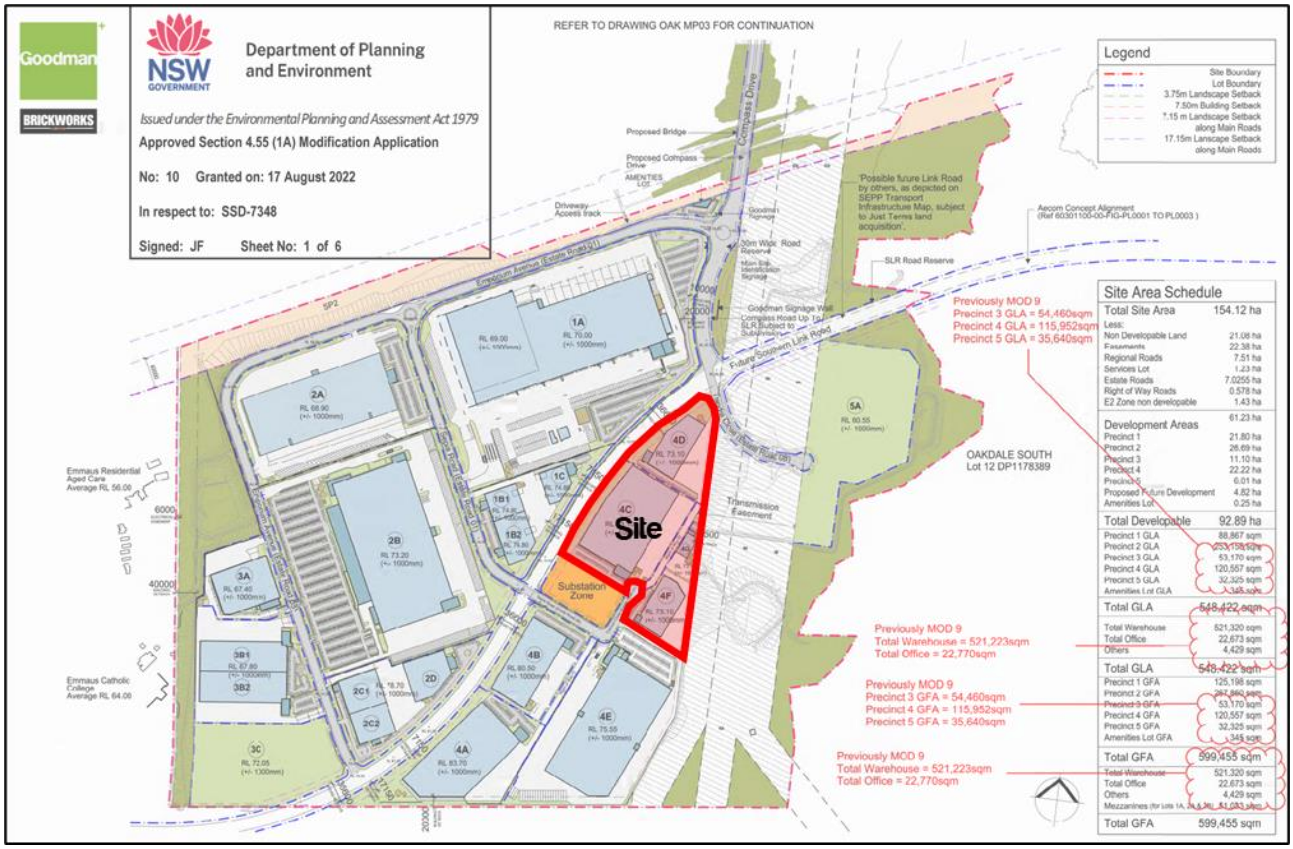


Figure 3: Approved MOD 10 Estate Masterplan

2.3.6 Approved MOD 11

MOD 11 is the latest modification for OWE which seeks to update the concept approval to reflect the development applications lodged with the Council for the Amenity Precinct, Lot 3C and Lot 5. Subsequently, MOD 11 was approved on 16 December 2022. It is noted that this modification is not necessarily traffic / transport related. Therefore, the MOD 11 traffic would generally remain the same as the approved MOD 10 traffic. As such, this TA continues to reference MOD 10 for the traffic assessment.

The table below outlines the total GFA changes for MOD 11 against the approved Concept Plan.

TABLE 7 APPROVED MOD 11 YIELD

Original Application SSD-7348 Approved GFA	Approved MOD 11 Total GFA
475,269m^2	599,455m^2

The Site location in appreciation of the approved MOD 11 plan is shown below for reference.

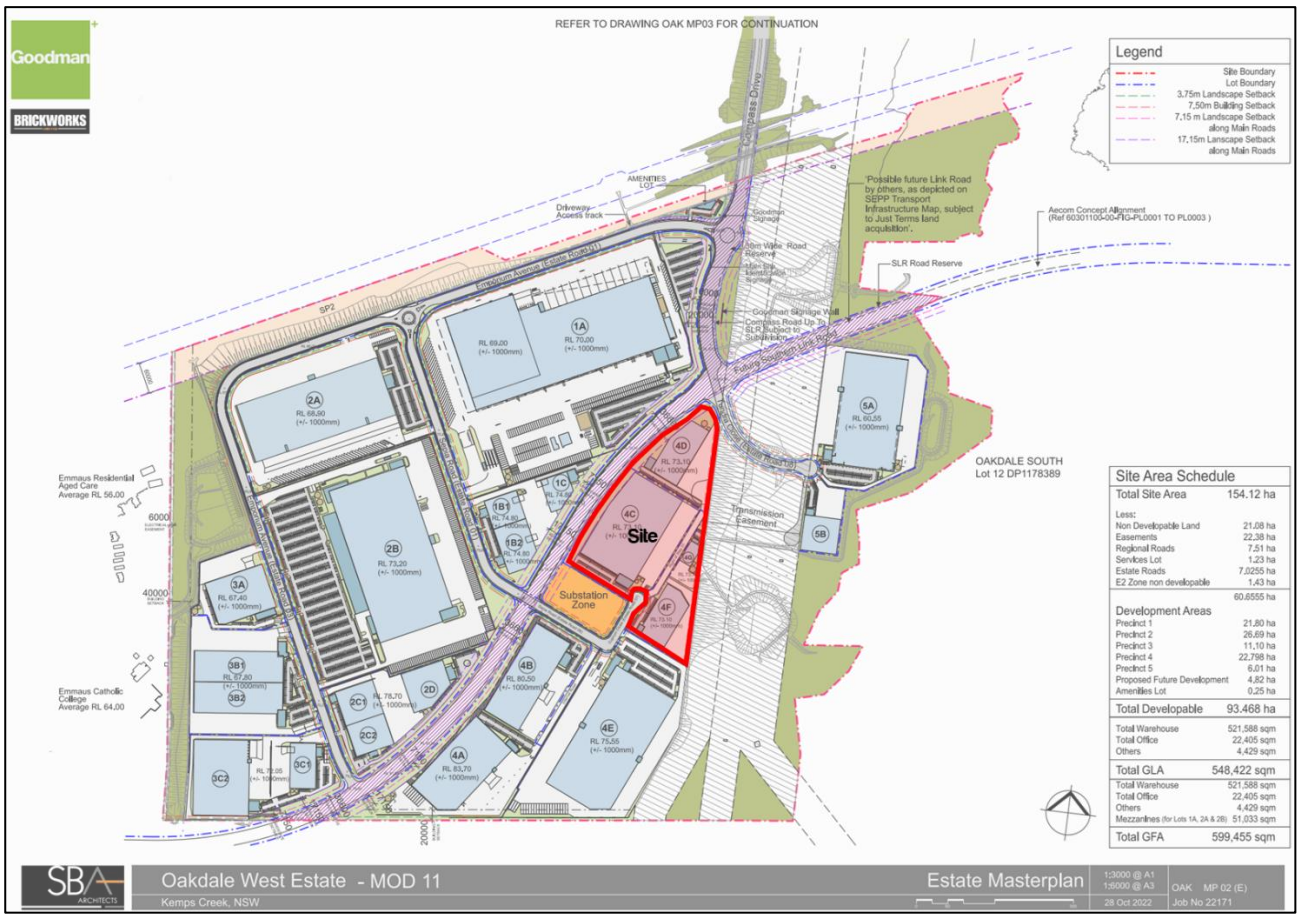


Figure 4: Approved MOD 11 Estate Masterplan

3 Existing Conditions

3.1 Local Context

OWE is located within the Penrith City Council (Council) LGA and forms part of the broader Oakdale Industrial Estate (the Oakdale Estate), which is approximately 421 hectares of industrial zoned land within the Western Sydney Employment Area (WSEA). The OWE itself provides approximately 154 hectares of industrial zoned land with a developable area of approximately 89 hectares.

The OWE is bordered by the Water NSW Pipeline to the north; Oakdale East Estate (OEE) and Oakdale South Estate (OSE) to the east and south-east respectively; and rural land to the south and west (Kemps Creek).

Further, OWE is surrounded by a number of precincts where development in each precinct will help create future employment and growth in the area.

The OWE is shown in its local context in **Figure 5** while the Oakdale Estate is shown in its sub-regional context (within the WSEA) in **Figure 6**.

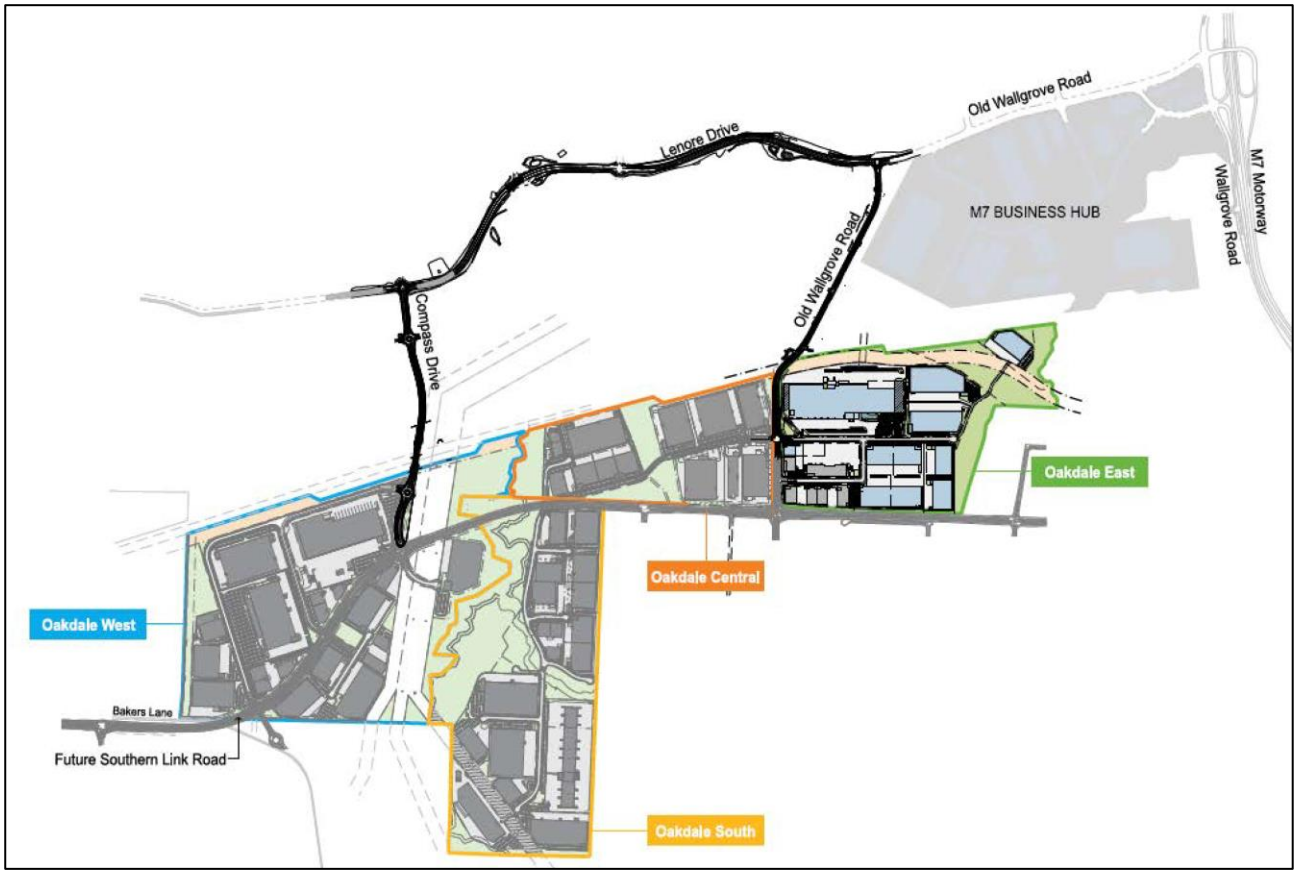


Figure 5: Oakdale West Estate Local Context (Source: SBA Architects)

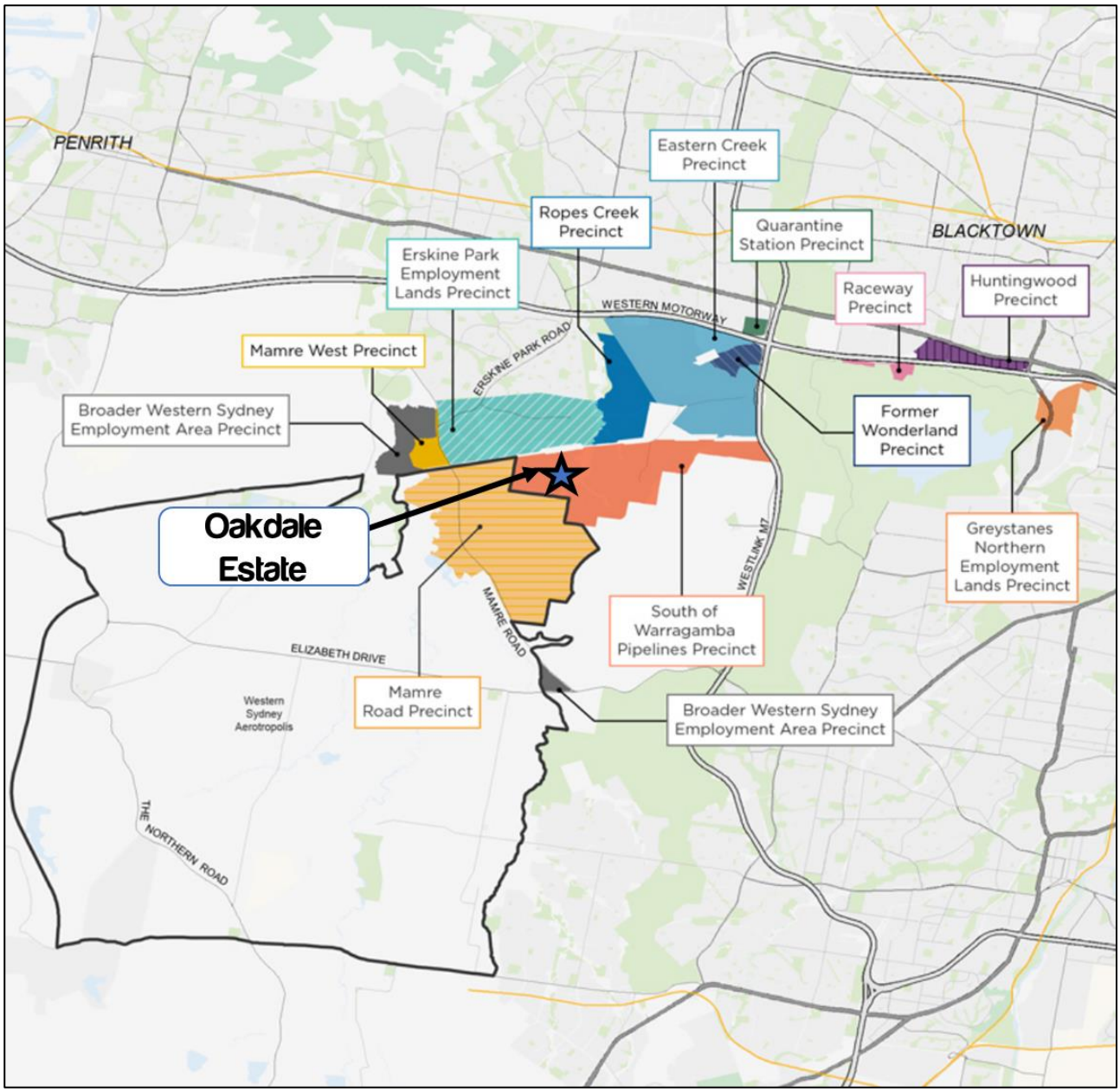


Figure 6: WSEA Precinct Plan (Source: DPE (September 2022))

3.2 Site Location

The location of the Site and the surrounding road network is shown in **Figure 7**.

Figure 7: Site Location and Road Hierarchy

3.3 Access Road Network

The existing and proposed road network which will provide access for the OWE is shown in **Figure 8** and detailed further in sections below.

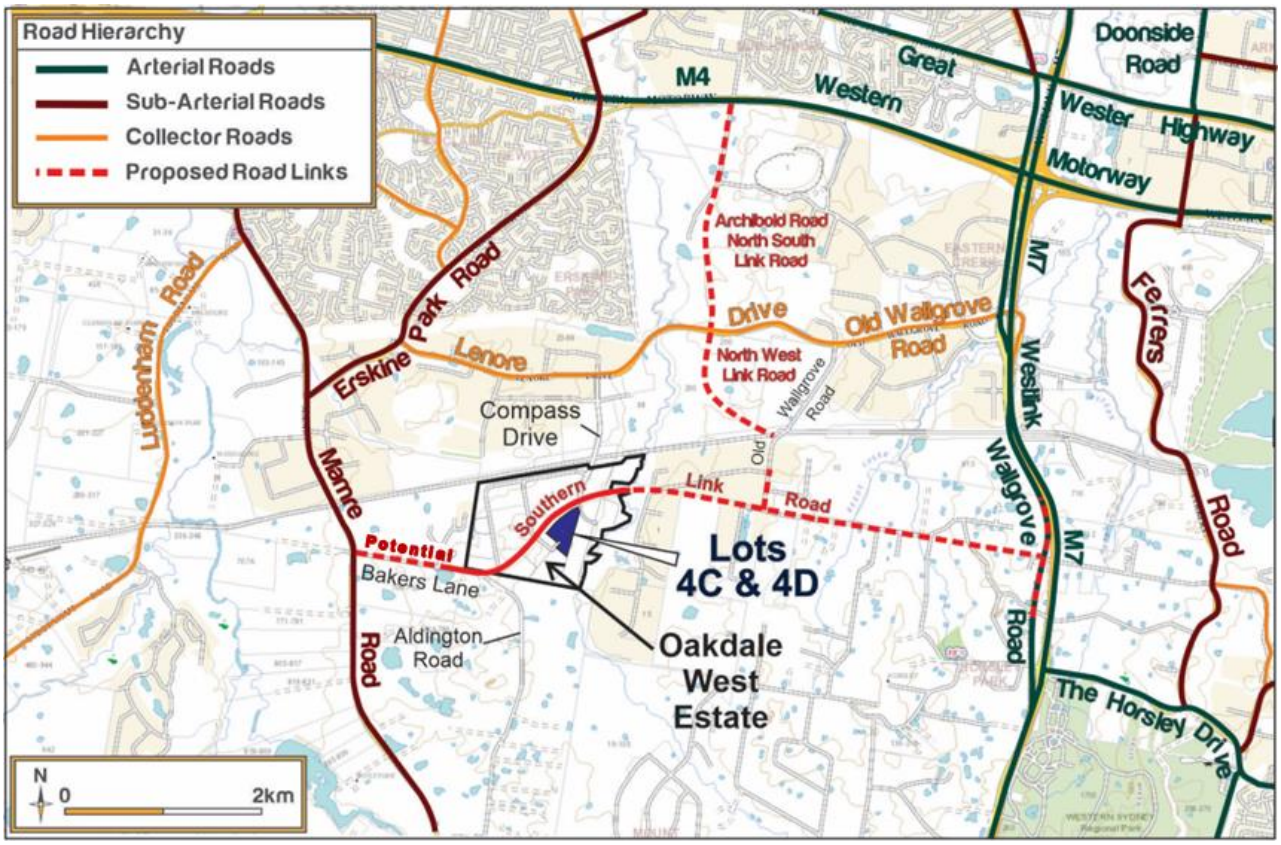


Figure 8: Existing and Future Road Network

3.3.1 Existing Key Roads

The existing key roads providing access for the OWE are summarised in the table below:

TABLE 8 KEY ROAD DESCRIPTIONS

Road Name	Road Classification	Posted Speed Limit (km/h)	On-street Parking Opportunities	Notes
M7 Motorway	Freeway (MR 6004)	100	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Wallgrove Road	State road (MR 515)	80	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction. Medians are provided at the respective intersections and from Roussell Road to the Great Western Highway.
Old Wallgrove Road	Local collector road	60	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Lenore Drive	Local collector road	80	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Compass Drive	Local road	60	No on-street parking opportunities on both sides	Provides 2 traffic lanes in each direction separated by a landscaped central median.
Emporium Avenue	Local road	50	On-street parking opportunities on both sides	Provides 1 lane in each direction.
Cuprum Close	Local road	50	No on-street parking opportunities on both sides	Provides 1 lane in each direction.

3.3.2 Future Key Road

A future key road which has been proposed near the Site is the Southern Link Road (SLR). The SLR network would provide the additional road infrastructure to accommodate travel demand generated by employment areas south of the Sydney Water Pipeline (including the OWE and broader Oakdale Estate). The indicative route for the SLR and future connections was initially identified in SEPP (WSEA) 2009 and has since been refined to the current proposed alignment (as shown in **Figure 9**). It is noted that the SLR network planning and development process is ongoing and is therefore potentially subject to change due to further refinement of the route alignment and access arrangements. Importantly, the development of the OWE is not dependent on the SLR itself.

Figure 9: Proposed Southern Link Road Network and Alignment (Source: TfNSW (2022))

3.3.3 Key Intersections

The key intersections providing access for the OWE include:

- **Lenore Drive & Compass Drive & Grady Crescent:** A signalised intersection with Lenore Drive, providing access to the regional road network and a local connection to an extended Grady Crescent to accommodate future industrial development to the north.
- **Compass Drive & Lockwood Road:** A roundabout intersection providing a local connection between Compass Drive and Templar Road, as well as providing a connection for a local road supporting development to the east, comprising the balance of Fitzpatrick lands.
- **Compass Drive & Emporium Avenue:** A roundabout intersection providing primary access to the OWE prior to the completion of the SLR.
- **Compass Drive & SLR:** A potential future signalised intersection completing the north-south connection between Lenore Drive and SLR. This intersection will also provide access to Precinct 4 of the OWE via Sepia Road (Estate Road 01) and Cuprum Close (Estate Road 07).

The design of the key intersections listed above have been developed to ensure appropriate intersection operations through a forecast year 2036.

The intersections of Lenore Drive & Compass Drive & Grady Crescent, Compass Drive & Lockwood Road and Compass Drive & Emporium Avenue have been recently constructed in accordance with the approved 2026 interim scenario as part of OWE original concept approval and MOD 3 approval, as indicated from **Figure 10** to **Figure 12**. The approved intersection design of the Compass Drive & SLR intersection under 2026 interim scenario is provided in **Figure 13**.

Furthermore, it should be noted that the approved 2036 ultimate scenario includes further upgrades at the intersection of Lenore Drive & Compass Drive & Grady Crescent, as shown in **Figure 14**.

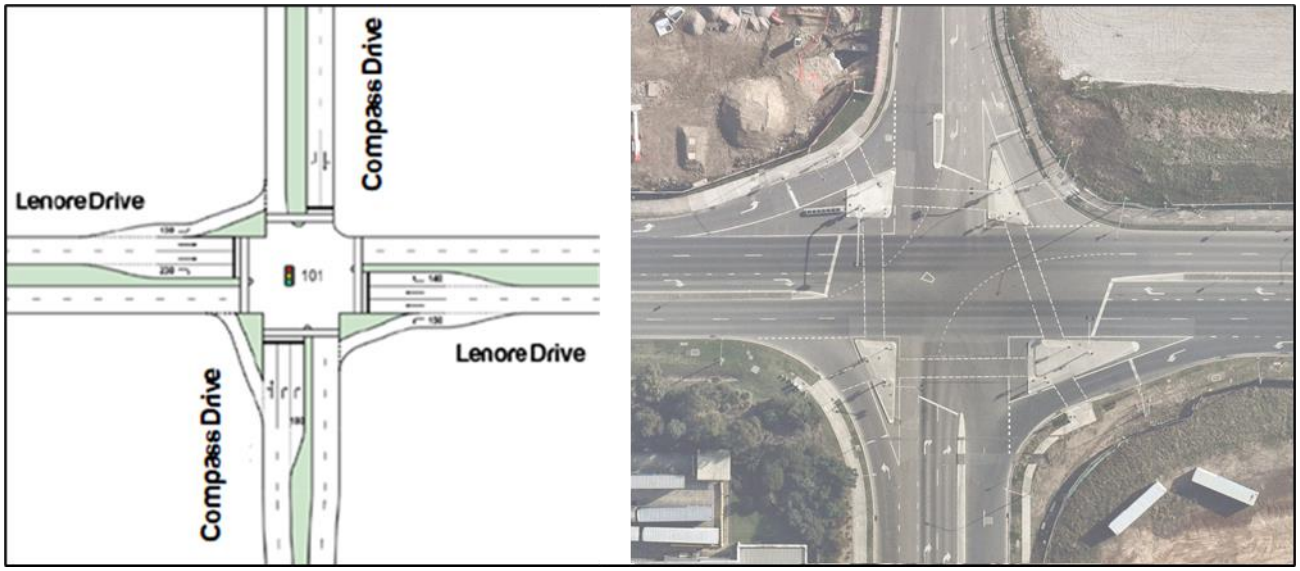


Figure 10: Intersection Layout of Lenore Drive & Compass Drive

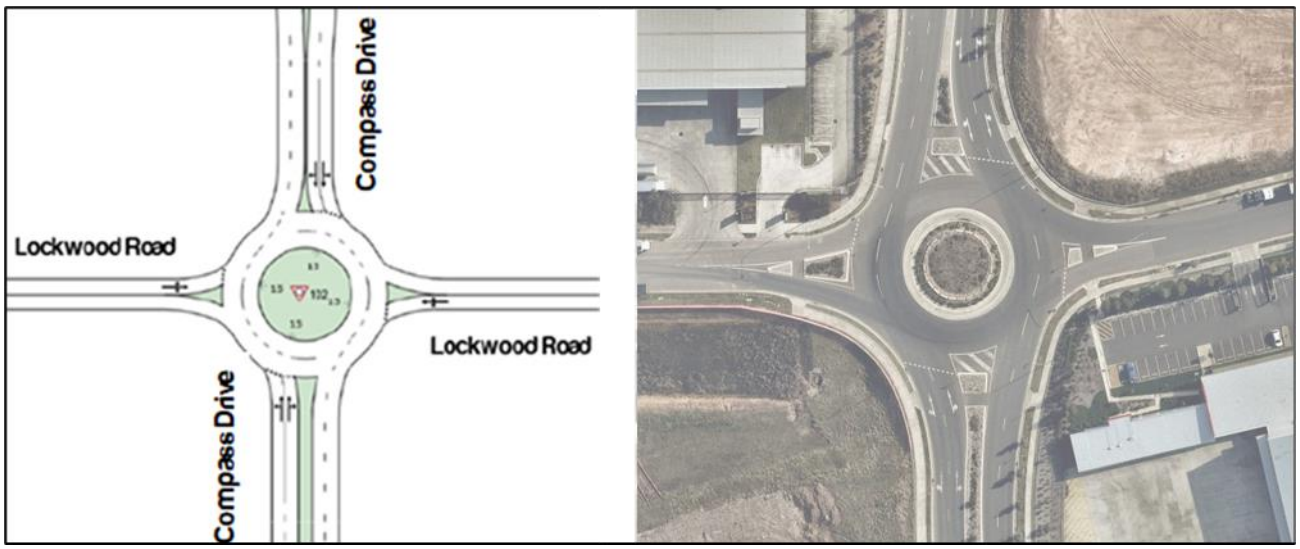


Figure 11: Intersection Layout of Compass Drive & Lockwood Road

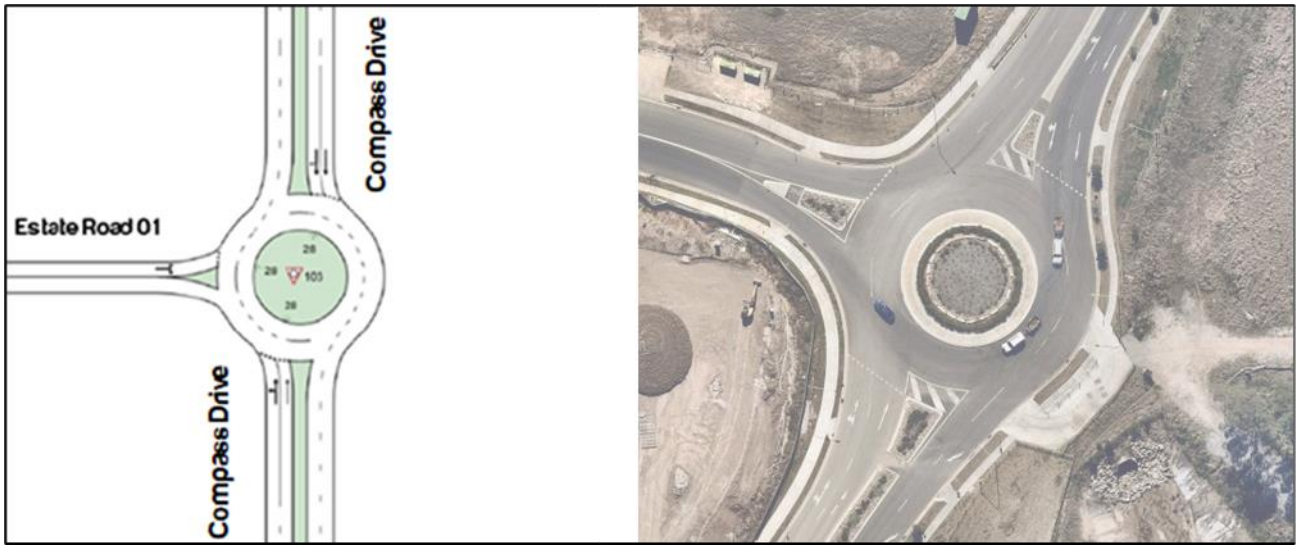


Figure 12: Intersection Layout of Compass Drive & Emporium Avenue

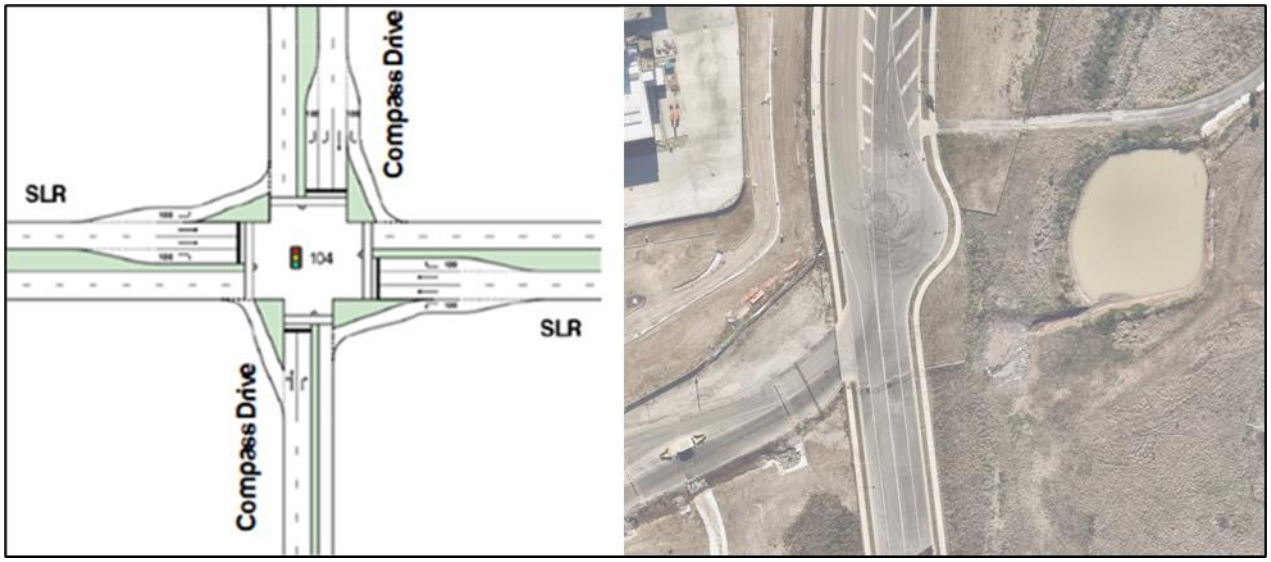


Figure 13: Intersection Layout of Compass Drive & SLR (2026 Interim Scenario – to be constructed)

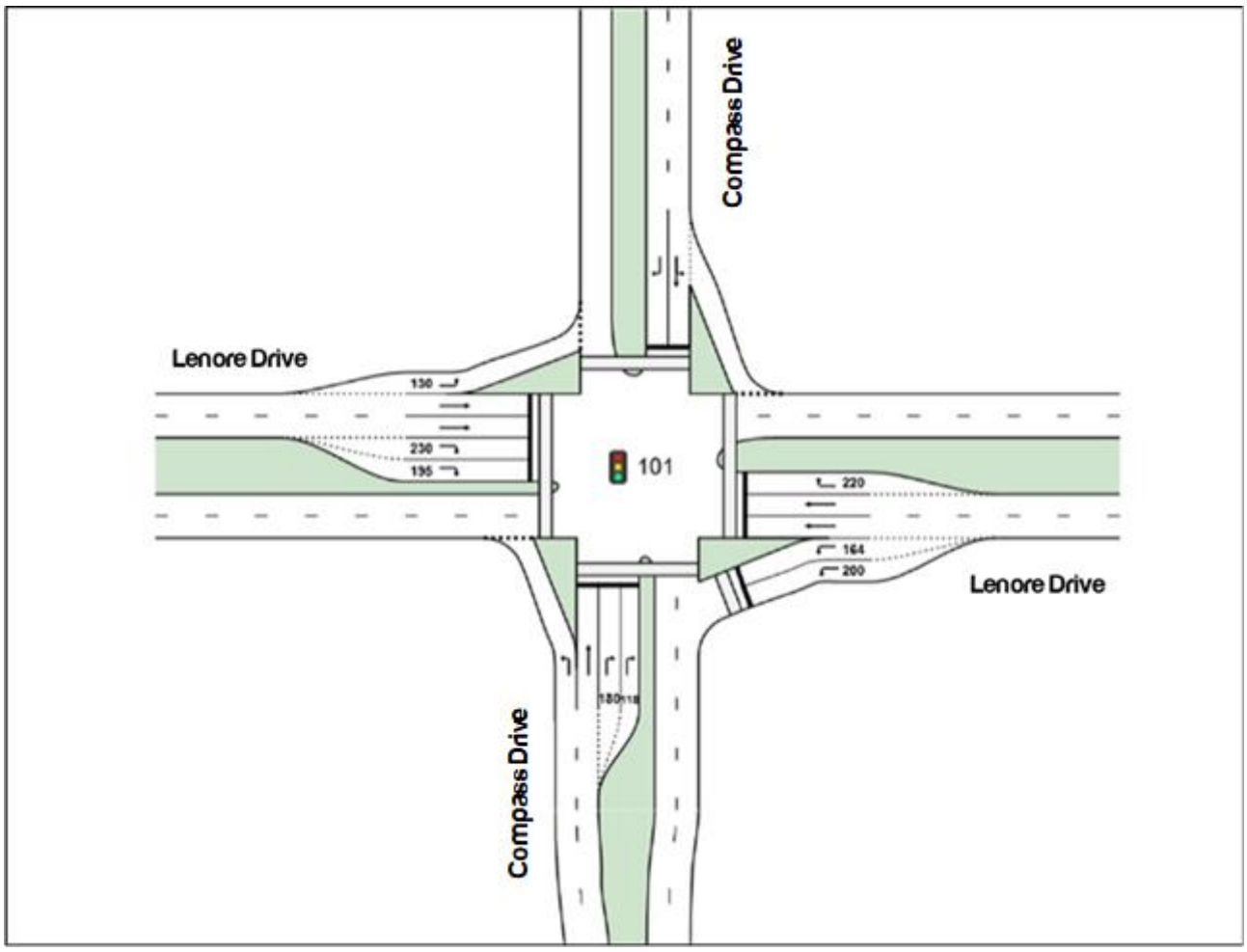


Figure 14: Intersection Layout of Lenore Drive & Compass Drive (2036 Ultimate Scenario)

3.4 Public Transport Services

3.4.1 Existing Bus Services

The introduction of a new bus route is confirmed to provide additional access for workers / visitors within OWE. This new bus service commenced from 24 October 2021 and will provide direct access to and from the St Marys Train Station. This introduction of a direct connection with the St Marys Train Station increases the accessibility of the Site via public transport services. The existing bus services are shown below in **Figure 15** overleaf.

The timetable of bus route 779 has also been attached within **Appendix A** for reference.

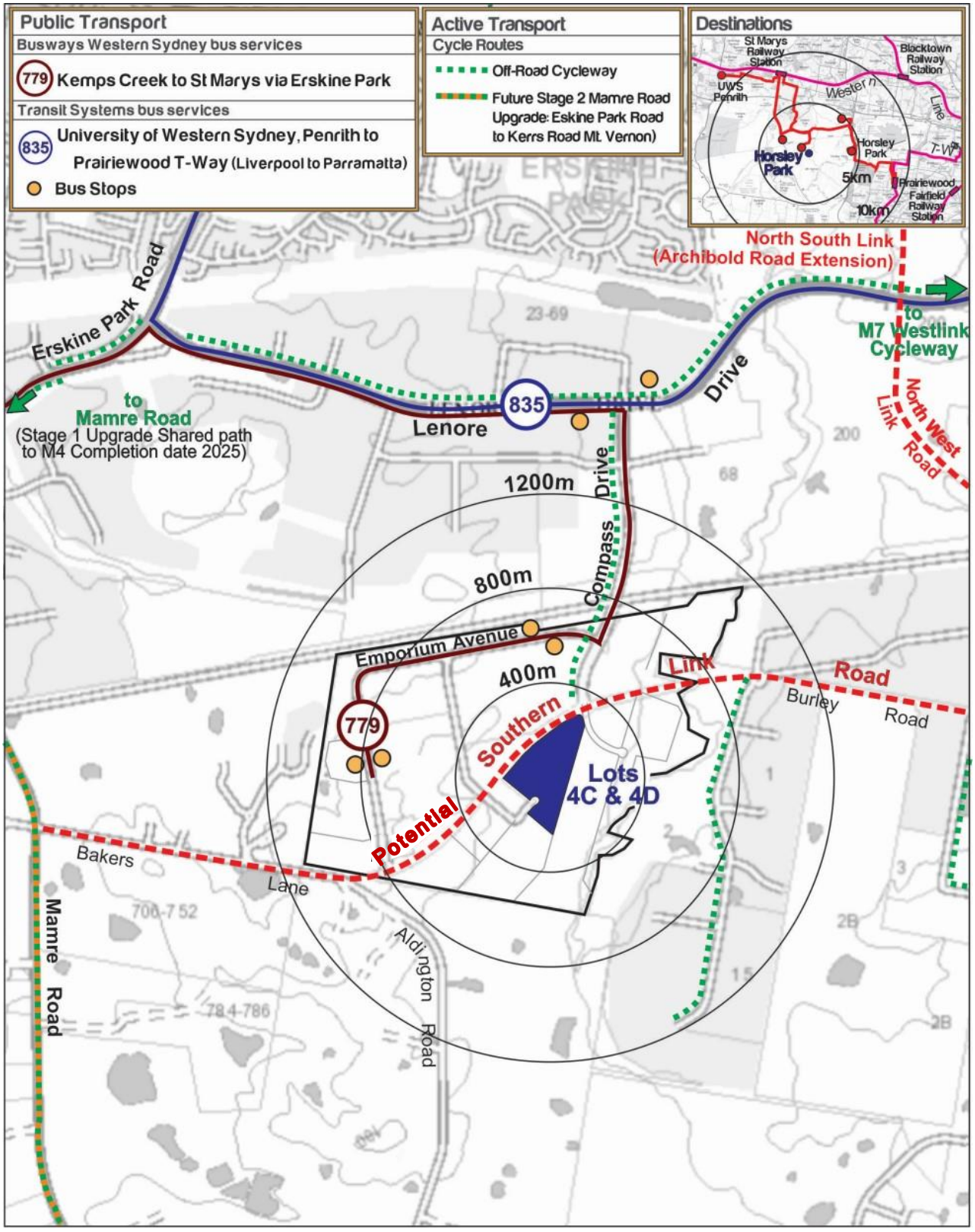


Figure 15: Existing Public Transport and Cycle Links

3.5 Active Transport

Lenore Drive and Compass Drive has been designed to provide appropriate cycle infrastructure, linking to the east (to the M7 cycleway) and the west (from the existing Mamre Road cycle path) with the potential for future augmentation via existing and proposed sub-regional links.

Furthermore, the Compass Drive includes a 2 to 2.5 metre shared footpath (on both sides) providing access to both pedestrians and cyclists. This is an essential link to encourage the uptake of alternative transport modes such as cycling as opposed to the historic dominance of private vehicle travel.

Finally, the provision of appropriate cycle facilities for Buildings 4C & 4D, such as bicycle storage, lockers and shower facilities will further encourage the use of the existing networks, again assisting in the reduction of private vehicle travel when journeying to work.

4 Parking Provisions

4.1 Car Parking

Parking rates for the wider Estate have been provided in accordance with Condition B13 of the 2019 SSD approval. The rates are as shown below in **Table 9**:

TABLE 9 APPROVED CAR PARKING RATES

Source	Land Use	Minimum Car Parking Rate
RMS Guide (OWE Masterplan)	Warehousing / Distribution	1 space per 300 m^2 GFA
	Office (Ancillary)	1 space per 40 m^2 GFA

Application of above rates to the Proposed Buildings 4C & 4D results in the following as shown below in **Table 10**:

TABLE 10 PARKING REQUIREMENT & PROVISION FOR BUILDINGS 4C & 4D

Building	GFA (m^2)		Car Parking Required			Car Parking Provided
	Warehouse	Office	Warehouse	Office	Total	
4C	30,020	1200[1]	101	30	131	136
4D	5,200	400	18	10	28	28

Notes: 1) Includes 200m^2 of Dock Office GFA

Application of the approved rates to the proposed development results in the requirement of 131 spaces. The proposal provides 136 on-site car parking spaces, thus satisfying requirements.

4.1.1 Accessible Parking

Condition B13(i) of the SSD specifies the following requirements for accessible parking spaces:

- 2 spaces for people with disabilities for every 100 car parking spaces.

This equates to a required provision of 3 spaces for Building 4C. In response, 3 spaces have been provided for Building 4C, satisfying the SSD requirement.

Moreover, application of the above rates results in a required provision of 1 space for Building 4D. In response, 1 space has been provided for Building 4D, satisfying the SSD requirement.

4.1.2 EV Parking

Although EV Parking is not specifically stated as a requirement in the SSD-7348 Conditions, the development provides EV parking to help promote more sustainable transport usage.

The provision of EV spaces for each building is outlined in the table below.

TABLE 11 EV PARKING PROVISION

Building	Provision
4C	6
4D	2
TOTAL	8

4.2 Bicycle Parking

Council's DCP refers to the Planning Guidelines for Walking and Cycling, which requires bicycle parking to be provided at a rate of 3-5% of staff numbers (for long-term use) and 5-10% of staff numbers (for short-term use).

It is noted that the detailed staff numbers for Buildings 4C & 4D are not available at the time of preparation of this TA. Therefore, for the purpose of this assessment, the maximum potential number of staff onsite at once has been estimated using Journey to Work data which suggest 89% of staff currently drive to work and the parking provision per building.

Based on the above assumptions, the following bicycle parking requirements are estimated:

TABLE 12 BICYCLE PARKING REQUIREMENTS AND PROVISION

Buildings	Estimated Staff Numbers (Parking Provision / 0.89)	Bicycle Parking Requirements (Spaces)	Bicycle Parking Provision (Spaces)
4C	153	Staff: 5 Visitor: 8	14
4D	32	Staff: 1 Visitor: 2	6

Based on the above, it is evident that the Proposal meets and exceeds requirements set out in the Planning Guidelines for Walking and Cycling.

Additionally, the Planning Guidelines for Walking and Cycling also provides the following minimum requirements of End of Trip (EoT) facilities on-site.

TABLE 13 EOT FACILITIES REQUIREMENTS

Staff Numbers	Lockers	Showers	Change Rooms
13 – 49	1 per 3 racks	2 (1 male and 1 female)	2 (1 male and 1 female)
50 – 149	1 per 3 racks	4 (2 male and 2 female)	2 (1 male and 1 female)

In response, the Proposal would consist of the provision of EoT facilities for Buildings 4C & 4D as per the minimum requirements set out in the above table and hence, comply with the Planning Guidelines for Walking and Cycling. It is expected that this would be readily addressed post DA or prior to CC stage.

5 Traffic Assessment

Having regard for the traffic generation rates established and approved in the OWE masterplan, the applicable trip generation rates relevant to the land use are as follows:

- 0.163 peak hour vehicle trips per 100 m^2 of industrial GFA including ancillary office floor space; and
- 1.892 daily vehicle trips per 100 m^2 of industrial GFA including ancillary office floor space.

5.1 Traffic Generation

For Lots 4C & 4D, application of the abovementioned traffic generation rates to the proposed development indicatively results in the following, as shown in **Table 14**:

TABLE 14 PROPOSED TRAFFIC GENERATION

Building	Total GFA (m^2)	Period	Traffic Generation
4C	31,220	AM / PM Hourly Peak	51
		Total Daily	591
4D	5,600	AM / PM Hourly Peak	9
		Total Daily	106
TOTAL	**36,820**	**AM / PM Hourly Peak**	**60**
		Total Daily	**697**

5.2 Traffic Impact Assessment

The previous traffic assessment for the Site has been undertaken at a Precinct-wide level, with reference to the wider assessment associated with previous modifications. To provide context for traffic generation of the Site, **Table 15** demonstrates the approved trip generation for Precinct 4 (which is relevant for Buildings 4C & 4D) under MOD 7 (the most recent traffic assessment for the Estate). This has been adjusted to account for the increase in the Precinct 4 GFA between MOD 7 and MOD 10 (refer to **Section 2.3.5**). It is noted that the total estate GFA of 599,455 m^2 between MOD 7 and MOD 10 remains unchanged.

Further, it is recognised that although MOD 11 has now been approved, MOD 11 is not traffic/transport related. Therefore, the overall traffic generation across the estate would remain relatively unchanged and this traffic assessment measured against MOD 10 traffic generation may be deemed acceptable.

TABLE 15 APPROVED MOD 7 TRIP GENERATION – PRECINCT 4 (WITH MOD 10 ADJUSTMENT)

Precinct No.	Approved GFA (m^2)	Traffic Generation[1]		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
4	120,557	153	174	2,124

Notes:1. The trips generated in the AM peak hour, PM peak hour, and daily have been derived based on the ratio between the approved Precinct 4 GFAs of MOD 7 and MOD 10.

With reference to the approved MOD 10 Estate Masterplan for SSD-7348 which consists of Lot 4A to 4G, it is noted that the proposed Lot 4D under this DA covers the same location as Lot 4F and Lot 4G of MOD 10. Similarly, the proposed Lot 4C under this DA covers the same location as Lot 4C and Lot 4D of MOD 10.

Further, Lot 4E which is under a separate SSD application (SSD 22191322) has been approved while Lots 4A and 4B currently have no approval at the time of preparation of this TA. As such, the table shown below outlines Lot 4E's approved traffic generation based on first principles while Lot 4A and 4B's traffic generation adopts approved rates and approved MOD 10 GFAs. For conservative assessment this table assumes that the DA for 4A and 4B will be approved in near future.

TABLE 16 TRAFFIC GENERATION OF LOTS 4A, 4B, 4E BASED ON FIRST PRINCIPLES AND APPROVED RATES

Lot No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
4A[1]	35,758	58	58	677
4B[1]	12,873	21	21	244
4E[2]	35,560	18	37	528
TOTAL	84,191	97	116	1,449

Notes: 1) Based on approved rates as per SSD-7348
2) Based on first principles as per SSD-22191322

Subtracting the approved GFA of Lots 4A, 4B and 4E from the approved Precinct 4 GFA provides the GFA 'cap' (and hence traffic generation) that Lots 4C and 4D can achieve without exceeding the previously assessed traffic thresholds (of MOD 10). This is shown in **Table 17**.

TABLE 17 QUANTIFICATION OF REMAINING GFA

Precinct / Lot No.	Approved GFA (m^2)	Traffic Generation		
		AM (trips per hour)	PM (trips per hour)	Daily (trips per day)
Approved Precinct 4	120,557	153	174	2,124
Lot 4A, 4B & 4E Traffic Generation	84,191	97	116	1,449
Balance of GFA / Traffic Generation	36,366	56	58	675
Proposed Lots 4C & 4D	36,820	60	60	697

As seen, the proposed Lots 4C & 4D results in a slight increase of 4 and 2 additional vehicular trips during the AM peak hour and PM peak hour in addition to 22 additional daily vehicular trips. This equates to approximately 1 additional trip per 15 minutes in the AM peak and 1 additional trip every 1 hour during the day. Hence, this increase is minor and therefore, no additional material traffic impacts are expected from Lots 4C & 4D beyond that previously assessed and approved as part of SSD 7348 and subsequent modifications up to the most recent MOD 10.

Hence, Lot 4C and 4D is supportable on traffic generation grounds.

6 Design Commentary

6.1 Relevant Design Standards

Building 4C and Building 4D demonstrate general compliance for Site access, car parking and loading procedures in line with the following relevant Australian Standards:

- AS2890.1:2004 for car parking spaces; and
- AS2890.2:2018 for commercial vehicle loading areas.

It is expected that any detailed construction plans would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard condition of consent to the development approval.

6.2 Design Vehicles

Buildings 4C and 4D can readily accommodate 26.0m B-Doubles (BDs) limited to side loading and up to 20.0m Articulated Vehicles for rear loading at recessed docks and RSD positions for most docks.

6.3 Commercial Hardstand Area

The design review indicates that access and egress to recessed docks and RSDs can occur noting that hardstand operational management would effectively facilitate the movements of trucks within the hardstand area.

It is expected that all commercial vehicles can enter and exit the site in a forward direction. In this regard, consideration shall be given to the design commentary and dock limitations included in **Appendix B**.

6.4 Operational Management

To accommodate 26.0m B-Double circulation within Building 4C and 4D, up to 10 and 4 RSDs will need to be vacant for each building respectively. 2 RSDs in Building 4C will need to be restricted to 12.5m Heavy Rigid Vehicles (HRVs) to accommodate vehicle swept paths. Further, the southernmost recessed dock in Building 4D will need to be restricted to vehicles up to 12.5m HRVs.

Refer to the design commentary and dock limitations included in **Appendix B**.

Moreover, it is noted that appropriate signage and line-marking plan is recommended for the truck entry-exit shared driveway at the cul-de-sac to minimise the likelihood of any vehicular conflicts occurring. Such

management documentation can be referred to the Operational Traffic Management Plans (OTMPs) which are normally prepared following formal DA approval and in response to a suitable Condition of Consent (CC) prior to Occupation Certificate (OC) phase of the project.

6.5 Car Parking Design

Staff and visitor parking – situated in proximity to tenancies – is demonstrated to generally comply with AS2890.1:2004 in line with User Class 2 for Building 4C and User Class 1/1A for Building 4D. Therefore, the spaces meet the minimum requirements of User Class 1/1A for staff parking.

6.6 Fire Service Appliance Circulation

In line with Fire and Rescue NSW (FRNSW) Guidelines, circulation around the Site and through the fire path perimeter has been tested for a 12.5m HRV, demonstrating sufficient access for 'General and 'Specialist' fire appliances, as demonstrated in **Appendix B**. It is noted that both clockwise and anticlockwise circulation for a fire truck can be facilitated as shown in **Figure 16**.

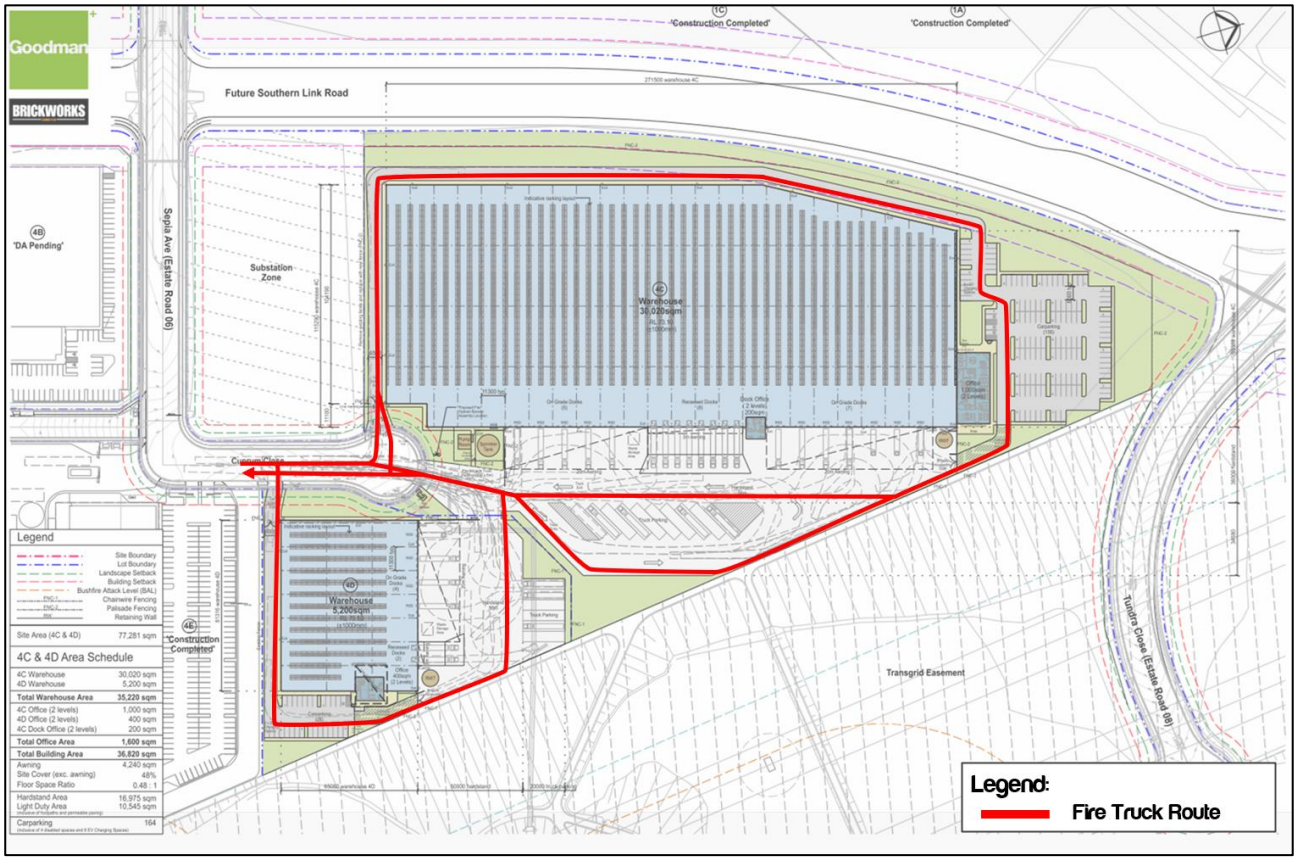


Figure 16: Fire Truck Route

7 Preliminary Green Travel Plan

This section provides for high-level Green Travel incentives for the proposed DA (preliminary in nature). It is noted that a detailed Green Travel Plan can be provided at later stages of the project and when the tenants are identified for the proposed warehouses.

7.1 Purpose

This plan sets out objectives and strategies to assist Penrith City Council in achieving their goals to improve sustainability of work trips for the proposal. This preliminary Green Travel Plan (GTP) includes a review of the existing transport choices and sets targets so that the effective implementation of the GTP can be assessed. These targets are intended to be realistic but ambitious enough to initiate substantiative behavioural change to achieve the desired outcomes, given existing and future multi-modal transport networks.

This preliminary GTP is expected to be coordinated with the Site tenants or their representatives. It shall be reviewed and updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

7.2 Travel Mode Share Analysis

It should be noted that the OWE is still in development stage and as such existing travel patterns cannot be ascertained at this time. Notwithstanding, for the purposes of the GTP, a neighbouring travel zone with existing development, DZN114695449, has been identified and assessed.

Existing travel patterns of employees within the surrounding area have been surveyed in the 2016 Census and presented in the Journey to Work (JTW) dataset provided by TfNSW. The JTW information for the Site and surrounding locality is presented in **Figure 17** shown overleaf.

The area experiences a high proportion of private vehicle trips (inclusive of vehicle driver and vehicle passenger modes) and a low proportion of public and active transport modes. The mode share analysis indicates a high likelihood for staff associated with the development to use private vehicles as the primary mode of transport.

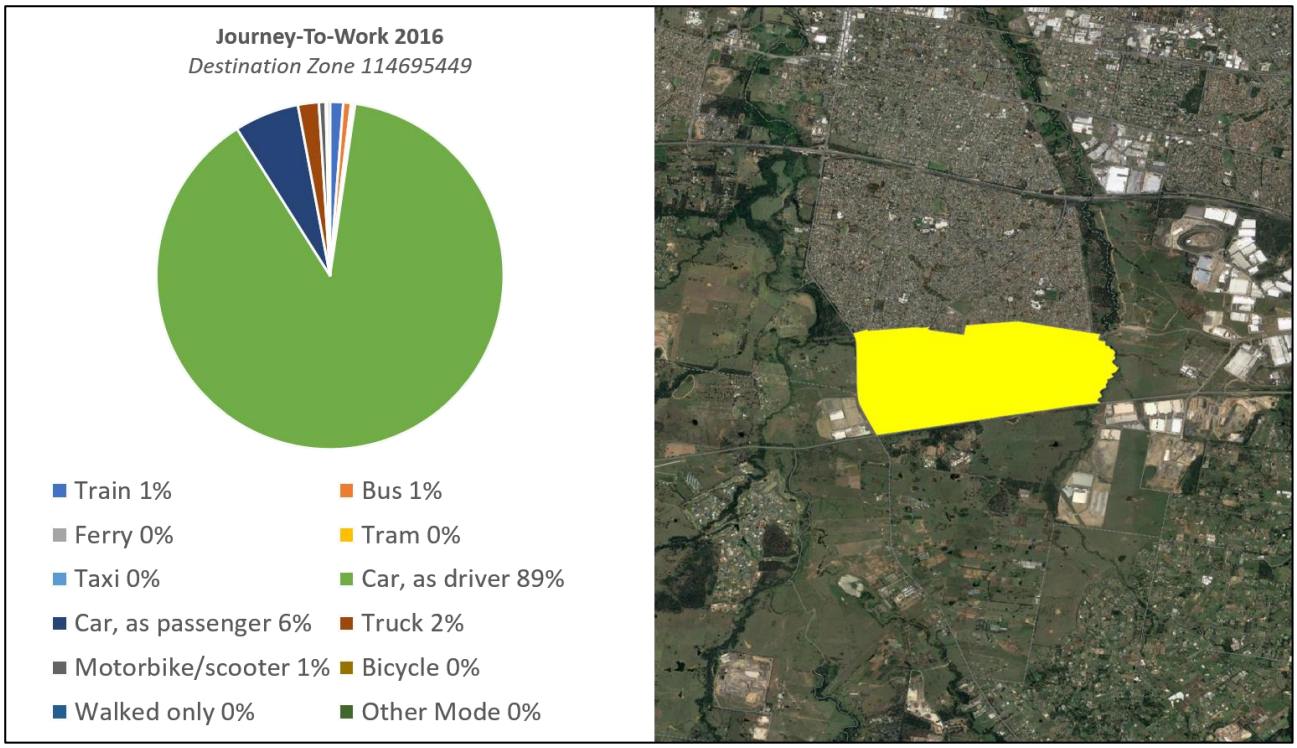


Figure 17: Journey-To-Work 2016 Profile

7.3 Strategic Context

7.3.1 Western Sydney Employment Area

The Oakdale Precinct is located within the WSEA, part of the Western Sydney Priority Growth Area – planning for which is being driven by the DPE. A key outcome of the project involves providing land opportunity for industry and employment, including improvements in connectivity to benefit transport, logistics, warehousing and office space of the area. The project aims to support the urban growth of the Badgerys Creek Aerotropolis and Western Sydney Airport.

7.3.2 North South Rail Link

The North South Rail Link is a proposed rail access corridor supporting the urban growth and employment through the Western Sydney Priority Growth Area providing a connection between the northern growth centres, through the Badgerys Creek and southwards. The corridor study identifies St Marys Station and Schofields Road as junction points for the corridor, passing through the WSEA site and towards the Western Sydney airport. This rail link will provide additional connectivity to Erskine Park and Orchard Hills from the north and south, widening the potential catchment area of employment and improving workplace accessibility for public transport modes.

7.4 Surrounding Public Transport Services

7.4.1 Railway Services

The *Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area* (Transport for NSW, December 2013) states that rail services influence the travel mode choices of areas within 800 metres (approximately 10 minutes' walk) of a railway station. The closest railway station to the Oakdale West Precinct is Mt Druitt Station, is approximately 7 kilometres north of the Site. This would imply that commuting by rail would have minimal influence on workplace travel.

It should be noted that several studies conducted for the Broader Western Sydney Employment Area (BWSEA) reference the potential development of connecting freight or passenger corridor to the Site's west, connecting the T1, T2 and T5 lines to Badgerys Creek Airport[1,2].

7.4.2 Bus Services

Having regard to the standard bus travel, the *Integrated Public Transport Service Planning Guidelines* state that bus services influence the travel mode choices of sites within 400 metres (approximately 5 minutes) of a bus stop. As there are limited existing bus services within close proximity of the Site, this implies that bus commuting would have minimal influence on workplace travel.

As outlined in the WSEA, a new regional road network is being developed interlinking the industrial precincts within the region to support the growth and continued development of the area. This presents the potential for an accompanying expansion in the bus service network to connects places of employment within the region.

Notwithstanding, the introduction of a new bus route is confirmed to provide additional access for workers / visitors within OWE. This new bus service commenced from 24 October 2021 and will provide direct access to and from the St Marys Train Station. This introduction of a direct connection with the St Marys Train Station increases the accessibility of the Site via public transport services.

The timetable of bus route 779 has also been attached within **Appendix A** for reference.

[1] Source: Department of Infrastructure, *Regional Development and Cities, Western Sydney Rail Needs Scoping Study* 2018, https://www.transport.nsw.gov.au/projects/current-projects/western-sydney-rail-needs-scoping-study

[2] Source: NSW Planning & Infrastructure, *Broader Western Sydney Employment Area – Draft Structure Plan* 2013, https://www.planning.nsw.gov.au/-/media/Files/DPE/Reports/broader-western-sydney-employment-area-draft-structure-plan-community-guide-2013-06.pdf

7.5 Objectives and Targets

7.5.1 Objectives

The primary objectives of this GTP are to:

- Reduce the environmental footprint of the development;
- Promote the use of 'active transport' modes such walking and cycling, particularly for short-medium distance journeys;
- Reduce reliance on the use of private vehicles for all journeys; and
- Encourage a healthier, happier and more active social culture.

Having regard for the above, this Plan (as shown in **Figure 18**) adopts the following movement hierarchy with priority given to 'active transport' followed by mass public transport and lastly the use of cars and other private vehicles.

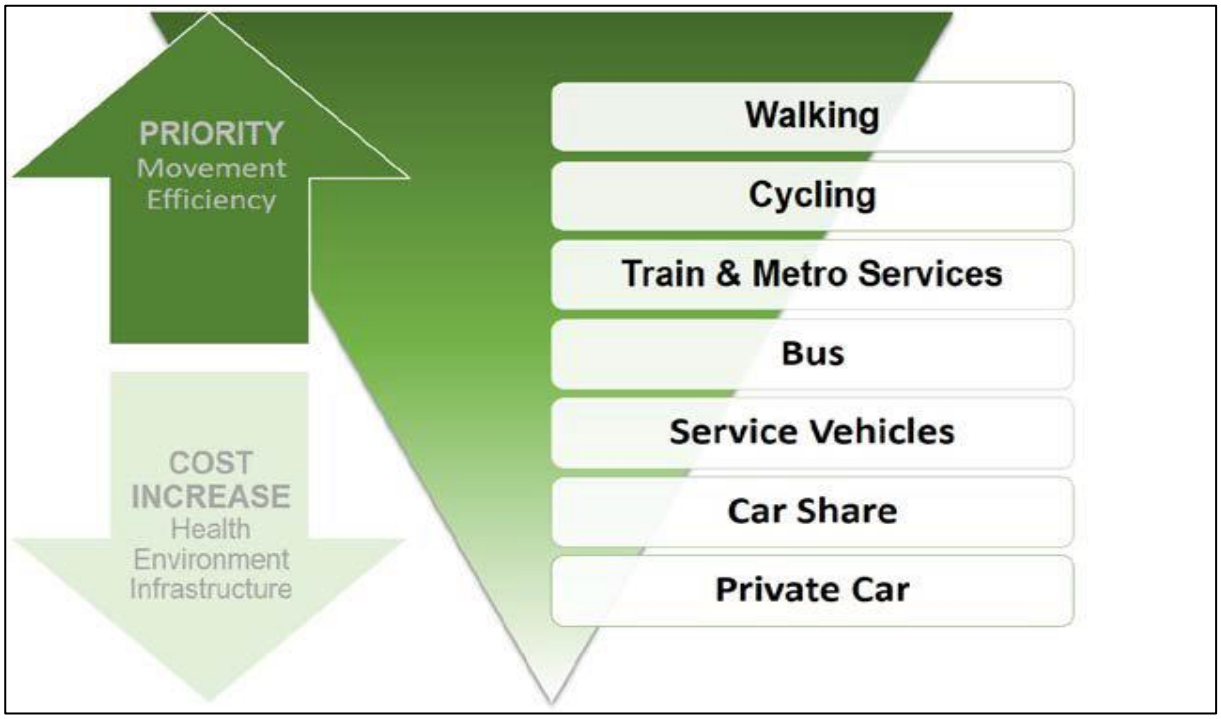


Figure 18: Movement Hierarchy

In a broad sense, this preliminary GTP is intended to encourage the use of active transport thereby reducing the overall distance travelled by private vehicles associated with Building 4C and Building 4D.

It is noted that the above hierarchy applies to staff and visitor (i.e. car) movements. Given the nature of the development for warehouse and industrial purposes, it is acknowledged that there is limited ability to reduce the number of commercial vehicle movements without compromising Site operations.

7.5.2 Mode Share Targets

With the above objectives in mind, the mode share targets outlined in **Table 18** are proposed, based on the JTW Profile for the destination zone.

TABLE 18 MODE SHARE TARGETS (PRIMARY MODE OF TRAVEL)

Travel Mode	Existing – DZN 114695449	Proposed	Relative Change
Walking	0%	0%	0%
Cycling	0%	5%	+ 5%
Train[1]	1%	5%[2]	+ 4%
Bus[1]	1%	10%	+ 9%
Vehicle Passenger	6%	10%	+ 4%
Vehicle Driver	90%	68%	- 22%
Other/Mode Not Stated	2%	2%	0%

Note: 1) Key opportunity in future with provision of further regional infrastructure

2) The JTW classifies multi-modal journeys by indicating the 'primary' mode only and is considered in this proposition.

Given the limited options for modal availability in the area, it is difficult to quantify the degree of modal shift from private vehicular usage to public and active transport modes. However, in the context of the development outlined in the above sections, it is evident that there is clear direction in a strategic context for the expansion of public and active transport networks to serve the western Sydney area.

In this context, the mode share targets identified in **Table 18** can be considered with a focus on 20% for public and active transport and 80% on private car usage. This ratio is reflective of travel zones observed to have higher degrees of road network connectivity and limited access to rail facilities. It shall be necessary to adjust these mode share targets as future developments and planned transport infrastructure are realised, allowing for more ambitious targets to be set.

The changes made to cycling, train and bus travel modes are specifically reliant on the improvement of connectivity and additional infrastructure to facilitate them, which is anticipated to occur through several developments and initiatives associated with the broader WSEA.

7.6 Action Plan

7.6.1 Action Plan Measures

The following specific actions have been identified to aid achievement of the targets outlined in **Section 7.5.2.** It is anticipated that relevant actions in **Table 19** should be conveyed to the tenants at the time of tenancy agreement.

Identified strategies include promotion of some event or day-specific activities. In isolation, these may not dramatically alter the day-to-day travel of staff. However, there are benefits of such activities whereby participation can increase awareness of alternative modes of travel that can then form the basis of future travel choices.

TABLE 19 ACTION PLAN MEASURES

Item No.	Action / Description	Responsibility
1. General		
1.1	Establish a centralised Travel Plan Coordinator (TPC) which is to take responsibility for the ongoing review and monitoring of this Plan. This person(s) shall also provide direction to tenants in relation to tenant-specific requirements arising from the GTP.	Landowner / Strata Manager
1.2	Establish and maintain a transport coordinator to engage with the overall transport coordinator above.	Tenant
1.3	Provide 'Travel Welcome Pack' for newly employed staff, highlighting alternate modes of transport other than use of a private vehicle.	TPC / Tenant
1.4	Review of GTP as a regular item on the agenda for the Tenant / Landowner meetings.	TPC
1.5	Encourage flexible work hours, where practicable. Whilst not reducing mode share, this can permit travel outside of peak periods which has other positive benefits.	Tenant
1.6	Preparation of a Transport Access Guide (TAG) – refer to **Appendix C**.	TPC
2. Walking and Cycling		
2.1	Lobby Council / DPE for improved cycle connections in the broader area.	TPC
2.2	Promote participation in the National Ride2Work Day activity.	Tenant
2.3	Promote participation in Walk to Work Day+ (and other) events.	Tenant
2.4	Provide and maintain clearly signposted bicycle parking within the Site.	Developer / Landowner
2.5	In accordance with the 5% cycling mode share target, sufficient secure parking spaces and 'EoT' facilities shall be provided and maintained. (NOTE: this can be staged to reflect realised demand)	Developer / Landowner
3. Public Transport		
3.1	Advocate for TfNSW to improve public transport services in response to increased development within the surrounding area.	Landowner / TPC
3.2	Update the GTP to reflect changes to any bus routes and service times.	TPC
3.3	Undertake a review to promote initiatives for staff using public transport.	TPC / Tenant
4. Shared Vehicles		

4.1	Review initiatives for staff to promote car-pooling. This may include (but not limited to) the provision of online services or forums to facilitate ease of finding carpooling scheme participants.	TPC / Tenant
4.2	In longer term, engage with Car Share operators to encourage provision of Car Share pods in proximity to the site. This transport option – for miscellaneous travel throughout the day – can then alleviate pressure for staff to drive as part of the primary mode of travel to work.	TPC

Bicycle parking spaces and End of Trip facilities are expected to be provided on-site to support the above Action Plan. Additional bicycle parking spaces may be recommended in the future; however, this would be subject to further review as part of the ongoing GTP maintenance which is discussed further below.

7.7 Communications Strategy

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes the GTP and other information in relation to sustainable transport choices. This pack shall include a copy of the Travel Access Guide (TAG) as well as general information regarding the health and social benefits of active transport. Advice on where to find further information should also be included such as links to Sydney Cycleways website (http://www.sydneycycleways.net).

7.8 Governance and Support

7.8.1 Travel Plan Coordinator

A person(s) shall be nominated as the Travel Plan Coordinator (TPC) and be responsible for:

- Engagement with the future tenants on-site;
- Implementation and promotion of the GTP actions;
- Monitoring the effectiveness of the GTP (refer to monitoring requirements outlined in **Section 7.6**) and ongoing maintenance of the Plan;
- Provide advice in relation to transport-related subjects to staff, tenancy management and visitors, as required; and
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require a full-time position; however, it should be clearly designated among the key responsibilities of the building management group.

This may include financial incentives for staff to use active transport and public transport to travel to work. However, this is not a mandatory requirement and would be subject to the management discretion.

7.8.2 Resourcing

It is not anticipated that the maintenance of this GTP will have significant ongoing cost implications and shall be reviewed on an annual basis by the TPC in order for the best outcome.

7.8.3 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews – ideally on annual basis – will be undertaken by the TPC, as required. Key considerations regarding the review of the GTP shall be:

- Updating baseline conditions to reflect any changes to the transport environment in the vicinity of the Site such as changes to bus services, new cycle routes etc. In this regard, review of the GTP may be undertaken on a more frequent basis;
- Tracking progress against proposed travel mode targets;
- To identify any shortfalls and develop an updated action plan to address issues;
- To ensure travel mode targets are updated (if necessary) and to ensure they remain realistic but also ambitious; and
- To revise mode share targets and develop strategies that encourage the use of public and active transport and that discourage single occupant car travel to the site, as future public and active transport improvements around the development Site occur.

7.8.4 Travel Mode Audit Requirements

Travel mode surveys will be undertaken to determine the proportion of persons travelling to/from the site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the Site, as far as practicable. This survey may be undertaken online or in-person at the discretion of the TPC. A sample of a typical travel mode questionnaire form is included in **Appendix D**.

8 Summary and Conclusions

8.1 Key Findings

The key findings of this TA are:

- The Application relates to the proposed warehouse development of Buildings 4C & 4D, which forms part of the wider Oakdale West Industrial Estate (OWE) precinct. A detailed description of the proposal is included in the Statement of Environmental Effects that this assessment accompanies. In summary, the proposal relates exclusively to the proposed Buildings 4C & 4D and consists of the following characteristics shown belowError! Reference source not found.:

TABLE 20 SUMMARY OF CHARACTERISTICS FOR LOTS 4C & 4D

Component	Building 4C	Building 4D
Warehouse GFA (m^2)	30,020	5,200
Office GFA (m^2)	1,200	400
Total GFA (m^2)	31,220	5,600
Loading Dock Provision	20[1]	6[2]
Car Parking Provision (Spaces)	136[3]	28[4]

Note: 1) This provision includes 8 recessed docks and 12 Roller Shutter Doors (RSDs).

2) This provision includes 2 recessed docks and 4 RSDs.

3) This provision includes 3 accessible spaces and 6 Electric Vehicle Charging stations.

4) This provision includes 1 accessible space and 2 Electric Vehicle Charging stations.

- A public transport study of the locale demonstrates that currently, the Site and surrounding area is serviced by an existing bus route, 779, within very close proximity. Notwithstanding, the future context of local and main roads, in consideration of major upgrades, proposes further opportunity for connectivity within the area in both the shorter and longer term.
- An assessment of parking with regards to the SSD approval for the wider masterplan indicates that the proposed provision of 136 for Building 4C, and 28 spaces for Building 4D satisfy the relevant requirements.
- Adopting the approved traffic generation rates for the wider masterplan, Building 4C is estimated to result in a total hourly traffic generation of 51 vehicle trips during AM and PM Peak periods (inbound + outbound movements) and a total of 591 vehicle trips throughout the day (inbound + outbound movements). Building 4D is estimated to result in a total hourly traffic generation of 9 vehicle trips during the AM and PM Peak periods (inbound + outbound movements) and a total of 106 vehicle trips throughout the day (inbound + outbound movements).
- It should be noted that the above estimated peak hour and daily traffic generations for Building 4C and Building 4D have undergone a cumulative assessment as part of the MOD 7 TA report and of the MOD 10 approval of the Estate SSD (SSD 7348). Further, it is recognised that the latest approved MOD 11 is not necessarily traffic/transport related and as such, the MOD 11 traffic generation is expected to generally remain consistent with MOD 10 traffic generation.
- It should be considered that the peak hourly traffic generation for the Site is largely consistent with the previous wider Estate assessment and would not have any material traffic impacts to the road network beyond what has already been approved.

- Site accesses, car parking and commercial vehicle service areas have generally been designed having regard for the relevant Australian Standards (AS2890 series). It is expected that a detailed review of compliance with the AS2890 series will be undertaken as part of a detailed Construction Certificate documentation.
- A preliminary GTP has been included in this TA, which sets out objectives and strategies to assist Penrith City Council in achieving their goals to improve sustainability of work trips for the Proposal. This preliminary GTP includes a review of the existing transport choices and sets targets so that the effective implementation of the GTP can be assessed. These targets are intended to be realistic but ambitious enough to initiate substantiative behavioural change to achieve the desired outcomes, given existing and future multi-modal transport networks.
- This preliminary GTP is expected to be coordinated with the Site tenants or their representatives. It shall be reviewed and updated regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

8.2 Conclusions

In summary, the proposed Building 4C and Building 4D warehouse developments are deemed supportable on traffic and transport planning grounds and will not result in any adverse impacts on the surrounding road network or the availability of on-street parking.

Appendix A. Timetable of Existing Bus Route 779

779 Kemps Creek to St Marys via Erskine Park

B

How to use this timetable

This timetable provides a snapshot of service information in 24-hour time (e.g. 5am = 05:00, 5pm = 17:00). Information contained in this timetable is subject to change without notice. Please note that timetables do not include minor stops, additional trips for special events, short term changes, holiday timetable changes, real-time information or any disruption alerts.

For the most up-to-date times, use the Trip Planner or Departures at **transportnsw.info**

Real-time planning

You can plan your trip with real-time information using the Trip Planner or Departures at **transportnsw.info** or by downloading travel apps on your smartphone or tablet.

The Trip Planner, Departures and travel apps offer various features:

- favourite your regular trips
- see where your service is on the route
- get estimated pick-up and arrival times
- receive service updates
- find nearby stations, stops, wharves and routes
- check accessibility information.

Find the latest apps at **transportnsw.info/apps**

Accessible services

All new buses are wheelchair-accessible with low-level floors and space for wheelchairs, prams or strollers. Look for the ♿ symbol in this timetable. Some older buses may not have all the features you need. There will be more accessible services as older buses are replaced.

Who is providing my bus services?

The bus services shown in this timetable are run by Busways Western Sydney.

Fares

In Sydney and surrounding regions, fares are based on:

- the distance you travel from tap on to tap off
- the mode of transport you choose
- whether you're eligible for a concession fare or free travel
- any Opal benefits such as discounts and capped fares that apply.

You can use an Opal card or a contactless payment to pay for your travel.

Opal cards

An Opal card is a smartcard you keep and reuse. Add value before you travel, and tap on and tap off to pay your fares throughout Sydney, the Blue Mountains, the Central Coast, the Hunter and the Illawarra.

Which Opal card is right for you?

Adult – Customers 16 years or older who are not entitled to any concessions and normally pay full fare.

Child/Youth – For customers aged 4-15 (inclusive), or customers 16 years or older who hold a NSW/ACT Senior Secondary Student Concession Card.

Gold Senior/Pensioner – For eligible NSW and interstate seniors, pensioners, war widows/ers and asylum seekers.

Concession – For eligible tertiary students, job seekers, apprentices and trainees.

How to get an Opal card

You can get an Adult or Child/Youth Opal card over the counter at Opal retailers that display the Opal sign. To find your nearest retailer visit **transportnsw.info/opal**.

If you are eligible to travel with concession fares, you can apply for a Gold Senior/Pensioner or Concession Opal card online. Visit **transportnsw.info/opal** for more information.

Contactless payments

If you have an American Express, Mastercard, Visa card or linked device, you can use it to pay for all public transport on the Opal network. Just make sure to tap on and tap off at Opal readers at the beginning and end of your trip.

Always separate your cards when you tap on and tap off so your preferred card is charged.

You will receive the same travel benefits of an Adult Opal card when you tap on and tap off consistently with the same credit card, debit card or linked device. This includes daily, weekly and weekend travel caps, and a $2 transfer discount when you change between metro/train, ferry, bus and light rail services within 60 minutes. Adult Opal fare pricing applies.

Find out more at **transportnsw.info/contactless**

Explanation of definitions and symbols

♿ Wheelchair Accessible

NSW GOVERNMENT | Transport

779 St Marys to Kemps Creek via Erskine Park

B

Valid: 17 Dec 2022 - 26 Jan 2023

Creation date: 19 Jan 2023
NOTE: Information is correct on date of download.

Monday to Friday	♿			♿					
Amazon, Emporium Ave, Kemps Creek	04:45	05:15	05:45	06:15	09:15	09:45	10:15	11:15	12:15
Lenore Dr after Tyrone Pl, Erskine Park	04:52	05:22	05:52	06:23	09:23	09:52	10:22	11:22	12:22
James Erskine before Dr Quarry Rd, Erskine Park	04:57	05:27	05:57	06:29	09:29	09:57	10:27	11:27	12:27
Mamre Rd near Banks Dr, St Clair	05:08	05:38	06:08	06:40	09:40	10:08	10:38	11:38	12:38
St Marys RSL Mamre Rd, St Marys	05:12	05:42	06:12	06:45	09:45	10:12	10:42	11:42	12:42
St Marys Station	05:21	05:51	06:21	06:55	09:55	10:21	10:51	11:51	12:51

Monday to Friday									
Amazon, Emporium Ave, Kemps Creek	13:15	14:15	15:45	16:15	16:45	17:15	17:45	18:15	18:45
Lenore Dr after Tyrone Pl, Erskine Park	13:22	14:22	15:53	16:23	16:53	17:23	17:53	18:23	18:53
James Erskine before Dr Quarry Rd, Erskine Park	13:27	14:27	15:59	16:29	16:59	17:29	17:59	18:29	18:59
Mamre Rd near Banks Dr, St Clair	13:38	14:38	16:10	16:40	17:10	17:40	18:10	18:40	19:10
St Marys RSL Mamre Rd, St Marys	13:42	14:42	16:15	16:45	17:15	17:45	18:15	18:45	19:15
St Marys Station	13:51	14:51	16:25	16:55	17:25	17:55	18:25	18:55	19:25

Monday to Friday	
Amazon, Emporium Ave, Kemps Creek	19:15
Lenore Dr after Tyrone Pl, Erskine Park	19:23
James Erskine before Dr Quarry Rd, Erskine Park	19:29
Mamre Rd near Banks Dr, St Clair	19:40
St Marys RSL Mamre Rd, St Marys	19:45
St Marys Station	19:55

Saturday	♿	♿	♿	♿	♿	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30
Lenore Dr after Tyrone Pl, Erskine Park	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37	15:37
James Erskine before Dr Quarry Rd, Erskine Park	07:42	08:42	09:42	10:42	11:42	12:42	13:42	14:42	15:42
Mamre Rd near Banks Dr, St Clair	07:53	08:53	09:53	10:53	11:53	12:53	13:53	14:53	15:53
St Marys RSL Mamre Rd, St Marys	07:57	08:57	09:57	10:57	11:57	12:57	13:57	14:57	15:57
St Marys Station	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06	16:06

Saturday	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	16:30	17:30	18:30	19:30
Lenore Dr after Tyrone Pl, Erskine Park	16:37	17:37	18:37	19:37
James Erskine before Dr Quarry Rd, Erskine Park	16:42	17:42	18:42	19:42
Mamre Rd near Banks Dr, St Clair	16:53	17:53	18:53	19:53
St Marys RSL Mamre Rd, St Marys	16:57	17:57	18:57	19:57
St Marys Station	17:06	18:06	19:06	20:06

Sunday & Public Holidays	♿	♿	♿	♿	♿	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30
Lenore Dr after Tyrone Pl, Erskine Park	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37	15:37
James Erskine before Dr Quarry Rd, Erskine Park	07:42	08:42	09:42	10:42	11:42	12:42	13:42	14:42	15:42
Mamre Rd near Banks Dr, St Clair	07:53	08:53	09:53	10:53	11:53	12:53	13:53	14:53	15:53
St Marys RSL Mamre Rd, St Marys	07:57	08:57	09:57	10:57	11:57	12:57	13:57	14:57	15:57
St Marys Station	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06	16:06

Sunday & Public Holidays	♿	♿	♿	♿
Amazon, Emporium Ave, Kemps Creek	16:30	17:30	18:30	19:30
Lenore Dr after Tyrone Pl, Erskine Park	16:37	17:37	18:37	19:37
James Erskine before Dr Quarry Rd, Erskine Park	16:42	17:42	18:42	19:42
Mamre Rd near Banks Dr, St Clair	16:53	17:53	18:53	19:53
St Marys RSL Mamre Rd, St Marys	16:57	17:57	18:57	19:57
St Marys Station	17:06	18:06	19:06	20:06

779 Kemps Creek to St Marys via Erskine Park

B

Monday to Friday									
St Marys Station	04:30	05:00	05:30	06:00	06:30	08:30	09:00	09:30	10:30
St Marys RSL Mamre Rd, St Marys	04:34	05:04	05:34	06:05	06:35	08:35	09:05	09:34	10:34
Mamre Rd near Banks Dr, St Clair	04:37	05:07	05:37	06:08	06:38	08:38	09:08	09:37	10:37
James Erskine before Dr Quarry Rd, Erskine Park	04:46	05:16	05:46	06:17	06:47	08:47	09:17	09:46	10:46
Lenore Dr before John Morphett Pl, Erskine Park	04:54	05:24	05:54	06:26	06:56	08:56	09:26	09:54	10:54
Amazon, Emporium Ave, Kemps Creek	05:06	05:36	06:06	06:40	07:10	09:10	09:40	10:06	11:06

Monday to Friday									
St Marys Station	11:30	12:30	13:30	15:00	16:30	17:00	17:30	18:00	18:30
St Marys RSL Mamre Rd, St Marys	11:34	12:34	13:34	15:05	16:35	17:05	17:35	18:05	18:35
Mamre Rd near Banks Dr, St Clair	11:37	12:37	13:37	15:08	16:38	17:08	17:38	18:08	18:38
James Erskine before Dr Quarry Rd, Erskine Park	11:46	12:46	13:46	15:17	16:47	17:17	17:47	18:17	18:47
Lenore Dr before John Morphett Pl, Erskine Park	11:54	12:54	13:54	15:26	16:56	17:26	17:56	18:26	18:56
Amazon, Emporium Ave, Kemps Creek	12:06	13:06	14:06	15:40	17:10	17:40	18:10	18:40	19:10

Monday to Friday	
St Marys Station	19:00
St Marys RSL Mamre Rd, St Marys	19:05
Mamre Rd near Banks Dr, St Clair	19:08
James Erskine before Dr Quarry Rd, Erskine Park	19:17
Lenore Dr before John Morphett Pl, Erskine Park	19:26
Amazon, Emporium Ave, Kemps Creek	19:40

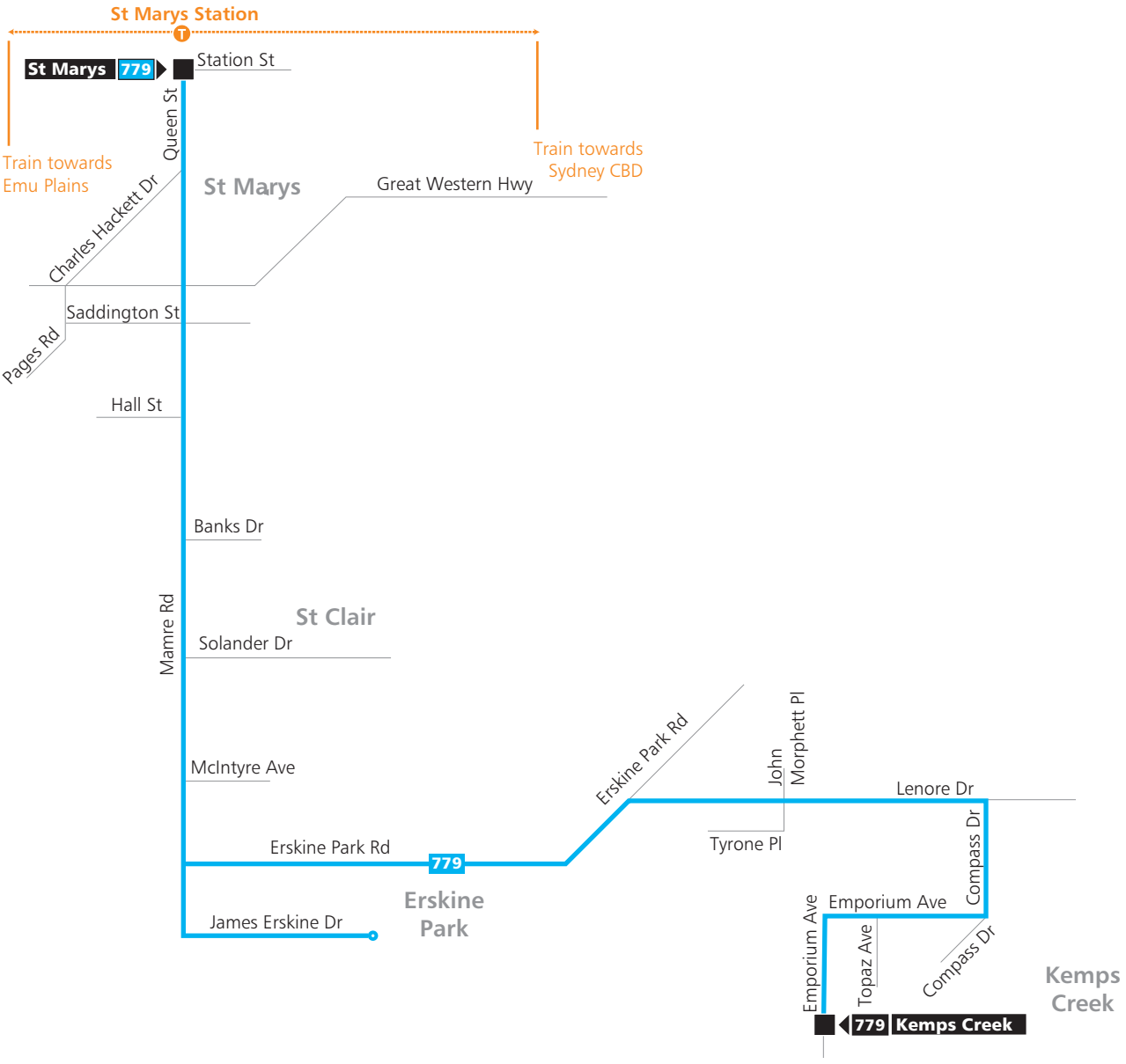
Saturday									
St Marys Station	06:30	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30
St Marys RSL Mamre Rd, St Marys	06:34	07:34	08:34	09:34	10:34	11:34	12:34	13:34	14:34
Mamre Rd near Banks Dr, St Clair	06:37	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37
James Erskine before Dr Quarry Rd, Erskine Park	06:46	07:46	08:46	09:46	10:46	11:46	12:46	13:46	14:46
Lenore Dr before John Morphett Pl, Erskine Park	06:54	07:54	08:54	09:54	10:54	11:54	12:54	13:54	14:54
Amazon, Emporium Ave, Kemps Creek	07:06	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06

Saturday				
St Marys Station	15:30	16:30	17:30	18:30
St Marys RSL Mamre Rd, St Marys	15:34	16:34	17:34	18:34
Mamre Rd near Banks Dr, St Clair	15:37	16:37	17:37	18:37
James Erskine before Dr Quarry Rd, Erskine Park	15:46	16:46	17:46	18:46
Lenore Dr before John Morphett Pl, Erskine Park	15:54	16:54	17:54	18:54
Amazon, Emporium Ave, Kemps Creek	16:06	17:06	18:06	19:06

Sunday & Public Holidays									
St Marys Station	06:30	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30
St Marys RSL Mamre Rd, St Marys	06:34	07:34	08:34	09:34	10:34	11:34	12:34	13:34	14:34
Mamre Rd near Banks Dr, St Clair	06:37	07:37	08:37	09:37	10:37	11:37	12:37	13:37	14:37
James Erskine before Dr Quarry Rd, Erskine Park	06:46	07:46	08:46	09:46	10:46	11:46	12:46	13:46	14:46
Lenore Dr before John Morphett Pl, Erskine Park	06:54	07:54	08:54	09:54	10:54	11:54	12:54	13:54	14:54
Amazon, Emporium Ave, Kemps Creek	07:06	08:06	09:06	10:06	11:06	12:06	13:06	14:06	15:06

Sunday & Public Holidays				
St Marys Station	15:30	16:30	17:30	18:30
St Marys RSL Mamre Rd, St Marys	15:34	16:34	17:34	18:34
Mamre Rd near Banks Dr, St Clair	15:37	16:37	17:37	18:37
James Erskine before Dr Quarry Rd, Erskine Park	15:46	16:46	17:46	18:46
Lenore Dr before John Morphett Pl, Erskine Park	15:54	16:54	17:54	18:54
Amazon, Emporium Ave, Kemps Creek	16:06	17:06	18:06	19:06

Route 779



Legend

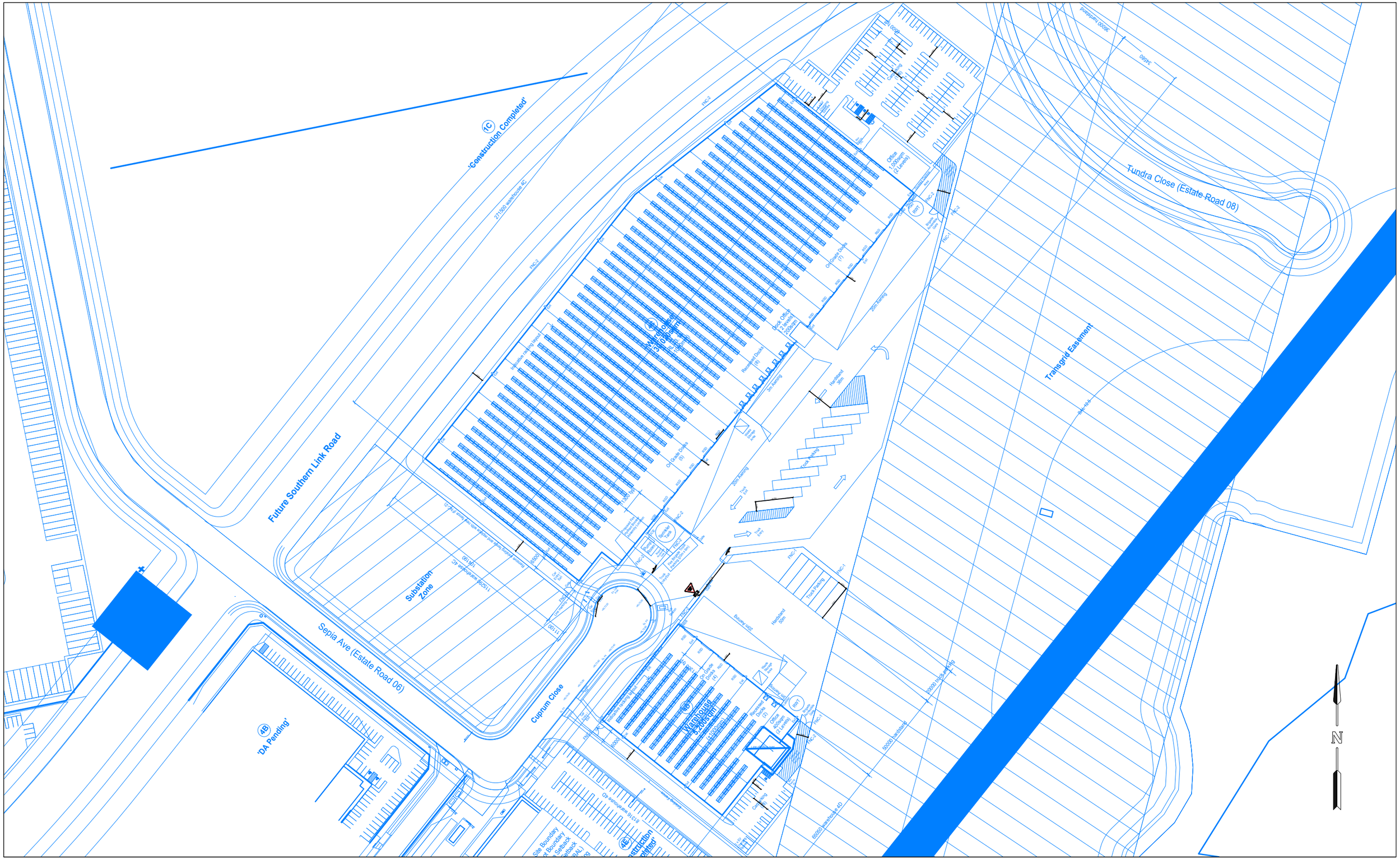
- Bus route
- 779 Bus route number
- Bus route start/finish
- Train line/station

Diagrammatic Map
Not to Scale
North

NSW GOVERNMENT
Transport

transportnsw.info

Appendix B. Swept Path Analysis and Design Commentary



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

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APPROVED BY	DATE
X.XXXX	19.01.2023
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Custom	NTS

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PROJECT

P2157

Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION

DESIGN REVIEW

SITE OVERVIEW

FILE NAME	SHEET
AG2157-01-v05.dwg	AG00

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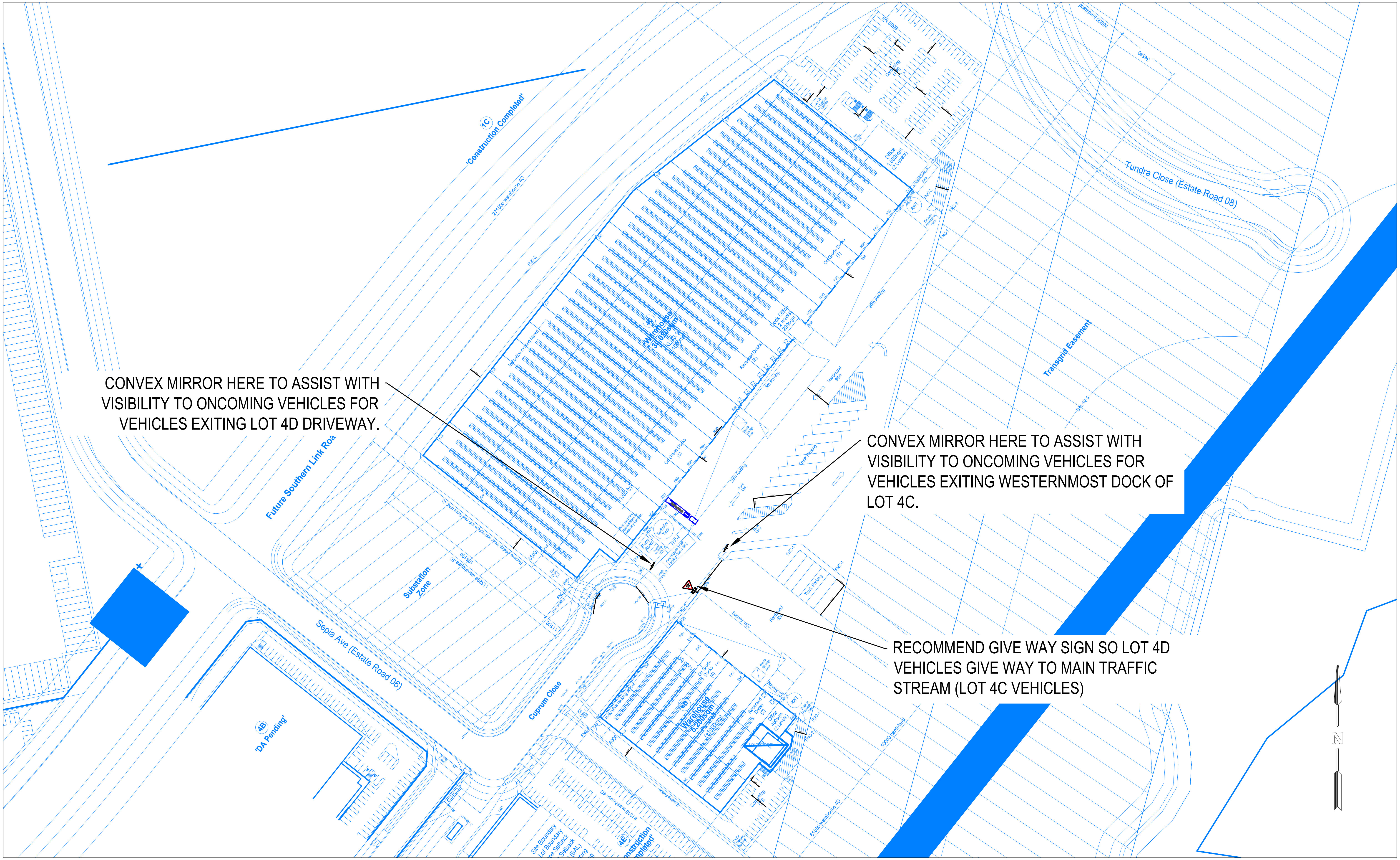
Sydney NSW 2000
info@asongroup.com.au



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Design vehicle: 26m B-Doubles

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SCALE Custom	NTS	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME AG2157-01-v05.dwg	SHEET AG01	info@asongroup.com.au

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Design vehicle: 26m B-Doubles

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Jasmine Wong

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DOCUMENT INFORMATION
DESIGN REVIEW
26m B-DOUBLE - LOT 4C & 4D

FILE NAME
AG2157-01-v05.dwg

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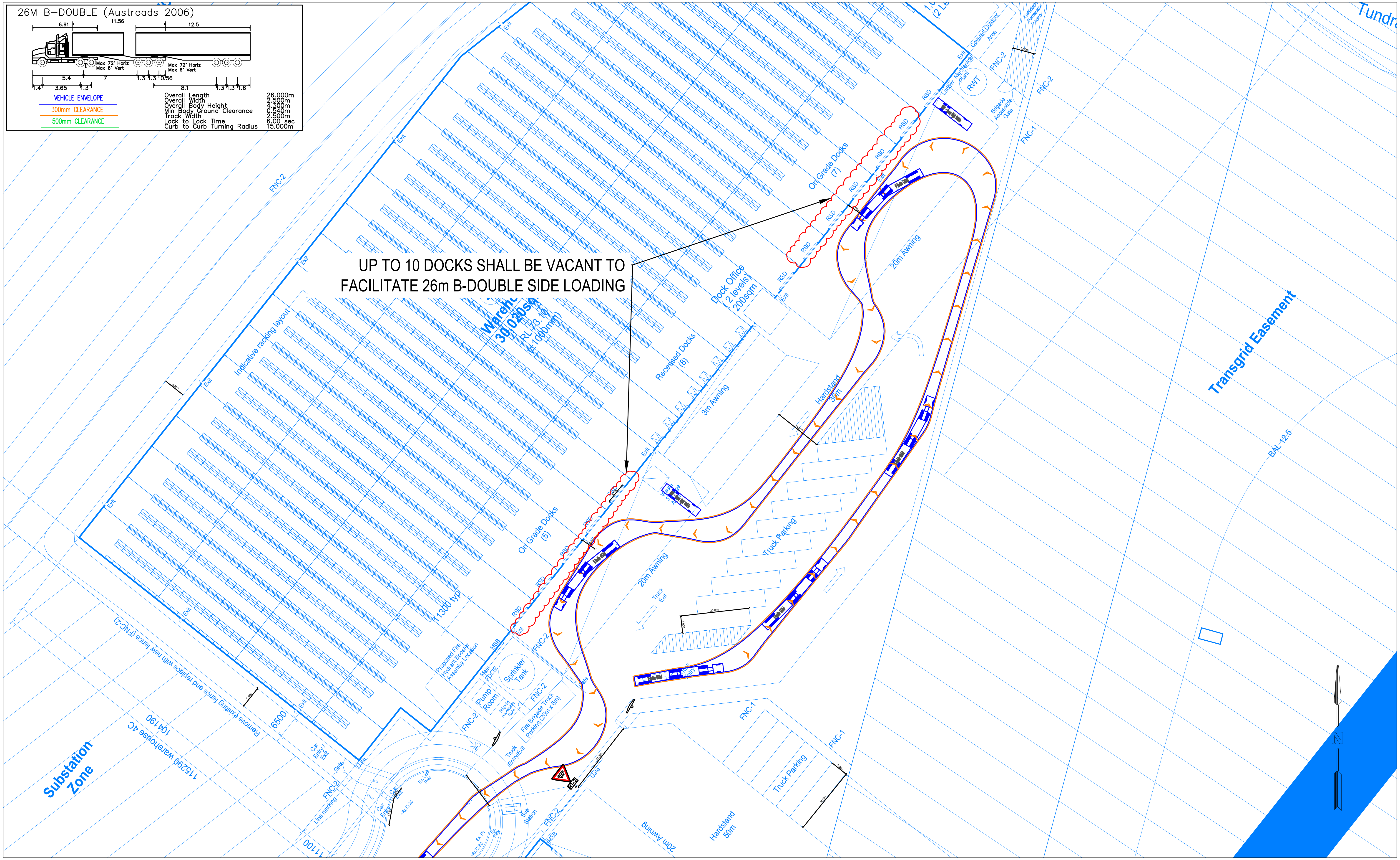

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Design vehicle: 26m B-Doubles

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Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
26m B-DOUBLE - LOT 4C

FILE NAME: AG2157-01-v05.dwg
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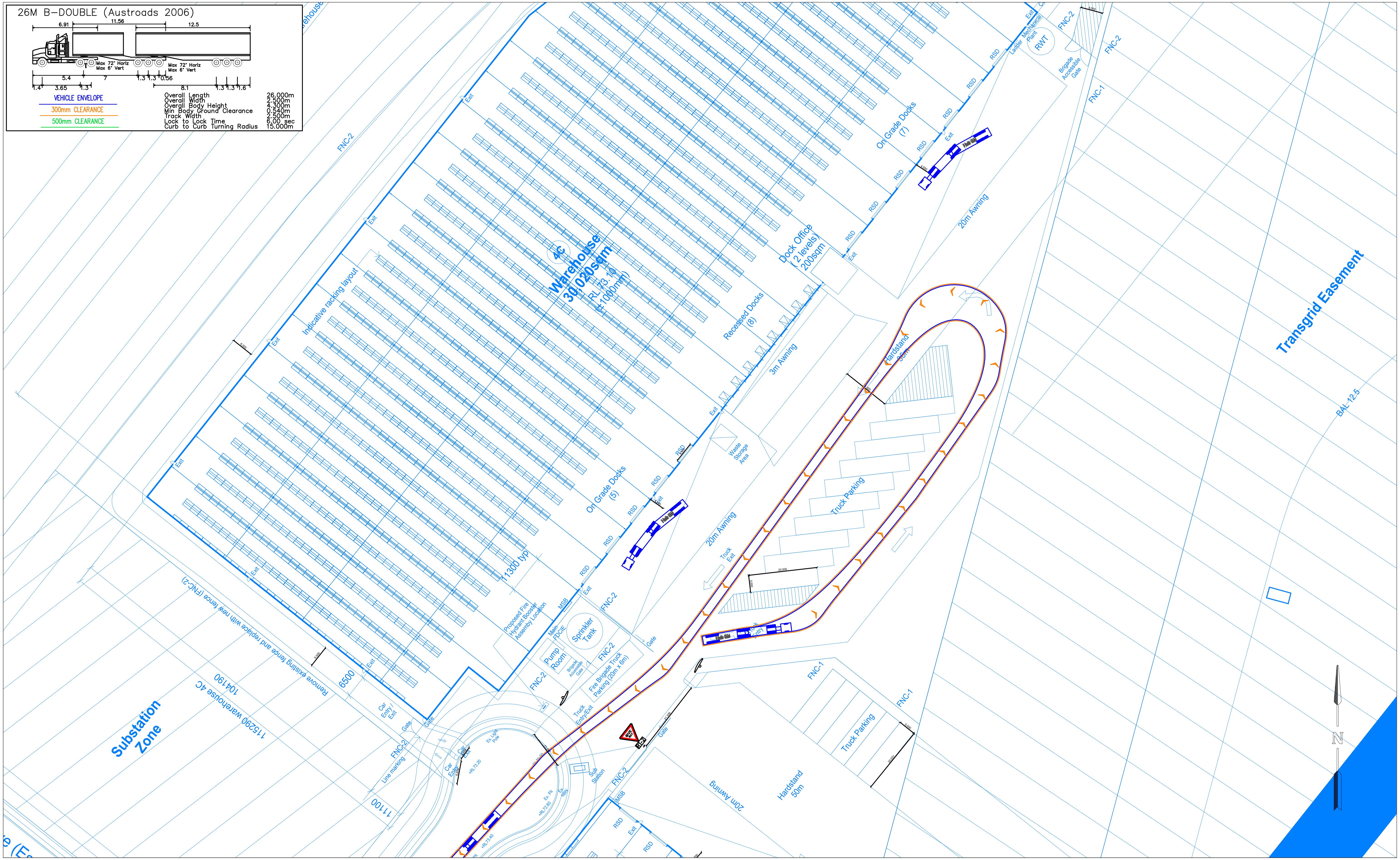

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

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Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW

26m B-DOUBLE - LOT 4C

FILE NAME	SHEET
AG2157-01-v05.dwg	AG04

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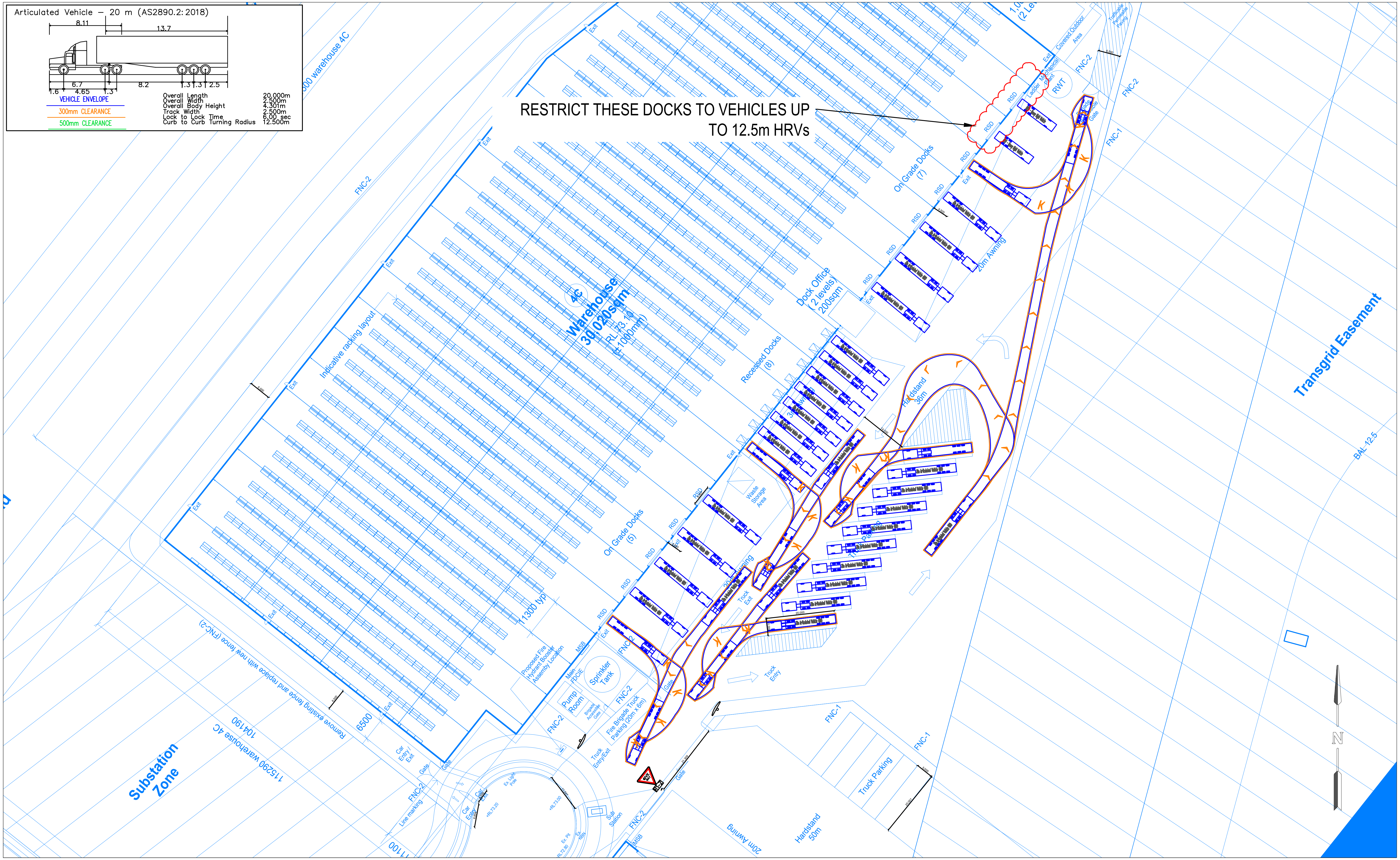

Articulated Vehicle – 20 m (AS2890.2: 2018)
8.11
13.7
6.7
1.6
4.65
1.3
8.2
1.3
1.3
2.5
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
RESTRICT THESE DOCKS TO VEHICLES UP TO 12.5m HRVs
4C
Warehouse
30,020sqm
Indicative racking layout
On Grade Docks (7)
On Grade Docks (5)
Recessed Docks (8)
Dock Office (2 levels) 200sqm
Hardstand 36m
Hardstand 50m
20m Awning
Transgrid Easement
BAL 12.5
Substation Zone
Truck Parking
Truck Entry
Truck Exit
Sprinkler Tank
Pump Room
Fire Brigade Truck Parking (20m x 6m)
Remove existing fence and replace with new fence (FNC-2)
115290 warehouse 4C
104190
6500
11300 typ

GENERAL NOTES

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION
Jasmine Wong	A3	GOODMAN	DESIGN REVIEW
APPROVED BY	DATE	PROJECT	
X.XXXX	19.01.2023	P2157	20m AV (ENTRY) - LOT 4C
SCALE	0 10 20	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg
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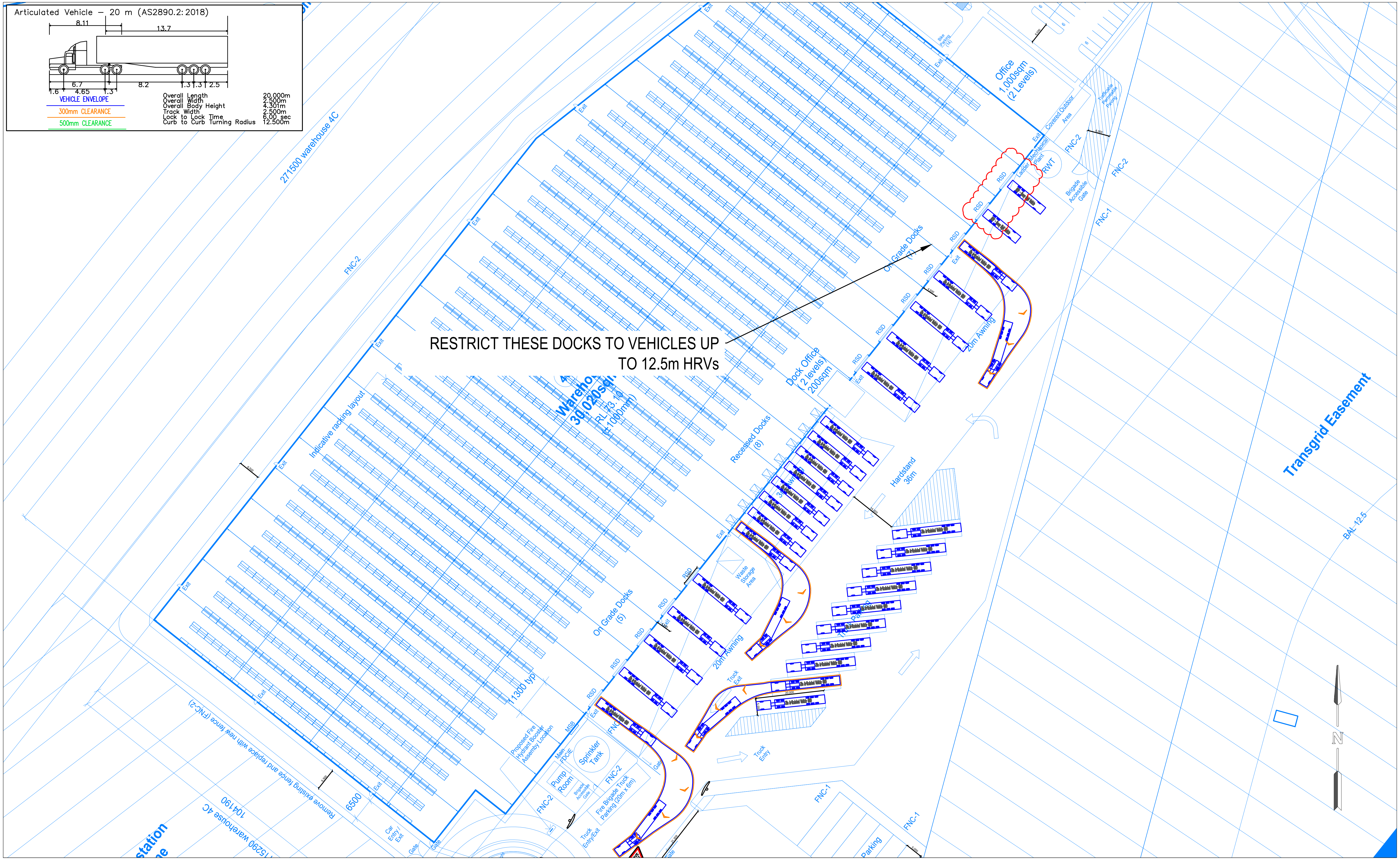

Articulated Vehicle – 20 m (AS2890.2:2018)
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.301m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
RESTRICT THESE DOCKS TO VEHICLES UP
TO 12.5m HRVs
271500 warehouse 4C
Indicative racking layout
On Grade Docks (7)
On Grade Docks (5)
Recessed Docks (8)
Dock Office (2 levels) 200sqm
Office 1,000sqm (2 Levels)
20m Awning
Hardstand 36m
Waste Storage Area
Sprinkler Tank
Pump Room
Transgrid Easement
BAL 12.5
Truck Entry
Truck Exit

GENERAL NOTES

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	PAPER SIZE
Jasmine Wong	A3
APPROVED BY	DATE
X.XXXX	19.01.2023
SCALE	0 10 20
1:1000	

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GOODMAN

PROJECT
P2157
Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
20m AV (EXIT) - LOT 4C

FILE NAME	SHEET
AG2157-01-v05.dwg	AG06

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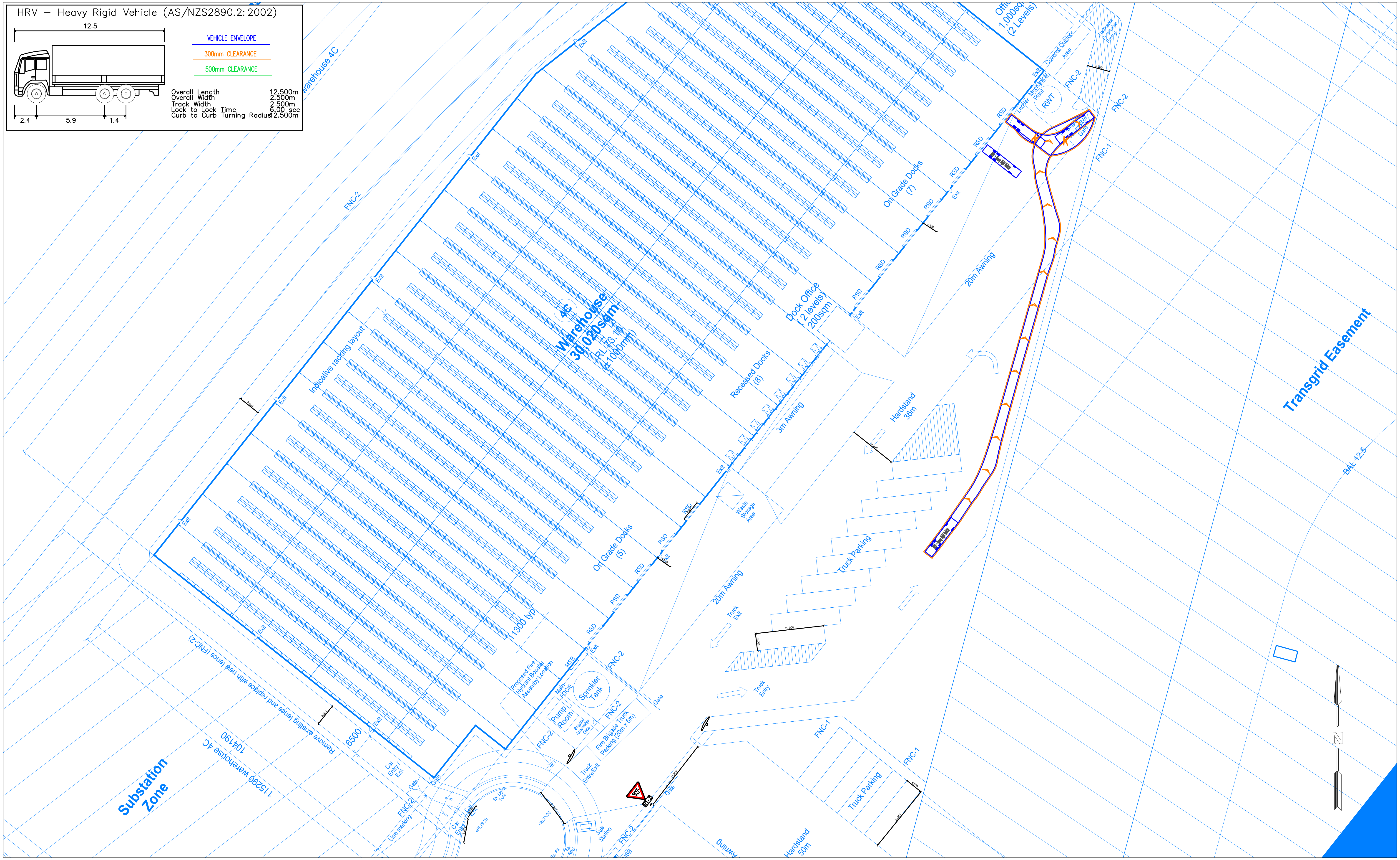

HRV – Heavy Rigid Vehicle (AS/NZS2890.2:2002)
12.5
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 12.500m
Overall Width 2.500m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
2.4
5.9
1.4
Warehouse 4C
4C
Warehouse 30,020sqm
RL 73.10
Indicative racking layout
On Grade Docks (7)
On Grade Docks (5)
Recessed Docks (8)
Dock Office (2 levels) 200sqm
Office 1,000sqm (2 Levels)
Covered Outdoor Area
Mechanical Plant
RWT
3m Awning
20m Awning
Hardstand 36m
Hardstand 50m
Truck Parking
Truck Exit
Truck Entry
Truck Entry/Exit
Waste Storage Area
Transgrid Easement
BAL 12.5
Substation Zone
Remove existing fence and replace with new fence (FNC-2)
115290 warehouse 4C
104190
6500
11300 typ
Proposed Fire Hydrant Booster Assembly Location
Sprinkler Tank
Pump Room
Fire Brigade Truck Parking (20m x 6m)
Main FDCE
MSB
Sub Station
Line marking
Car Entry / Exit
Gate
FNC-1
FNC-2
RSD
Exit
N

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

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APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	12.5m HRV (ENTRY) - LOT 4C
SCALE: 1:1000	0 10 20	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg — SHEET: AG07

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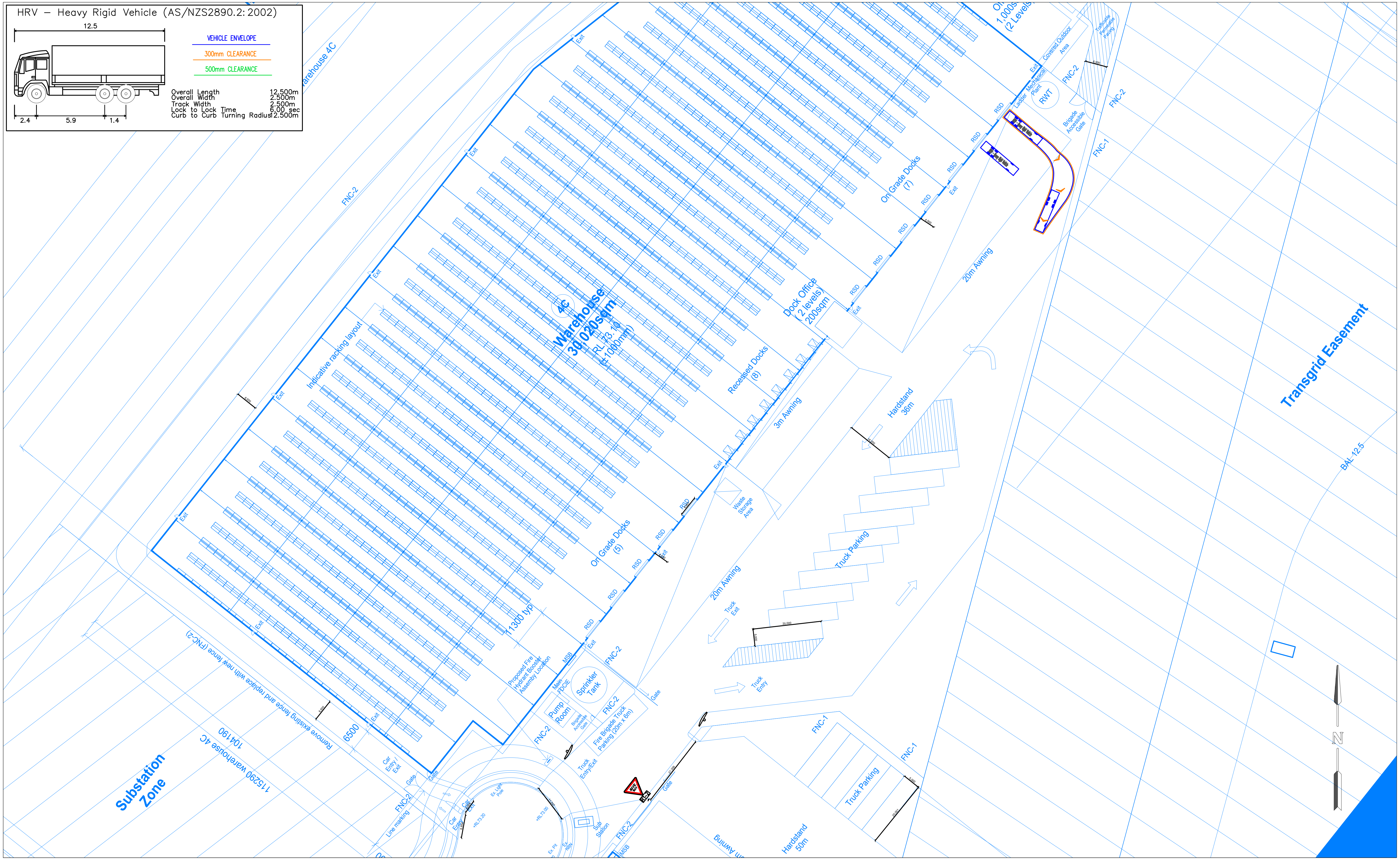

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

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PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	19.01.2023
SCALE	1:1000
CLIENT	GOODMAN
PROJECT	P2157 Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE
DOCUMENT INFORMATION	DESIGN REVIEW 12.5m HRV (EXIT) - LOT 4C
FILE NAME	AG2157-01-v05.dwg
SHEET	AG08

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Design vehicle: 26m B-Doubles

DESIGNED Jasmine Wong	PAPER SIZE A3	CLIENT GOODMAN	DOCUMENT INFORMATION DESIGN REVIEW
APPROVED BY X.XXXX	DATE 19.01.2023	PROJECT P2157	WASTE TRUCK - LOT 4C
SCALE 1:500	0 5 10	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME AG2157-01-v05.dwg SHEET AG09

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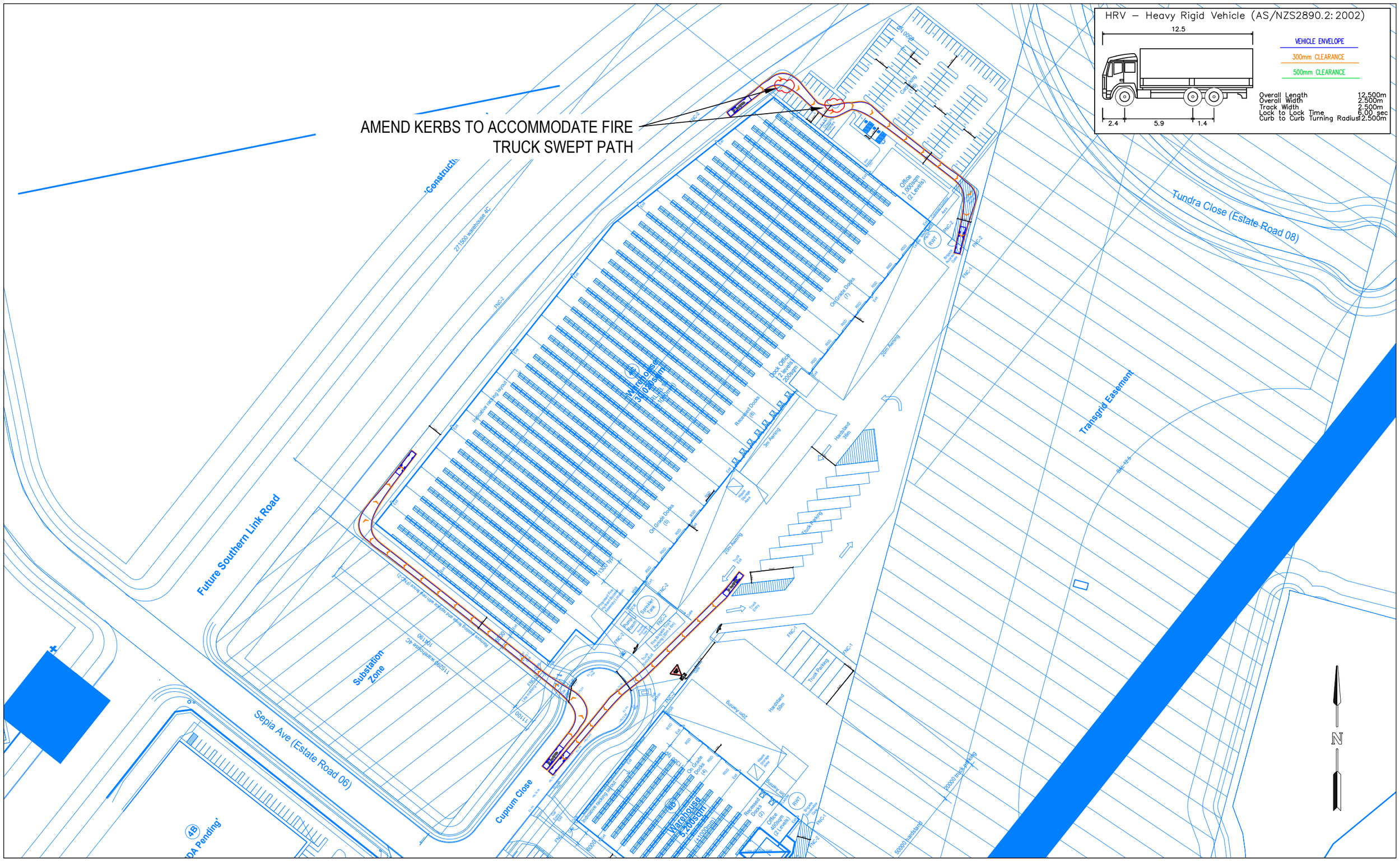
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED
Jasmine Wong

PAPER SIZE
A3

APPROVED BY
X.XXXX

DATE
19.01.2023

SCALE
Custom

NTS

CLIENT
GOODMAN

PROJECT
P2157

Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW

FIRE TRUCK SWEPT PATHS (CLOCKWISE) - 4C

FILE NAME
AG2157-01-v05.dwg

SHEET
AG10

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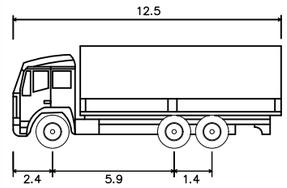

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

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Jasmine Wong

PAPER SIZE
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APPROVED BY
X.XXXX

DATE
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SCALE
Custom

NTS

CLIENT

GOODMAN

PROJECT

P2157

Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION

DESIGN REVIEW

FIRE TRUCK SWEPT PATHS (ANTI CLOCKWISE) - LOT 4C

FILE NAME
AG2157-01-v05.dwg

SHEET
AG11

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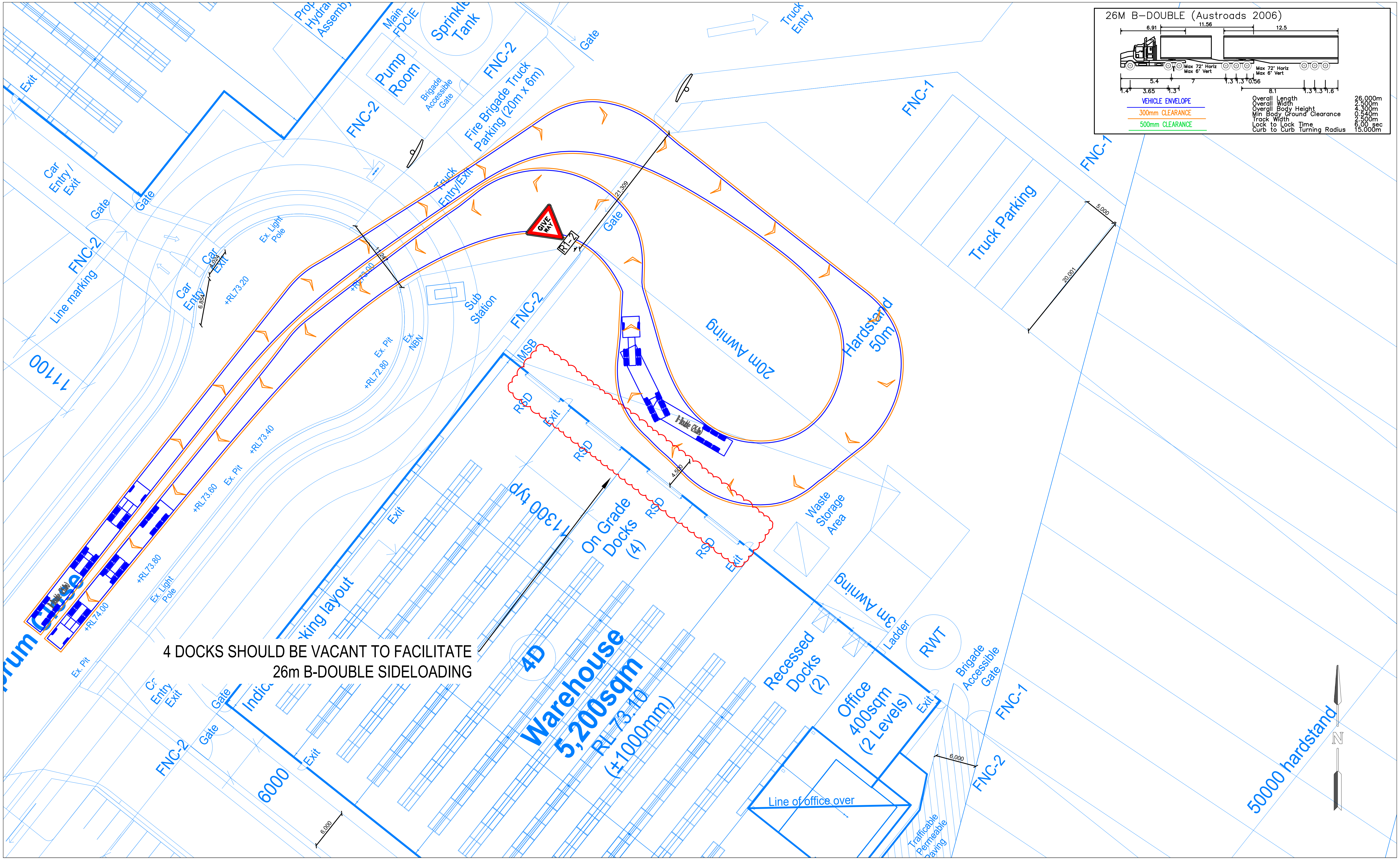

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	26m BD - LOT 4D
SCALE: 1:500	0 5 10	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg / SHEET: AG12

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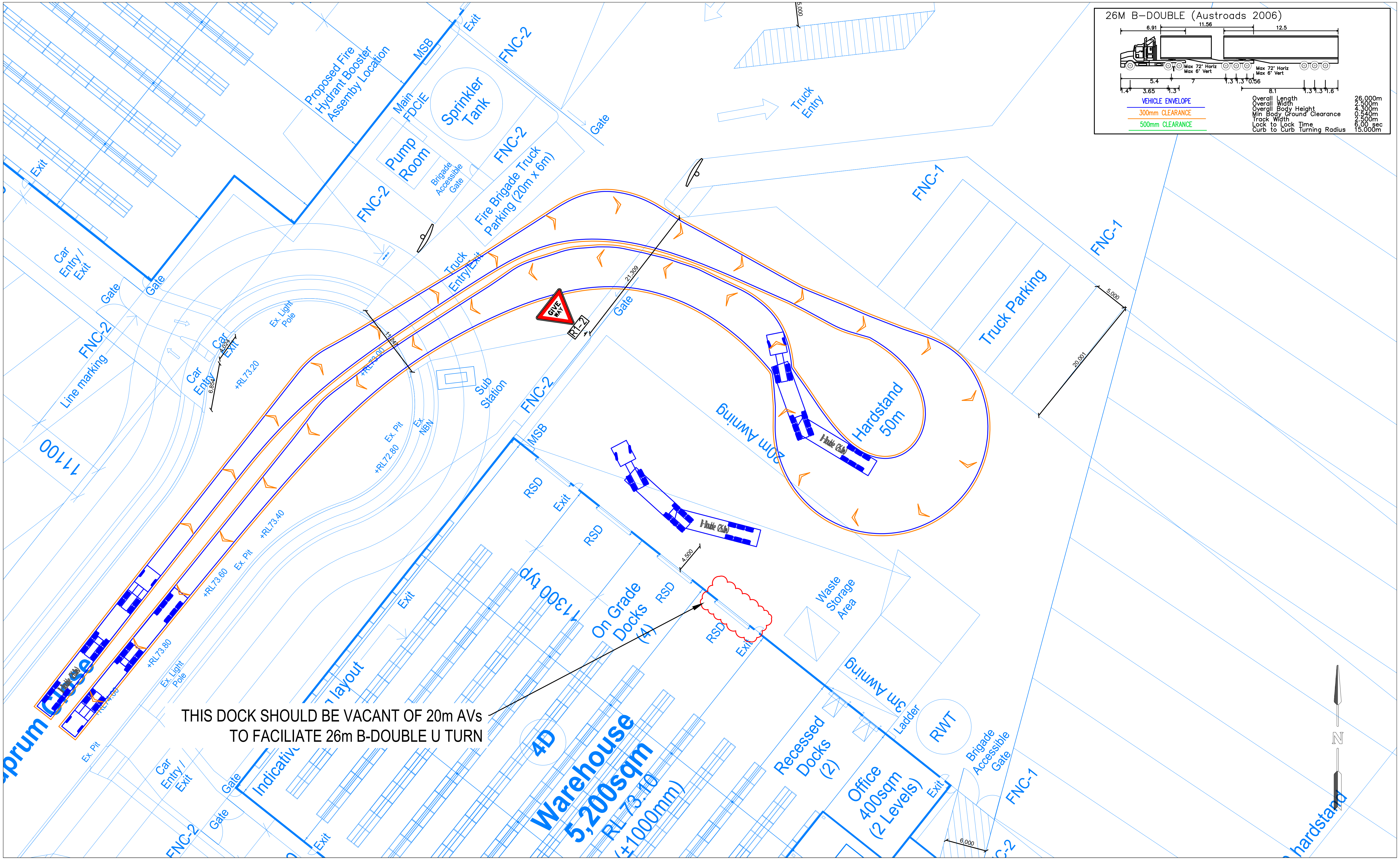

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	19.01.2023
SCALE	1:500
	0 5 10

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GOODMAN

PROJECT
P2157

Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW

26m BD - LOT 4D

FILE NAME	SHEET
AG2157-01-v05.dwg	AG13

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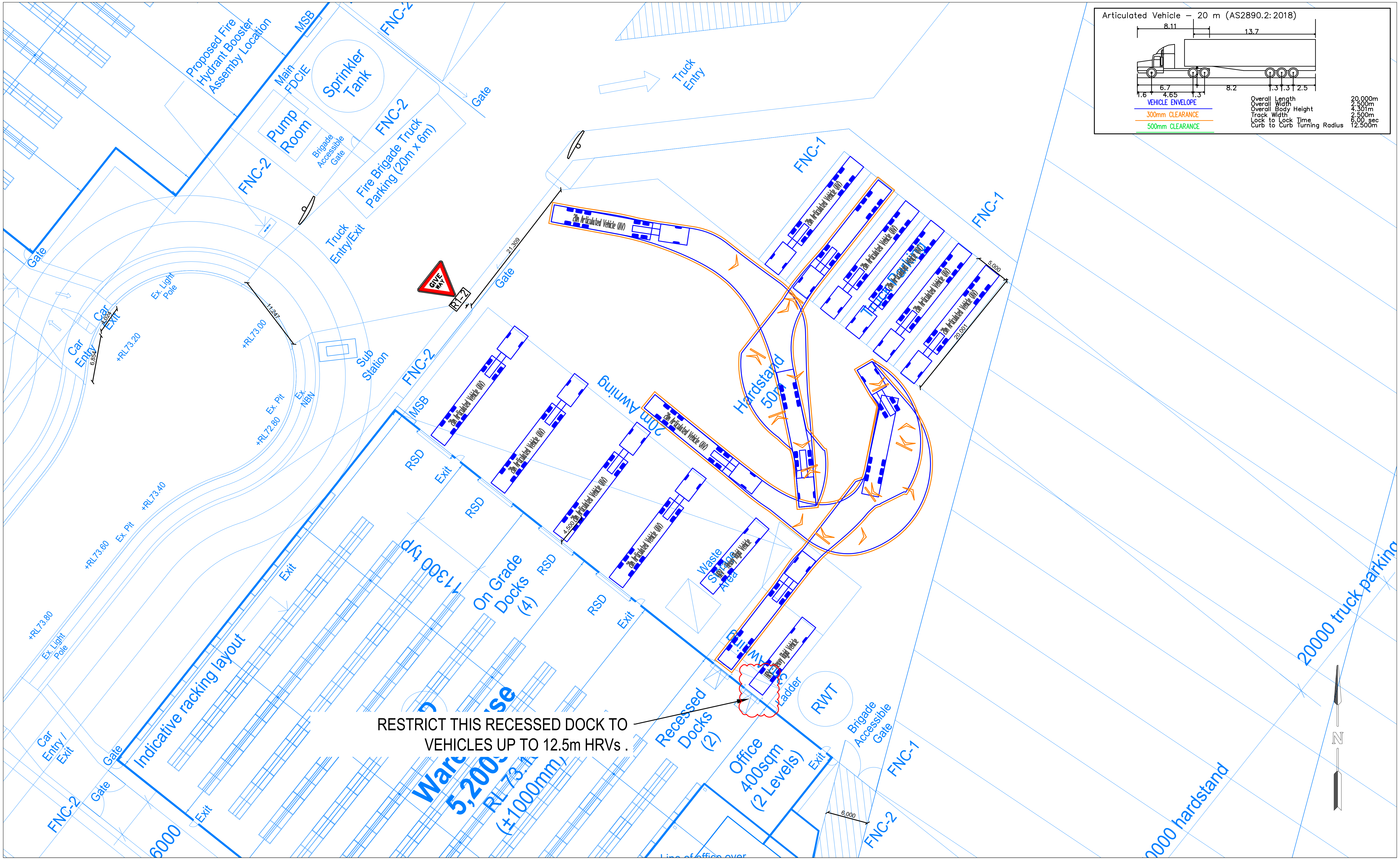
PLOT DATE: 19/01/2023 10:53:28 AM | CAD REFERENCE: C:\Users\Jasmine Wong\OneDrive - Ason Group\Documents\project\2157 - 4C 4D OWE\AG2157-01-v05.dwg | Jasmine Wong |



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION
Jasmine Wong	A3	GOODMAN	DESIGN REVIEW
APPROVED BY	DATE	PROJECT	
X.XXXX	19.01.2023	P2157	20m AV (ENTRY) - LOT 4D
SCALE	0 10 20	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg
1:500			SHEET: AG14

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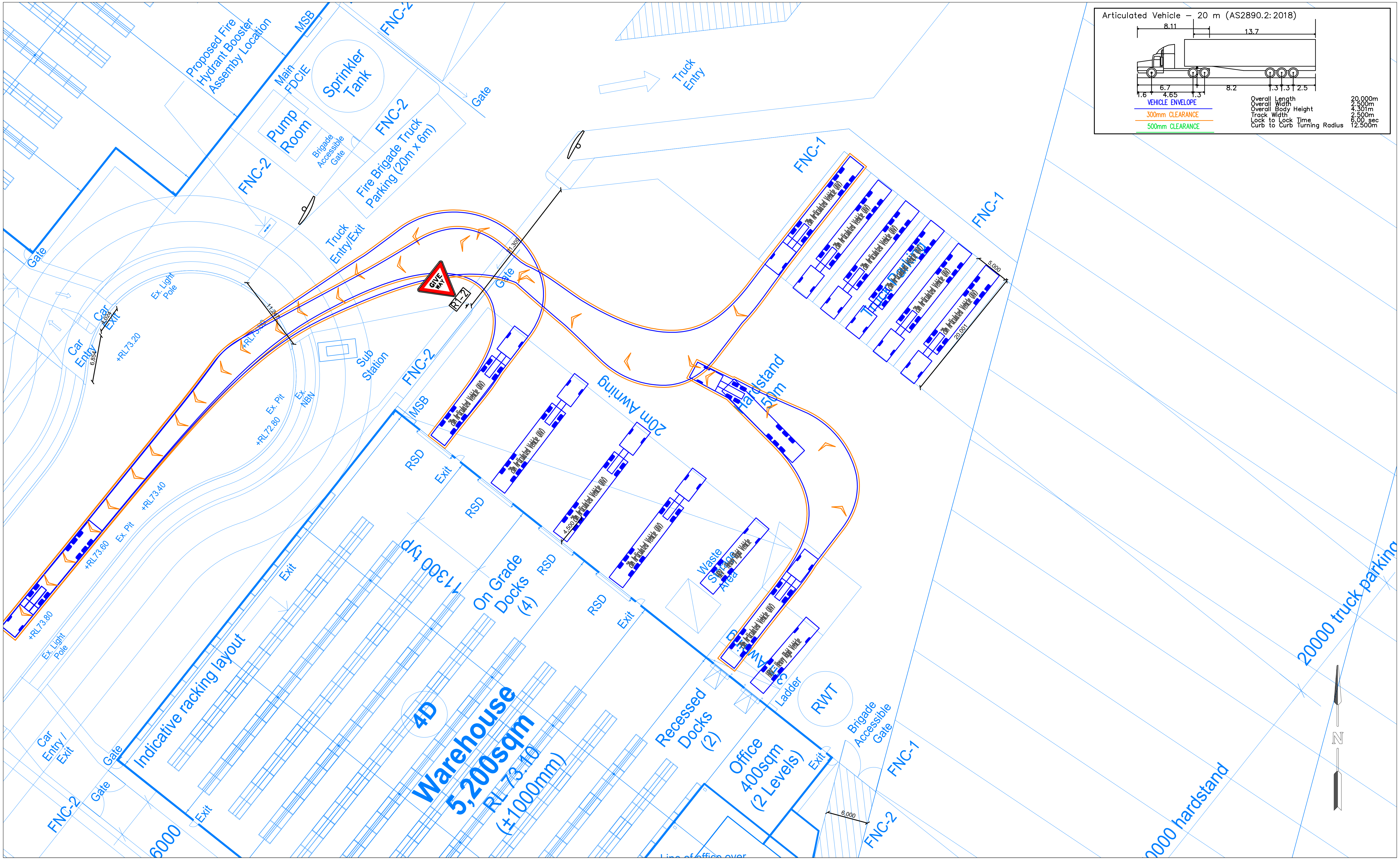

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	20m AV (EXIT) - LOT 4D
SCALE: 1:500	0 5 10	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg / SHEET: AG15

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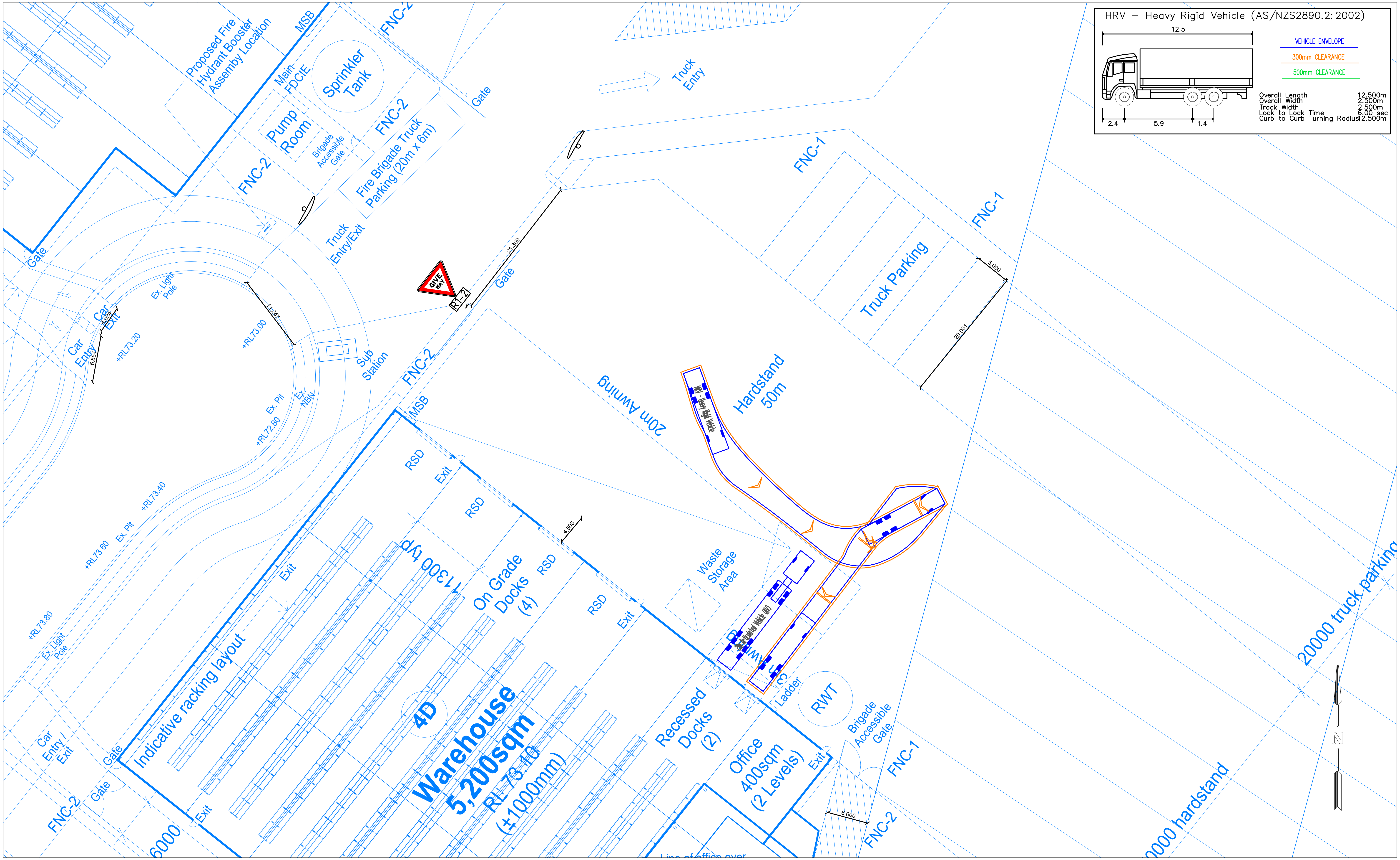
PLOT DATE: 19/01/2023 10:53:38 AM | CAD REFERENCE: C:\Users\Jasmine Wong\OneDrive - Ason Group\Documents\project\2157 - 4C 4D OWE\AG2157-01-v05.dwg | Jasmine Wong |



HRV – Heavy Rigid Vehicle (AS/NZS2890.2:2002)
12.5
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
2.4
5.9
1.4
Proposed Fire Hydrant Booster Assembly Location
MSB
Main FDCIE
Sprinkler Tank
Pump Room
Brigade Accessible Gate
FNC-2
Fire Brigade Truck Parking (20m x 6m)
Truck Entry
Gate
Truck Entry/Exit
FNC-1
Truck Parking
Hardstand 50m
20m Awning
Car Entry
Car Exit
Ex. Light Pole
+RL73.00
+RL73.20
+RL72.80
+RL73.40
+RL73.60
+RL73.80
Ex. Pit
Ex. NBN
Sub Station
R1-2
GIVE WAY
RSD
Exit
On Grade Docks (4)
1300 typ
Waste Storage Area
Indicative racking layout
4D
Warehouse 5,200sqm
RL 73.10 (+1000mm)
Recessed Docks (2)
Ladder
RWT
Office 400sqm (2 Levels)
Brigade Accessible Gate
Car Entry / Exit
20000 truck parking
20000 hardstand
Line of office over
21.309
11.247
5.000
20.001
4.500
6.000
6000
N

GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	19.01.2023
SCALE	1:500

0 5 10

CLIENT

GOODMAN

PROJECT

P2157

Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION

DESIGN REVIEW

12.5m HRV (ENTRY) - LOT 4D

FILE NAME	AG2157-01-v05.dwg
SHEET	AG16

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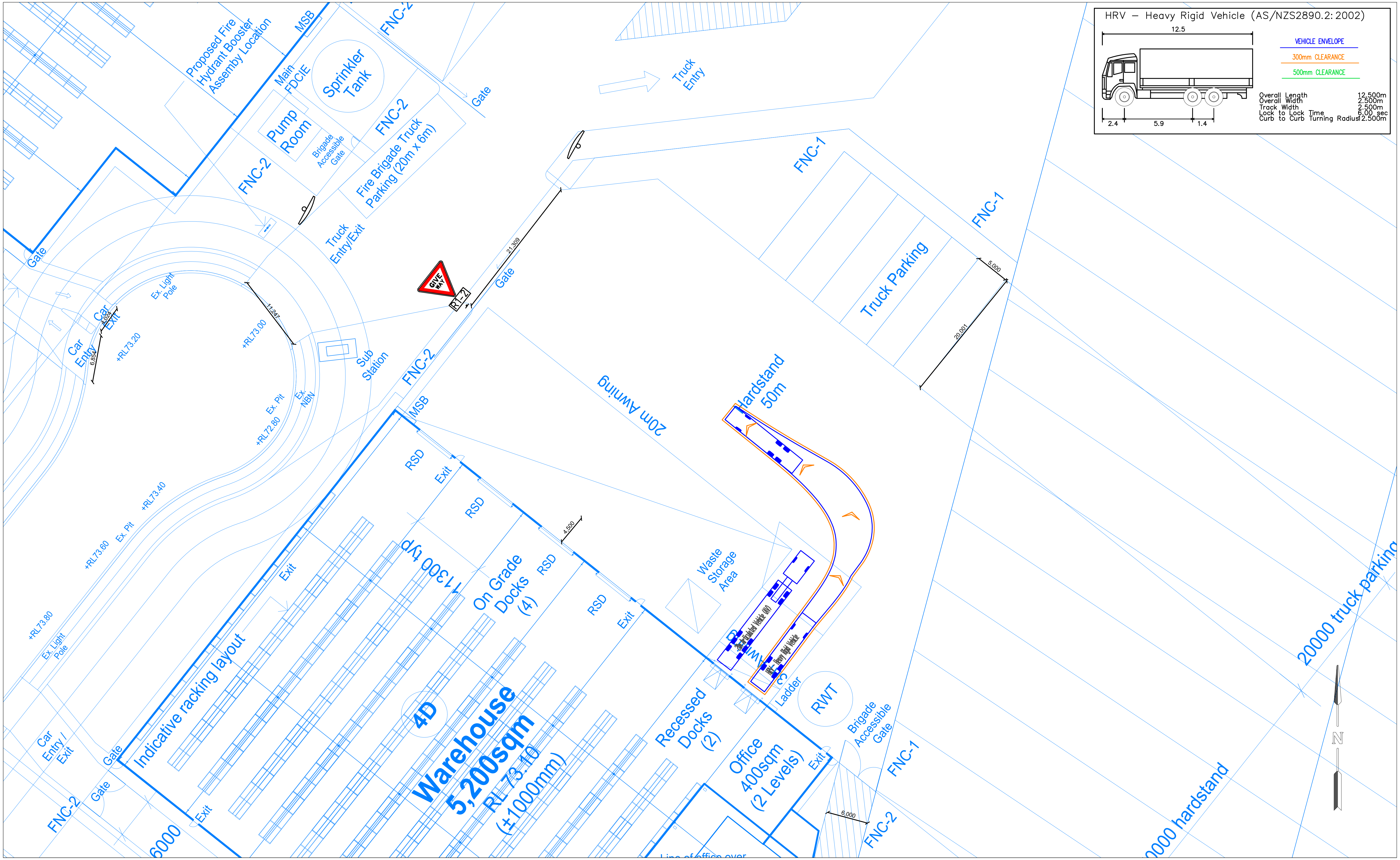
HRV – Heavy Rigid Vehicle (AS/NZS2890.2:2002)
VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE
Overall Length 12.500m
Overall Width 2.500m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Curb to Curb Turning Radius 12.500m
Proposed Fire Hydrant Booster Assembly Location
Sprinkler Tank
Pump Room
Main FDCIE
Truck Entry
Truck Parking
Fire Brigade Truck Parking (20m x 6m)
Brigade Accessible Gate
Truck Entry/Exit
Sub Station
20m Awning
Hardstand 50m
Waste Storage Area
On Grade Docks (4)
Recessed Docks (2)
Warehouse 5,200sqm RL 73.10 (+1000mm)
Indicative racking layout
Office 400sqm (2 Levels)
20000 truck parking
20000 hardstand
Car Entry / Exit
Ladder
RWT

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	12.5m HRV (EXIT) - LOT 4D
SCALE: 1:500	0 5 10	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg / SHEET: AG17

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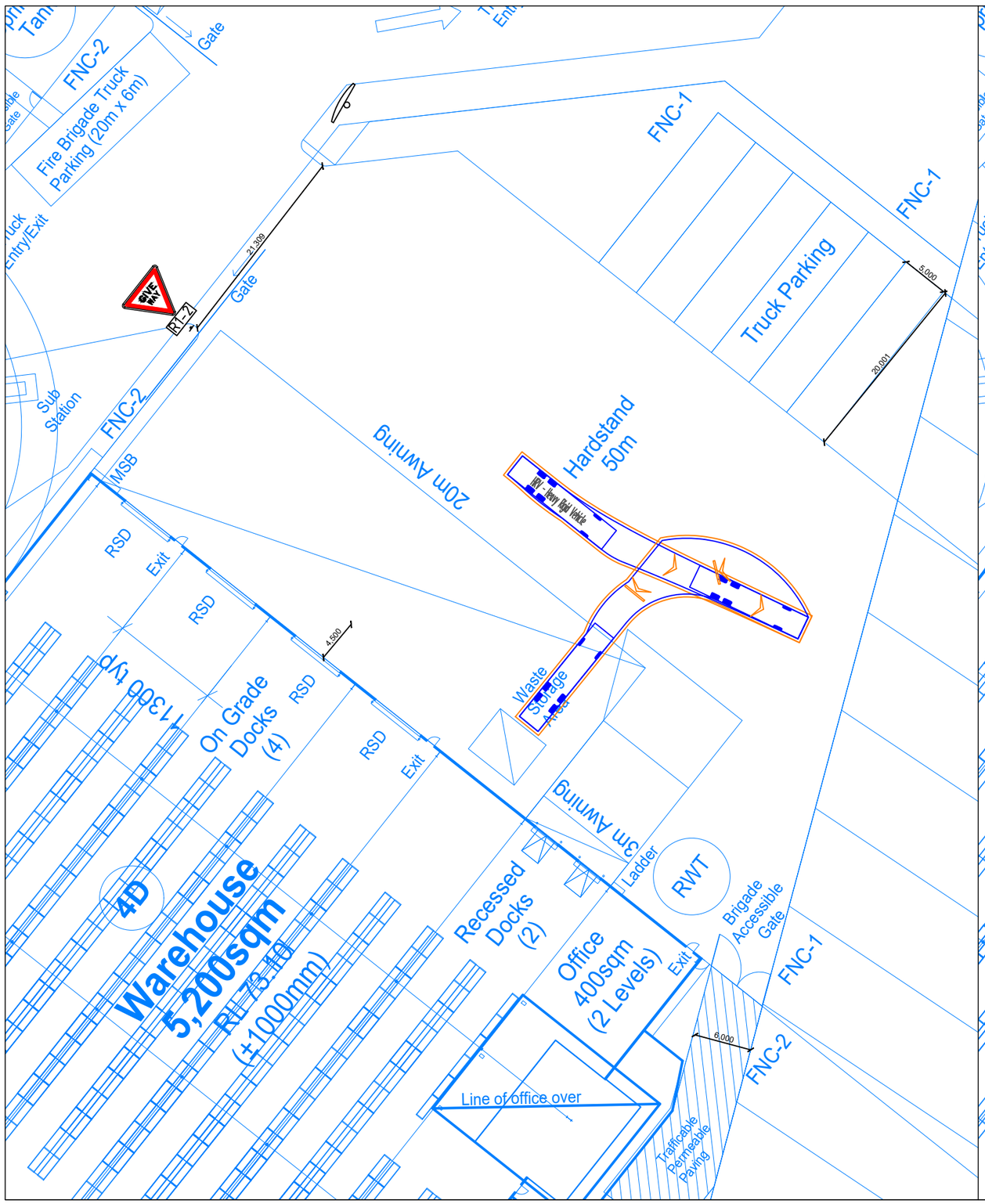

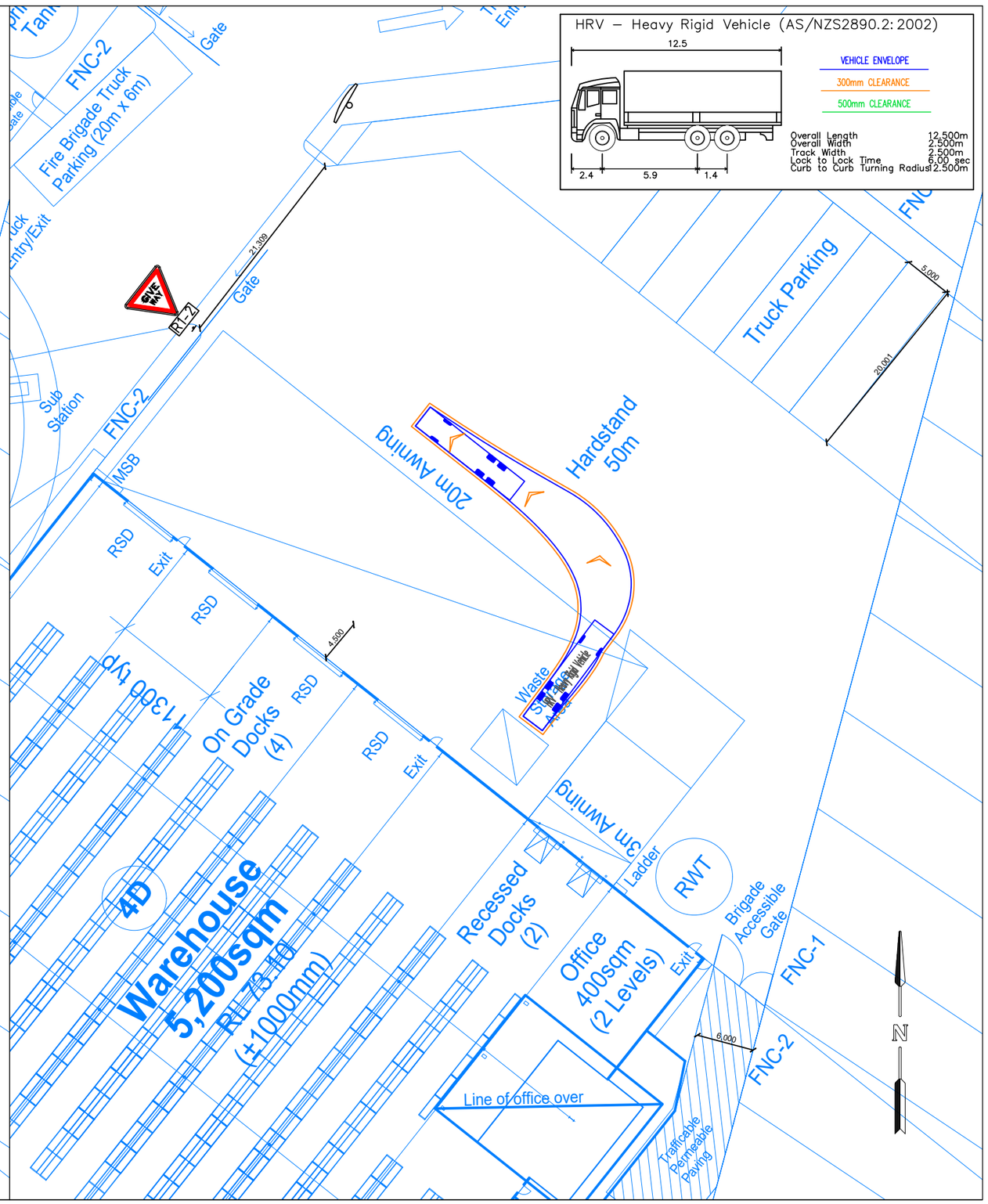

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED	Jasmine Wong
PAPER SIZE	A3
APPROVED BY	X.XXXX
DATE	19.01.2023
SCALE	1:500
	0 5 10

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PROJECT
P2157
Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE

DOCUMENT INFORMATION
DESIGN REVIEW
12.5m HRV (WASTE) - LOT 4D

FILE NAME	SHEET
AG2157-01-v05.dwg	AG18

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Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	FIRE TRUCK SWEPT PATHS ACCESS (CLOCKWISE) - 4D
SCALE: Custom	NTS	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg — SHEET: AG19

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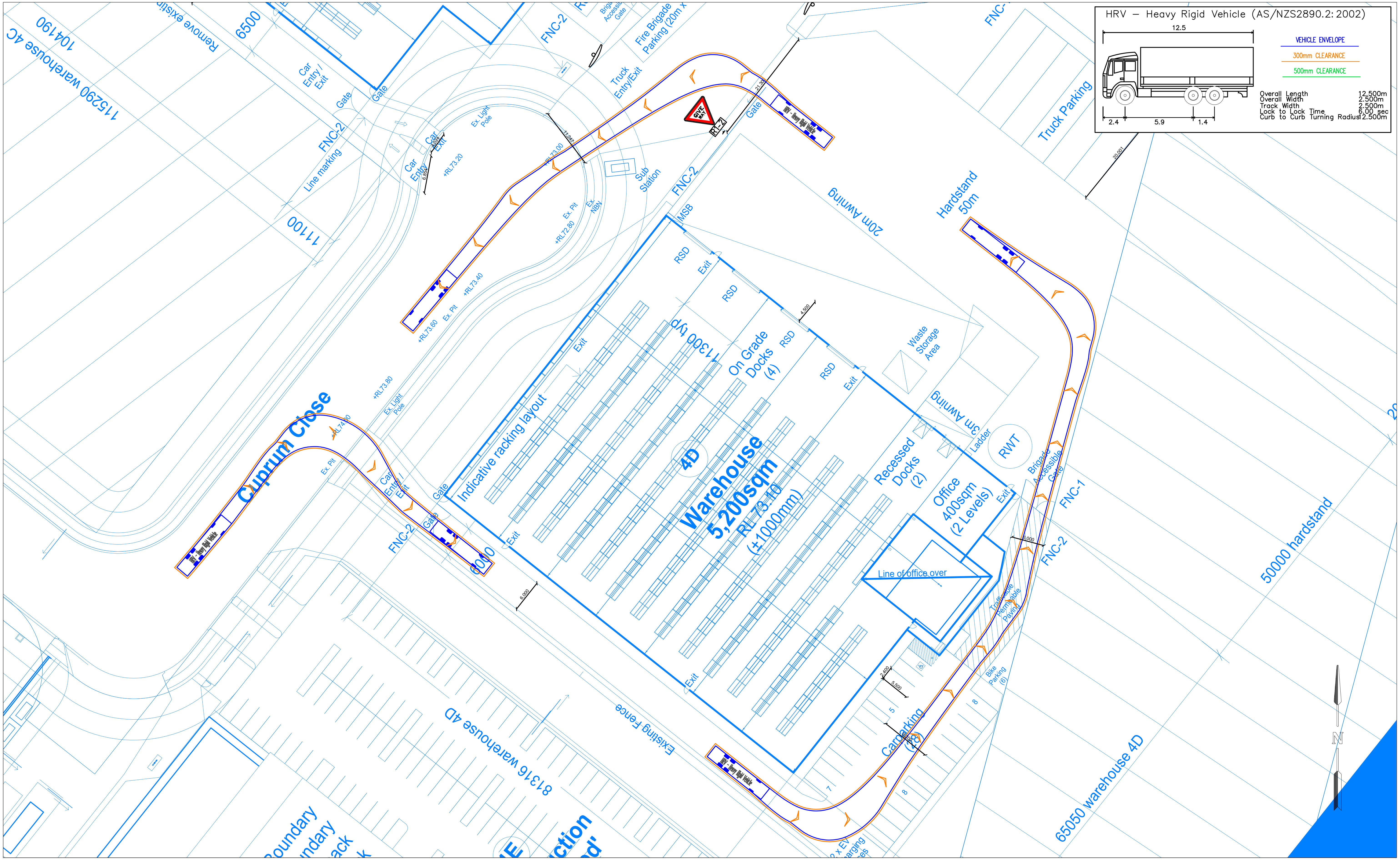

GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by SBA Architects, received 19.01.2023.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 26m B-Doubles

DESIGNED: Jasmine Wong	PAPER SIZE: A3	CLIENT: GOODMAN	DOCUMENT INFORMATION: DESIGN REVIEW
APPROVED BY: X.XXXX	DATE: 19.01.2023	PROJECT: P2157	FIRE TRUCK SWEPT PATHS ACCESS (ANTI CLOCKWISE) - 4D
SCALE: Custom	NTS	Lot 4C & 4D, OAKDALE WEST INDUSTRIAL ESTATE	FILE NAME: AG2157-01-v05.dwg / SHEET: AG20

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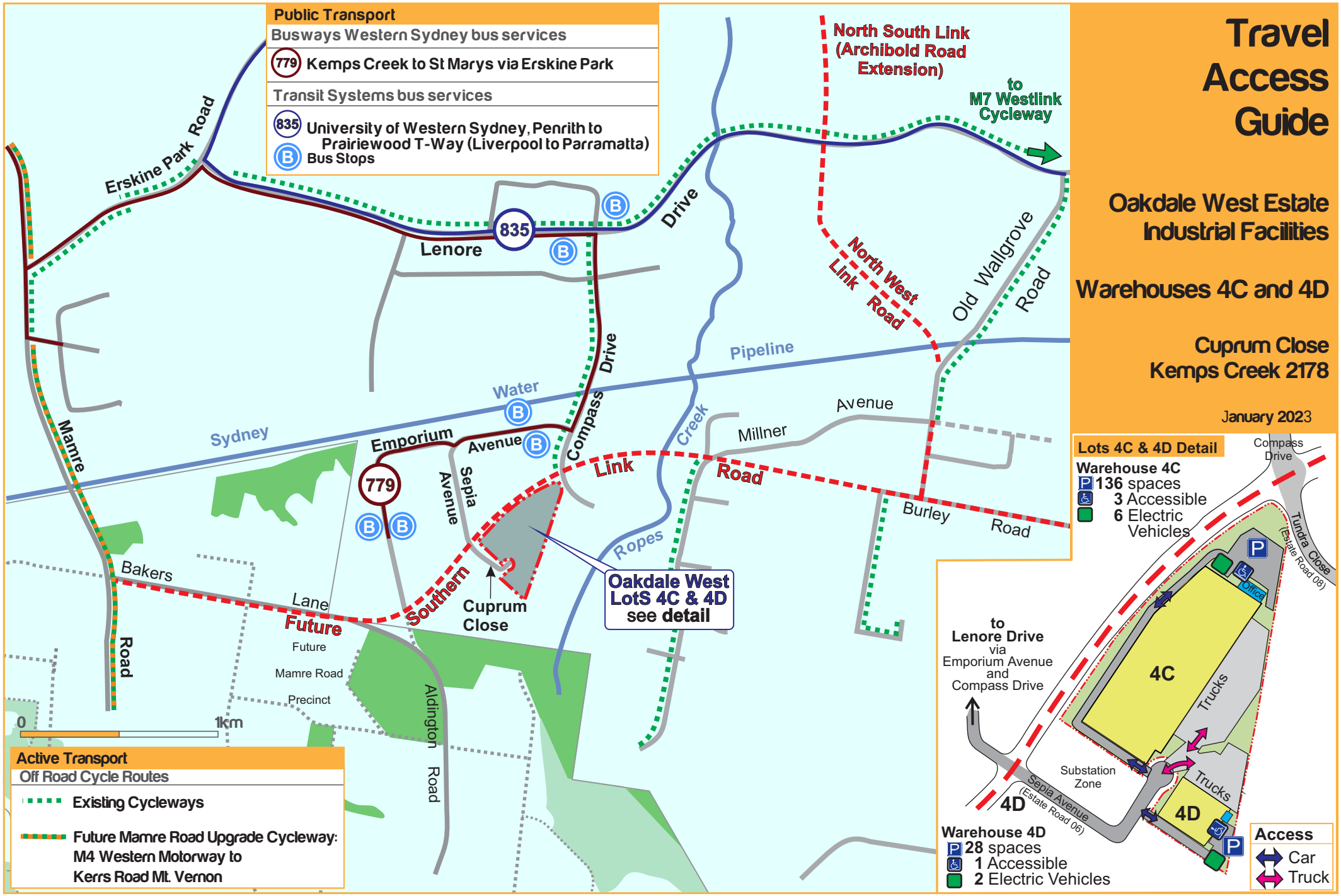
Appendix C. Transport Access Guide (TAG)


Public Transport
Busways Western Sydney bus services
779 Kemps Creek to St Marys via Erskine Park
Transit Systems bus services
835 University of Western Sydney, Penrith to Prairiewood T-Way (Liverpool to Parramatta)
B Bus Stops
North South Link (Archibold Road Extension)
to M7 Westlink Cycleway
Erskine Park Road
Lenore
Drive
North West Link Road
Old Wallgrove Road
Pipeline
Water
Sydney
Mamre
Emporium
Avenue
Compass
Drive
Creek
Millner
Avenue
Link
Road
Sepia
Avenue
Ropes
Burley
Road
Bakers
Lane
Future
Southern
Cuprum
Close
Oakdale West
LotS 4C & 4D
see detail
Road
Future
Mamre Road
Precinct
Aldington
Road
0
1km
Active Transport
Off Road Cycle Routes
Existing Cycleways
Future Mamre Road Upgrade Cycleway:
M4 Western Motorway to
Kerrs Road Mt. Vernon
Travel Access Guide
Oakdale West Estate Industrial Facilities
Warehouses 4C and 4D
Cuprum Close
Kemps Creek 2178
January 2023
Lots 4C & 4D Detail
Warehouse 4C
136 spaces
3 Accessible
6 Electric Vehicles
Compass Drive
Tundra Close (Estate Road 08)
Office
4C
Trucks
Substation Zone
Trucks
4D
4D
Sepia Avenue (Estate Road 06)
to Lenore Drive via Emporium Avenue and Compass Drive
Warehouse 4D
28 spaces
1 Accessible
2 Electric Vehicles
Access
Car
Truck

Appendix D. Sample Travel Mode Questionnaire

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Instructions for Surveyor(s)

- The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.

- This survey should be completed SEPARATELY for EACH TRIP undertaken.

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Travel Mode Questionnaire Survey Form

Date: **Approximate Time:**

Q1. Are you one of the following?

☐ Office staff

☐ Courier / office delivery

☐ Casual contractor

☐ Company driver / sub-contractor

☐ Warehouse ground staff

☐ Other (Please specify).

Q2. How did you travel to / from the site today?

☐ Walked only

☐ Bicycle only

☐ Train

☐ Bus

☐ Taxi

☐ Car share vehicle

☐ Motorcycle / scooter

☐ Car (as passenger)

☐ Car (as driver)

☐ Other (Please specify)

Q3. If you drove to the site, where did you park?

☐ Not applicable – did not drive

☐ On-site car park

☐ On-site within truck hardstand

☐ On-street

☐ In other nearby off-street car park

☐ Other (Please specify)

Q4. What is your Residential Postcode?