

Reference: 0154I02v1

03 March 2016

Goodman
Level 17, 60 Castlereagh Street
Sydney NSW 2000

Attention: Guy Smith

Re: Section 96 Application – Lot 3 Oakdale Central Industrial Precinct

Dear Guy,

Ason Group has been commissioned to provide traffic, access and parking advice in support of a Section 96 Application (**S96**) relating to an approved State Significant Development located at Lot 21 in DP1173181, known as Oakdale Central (the **Site**). This application relates to amendments to the approved development schemes of the subdivision lot known as Lot 3.

Lot 3B is proposed to be a warehouse which includes the storage of hazardous goods and therefore requires a separate State Significant Development (**SSD**) application. As such, this S96 relates to Warehouse 3A, 3C and 3D buildings only.

In this regard, Ason Group has undertaken an assessment of the traffic, access, and parking implications of the proposal following a review of all relevant documentation made available to us and the findings of our investigation is summarised herewith.

Planning Context

A Part 3A Concept Plan was prepared and lodged in 2008 with the Department of Planning for the establishment of the Oakdale Central Industrial Estate. The application related to approximately 61.2 hectares of land and included the internal road layout, infrastructure requirements and the subdivision layout for seven industrial buildings. The Concept Plan was approved in 2009 and subsequently, applications relating to developments on Lots 1A, 1B and 2A have been approved and buildings on these Lots have now been completed.

A State Significant Development application (SSD 13_6078) was lodged in 2013 which generally sought approval for the construction of 149,000m² of industrial / warehouse floor space and 865 parking spaces across 3 development sites known as Lots 1C, 2B and Lot 3. This S96 Application seeks to amend the SSD 13_6078 approval and relates to Lot 3 only.

Site and Location

The Oakdale Central Industrial Estate is located within the south-western part of the Eastern Creek Precinct Plan area, to the west of Wallgrove Road and accessed via Old Wallgrove Road. The Site is generally bounded by the Sydney Water Supply Pipeline to the north, Old Wallgrove Road to the east, the CSR Site to the south and a riparian zone to the west.

Internally, Lot 3 is located on the northern side of Milner Avenue to the east of the Biodiversity Lot C.

Proposed Modifications

A detailed description of the proposed modifications is provided in the Environmental Impact Assessment (EIS) prepared separately. Reference should also be made to the revised architectural plans prepared by SBA Architects. A reduced copy of relevant plans is included in **Attachment 1** for ease of reference, with a copy of the proposed Lot 3 Masterplan also shown in **Figure 1** below.

In general, the application seeks approval for the construction of 5 industrial warehouse buildings (within four separate warehouse lots (being Warehouse 3A, 3B, 3C & 3D). This S96 application relates to modifications to Lots 3A, 3C and 3D and includes minor changes to the proposed Industrial Estate Road connecting to Milner Avenue which serves as the shared access to all buildings.

A separate application related to Lot 3B is to be prepared separately. Nevertheless, to ensure a consistency with the original Part 3A application and subsequent amendments, the traffic implications of Warehouse 3B is also included in this assessment.

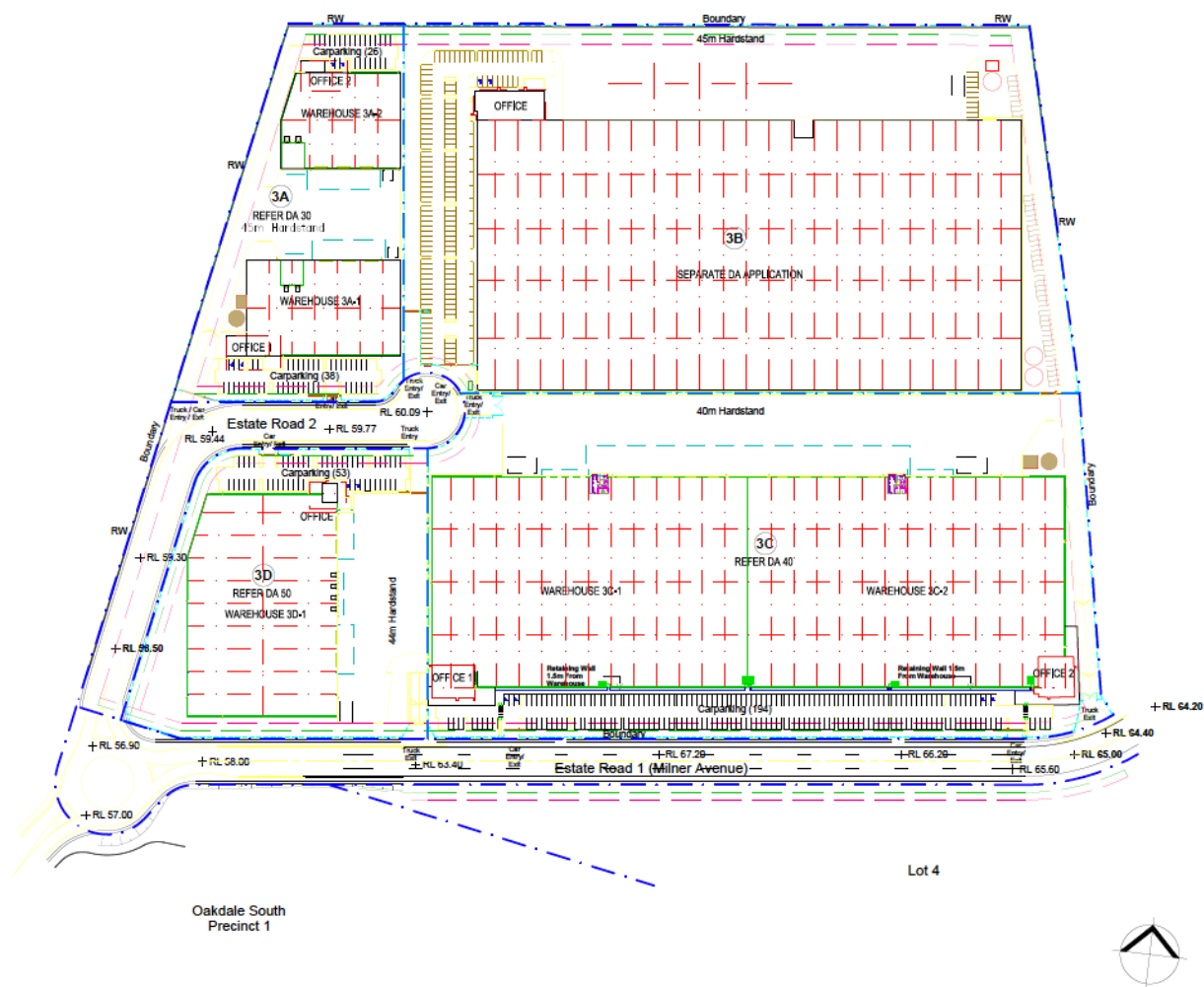


Figure 1: Proposed Lot 3 Master Plan

A summary of the approved and proposed development areas and parking provisions is provided in **Table 1**.

Table 1: Summary of Proposed Changes

	Total Building Area (m ²)	Warehouse (m ²)	Office (m ²)	Parking
Original Approval	88,470	86,280	2,190	502
Proposed	85,949	81,887	4,062	516
Difference	-2,521	-4,393	+1,872	+14

It is evident that the application generally seeks an overall reduction in warehouse floor space and a slight increase in the office component. Notwithstanding, the overall building floor area is reduced from that approved under the original Concept Plan approval.

The parking and traffic implications of the proposed amendments are discussed in the following sections.

Car Parking

Car parking for the proposed development has been assessed having regard for the relevant rates as required under the Concept Plan approval and summarised in **Table 2**. Warehouse Lot 3B which is to be subject to a separate application and therefore excluded from the below table.

Table 2: Car Parking Requirements (Concept Plan Approval rates)

Warehouse Lot	Area Type	Area (m ²)	Parking Rate	Parking Required	Parking Provided	Complies (Y/N)
Lot 3A	Lot 3A Sub-total	(7,283)		(63)	64	Y
	(Warehouse)	5,963	1 space / 200 sqm GFA	29.8		
	(Ancillary Office)	1,320	1 space / 40 sqm GFA	33.0		
Lot 3C	Lot 3C Sub-total	(33,426)		(193)	194	Y
	(Warehouse)	32,109	1 space / 200 sqm GFA	160.5		
	(Ancillary Office)	1,317	1 space / 40 sqm GFA	32.9		
Lot 3D	Lot 3D Sub-total	(8,275)		(47)	53	Y
	(Warehouse)	7,975	1 space / 200 sqm GFA	39.9		
	(Ancillary Office)	300	1 space / 40 sqm GFA	7.5		
TOTAL	Building Area	(48,984)		(304)	311	Y
	(Warehouse)	46,047	1 space / 200 sqm GFA	230.2		
	(Ancillary Office)	2,937	1 space / 40 sqm GFA	73.4		

It can be seen from the above that the overall development included in this S96 will require a total of 304 spaces under the Concept Plan approval rates. A total of 311 spaces are proposed and therefore the combined Lots included in this S96 application will satisfy these parking requirements. Furthermore, all individual warehouse lots satisfy the above parking requirements.

Notwithstanding, the RMS Guide to Traffic Generating Developments (RMS Guide) recommends a parking provision rate of 1 space per 300m² GFA for industrial uses. Application of this RMS Guide rate to the proposed floor areas is summarised in **Table 3** below.

Table 3: Car Parking Requirements (RMS Guide rates)

Warehouse Lot	Area Type	Area (m ²)	Parking Rate	Parking Required	Parking Provided	Complies (Y/N)
Lot 3A	Lot 3A Sub-total	(7,283)		(24)	64	Y
	Warehouse	5,963	1 space / 300 sqm GFA	19.9		
	Office	1,320	1 space / 300 sqm GFA	4.4		
Lot 3C	Lot 3C Sub-total	(33,426)		(111)	194	Y
	Warehouse	32,109	1 space / 300 sqm GFA	107.0		
	Office	1,317	1 space / 300 sqm GFA	4.4		
Lot 3D	Lot 3D Sub-total	(8,275)		(28)	53	Y
	Warehouse	7,975	1 space / 300 sqm GFA	26.6		
	Office	300	1 space / 300 sqm GFA	1.0		
TOTAL	Building Area	(48,984)		(163)	311	Y
	(Warehouse)	46,047	1 space / 300 sqm GFA	153.5		
	(Ancillary Office)	2,937	1 space / 300 sqm GFA	9.8		

*NOTES:

1) Office areas considered ancillary to warehouse, where area is less than 20% overall building area.

Having regard for the above, the proposed 311 car parking provisions are considered supportable.

Traffic Impacts

The future traffic generation of the approved development was assessed and approved having regard for the traffic generation rates adopted by the RMS in its assessment of regional road upgrades within the Western Sydney Employment Area (**WSEA**). The modelling undertaken by GHD adopted a peak 2-hour traffic generation rate of 21 trips per hectare of developable land (or 10.5 trips per developable hectare per peak hour). Application of this rate to the subject site (which includes a total site area of approximately 15.59 hectares which is unchanged from the previous assessment) results in a peak hour traffic generation of 164 vehicle movements per hour.

This S96 application seeks approval for modifications that will result an overall reduction in GFA (by approximately 2,521m²). As such, the proposal will not result in a net increase in overall traffic generation from that previously approved. Accordingly, the traffic impacts considered and assessed as part of the original SSD application remain valid and does not warrant further traffic modelling or analysis as a result of the S96 modifications.

Notwithstanding the above, we provide the following additional commentary in relation to future traffic volumes of each respective warehouse lot to inform the design and other relevant studies, as necessary.

The RMS *Guide to Traffic Generating Developments Updated Traffic Surveys – Technical Direction 04a* (the **RMS Guide Update**) dated August 2013 includes surveys of the Wonderland Business Park and the Erskine Park Industrial Estate (located within five kilometres of the subject site). The surveys demonstrated the following peak hour generation rates for each industrial estate, based on GFA:

- Wonderland Business Park: 0.202 veh/hr per 100m² of GFA (2.308 veh / day per 100m²)
- Erskine Park Industrial Estate: 0.163 veh/hr per 100m² of GFA (1.892 veh / day per 100m²)

The resultant average of these two survey rates is a peak hourly traffic generation rate of 0.183 vehicle trips per 100m² GFA and an average daily traffic generation rate of 2.1 vehicles per 100m². Application of these average traffic generation rates to the proposed building areas is summarised in **Table 4** below.

Table 4: Traffic Generation by Lot

Warehouse Lot	Building Area (m ²)	Traffic Generation Rate		Traffic Volumes	
		Peak Hourly	Daily	Peak Hourly	Daily
Lot 3A	7,283	0.18 veh/hr / 100 sqm GFA	2.10 veh/hr / 100 sqm GFA	13	153
Lot 3B*	36,965	0.18 veh/hr / 100 sqm GFA	2.10 veh/hr / 100 sqm GFA	67	776
Lot 3C	33,426	0.18 veh/hr / 100 sqm GFA	2.10 veh/hr / 100 sqm GFA	61	702
Lot 3D	8,275	0.18 veh/hr / 100 sqm GFA	2.10 veh/hr / 100 sqm GFA	15	174
TOTAL	85,949			156	1,805

*NOTES:

1) Details provided for information purposes only. Lot 3B will be subject to a separate application and therefore not included in this S96.

Site Access & Internal Design Aspects

The proposal seeks approval for the construction of a new Industrial Estate Road (as shown in Figure 1) extending from Milner Avenue and providing access to the future warehouse facilities. This new estate road will provide all access to Lot 3A and the car parks serving Lots 3B and 3D. The car park for Lot 3C will be provided directly from Milner Avenue. Egress by commercial vehicles from Warehouse 3B, 3C and 3D will be directly to Milner Avenue. In this regard, Warehouse 3C shall include a Right of Carriageway benefiting Lot 3B for use by commercial vehicles.

Swept path analysis has been undertaken as permissible under AS2890.2 and confirms the access and internal circulation road design for each unit is capable of accommodating vehicles up to and including 26m articulated trucks (B-Doubles). The exception being Lot 3A which shall be restricted to the use of 19m articulated trucks only.

Security gates are sufficiently setback so that vehicles can queue on entry to each site without obstructing through traffic on the Estate Road.

The internal design aspects of the proposed developments have been assessed having regard for the applicable requirements of AS2890.1 (2004) *Part 1: Off-street car parking*, AS2890.2 *Part 2: Off-street commercial vehicle facilities* and AS2890.6 (2009) *Part 6: Off-street parking for people with disabilities*. In this regard, the following key points are considered noteworthy:

Car Park & Access

The internal car parking of both developments has been designed to comply with the relevant sections of AS2890.1 and AS2890.6. A detailed review of the car park and related areas has been undertaken and the following characteristics are noteworthy:

- The proposed car park accesses have been designed with a clear width of 6.5m, which complies with the minimum requirements of AS2890.1.
- Parking aisles have generally been designed with a minimum clear width of 6.5m, which exceeds the requirements for a User Class 1A and is therefore considered acceptable. A minimum width of 5.8m is required for User Class 1A employee parking under AS2890.1.
- All staff and visitor parking spaces are designed in with a minimum space length of 5.5m and minimum width of 2.5m thereby complying with the requirements of AS2890.1 for a User Class 2.
- Parallel parking spaces are designed with a length of 6.3m which is considered acceptable having regard for the generous aisle width of 6.5m.
- Disabled parking spaces are designed in accordance with AS2890.6, including the provision of an adjacent 'shared area'.

Service Vehicles Requirements

The commercial (heavy) vehicle facilities of the developments have been designed having regard for the operational requirements of the future tenants and the requirements of AS2890.2. In this regard, the following is considered noteworthy:

- The internal design of the service areas has been undertaken in accordance with the requirements of AS2890.2 for the maximum length vehicle, which may vary, accessing each dock. Generally, docks are designed for access by 19m semi-trailers, however a number of docks serving the Warehouse 3A hardstand will be limited to 12.5m rigid trucks. All recessed docks are suitable for use by 19m articulated trucks.
- A minimum clear head height of 4.5m is provided within all areas traversed by service vehicles.
- A minimum bay width of 3.5m is provided for all service bays.

The swept path analysis is provided in **Attachment 2**, which demonstrates compliance with relevant sections of AS2890.1 and AS2890.2. Accordingly, the internal design aspects of the development satisfy the relevant Standards and is considered acceptable. It is however noted that a Condition of Consent requiring compliance with relevant Australian Standards is anticipated and minor non-compliances (if any) can be amended prior to the issue of any Construction Certificate.

Summary

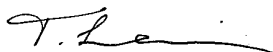
In summary, the proposed car parking provision for warehouses included in this S96 comply with the Concept Plan approved rates and are therefore considered acceptable. Compared to the originally approved Concept Plan approval, the proposed S96 modifications result in a reduced floor area. As such, the development will generate less traffic than previously assessed and therefore will not have any adverse impacts on the surrounding road network.

The proposed access and internal design has been assessed using swept path analysis and generally complies with the requirements of AS2890.1 and AS2890.2 and will operate safely and efficiently.

Accordingly, the proposed S96 modifications are supportable on traffic planning grounds.

Should you have any questions or should you wish to discuss the application further, please contact the undersigned.

Yours sincerely,



Tim Lewis

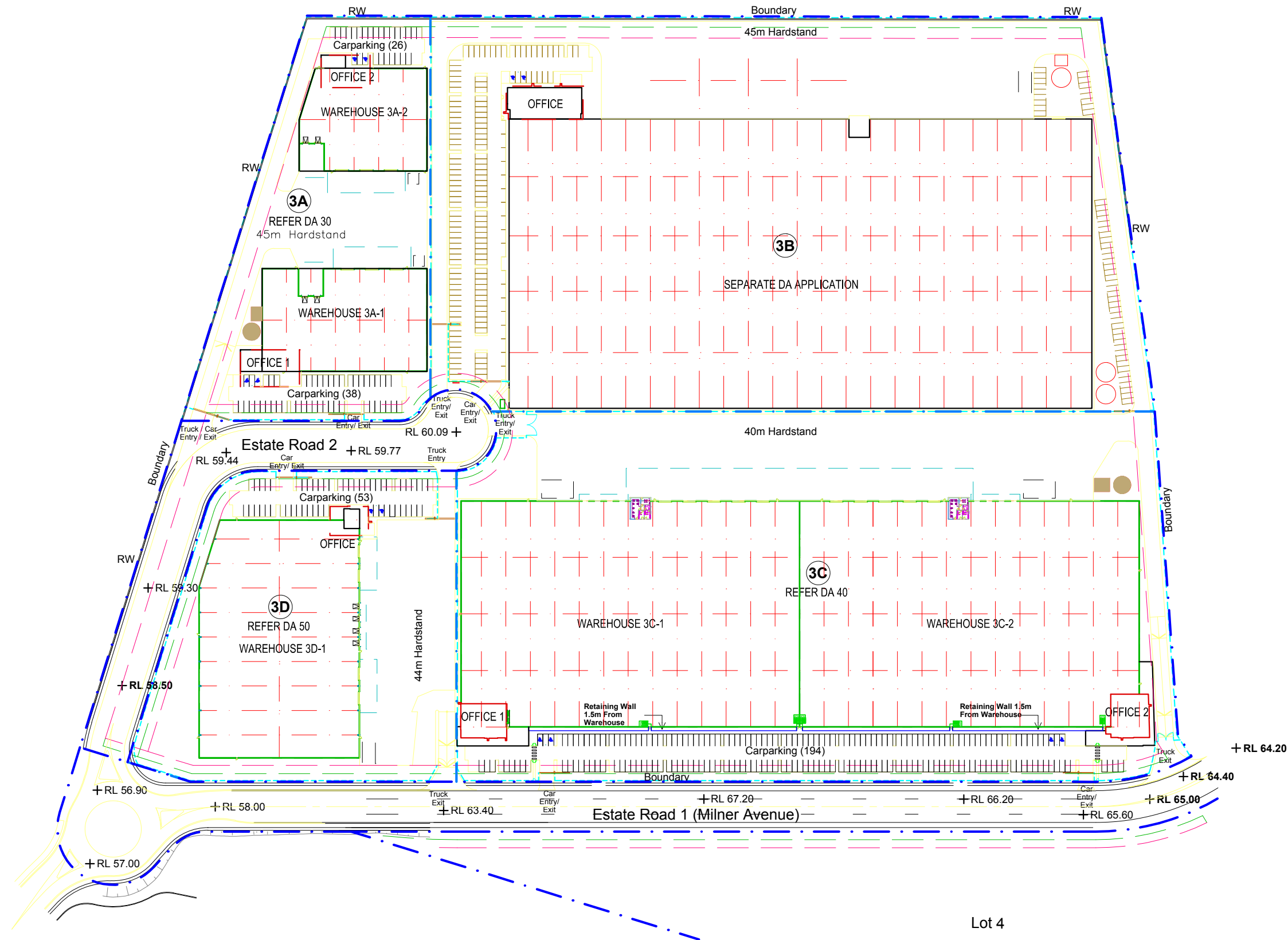
Principal Traffic Engineer – Ason Group

Email: tim.lewis@asongroup.com.au

Attachments A) Reduced Plans

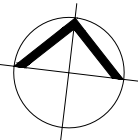
B) Swept Path Analysis

Attachment A



Oakdale South
Precinct 1

Lot 4



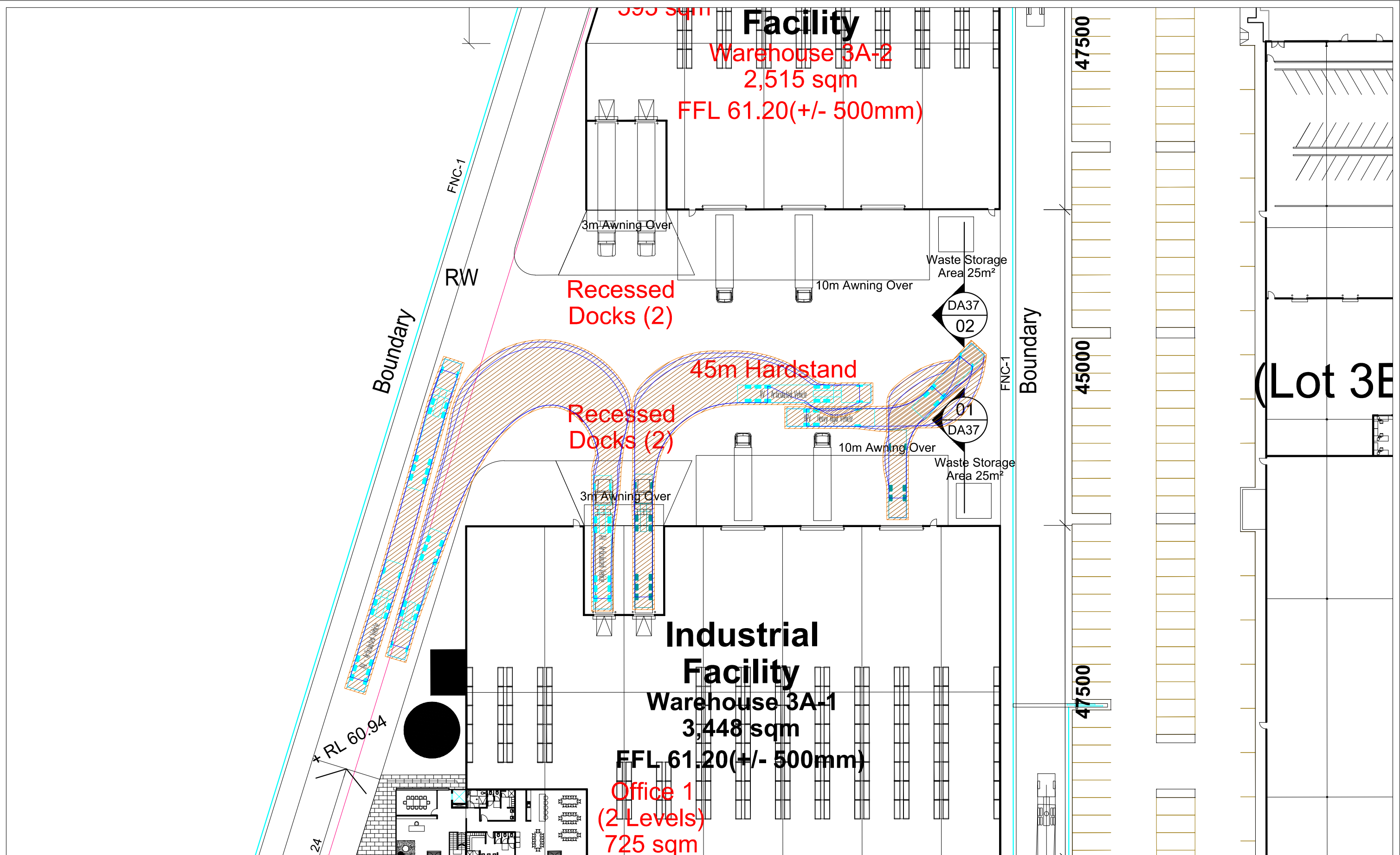
Development Area Schedule	
Total Site Area	155,899 sqm
Estate Road 2	6,974 sqm
Total Warehouse	46,047 sqm
Total Office	2,747 sqm
Total Dock Office	190 sqm
Total Building Area	48,984 sqm

Lot 3A	
Site Area	16,016 sqm
Warehouse 1	3,448 sqm
Office 1	725 sqm
Warehouse 2	2,515 sqm
Office 2	595 sqm
Total Building Area	7,283 sqm
Awning	786 sqm
Site Cover (exc. awning)	46 %
Floor Space Ratio	1:1
Hardstand Area	4,383 sqm
Light Duty Area	2,445 sqm
Carparking	64

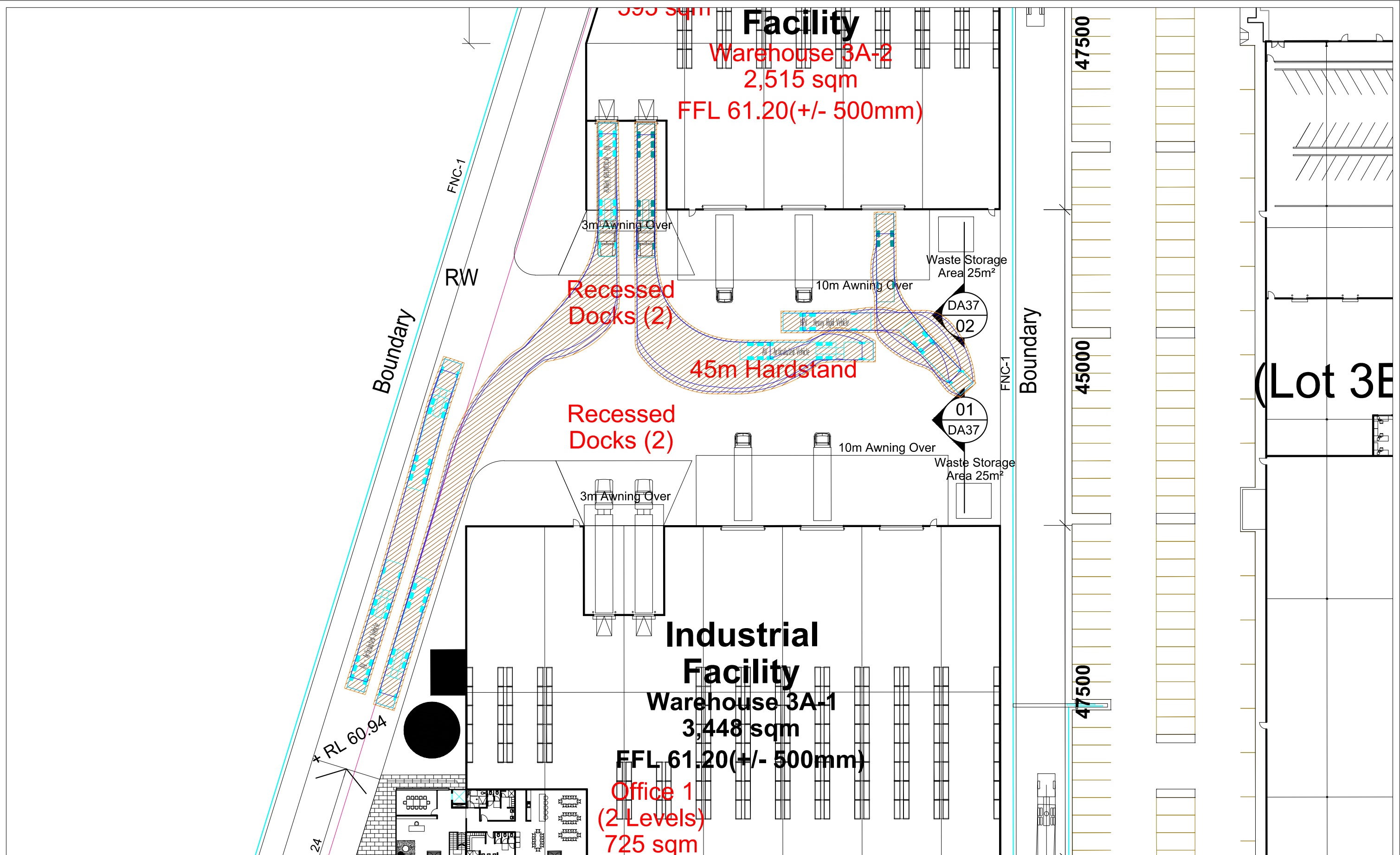
Lot 3C	
Development Area Schedule	
Site Area	55,622 sqm
Warehouse 1	16,014 sqm
Office 1	566 sqm
Dock Office (1 level)	95 sqm
Warehouse 2	16,095 sqm
Office 2	561 sqm
Dock Office (1 level)	95 sqm
Total Building Area	33,426 sqm
Awning	2,540 sqm
Site Cover (exc. awning)	60 %
Floor Space Ratio	0.60 :1
Hardstand Area	12,120 sqm
Light Duty Area	4,890 sqm
Carparking	194

Lot 3D	
Development Area Schedule	
Site Area	18,795 sqm
Warehouse 1	7,975 sqm
Office 1	300 sqm
Total Building Area	8,275 sqm
Awning	460 sqm
Site Cover (exc. awning)	44 %
Floor Space Ratio	0.61 :1
Hardstand Area	5,245 sqm
Light Duty Area	1,505 sqm
Carparking	53

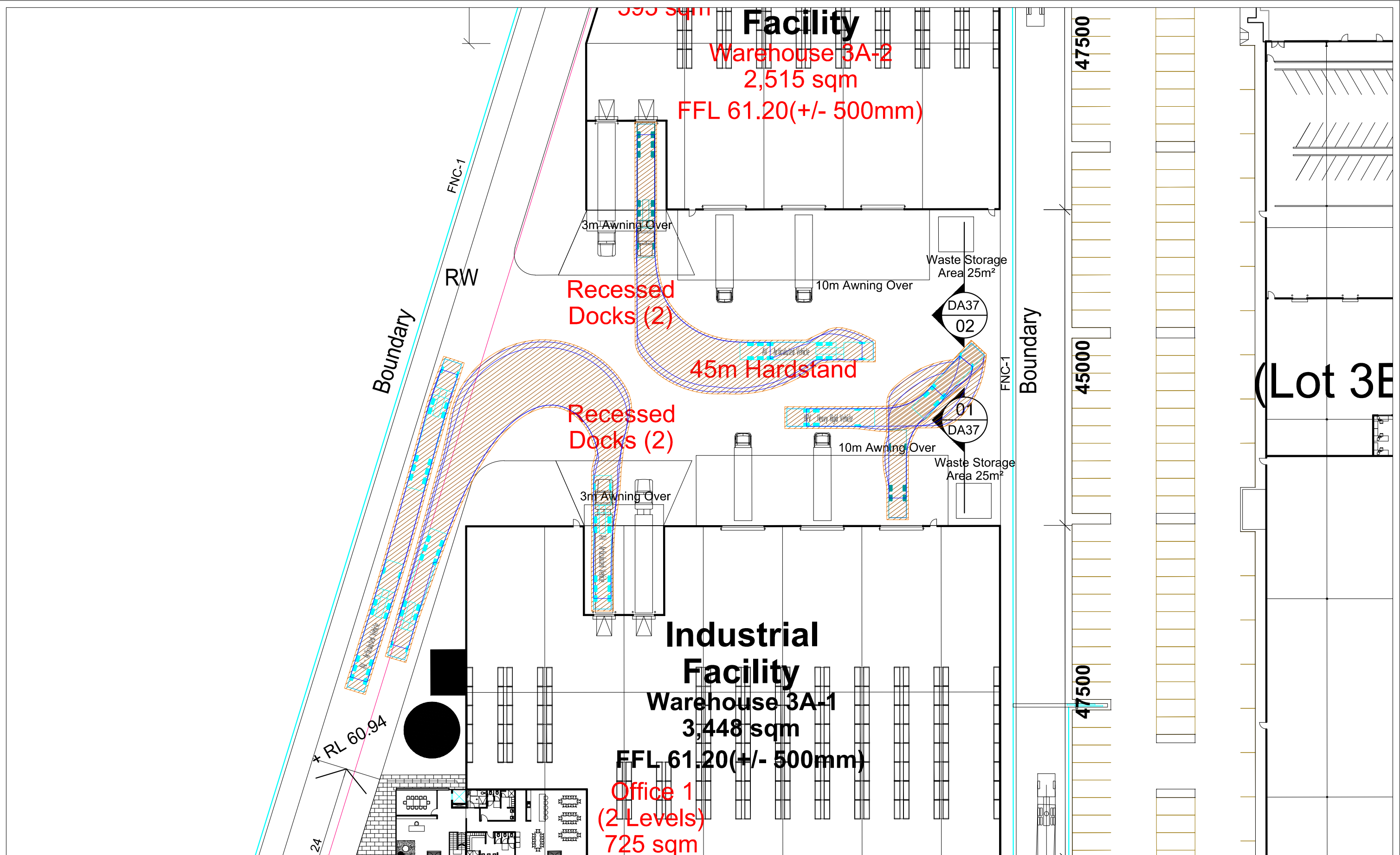
Attachment B



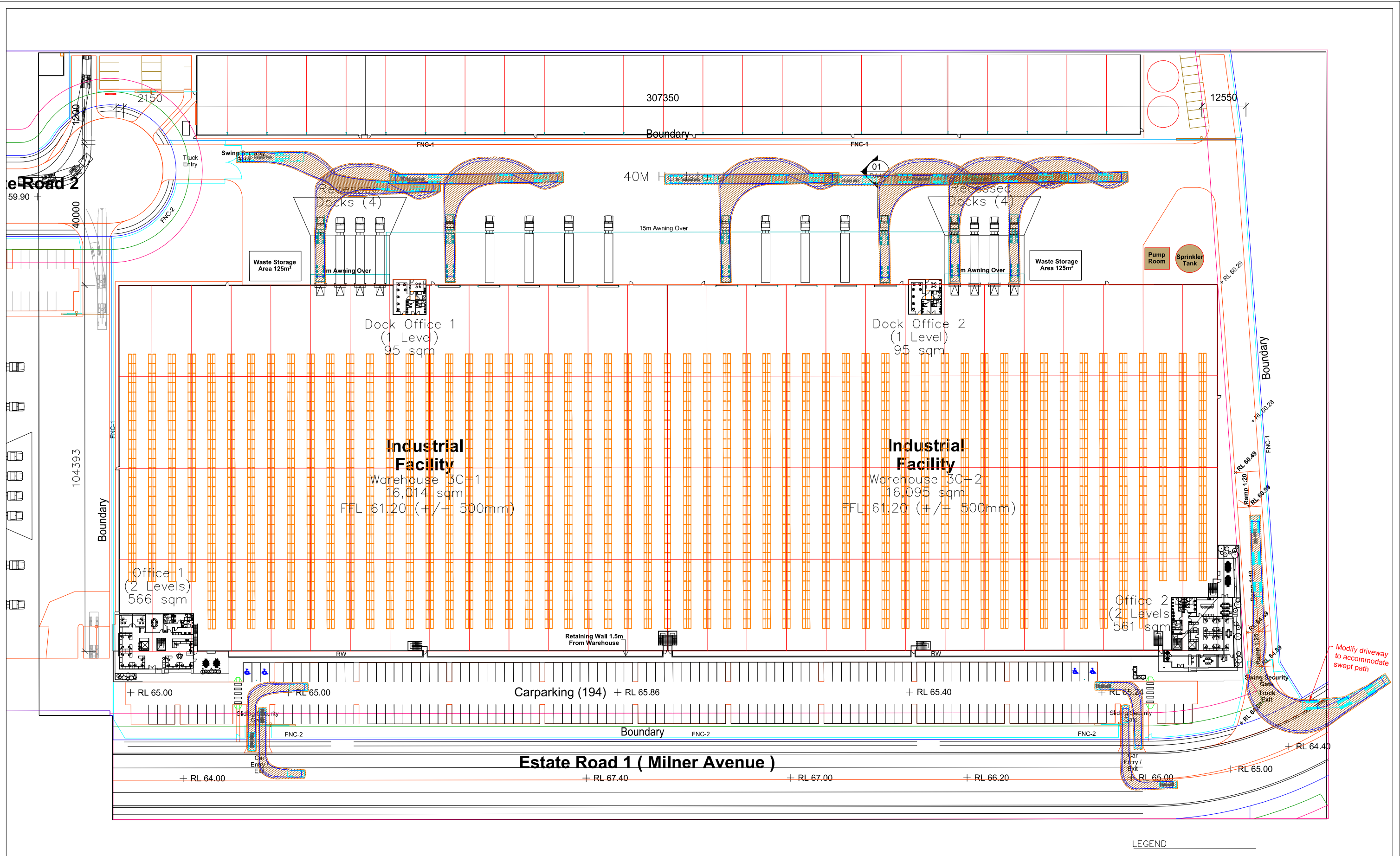
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Rev:	Date:	Notes:	KH		0154 Lot 3A, Oakdale Central		2 March 2016		
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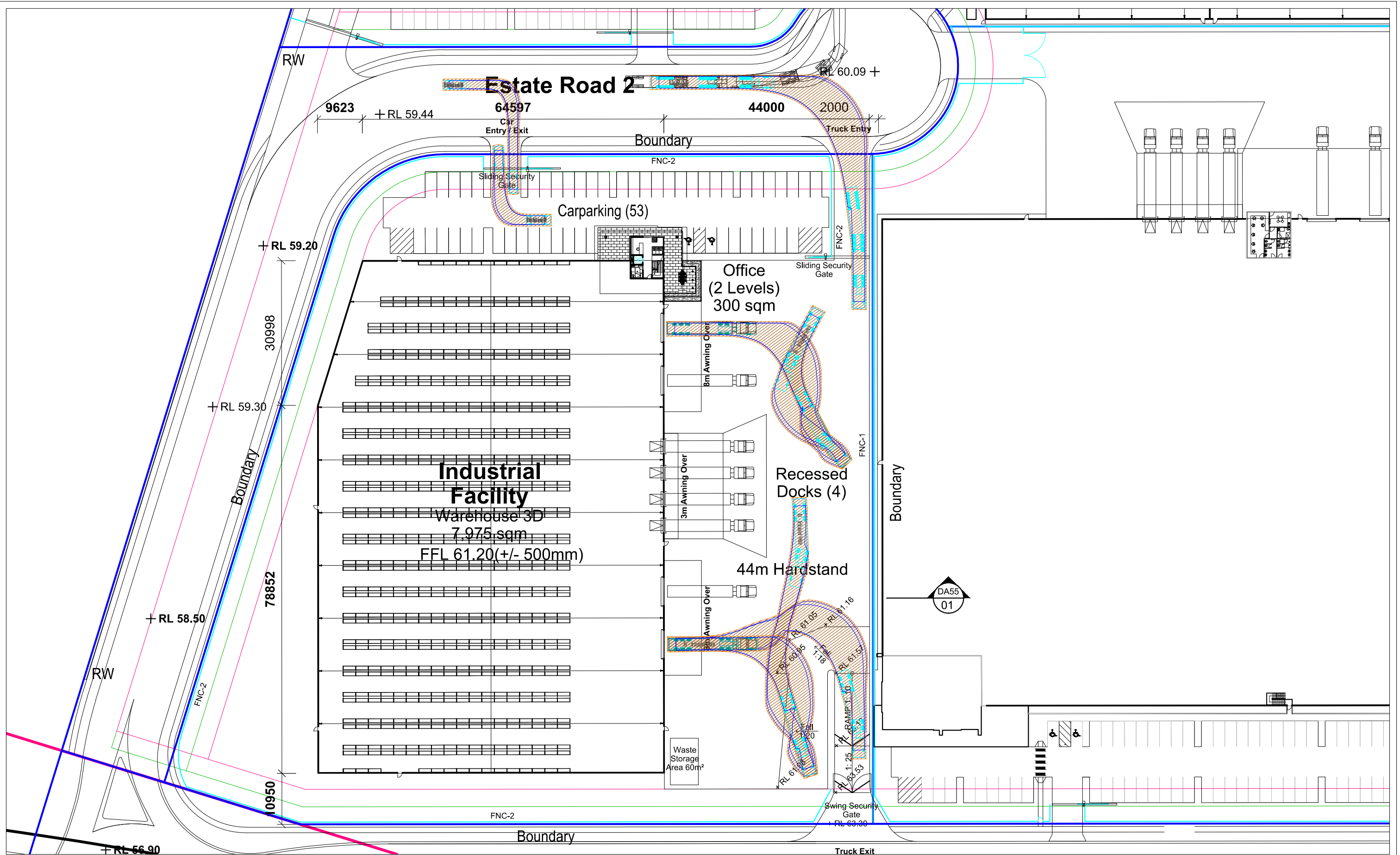
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Rev:	Date:	Notes:	KH		0154 Lot 3A, Oakdale Central		2 March 2016			
			Client:		Drawing Title:		Scale @ A3:			
			Goodman Property Services		Swept Path Analysis - Warehouse 2 Movements		1:500			
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Rev:	Date:	Notes:	KH		0154 Lot 3A, Oakdale Central		2 March 2016		
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Drawn By:

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Lot 3D, Oakdale Central

Date:

2 March 2016

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Revision:

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Client:

Goodman Property Services

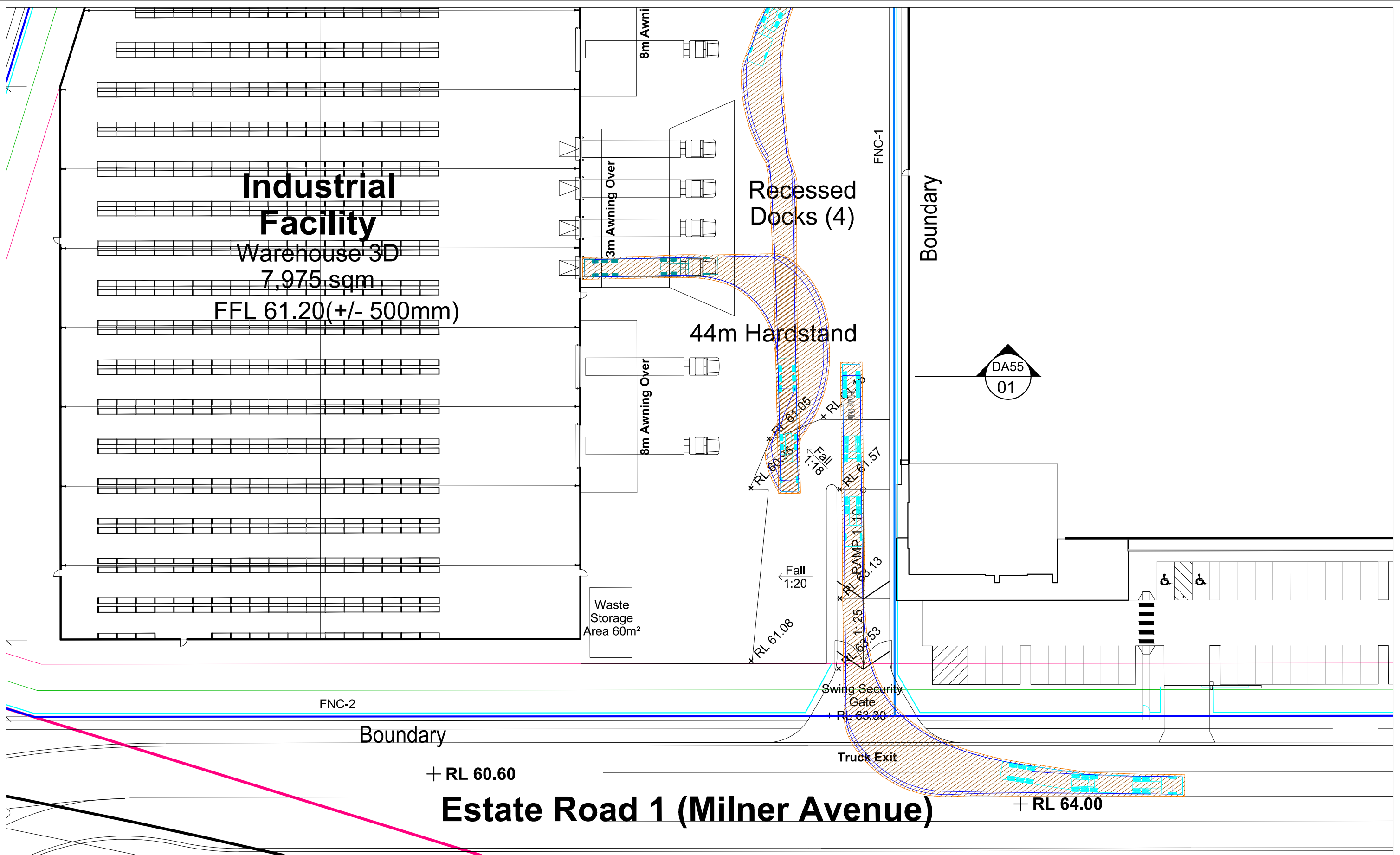
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Swept Path Analysis - Critical Movements 1

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