



Transport Assessment

Yiribana Logistics Estate West

771-797 Mamre Road, Kemps Creek

27/01/2023

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contents

Glossary

1	Introduction	1
1.1	Overview	1
1.2	Mamre Road Precinct Road Network Requirements	1
1.3	Key References	2
2	Summary of Proposal	3
2.1	Overview	3
2.2	Access Arrangements	4
3	Site Context	5
3.1	Subject Site	5
3.2	Road Network	7
3.3	Existing Traffic Flows	7
3.4	Public Transport	9
3.5	Active Transport	13
3.6	Journey to Work Data Analysis	13
4	Mamre Road Precinct Rezoning	15
4.1	Overview	15
4.2	Mamre Road Upgrade	17
4.3	Mamre Road Development Control Plan	20
5	Traffic Impact Assessment	23
5.1	Assessment Methodology	23
5.2	Proposed Traffic Generation Assessment	23
5.3	Proposal Traffic Generation	25
5.4	Traffic Assessment – Ultimate Road Network	25
5.5	Interim Modelling Assessment	26
5.6	Base Intersection Operations	30
5.7	Development Traffic Impact	31
5.8	Cumulative Assessment	32
5.9	Traffic Analysis Summary	33
6	Parking Requirements	34
6.1	Precinct Car Parking Rates	34
6.2	Parking Requirements & Provision	34
6.3	Bicycle Parking	35
7	Design Review	36
7.1	Relevant Design Standards	36
7.2	Design Vehicle	36

7.3	Access Driveways	36
7.4	Parking Areas	37
7.5	Services Areas	37
8	Summary and Conclusions	38
8.1	Summary	38
8.2	Conclusions	39

contents continued

Figures

Figure 1: Proposed Masterplan	3
Figure 2: "The Yards" Approved Development	4
Figure 3: Site Location & Road Hierarchy	6
Figure 4: Existing Baseline Traffic Flows – AM Peak	8
Figure 5: Existing Baseline Traffic Flows - PM Peak	8
Figure 6: Public & Active Transport Network	10
Figure 7: Sydney Metro - Western Sydney Airport line alignment	12
Figure 8: Travel Mode Share	14
Figure 9: Mamre Road Precinct Structure Plan	16
Figure 10: Proposed Mamre Road Design	18
Figure 11: Approved Bakers Lane / Mamre Road Intersection	19
Figure 12: Mamre Road / Aspect Industrial Estate Road 1 Proposed Intersection	20
Figure 13: DCP Precinct Road Network	21
Figure 14: MRP DCP Typical Local Industrial Road	22
Figure 15: MRP DCP Typical Collector Industrial Road	22
Figure 16: Revised intersection layout - Mamre Road / AIE site access	28
Figure 17: Bakers Lane Sequence 1A approved intersection	29

Tables

Table 1: Key Road Network	7
Table 2: TfNSW Trip Rates	24
Table 3: Surveyed Trip Rates – Warehouse Development	24
Table 4: Development Traffic Generation	25
Table 5: Development Traffic Vehicle Split	26
Table 6: SIDRA Level of Service Criteria	27
Table 7: 2026 Base Case – SIDRA Results	30
Table 8: 2031 Base Case – SIDRA Results	30
Table 9: 2026 Base Case v.s. Project Case	31
Table 10: 2031 Base Case v.s. Project Case	31
Table 11: 2026 Cumulative Assessment – SIDRA Results	32
Table 12: 2031 Cumulative Assessment – SIDRA Results	32
Table 15: DCP car Parking Rates	34
Table 16: Car Parking Requirements and Provision	34
Table 17: DCP bicycle Parking Rates	35
Table 18: MRP DCP Eot Rates	35

APPENDICES

Appendix A. Hourly Traffic Generation

Appendix B. Traffic Flow Diagrams

Appendix C. SIDRA Outputs

Appendix D. Design Review

Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Council	Penrith City Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
FSR	Floor space ratio
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Modification / Section 4.55 Modification (also referred as a S4.55)
MRP	Mamre Road Precinct
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Overview

Ason Group has been engaged by The GPT Group to prepare a Transport Assessment (TA) supporting the Development Application (DA) for an industrial development proposal. The application relates to development of 2 warehouses, located on the eastern portion of the wider site located at 771-797 Mamre Road, Kemps Creek (the Site).

The Site is located to the west of Mamre Road and lies within the Mamre Road Precinct (the MRP). The NSW Department of Planning and Environment (DPE) rezoned the MRP in June 2020. The Site is zoned as IN1 – *General Industrial*, RE1 – *Public Recreation*, SP2 – *Infrastructure* and ENZ – *Environment and Recreation*.

The MRP Structure Plan was finalised in June 2020, followed by the adoption of the MRP Development Control Plan (MRP DCP) on the 19 November 2021.

1.2 Mamre Road Precinct Road Network Requirements

1.2.1 Strategic Road Network Requirements

The background traffic modelling to identify the required road network layout to facilitate the development of the MRP, whilst accommodating the wider background traffic growth associated with the development of Western Sydney, was finalised in late 2021. The results of this modelling assessment have underpinned the road network layout detailed within the MRP DCP.

Ason Group worked with DPE and Transport for New South Wales (TfNSW) collectively, to deliver this assessment (herein referred to as the MRP modelling assessment).

Therefore, a key purpose of this report is to ensure that the Proposal remains consistent with the assumptions that have informed the MRP modelling assessment, which was undertaken for the future assessment years of 2031 and 2036.

As such, the key forecast years for assessment of the Proposal is 2026 and 2031.

1.2.2 Interim Intersection Requirements

While the MRP DCP identifies the ultimate road network (by 2036), no staging strategy has been identified which allows for the initial stages of development in the interim period, prior to delivery of the ultimate road network.

Therefore, a number of landowners within the MRP who have significant land holdings, are working collectively to identify and deliver interim road upgrades to facilitate the initial stages of development, while TfNSW and / or Council delivers the ultimate requirements. Further details are provided in Section 4 on the intersection upgrades being proposed as part of other SSDs in the MRP. Section 5 details the traffic generated from approved and proposed developments surrounding the Site.

1.3 Key References

As discussed, the Site lies within the MRP; as such, Ason Group has referenced the MRP DCP as it provides the overarching controls for the Site and the wider Precinct:

- DPE, Western Sydney Employment Area, Mamre Road precinct, Development Control Plan, November 2021 (MRP DCP).

Further to the above, the Site lies within the Penrith City Council Local Government Area (LGA); as such, Ason Group has referenced the following key Council controls in preparing this TA:

- Penrith City Council Local Environmental Plan 2010 (Penrith LEP).
- Penrith City Council Development Control Plan 2014 (Penrith DCP).

Ason Group has also referenced the following additional policies and guidelines relevant to the assessment of the Proposal:

- TfNSW (formerly Roads Traffic Authority) Guide to Traffic Generating Developments 2002 (RTA Guide).
- TfNSW (formerly Roads and Maritime Services) Guide to Traffic Generating Developments Updated Traffic Surveys, August 2013 (RMS Guide Update).
- Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments, 2020.
- State Environmental Planning Policy (Precincts—Western Parkland City) 2021.
- 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)
- Australian Standard 2890.3:2015: Parking Facilities – Bicycle Parking (AS 2890.3:2015).
- Australian Standard 2890.6:2009 Parking Facilities – Off Street Parking for People with Disabilities (AS 2890.6:2009).

Finally, Ason Group has specifically referenced the most recent assessment available in regard to the recent rezoning of the MRP, including:

- NSW Government Mamre Road Precinct Rezoning Exhibition Discussion Paper, November 2019 (MRP Rezoning Paper).
- NSW Government Mamre Road Precinct Rezoning Finalisation Report, June 2020 (MRP Finalisation Report).
- Roads & Maritime Mamre Road Upgrades Kerrs Road to M4 Motorway, November 2017 (MR Upgrade Report).
- Roads & Maritime Mamre Road Upgrade Community Consultation Report May 2019 (MR Upgrade CC Report).
- AECOM Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report, October 2020 (AECOM Report).

2.2 Access Arrangements

Access is proposed to be in accordance with the MRP DCP (see Section 4.3), with the Proposal including the north-south collector road which traverses through the Site. The approved development (SSD-95226¹, referred to as "The Yards") to the north of the Site (at 657-769 Mamre Road) is currently being constructed. Therefore, access to the wider network will be via the connection north, through The Yards site, and the Mamre Road / Bakers Lane intersection.

The relevant Masterplan for The Yards is provided as **Figure 2**.

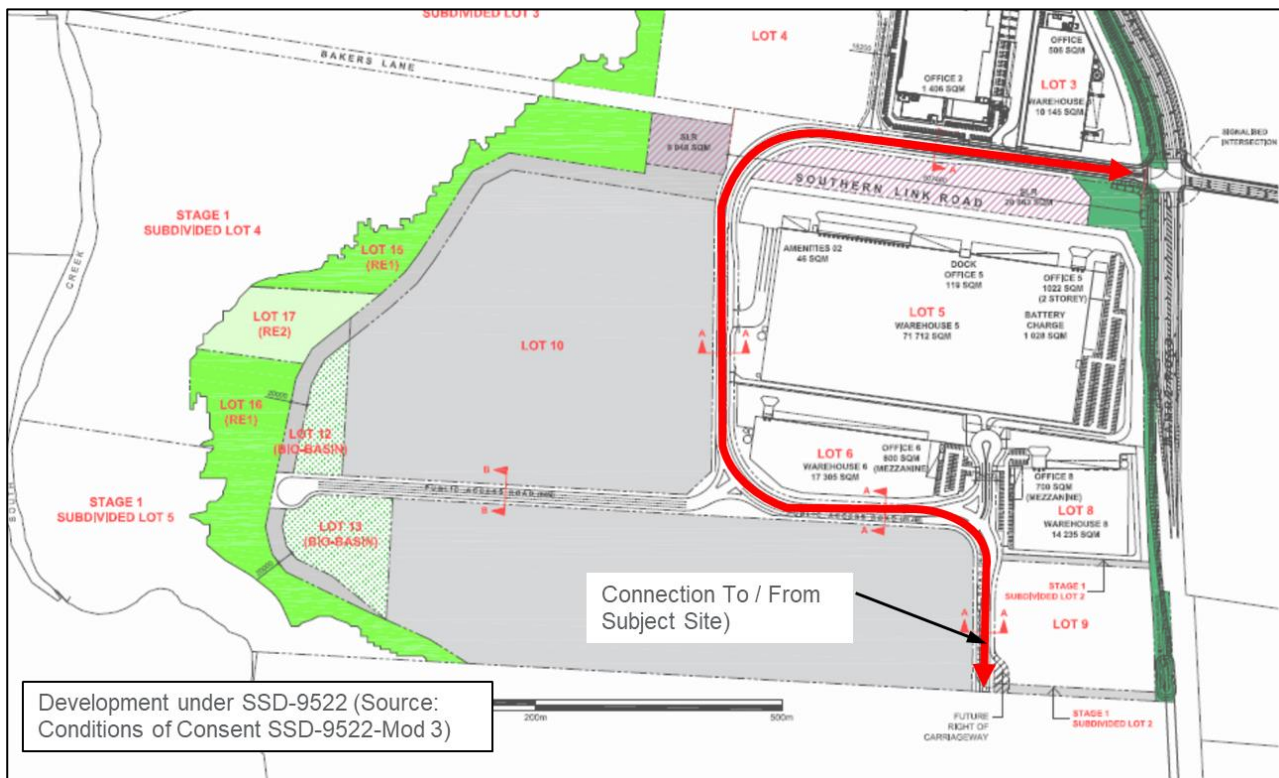


Figure 2: "The Yards" Approved Development

¹ <https://pp.planningportal.nsw.gov.au/major-projects/projects/kemps-creek-warehouse-logistics-and-industrial-facilities-hub>

3 Site Context

3.1 Subject Site

The Site is legally known as Lot 23-24 in DP 258414. It has some 280m of direct frontage to Mamre Road and comprises a total area of approximately 38.4 hectares.

The Site is located approximately 4km north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 12km south-east of the Penrith CBD and 40km west of the Sydney CBD. It is located at 771-797 Mamre Road, Kemps Creek.

The Site is shown in its sub-regional context in **Figure 3** as well as the broader MRP area in which it lies.

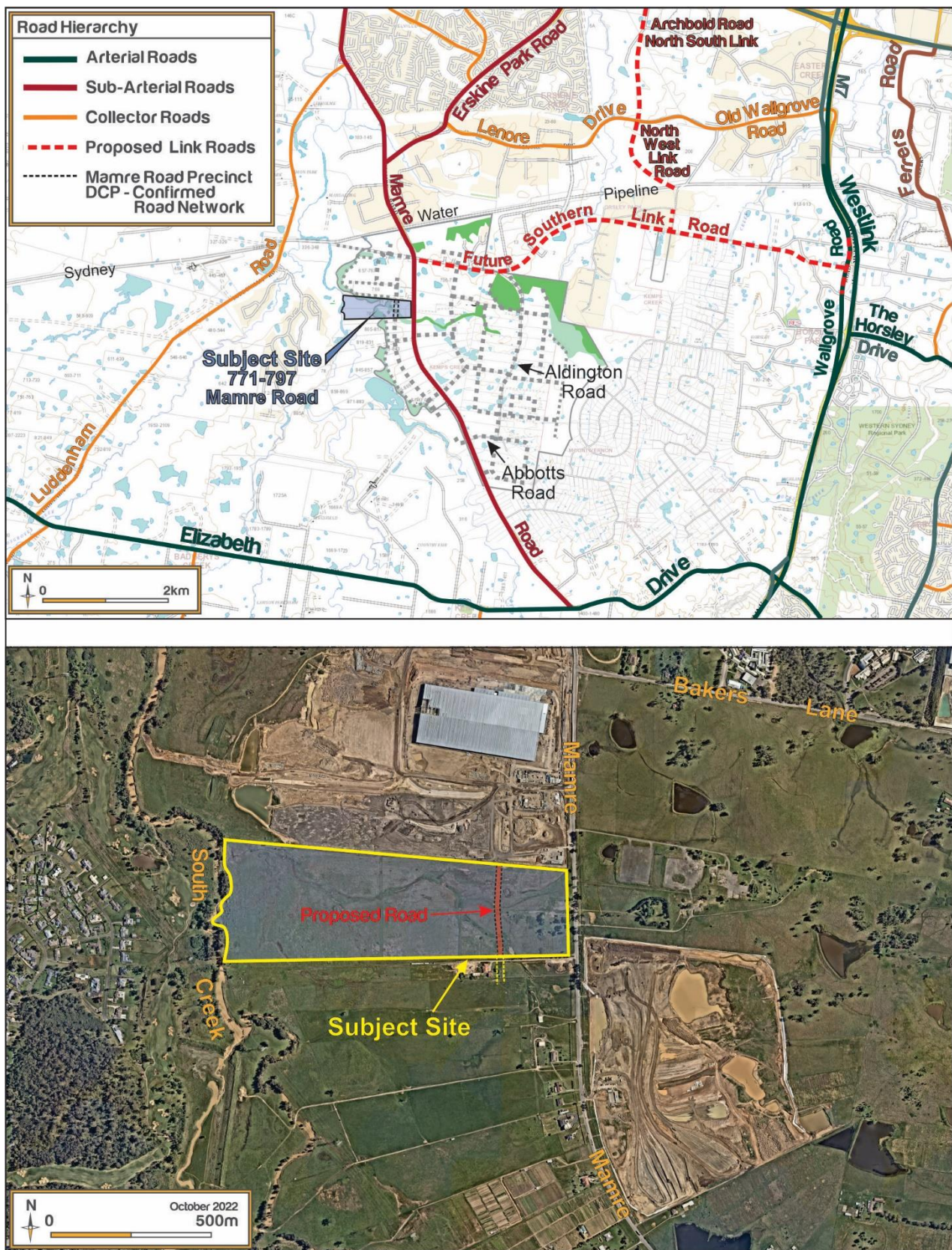





Figure 3: Site Location & Road Hierarchy

3.2 Road Network

The existing road network providing access to the Site is shown in Figure 3, and detailed further below:

TABLE 1: KEY ROAD NETWORK

Road	Description	Typical Road Characteristics
Mamre Road	<p>An arterial road which runs north-south between the Great Western Highway and M4, and Elizabeth Drive respectively.</p> <p>In the vicinity of the Site, Mamre Road has a posted speed limit of 80km/h.</p>	
Aldington Road	<p>A local access that runs north-south (to the east of Mamre Road) and currently provides access for a number of rural residential properties. It connects with Bakers Lane to the north and Abbots Road to the south.</p> <p>It provides 1 traffic lane in each direction and has a posted speed limit of 80km/h.</p>	
Bakers Lane	<p>A local access that runs east-west (to the east of Mamre Road) and currently provides access for a number of rural residential, educational and retirement sites.</p> <p>It provides 1 traffic lane in each direction and has a posted speed limit of 60km/h.</p>	

3.3 Existing Traffic Flows

Ason Group conducted AM and PM peak period traffic surveys in Mamre Road south of Bakers Lane in 2022. **Figure 4** and **Figure 5** provide the baseline (2022) turning movements at the Mamre Road / Bakers Lane intersection as per the survey data.

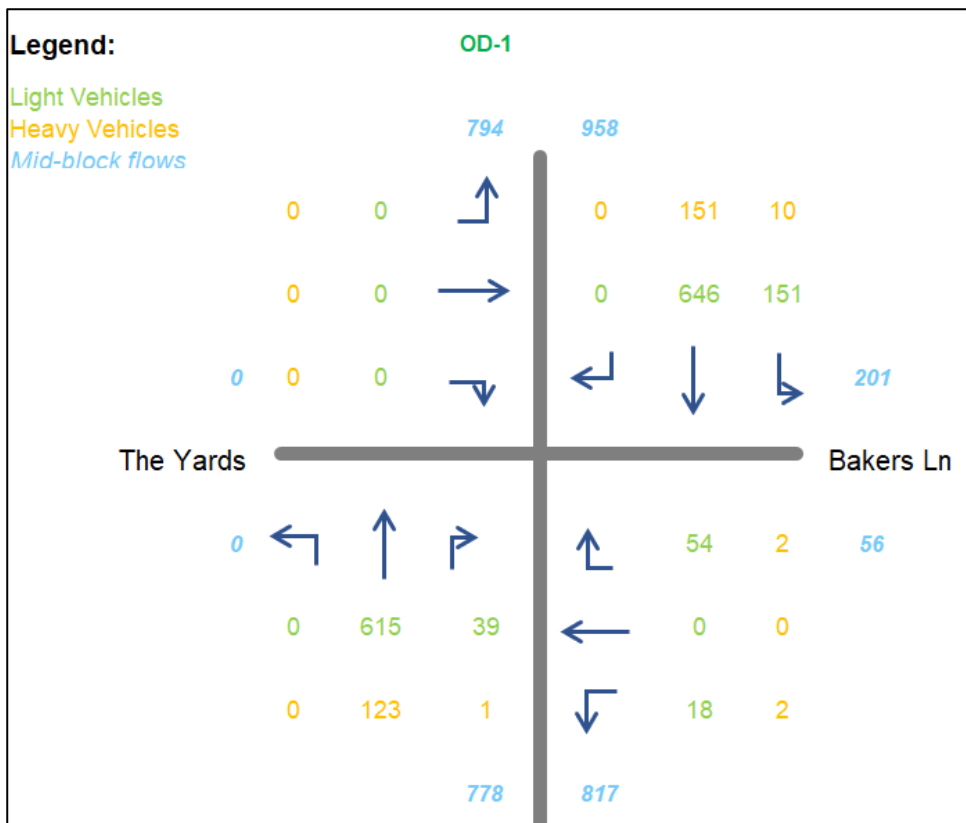


Figure 4: Existing Baseline Traffic Flows – AM Peak

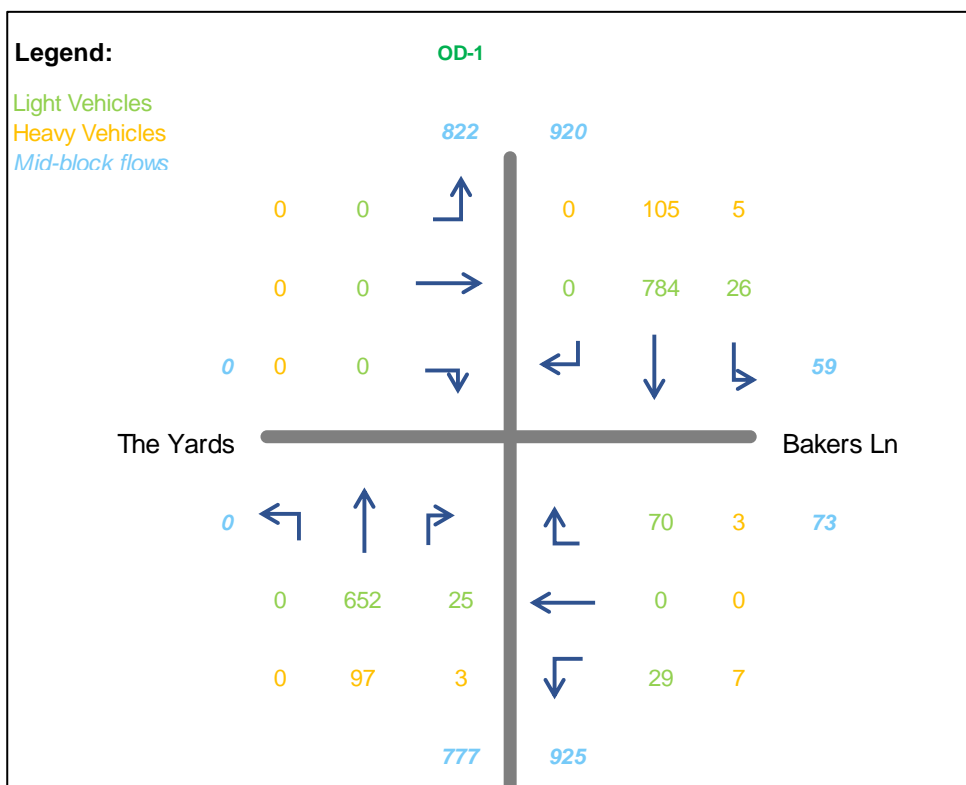


Figure 5: Existing Baseline Traffic Flows - PM Peak

3.4 Public Transport

3.4.1 Existing Bus Services

Currently, limited public transport services are available within the MRP. The Site's proximity to public transport is shown in **Figure 6**, which demonstrates the locations and distances to bus and railway services surrounding the Site.

The *Integrated Public Transport Service Planning Guidelines* states that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. As shown in Figure 6, limited bus services are currently available within the vicinity of the Site and no bus stops are within 400 metres walking distance to the Site.

Therefore, establishment of public transport services as early as possible in the development stages of the MRP is important to achieve a culture of public transport use from the outset.

3.4.2 Existing Train Services

At present there are no rail services in the vicinity of the Site, with the closest train station to the Site being St Marys, which is approximately 9km north of the Site.

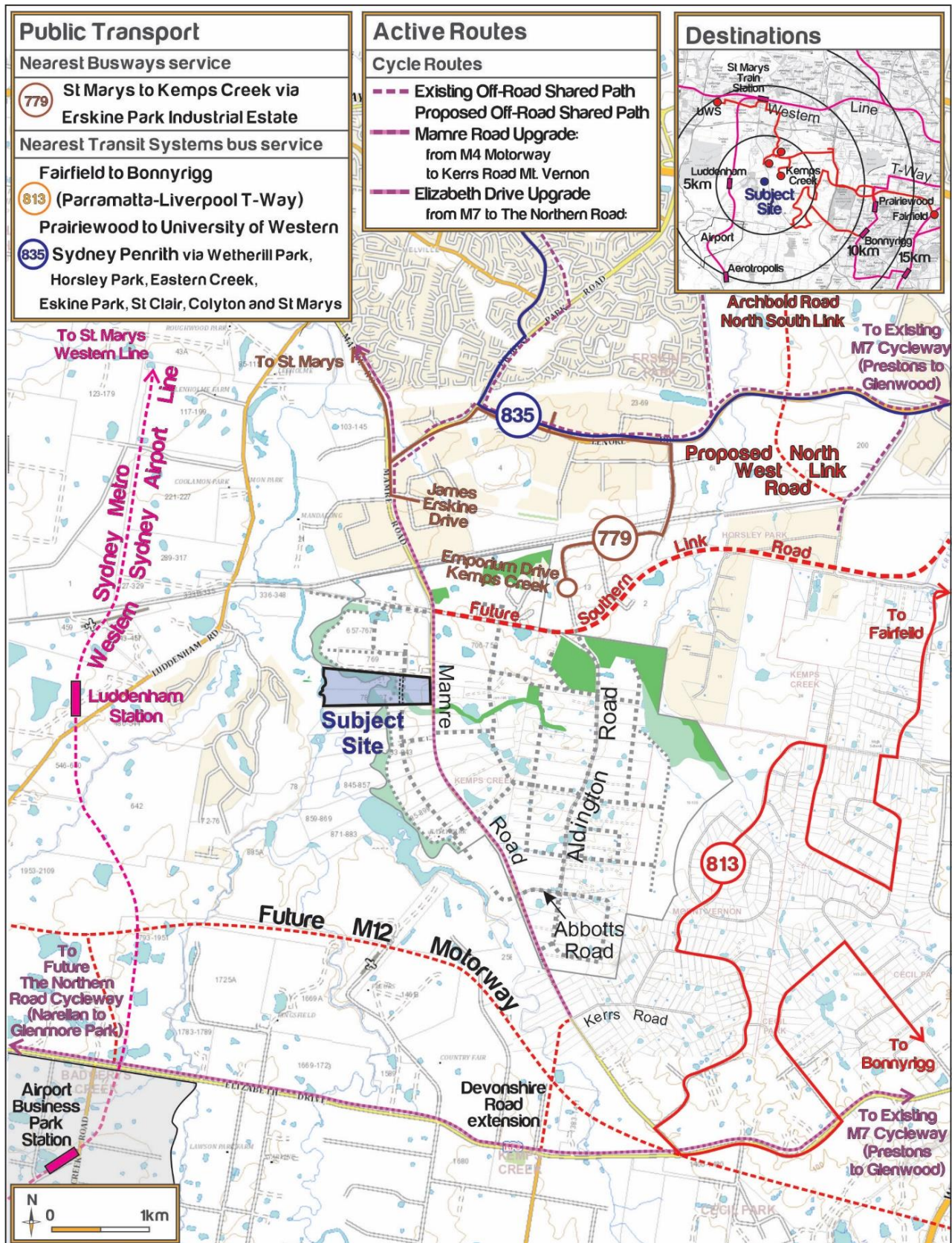


Figure 6: Public & Active Transport Network

3.4.3 Future Public Transport Opportunities

The Sydney Metro – Western Sydney Airport line is a planned 23-kilometre passenger railway providing six metro stations between St Marys and Western Sydney Aerotropolis, including two stations within the future Western Sydney International Airport site.

The Sydney Metro – Western Sydney Airport project has received planning approval from the Australian and NSW Governments. Construction works started in 2020, with major construction including station excavation set to start in late 2022. The Australian and State governments have a shared objective of having the line operational when Western Sydney International Airport opens for passenger services.

The confirmed station locations and project alignment are demonstrated in **Figure 7** below.

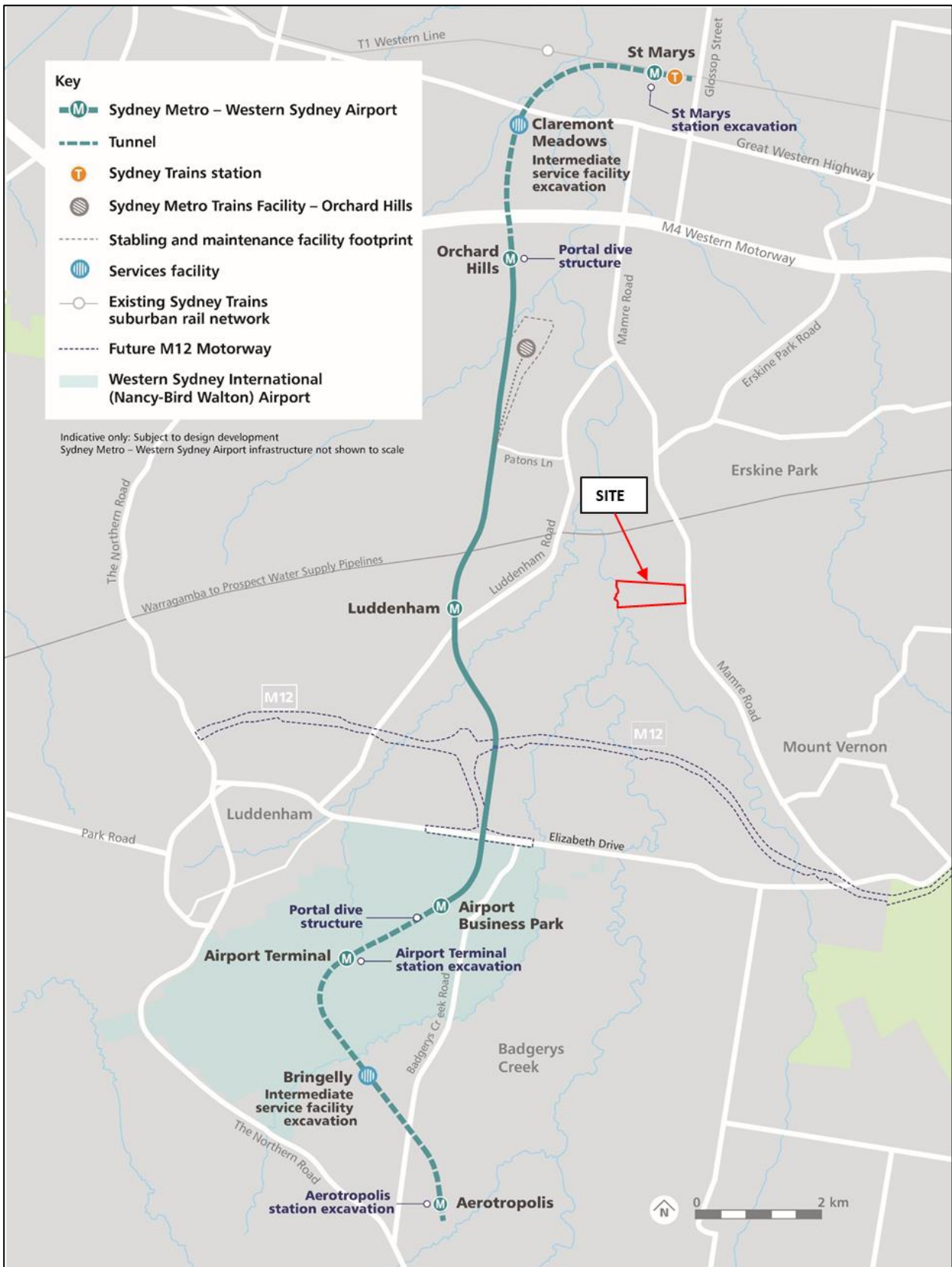


Figure 7: Sydney Metro - Western Sydney Airport line alignment

3.5 Active Transport

Currently, limited pedestrian infrastructure is available surrounding the Site due to the largely undeveloped nature of the land immediately surrounding the Site. Similarly, there is little cycling infrastructure available within the MRP, the closest shared path (pedestrian and cycle path) is provided along Erskine Park Road and sections of Mamre Road to the north of the Site. Existing and proposed active transport infrastructure within vicinity of the Site is demonstrated in Figure 6.

It is noted that key pedestrian desire lines in the vicinity of the Site would be triggered by connections to future public transport infrastructure, nothing the nature of the area being largely industrial and therefore not representing key destinations and attractions for people to walk to.

It is noted that the upgraded Mamre Road will include shared cycle pedestrian pathways along its length. Further, MRP DCP requires internal roads to provide a footpath of 1.5m on one side (minimum) and shared path of 2.5m (minimum) on the opposing side of the road. It also requires roads to be provided with shared cycle and footpaths.

3.6 Journey to Work Data Analysis

Journey-to-Work (JTW) data from the Australian Bureau of Statistics (ABS) 2016 Census and specifically aggregated Destination Zones (DZ) have been referenced to understand the baseline travel characteristics of the Site.

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the surrounding Destination Zone 115184206, within the Horsley Park – Kemps Creek statistical area.

The travel modes are presented in **Figure 8**.

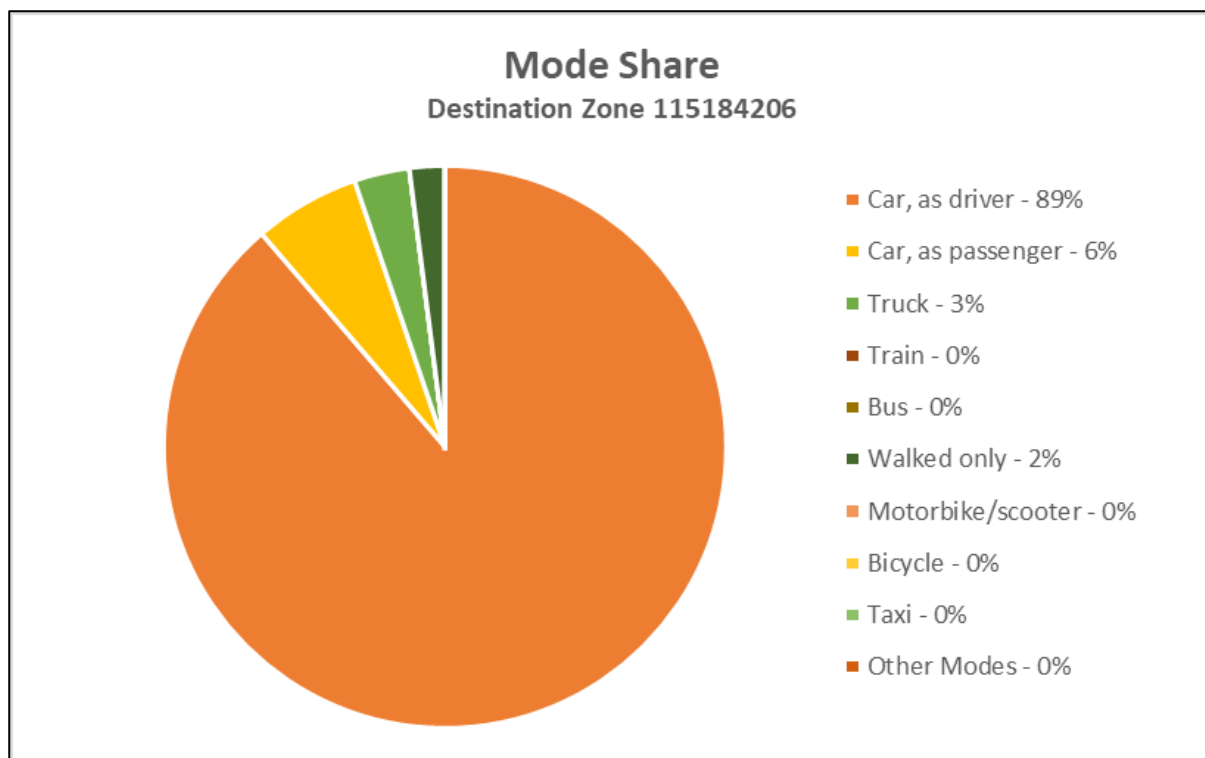


Figure 8: Travel Mode Share

With reference to Figure 8, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in the area. The data indicates that 95% travel to work by car with 89% as the driver and 6% as passenger i.e. car-pooling.

This is reflective of the current nature of the area, which accommodates rural residential properties and agricultural businesses only. However, noting the future land use of the Site as industrial in nature, it is expected that the JTW data accurately reflects the current trends for travel to places of work at industrial sites.

The RMS Guide Update provides details in relation to the principal mode of travel used by staff at the Erskine Park and Eastern Creek warehouses surveyed by TfNSW. These surveys indicate that 90% of all workers would travel via private vehicles, with 8% travelling as passengers. Therefore, the existing census data is reflective of existing travel trends for industrial development.

4 Mamre Road Precinct Rezoning

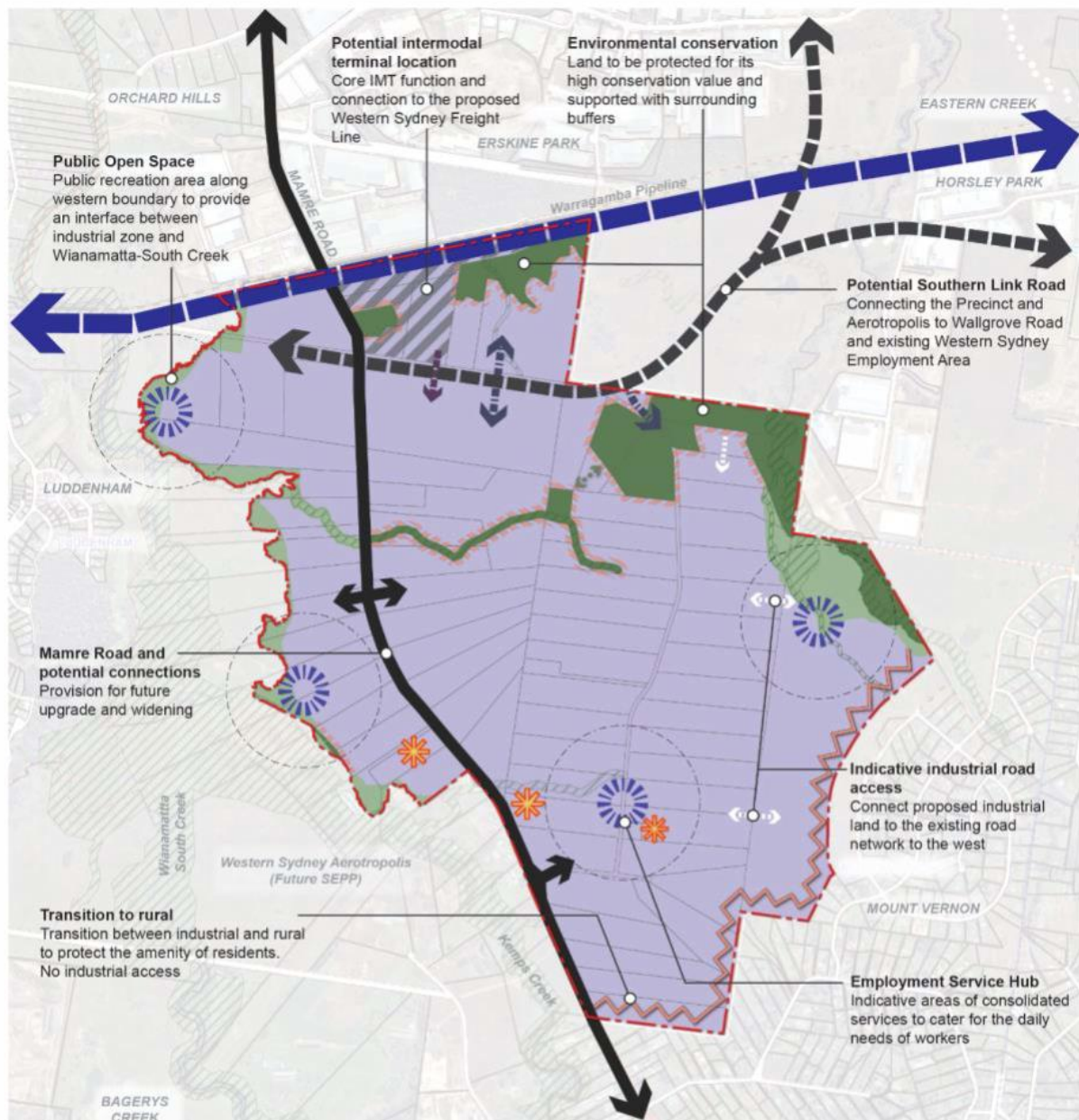
4.1 Overview

In June 2020, the NSW Government rezoned MRP from rural uses to IN1 General Industrial. In summary, the rezoning was intended to:

- Respond to the demand for industrial land in Western Sydney, as well as the future freight, logistics and industrial needs of Greater Sydney.
- Facilitate the NSW Government's vision for the Western Parkland City.
- Facilitate the opportunities provided for a 30-minute city as detailed in the Western City District Plan.

The rezoning is anticipated to provide approximately 850 hectares of industrial land with an approximate capacity of 17,000 jobs, and the creation of new environmental conservation areas and public open space.

The Mamre Road Precinct Structure Plan (the MRP Structure Plan) is shown in **Figure 9**.



Structure Plan

	Precinct boundary		Mamre Road and potential connections		Transition to rural
	Cadastral boundaries		Potential Southern Link Road		Transition to Environmental Conservation
	Industrial		Potential road access		Local heritage items
	Environmental conservation		Potential freight connection to precinct		Indicative employment service hub (with 400m catchment)
	Open space		Indicative road access		Opportunity for ecological corridor
	Potential intermodal terminal		Indicative riparian buffers		
	Proposed Western Sydney Freight Line				

Figure 9: Mamre Road Precinct Structure Plan

4.2 Mamre Road Upgrade

4.2.1 Overview

The NSW Government started early planning for the future upgrade of a 10km section of Mamre Road between the M4 Motorway and Kerrs Road in 2017. A \$248 million funding has been committed to Mamre Road upgrade between the M4 Motorway, St Clair and Erskine Park Road, Erskine Park (Stage 1 upgrade). Stage 2 of the upgrades from Erskine Park Road to Kerrs Road is subject to funding.

The objectives of the upgrade are stated as:

- Meeting the future transport demand associated with the Western Sydney Priority Growth Area and the Western Sydney Airport at Badgerys Creek;
- Reducing future road transport costs by improving corridor performance;
- Improving liveability and sustainability and support economic growth and productivity by providing road capacity for projected freight and general traffic volumes;
- Improving road safety in line with the NSW Road Safety Strategy;
- Improving quality of service, sustainability and liveability by providing facilities for walking and cycling and future public transport needs;
- Delivering good urban design outcomes; and
- Minimising environmental and community impacts.

The project is currently in detailed design stage.

4.2.2 Mamre Road Upgrade Design Component

The Mamre Road Upgrade provides for the following key infrastructure proposals:

- **A typical cross section** that includes:
 - 2 traffic lanes in each direction with a wide central median between the M4 Motorway and Kerrs Road;
 - Provisions for the central median to provide third traffic lane in each direction to meet growing demand; and
 - Shared bicycle and pedestrian paths to promote active transport.
- New or upgraded intersections

The broader Mamre Road proposal (per the MR Upgrade Report) is shown in **Figure 10**.

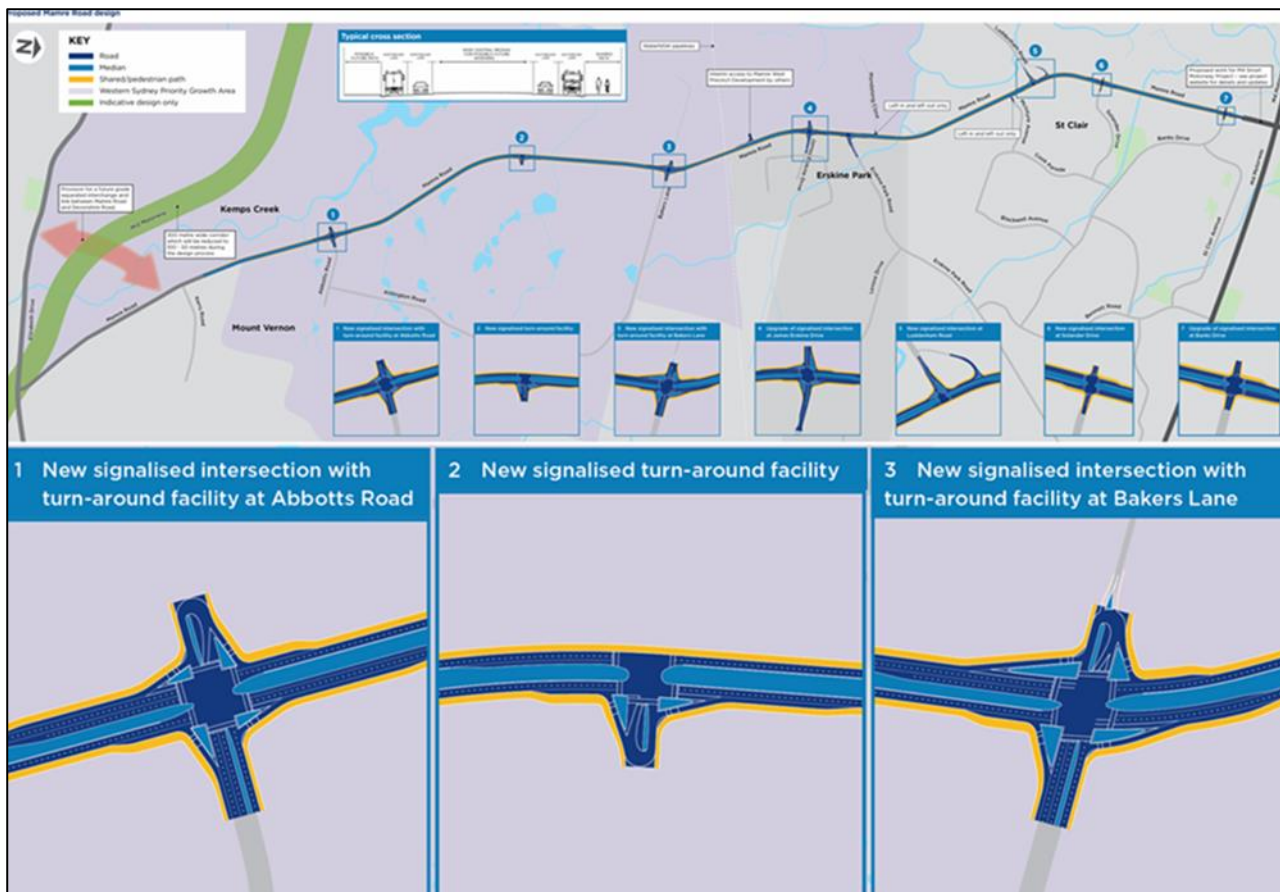


Figure 10: Proposed Mamre Road Design

Source: Mamre Road Upgrade Report

4.2.3 Mamre Road / Bakers Lane Intersection

The ultimate future signalised intersection capacity requirements at the Bakers Lane intersections with Mamre Road have been identified as part of the MRP modelling assessment process.

While the capacity requirements have been determined as part of the MRP modelling assessment for the future years of 2031 and 2036 (which has been confirmed as part of the finalisation of the MRP DCP), it is not currently understood what the finalised design will be (subject to TfNSW design development).

The approved development located at 657-769 Mamre Road ("The Yards") includes a requirement to upgrade the Mamre Road / Bakers Lane intersection by 2025, in advance of the delivery of the ultimate intersection. It is noted that this will form a key intersection for the MRP.

The approved intersection design, to be delivered by 2025, is reproduced in **Figure 11**.

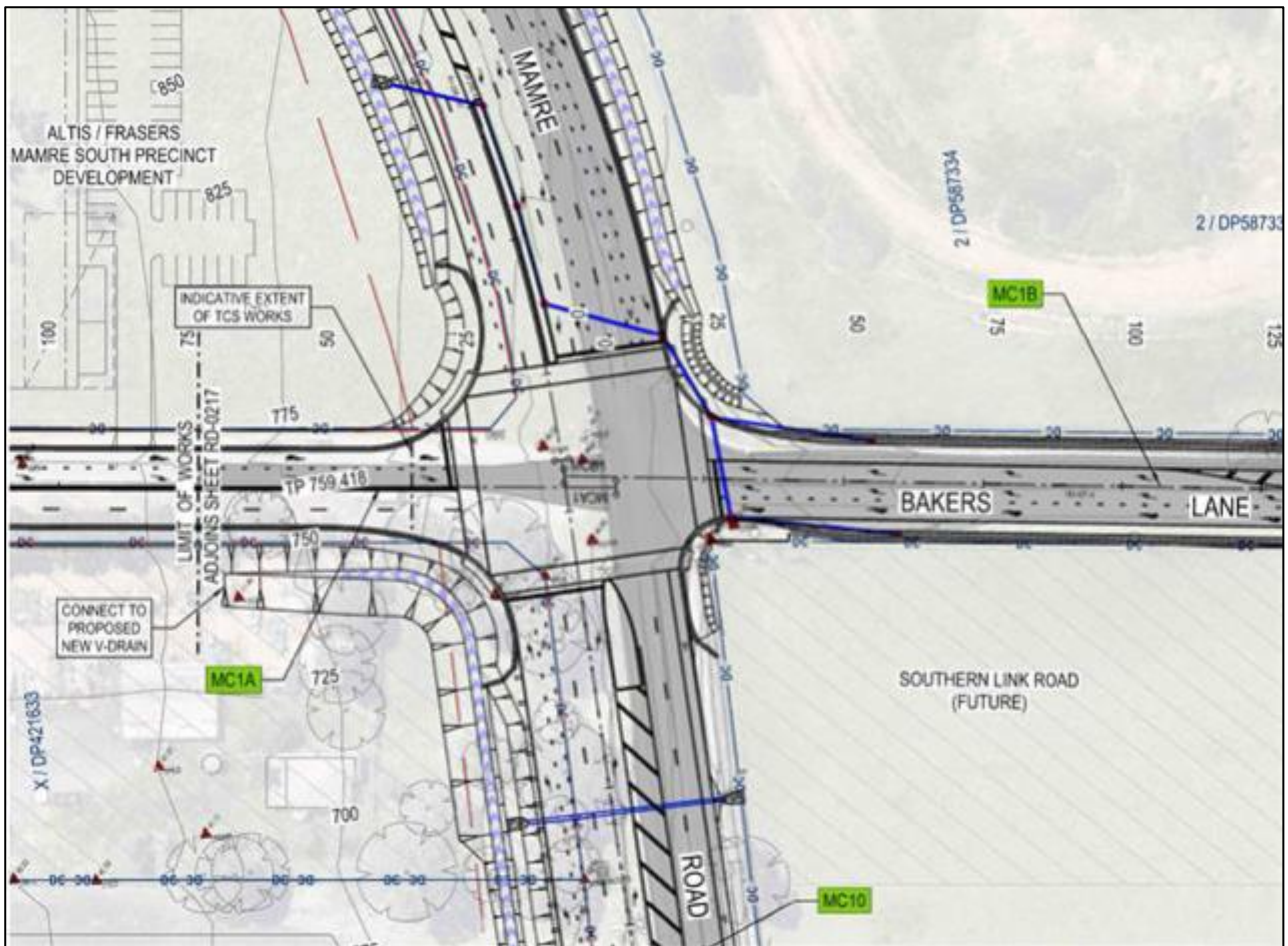


Figure 11: Approved Bakers Lane / Mamre Road Intersection

4.2.4 Mamre Road / Aspect Industrial Estate Intersection

The MR Upgrade Report indicates a future signalised intersection at the development site across Mamre Road adjacent to the south-eastern boundary of the Estate. This site is being considered under SSD-10448² and is currently known as the Aspect Industrial Estate (AIE). The intersection forms a key connection with Mamre Road for the sites along its eastern boundary and will be a key long-term connection from Mamre Road to the internal MRP road network, which requires access via the AIE.

Further to the layout shown by Figure 10, it is noted that there is a current proposed design for the intersection (under SSD-10448). The current design for this intersection, as per SSD-10448 is reproduced in **Figure 12**.

² <https://www.planningportal.nsw.gov.au/major-projects/projects/aspect-industrial-estate>

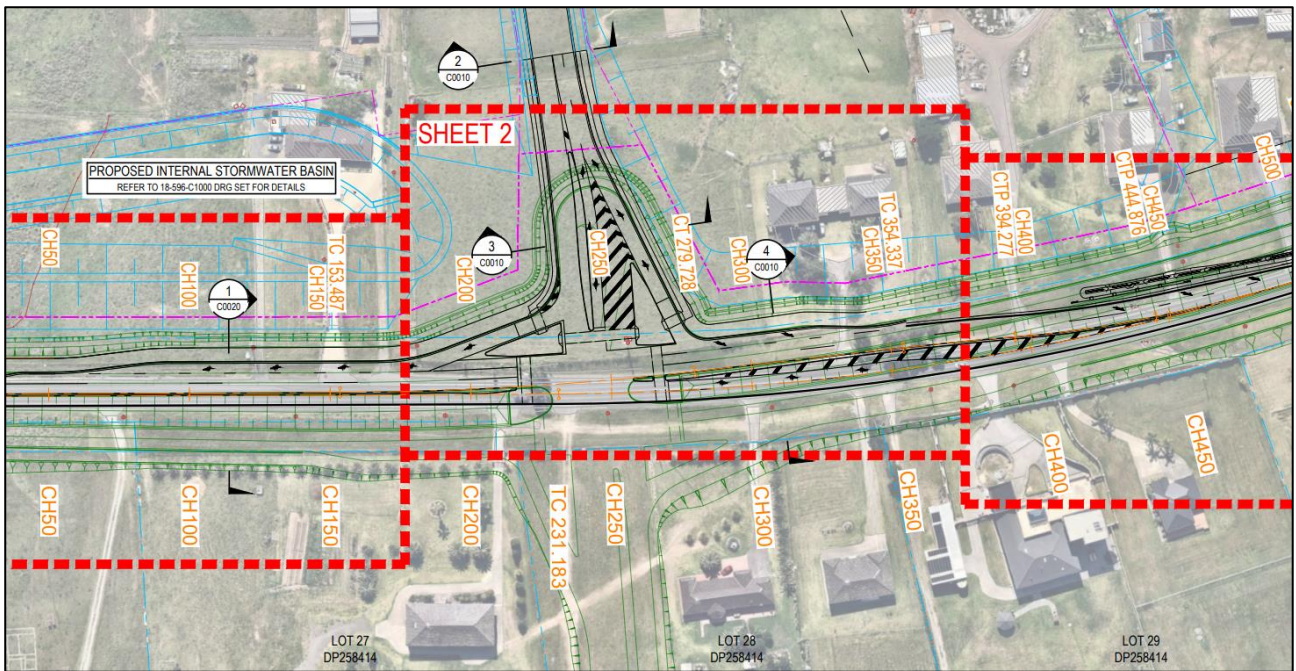


Figure 12: Mamre Road / Aspect Industrial Estate Road 1 Proposed Intersection

4.3 Mamre Road Development Control Plan

The finalised MRP DCP provides for the planning controls for future development in the MRP including building design controls, the road network and parking requirements. The road network outlined within the MRP DCP is shown in **Figure 13**, which provides context to the configuration of MRP roads and confirms a north-south connection through the Site as a collector industrial road.

The requirements for the collector industrial road and local industrial road typologies, as per the MRP DCP, are shown in **Figure 14** and **Figure 15**.

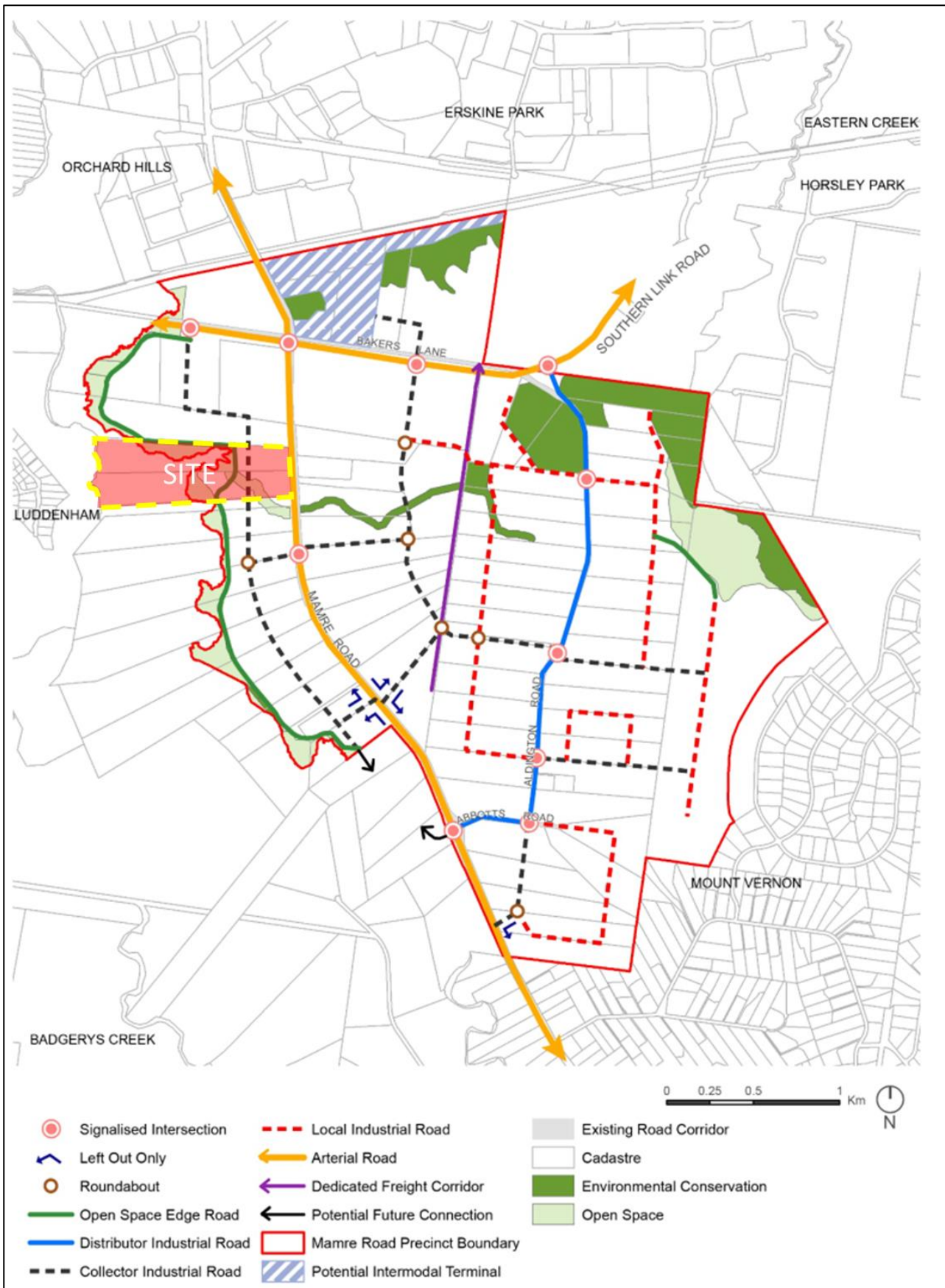


Figure 13: DCP Precinct Road Network

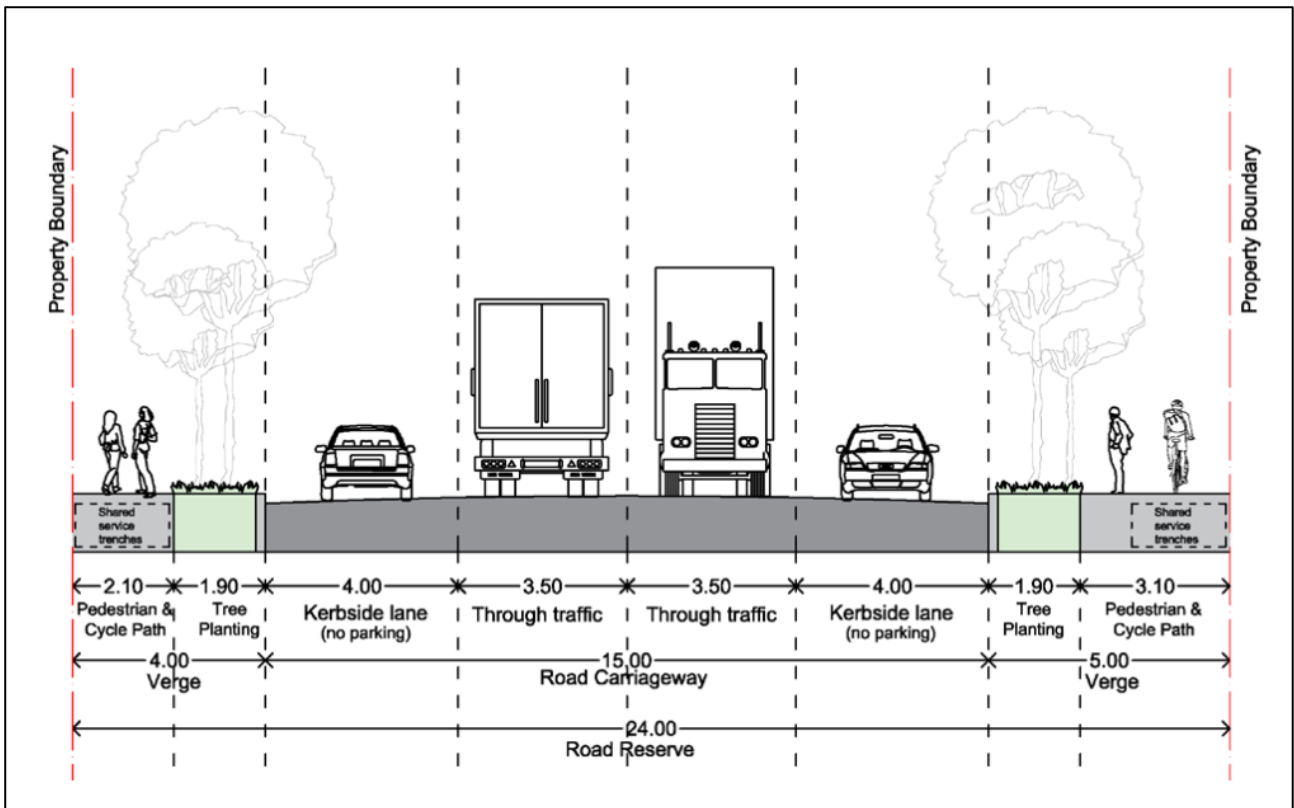


Figure 14: MRP DCP Typical Local Industrial Road

Source: MRP DCP 2021

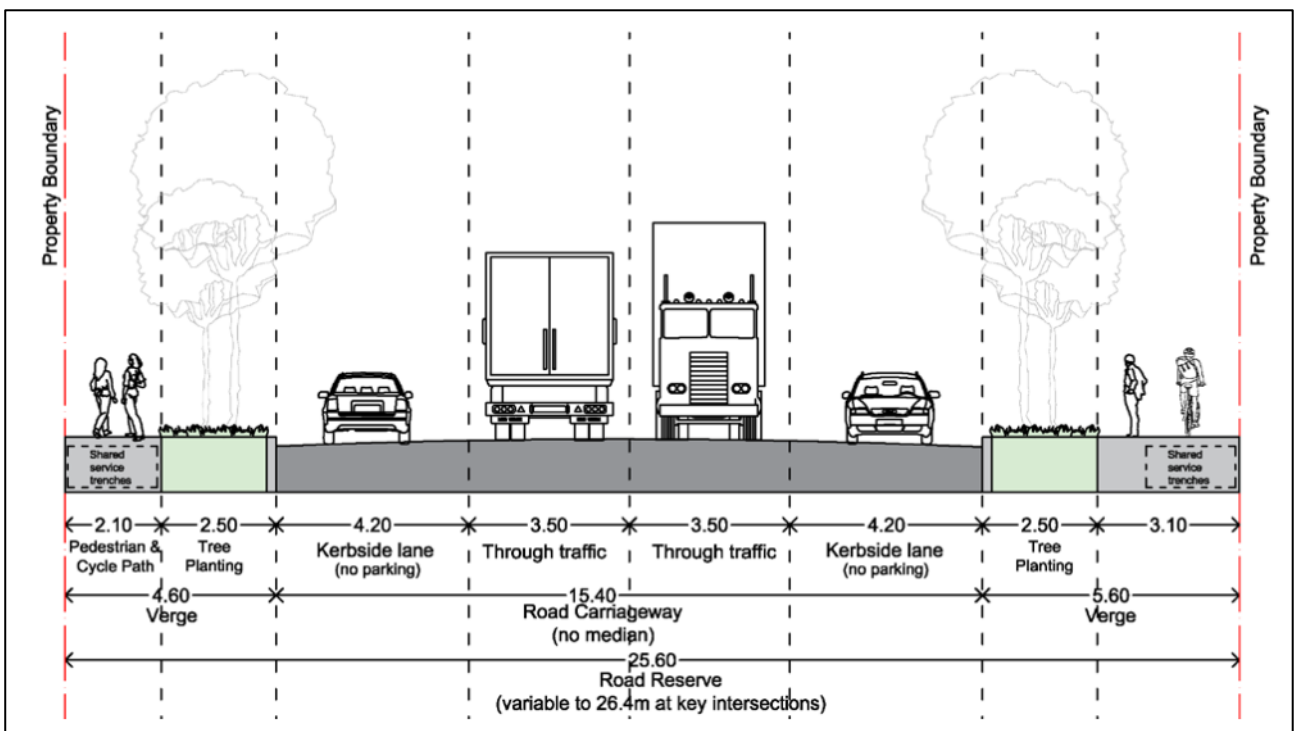


Figure 15: MRP DCP Typical Collector Industrial Road

Source: MRP DCP 2021

5 Traffic Impact Assessment

5.1 Assessment Methodology

As discussed, the road layout detailed within the MRP DCP network has been informed by the MRP modelling assessment. Accordingly, the traffic generation impact assessment for the Proposal has considered the following separately:

- The wider MRP modelling assessment in relation to the ultimate MRP DCP road network, of which development of the Site was considered; and
- Further to the ultimate road network performance, the MRP DCP does not provide for a staging strategy. As such, the operation of the road network in 2026 (i.e. the “interim” scenario”) has been considered more closely for the Site.

The modelling assessments detailed in Section 5.5 to 5.8 for the assessment year of 2026 and 2031 have been based on that undertaken for the approved AIE. However, it is noted that as part of the Voluntary Planning Agreements associated with other development sites within the MRP, a 2026 precinct-wide modelling assessment has recently been undertaken for the Land Owners Group East (LOG-E). It is understood that DPE, TfNSW and Council have been provided this assessment and it has been endorsed by TfNSW.

While the LOG-E modelling considers the precinct-wide assessment, for the purposes of this application, a localised assessment of the intersections key to the Site has been undertaken. This is consistent with the methodology adopted for the approved AIE, which was requested by TfNSW.

This is further considered acceptable noting that the volume of trips associated with the Proposal (see below). With reference to Figure 5.1 of Austroads Guide to Traffic Management – Part 12: Integrated Transport Assessment for Development (AGTM-Part 12), that level of traffic is considered to have only “moderate impact” and require “traffic impact statement” (TIS) to be prepared. Section 5.1.2 of AGTM – Part 12 states that a TIS should include “analysis of the operation of the first intersection...on either side of the accesses”.

Therefore; noting that access the Site will be gained via the approved “The Yards” development north of the Site; assessment of the following intersections is deemed to be appropriate for assessment of the Proposal:

- Mamre Road / Bakers Lane; and
- Mamre Road / AIE site access.

5.2 Proposed Traffic Generation Assessment

5.2.1 TfNSW MRP Trip Rates

For the MRP modelling assessment, TfNSW provided Ason Group with trip rates for adoption, as shown by **Table 2**. The purpose of these trip rates is to provide for some consideration to a range of uses that may be permissible under the current IN1 General Industrial land zoning.

TABLE 2: TFNSW TRIP RATES

Time Period	Rate per 100m ²
Daily Trips	2.91
Local Road AM Peak (7am – 8am)	0.23
Local Road PM Peak (4pm – 5pm)	0.24
Site Maximum Generation Rate (All Vehicles)	0.26
Site Maximum Generation Rate (Heavy Vehicles)	0.07

5.2.2 Surveyed Trip Rates

It is however noted that Ason Group conducted a number of surveys of industrial warehouses in the WSEA for the purposes of the MRP modelling assessment, including:

- Mirvac Calibre
- Huntingwood Drive
- Eastern Creek Drive
- Roussell Road
- First Estate; and
- Sarah Andrews Close

The average trip generation rates for general warehousing developments found by the surveys are summarised in **Table 3** below.

While adoption of conservative rates is deemed appropriate for strategic level assessment, where limited information is known on the ultimate development, it is noted that the Proposal has been designed with the intent for general warehouses and logistics uses. Therefore, adoption of a rate more aligned with the actual use of the Site is considered appropriate.

TABLE 3: SURVEYED TRIP RATES – WAREHOUSE DEVELOPMENT

Time Period	Rate per 100m ²
Daily Trips	2.31
Local Road AM Peak (7am – 8am)	0.17
Local Road PM Peak (4pm – 5pm)	0.15

5.3 Proposal Traffic Generation

Further to the adoption of the trip rate as described above, the below table provides a summary of the Site's traffic generation. A breakdown of the Site's daily traffic profile based on the TfNSW trip rate and significant survey data available, is shown in **Appendix A**.

TABLE 4: DEVELOPMENT TRAFFIC GENERATION

Period	GFA (m ²)	TfNSW Trip Rates		Surveyed Trip Rates	
		Rate per 100m ²	Trips	Rate per 100m ²	Trips
Daily	24,953	2.91	726	2.31	576
AM		0.23	57	0.17	42
PM		0.24	60	0.15	37

5.4 Traffic Assessment – Ultimate Road Network

With regard to the ultimate road layout and intersection configuration, it is notable that development of the Site was considered within the MRP modelling assessment.

It is understood that the assumptions that underpinned this modelling assessment were as follows:

- The majority of land use will take the form of a large format industrial warehousing;
- The land was separated into smaller land parcels for the purposes of identifying any constraints which will impact the developable GFA;
- The sub-precinct in which the Site lies was assumed to be able to accommodate a GFA which represented 55% of the total site area; and
- Trip rates adopted (detailed in Table 2), included a level of conservatism to allow for more intensive uses that may be located in the MRP, which are permissible under the land use zoning.

Of particular note to the Proposal is the assumption that 55% of the Site area represented developable GFA. The Site has an area of 385,386m², which would equate to a GFA of 211,962m². However, it is noted that only 53,779m² (14%) of the Site provides for developable area.

As a result, the current Proposal achieves a GFA of 24,953m², which represents 6% of the total Site area. This is a result of the other requirements on the Site such as the ENZ – Environment and Recreation zone and RE1 – Public Recreation zone.

Therefore, it is clear that the Proposal is, not only consistent with the MRP modelling assessment, but it actually represents a less intensive development than was previously assessed. As such, the traffic impact of the Site will be less than previously assessed for the MRP DCP.

5.5 Interim Modelling Assessment

5.5.1 Overview

As discussed, the MRP DCP has not identified any staging requirements for the required road infrastructure. The key consideration in assessment of the Site is therefore the impacts of traffic generation associated with the Site by 2026 and 2031.

5.5.2 Trip Distribution

For the purposes of the 2026 and 2031 interim modelling scenario, the trip distribution for the proposed Site assumes that the total traffic generation of the Site will be accessing the Mamre Road / Bakers Lane intersection from the north of the Site. Internal road connections will be by way of the internal north-south industrial collector road (as indicated in the finalised MRP DCP road network).

Vehicular Classification

Vehicle types have been adopted on the basis of the MRP modelling assessment and are as follows:

TABLE 5: DEVELOPMENT TRAFFIC VEHICLE SPLIT

Land-use	Light Vehicle	Heavy Rigid	Heavy Articulated
General Warehousing	73%	18%	9%

Arrival and Departure Split

- Light vehicles: 54% in / 21% out – AM Peak, 19% in / 58% out – PM Peak
- Heavy vehicles: 13% in / 12% out – AM Peak, 12% in / 12% out – PM Peak

5.5.3 Intersection Performance

The performance of the key intersections has been analysed using the SIDRA Intersection 9.0 model. SIDRA provides a range of performance measures, including:

- **Degree of Saturation (DOS):** DOS is defined as the ratio of demand (arrival) flow to capacity. The DOS is used to measure the performance of intersections where a value of 1.0 represents an intersection at theoretical capacity.
- **Average Vehicle Delay (AVD):** Provides a measure of the operational performance of an intersection and is used to determine an intersection's Level of Service (see below). For signalised intersections, the AVD reported relates to the average of all vehicle movements through the intersection. For priority (Give Way, Stop & Roundabout controlled) intersections, the AVD reported is that for the movement with the highest AVD.

- **Level of Service (LOS):** Comparative measure that provides an indication of the operating performance, based on AVD. For signalised and roundabout intersections, it's based on average delay to all vehicles, while at priority-controlled intersections it's based on the worst approach delay.

Table 6 provides the SIDRA recommended criteria for the assessment of intersections with reference to the RTA Guide.

TABLE 6: SIDRA LEVEL OF SERVICE CRITERIA			
Level of Service	Average Delay per Vehicle (s)	Traffic Signals & Roundabout	Give Way & Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays	At capacity, requires other control mode
		Roundabouts require other control mode	
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

5.5.4 Modelling Methodology

The modelling assessment had been based on the methodology of which was agreed with TfNSW and adopted for the approved AIE (SSD-10448). However, the AIE assessment has been updated to include more recent context.

The modelling assessment undertaken includes the following:

- Consistent with AIE modelling assessment, a 3% growth rate was applied to existing survey data to establish future flows, with traffic associated with approved developments (being The Yards (SSD-9522), and the AIE);
- Approved intersection layouts, as shown in **Figure 16** and **Figure 17**;
- Further to the approved developments, for cumulative assessment purposes, the following surrounding sites have also been included:
 - GFA proposed under the most recent AIE MOD-4 Masterplan (SSD-10448-Mod-4),
 - The proposed Access Logistic Park – SSD-176471897³ (south-east of the Site). While not approved, it is significantly progressed through the assessment process; and
 - Yiribana Logistics Estate (East) – SSD-10272349⁴ (east of the Site). As above, while not yet approved, it is significantly progressed through the assessment process.

³ <https://www.planningportal.nsw.gov.au/major-projects/projects/access-logistics-park>

⁴ <https://www.planningportal.nsw.gov.au/major-projects/projects/yiribana-logistics-estate>

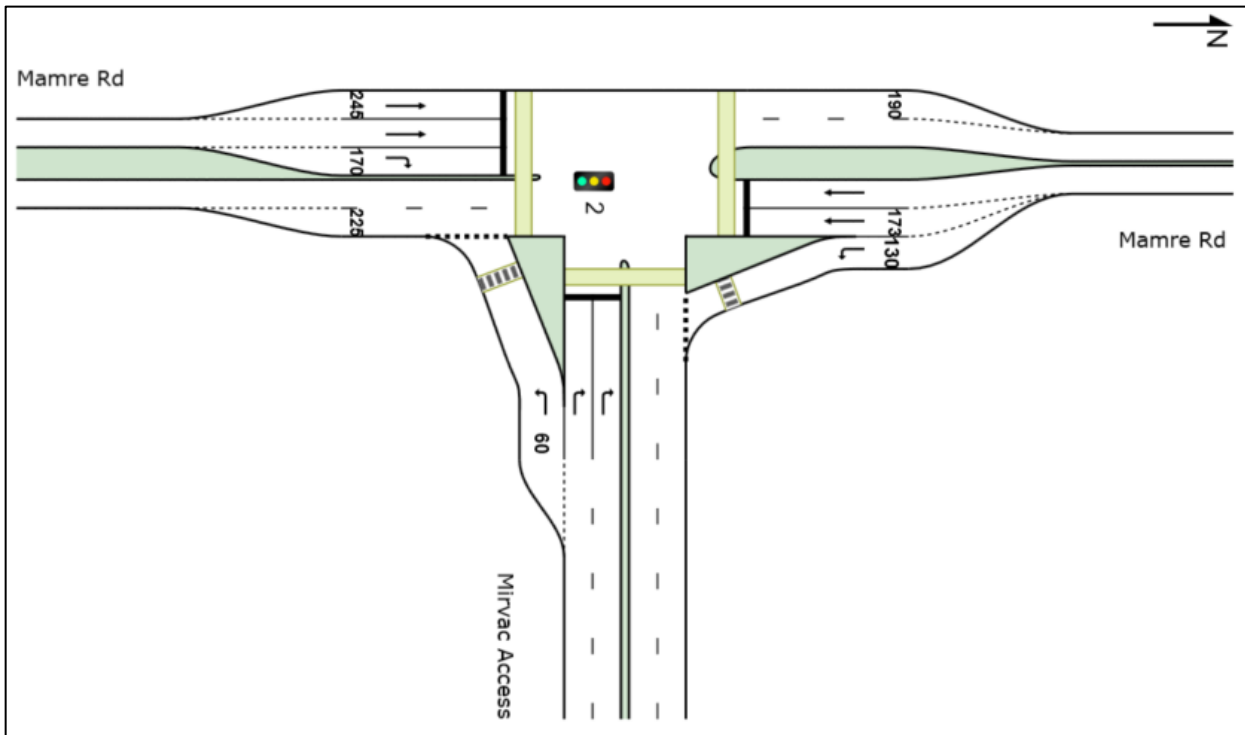


Figure 16: Revised intersection layout - Mamre Road / AIE site access

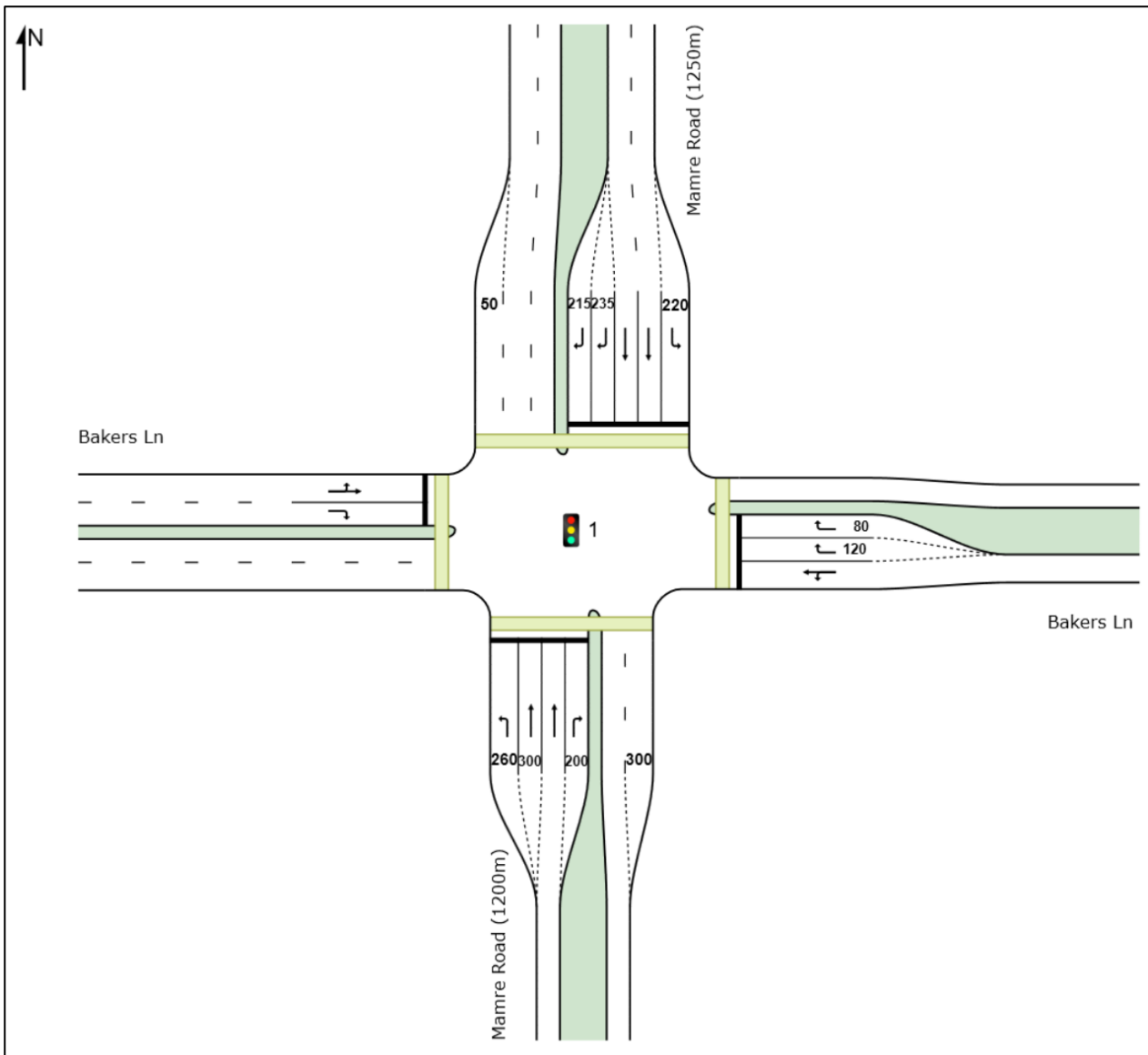


Figure 17: Bakers Lane Sequence 1A approved intersection

The scenarios on the basis of the above are detailed below.

5.5.5 Modelling Scenarios

The following future scenarios have been assessed, with the resulting traffic flows at the key intersections for the assessment years of 2026 and 2031 shown in **Appendix B**:

- Scenario 1 – 2026 Base Case: Base 2026 traffic flows (i.e. with background traffic growth to 2026), plus development traffic generated from approved surrounding developments (The Yards, AIE).
- Scenario 2 – 2031 Base Case: Base 2031 traffic flows (i.e. with background traffic growth to 2031), plus development traffic generated from approved surrounding developments.
- Scenario 3 – 2026 Project Case: 2026 Base Case, plus development traffic of the Proposal.

- Scenario 4 – 2031 Project Case: 2031 Base Case, plus development traffic of the Proposal.
- Scenario 5 – 2026 Cumulative Assessment: 2026 Project Case, plus development traffic generated from proposed surrounding developments (AIE MOD-4, Access Logistic Park, and the Yiribana Logistics Estate East)
- Scenario 6 – 2031 Cumulative Assessment: 2031 Project Case, plus development traffic generated from proposed surrounding developments.

5.6 Base Intersection Operations

5.6.1 Scenario 1 – Base 2026

SIDRA network outputs for the 2026 Base Case scenario for all key intersections for both AM and PM peak periods are provided in **Table 7**. Detailed SIDRA outputs are provided within **Appendix C**.

TABLE 7: 2026 BASE CASE – SIDRA RESULTS

Intersection	Configuration	Period	AVD (s)	LoS	DoS
Mamre Road / Bakers Lane	Signals	AM	18	B	0.61
		PM	21	B	0.60
Mamre Road / AIE site access	Signals	AM	11	A	0.53
		PM	14	A	0.57

Note: Results summarised include rounding

The SIDRA network modelling indicates that, for the future 2026 Base Case, all intersections can satisfactorily accommodate the forecast background volumes and are expected to operate with LoS B or above.

5.6.2 Scenario 2 – Base 2031

SIDRA network outputs for the Future Base Case 2031 scenario for all intersections for both AM and PM peak periods are summarised in **Table 8**, with detailed SIDRA output provided in Appendix C.

TABLE 8: 2031 BASE CASE – SIDRA RESULTS

Intersection	Configuration	Period	AVD (s)	LoS	DoS
Mamre Road / Bakers Lane	Signals	AM	18	B	0.66
		PM	23	B	0.68
Mamre Road / AIE site access	Signals	AM	11	A	0.58
		PM	14	A	0.62

Note: Results summarised include rounding

With reference to table above, the network is expected to operate satisfactorily under 2031 Base Case scenario. A comparison of Table 7 and Table 8 indicates a slight increase in DoS and AVD due to the growth in background traffic volume.

5.7 Development Traffic Impact

5.7.1 Scenario 3 – 2026 Project Case

SIDRA network outputs for Scenario 3 – being 2026 Base Case plus the development traffic of the Site – are presented in **Table 9**. SIDRA outputs are provided in Appendix C.

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

TABLE 9: 2026 BASE CASE V.S. PROJECT CASE

Intersection	Configuration	Period	AVD (s)		LoS		DoS	
			Base	Base + Dev	Base	Base + Dev	Base	Base + Dev
Mamre Road / Bakers Lane	Signals	AM	18	20	LOS B	LOS B	0.61	0.62
		PM	21	23	LOS B	LOS B	0.60	0.66
Mamre Road / AIE site access	Signals	AM	11	11	LOS A	LOS A	0.53	0.53
		PM	14	15	LOS A	LOS B	0.57	0.58

Note: Results summarised include rounding

The SIDRA analysis indicates that the traffic volume arising from the development would not result in material changes to DoS and AVD. Importantly, LoS would mostly remain unchanged – expect for Mamre Road / AIE site access during the PM peak due to slight increase (of 0.4 seconds) of AVD.

In summary, the traffic impact analysis concludes that the Site traffic generation volumes are of a sufficiently low order that once distributed onto the surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate satisfactorily.

5.7.2 Scenario 4 – 2031 Project Case

Similarly, SIDRA network outputs for Scenario 4 – 2031 Base Case plus the development traffic of the Site – are presented in table below.

TABLE 10: 2031 BASE CASE V.S. PROJECT CASE

Intersection	Configuration	Period	Delay (s)		LoS		DoS	
			Base	Base + Dev	Base	Base + Dev	Base	Base + Dev
Mamre Road / Bakers Lane	Signals	AM	18	19	LOS B	LOS B	0.66	0.68
		PM	23	25	LOS B	LOS B	0.68	0.70
Mamre Road / AIE site access	Signals	AM	11	11	LOS A	LOS A	0.58	0.58
		PM	14	14	LOS A	LOS A	0.62	0.63

Note: Results summarised include rounding

As shown, the traffic volume arising from the development would not result in material changes to DoS and AVD from the 2031 base case modelling results. Therefore, the traffic impact analysis concludes that the traffic generation volumes of the Site have minimal impact on the key intersections for both 2026 and 2031 assessment years.

5.8 Cumulative Assessment

5.8.1 Scenario 5 – 2026 Cumulative Assessment

SIDRA network outputs for 2026 Cumulative Assessment – considering cumulative impact of the proposed development and surrounding development traffic generations – are summarised in table below. Detailed SIDRA outputs are provided as Appendix C.

TABLE 11: 2026 CUMULATIVE ASSESSMENT – SIDRA RESULTS

Intersection	Configuration	Period	Delay (s)	LoS	DoS
Mamre Road / Bakers Lane	Signals	AM	19	LOS B	0.69
		PM	23	LOS B	0.66
Mamre Road / AIE site access	Signals	AM	16	LOS B	0.66
		PM	19	LOS B	0.69

With reference to table above, key intersections can satisfactorily accommodate the forecast background volumes, as well as the projected cumulative development traffic, for assessment year 2026 during both AM and PM peak. All intersections demonstrate DoS below 0.7 within the maximum capacity.

5.8.2 Scenario 6 – 2031 Cumulative Assessment

SIDRA network outputs for 2031 Cumulative Assessment are summarised in **Table 12**, with detailed SIDRA outputs provided as Appendix C.

TABLE 12: 2031 CUMULATIVE ASSESSMENT – SIDRA RESULTS

Intersection	Configuration	Period	Delay (s)	LoS	DoS
Mamre Road / Bakers Lane	Signals	AM	20	LOS B	0.74
		PM	25	LOS B	0.73
Mamre Road / AIE site access	Signals	AM	16	LOS B	0.71
		PM	20	LOS B	0.74

A comparison of Table 10 and Table 12 demonstrates that the performance of Mamre Road / AIE site access intersection has deteriorated from LoS A to LoS B during both the AM and PM peak. The decrease in intersection performance level is due to the increase of background traffic which results in increased delay of the Mamre Road southbound through movement.

Nevertheless, the intersections are still expected to operate well with acceptable delays & spare capacity.

5.9 Traffic Analysis Summary

With regards to the assessments undertaken, the SIDRA network modelling analysis indicates that:

- All key intersections can satisfactorily accommodate the forecast background volumes and are expected to operate satisfactorily for the 2026 and 2031 Base Case scenarios, with a LoS B or above reported.
- The Scenario 3 and 4 assessments demonstrate that traffic generated from the proposed Site would have minimal impact on the key intersections for both 2026 and 2031 assessment years. A decrease in LoS from A to B is anticipated for Mamre Road / AIE site access during 2026 PM peak due to slight increase (of 0.4 seconds) of AVD.
- The Scenario 5 assessment found that key road network is anticipated to continue to perform satisfactorily considering the cumulative traffic impact of the proposed development as well as surrounding developments in assessment year 2026. All intersections demonstrate DoS below 0.7 within the maximum capacity.
- Further, Scenario 6 – 2031 Cumulative Assessment demonstrates satisfactory intersection performance of LoS B with DoS below 0.8. It is therefore concluded that the development is acceptable from a traffic planning perspective.

6 Parking Requirements

6.1 Precinct Car Parking Rates

Parking rates from the MRP DCP have been adopted to assess the parking requirements of the Proposal. The requirements are provided within **Table 13**.

TABLE 13: DCP CAR PARKING RATES

Land Use	Minimum Parking Rate
Warehouse	1 space per 300m ² of GFA or 1 space per 4 employees, whichever is the greater.
Factory	1 space per 200m ² of GFA or 1 space per 2 employees, whichever is the greater.
Office	1 space per 40m ² of GFA

6.2 Parking Requirements & Provision

Table 14 details the requirements for the proposed development based on the DCP parking rates detailed in Table 13.

TABLE 14: CAR PARKING REQUIREMENTS AND PROVISION

Warehouse	Land Use	GFA (m ²)	DCP Parking Requirement	Parking Provision
Warehouse 1A	Warehouse	10,207	34	46
	Office	455	11	
Sub-total		10,662	45	
Warehouse 1B	Warehouse	13,836	46	57
	Office	455	11	
Sub-total		14,291	57	
Total		24,953	102	103

As per Table 14, the Proposal requires 102 parking spaces, and 103 parking spaces are provided. Therefore, the Proposal can provide full compliance with the DCP requirements.

6.2.1 Accessible Parking

The MRP DCP provides the following in regard to accessible parking:

Accessible car spaces should be in accordance with the Access to Premises Standards, Building Code of Australia and AS2890.

In this regard, 2 accessible parking spaces are to be provided per every 100 spaces, which equates to the requirement of 2 and 1 accessible spaces for Warehouse 1A and 1B respectively. The development proposes the provision of 2 accessible parking spaces for each warehouse, therefore, satisfies the DCP requirement.

6.2.2 Electric Vehicle Parking

Section 4.6.1 (8) of the MRP DCP notes the following:

Parking areas should incorporate dedicated parking bays for electric vehicle charging.

However, it does not provide for guidance on the specific number of bays. Therefore, it is proposed that a total of 5% of the total parking provision be designated as electric vehicle charging bays.

6.3 Bicycle Parking

Bicycle parking rates from the MRP DCP have been adopted to assess the parking requirements of the Proposal.

The requirements of the MRP DCP are provided within **Table 15**.

TABLE 15: DCP BICYCLE PARKING RATES

Land Use	Minimum Parking Rate
Industrial Activities	1 space per 1000m ² of GFA (over 2000m ² GFA)
Office and Retail Space	1 space per 600m ² of GFA (over 1200m ² GFA)

With reference to Table 15, the proposed development is required to provide 11 and 14 bicycle spaces for Warehouse 1A and 1B respectively. It is anticipated that this could be ensured via a suitable Development Consent.

Additionally, the MRP DCP also references the following rates for End of Trip (EoT) facilities:

TABLE 16: MRP DCP EOT RATES

Land Use	Minimum Parking Rate
Industrial Activities	For industrial activities with a GFA over 4000m ² , at least 1 shower cubicle with ancillary change rooms
Ancillary Office and Retail Space	For ancillary office and retail space with a GFA over 2500m ² , at least 1 shower cubicle with ancillary change rooms

Having regard for the above, the Proposal is required to provide 1 EoT facility per warehouse. It is anticipated that provision of these EoT facilities could be ensured via a suitable Development Consent.

7 Design Review

7.1 Relevant Design Standards

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

- AS2890.1:2004 for Car parking areas;
- AS2890.2:2018 for Commercial vehicle loading areas;
- AS2890.6:2009 for Accessible (disabled) parking;
- MRP DCP; and
- Fire + Rescue NSW, Fire Safety Guidelines: Access for fire brigade vehicles and firefighters, Version 05.01, 17 November 2020.

7.2 Design Vehicle

As required by the MRP DCP for Lots over 20,000m², the design vehicle adopted for the development is a 30.0m PBS Level 2 Type B, which has been used to assess the access driveways and circulation. Reverse manoeuvres into each of the bays has been assessed having regard for 20m long Articulated Vehicle for each of the lots proposed.

The 12.5m Heavy Rigid Vehicle has been adopted for the design of fire access trails in accordance with the NSW Fire + Rescue Guidelines.

The proposed car parking area has been designed to accommodate B99 Vehicles as per AS2890.1:2004.

Appendix D provides the relevant swept path analysis.

7.3 Access Driveways

All access driveways (to the proposed road network within the MRP) have been, and shall be, designed with reference to AS2890.1, AS2890.2, and any other relevant published road design / road engineering guidelines.

Truck access driveways shall be designed to provide for vehicles up to and including a 30m long PBS Level 2 Type B vehicle with maximum gradients, maximum rates of change of grades, and maximum crossfalls in accordance with relevant standards applicable at the time when Construction Certificate drawings are prepared and/or in accordance with standards applicable at the time of construction.

Car access driveways shall be designed to provide for B99 vehicles, in accordance with AS 2890.1 and any other relevant Council Engineering Guidelines.

It is anticipated that full access driveway design compliance with AS 2890.1 and AS 2890.2 would form a standard Condition of Consent further to approval.

7.4 Parking Areas

All parking areas, including access aisles and parking modules shall be designed with reference to AS 2890.1 and AS 2890.6. It is anticipated that full parking area design compliance with AS 2890.1 and AS 2890.6 would form a standard Condition of Consent further to approval.

7.5 Services Areas

All service areas shall be designed with reference to AS 2890.2, and provide for movement of vehicles up to and including a 30m long PBS Level 2 Type B vehicle.

It is anticipated that service area design compliance with AS 2890.2 would form a standard Condition of Consent further to approval.

8 Summary and Conclusions

8.1 Summary

Ason Group has been engaged by The GPT Group to prepare a Transport Assessment (TA) supporting the Development Application for an industrial development proposal, located at 771-797 Mamre Road, Kemps Creek (the Site).

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

- The Proposal generally seeks approval for 2 warehouse tenancies, Warehouse 1A and 1B, and ancillary office space with a total of 24,953 m² of GFA with supporting infrastructure and servicing areas and 103 car parking spaces.
- The Site is well located for industrial development, with excellent existing and future connections to the sub-regional and regional network, as well as key growth centres across Western Sydney.
- Access to the Site will be provided via a signalised intersection at Mamre Road / Bakers Lane – located north of the Site. Internal road connections will be by way of the north-south industrial collector road (as indicated in the finalised MRP DCP road network).
- The Proposal is forecasted to generate 57 vehicle trips per hour in the AM Peak, 60 vehicle trips per hour in the PM Peak, and 726 daily vehicle trips.
- The MRP DCP road network has been informed by the MRP modelling assessment; undertaken by Ason Group in conjunction with TfNSW and DPE. The Proposal is, not only consistent with the MRP modelling assessment, but it represents a less intensive development than previously assumed.

Therefore, the Proposal is acceptable from a traffic generation perspective in respect to the ultimate MRP DCP road network.

- SIDRA analysis indicates that:
 - All key intersections can satisfactorily accommodate the forecast background volumes and are expected to operate satisfactorily for the 2026 and 2031 Base Case scenarios, with a LoS B or above reported.
 - The Scenario 3 and 4 assessments demonstrate that traffic generated from the proposed Site would have minimal impact on the key intersections for both 2026 and 2031 assessment years. A decrease in LoS from A to B is anticipated for Mamre Road / AIE site access during 2026 PM peak due to slight increase (of 0.4 seconds) of AVD.
 - The Scenario 5 assessment found that key road network is anticipated to continue to perform satisfactorily considering the cumulative traffic impact of the proposed development as well as surrounding developments in assessment year 2026. All intersections demonstrate DoS below 0.7 within the maximum capacity.
 - Scenario 6 – 2031 Cumulative Analysis demonstrates satisfactory intersection performance of LoS B with DoS below 0.8.
- All internal lots circulation, hardstand and parking areas have been designed with reference to the Australian Standards and provide for vehicles up to and including a 30m long PBS Type 2, as required by the MRP DCP.
- Parking has been provided in accordance with the rates detailed in the MRP DCP and includes an appropriate allocation of accessible parking spaces.

8.2 Conclusions

With regard for the above key findings from the transport assessment, the proposed industrial development at 771-797 Mamre Road, Kemps Creek is supportable on traffic and transport planning grounds; with no material impacts to the external road network expected over and above the previously approved MRP model.

Appendix A. Hourly Traffic Generation

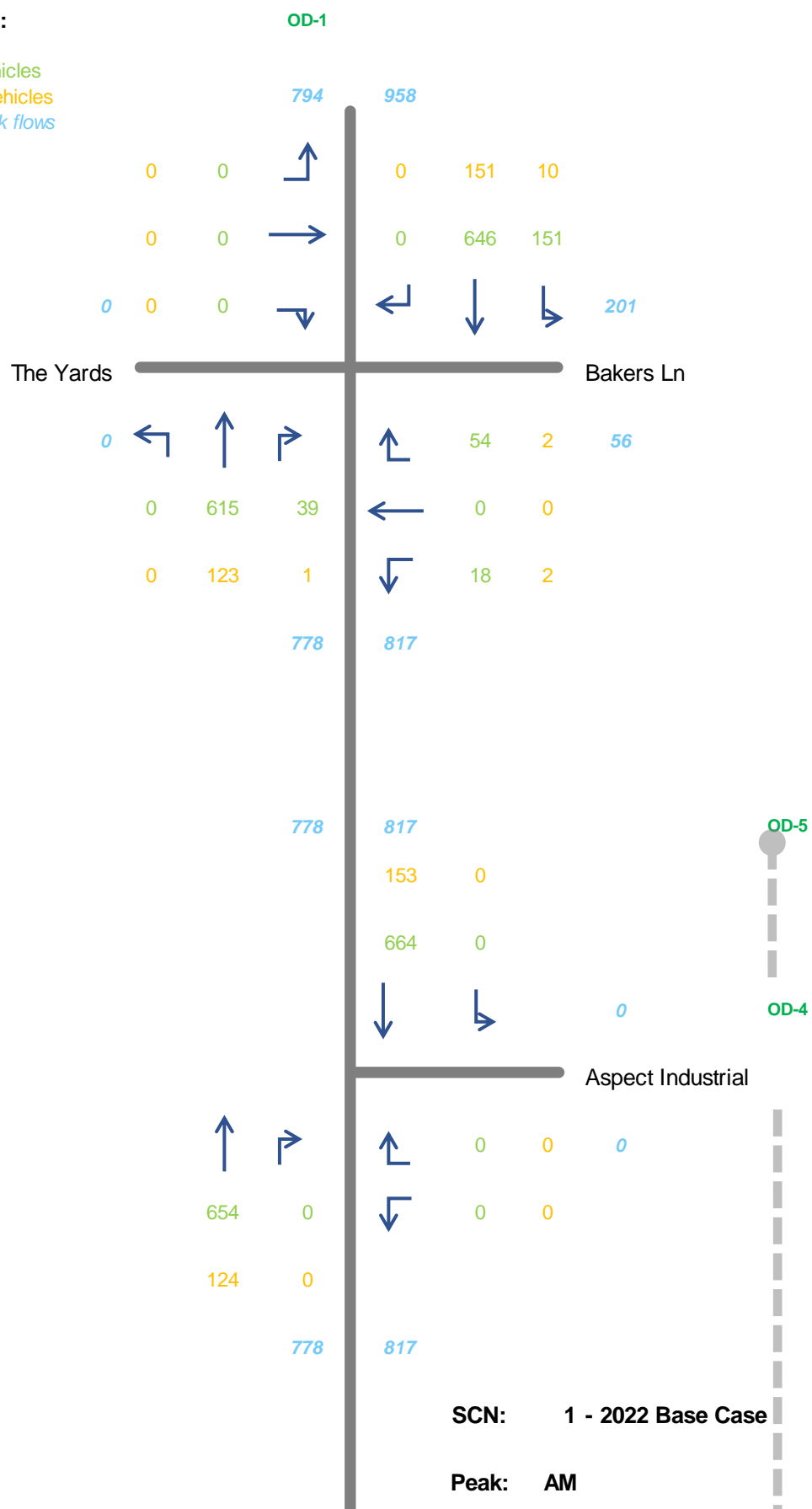
Start Time	All Vehicle	Light Vehicle	Heavy Vehicle	Rigid	Semi-trailer	B-double	A-double
0:00	6	4	2	1	0	0	0
1:00	5	4	2	1	0	0	0
2:00	6	4	2	1	0	0	0
3:00	6	5	2	1	0	0	0
4:00	20	17	3	2	0	0	1
5:00	39	31	8	5	1	0	2
6:00	53	42	11	7	1	0	3
7:00	53	39	13	9	1	0	3
8:00	49	34	15	10	1	0	4
9:00	42	26	16	11	1	0	4
10:00	40	24	16	11	1	0	4
11:00	41	25	16	11	1	0	4
12:00	45	31	15	10	1	0	4
13:00	54	39	15	10	1	0	4
14:00	59	46	13	9	1	0	3
15:00	51	39	12	8	1	0	3
16:00	42	33	9	6	1	0	2
17:00	35	27	8	5	1	0	2
18:00	21	15	5	4	0	0	1
19:00	12	9	3	2	0	0	1
20:00	9	6	3	2	0	0	1
21:00	12	10	2	1	0	0	1
22:00	15	13	2	2	0	0	1
23:00	11	9	2	1	0	0	1
Total	726	531	195	129	13	3	50

Note: Minor discrepancies between sum numbers due to 'rounding'.

Appendix B. Traffic Flow Diagrams

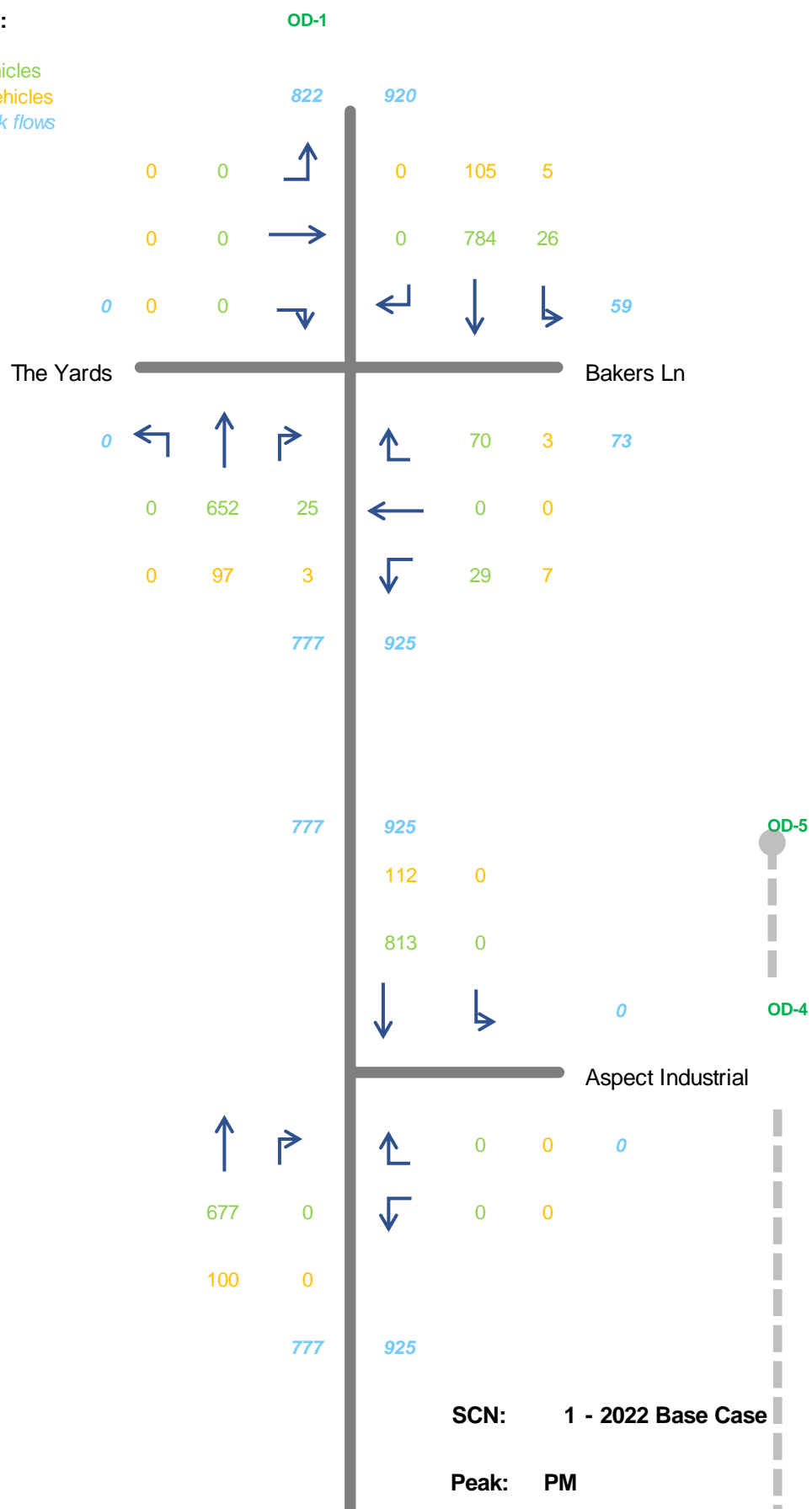
Legend:

Light Vehicles
Heavy Vehicles
Mid-block flows



Legend:

Light Vehicles
Heavy Vehicles
Mid-block flows

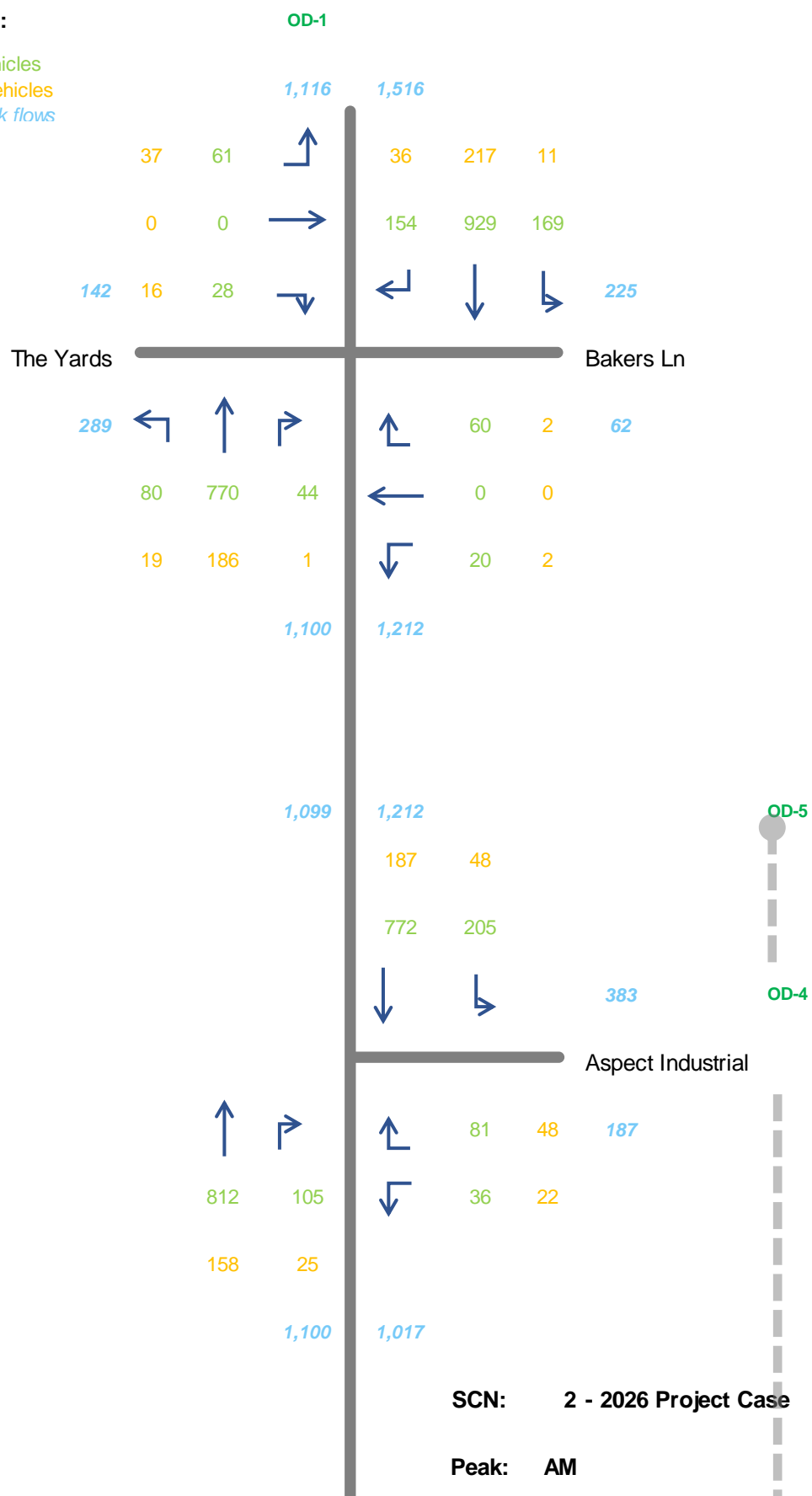


Legend:

Light Vehicles

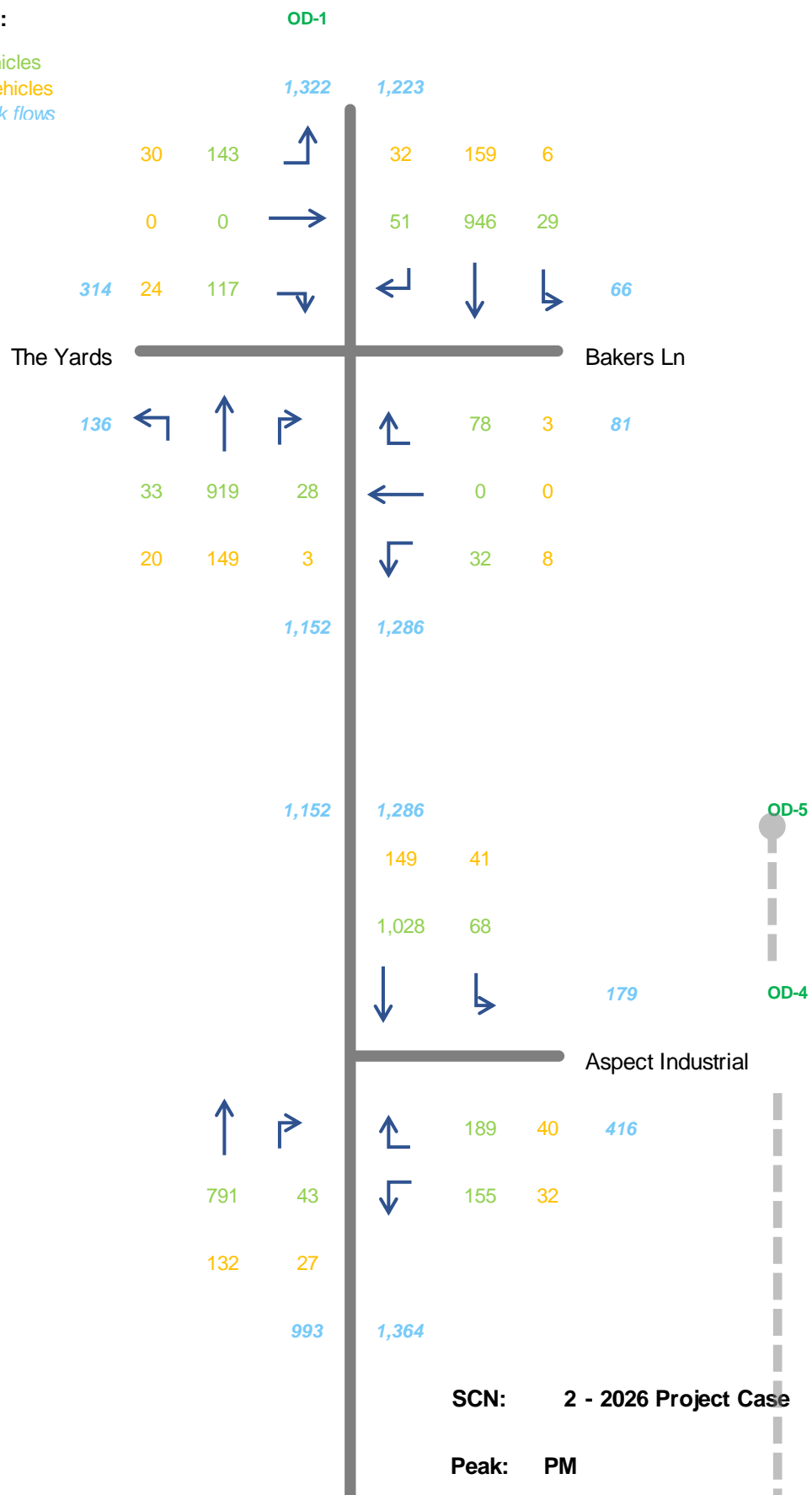
Heavy Vehicles

Mid-block flows



Legend:

Light Vehicles
Heavy Vehicles
Mid-block flows

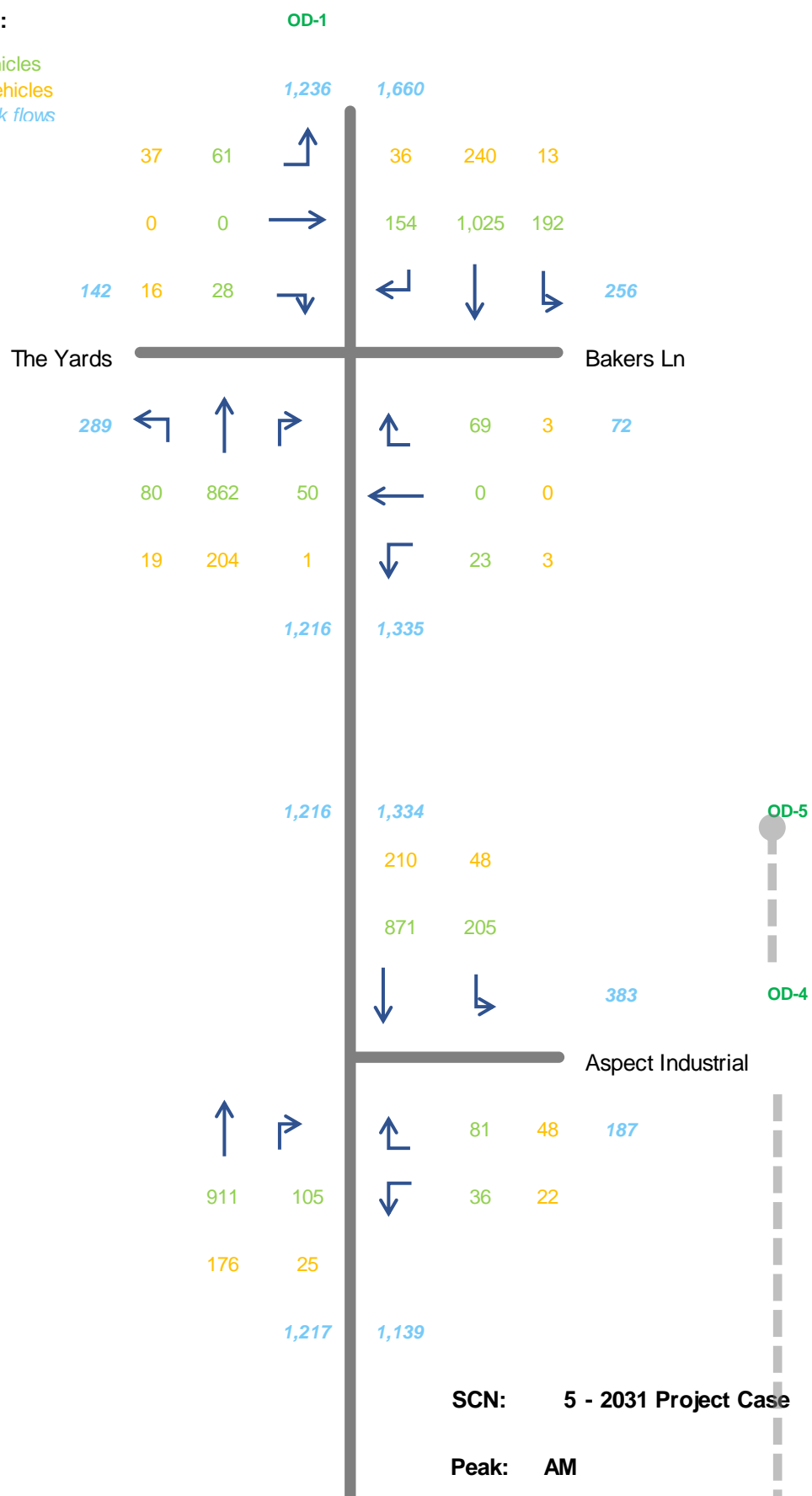


Legend:

Light Vehicles

Heavy Vehicles

Mid-block flows

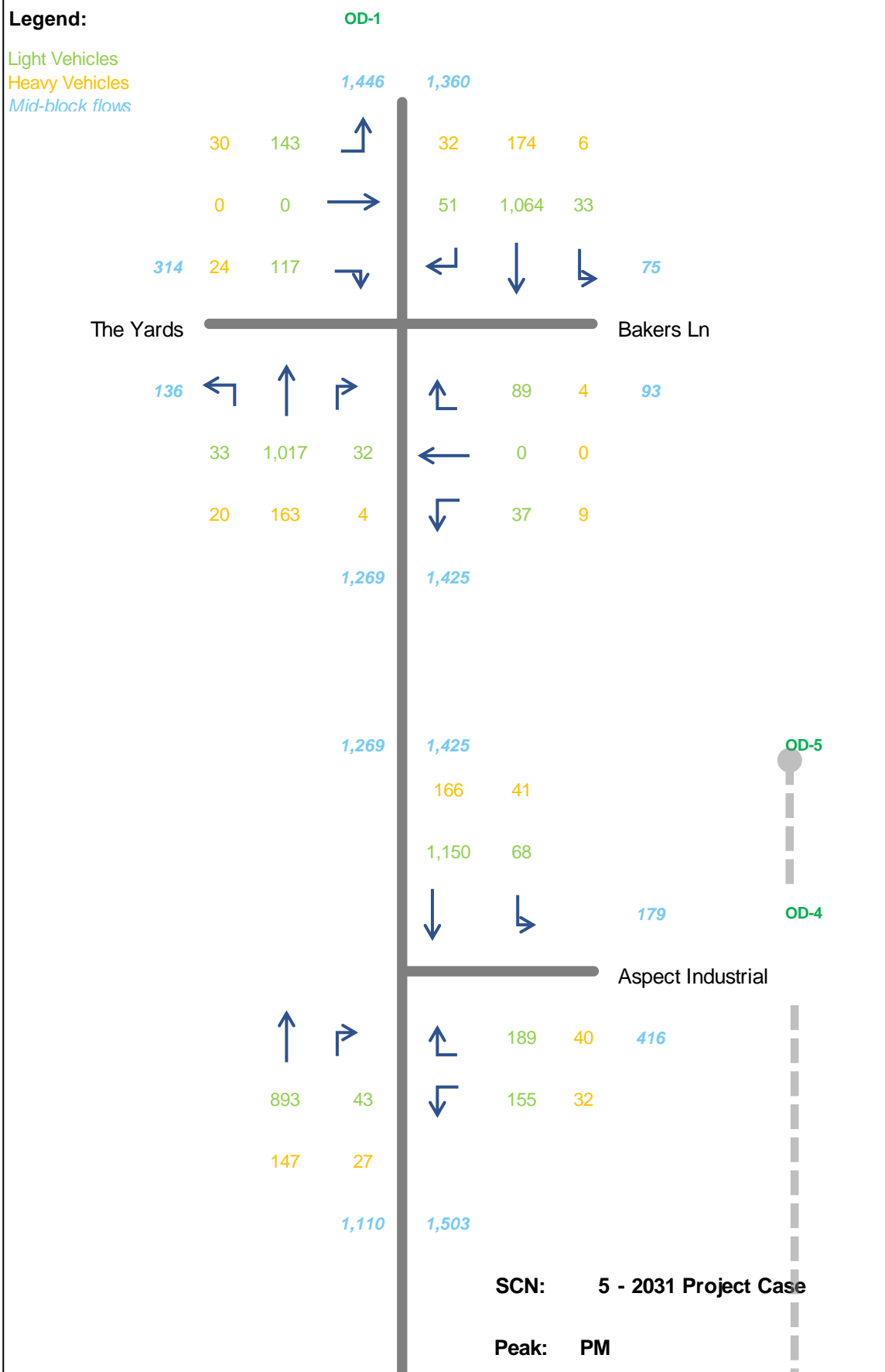


Legend:

Light Vehicles

Heavy Vehicles

Mid-block flows

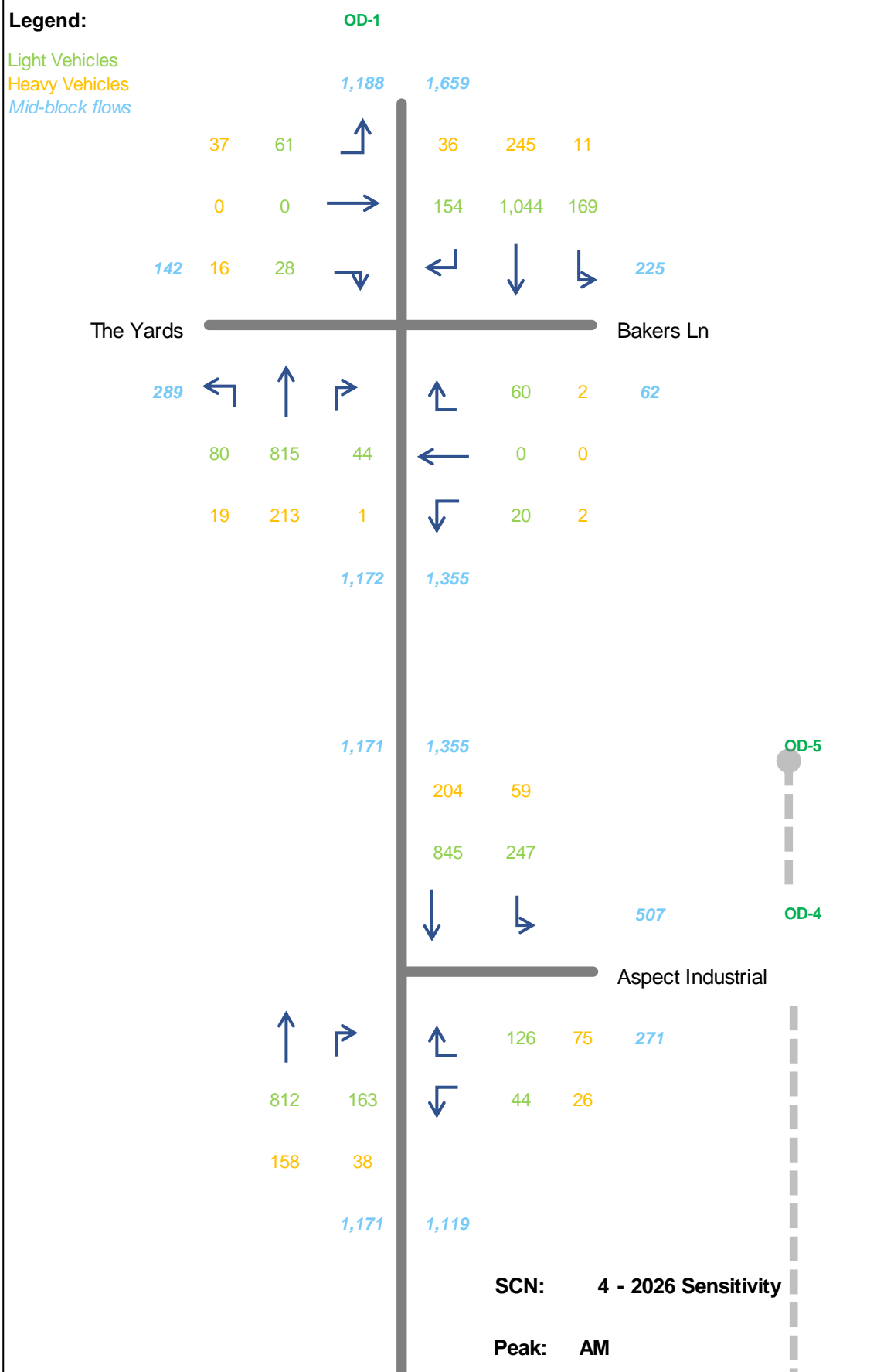


Legend:

Light Vehicles

Heavy Vehicles

Mid-block flows

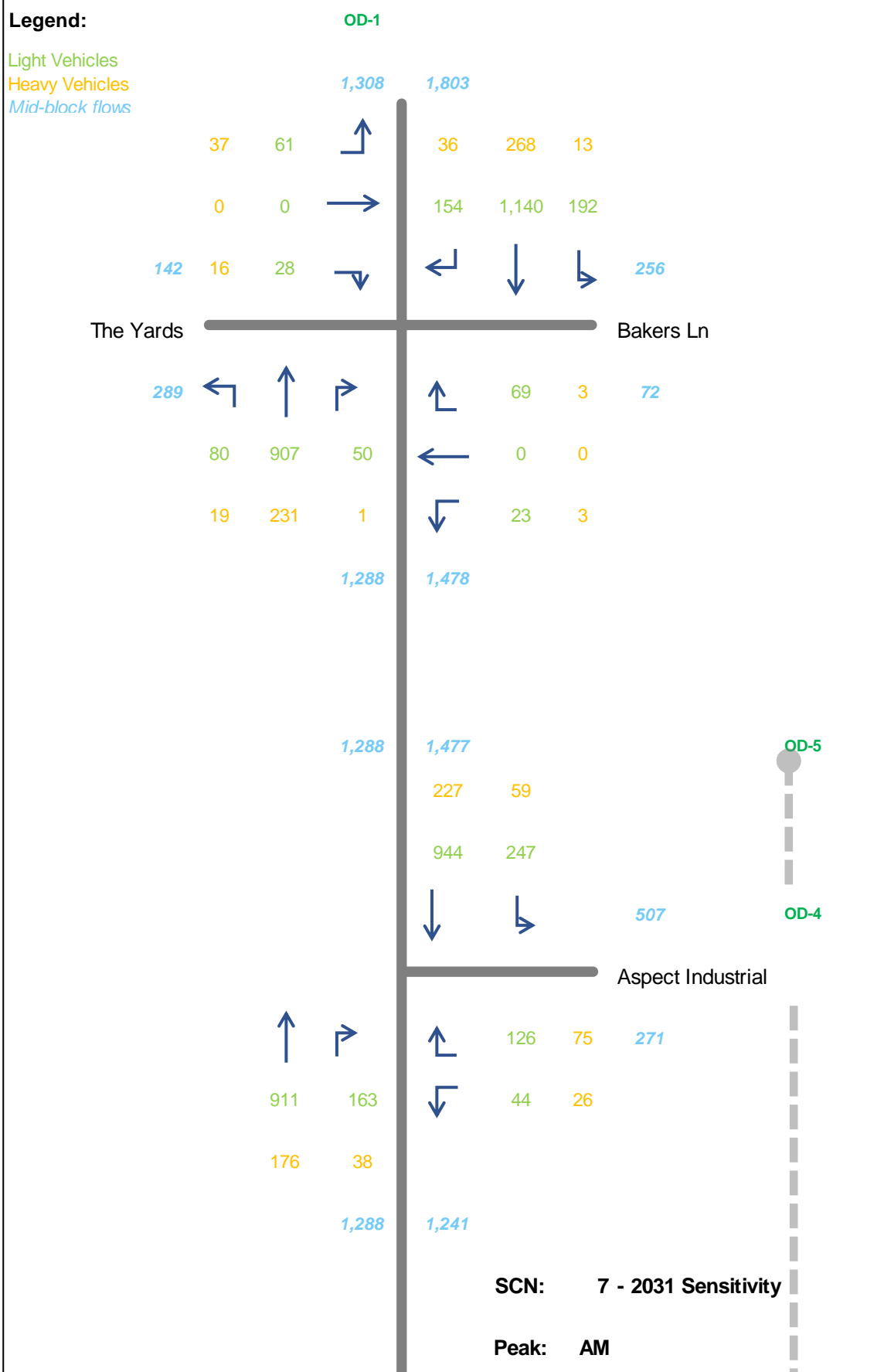


Legend:

Light Vehicles

Heavy Vehicles

Mid-block flows

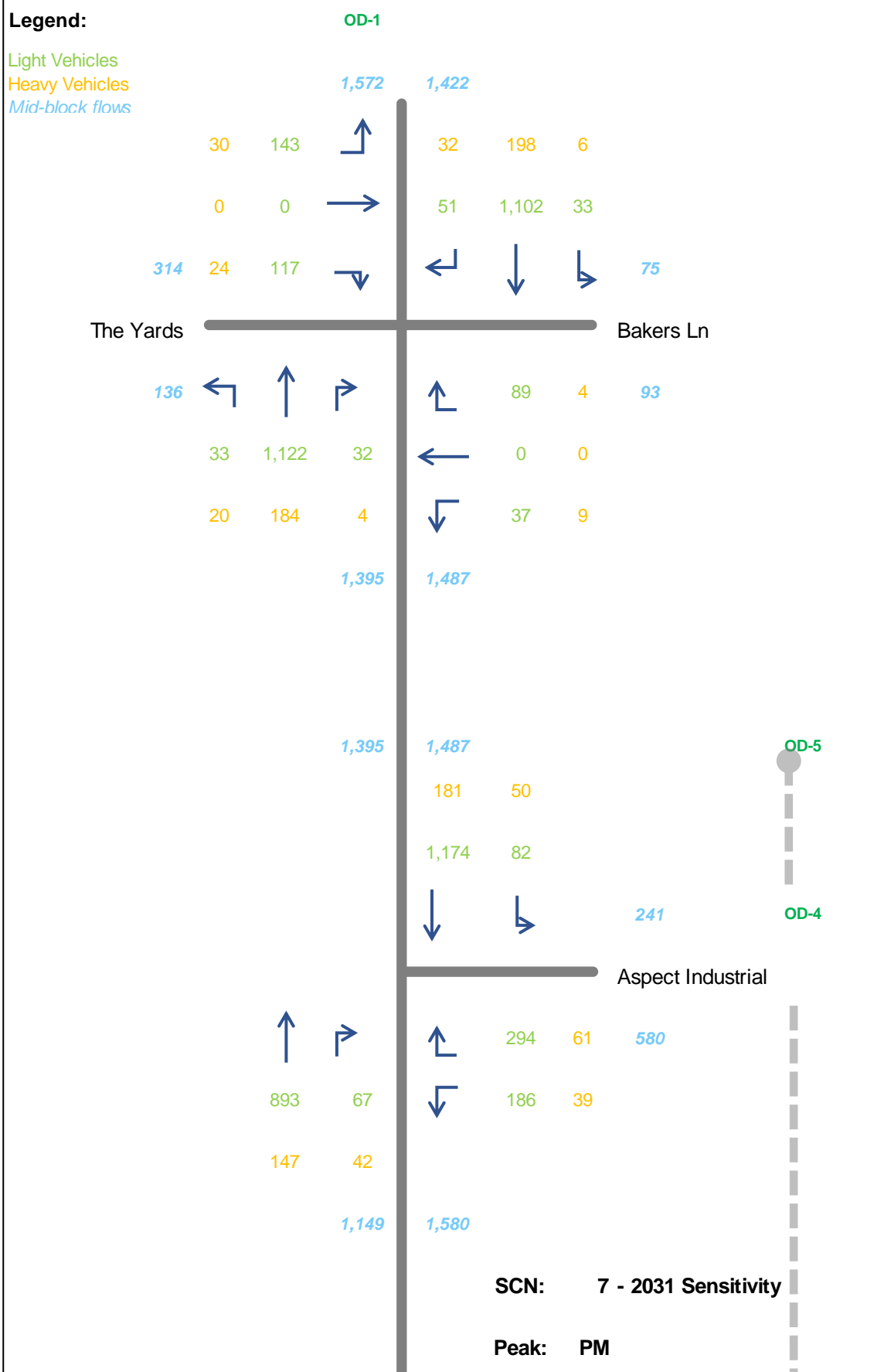


Legend:

Light Vehicles

Heavy Vehicles


Mid-block flows



Appendix C. SIDRA Outputs

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2026 Base Case - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Base Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist m				km/h
South: Mamre Road (1200m)														
1	L2	89	18.8	89	18.8	0.094	18.5	LOS B	2.4	19.4	0.49	0.72	0.49	58.6
2	T1	1006	19.5	1006	19.5	0.508	8.4	LOS A	9.8	80.1	0.36	0.33	0.36	74.3
3	R2	47	2.2	47	2.2	0.258	62.7	LOS E	2.7	19.4	0.99	0.75	0.99	43.0
Approach		1143	18.7	1143	18.7	0.508	11.5	LOS A	9.8	80.1	0.40	0.38	0.40	71.5
East: Bakers Ln														
4	L2	23	9.1	23	9.1	0.101	45.6	LOS D	1.1	8.2	0.89	0.70	0.89	30.5
5	T1	1	0.0	1	0.0	0.101	36.4	LOS C	1.1	8.2	0.89	0.70	0.89	39.8
6	R2	65	3.2	65	3.2	* 0.360	69.3	LOS E	2.0	14.3	1.00	0.72	1.00	41.4
Approach		89	4.7	89	4.7	0.360	62.8	LOS E	2.0	14.3	0.97	0.72	0.97	39.7
North: Mamre Road (1250m)														
7	L2	189	6.1	189	6.1	0.150	13.7	LOS A	3.7	27.4	0.37	0.71	0.37	61.7
8	T1	1206	18.9	1206	18.9	* 0.607	11.0	LOS A	13.6	110.4	0.42	0.38	0.42	68.9
9	R2	175	19.3	175	19.3	* 0.562	65.9	LOS E	5.1	41.9	1.00	0.78	1.00	42.3
Approach		1571	17.4	1571	17.4	0.607	17.5	LOS B	13.6	110.4	0.48	0.47	0.48	61.8
West: Bakers Ln														
10	L2	89	37.6	89	37.6	0.353	52.9	LOS D	4.7	43.2	0.90	0.78	0.90	44.3
11	T1	1	0.0	1	0.0	0.353	45.7	LOS D	4.7	43.2	0.90	0.78	0.90	37.0
12	R2	40	36.8	40	36.8	* 0.595	72.8	LOS F	2.5	23.5	1.00	0.78	1.11	21.5
Approach		131	37.1	131	37.1	0.595	58.9	LOS E	4.7	43.2	0.93	0.78	0.97	38.7
All Vehicles		2934	18.4	2934	18.4	0.607	18.4	LOS B	13.6	110.4	0.48	0.45	0.48	63.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2026 Project Case\P2175_2026 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2026 Base Case - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Base Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1006	16.2	1006	16.2	0.375	5.2	LOS A	8.5	68.1	0.32	0.29	0.32	68.6
3	R2	137	19.2	137	19.2	* 0.528	58.1	LOS E	7.5	61.4	0.96	0.80	0.96	32.4
Approach		1143	16.6	1143	16.6	0.528	11.5	LOS A	8.5	68.1	0.40	0.35	0.40	55.6
East: Mirvac Access														
4	L2	61	37.9	61	37.9	0.094	9.1	LOS A	0.4	3.7	0.17	0.58	0.17	49.6
6	R2	136	37.2	136	37.2	* 0.507	65.7	LOS E	4.0	36.9	0.99	0.77	0.99	19.7
Approach		197	37.4	197	37.4	0.507	48.1	LOS D	4.0	36.9	0.74	0.71	0.74	24.2
North: Mamre Rd														
7	L2	266	19.0	266	19.0	0.204	8.3	LOS A	0.9	7.5	0.09	0.63	0.09	65.5
8	T1	1003	19.4	1003	19.4	* 0.529	4.9	LOS A	5.5	45.1	0.21	0.18	0.21	74.7
Approach		1269	19.3	1269	19.3	0.529	5.6	LOS A	5.5	45.1	0.18	0.28	0.18	72.0
All Vehicles		2609	19.5	2609	19.5	0.529	11.4	LOS A	8.5	68.1	0.32	0.34	0.32	61.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	16.5	LOS B	0.0	0.0	0.53	0.53	197.4	217.0	1.10
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.6	LOS E	0.0	0.0	0.81	0.81	224.1	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2026 Base Case - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Base Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	48	39.1	48	39.1	0.063	21.3	LOS B	1.5	13.6	0.55	0.71	0.55	56.8
2	T1	1124	14.0	1124	14.0	0.574	11.5	LOS A	14.0	109.9	0.47	0.42	0.47	72.5
3	R2	33	9.7	33	9.7	0.384	71.4	LOS F	2.0	15.0	1.00	0.72	1.00	40.7
Approach		1205	14.8	1205	14.8	0.574	13.5	LOS A	14.0	109.9	0.48	0.44	0.48	70.7
East: Bakers Ln														
4	L2	42	20.0	42	20.0	0.276	45.8	LOS D	1.9	15.5	0.96	0.74	0.96	30.6
5	T1	1	0.0	1	0.0	* 0.276	35.8	LOS C	1.9	15.5	0.96	0.74	0.96	39.9
6	R2	85	3.7	85	3.7	0.472	69.9	LOS E	2.6	18.9	1.00	0.73	1.00	41.2
Approach		128	9.0	128	9.0	0.472	61.7	LOS E	2.6	18.9	0.98	0.74	0.98	39.2
North: Mamre Road (1250m)														
7	L2	37	17.1	37	17.1	0.034	14.8	LOS B	0.7	5.9	0.37	0.68	0.37	61.0
8	T1	1163	14.4	1163	14.4	* 0.596	13.8	LOS A	15.0	117.6	0.48	0.43	0.48	66.4
9	R2	76	37.5	76	37.5	* 0.567	74.4	LOS F	2.4	22.3	1.00	0.76	1.08	40.0
Approach		1276	15.8	1276	15.8	0.596	17.4	LOS B	15.0	117.6	0.51	0.46	0.51	62.6
West: Bakers Ln														
10	L2	158	17.3	158	17.3	0.435	50.1	LOS D	8.0	64.7	0.90	0.80	0.90	45.9
11	T1	1	0.0	1	0.0	0.435	42.8	LOS D	8.0	64.7	0.90	0.80	0.90	37.7
12	R2	128	17.2	128	17.2	* 0.466	55.9	LOS D	6.9	55.3	0.94	0.88	0.94	25.2
Approach		287	17.2	287	17.2	0.466	52.7	LOS D	8.0	64.7	0.92	0.84	0.92	38.8
All Vehicles		2897	15.3	2897	15.3	0.596	21.3	LOS B	15.0	117.6	0.56	0.50	0.56	62.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2026 Base Case - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Base Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	964	14.2	964	14.2	0.368	6.6	LOS A	9.3	72.7	0.36	0.33	0.36	65.7
3	R2	74	38.6	74	38.6	* 0.556	66.8	LOS E	4.4	40.7	1.00	0.78	1.01	30.0
Approach		1038	15.9	1038	15.9	0.556	10.9	LOS A	9.3	72.7	0.41	0.36	0.41	56.9
East: Mirvac Access														
4	L2	197	17.1	197	17.1	0.309	12.3	LOS A	2.5	19.7	0.28	0.64	0.28	48.0
6	R2	241	17.5	241	17.5	* 0.572	61.7	LOS E	6.9	55.3	0.99	0.80	0.99	20.5
Approach		438	17.3	438	17.3	0.572	39.5	LOS C	6.9	55.3	0.67	0.73	0.67	27.7
North: Mamre Rd														
7	L2	115	37.6	115	37.6	0.096	8.7	LOS A	0.5	4.7	0.12	0.63	0.12	64.8
8	T1	1219	12.6	1219	12.6	* 0.573	8.5	LOS A	10.0	77.5	0.31	0.28	0.31	71.7
Approach		1334	14.8	1334	14.8	0.573	8.5	LOS A	10.0	77.5	0.29	0.31	0.29	70.8
All Vehicles		2809	15.6	2809	15.6	0.573	14.2	LOS A	10.0	77.5	0.39	0.39	0.39	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	14.5	LOS B	0.0	0.0	0.49	0.49	195.3	217.0	1.11
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.0	LOS E	0.0	0.0	0.80	0.80	223.5	219.0	0.98


Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2026 Project Case - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Project Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	104	19.2	104	19.2	0.112	19.5	LOS B	2.9	23.7	0.51	0.73	0.51	58.1
2	T1	1006	19.5	1006	19.5	0.523	9.8	LOS A	10.9	89.1	0.40	0.36	0.40	73.5
3	R2	47	2.2	47	2.2	0.239	61.5	LOS E	2.7	19.3	0.99	0.75	0.99	43.3
Approach		1158	18.7	1158	18.7	0.523	12.8	LOS A	10.9	89.1	0.44	0.41	0.44	70.6
East: Bakers Ln														
4	L2	23	9.1	23	9.1	0.097	45.0	LOS D	1.1	8.1	0.89	0.70	0.89	30.7
5	T1	1	0.0	1	0.0	0.097	35.7	LOS C	1.1	8.1	0.89	0.70	0.89	40.0
6	R2	65	3.2	65	3.2	* 0.360	69.3	LOS E	2.0	14.3	1.00	0.72	1.00	41.4
Approach		89	4.7	89	4.7	0.360	62.6	LOS E	2.0	14.3	0.97	0.72	0.97	39.8
North: Mamre Road (1250m)														
7	L2	189	6.1	189	6.1	0.154	14.5	LOS A	3.9	28.9	0.39	0.71	0.39	61.3
8	T1	1206	18.9	1206	18.9	* 0.624	12.5	LOS A	15.1	122.7	0.47	0.42	0.47	67.4
9	R2	200	18.9	200	18.9	* 0.592	65.3	LOS E	5.9	47.7	1.00	0.80	1.02	42.4
Approach		1596	17.4	1596	17.4	0.624	19.4	LOS B	15.1	122.7	0.52	0.51	0.53	60.4
West: Bakers Ln														
10	L2	103	37.8	103	37.8	0.373	51.4	LOS D	5.3	49.2	0.90	0.78	0.90	44.7
11	T1	1	0.0	1	0.0	0.373	44.1	LOS D	5.3	49.2	0.90	0.78	0.90	37.4
12	R2	46	36.4	46	36.4	* 0.589	71.3	LOS F	2.9	26.7	1.00	0.78	1.09	21.8
Approach		151	37.1	151	37.1	0.589	57.5	LOS E	5.3	49.2	0.93	0.78	0.96	39.1
All Vehicles		2994	18.5	2994	18.5	0.624	20.0	LOS B	15.1	122.7	0.52	0.49	0.53	62.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2026 Project Case - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Project Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Mamre Rd														
2	T1	1021	16.3	1021	16.3	0.381	5.3	LOS A	8.7	69.6	0.32	0.29	0.32	68.6
3	R2	137	19.2	137	19.2	* 0.528	58.1	LOS E	7.5	61.4	0.96	0.80	0.96	32.4
Approach		1158	16.6	1158	16.6	0.528	11.5	LOS A	8.7	69.6	0.40	0.35	0.40	55.7
East: Mirvac Access														
4	L2	61	37.9	61	37.9	0.094	9.0	LOS A	0.4	3.4	0.16	0.58	0.16	49.8
6	R2	136	37.2	136	37.2	* 0.507	65.7	LOS E	4.0	36.9	0.99	0.77	0.99	19.7
Approach		197	37.4	197	37.4	0.507	48.2	LOS D	4.0	36.9	0.73	0.71	0.73	24.2
North: Mamre Rd														
7	L2	266	19.0	266	19.0	0.204	8.1	LOS A	0.6	5.0	0.06	0.62	0.06	65.6
8	T1	1009	19.5	1009	19.5	* 0.532	4.3	LOS A	4.8	38.8	0.18	0.16	0.18	75.5
Approach		1276	19.4	1276	19.4	0.532	5.1	LOS A	4.8	38.8	0.15	0.25	0.15	72.6
All Vehicles		2631	19.5	2631	19.5	0.532	11.2	LOS A	8.7	69.6	0.30	0.33	0.30	62.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	16.5	LOS B	0.0	0.0	0.53	0.53	197.4	217.0	1.10
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.6	LOS E	0.0	0.0	0.81	0.81	224.1	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2026 Project Case - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Project Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mamre Road (1200m)														
1	L2	56	37.7	56	37.7	0.073	21.8	LOS B	1.7	15.8	0.56	0.72	0.56	56.6
2	T1	1124	14.0	1124	14.0	0.582	12.3	LOS A	14.7	115.0	0.49	0.44	0.49	72.0
3	R2	33	9.7	33	9.7	0.384	71.4	LOS F	2.0	15.0	1.00	0.72	1.00	40.7
Approach		1213	14.9	1213	14.9	0.582	14.3	LOS A	14.7	115.0	0.50	0.46	0.50	70.2
East: Bakers Ln														
4	L2	42	20.0	42	20.0	0.276	45.5	LOS D	1.9	15.3	0.96	0.74	0.96	30.8
5	T1	1	0.0	1	0.0	* 0.276	35.3	LOS C	1.9	15.3	0.96	0.74	0.96	40.1
6	R2	85	3.7	85	3.7	0.472	69.9	LOS E	2.6	18.9	1.00	0.73	1.00	41.2
Approach		128	9.0	128	9.0	0.472	61.6	LOS E	2.6	18.9	0.98	0.74	0.98	39.2
North: Mamre Road (1250m)														
7	L2	37	17.1	37	17.1	0.035	15.1	LOS B	0.8	6.0	0.37	0.68	0.37	60.8
8	T1	1163	14.4	1163	14.4	* 0.605	14.7	LOS B	15.6	123.0	0.50	0.45	0.50	65.6
9	R2	87	38.6	87	38.6	* 0.659	75.6	LOS F	2.8	26.2	1.00	0.80	1.18	39.7
Approach		1287	16.1	1287	16.1	0.659	18.9	LOS B	15.6	123.0	0.53	0.48	0.54	61.5
West: Bakers Ln														
10	L2	182	17.3	182	17.3	0.482	49.9	LOS D	9.3	74.9	0.91	0.81	0.91	46.0
11	T1	1	0.0	1	0.0	0.482	42.6	LOS D	9.3	74.9	0.91	0.81	0.91	37.8
12	R2	148	17.0	148	17.0	* 0.512	56.0	LOS D	7.9	63.3	0.95	0.91	0.95	25.2
Approach		332	17.1	332	17.1	0.512	52.6	LOS D	9.3	74.9	0.93	0.85	0.93	38.9
All Vehicles		2960	15.4	2960	15.4	0.659	22.6	LOS B	15.6	123.0	0.58	0.53	0.59	61.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93
All Pedestrians		42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.


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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2026 Project Case\P2175_2026 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2026 Project Case - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Project Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	972	14.3	972	14.3	0.372	6.6	LOS A	9.4	73.6	0.36	0.33	0.36	65.7
3	R2	74	38.6	74	38.6	* 0.556	66.8	LOS E	4.4	40.7	1.00	0.78	1.01	30.0
Approach		1045	16.0	1045	16.0	0.556	10.9	LOS A	9.4	73.6	0.41	0.36	0.41	56.9
East: Mirvac Access														
4	L2	197	17.1	197	17.1	0.313	13.0	LOS A	2.7	22.0	0.31	0.64	0.31	47.4
6	R2	241	17.5	241	17.5	* 0.572	61.8	LOS E	6.9	55.3	0.99	0.80	0.99	20.5
Approach		438	17.3	438	17.3	0.572	39.9	LOS C	6.9	55.3	0.68	0.73	0.68	27.6
North: Mamre Rd														
7	L2	115	37.6	115	37.6	0.096	8.7	LOS A	0.5	4.9	0.12	0.63	0.12	64.7
8	T1	1239	12.7	1239	12.7	* 0.582	9.3	LOS A	11.1	86.0	0.34	0.30	0.34	70.9
Approach		1354	14.8	1354	14.8	0.582	9.2	LOS A	11.1	86.0	0.32	0.33	0.32	70.2
All Vehicles		2837	15.6	2837	15.6	0.582	14.6	LOS B	11.1	86.0	0.41	0.40	0.41	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	14.5	LOS B	0.0	0.0	0.49	0.49	195.3	217.0	1.11
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.0	LOS E	0.0	0.0	0.80	0.80	223.5	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2026 Sensitivity - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Sensitivity Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mamre Road (1200m)														
1	L2	104	19.2	104	19.2	0.109	18.7	LOS B	2.8	23.1	0.50	0.72	0.50	58.5
2	T1	1082	20.7	1082	20.7	0.553	8.8	LOS A	11.2	92.5	0.39	0.35	0.39	74.1
3	R2	47	2.2	47	2.2	0.258	62.7	LOS E	2.7	19.5	0.99	0.75	0.99	43.0
Approach		1234	19.9	1234	19.9	0.553	11.7	LOS A	11.2	92.5	0.42	0.40	0.42	71.3
East: Bakers Ln														
4	L2	23	9.1	23	9.1	0.101	47.4	LOS D	1.1	8.2	0.89	0.70	0.89	30.5
5	T1	1	0.0	1	0.0	0.101	36.4	LOS C	1.1	8.2	0.89	0.70	0.89	39.8
6	R2	65	3.2	65	3.2	* 0.360	69.3	LOS E	2.0	14.3	1.00	0.72	1.00	41.4
Approach		89	4.7	89	4.7	0.360	63.2	LOS E	2.0	14.3	0.97	0.72	0.97	39.7
North: Mamre Road (1250m)														
7	L2	189	6.1	189	6.1	0.150	13.7	LOS A	3.7	27.4	0.37	0.71	0.37	61.7
8	T1	1357	19.0	1357	19.0	* 0.683	12.6	LOS A	17.3	141.0	0.48	0.44	0.48	68.1
9	R2	200	18.9	200	18.9	* 0.642	67.1	LOS E	6.0	48.7	1.00	0.81	1.07	41.9
Approach		1746	17.6	1746	17.6	0.683	19.0	LOS B	17.3	141.0	0.53	0.51	0.53	61.2
West: Bakers Ln														
10	L2	103	37.8	103	37.8	0.405	53.6	LOS D	5.5	50.5	0.92	0.79	0.92	44.1
11	T1	1	0.0	1	0.0	0.405	46.2	LOS D	5.5	50.5	0.92	0.79	0.92	36.8
12	R2	46	36.4	46	36.4	* 0.687	74.0	LOS F	3.0	27.5	1.00	0.82	1.21	21.3
Approach		151	37.1	151	37.1	0.687	59.9	LOS E	5.5	50.5	0.94	0.80	1.01	38.5
All Vehicles		3220	19.0	3220	19.0	0.687	19.3	LOS B	17.3	141.0	0.52	0.49	0.52	63.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93
All Pedestrians		42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2026 Project Case\P2175_2026 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2026 Sensitivity - AM)]

 Network: N101 [2026 AM (Network Folder: 2026 Sensitivity Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1021	16.3	1021	16.3	0.393	6.6	LOS A	9.8	78.0	0.36	0.33	0.36	66.1
3	R2	212	18.9	212	18.9	* 0.651	55.5	LOS D	11.6	94.5	0.97	0.83	0.98	33.2
Approach		1233	16.7	1233	16.7	0.651	15.0	LOS B	11.6	94.5	0.47	0.41	0.47	51.5
East: Mirvac Access														
4	L2	74	37.1	74	37.1	0.110	11.2	LOS A	0.8	7.8	0.26	0.61	0.26	47.7
6	R2	212	37.3	212	37.3	* 0.632	64.7	LOS E	6.2	57.7	1.00	0.82	1.05	19.9
Approach		285	37.3	285	37.3	0.632	50.9	LOS D	6.2	57.7	0.81	0.77	0.85	23.5
North: Mamre Rd														
7	L2	322	19.3	322	19.3	0.263	9.7	LOS A	2.9	23.3	0.20	0.66	0.20	64.5
8	T1	1102	19.3	1102	19.3	* 0.656	9.9	LOS A	12.6	102.4	0.42	0.38	0.42	69.2
Approach		1424	19.3	1424	19.3	0.656	9.9	LOS A	12.6	102.4	0.37	0.44	0.37	67.8
All Vehicles		2942	20.0	2942	20.0	0.656	16.0	LOS B	12.6	102.4	0.45	0.46	0.46	57.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	21.0	LOS C	0.0	0.0	0.59	0.59	201.8	217.0	1.08
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	43.1	LOS E	0.0	0.0	0.83	0.83	225.6	219.0	0.97

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2026 Sensitivity - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Sensitivity Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	56	37.7	56	37.7	0.073	22.1	LOS B	1.7	16.1	0.57	0.72	0.57	56.5
2	T1	1257	14.2	1257	14.2	* 0.653	13.0	LOS A	18.1	142.0	0.54	0.49	0.54	71.6
3	R2	33	9.7	33	9.7	0.384	71.4	LOS F	2.0	15.3	1.00	0.72	1.00	40.7
Approach		1345	15.1	1345	15.1	0.653	14.8	LOS B	18.1	142.0	0.55	0.50	0.55	70.0
East: Bakers Ln														
4	L2	42	20.0	42	20.0	0.276	46.3	LOS D	1.9	15.3	0.96	0.74	0.96	30.8
5	T1	1	0.0	1	0.0	* 0.276	35.3	LOS C	1.9	15.3	0.96	0.74	0.96	40.1
6	R2	85	3.7	85	3.7	0.472	69.9	LOS E	2.6	18.9	1.00	0.73	1.00	41.2
Approach		128	9.0	128	9.0	0.472	61.9	LOS E	2.6	18.9	0.98	0.74	0.98	39.2
North: Mamre Road (1250m)														
7	L2	37	17.1	37	17.1	0.035	15.1	LOS B	0.8	6.0	0.37	0.68	0.37	60.8
8	T1	1228	15.7	1228	15.7	0.646	15.6	LOS B	17.5	139.0	0.53	0.48	0.53	65.2
9	R2	87	38.6	87	38.6	* 0.659	75.6	LOS F	2.8	26.2	1.00	0.80	1.18	39.7
Approach		1353	17.2	1353	17.2	0.659	19.5	LOS B	17.5	139.0	0.56	0.51	0.57	61.3
West: Bakers Ln														
10	L2	182	17.3	182	17.3	0.482	50.2	LOS D	9.3	74.9	0.91	0.81	0.91	46.0
11	T1	1	0.0	1	0.0	0.482	42.6	LOS D	9.3	74.9	0.91	0.81	0.91	37.8
12	R2	148	17.0	148	17.0	* 0.512	56.0	LOS D	7.9	63.3	0.95	0.91	0.95	25.2
Approach		332	17.1	332	17.1	0.512	52.8	LOS D	9.3	74.9	0.93	0.85	0.93	38.9
All Vehicles		3158	16.0	3158	16.0	0.659	22.7	LOS B	18.1	142.0	0.61	0.55	0.62	61.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2026 Project Case\P2175_2026 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2026 Sensitivity - PM)]

 Network: N101 [2026 PM (Network Folder: 2026 Sensitivity Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	972	14.3	972	14.3	0.393	9.1	LOS A	11.0	86.4	0.43	0.38	0.43	61.5
3	R2	115	38.5	115	38.5	* 0.649	64.4	LOS E	6.8	63.0	1.00	0.83	1.06	30.6
Approach		1086	16.9	1086	16.9	0.649	14.9	LOS B	11.0	86.4	0.49	0.43	0.49	51.7
East: Mirvac Access														
4	L2	237	17.3	237	17.3	0.343	15.7	LOS B	4.2	34.1	0.38	0.67	0.38	45.7
6	R2	374	17.2	374	17.2	* 0.674	59.7	LOS E	10.6	85.4	0.99	0.84	1.03	21.1
Approach		611	17.2	611	17.2	0.674	42.7	LOS D	10.6	85.4	0.75	0.78	0.78	26.7
North: Mamre Rd														
7	L2	139	37.9	139	37.9	0.121	9.0	LOS A	0.8	7.1	0.14	0.63	0.14	64.5
8	T1	1278	13.3	1278	13.3	* 0.689	11.3	LOS A	15.3	119.4	0.45	0.41	0.45	69.3
Approach		1417	15.8	1417	15.8	0.689	11.1	LOS A	15.3	119.4	0.42	0.43	0.42	68.6
All Vehicles		3114	16.4	3114	16.4	0.689	18.6	LOS B	15.3	119.4	0.51	0.50	0.51	54.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	52.3	LOS E	0.0	0.0	0.93	0.93	235.6	220.0	0.93
East: Mirvac Access											
P2	Full	11	19.3	LOS B	0.0	0.0	0.57	0.57	200.1	217.0	1.08
North: Mamre Rd											
P3	Full	11	52.3	LOS E	0.0	0.0	0.93	0.93	235.6	220.0	0.93
All Pedestrians		32	41.3	LOS E	0.0	0.0	0.81	0.81	223.8	219.0	0.98


Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2031 Base Case - AM)]

 Network: N101 [2031 AM (Network Folder: 2031 Base Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist m				km/h
South: Mamre Road (1200m)														
1	L2	89	18.8	89	18.8	0.079	13.3	LOS A	1.6	13.2	0.34	0.69	0.34	61.4
2	T1	1122	19.1	1122	19.1	0.558	8.2	LOS A	11.2	91.2	0.37	0.34	0.37	74.5
3	R2	54	2.0	54	2.0	0.319	64.3	LOS E	3.1	22.2	1.00	0.75	1.00	42.6
Approach		1265	18.4	1265	18.4	0.558	11.0	LOS A	11.2	91.2	0.40	0.38	0.40	71.8
East: Bakers Ln														
4	L2	27	11.5	27	11.5	0.101	55.8	LOS D	1.4	10.8	0.87	0.72	0.87	27.6
5	T1	1	0.0	1	0.0	0.101	45.2	LOS D	1.4	10.8	0.87	0.72	0.87	37.1
6	R2	76	4.2	76	4.2	0.422	69.7	LOS E	2.3	16.8	1.00	0.73	1.00	41.2
Approach		104	6.1	104	6.1	0.422	65.8	LOS E	2.3	16.8	0.97	0.73	0.97	39.0
North: Mamre Road (1250m)														
7	L2	216	6.3	216	6.3	0.169	13.5	LOS A	4.2	31.0	0.36	0.71	0.36	61.9
8	T1	1332	19.0	1332	19.0	* 0.661	11.6	LOS A	15.7	127.7	0.44	0.40	0.44	69.0
9	R2	175	19.3	175	19.3	* 0.613	67.7	LOS E	5.2	42.7	1.00	0.80	1.05	41.8
Approach		1722	17.4	1722	17.4	0.661	17.5	LOS B	15.7	127.7	0.49	0.48	0.49	62.2
West: Bakers Ln														
10	L2	89	37.6	89	37.6	0.368	54.2	LOS D	4.7	43.8	0.91	0.78	0.91	44.0
11	T1	1	0.0	1	0.0	* 0.368	46.7	LOS D	4.7	43.8	0.91	0.78	0.91	36.7
12	R2	40	36.8	40	36.8	* 0.595	72.8	LOS F	2.5	23.5	1.00	0.78	1.11	21.5
Approach		131	37.1	131	37.1	0.595	59.8	LOS E	4.7	43.8	0.94	0.78	0.97	38.5
All Vehicles		3222	18.2	3222	18.2	0.661	18.2	LOS B	15.7	127.7	0.49	0.46	0.49	64.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93
All Pedestrians		42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2031 Base Case - AM)]

 Network: N101 [2031 AM (Network Folder: 2031 Base Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1129	16.1	1129	16.1	0.416	5.5	LOS A	9.7	77.3	0.32	0.29	0.32	68.9
3	R2	137	19.2	137	19.2	* 0.556	59.2	LOS E	7.6	62.2	0.97	0.81	0.97	32.1
Approach		1266	16.5	1266	16.5	0.556	11.3	LOS A	9.7	77.3	0.39	0.35	0.39	56.5
East: Mirvac Access														
4	L2	61	37.9	61	37.9	0.102	10.0	LOS A	0.4	4.0	0.18	0.58	0.18	49.4
6	R2	136	37.2	136	37.2	* 0.553	67.6	LOS E	4.1	37.5	1.00	0.78	1.02	19.4
Approach		197	37.4	197	37.4	0.553	49.8	LOS D	4.1	37.5	0.75	0.72	0.76	23.9
North: Mamre Rd														
7	L2	266	19.0	266	19.0	0.204	8.3	LOS A	1.0	7.8	0.09	0.63	0.09	65.4
8	T1	1132	19.3	1132	19.3	* 0.579	4.8	LOS A	6.0	48.9	0.20	0.18	0.20	75.3
Approach		1398	19.3	1398	19.3	0.579	5.5	LOS A	6.0	48.9	0.18	0.26	0.18	72.6
All Vehicles		2861	19.3	2861	19.3	0.579	11.1	LOS A	9.7	77.3	0.31	0.33	0.31	62.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	15.5	LOS B	0.0	0.0	0.51	0.51	196.3	217.0	1.11
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.3	LOS E	0.0	0.0	0.80	0.80	223.8	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2031 Base Case - PM)]

 Network: N101 [2031 PM (Network Folder: 2031 Base Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	48	39.1	48	39.1	0.064	21.2	LOS B	1.4	13.2	0.53	0.71	0.53	56.9
2	T1	1242	13.8	1242	13.8	0.643	12.9	LOS A	17.6	137.9	0.53	0.48	0.53	71.7
3	R2	38	11.1	38	11.1	0.452	71.9	LOS F	2.3	17.8	1.00	0.73	1.00	40.6
Approach		1328	14.7	1328	14.7	0.643	14.9	LOS B	17.6	137.9	0.54	0.50	0.54	69.9
East: Bakers Ln														
4	L2	48	19.6	48	19.6	0.202	59.3	LOS E	2.6	20.8	0.90	0.75	0.90	26.9
5	T1	1	0.0	1	0.0	0.202	47.4	LOS D	2.6	20.8	0.90	0.75	0.90	36.5
6	R2	98	4.3	98	4.3	0.218	57.7	LOS E	2.6	19.2	0.94	0.74	0.94	44.3
Approach		147	9.3	147	9.3	0.218	58.1	LOS E	2.6	20.8	0.92	0.74	0.92	40.3
North: Mamre Road (1250m)														
7	L2	41	15.4	41	15.4	0.045	20.3	LOS B	1.1	8.6	0.48	0.70	0.48	58.2
8	T1	1303	14.1	1303	14.1	* 0.676	16.4	LOS B	19.4	152.1	0.56	0.51	0.56	64.9
9	R2	76	37.5	76	37.5	* 0.567	74.4	LOS F	2.4	22.3	1.00	0.76	1.08	40.0
Approach		1420	15.3	1420	15.3	0.676	19.6	LOS B	19.4	152.1	0.58	0.53	0.58	61.6
West: Bakers Ln														
10	L2	158	17.3	158	17.3	0.620	59.2	LOS E	8.9	71.7	0.98	0.82	0.98	43.4
11	T1	1	0.0	1	0.0	* 0.620	51.6	LOS D	8.9	71.7	0.98	0.82	0.98	35.4
12	R2	128	17.2	128	17.2	* 0.649	62.5	LOS E	7.5	60.5	1.00	0.83	1.05	23.6
Approach		287	17.2	287	17.2	0.649	60.6	LOS E	8.9	71.7	0.99	0.82	1.01	36.6
All Vehicles		3183	14.9	3183	14.9	0.676	23.1	LOS B	19.4	152.1	0.62	0.55	0.62	61.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2031 Base Case - PM)]

 Network: N101 [2031 PM (Network Folder: 2031 Base Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1087	14.0	1087	14.0	0.410	7.0	LOS A	10.6	83.2	0.37	0.33	0.37	65.9
3	R2	74	38.6	74	38.6	* 0.606	68.6	LOS E	4.5	41.6	1.00	0.80	1.06	29.5
Approach		1161	15.6	1161	15.6	0.606	10.9	LOS A	10.6	83.2	0.41	0.36	0.41	57.6
East: Mirvac Access														
4	L2	197	17.1	197	17.1	0.336	15.0	LOS B	2.6	21.0	0.30	0.64	0.30	47.9
6	R2	241	17.5	241	17.5	* 0.610	63.7	LOS E	7.0	56.2	1.00	0.81	1.01	20.2
Approach		438	17.3	438	17.3	0.610	41.8	LOS C	7.0	56.2	0.68	0.73	0.69	27.3
North: Mamre Rd														
7	L2	115	37.6	115	37.6	0.096	8.5	LOS A	0.4	3.7	0.09	0.62	0.09	64.9
8	T1	1365	12.6	1365	12.6	* 0.624	8.4	LOS A	9.7	75.4	0.27	0.24	0.27	73.4
Approach		1480	14.5	1480	14.5	0.624	8.4	LOS A	9.7	75.4	0.25	0.27	0.25	72.4
All Vehicles		3079	15.3	3079	15.3	0.624	14.1	LOS A	10.6	83.2	0.37	0.37	0.38	60.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	13.5	LOS B	0.0	0.0	0.48	0.48	194.4	217.0	1.12
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	40.6	LOS E	0.0	0.0	0.79	0.79	223.1	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2031 Project Case - AM)]

 Network: N101 [2031 AM (Network Folder: 2031 Project Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	104	19.2	104	19.2	0.092	13.4	LOS A	1.9	15.6	0.34	0.69	0.34	61.4
2	T1	1122	19.1	1122	19.1	0.565	8.9	LOS A	11.9	96.6	0.39	0.36	0.39	74.1
3	R2	54	2.0	54	2.0	0.319	64.3	LOS E	3.1	22.3	1.00	0.75	1.00	42.6
Approach		1280	18.4	1280	18.4	0.565	11.6	LOS A	11.9	96.6	0.42	0.40	0.42	71.4
East: Bakers Ln														
4	L2	27	11.5	27	11.5	0.101	55.9	LOS D	1.4	10.8	0.87	0.72	0.87	27.6
5	T1	1	0.0	1	0.0	0.101	45.2	LOS D	1.4	10.8	0.87	0.72	0.87	37.1
6	R2	76	4.2	76	4.2	0.362	67.9	LOS E	2.3	16.5	1.00	0.73	1.00	41.7
Approach		104	6.1	104	6.1	0.362	64.5	LOS E	2.3	16.5	0.96	0.73	0.96	39.3
North: Mamre Road (1250m)														
7	L2	216	6.3	216	6.3	0.169	13.5	LOS A	4.2	31.0	0.36	0.71	0.36	61.9
8	T1	1332	19.0	1332	19.0	* 0.670	12.3	LOS A	16.6	135.2	0.47	0.43	0.47	68.3
9	R2	196	17.2	196	17.2	* 0.675	68.6	LOS E	6.0	47.8	1.00	0.82	1.10	41.6
Approach		1743	17.2	1743	17.2	0.675	18.8	LOS B	16.6	135.2	0.51	0.51	0.53	61.2
West: Bakers Ln														
10	L2	103	37.8	103	37.8	0.423	54.8	LOS D	5.5	51.1	0.93	0.79	0.93	43.8
11	T1	1	0.0	1	0.0	* 0.423	47.3	LOS D	5.5	51.1	0.93	0.79	0.93	36.5
12	R2	46	36.4	46	36.4	* 0.589	71.3	LOS F	2.9	26.7	1.00	0.78	1.09	21.8
Approach		151	37.1	151	37.1	0.589	59.8	LOS E	5.5	51.1	0.95	0.79	0.98	38.5
All Vehicles		3278	18.2	3278	18.2	0.675	19.3	LOS B	16.6	135.2	0.51	0.49	0.52	63.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.


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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2031 Project Case\P2175_2031 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2031 Project Case - AM)]

 Network: N101 [2031 AM (Network Folder: 2031 Project Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1144	16.2	1144	16.2	0.422	5.6	LOS A	9.9	78.9	0.33	0.30	0.33	68.8
3	R2	137	19.2	137	19.2	* 0.556	59.2	LOS E	7.6	62.2	0.97	0.81	0.97	32.1
Approach		1281	16.5	1281	16.5	0.556	11.3	LOS A	9.9	78.9	0.40	0.35	0.40	56.6
East: Mirvac Access														
4	L2	61	37.9	61	37.9	0.102	10.0	LOS A	0.4	4.0	0.18	0.58	0.18	49.4
6	R2	136	37.2	136	37.2	* 0.553	67.7	LOS E	4.1	37.5	1.00	0.78	1.02	19.4
Approach		197	37.4	197	37.4	0.553	49.8	LOS D	4.1	37.5	0.75	0.72	0.76	23.9
North: Mamre Rd														
7	L2	266	19.0	266	19.0	0.204	8.2	LOS A	0.9	7.1	0.08	0.63	0.08	65.5
8	T1	1138	19.4	1138	19.4	* 0.583	4.6	LOS A	5.7	46.2	0.19	0.17	0.19	75.6
Approach		1404	19.3	1404	19.3	0.583	5.3	LOS A	5.7	46.2	0.17	0.26	0.17	72.8
All Vehicles		2882	19.3	2882	19.3	0.583	11.0	LOS A	9.9	78.9	0.31	0.33	0.31	63.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	15.5	LOS B	0.0	0.0	0.51	0.51	196.3	217.0	1.11
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	41.3	LOS E	0.0	0.0	0.80	0.80	223.8	219.0	0.98


Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2031 Project Case - PM)]

 Network: N101 [2031 PM (Network Folder: 2031 Project Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	56	37.7	56	37.7	0.076	22.0	LOS B	1.7	15.3	0.54	0.72	0.54	56.5
2	T1	1242	13.8	1242	13.8	0.662	14.6	LOS B	19.2	150.0	0.58	0.52	0.58	70.7
3	R2	38	11.1	38	11.1	0.452	71.7	LOS F	2.3	17.9	1.00	0.73	1.00	40.6
Approach		1336	14.7	1336	14.7	0.662	16.5	LOS B	19.2	150.0	0.59	0.54	0.59	69.0
East: Bakers Ln														
4	L2	48	19.6	48	19.6	0.192	58.7	LOS E	2.5	20.5	0.89	0.74	0.89	27.2
5	T1	1	0.0	1	0.0	0.192	46.4	LOS D	2.5	20.5	0.89	0.74	0.89	36.8
6	R2	98	4.3	98	4.3	0.205	56.6	LOS E	2.6	18.9	0.93	0.74	0.93	44.6
Approach		147	9.3	147	9.3	0.205	57.2	LOS E	2.6	20.5	0.92	0.74	0.92	40.7
North: Mamre Road (1250m)														
7	L2	41	15.4	41	15.4	0.046	21.3	LOS B	1.1	8.9	0.50	0.70	0.50	57.8
8	T1	1303	14.1	1303	14.1	* 0.696	18.3	LOS B	21.1	165.5	0.60	0.55	0.60	63.3
9	R2	87	38.6	87	38.6	* 0.659	75.6	LOS F	2.8	26.2	1.00	0.80	1.18	39.7
Approach		1432	15.6	1432	15.6	0.696	21.9	LOS B	21.1	165.5	0.63	0.57	0.64	59.9
West: Bakers Ln														
10	L2	182	17.3	182	17.3	0.678	59.7	LOS E	10.5	84.1	0.99	0.84	1.03	43.3
11	T1	1	0.0	1	0.0	* 0.678	52.1	LOS D	10.5	84.1	0.99	0.84	1.03	35.2
12	R2	148	17.0	148	17.0	* 0.702	62.8	LOS E	8.8	70.7	1.00	0.85	1.09	23.6
Approach		332	17.1	332	17.1	0.702	61.1	LOS E	10.5	84.1	0.99	0.85	1.06	36.5
All Vehicles		3246	15.1	3246	15.1	0.702	25.3	LOS B	21.1	165.5	0.66	0.59	0.67	60.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93
All Pedestrians		42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.


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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2031 Project Case\P2175_2031 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2031 Project Case - PM)]

 Network: N101 [2031 PM (Network Folder: 2031 Project Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total HV] veh/h	%				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1095	14.1	1095	14.1	0.414	7.0	LOS A	10.7	84.1	0.37	0.33	0.37	65.9
3	R2	74	38.6	74	38.6	* 0.606	68.6	LOS E	4.5	41.6	1.00	0.80	1.06	29.5
Approach		1168	15.7	1168	15.7	0.606	10.9	LOS A	10.7	84.1	0.41	0.36	0.41	57.6
East: Mirvac Access														
4	L2	197	17.1	197	17.1	0.339	15.7	LOS B	2.6	21.2	0.30	0.64	0.30	47.8
6	R2	241	17.5	241	17.5	* 0.610	63.7	LOS E	7.0	56.2	1.00	0.81	1.01	20.2
Approach		438	17.3	438	17.3	0.610	42.1	LOS C	7.0	56.2	0.68	0.73	0.69	27.3
North: Mamre Rd														
7	L2	115	37.6	115	37.6	0.096	8.5	LOS A	0.4	3.6	0.09	0.62	0.09	64.9
8	T1	1385	12.6	1385	12.6	* 0.633	8.6	LOS A	9.8	75.8	0.27	0.24	0.27	73.6
Approach		1500	14.5	1500	14.5	0.633	8.6	LOS A	9.8	75.8	0.25	0.27	0.25	72.5
All Vehicles		3106	15.4	3106	15.4	0.633	14.2	LOS A	10.7	84.1	0.37	0.37	0.37	60.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	13.5	LOS B	0.0	0.0	0.48	0.48	194.4	217.0	1.12
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	40.6	LOS E	0.0	0.0	0.79	0.79	223.1	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [[ID: 1] (AM) Bakers Lane / Mamre Road - AM (Site Folder: 2031 Sensitivity - AM)]

Network: N101 [2031 AM (Network Folder: 2031 Sensitivity Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Road (1200m)														
1	L2	104	19.2	104	19.2	0.092	13.7	LOS A	2.1	17.5	0.38	0.70	0.38	61.2
2	T1	1198	20.3	1198	20.3	0.601	8.6	LOS A	12.8	105.0	0.40	0.36	0.40	74.3
3	R2	54	2.0	54	2.0	0.319	64.3	LOS E	3.1	22.3	1.00	0.75	1.00	42.6
Approach		1356	19.5	1356	19.5	0.601	11.2	LOS A	12.8	105.0	0.42	0.40	0.42	71.7
East: Bakers Ln														
4	L2	27	11.5	27	11.5	0.101	59.6	LOS E	1.4	10.8	0.87	0.72	0.87	27.6
5	T1	1	0.0	1	0.0	0.101	45.2	LOS D	1.4	10.8	0.87	0.72	0.87	37.1
6	R2	76	4.2	76	4.2	0.422	69.7	LOS E	2.3	16.8	1.00	0.73	1.00	41.2
Approach		104	6.1	104	6.1	0.422	66.8	LOS E	2.3	16.8	0.97	0.73	0.97	39.0
North: Mamre Road (1250m)														
7	L2	216	6.3	216	6.3	0.169	13.5	LOS A	4.2	31.0	0.36	0.71	0.36	61.9
8	T1	1482	19.0	1482	19.0	* 0.736	14.2	LOS A	20.1	163.7	0.51	0.47	0.51	68.2
9	R2	200	18.9	200	18.9	* 0.700	69.3	LOS E	6.1	49.9	1.00	0.83	1.13	41.4
Approach		1898	17.6	1898	17.6	0.736	19.9	LOS B	20.1	163.7	0.54	0.53	0.56	61.5
West: Bakers Ln														
10	L2	103	37.8	103	37.8	0.423	55.0	LOS D	5.5	51.1	0.93	0.79	0.93	43.8
11	T1	1	0.0	1	0.0	* 0.423	47.3	LOS D	5.5	51.1	0.93	0.79	0.93	36.5
12	R2	46	36.4	46	36.4	* 0.687	74.0	LOS F	3.0	27.5	1.00	0.82	1.21	21.3
Approach		151	37.1	151	37.1	0.687	60.8	LOS E	5.5	51.1	0.95	0.80	1.01	38.3
All Vehicles		3508	18.8	3508	18.8	0.736	19.7	LOS B	20.1	163.7	0.53	0.50	0.54	63.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2031 Project Case\P2175_2031 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] (AM) Mamre x Mirvac Access - AM (Site Folder: 2031 Sensitivity - AM)]

 Network: N101 [2031 AM (Network Folder: 2031 Sensitivity Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1144	16.2	1144	16.2	0.435	7.0	LOS A	11.1	88.8	0.37	0.33	0.37	66.4
3	R2	212	18.9	212	18.9	* 0.708	58.9	LOS E	12.1	98.6	0.99	0.85	1.05	32.2
Approach		1356	16.6	1356	16.6	0.708	15.1	LOS B	12.1	98.6	0.46	0.42	0.47	51.8
East: Mirvac Access														
4	L2	74	37.1	74	37.1	0.119	12.6	LOS A	0.9	8.6	0.28	0.62	0.28	47.2
6	R2	212	37.3	212	37.3	* 0.677	67.2	LOS E	6.4	59.0	1.00	0.84	1.10	19.5
Approach		285	37.3	285	37.3	0.677	53.1	LOS D	6.4	59.0	0.81	0.78	0.89	23.0
North: Mamre Rd														
7	L2	322	19.3	322	19.3	0.262	9.7	LOS A	2.8	22.8	0.20	0.66	0.20	64.5
8	T1	1231	19.2	1231	19.2	* 0.698	9.4	LOS A	13.7	111.6	0.41	0.38	0.41	70.4
Approach		1553	19.3	1553	19.3	0.698	9.4	LOS A	13.7	111.6	0.37	0.43	0.37	68.7
All Vehicles		3194	19.7	3194	19.7	0.708	15.7	LOS B	13.7	111.6	0.45	0.46	0.46	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
East: Mirvac Access											
P2	Full	11	19.3	LOS B	0.0	0.0	0.57	0.57	200.1	217.0	1.08
North: Mamre Rd											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.5	220.0	0.93
All Pedestrians		32	42.5	LOS E	0.0	0.0	0.82	0.82	225.0	219.0	0.97

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 1 [[ID: 1] Bakers Lane / Mamre Road - PM (Site Folder: 2031 Sensitivity - PM)]

Network: N101 [2031 PM (Network Folder: 2031 Sensitivity Network)]

Bakers Lane / Mamre Road

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Mamre Road (1200m)														
1	L2	56	37.7	56	37.7	0.074	21.9	LOS B	1.7	15.6	0.55	0.72	0.55	56.6
2	T1	1375	14.1	1375	14.1	0.724	14.7	LOS B	22.6	177.6	0.62	0.56	0.62	70.7
3	R2	38	11.1	38	11.1	0.452	71.9	LOS F	2.4	18.1	1.00	0.73	1.00	40.6
Approach		1468	14.9	1468	14.9	0.724	16.4	LOS B	22.6	177.6	0.62	0.57	0.62	69.1
East: Bakers Ln														
4	L2	48	19.6	48	19.6	0.202	62.0	LOS E	2.6	20.8	0.90	0.75	0.90	26.9
5	T1	1	0.0	1	0.0	0.202	47.4	LOS D	2.6	20.8	0.90	0.75	0.90	36.5
6	R2	98	4.3	98	4.3	0.205	56.6	LOS E	2.6	18.9	0.93	0.74	0.93	44.6
Approach		147	9.3	147	9.3	0.205	58.3	LOS E	2.6	20.8	0.92	0.74	0.92	40.5
North: Mamre Road (1250m)														
7	L2	41	15.4	41	15.4	0.045	20.8	LOS B	1.1	8.7	0.49	0.70	0.49	58.0
8	T1	1368	15.2	1368	15.2	* 0.728	19.1	LOS B	22.7	179.4	0.62	0.56	0.62	63.6
9	R2	87	38.6	87	38.6	* 0.659	75.6	LOS F	2.8	26.2	1.00	0.80	1.18	39.7
Approach		1497	16.6	1497	16.6	0.728	22.4	LOS B	22.7	179.4	0.64	0.58	0.65	60.3
West: Bakers Ln														
10	L2	182	17.3	182	17.3	0.714	62.0	LOS E	10.7	86.1	1.00	0.86	1.08	42.7
11	T1	1	0.0	1	0.0	* 0.714	54.1	LOS D	10.7	86.1	1.00	0.86	1.08	34.7
12	R2	148	17.0	148	17.0	* 0.702	62.8	LOS E	8.8	70.7	1.00	0.85	1.09	23.6
Approach		332	17.1	332	17.1	0.714	62.4	LOS E	10.7	86.1	1.00	0.86	1.08	36.2
All Vehicles		3444	15.6	3444	15.6	0.728	25.2	LOS B	22.7	179.4	0.68	0.61	0.69	60.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist m			sec	m	m/sec
South: Mamre Road (1200m)											
P1	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	242.8	226.4	0.93
East: Bakers Ln											
P2	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	236.4	218.7	0.93
North: Mamre Road (1250m)											
P3	Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	249.3	234.1	0.94

West: Bakers Ln											
P4 Full	11	54.2	LOS E	0.0	0.0	0.95	0.95	237.0	219.4	0.93	
All Pedestrians	42	54.2	LOS E	0.0	0.0	0.95	0.95	241.4	224.7	0.93	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\AngelaJi\Ason Group\Ason Group Team Site - 2175\Project\Modelling\2031 Project Case\P2175_2031 Project Case.sip9

MOVEMENT SUMMARY

 Site: 2 [[ID: 2] Mamre x Mirvac Access - PM (Site Folder: 2031 Sensitivity - PM)]

 Network: N101 [2031 PM (Network Folder: 2031 Sensitivity Network)]

Mamre Road x Mirvac Access

Site Category: Proposed Interim

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mamre Rd														
2	T1	1095	14.1	1095	14.1	0.437	9.9	LOS A	12.7	99.3	0.44	0.39	0.44	61.6
3	R2	115	38.5	115	38.5	* 0.741	68.9	LOS E	7.1	66.2	1.00	0.87	1.17	29.5
Approach		1209	16.4	1209	16.4	0.741	15.5	LOS B	12.7	99.3	0.49	0.44	0.51	52.0
East: Mirvac Access														
4	L2	237	17.3	237	17.3	0.372	23.1	LOS B	4.6	36.7	0.41	0.68	0.41	45.4
6	R2	376	17.1	376	17.1	* 0.711	62.5	LOS E	11.0	87.9	1.00	0.86	1.07	20.6
Approach		613	17.2	613	17.2	0.711	47.3	LOS D	11.0	87.9	0.77	0.79	0.81	26.2
North: Mamre Rd														
7	L2	139	37.9	139	37.9	0.121	8.9	LOS A	0.7	6.5	0.12	0.63	0.12	64.6
8	T1	1424	13.2	1424	13.2	* 0.733	13.1	LOS A	15.7	122.4	0.41	0.38	0.41	71.3
Approach		1563	15.4	1563	15.4	0.733	12.7	LOS A	15.7	122.4	0.39	0.40	0.39	70.4
All Vehicles		3385	16.1	3385	16.1	0.741	20.0	LOS B	15.7	122.4	0.49	0.48	0.51	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
South: Mamre Rd											
P1	Full	11	53.2	LOS E	0.0	0.0	0.94	0.94	236.6	220.0	0.93
East: Mirvac Access											
P2	Full	11	17.6	LOS B	0.0	0.0	0.54	0.54	198.4	217.0	1.09
North: Mamre Rd											
P3	Full	11	53.2	LOS E	0.0	0.0	0.94	0.94	236.6	220.0	0.93
All Pedestrians		32	41.4	LOS E	0.0	0.0	0.81	0.81	223.9	219.0	0.98

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

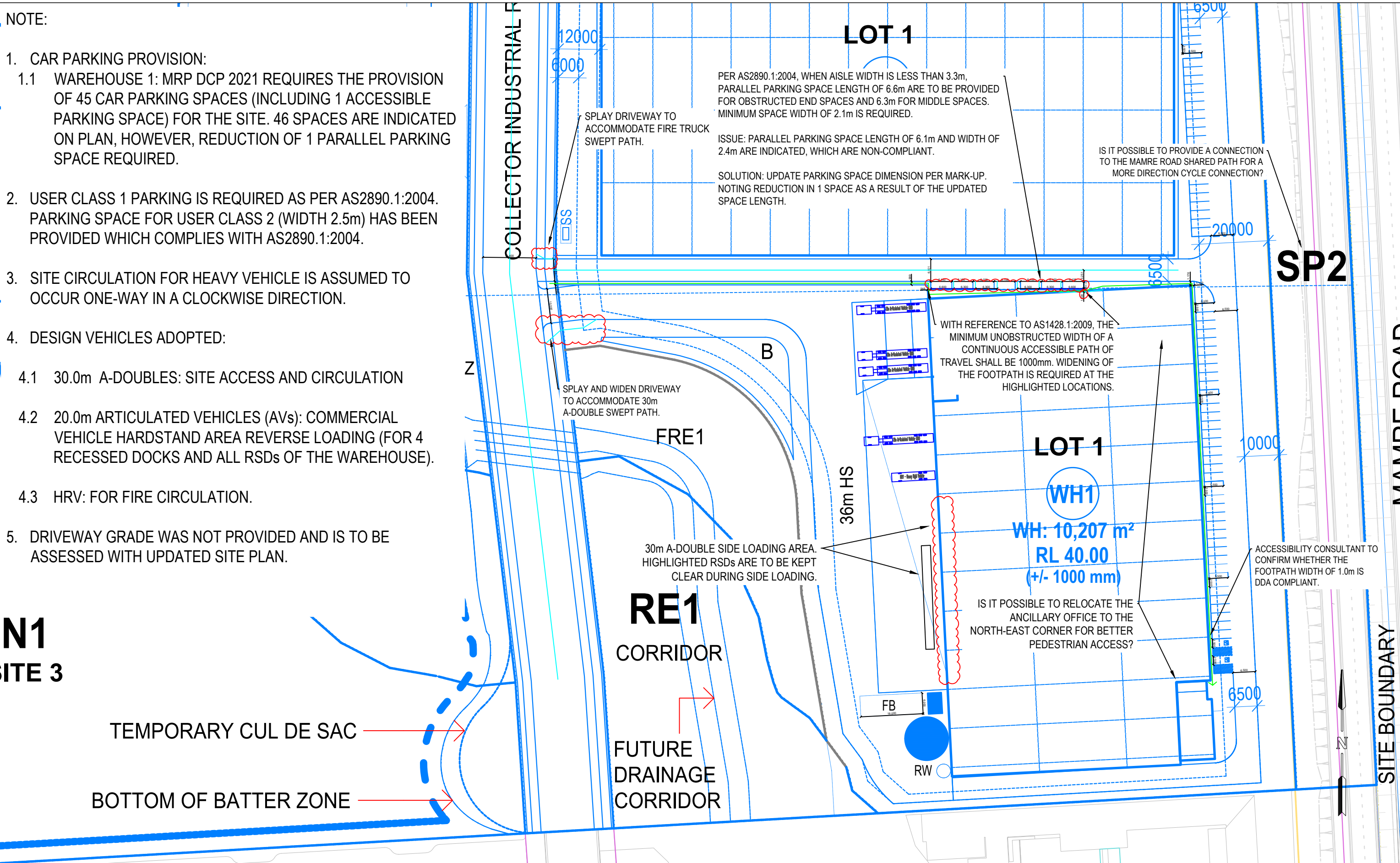
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Appendix D. Design Review

NOTE:

- CAR PARKING PROVISION:
 - WAREHOUSE 1: MRP DCP 2021 REQUIRES THE PROVISION OF 45 CAR PARKING SPACES (INCLUDING 1 ACCESSIBLE PARKING SPACE) FOR THE SITE. 46 SPACES ARE INDICATED ON PLAN, HOWEVER, REDUCTION OF 1 PARALLEL PARKING SPACE REQUIRED.
- USER CLASS 1 PARKING IS REQUIRED AS PER AS2890.1:2004. PARKING SPACE FOR USER CLASS 2 (WIDTH 2.5m) HAS BEEN PROVIDED WHICH COMPLIES WITH AS2890.1:2004.
- SITE CIRCULATION FOR HEAVY VEHICLE IS ASSUMED TO OCCUR ONE-WAY IN A CLOCKWISE DIRECTION.
- DESIGN VEHICLES ADOPTED:
 - 30.0m A-DOUBLES: SITE ACCESS AND CIRCULATION
 - 20.0m ARTICULATED VEHICLES (AVs): COMMERCIAL VEHICLE HARDSTAND AREA REVERSE LOADING (FOR 4 RECESSED DOCKS AND ALL RSDs OF THE WAREHOUSE).
 - HRV: FOR FIRE CIRCULATION.
- DRIVEWAY GRADE WAS NOT PROVIDED AND IS TO BE ASSESSED WITH UPDATED SITE PLAN.


N1
SITE 3



GENERAL NOTES

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Base Plan prepared by SBA Architects, received 29.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED AngelaJi	PAPER SIZE A3	CLIENT The GPT Group
APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175
SCALE 1:1000	NTS	771-797 Mamre Road, Kemps Creek, NSW

DOCUMENT INFORMATION		 Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au
Design Assessment		
Warehouse 1		
FILE NAME	SHEET	
AG2175-01-v01.dwg	AG01	

ONE

collecto

SSO

(+/- 1000 mm)

FRE1

The diagram shows a plan view of a waterway area. A solid blue line runs vertically on the left, labeled 'RE1 CORRIDOR'. A dashed blue line runs vertically on the right, labeled 'FUTURE DRAINAGE CORRIDOR'. A red line starts from the bottom left, turns right, and then turns right again to point towards the future drainage corridor, indicating a proposed flow or connection.

~~LOT 1~~

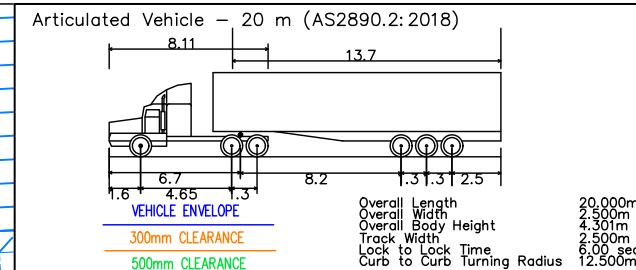
(WH1)

WH: 10,207 m²
RL 40.00
(+/- 1000 mm)



RW

SP2



MAMRE ROAD

SITE BOUNDARY

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by SBA Architects, received 29.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 20m AV

DESIGNED Angela.Ji	PAPER SIZE A3	CLIENT The GPT Group
APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175
SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW

Swept Path Assessment

20m AV - Entry

FILE NAME
AG2175-01-v01.dwg

SHEET
AG03



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Sydney NSW 2000
info@asongroup.com.au

ONE

collecto

(+/- 1000 mm)

FRE1

B

36m HS

LOT 1

WH1

WH: 10,207 m²
RL 40.00
(+/- 1000 mm)

RE1
CORRIDOR

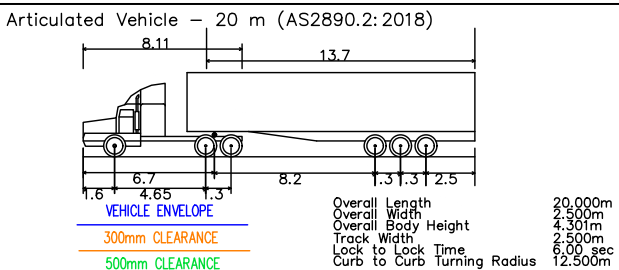
FUTURE
DRAINAGE
CORRIDOR

The diagram shows a plan view of a road corridor. A red line, labeled 'RE1 CORRIDOR', runs vertically. A blue line, labeled 'FUTURE DRAINAGE CORRIDOR', runs diagonally from the top right to the bottom left. A red arrow points from the RE1 corridor towards the future drainage corridor.

FB


RW

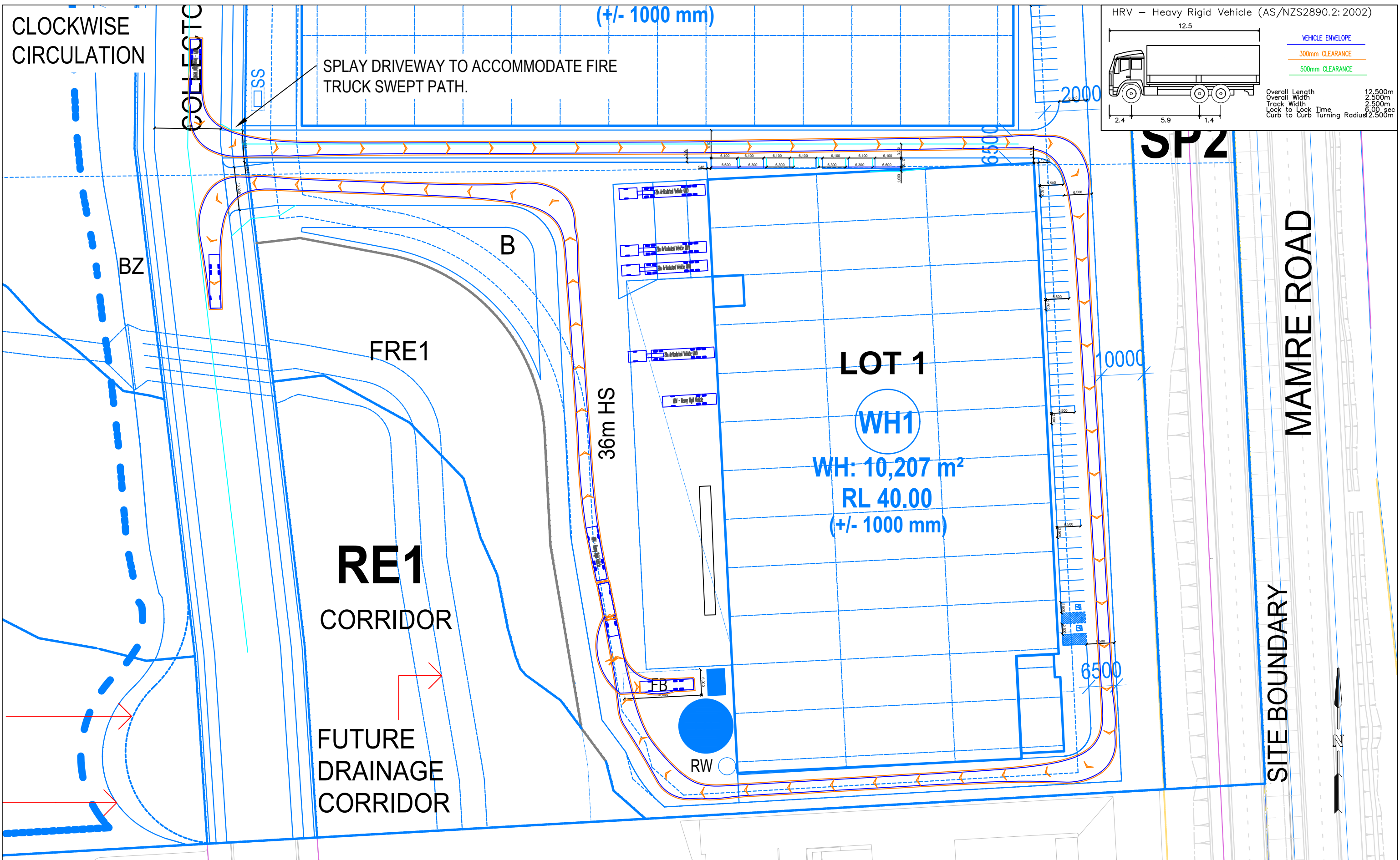
SP2



MAMRE ROAD

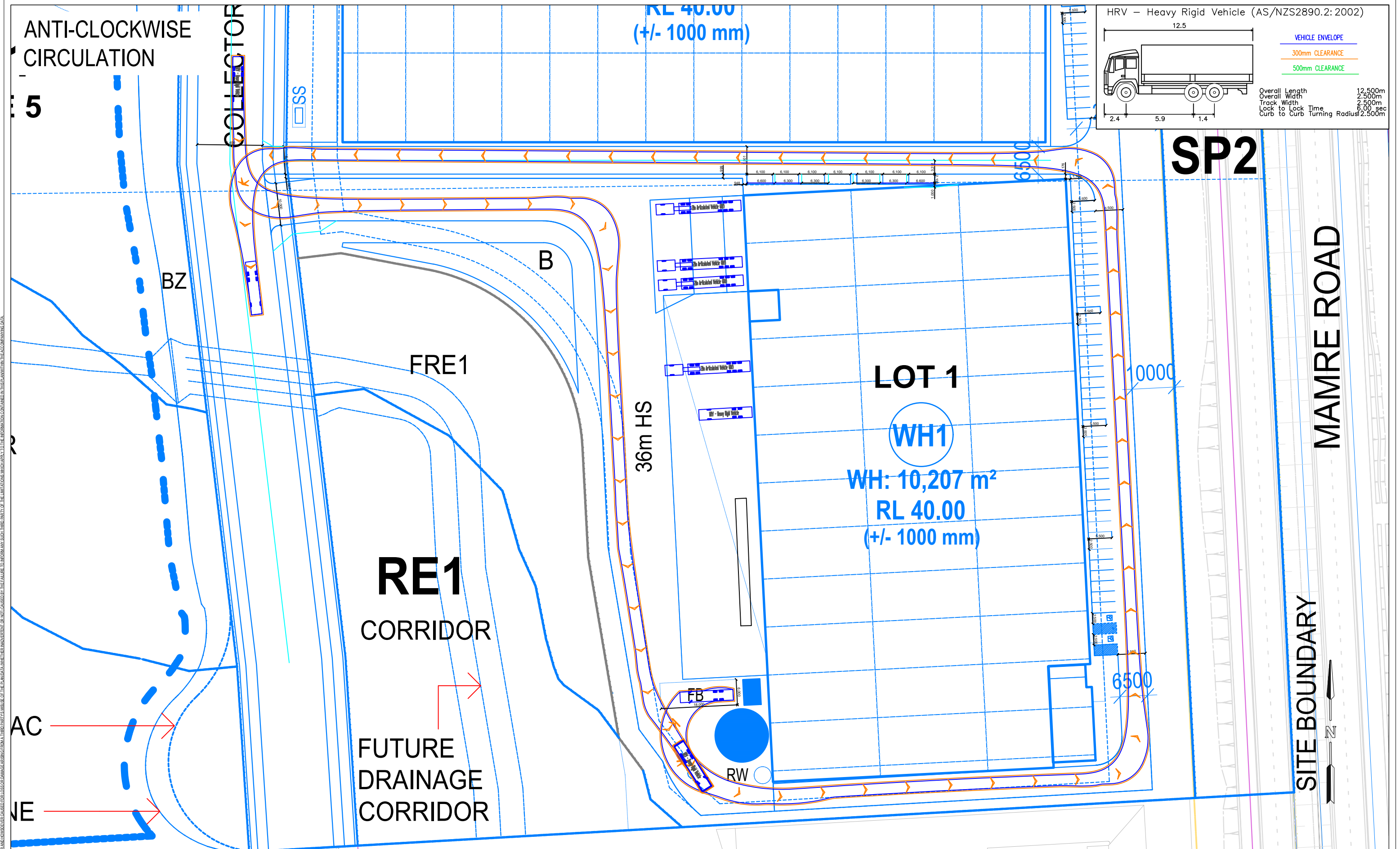
SITE BOUNDARY

<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by SBA Architects, received 29.11.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 20m AV Check Vehicle: 20m AV</div>	DESIGNED Angelaji	PAPER SIZE A3	CLIENT The GPT Group	DOCUMENT INFORMATION Swept Path Assessment		<div></div> <div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div>
	APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	20m AV - Exit		
	SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW		FILE NAME AG2175-01-v01.dwg	



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	APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	Swept Path Assessment	
	SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW	Fire Truck - Clockwise Circulation	
				FILE NAME AG2175-01-v01.dwg	SHEET AG05

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Sydney NSW 2000
info@asongroup.com.au

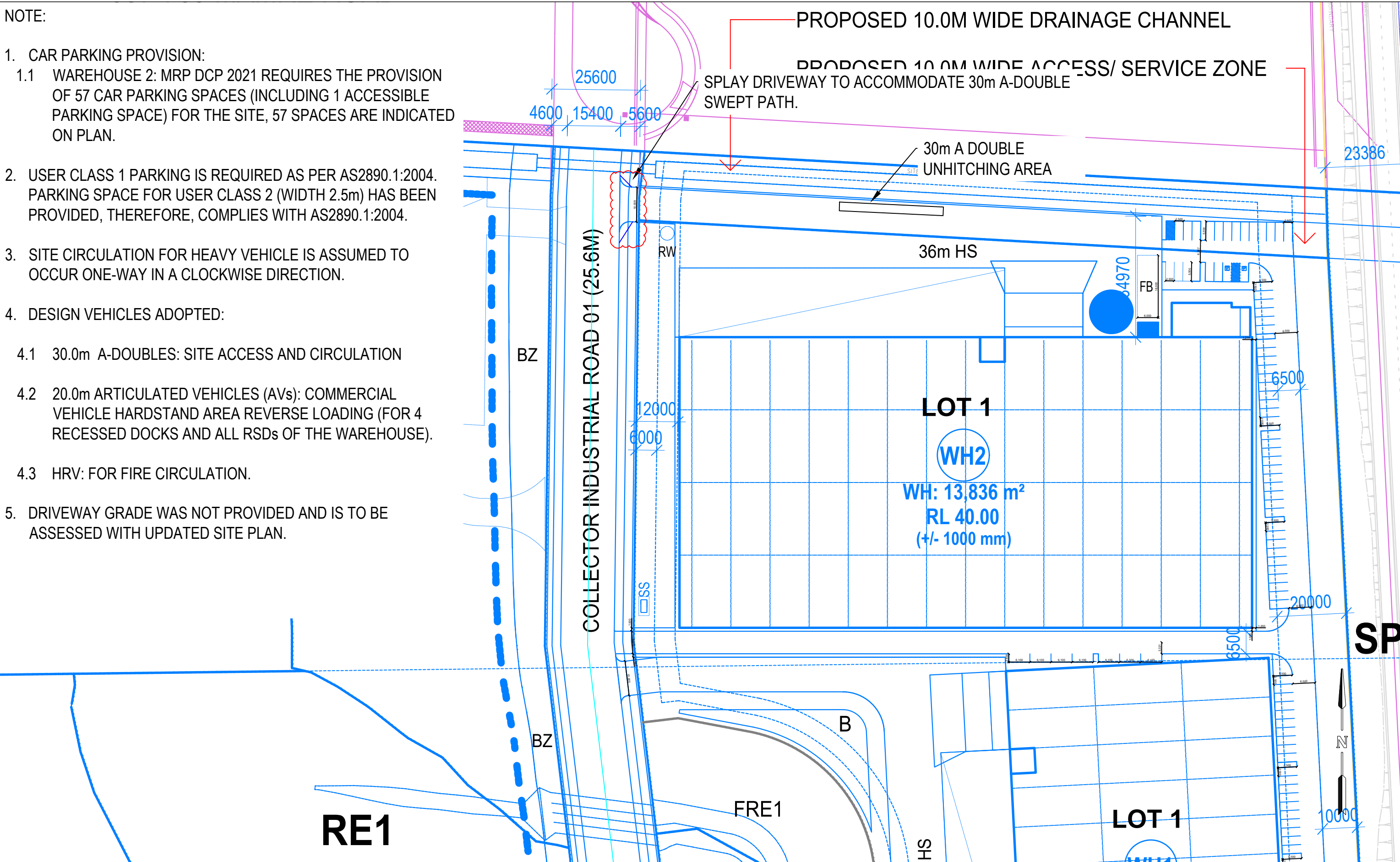


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	APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	Swept Path Assessment	
	SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW	FILE NAME AG2175-01-v01.dwg	SHEET AG06
				Fire Truck - Anti-clockwise Circulation	

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

NOTE:

1. CAR PARKING PROVISION:
- 1.1 WAREHOUSE 2: MRP DCP 2021 REQUIRES THE PROVISION OF 57 CAR PARKING SPACES (INCLUDING 1 ACCESSIBLE PARKING SPACE) FOR THE SITE, 57 SPACES ARE INDICATED ON PLAN.
2. USER CLASS 1 PARKING IS REQUIRED AS PER AS2890.1:2004. PARKING SPACE FOR USER CLASS 2 (WIDTH 2.5m) HAS BEEN PROVIDED, THEREFORE, COMPLIES WITH AS2890.1:2004.
3. SITE CIRCULATION FOR HEAVY VEHICLE IS ASSUMED TO OCCUR ONE-WAY IN A CLOCKWISE DIRECTION.
4. DESIGN VEHICLES ADOPTED:
- 4.1 30.0m A-DOUBLES: SITE ACCESS AND CIRCULATION
- 4.2 20.0m ARTICULATED VEHICLES (AVs): COMMERCIAL VEHICLE HARDSTAND AREA REVERSE LOADING (FOR 4 RECESSED DOCKS AND ALL RSDs OF THE WAREHOUSE).
- 4.3 HRV: FOR FIRE CIRCULATION.
5. DRIVEWAY GRADE WAS NOT PROVIDED AND IS TO BE ASSESSED WITH UPDATED SITE PLAN.

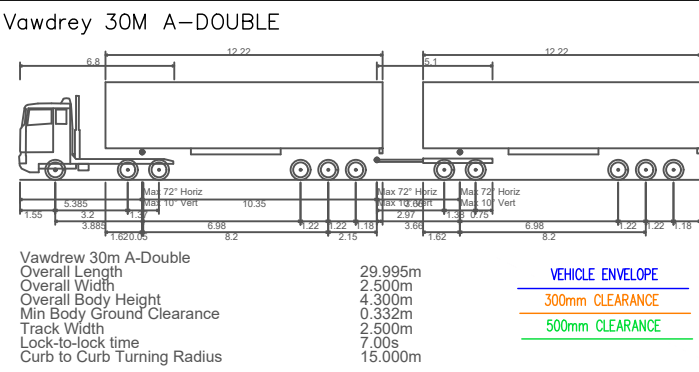


GENERAL NOTES

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Base Plan prepared by SBA Architects, received 29.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.

DESIGNED AngelaJi	PAPER SIZE A3	CLIENT The GPT Group	DOCUMENT INFORMATION	
APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	Design Assessment	
SCALE 1:1000	NTS	771-797 Mamre Road, Kempers Creek, NSW	Warehouse 2	
			FILE NAME AG2175-02-v01.dwg	SHEET AG01

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Sydney NSW 2000
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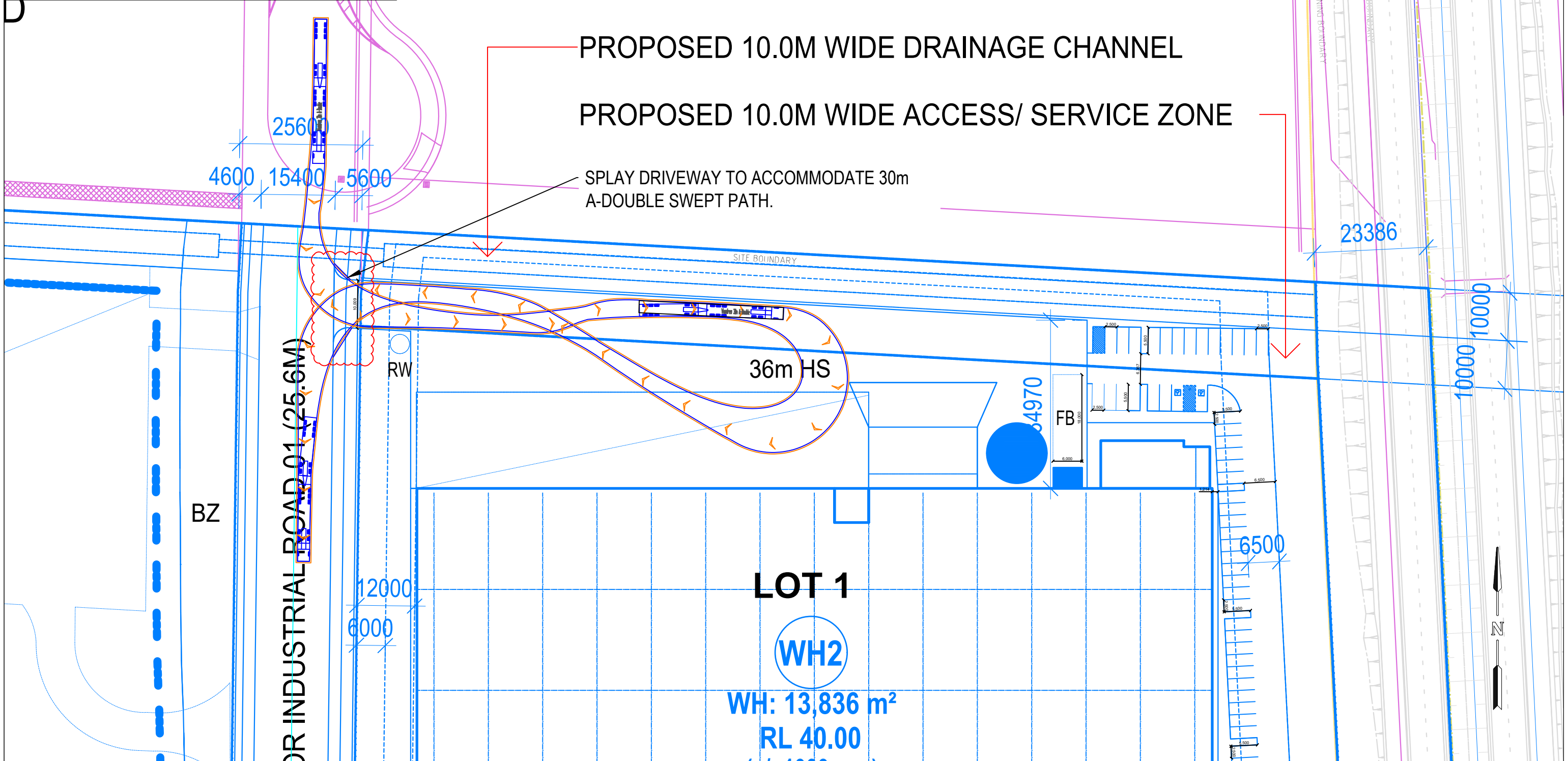


ADJOINING FUTURE LOT

PROPOSED 10.0M WIDE DRAINAGE CHANNEL

PROPOSED 10.0M WIDE ACCESS/ SERVICE ZONE

SPLAY DRIVEWAY TO ACCOMMODATE 30m A-DOUBLE SWEEP PATH.



GENERAL NOTES

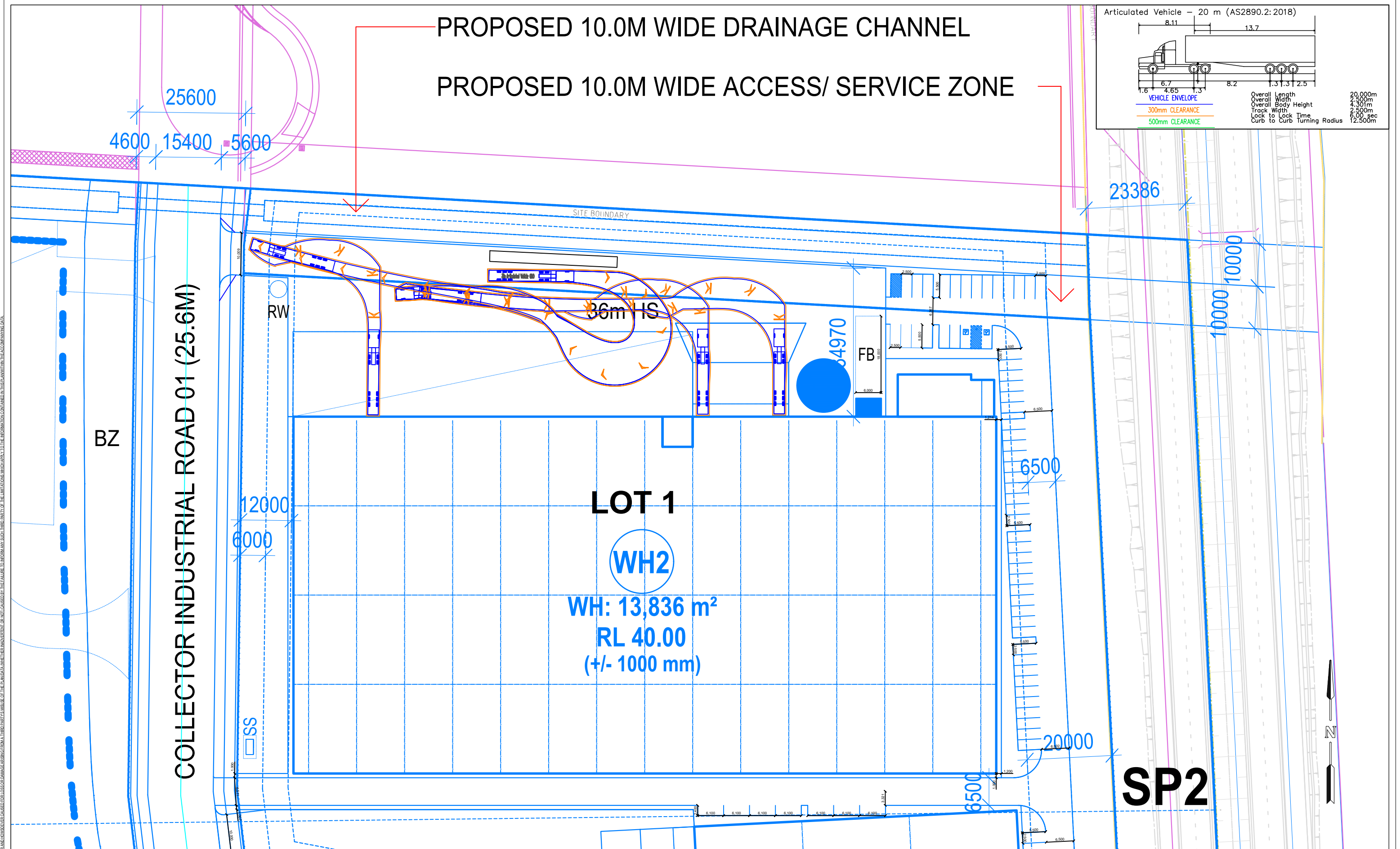
This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by SBA Architects, received 29.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 30m A Double

DESIGNED AngelaJi	PAPER SIZE A3	CLIENT The GPT Group
APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175
SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW

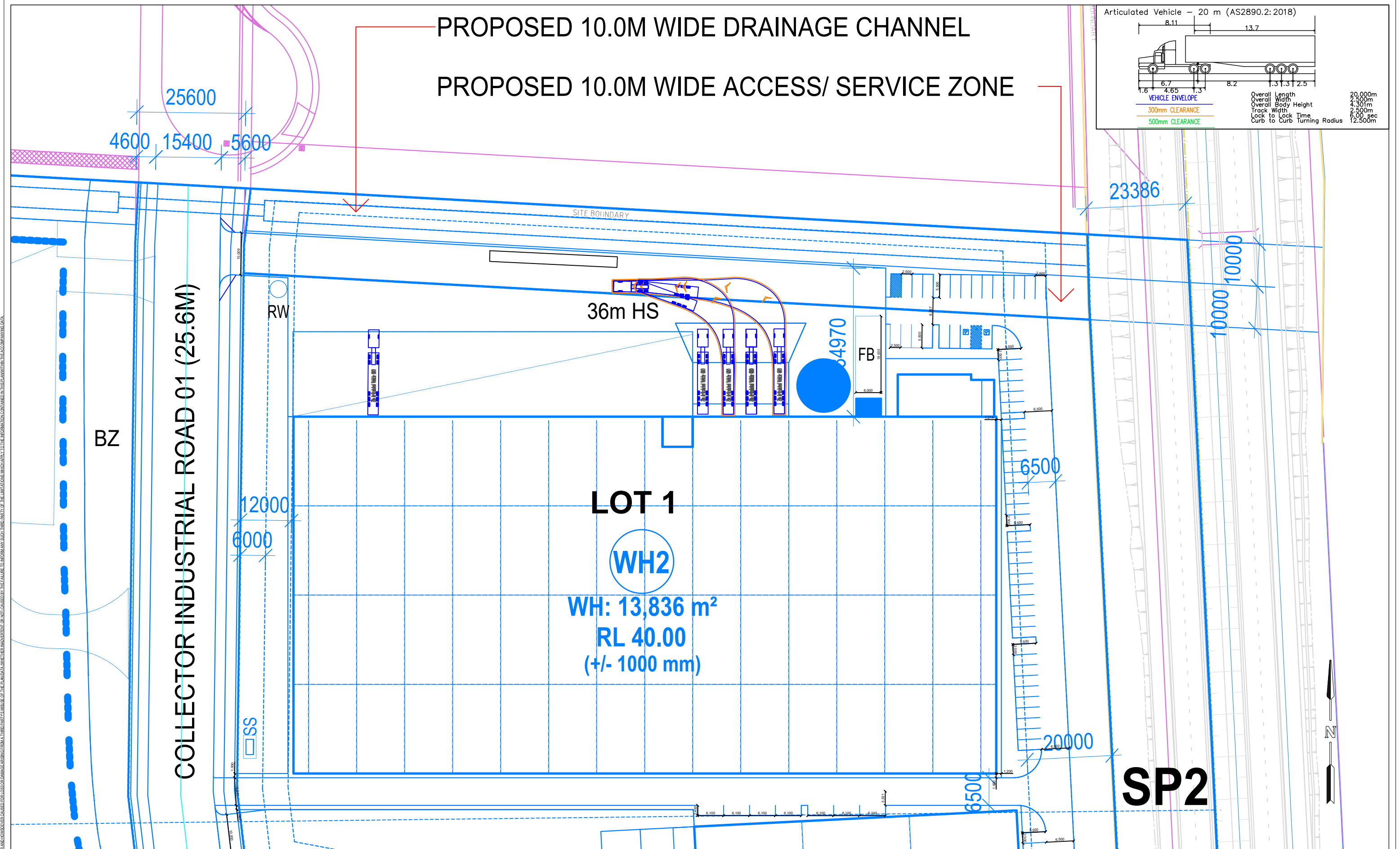
DOCUMENT INFORMATION	
Swept Path Assessment	
30m A Double	
FILE NAME AG2175-02-v01.dwg	SHEET AG02

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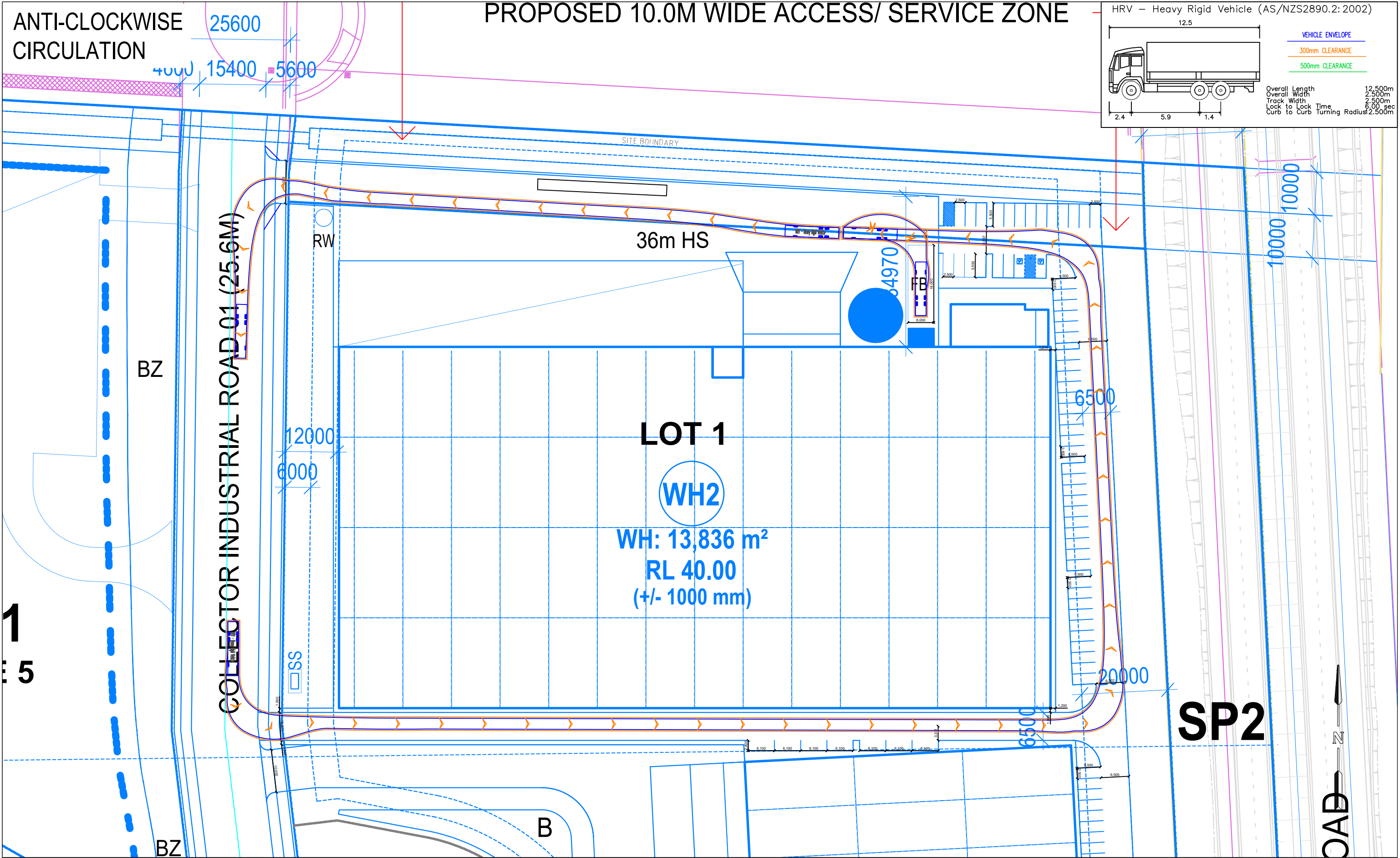
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



GENERAL NOTES This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by SBA Architects, received 29.11.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 20m AV Check Vehicle: 20m AV	DESIGNED AngelaJi	PAPER SIZE A3	CLIENT The GPT Group	DOCUMENT INFORMATION	
	APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	Swept Path Assessment	
	SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW	FILE NAME AG2175-02-v01.dwg	SHEET AG03
				asongroup Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au	



<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by SBA Architects, received 29.11.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 20m AV Check Vehicle: 20m AV</div>	DESIGNED Angela Ji	PAPER SIZE A3	CLIENT The GPT Group	DOCUMENT INFORMATION		<div>asongroup</div> <div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div>
	APPROVED BY X.XXXX	DATE 12.12.2022	PROJECT 2175	Swept Path Assessment		
	SCALE 1:800	NTS	771-797 Mamre Road, Kemps Creek, NSW	20m AV Exit		
				FILE NAME AG2175-02-v01.dwg	SHEET AG04	



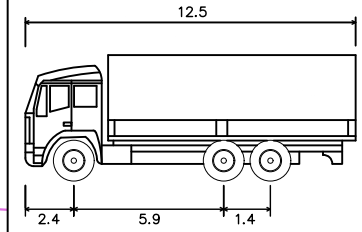
GENERAL NOTES	DESIGNED	PAPER SIZE	CLIENT		DOCUMENT INFORMATION	
	AngelaJi	A3	The GPT Group		Swept Path Assessment	
	APPROVED BY	DATE	PROJECT		Fire Truck - Anti-Clockwise Circulation	
	X.XXXX	12.12.2022	2175		FILE NAME	SHEET
This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by SBA Architects, received 29.11.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 20m AV Check Vehicle: 20m AV	SCALE	NTS		771-797 Mamre Road, Kemps Creek, NSW		AG05
	1:800			AG2175-02-v01.dwg		AG05
					asongroup	
					Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au	

CLOCKWISE
CIRCULATION

Diagram illustrating the addition of 4600 and 5600 to get 10200, then adding 15400 to get 25600.

PROPOSED 10.0M WIDE ACCESS/ SERVICE ZONE

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		2.500m

COLLECTOR INDUSTRIAL ROAD 01 (25.6M)

EXTENSIVE REVERSING DISTANCE IS REQUIRED FOR CLOCKWISE FIRE TRUCK CIRCULATION. FIRE CONSULTANT TO ADVISE WHETHER CIRCULATION CAN OCCUR IN ANTI-CLOCKWISE DIRECTION ONLY.

WH: 13,836 m²
RL 40.00
(+/- 1000 mm)

SP2

OAD — Z —

GENERAL NOTES

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Base Plan prepared by SBA Architects, received 29.11.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 20m AV Check Vehicle: 20m AV

DESIGNED	AngelaJi
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APPROVED BY
X.XXXX

SCALE
1:800

PAPER SIZE
A3

DATE	12.12.2022
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NTS

CLIENT

The GPT Group

	PROJECT
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2175

771-797 Mamre Road, Kemps Creek, NSW

DOCUMENT INFORMATION

Swept Path Assessment

Fire Truck - Clockwise Circulation

FILE NAME

AG2175-02-v01.dwg

	SHEET
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AG06

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