6 October 2021

Frasers Property Australia & Altis Property Partners (Joint Venture)

(via Email)

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Attn: Paul Solomon & Stephen O'Connor

RE: 657-703 Mamre Road, Kemps Creek (SSD-9522) Modification 2 – Technical Note

Dear Paul and Stephen,

Ason Group has been engaged by Frasers Property Australia and Altis Property Partners Joint Venture (the JV) to prepare a Technical Note (TN) in relation to the Kemps Creek Warehouse, Logistics and Industrial Facilities Hub (the Site, also referred as Mamre South Precinct (MSP) in this TN) at 657-703 Mamre Road, Kemps Creek.

This TN has been prepared to support the proposed Modification 2 (the MOD 2) to the recently approved State Significant Development (SSD-9522) application for the Site (the original approval), which generally seeks to:

- Revise the overall Estate Plan.
- Revise estate road reserve width from the original approval from 30.7 metres to 26.4 metres and removal of central medians on all estate roads to provide full vehicular access and movement, and
- Remove Sequence 1B from the concept plan approval for roadworks by deleting condition B11 which states: *"The Applicant must complete the construction of Sequence 1B upgrade to the Mamre Road and Bakers Lane intersection by 31 December 2025 to the satisfaction of TfNSW."*.

In this context, Ason Group has been tasked to consider the following revision of the plans and assess the potential transport impacts of the proposed modification:

- SSD–MRM–MOD2–001 (Issue D), dated on 06 April 2021

A total of 187,378 m^2 of building Gross Floor Area (GFA) is proposed under MOD 2 (approximately 1,255 m^2 more than the MOD 1 Master Plan), comprising:

- 179,477 m^2 warehouse/industrial GFA; and
- 7,901 m^2 of ancillary office GFA.

A reduced copy of the site plan accompanying the submission is included in the **Attachment A**.

Background

The original SSD Approval for MSP (SSD-9522) was granted on 21 December 2020 accompanied by a series of Conditions of Consent (CoC), some of which relates to traffic and transport matters.

According to the Schedule 1 of the Development Consent, the approved SSD-9522 characteristics are as follows:

- Demolition of existing structures, site-wide earthworks, landscaping, stormwater and other infrastructure and an internal road network,
- Construction and operation of eight warehouses comprising 162,355 m^2 of floor space,
- Intersection upgrade works in Mamre Road,
- 744 parking spaces; and
- 21-lot Torrens title subdivision over two stages, being Stage 1 residual lot subdivision (5 lots) and Stage 2 residual and development lot subdivision (17 lots).

With reference to relevant assessments for the approved SSD-9522 and the approved Modification 1 (dated 03 September 2021) based on the entire MSP, it is noted that the entire MSP has an overall built form scheme of 421,820 m^2 (indicative Ultimate Master Plan). Furthermore, it is supported by the following upgrade strategies for the intersection of Mamre Road / Bakers Lane:

- **Approved Modified Sequence 1A:** an interim access connection that can accommodate the traffic from the MSP Ultimate Master Plan (with 421,820 m^2) and some potential developments to the south of MSP (the Southern Lots).
- **Approved Sequence 1B:** following Modified Sequence 1A, Sequence 1B is expected to accommodate the traffic from the MSP Ultimate Master Plan (with 421,820 m^2) and some potential developments to the south of MSP (the Southern Lots). According to SSD-9522 Condition B11, construction of the Sequence 1B shall be completed by 31 December 2025.
- **Approved Sequence 2 (expected to be delivered by TfNSW):** Sequence 2 will be delivered in the longer-term future when Southern Link Road (SLR) is delivered by TfNSW and terminated as a cul-de-sac at the access to the MSP.
- **Approved Sequence 3 (expected to be delivered by TfNSW):** designed to be aligned with the ultimate configuration of SLR in future and when it is extended west through the MSP. Again, Sequence 3 is to be delivered by TfNSW.

Detailed discussion regarding the above Sequences is provided in the following sections. To support the original SSD for MSP, Ason Group has previously prepared a TA and several Response to Submission letters (SSD-9522 TA), which include detailed traffic generation assessments and SIDRA modellings for all above mentioned Sequences.

Furthermore, Modification 1 (the MOD 1) of SSD-9522 has been approved with the Department of Planning, Industry & Environment (DPIE), which seeks to modify the site layout to accommodate proposed changes to Lots 5-8.

Reference Documents

Having regard to the above, the following key documents have been referenced while preparing this TN:

- Proposed Warehouse, Logistics and Industrial Facilities Hub - 657-769 Mamre Rd, Kemps Creek, Traffic Impact Assessment, prepared by Ason Group (ref: 0584r04v04) dated 03 August 2020 (SSD 9522 TA); and
- Modification 1 – Warehouse, Logistics and Industrial Facilities Hub – 657 – 769 Mamre Road, Kemps Creek, Traffic Assessment, prepared by Ason Group (ref: 1565r02v3) dated 04 March 2021 (MOD 1 TA).

Approved Sequence Plans (SSD-9522 and Modification 1)

The previous Approvals include 3 access sequence strategies at the intersection of Mamre Road and Bakers Lane, which are briefly described as follows:

Approved Modified Sequence 1A:

An interim access connection which will be provided to / from the upgraded Mamre Road / Bakers Lane signalised intersection. In summary, this Sequence will be in place to accommodate traffic associated with the entire MSP Master Plan and the Southern Lots.

For context, a reduced copy of Sequence 1A layout is provided in **Figure 1**.

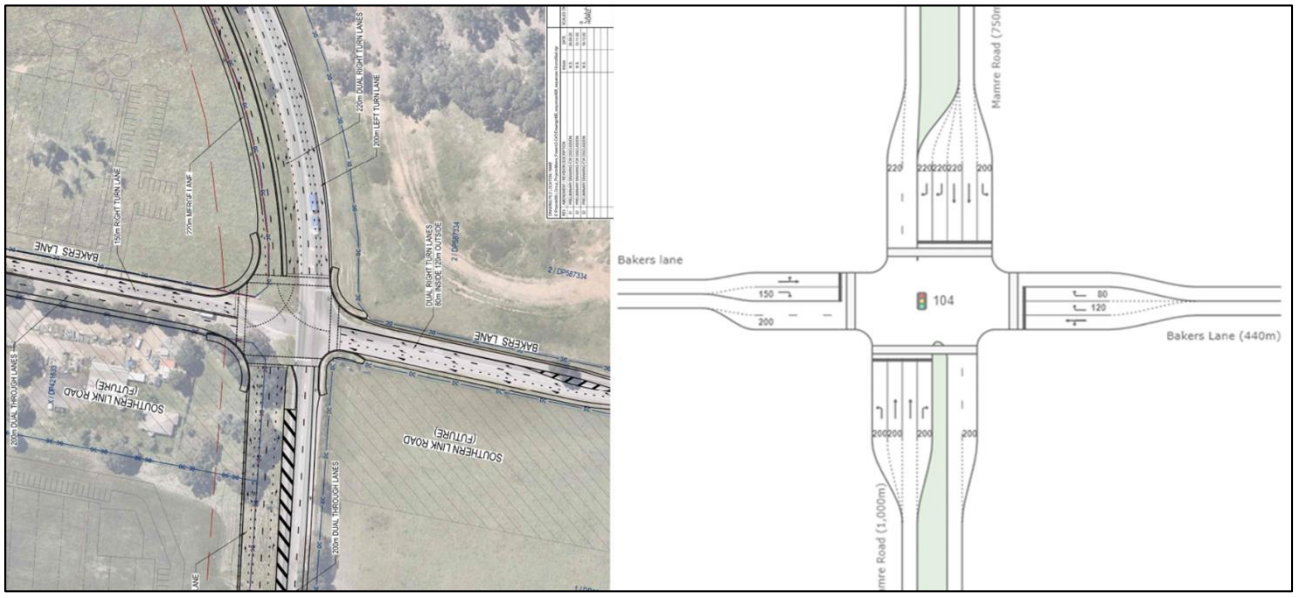

Figure 1: Approved Modified Sequence 1A Mamre Road / Bakers Lane Signal Layout

Approved Sequence 1B:

Sequence 1B has been approved to follow the previously approved Modified Sequence 1A and is proposed to be constructed as 4-lanes on Mamre Road from the southern boundary of the Site to the existing signalised intersection of Distribution Drive (offered by the JV). This Sequence will accommodate the traffic from the MSP and the Southern Lots as well as the background growth after 2025.

A copy of the SIDRA layout related to this Sequence is provided in **Figure 2** shown overleaf.

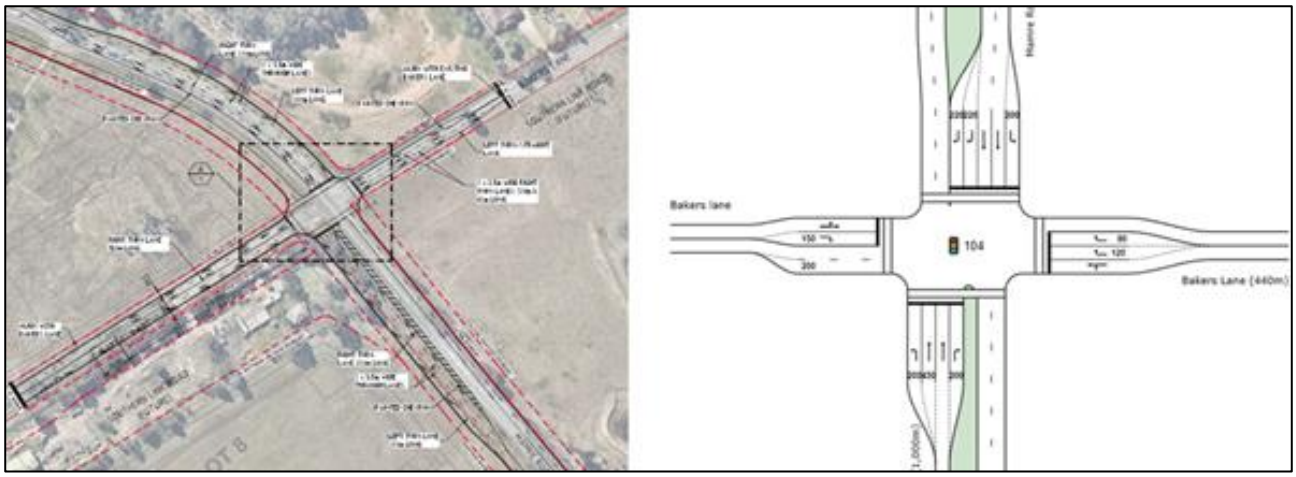

Figure 2: Approved Sequence 1B Mamre Road / Bakers Lane Signal Layout

Approved Sequence 2 (expected to be delivered by TfNSW):

Sequence 2 will be delivered in the longer-term future, when Southern Link Road (SLR) will be delivered by TfNSW. Furthermore, Bakers Lane terminated as a cul-de-sac at the access to the MSP as shown in **Figure 3**.

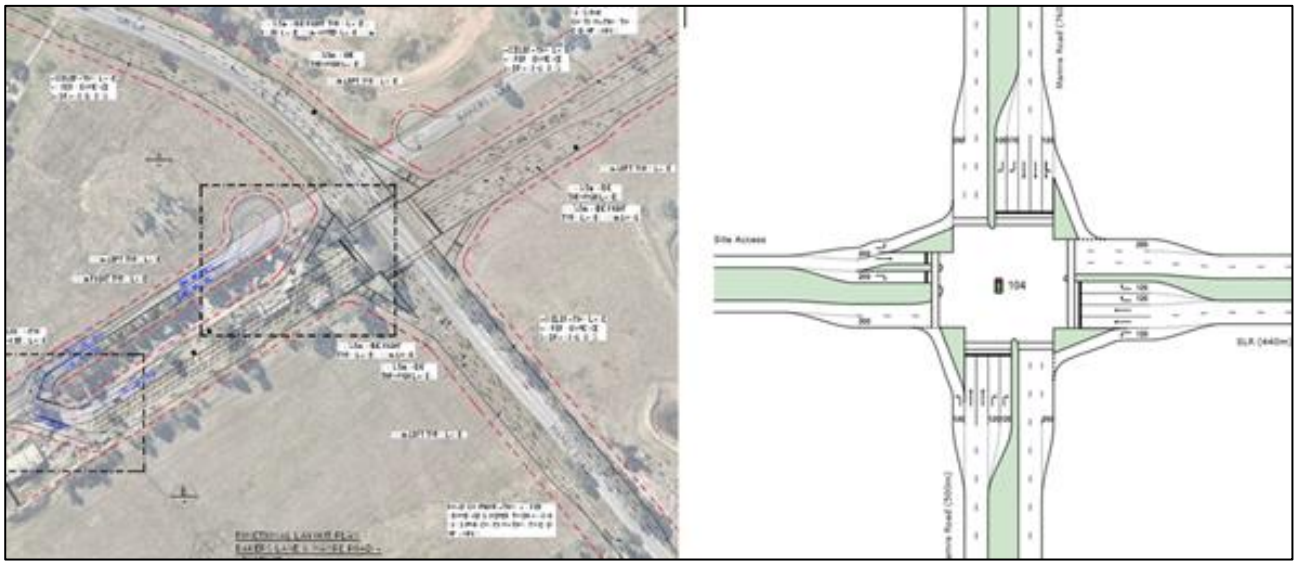

Figure 3: Approved Sequence 2 Mamre Road / Bakers Lane Signal Layout

Approved Sequence 3 (expected to be delivered by TfNSW):

Sequence 3 shows the ultimate configuration of the SLR in the future and when it is extended west through the MSP, as shown in **Figure 4**. Again, it is emphasised that the Sequence 3 is to be delivered by TfNSW.

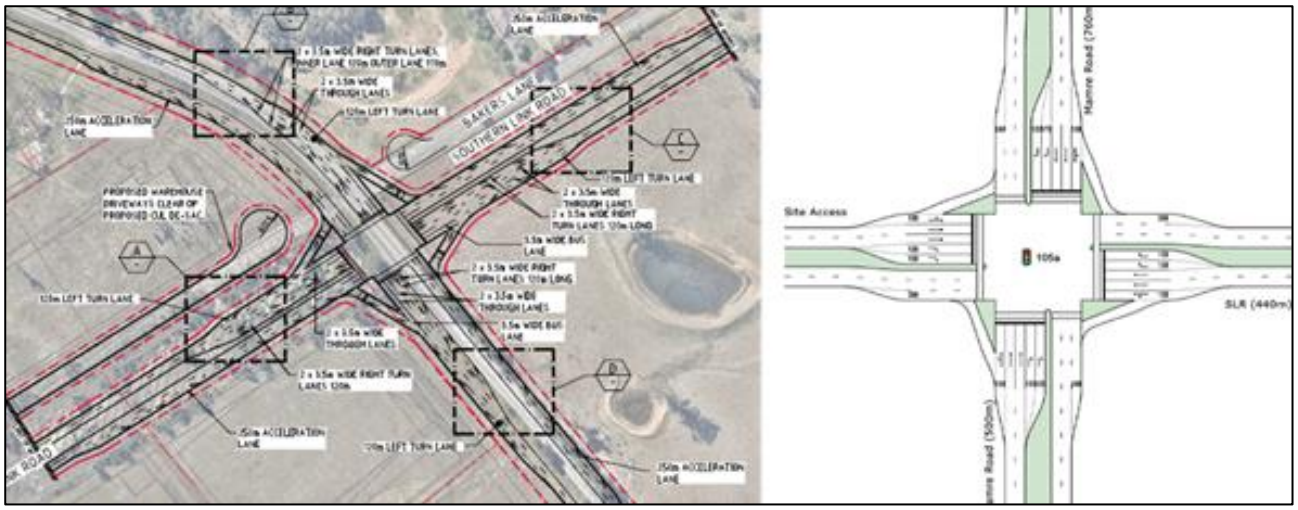

Figure 4: Sequence 3 Mamre Road / Bakers Lane Signal layout

Proposed Sequence Plans (Subject to SSD-9522 MOD 2)

Retention of the Approved Modified Sequence 1A:

As mentioned earlier, the proposed MOD 2 seeks to:

- Remove Sequence 1B from the concept plan approval for roadworks by deleting condition B11 which states:

  "The Applicant must complete the construction of Sequence 1B upgrade to the Mamre Road and Bakers Lane intersection by 31 December 2025 to the satisfaction of TfNSW."

As such, the previously approved Modified Sequence 1A will accommodate the potential estate-wide traffic associated with MSP Ultimate Master Plan (with 421,820 m^2 GFA) and the Southern Lots without relying on Sequence 1B.

Impact of the Proposed MOD 2

SIDRA Modelling for the Approved Modified Sequence 1A:

The SIDRA Network modelling of the approved Modified Sequence 1A for the design year of 2025 has previously been undertaken as part of the MOD 1 submission. The approved 2025 modelling for this sequence has considered the maximum GFA built form approved under MOD 1.

The approved SIDRA modelling results for the ultimate MSP master plan GFA and Southern Lots are summarised in **Table 1** for 2025.

TABLE 1 SIDRA MODELLING RESULTS (APPROVED MODIFIED SEQUENCE 1A – YEAR 2025)

Intersection	Peak Period	Average Delay (Seconds)	Level of Service (LoS)
Mamre Road / Erskine Park Road	AM	24.9	B
	PM	25.9	B
Mamre Road / James Erskine Drive	AM	13.5	A
	PM	11.6	A
Mamre Road / Distribution Drive	AM	9.9	A
	PM	13.6	A
Mamre Road / Bakers Lane	AM	41.3	C
	PM	47.0	D

It is indicated that all key intersections are expected to operate at an acceptable LoS (LoS D or better) during both AM and PM peak periods and the Approved Modified Sequence 1A can readily accommodate the potential estate-wide traffic associated with MSP Ultimate Master Plan (with 421,820 m^2) as well as the Southern Lot's traffic and as such, it can be considered acceptable to remove the currently approved Sequence 1B from the signal capacity perspective.

Detailed SIDRA modelling results for 2025 design year scenario are provided in **Attachment B**.

Additional Option Testing

Department of Planning, Industry & Environment (DPIE) has subsequently reviewed earlier version of MOD 2 report and provided the following comment in relation with the additional modelling requests:

- *"The technical note provided at Appendix 8 includes a table summarising the SIDRA modelling results for four key intersections with the Sequence 1A intersection works at Mamre Road/Bakers Lane (approved under Mod 1) for the year 2025. How will these intersections operate beyond 2025 noting the modification seeks to remove the Sequence 1B intersection works? How will these intersections operate under sequences 2 and 3?"*

As requested by DPIE, additional SIDRA modelling for the Mamre Road / Bakers Lane intersection layout (under approved Modified Sequence 1A) has been completed for the years 2026, 2031 and 2036. This additional option testing is therefore assumed to inform the performance of Modified 1A intersection in case the SLR wouldn't be delivered by TfNSW in longer term future and with no Sequence 1B roadworks on Mamre Road.

With regards to the input traffic volumes for the respective years (2026, 2031 and 2036), a breakdown is showcased in the figures below. Notably, the traffic generation for the scenarios is based on the potential estate-wide traffic associated with the MSP Ultimate Masters Plan (with 421,820 m^2) and the assumed GFAs for the Southern Lots.

To begin, the traffic volume distribution for the year 2026 is shown overleaf in **Figure 5**.

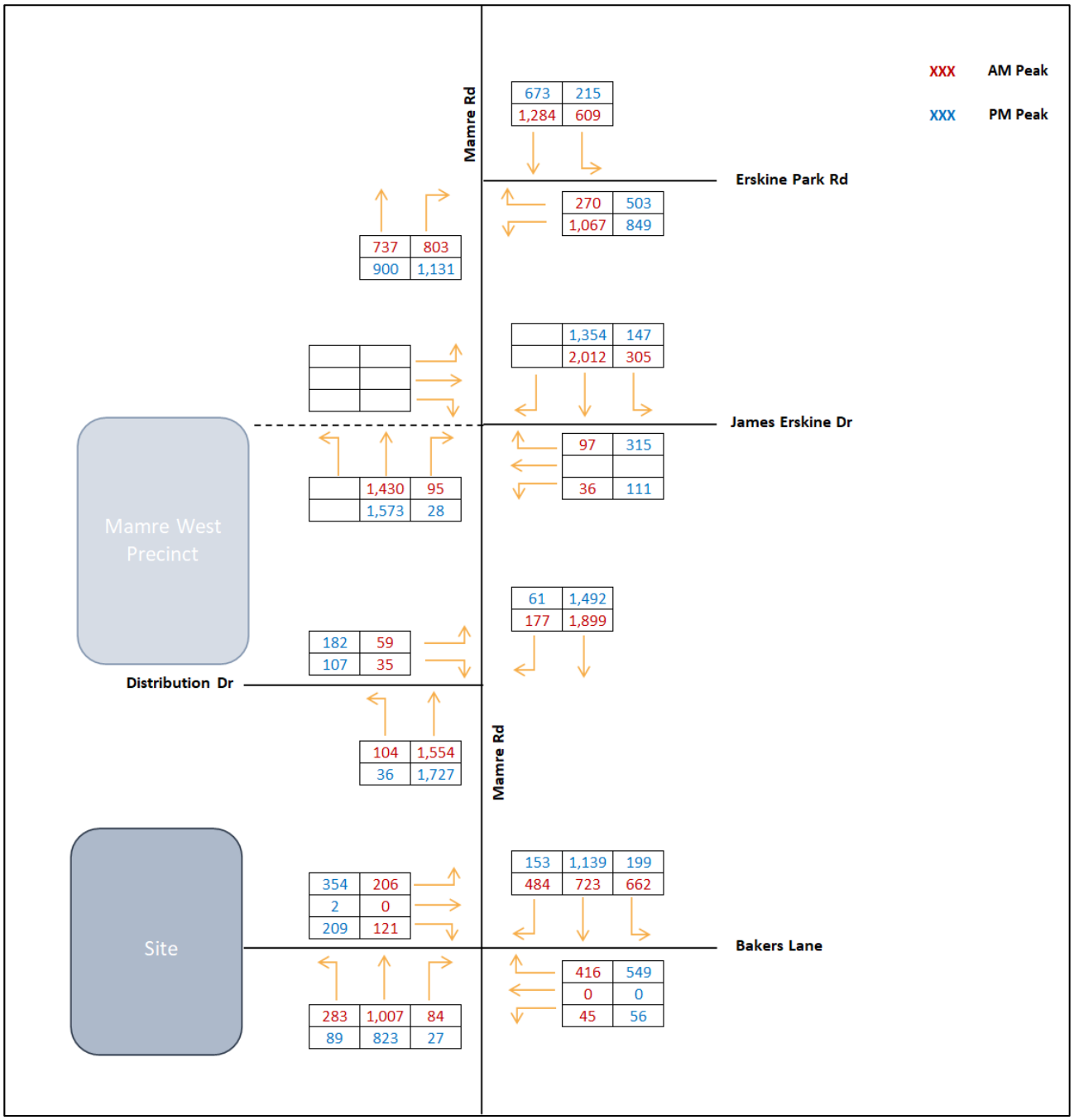

Figure 5: Traffic Volume Distribution for the MSP Ultimate Plan and Southern Lots GFA for 2026

The traffic volume distribution for the year 2031 is shown in **Figure 6**.

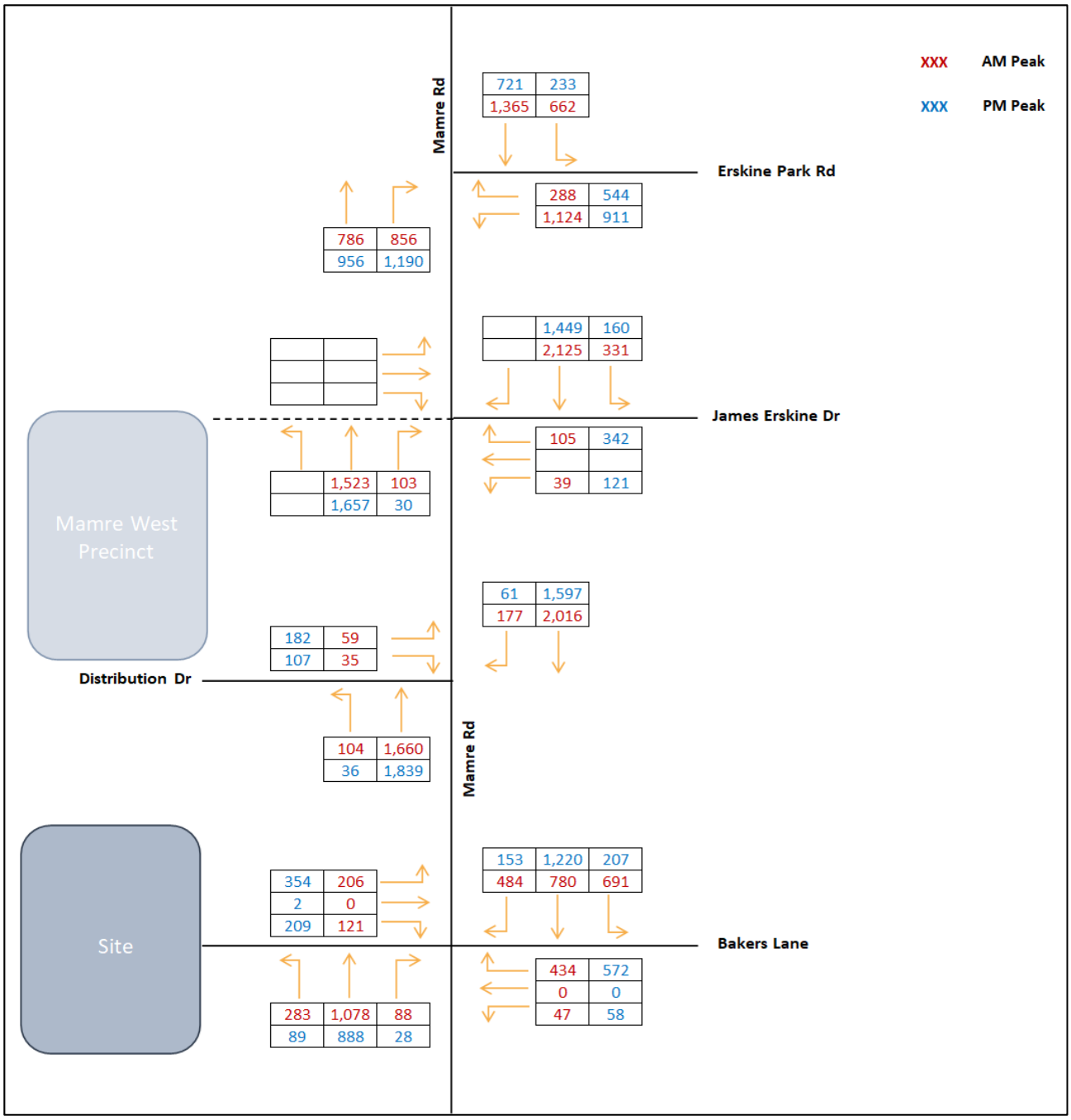

Figure 6: Traffic Volume Distribution for the MSP Ultimate Plan and Southern Lots GFA for 2031

The traffic volume distribution for the year 2036 is shown overleaf in **Figure 7**.

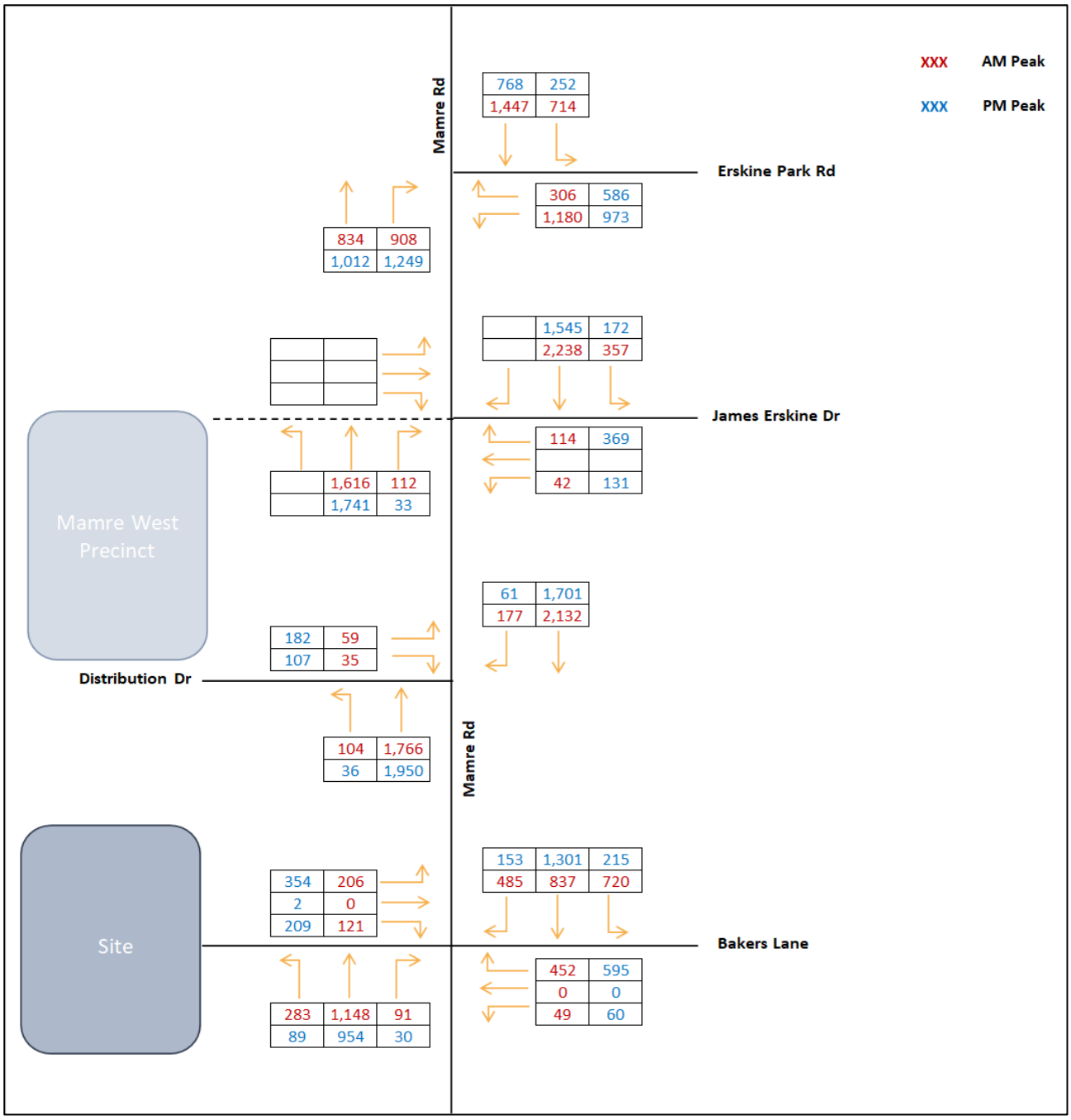

Figure 7: Traffic Volume Distribution for the MSP Ultimate Plan and Southern Lots GFA for 2036

Accordingly, the network SIDRA modelling analysis (for the three years mentioned above) have been updated for the approved Modified Sequence 1A of the Mamre Road / Bakers Lane intersection with 3 other intersections (that is consistent with 2025 approved analysis) and with no Sequence 1B roadworks on Mamre Road which include:

- Mamre Road / Erskine Park Road;
- Mamre Road / James Erskine Drive; and
- Mamre Road / Distribution Drive.

The SIDRA network layout for the Site is indicated in **Figure 8**.

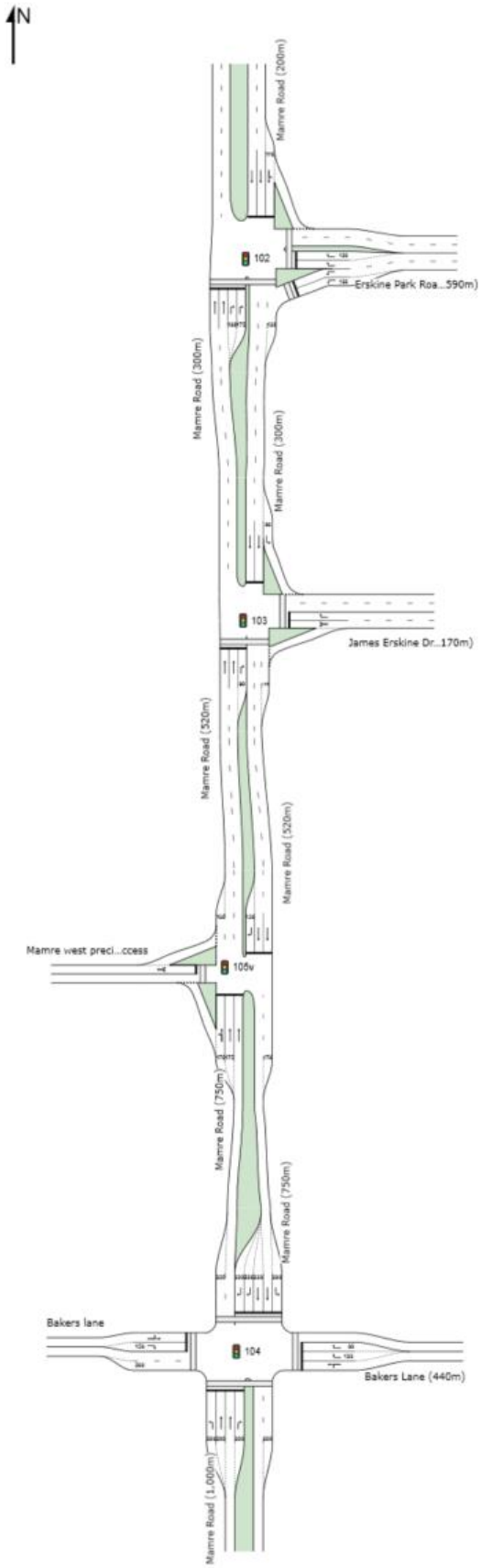

Figure 8: SIDRA Network Layout for Approved Modified Sequence 1A (modelling years 2025, 2026, 2031 and 2036)

The following SIDRA modelling results were found, utilising the SIDRA Intersection 8.0 modelling package.

SIDRA modelling results for the year 2026 are summarised in **Table 2**.

TABLE 2 SIDRA MODELLING RESULTS (APPROVED MODIFIED SEQUENCE 1A - 2026)

Intersection	Peak Period	Average Delay (Seconds)	Level of Service (LoS)
Mamre Road / Erskine Park Road	AM	41.8	C
	PM	28.2	B
Mamre Road / James Erskine Drive	AM	16.9	B
	PM	11.6	A
Mamre Road / Distribution Drive	AM	10.1	A
	PM	13.8	A
Mamre Road / Bakers Lane	AM	41.1	C
	PM	48.1	D

SIDRA modelling results for the year 2031 are summarised in **Table 3**.

TABLE 3 SIDRA MODELLING RESULTS (APPROVED MODIFIED SEQUENCE 1A - 2031)

Intersection	Peak Period	Average Delay (Seconds)	Level of Service (LoS)
Mamre Road / Erskine Park Road	AM	51.1	D
	PM	33.0	C
Mamre Road / James Erskine Drive	AM	12.5	A
	PM	13.1	A
Mamre Road / Distribution Drive	AM	9.5	A
	PM	14.3	A
Mamre Road / Bakers Lane	AM	40.6	C
	PM	51.1	D

It is indicated that all key intersections are expected to operate at an acceptable LoS (LoS D or better) during both AM and PM peak periods and the approved Modified Sequence 1A (for 2026 and 2031) can readily accommodate the potential estate-wide traffic associated with MSP Ultimate Master Plan (with 421,820 m^2) and the Southern Lots.

SIDRA modelling results for the year 2036 are summarised in **Table 4**.

TABLE 4 SIDRA MODELLING RESULTS (APPROVED MODIFIED SEQUENCE 1A - 2036)

Intersection	Peak Period	Average Delay (Seconds)	Level of Service (LoS)
Mamre Road / Erskine Park Road	AM	72.6	F
	PM	36.3	C
Mamre Road / James Erskine Drive	AM	16.0	B
	PM	19.8	B
Mamre Road / Distribution Drive	AM	9.1	A
	PM	20.5	B
Mamre Road / Bakers Lane	AM	40.2	C
	PM	53.1	D

It is indicated that all key intersections (excluding the Mamre Road / Erskine Park Road during the AM peak hour) are expected to operate at an acceptable LoS (LoS D or better) during both the AM and PM peak hours by 2036. However, the Mamre Road / Erskine Park Road intersection operates at a LoS F only for the AM peak hour. To investigate the impact of the MSP to this failure, Ason Group have run another scenario without considering the traffic associated with the Southern Lots for the AM peak hour at this intersection with minor changes to the phase timing. The revised AM peak hour modelling results are provided in the following table.

TABLE 5 SIDRA MODELLING RESULTS (APPROVED MODIFIED SEQUENCE 1A - 2036 WITHOUT TRAFFIC VOLUME FROM SOUTHERN LOTS)

Intersection	Peak Period	Average Delay (Seconds)	Level of Service (LoS)
Mamre Road / Erskine Park Road	AM	51.6	D

As shown above, the MSP ultimate traffic (associated with the 421,820m^2 GFA) can be accommodated through this signalised intersection with a LoS D during the AM peak hour. This, in turn, suggests that the MOD 2 traffic without considering the Southern Lots would result in an acceptable outcome. It is important to understand that the MSP is an approved SSD but the Southern Lots have no current approval (at the time of preparation of this technical note and as far as we are aware). It is worth noting that the Southern Lots would be subject for their own planning pathways and additional traffic modelling reviews, as necessary.

Regardless, the SIDRA results confirm that even with the inclusion of Southern Lots, the intersection would operate satisfactorily in the PM peak hour and further delays only occur at the AM peak hour by 2036.

In summary, and as it relates to this MOD the approved **Sequence 1A Modified plan can accommodate** the ultimate built form of the entire MSP as well as the Southern Lot's traffic (for years 2026, 2031 and 2036) satisfactorily. Accordingly, Sequence 1B can be removed without consequences on the network (as it was added without the need to support the traffic proposed by SSD9522).

Car Parking Assessment

MOD 2 does not seek any changes to the approved car parking rates – as indicated in Condition A8 of the SSD-9522 original approval. It is expected that the parking provision of each individual lot within the MSP will comply with the following:

- 1 space per 300 m^2 of warehouse GFA,
- 1 space per 40 m^2 of ancillary office GFA,
- 1 space for accessible parking for every 100 car parking spaces, and
- 1 percent of car parking spaces to be provided with provision of Electric Vehicle Charging Stations.

In this regard, it is noted that the additional 1,255 m^2 GFA has been applied to Lots 6 and 8 only with no changes to other Lots as per the approved MOD 1. Therefore, the parking analysis has been undertaken for Lot 6 and 8 as indicated below.

TABLE 6 CAR PARKING ANALYSIS FOR LOTS 6 AND 8 (MOD 2)

LOT	Warehouse GFA (m^2)	Office GFA (m^2)	Car Parking Required	Car Parking Provided
6	17,305	800	78	78[1]
8	14,235	700	65	66

Note 1: Includes 3 provisional spaces

As outlined in **Table 6**, the proposed parking provision for Lots 6 and 8 satisfy the CoC car parking requirements. Furthermore, Lots 6 and 8 provide 2 accessible spaces and 1 EV car parking bay readily satisfying the CoC requirements.

Design Commentary

MOD 2 seeks to reduce the estate road reserve width from current approval for 30.7 metres to 26.4 metres and remove the central median on all estate roads to provide full vehicular access movements.

A swept path analysis for the MSP internal roads has been undertaken by the Civil Engineer, Costin Roe, and submitted separately.

Furthermore, it is expected that the Site access, car park and loading area of each individual lot within MSP will remain compliant with the following relevant Australian Standards:

- Australian Standard 2890.1:2004 – Parking Facilities – Off Street Car Parking;
- Australian Standard 2890.2:2018 – Parking Facilities – Off Street Commercial Vehicle Facilities;
- Australian Standard 2890.3:2015 – Parking Facilities – Bicycle Parking; and
- Australian Standard 2890.6:2009 – Parking Facilities – Off Street Parking for People with Disabilities

It is expected that compliance with the above Standards would be expected to form a standard condition of consent to any development approval.

Conclusion

In summary, the proposed MOD 2, based on the modelling results, will not create adverse traffic and parking impacts and stays consistent with the outcomes from the original approval and the MOD 1 approval. The proposed MOD 2 is therefore supportable on traffic modelling grounds.

We trust the above is of assistance and if you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,

Ali Rasouli

Principal Traffic Engineer

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M: +61 481 350 932

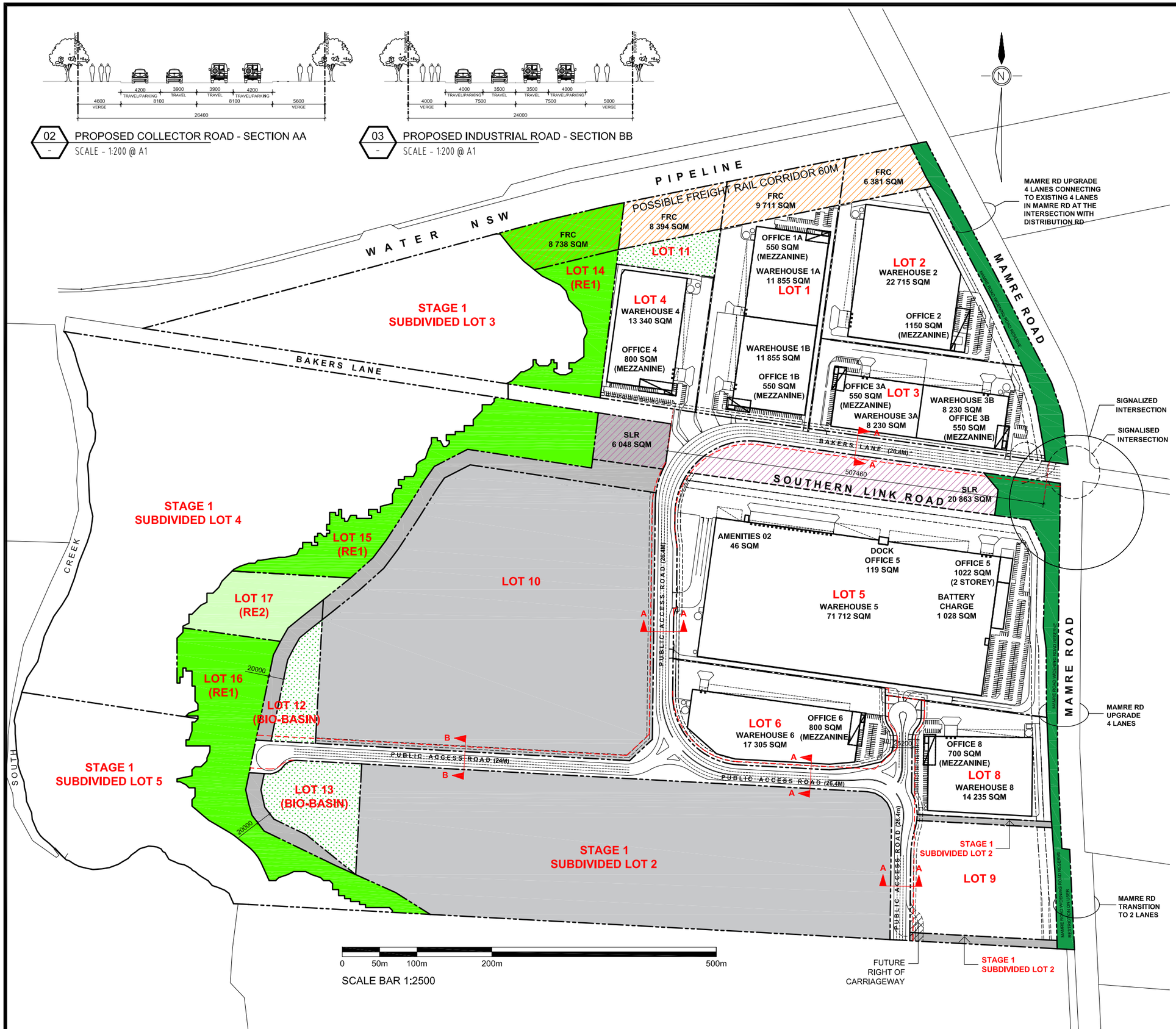
Attachments:

A) MOD 2 Site Plan
B) SIDRA modelling results

Attachment A
MOD 2 Site Plan

02 - PROPOSED COLLECTOR ROAD - SECTION AA
SCALE - 1:200 @ A1

03 - PROPOSED INDUSTRIAL ROAD - SECTION BB
SCALE - 1:200 @ A1



01 - STATE SIGNIFICANT DEVELOPMENT APPLICATION PLAN
SCALE - 1:2500 @ A1

DEVELOPMENT AREAS		
LOT 1 **		**51667 SQM**
WAREHOUSE	1A	11855 SQM
OFFICE	1A	550 SQM
WAREHOUSE	1B	11855 SQM
OFFICE	1B	550 SQM
		24810 SQM
LOT 2 **		**47602 SQM**
WAREHOUSE	2	22715 SQM
OFFICE	2	1150 SQM
		23865 SQM
LOT 3		**36484 SQM**
WAREHOUSE	3A	8230 SQM
OFFICE	3A	550 SQM
WAREHOUSE	3B	8230 SQM
OFFICE	3B	550 SQM
		17560 SQM
LOT 4		**23537 SQM**
WAREHOUSE	4	13340 SQM
OFFICE	4	800 SQM
		14140 SQM
LOT 5 **		**146316 SQM**
WAREHOUSE	5	71712 SQM
OFFICE	5	1022 SQM
DOCK OFFICE	5	119 SQM
BATTERY CHARGE		1028 SQM
PUMP ROOM		36 SQM
AMENITIES 02		46 SQM
		73963 SQM
LOT 6		**33833 SQM**
WAREHOUSE	6	17305 SQM
OFFICE	6	800 SQM
		18105 SQM
LOT 8		**26256 SQM**
WAREHOUSE	8	14235 SQM
OFFICE	8	700 SQM
		14935 SQM
LOT 9		**28899 SQM**
LOT 10		**145339 SQM**
LOT 11 ** (BIO-BASIN)		**13978 SQM**
LOT 12 (BIO-BASIN)		**7085 SQM**
LOT 13 (BIO-BASIN)		**13159 SQM**
LOT 14 ** (RE1)		**20261 SQM**
LOT 15 (RE1)		**24642 SQM**
LOT 16 (RE1)		**31481 SQM**
LOT 17 (RE2)		**12378 SQM**
STAGE 1 SUBDIVIDED LOT 2		**140447 SQM**
STAGE 1 SUBDIVIDED LOT 3		**62087 SQM**
STAGE 1 SUBDIVIDED LOT 4		**152148 SQM**
STAGE 1 SUBDIVIDED LOT 5		**58452 SQM**
PUBLIC ACCESS ROADS		**48801 SQM**
UNRESOLVED LAND USE**		**25417 SQM**
BAKERS LANE ROAD WIDENING		**3308 SQM**
MAMRE ROAD DEDICATION		**26050 SQM**
TOTAL	**1179627 SQM**	**187378 SQM**
TOTAL SOUTHERN LINK ROAD (SLR) **		26911 SQM
TOTAL FREIGHT RAIL CORRIDOR (FRC) ***		33224 SQM

REVISION	DESCRIPTION	DATE
D	DA ISSUE	26/08/2021

LEGEND
- PREVIOUS ROAD & BOUNDARY ALIGNMENT
- BULK EARTHWORKS
- BIO-BASIN
- ZONE RE1
- ZONE RE2

NOTE:
* BAKERS LANE TO BE WIDENED TO 26.4m
** LOTS INCLUDE SLR / FRC LAND
*** SLR AREAS SHOWN ON LOTS 5 & 10
*** FRC AREAS SHOWN ON LOTS 1, 2, 11 & 14

N

ALTIS PROPERTY PARTNERS
FRASERS PROPERTY

COMMERCIAL & INDUSTRIAL DIVISION
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RHODES NSW 2138
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PHONE 02 9767 2000
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PROJECT
STATE SIGNIFICANT DEVELOPMENT APPLICATION PLAN FOR KEMPS CREEK

ADDRESS
MAMRE ROAD & BAKERS LANE
KEMPS CREEK

DRAWING TITLE
STATE SIGNIFICANT DEVELOPMENT APPLICATION PLAN

SCALE	1:2500 @ A1
DRAWN	MR
CHECKED	MP
DATE	06.04.2021
JOB NUMBER	0000-00-000

DRAWING NUMBER: SSD-MRM-MOD2-001
ISSUE: D

Attachment B
SIDRA modelling results

Intersection	Configuration	Period	Scenario 1																	
			2025 Modified Sequence 1A					2026 Modified Sequence 1A					2031 Modified Sequence 1A					2036 Modified Sequence 1A				
			Overall Intersection Delay - LoS	Approach	Queue	Avg. Delay	Degree of Saturation - DoS	Overall Intersection Delay - LoS	Approach	Queue	Avg. Delay	Degree of Saturation - DoS	Overall Intersection Delay - LoS	Approach	Queue	Avg. Delay	Degree of Saturation - DoS	Overall Intersection Delay - LoS	Approach	Queue	Avg. Delay	Degree of Saturation - DoS
Erskine Park Rd / Mamre Rd	Signallised (3-way)	AM	24.9 - B	N	123	24.5	0.85	41.8 - C	N	169	34.2	0.93	51.1 - D	N	202	42.9	0.96	72.6 - F	N	282	68.8	1.03
				E	97	34.5	0.85		E	141	75.1	1.16		E	127	86.0	1.24		E	149	104.0	1.31
				S	73	17.1	0.84		S	93	22.0	0.93		S	122	31.1	0.99		S	167	50.6	1.05
		PM	25.9 - B	N	55	27.1	0.69	28.2 - B	N	60	29.6	0.75	33.0 - C	N	67	31.5	0.80	36.3 - C	N	60	27.7	0.81
				E	61	33.0	0.91		E	66	33.2	0.91		E	86	42.0	0.99		E	114	59.3	1.09
				S	100	20.4	0.77		S	128	24.1	0.85		S	151	27.5	0.90		S	142	24.1	0.93
James Erskine Dr / Mamre Rd	Signallised (3-way)	AM	13.5 - A	N	169	18.6	0.86	16.9 - B	N	206	24.5	0.90	12.5 - A	N	151	16.1	0.84	16.0 - B	N	173	20.8	0.87
				E	16	29.8	0.50		E	20	31.1	0.58		E	21	30.9	0.64		E	22	30.8	0.62
				S	24.1	4.9	0.82		S	39	5.1	0.83		S	53	6.5	0.91		S	89	9.1	0.83
		PM	11.6 - A	N	96	13.0	0.68	11.6 - A	N	97	12.1	0.69	13.1 - A	N	114	14.0	0.77	19.8 - B	N	182	28.1	0.89
				E	39	33.8	0.73		E	40	36.0	0.74		E	44	38.1	0.76		E	48	37.5	0.77
				S	60	4.7	0.63		S	58	4.4	0.65		S	70	5.2	0.69		S	91	6.7	0.75
Distribution Dr / Mamre Rd	Signallised (3-way)	AM	9.9 - A	N	98	8.5	0.70	10.1 - A	N	115	9.0	0.73	9.5 - A	N	92	7.8	0.71	9.1 - A	N	81	7.0	0.69
				S	70	11.7	0.59		S	76	11.4	0.62		S	82	11.2	0.64		S	87	11.1	0.67
				W	7	9.9	0.17		W	7	10.7	0.18		W	8	11.1	0.19		W	8	11.6	0.20
		PM	13.6 - A	N	86	10.3	0.68	13.8 - A	N	100	10.5	0.73	14.3 - A	N	114	10.8	0.78	20.5 - B	N	177	18.6	0.87
				S	97	16.0	0.68		S	102	16.2	0.70		S	112	17.0	0.74		S	135	22.5	0.84
				W	45	15.7	0.50		W	46	16.3	0.50		W	48	17.6	0.51		W	43	17.9	0.50
Bakers Ln / Mamre Rd (*Isolated)	Signallised (4-way)	AM	41.3 - C	N	114	40.4	0.91	41.1 - C	N	109	40.4	0.92	40.6 - C	N	110	39.2	0.90	40.2 - C	N	106	38.2	0.89
				E	72	80.4	0.89		E	73	81.4	0.90		E	75	79.5	0.89		E	77	77.9	0.88
				S	87	23.7	0.56		S	101	23.9	0.61		S	117	25.1	0.66		S	130	25.7	0.70
				W	72	62.1	0.65		W	73	62.4	0.65		W	73	61.8	0.62		W	74	62.0	0.64
		PM	47.0 - D	N	163	44.6	0.81	48.1 - D	N	190	45.8	0.84	51.1 - D	N	213	47.4	0.87	53.1 - D	N	248	54.1	0.91
				E	86	69.3	0.81		E	90	73.2	0.85		E	98	75.9	0.89		E	101	75.8	0.89
				S	94	33.1	0.60		S	96	31.0	0.60		S	103	30.5	0.62		S	118	31.8	0.68
				W	133	52.2	0.79		W	143	57.0	0.84		W	153	71.2	0.88		W	160	65.3	0.90

Intersection	Configuration	Period	Scenario 1				
			2036 Modified Sequence 1A (without Southern Lots' Traffic Volumes)				
			Overall Intersection Delay - LoS	Approach	Queue	Avg. Delay	Degree of Saturation - DoS
Erskine Park Rd / Mamre Rd	Signallised (3-way)	AM	51.6 - D	N	159	23.8	0.89
				E	152	74.1	1.12
				S	194	67.1	1.09