Transport & Accessibility Management Plan

155-217 Aldington Road Estate, Kemps Creek

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Glossary

Acronym	Description
ABS	Australian Bureau of Statistics
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
BWSEA	Broader Western Sydney Employment Area
CC	Construction Certificate
Council	Penrith City Council
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
FPI	Frasers Property Industrial
GFA	Gross Floor Area
JTW	Journey-to-Work
LEP	Local Environmental Plan
LGA	Local Government Area
LOG	Mamre Road Precinct Land Owners Group
LoS	Level of Service
MRP	Mamre Road Precinct
NHVR	National Heavy Vehicle Regulator
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
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
TMAP	Transport Management and Accessibility Plan
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Overview

Ason Group has been engaged by Frasers Property Industrial (FPI) to prepare a Transport Management and Accessibility Plan (TMAP) in relation to the State Significant Development (SSD) for the proposed industrial development (the Proposal) located at 155-217 Aldington Road Estate, Kemps Creek (the Site).

The Site sits within (what has been termed) the Mamre Road Precinct (MRP), which has recently been rezoned for industrial land uses. The broader MRP provides about 850 hectares of industrial land which could accommodate up to 17,000 ongoing jobs when fully developed.

The MRP Structure Plan was finalised in June 2020, followed by the release of the MRP Draft Development Control Plan (DCP), the exhibition period for which has recently been completed.

The Proposal itself relates to the provision of an industrial warehouse development, with ancillary offices, loading areas and car parking; providing for a total of 64,080m^2 of industrial Gross Floor Area (GFA).

Full details are provided in the Environmental Impact Statement (EIS) prepared by Willowtree Planning, which this TMAP accompanies.

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 accommodate the MRP, and wider background traffic growth associated with the development of Western Sydney, is currently being undertaken. Ason Group is working with the NSW Department of Planning, Industry & Environmental (DPIE) 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, as has been directed for use by TfNSW.

1.2.2 Interim Intersection Requirements

It should be noted that FPI and other land owners in the area who have significant land holdings (representing approximately 40-50% of the developable land within the Precinct), have formed the Mamre Road Precinct Land Owners Group (LOG).

A collective approach has been taken by the LOG to identify the interim intersection requirements for 2026 required to accommodate the forecast development within the LOG sites. The key aim of this process has been to facilitate the initial stages of development for the relevant Sites; while the MRP modelling assessment is finalised and the ultimate upgrades delivered by TfNSW. Ason Group has worked on behalf of the LOG to identify these requirements, with the key findings of the interim modelling assessment provided within the relevant sections of this report.

Therefore, a further purpose of this report is to confirm the access requirements for the assessment year of 2026 to accommodate traffic generated by the relevant LOG sites.

1.3 Assessment Objectives

The key objectives of this TMAP are as follows:

- To establish that the development of the Site further to the Proposal is compliant and consistent with the relevant access, traffic and parking requirements.
- To establish that the trip generation for the early stages of the Site is consistent with the assumptions within the MRP modelling assessment so that it can be appropriately accommodated by proposed interim upgrades to the local road network.
- To establish that the trip generation of the Site is consistent with the assumptions within the MRP modelling assessment so that it can be appropriately accommodated by the future road network.
- To demonstrate that there is an appropriate and sustainable provision of car parking across the Site.
- To demonstrate that the proposed access driveways, internal roads, car parks and service facilities can provide a design compliant with the relevant Australian Standards.

1.4 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements (SEARs) were issued by the NSW Department of Planning, Industry & Environmental (DPIE) in May 2021 in relation to the SSD (SSD-17552047), and include both general DPIE SEARs and more specific TfNSW SEARs.

The DPIE SEARs relating to transport issues are outlined in Table 1 below. Ason Group has provided a summary response to each SEAR, and reference to the section of this TMAP providing a more detailed analysis of each SEAR.

TABLE 1: DPIE TRAFFIC & TRANSPORT SEARS - SSD-17552047

SEARs Item	Report Section / Response
details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access / haul routes. Traffic flows are to be shown diagrammatically to a level of detail sufficient for easy interpretation	Operational traffic flows have been determined at the key intersections (see **Appendix B**). Construction traffic flows cannot be accurately determined at this time; however, the currently anticipated traffic volumes, Site access provisions and potential haul routes have been identified in the Draft Construction Traffic Management Plan (CTMP) provided at **Appendix F**.
an assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model. This is to include the identification and consideration of approved and proposed developments/planning proposals/road upgrades in the vicinity. The assessment needs to consider the impact on Mamre Road for the duration of the works because traffic growth in this area is expected to increase more rapidly than standard growth rates	Section 6

details how the proposed development connects to adjoining sites as outlined in the Draft Mamre Road Precinct DCP	Refer to plan set showing links
plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network	Refer to plan set
detailed plans of the site access and proposed layout of the internal road and pedestrian network and parking on site in accordance with the relevant Australian Standards and DCP	Refer to plan set and section 9
swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site	Section 9 and Appendix E
details of road upgrades, infrastructure works or new roads or access points required for the development	Section 6
details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site	Appendix C
details of the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development	Section 5 and Section 7
measures to integrate the development with the existing/future public transport network	Section 5 and Section 7

1.5 Test of Adequacy

In July 2021 the DPIE provided comment on the EIS package following a Test of Adequacy (TOA) review. The comments received from this review relating to transport issues are outlined in **Table 2** below, with the Ason Group summary response to each also provided.

TABLE 2: DPIE TOA COMMENTS

Traffic Item	Report Section / Response
The Civil Design Report states the roundabout access to the site on Aldington Road is not included as part of this development application. How will access be provided to the site? Details of any interim access arrangements are required.	FPI is working collectively with other landowners along Aldington Road, as well as Council, as part of a separate process to agree a Voluntary Planning Agree in relation to the upgrade of Aldington Road. This upgrade will include the proposed 2026 intersection as shown by **Figure 16**, and discussed in **Section 6.5**.

The SEARs require details of all traffic types and volumes likely to be generated during construction and operation. The EIS does not appear to include a breakdown of heavy vehicle types anticipated to be generated by the development. Furthermore, there is limited information regarding construction traffic volumes and types. Please provide additional information on the type and volumes of vehicles anticipated as a result of the proposed development.	The operational traffic flows are provided within **Appendix A** and **Appendix B**. In regard to construction traffic, prior to a Contractor / Builder being engaged, it is difficult to confirm the exact requirements for construction. However, as per the Draft CTMP provided as **Appendix F**, it is expected that construction of the development would generate a peak of 56 vehicles, outside of the road network peak hours. As such, it is evident that construction will generate less traffic than the SSD Proposal itself. The exact requirements will need to be confirmed by the future Contractor; however it is expected that the largest vehicle to access the site during construction would be a 19.6m Truck & Dog. It's anticipated that construction vehicles would largely constitute of Truck & Dog vehicles, as well 8.8m Bogies. It is expected that an appropriate Condition of Consent could be imposed requiring the update of the Draft CTMP to include further details on staffing requirements and truck movements.
It is unclear whether the traffic generated from the proposed development can be accommodated by the road network without TfNSW's Mamre Road upgrades. Moreover, it is unclear whether the proposed development includes upgrade works to any of the key intersections identified.	As discussed in Section 6, the critical intersection that is relevant to this application is the Mamre Road / Abbotts Road. The LOG have been working collectively to identify the interim upgrades of the key intersections within the MRP to accommodate the development envisaged to be completed by 2026 and have submitted the results in full to TfNSW. Section 6, summarises the results of the assessment of the proposed interim intersections to accommodate the Proposal in 2026 (including the Mamre Road / Abbotts Road intersection), as well as other development along Adlington Road. These interim upgrades are required to be delivered prior to the development becoming operational. Any longer term, ultimate upgrades required to the MRP will be as a result of increased background traffic.
Confirm the size of the largest vehicle intended to access the site and make sure this is consistent in the EIS including any technical appendices.	The largest vehicle adopted for assessment is a 30m long PBS Type 2 vehicle. Swept path analysis is provided as **Appendix E**.

1.6 Reference Documents

As discussed, the Site lies with the MRP; as such, Ason Group has referenced the Draft MRP DCP as it will ultimately provide the overarching controls for the Site and the wider MRP:

- DPIE, *Western Sydney Employment Area, Mamre Road precinct, Draft Development Control Plan*, November 2020 (Draft DCP).

The draft DCP was on exhibition between 10 November to 17 December 2020. Feedback from the exhibition period, as well as the findings of the background Precinct modelling being undertaken, will be considered in the finalisation of the 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 TMAP:

- 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:

- Roads and Maritime Services (Roads and Maritime) Guide to Traffic Generating Developments 2002 (RMS Guide).
- Roads and Maritime Guide to Traffic Generating Developments Updated Traffic Surveys, August 2013 (RMS Guide Update).
- Department of Planning & Environment (DPE) Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan Stage 1: Initial Precincts (WSA Stage 1 Plan).
- State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA).
- DPE Mamre West Land Investigation Area Development Control Plan 2016 (Mamre West DCP).
- 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 assessments 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).
- Numerous reports prepared by Ason Group and others for similar industrial development within the Mamre West, Kemps Creek and Erskine Park industrial precincts.

2 The Proposal

2.1 Overview

A detailed description of the SSD Proposal is included in the EIS which this TA accompanies. In summary, the application relates to the construction of an industrial development with associated hardstand and parking. The following summarises key aspects of the Proposal:

Masterplan with a total building area of 64,080m^2, comprising:

- Provision of 2 warehouses with a total building area of 65,327m^2, comprising:
  - 63,695m^2 warehouse GFA,
  - 1,632m^2 of ancillary office GFA,
- Creation of 9 individual development lots; with Lot 9 the subject of the industrial development;
- Internal roads and connection to Aldington Road, as per the Draft DCP. Turning heads will be provided temporarily until the connection of the roads through to the neighbouring development sites;
- Provision for 477 car parking spaces; and
- Associated site landscaping.

The proposed Masterplan is reproduced at a reduce scale in **Figure 1**.

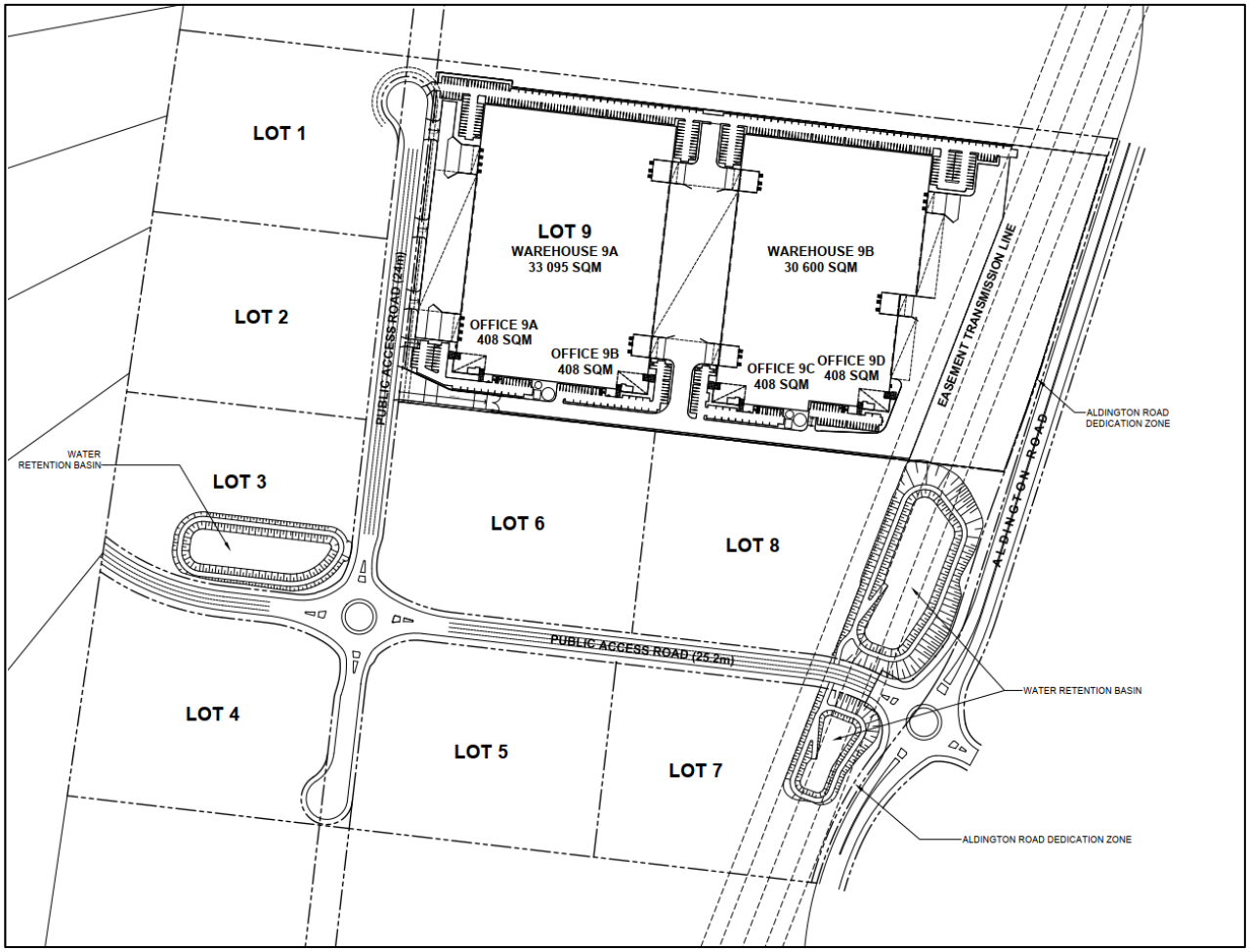


Figure 1: Proposed Concept Masterplan

3 The Existing Site

3.1 Location

The Site is comprised of 5 separate Lots (refer to **Table 3**) and is located at 155-217 Aldington Road, Kemps Creek. It is 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.

The Site is shown in its sub-regional context in **Figure 2**, as well as the broader MRP area in which it lies.

TABLE 3: SITE DESCRIPTION

Address	Title	Area (Ha)
155-167 Aldington Road	33 / DP258949	10.12
169 – 181 Aldington Road	28 / DP255560	10.12
183 – 197 Aldington Road	27 / DP255560	10.12
199 Aldington Road	26 / DP255560	2.54
201 - 217 Aldington Road	25 / DP255560	10.12

3.2 Current Site Land Usage

The Site currently provides for a number of rural residential properties, as well as for small scale agricultural businesses. The properties along the length of Aldington and Abbotts Roads can be categorised on this manner.

3.3 Site Access

The Site currently has access points onto Aldington Road through various access driveways into private properties. Aldington Road connects with Mamre Road, by way of Abbotts Road, to the west of the Site, and to the north, Bakers Lane. From Mamre Road, access is available north to the M4 Motorway, Great Western Highway, Lenore Drive and M7 Motorway; and south to Elizabeth Drive, the M7 Motorway and the future M12 Motorway.

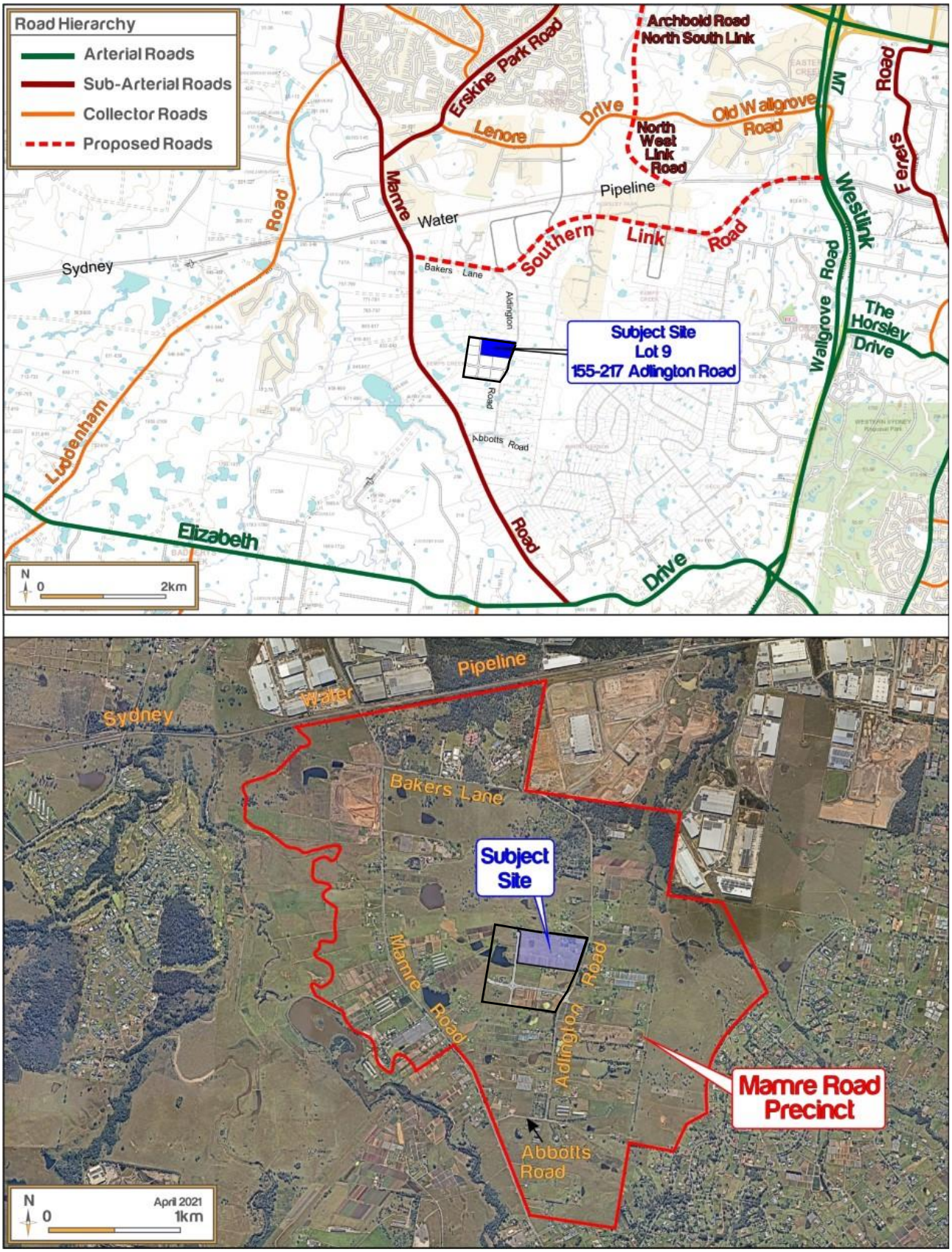


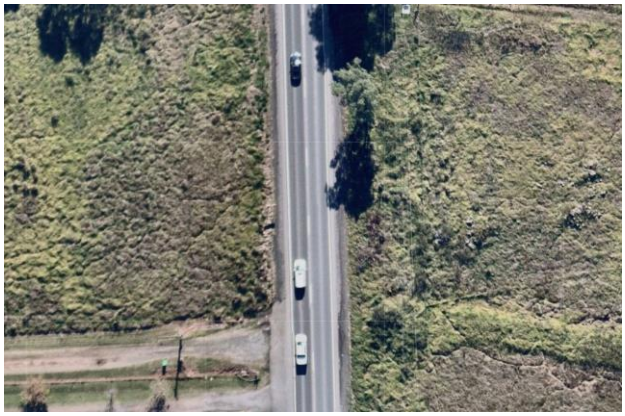
Figure 2: Site Location & Road Hierarchy

3.4 The Existing Road Network

3.4.1 Key Roads

The existing road network providing access to the Site is shown in Figure 2, and detailed further below.

TABLE 4 KEY ROAD NETWROK

Road	Description	Typical Road Characteristics
Mamre Road	An arterial road which runs north-south between the Great Western Highway and M4, and Elizabeth Drive respectively. In the vicinity of the Site, Mamre Road has a posted speed limit of 80km/h	
Erskine Park Road	A sub-arterial road which generally runs north-south between the Great Western Highway and M4, and Mamre Road respectively; it also links east to the M7 via Lenore Drive. It provides 2 traffic lanes in each direction, and has a posted speed limit of 70km/h	
Aldington Road	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 connect with Bakers lane to the north and Abbots Road to the south. It provides 1 traffic lane in each direction and has a posted speed limit of 80km/h.	

Bakers Lane	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. It provides 1 traffic lane in each direction and has a posted speed limit of 60km/h.	
Elizabeth Drive	A sub-arterial road that runs east-west between Hume Highway and M7, and Mamre Road and The Northern Road respectively. In the vicinity of Mamre Road, Elizabeth Drive provides 1-2 traffic lanes in each direction, and has a posted speed limit of 80km/h.	

3.4.2 Existing Traffic Flows

Ason Group conducted AM and PM peak period traffic surveys in Mamre Road south of Bakers Lane in 2018; based on the minimum number of traffic generating developments in the vicinity of the Site, these flows provide a good representation of current traffic flows in Mamre Road west of the Site.

The results of the surveys, and the corresponding Level of Service (LoS) for the directional flows (based on RMS Level of Service criteria (as detailed in the RMS Guide) are shown in **Table 5**.

TABLE 5: 2018 MAMRE ROAD TRAFFIC FLOWS

Peak Period	Total Volumes	Directional Volumes	Level of Service
AM	1,391	NB: 782 vph	D
		SB: 609 vph	D
PM	1,541	NB: 678 vph	D
		SB: 863 vph	D

With reference to Table 5, Mamre Road is currently operating satisfactorily but at capacity.

It is notable that the turning movements into and out of Abbotts Road from / to Mamre Road, relate largely to the small number of rural residential properties, as well as small scale agricultural industries businesses, along Aldington Road and therefore traffic flows along Aldington Road are currently not significant.

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 sought to:

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

The rezoning provides for 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 3**.

4.2 Strategic Context

4.2.1 Strategic Policies

The rezoning the MRP fits within the strategic development of the WSEA and Broader Western Sydney Employment Area (BWSEA); key planning policies and strategies relevant to the MRP rezoning include:

- **A Plan for Growing Sydney** sets out the State Government's strategies for accommodating Sydney's future population growth over the next 20 years; it provides goals, directions and actions that provide a framework for strengthening the global competitiveness of Sydney and delivering strong investment and jobs growth, particularly in Western Sydney.
- **The NSW Long Term Transport Master Plan** provides a framework for delivering an integrated, modern transport system by identifying transport actions and investment priorities across NSW for the next 20 years. Section 5.6 of the Long Term Transport Master Plan specifically identifies Mamre Road (from St Marys to Kemps Creek) as a corridor for future investigation.
- **The NSW Freight and Ports Plan** targets specific challenges associated with the forecast doubling of the NSW freight task by 2031. Providing a road network that minimises congestion will support economic growth and productivity and encourage regional development; in this context, the F&P Strategy identifies the need to develop and maintain capacity for freight on the road network, and of course the provision of additional Intermodal capacity, noting that a new Intermodal is identified in the MRP Rezoning Paper.
- **The NSW Road Safety Strategy 2012 - 2021** establishes the direction of road safety in NSW for 10 years from 2012, and specifically supports a targeted reduction in the annual number of fatalities and serious injuries by at least 30% by the end of 2021. The Safety Strategy places particular importance on the design of safe roads and roadsides and recognises that the ongoing development and upgrade of the NSW road network is essential to improving road safety; these goals will be integral to the development of the MRP road network.

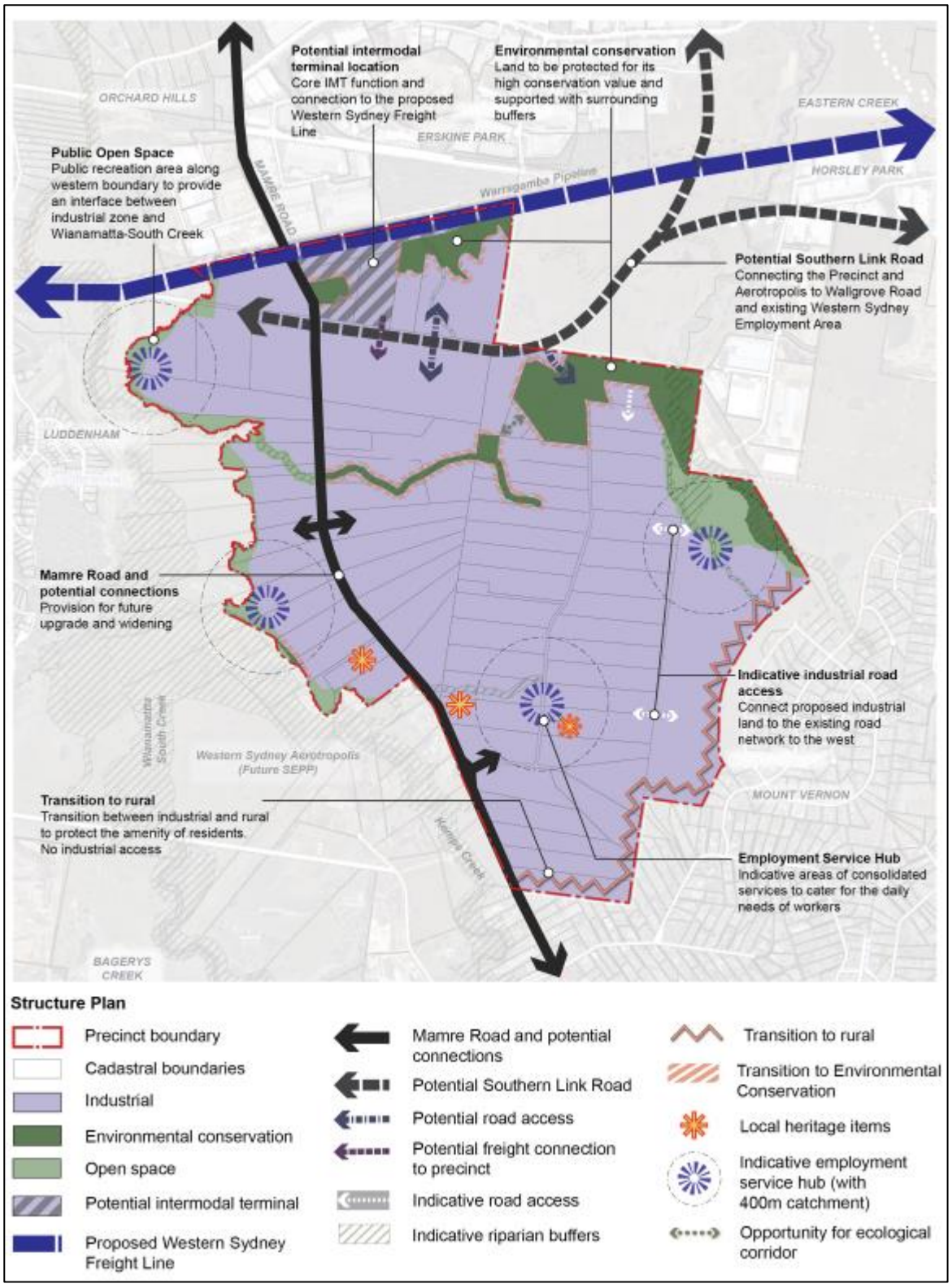


Figure 3: Mamre Road Precinct Structure Plan

Source: NSW Government

4.2.2 Strategic Constraints & Opportunities

The MRP Rezoning Paper – drawing from the policies outlined above and the broader demands on an ever-growing Western Sydney – identifies the following key constraints within the region, and the opportunities provided by the Rezoning to respond to these constraints.

- **Industrial Land Shortfall**: There is a growing demand for industrial land in Western Sydney, the provision of such which is essential, so supply is maintained despite increasing take-up rates. The most critical shortage at this time is an increasing warehouse and logistic demands to meet the existing and future e-commerce demand.
- **Freight and Logistics**: The WSEA is strategically located with proximity to key freight and logistic corridors including the M4 and M7 Motorways, and provides land and economies of scale that give Western Sydney's industrial land a comparative advantage over other parts of Sydney.
- **Intermodal Terminal**: As discussed, the NSW Freight and Ports Plan identifies moving an increasing percentage of goods by rail to international gateways, and TfNSW has identified an urgent need to plan for and protect intermodal capacity within the Aerotropolis. The Aerotropolis LUIIP specifically identifies the MRP as a potential Intermodal location from a freight and logistics perspective.
- **Western Sydney Airport**: Further to the above, the need for land focused on freight and logistics will be further increased once the Western Sydney Airport becomes operational. The Aerotropolis LUIIP again identifies the MRP as providing warehousing and logistics uses to support the development of the Western Sydney Airport (and broader Aerotropolis).
- **Western Parkland City**: The Western City District Plan has as a key objective the delivery of a 30-minute city, where people can reach their nearest metropolitan and strategic centres within 30 minutes, seven days a week by public transport, which includes expansive industrial and urban services land. The development of land within the MRP will provide for Greater Sydney's long-term freight and logistics and industrial needs and is an opportunity to deliver jobs closer to people's homes quickly and contribute to the NSW economy.

Mamre Road Precinct Transport and Movement Outcomes

4.2.3 Overview

Achieving the vision and objectives for the MRP will be dependent on the development of a coherent MRP wide transport structure, which will necessarily be underpinned by a road network with appropriate capacity and augmented by strong public and active transport networks.

As discussed, TfNSW is currently in the process of finalising more detailed investigations into the transport network infrastructure required for the rezoning of the MRP, and specifically road network requirements. The TfNSW investigations include detailed traffic modelling of the MRP and its connectivity to the broader regional road network, a task which will also inform the final DCP.

4.2.4 Objectives

Noting that the development of the MRP will result in significant traffic demands, it is anticipated that the road network will be grounded in the core principles of integrated land use (for example, the opportunities to internalise vehicle movements generated by the future Intermodal) and the Movement and Place framework.

Adherence to these principles is anticipated to provide for the development of a MRP road network that provides:

- An interconnected, legible, urban-scale grid road pattern;
- Capacity to support demand;
- An understanding on the function of different roads, and indeed different parts of the same road, according to movement and place functions;
- Protection for sensitive land uses such as schools located along Bakers Lane;
- Maximum safety and efficiency through design;
- Well defined public transport links;
- A permeable network for pedestrian and cyclists; and
- Ultimately, the integration of all modes of travel across the road network.

4.2.5 Key Infrastructure

- Mamre Road: Mamre Road provides a central north-west access corridor to/through the MRP (see also Section 5.4 below).
- The rezoning updated the WSEA SEPP to rezone additional land SP2 Infrastructure (Classified Road) to facilitate upgrade of Mamre Road.
- Southern Link Road: The Southern Link Road is a proposed east-west link from Wallgrove Road to Mamre Road, connecting the MRP to the existing WSEA lands (Oakdale, Eastern Creek etc).
- TfNSW is currently finalising a concept design for the Southern Link Road, which along with an assessment of environmental opportunities and constraints analysis, will also investigate the potential for a further extension to the west (of Mamre Road).
- Future Internal Roads: As previously discussed, TfNSW has commenced detailed traffic modelling for the MRP, focusing on its external connections to the regional road network, and the internal road network within the MRP. This process is outlined in the MRP Rezoning Paper, which states:

  Future planning as part WSEA Road Network Strategy and planning for the Western Sydney Aerotropolis will identify additional regional transport connections to the precinct. This planning is to include modelling to estimate the traffic generation and distribution of trips to and from the future Western Sydney intermodal terminal.

  Local roads will need to be designed to accommodate heavy vehicles whilst ensuring that access to regional and sub-arterial roads is achieved in a controlled and efficient manner. The Department will continue work with RMS and Council to determine appropriate road hierarchy and ongoing maintenance of major roads within the precinct.

  The design of the Estate provides for full integration with the future internal MRP road network.
- Active & Public Transport: As discussed further below, there is very little active transport infrastructure within the MRP at this time. The MRP Rezoning Paper cites ongoing discussions with local Councils and TfNSW to deliver a cycle network connecting the Precinct to existing urban areas, the future Aerotropolis and WSEA. In this regard, the primary active transport corridor is expected to be designed around Mamre Road itself, with the MR Upgrade proposing a shared path along its full length, and cycle paths branching along creek lines and into the central portions of the MRP.
- It is noted that the MRP Rezoning Paper does not provide any commentary in regard to public transport; however, the MR Upgrade provides more certainty in this regard, as do broader regional public transport strategies. These public transport proposals and strategies are discussed in more detail below.

4.3 Mamre Road Upgrade

4.3.1 Overview

The MR Upgrade Report details the proposed MR Upgrade (the MR Upgrade) between the M4 Motorway and Kerrs Road (south of the Site, and north of Elizabeth Drive). The NSW Government has committed $220 million to Stage 1 of the upgrades, between the M4 Motorway and Erskine Park Road (north of the MRP). Stage 2 of the upgrades from Erskine Park Road to Kerrs Road is subject to funding.

The objectives of the MR Upgrade – which essentially mirror those of the broader MRP Rezoning Paper - 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.

4.3.2 Mamre Road Upgrade Design Components

The MR Upgrade provides 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 including:
  - Signalised U-turn facilities at key intersections in the short term pending full development of the area (noting that one of the identified U-turn sites is the proposed location of the primary Site intersection);
  - A new signalised intersection with turn-around facility at Abbotts Road;
  - A new signalised intersection between Abbotts Road and Bakers Lane;
  - An upgrade of the signalised intersection at Bakers Lane, with provisions for U-turn and local access;
  - An upgrade of the signalised intersection at Erskine Park Road;
  - An upgrade of the signalised intersection at James Erskine Drive, with provisions for future access to development on the western side of Mamre Road (a temporary arrangement is currently in place);
  - Left in / left out access at Mandalong Close;
  - Left in / left out access at McIntyre Avenue;
  - A new signalised intersection at Luddenham Road;
  - A new signalised intersection at Solander Drive; and
  - An upgrade of the signalised intersection at Banks Drive.

The broader MR Upgrade proposal (per the MR Upgrade Report) is shown in **Figure 4**.

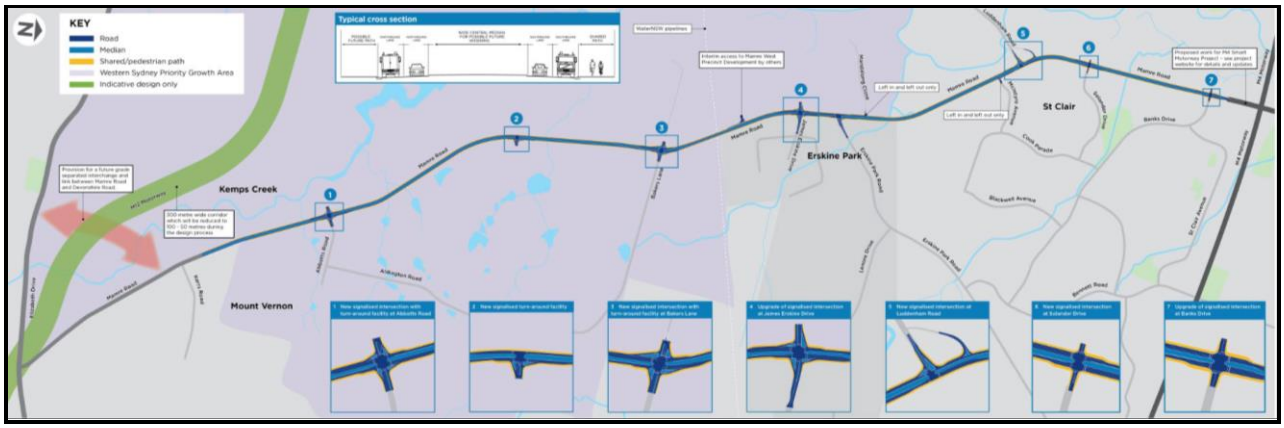


Figure 4: Mamre Road Upgrade

Source: Mamre Road Upgrade Report

4.3.3 Abbotts Road & Bakers Lane Intersection Upgrades

The MR Upgrade Report indicates future signalised intersections at the Abbotts Road and Bakers Lane intersections with Mamre Road. The intersection designs are reproduced in **Figure 5** and **Figure 6** below. It is noted that these intersections are being reviewed as part of the MRP modelling assessment.

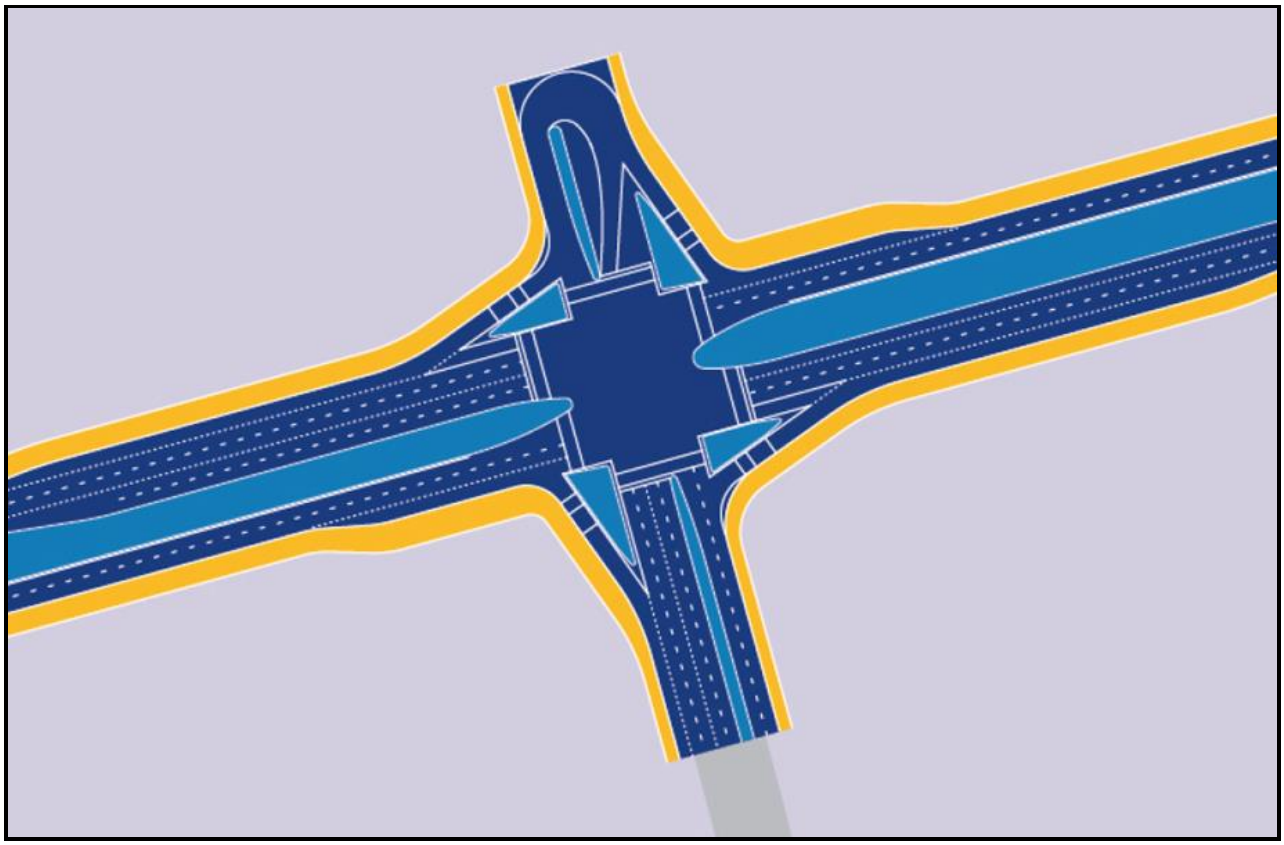


Figure 5: Bakers Lane / Mamre Road Intersection

Source: Mamre Road Upgrade Report

It is noted that a joint venture between Altis Property Partners and FPI (SSD 9522[1]) has proposed interim upgrades to this intersection, in advance of the delivery of the above.

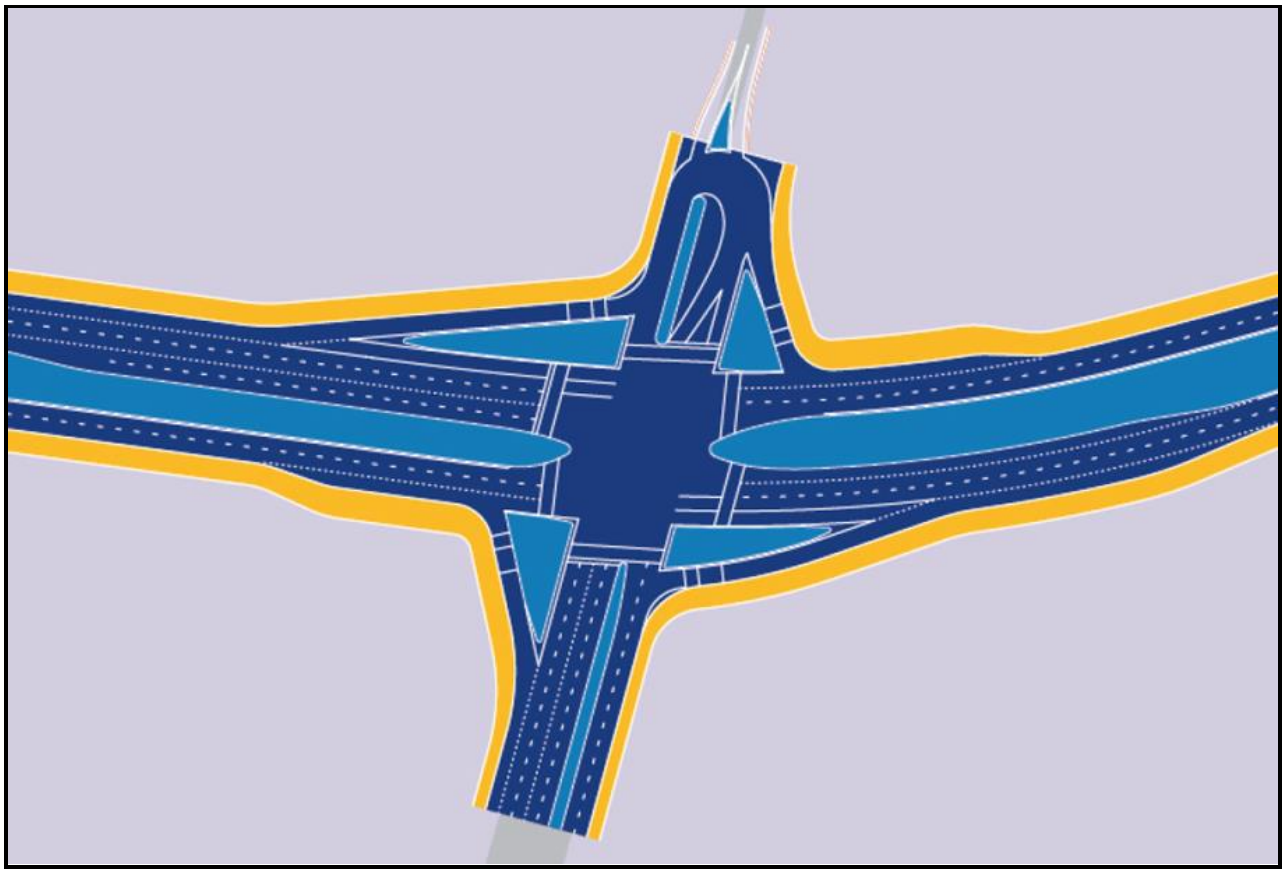


Figure 6: Abbotts Road / Mamre Road Intersection

Source: Mamre Road Upgrade Report

It is noted that FPI is working with other land owners developing other sites along Aldington Road (including Fife / Stocklands (SSD 10479[2])) to identify and deliver interim upgrades to this intersection, in advance of the delivery of the above.

4.4 Mamre Road Precinct Rezoning Status

Concurrently to the finalisation of the Draft DCP, the detailed traffic modelling of the MRP being undertaken by TfNSW will specifically determine:

- Sub-regional connections to the regional road network, with a specific focus on Mamre Road and Southern Link Road;
- The road network within the MRP to ensure efficient and equality of access to these sub-regional connectors;
- Road and intersection upgrade requirements and the timing of such in line with the staged development of the MR Precinct; and
- An appropriate apportionment of infrastructure costs.

[1] https://www.planningportal.nsw.gov.au/major-projects/project/10376
[2] https://www.planningportal.nsw.gov.au/major-projects/project/37961

4.5 Draft Mamre Road DCP

The exhibition period for the Draft DCP has been completed and is currently under consideration by the NSW Government. The finalised DCP will provide the planning controls for future development in the MRP including building design controls, the road network and parking requirements. The currently proposed road network is shown by **Figure 7**.

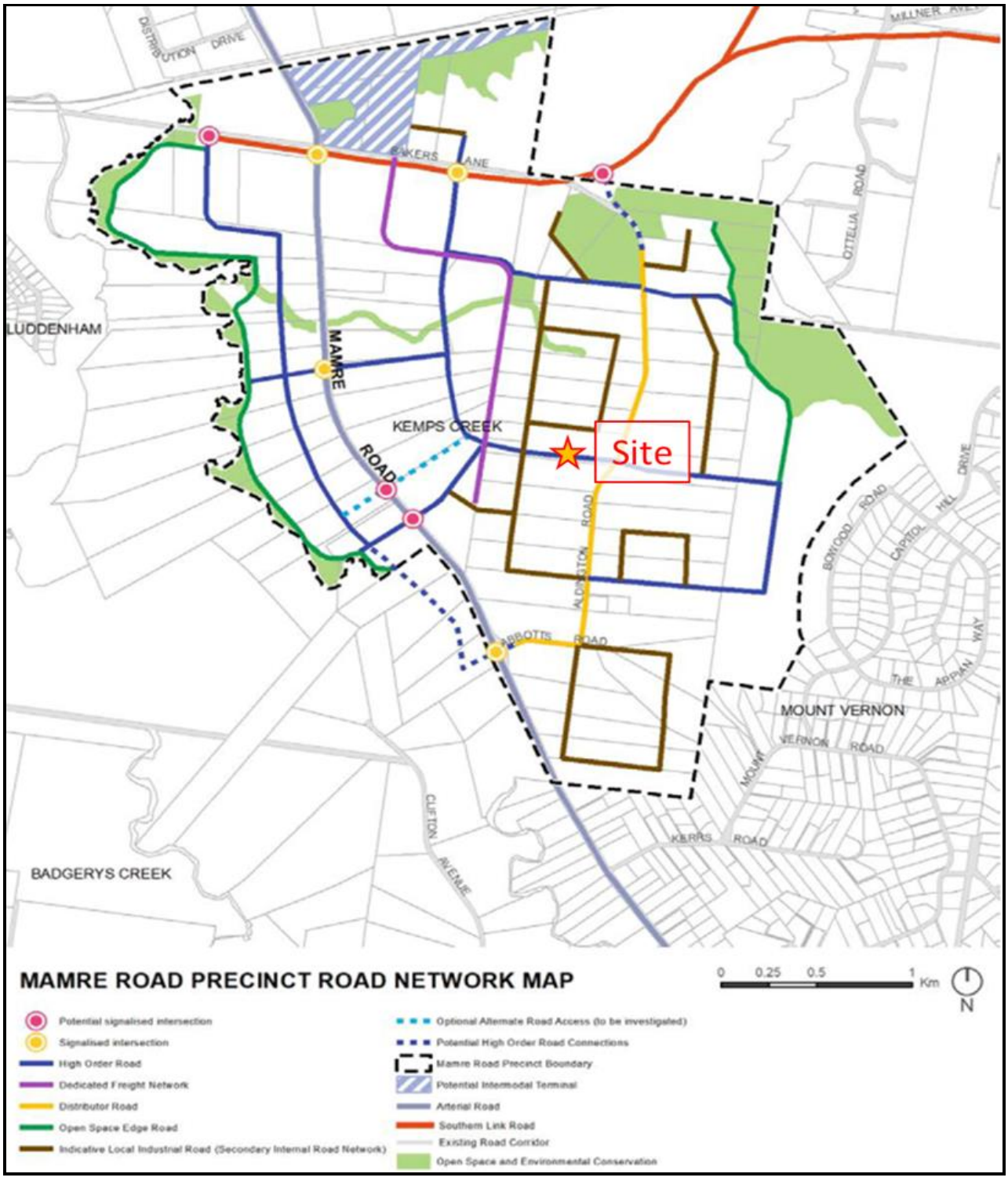


Figure 7: Draft DCP Proposed Precinct Roads

Source: Mamre Road Precinct Draft DCP 2020

The final road network is subject to the outcomes of the background MRP traffic modelling being undertaken by Ason Group in conjunction with TfNSW, with the layout shown in Figure 7 representing the initial options put forward with the Draft DCP.

As is shown, the existing section of Abbotts Road and Aldington Road form Distributor Roads and the internal site road would eventually form a local industrial road. The requirements for the preferred Local Industrial Road typology, as per the Draft DCP, is shown by **Figure 8**.

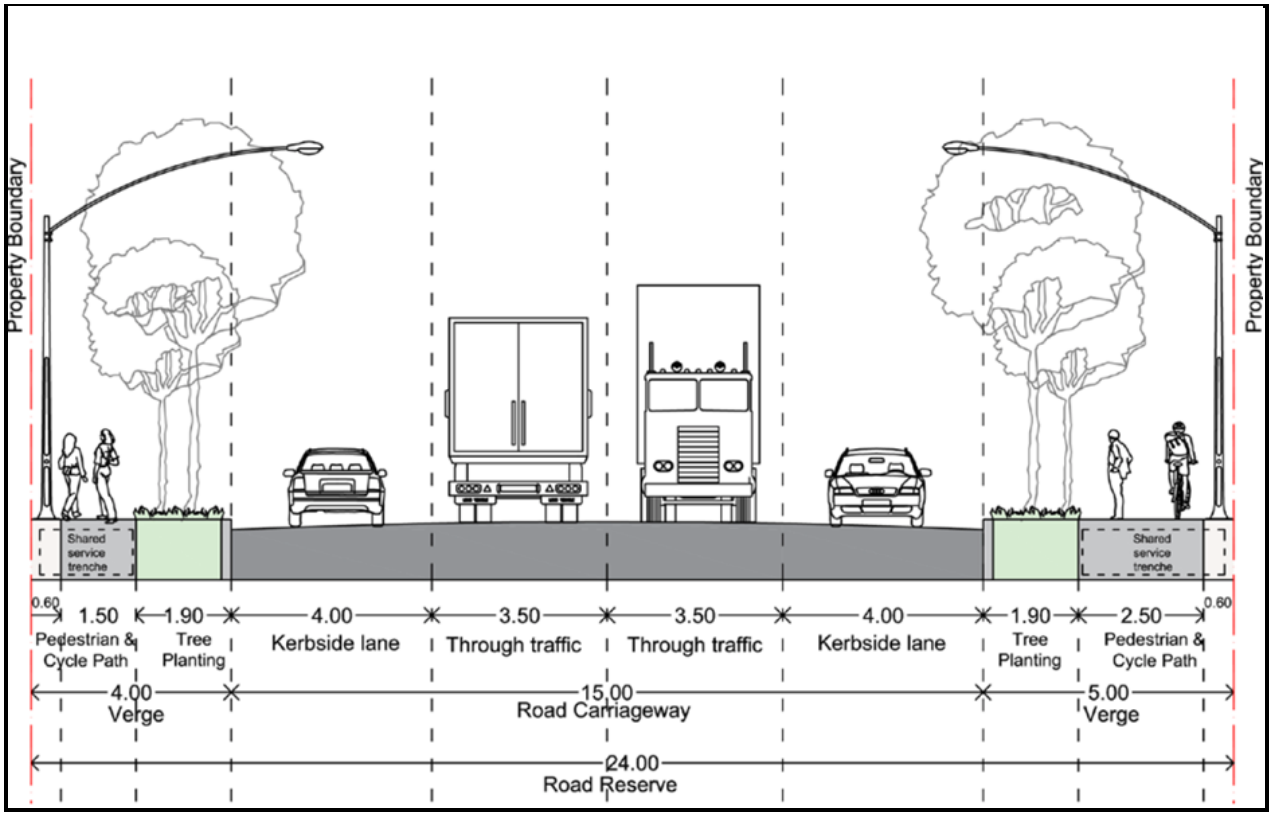


Figure 8: Draft DCP Typical Local Industrial Road

Source: Mamre Road Precinct Draft DCP 2020

5 Public & Active Transport Opportunities

5.1 Public Transport

5.1.1 Introduction

It is evident that the Site is not directly serviced by public transport at this time (**Figure 9**); notwithstanding, opportunities for future connections have been identified, noting again that the MR Upgrade specifically provides for new bus stops along its entire route.

The planning of bus services in Sydney is governed by the NSW Service Planning Guidelines, which aim to establish Strategic Transport Corridors and a hierarchy of bus route types that:

- Link to regional centres (such as Penrith and Mt Druitt);
- Pass through patronage generators such as district centres, TAFE colleges, hospitals and universities;
- Connect with other transport modes (trains, ferries and other buses);
- Are multifunctional (serving journeys to work, education, shopping and recreation);
- Are direct and frequent; and
- Meet the network planning principles.

- It is also the case that the 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. To make public transport a viable choice in the study area, the services will ideally:
- Integrate with existing bus services in the area;
- Connect to regional centres of Penrith, Mt Druitt and Blacktown; and
- In the long term, connect to areas such as Leppington in the South West Growth Centre, Prairiewood and the Liverpool to Parramatta T-Way.

While the internal MRP road network will be finalised further to the outcomes of the TfNSW modelling, it is anticipated that internal roads – which would already provide greater width to accommodate heavy vehicle movements – would also therefore be bus capable. There are significant opportunities therefore to provide sub-regional services along Mamre Road, as well as services within the MRP itself to maximise the number of sites that lies within 400 metres of a viable bus service.

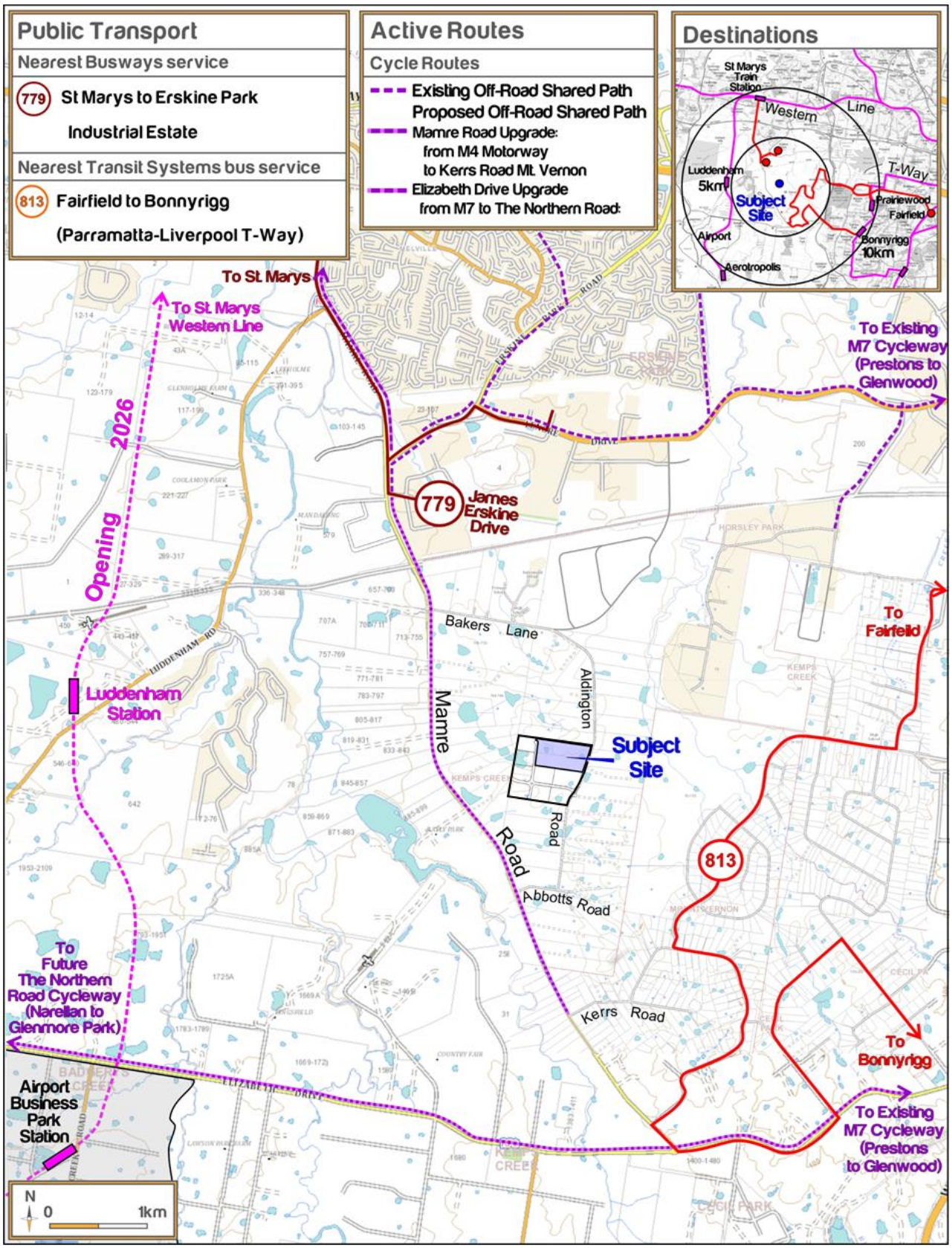


Figure 9: Public & Active Transport Network (Draft Figure to be updated)

Key bus routes identified in the BWSEA Structure Plan are shown in **Figure 10**.

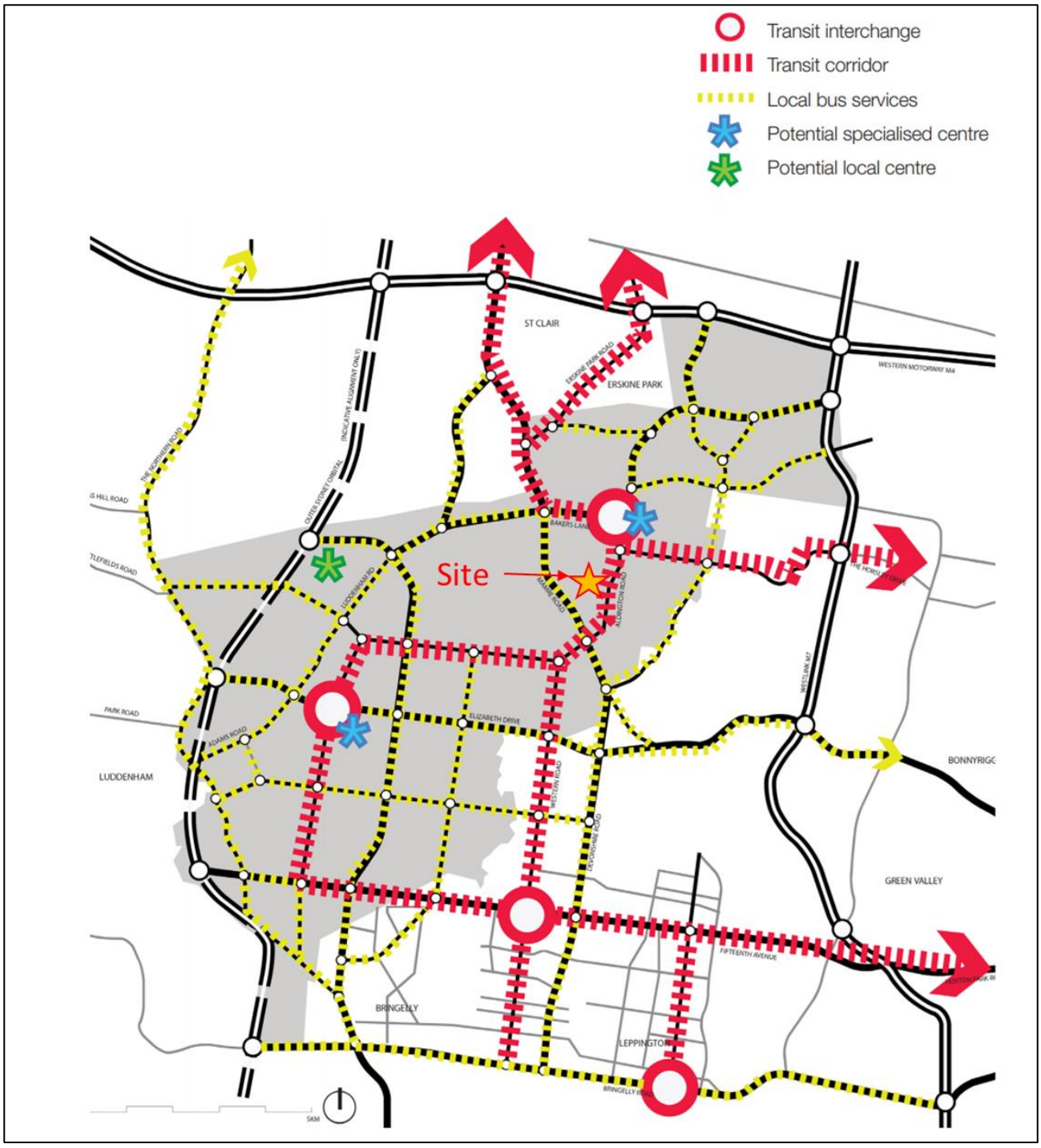


Figure 10: BWSEA Public Transport Structure

Source: BWSEA Structure Plan

5.1.2 Train Services – Metro Western Sydney Airport

The closest train station to the Site is currently some 10 kilometres away. However, the Metro Western Sydney Airport will provide 23km of new railway to link residential areas with jobs hubs and the rest of Sydney's public transport network.

The alignment of the Metro is shown by **Figure 11**. While the closest station to the Site will likely be Luddenham Station, located approximately 4km west of the Site, it will undoubtedly improve public transport

accessibility to the wider area. This provides an opportunity for bus services to combine with the Metro to improve connectivity to/from the residential areas to the north of the Site.

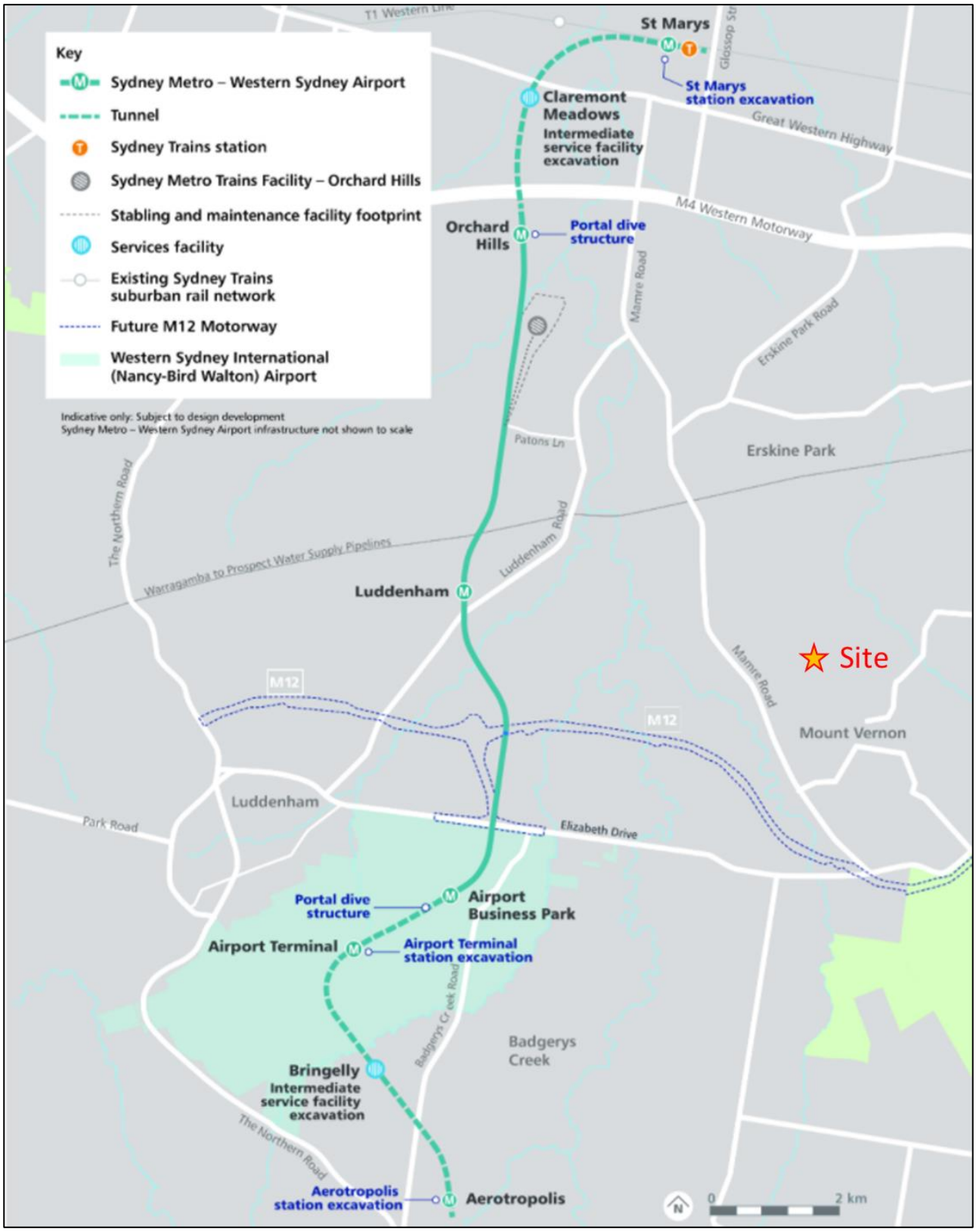


Figure 11: Metro Western Sydney Airport Alignment

5.1.3 Bicycle Network

At present, shared paths (pedestrian and cycle) are provided along Erskine Park Road and sections of Mamre Road to the north of the Site, but there is little cycling (or pedestrian) infrastructure in Mamre Road between Distribution Drive to the north and Elizabeth Drive to the south.

The BWSEA Structure Plan provides a detailed outline of future active transport objectives and strategies, acknowledging that the provision of such will be essential to encourage the use of active transport from the outset. In this regard, the BWSEA provides the following key objectives:

- *Provide quality pedestrian and cycling environments around transit corridors and facilities.*
- *Understand the key walking and cycling needs in the region and the need for the separation of pedestrians and cyclists from motor vehicle traffic.*
- *Recognise that all trips involve walking at either the beginning or end of the journey, resulting in the need for connections between parking and public transport areas and destinations.*
- *Recognise that walking and cycling paths can form key routes between destinations.*
- *Understand that walking and cycling trips perform a variety of functions, not only travel from an origin to a destination, but such trips are also undertaken for recreation and/or health benefits, which can be influenced by the amenity of the route*.

Key active transport routes identified in the BWSEA Structure Plan are shown in **Figure 12**, noting again that the Mamre Road upgrade Project will provide shared paths along at least one side of the road for its entire length.

5.1.4 Pedestrian Connectivity

Due to the current largely undeveloped nature of the land immediately surrounding the Site, pedestrian infrastructure is currently non-existent. Key pedestrian desire lines in the vicinity of the Site would be triggered by connections to future public transport infrastructure, noting the nature of the area being largely industrial and therefore not representing key destinations and attractions for people to walk to.

In this regard, it is noted that the upgraded Mamre Road will include shared cycle and pedestrian pathways along its length. Further, the Draft 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.

Figure 12: BWSEA Cycle Routes

Source: BWSEA Structure Plan

6 Traffic Impact Assessment

6.1 Trip Rates

The assessment of industrial development within Western Sydney has generally – in recent years – referenced the trip generation rates provided in the RMS Guide Update, and specifically sites displaying the similar characteristics of (large scale) industrial development, including the Erskine Park Industrial Estate, and the Wonderland Business Park, Eastern Creek Roads & Maritime survey sites (as detailed in the RMS Guide Update).

However, as reference, Ason Group is currently working with TfNSW with regard to the wider MRP modelling in regard to traffic generation assumptions for the MRP. The trip rates that have been provided by TfNSW and DPIE through this process as suitable for adoption in the assessment of developments in the MRP are shown by **Table 5**. To ensure consistency with the background MRP assessment being undertaken separately, these rates have been adopted for the purposes of this assessment.

TABLE 6: TFNSW AGREED 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

To ensure consistency with the background MRP modelling assessment being undertaken separately, these rates have been adopted for the purposes of this assessment.

6.2 Traffic Generation

Further to the adoption of the trip rate as described above, **Table 7** provides a summary of the Site's traffic generation further to the Proposal. A breakdown of the Site's daily traffic profile, based on the survey data available, is shown in **Appendix A**; it is noted that there are minor differences between the peak hour volumes reported in **Table 7** and those reported in Appendix A further to minor rounding changes.

TABLE 7: MASTERPLAN TRAFFIC GENERATION

Time Period	GFA	Rate per 100m^2	Trips
Daily Trips	65,327	2.91	1,901
Local Road AM Peak (7am – 8am)		0.23	150
Local Road PM Peak (4pm – 5pm)		0.24	157
Site Maximum Generation Rate (All Vehicles)		0.26	170
Site Maximum Generation Rate (Heavy Vehicles)		0.07	46

6.3 Trip Distribution

6.3.1 Arrival & Departure Distribution

The arrival and departure distribution of trips to and from the Site during the AM and PM peak periods has been based on that agreed with TfNSW as part of the MRP modelling assessment and has been based on surveys of local industrial sites and, the 2019 Land Use Strategic Traffic Forecasting Model (STFM). An Aimsun Subnetwork Assessment was also undertaken to understand the distribution of traffic volumes within the 2026 interim MRP road network, with the turn volumes extracted from the peak hour to undertake a SIDRA Intersection assessment:

With regard to access to and from Mamre Road, the key intersection with regards to the Site is the Abbotts Road / Mamre Road intersection.

The Mamre Road / Bakers Lane intersection will potentially form one of the key intersections for the MRP following the upgrade of Bakers Lane to the SLR. Further, this intersection currently also forms the key access intersection into the development site currently known as the Mamre South Precinct (subject to SSD-9522).

While there are many other developments influencing the intersection requirements for the Mamre Road / Bakers Lane intersection, including that within the LOG development sites, the key intersection with regard to the Site is clearly the Abbotts Road intersection with Mamre Road.

Therefore, the remainder of this assessment focuses on the interim upgrades required to the Mamre Road / Abbotts Road intersection to support the initial development of the Site by 2026.

Forecast traffic flows generated by the Site by the forecast year of 2026 and full development flows are shown by **Appendix B**.

6.4 Adjacent Sites – Cumulative Assessment

6.4.1 2026 Interim Assessment

The relevant sites within the MRP that are relevant to this assessment, and the forecast GFA adopted for the purposes of the 2026 interim assessment are provided within **Table 8** and **Figure 13**. These GFAs represent 75% of each of the relevant sites. This reduced figure represents the assumed take up rates of development on those LOG sites by that time.

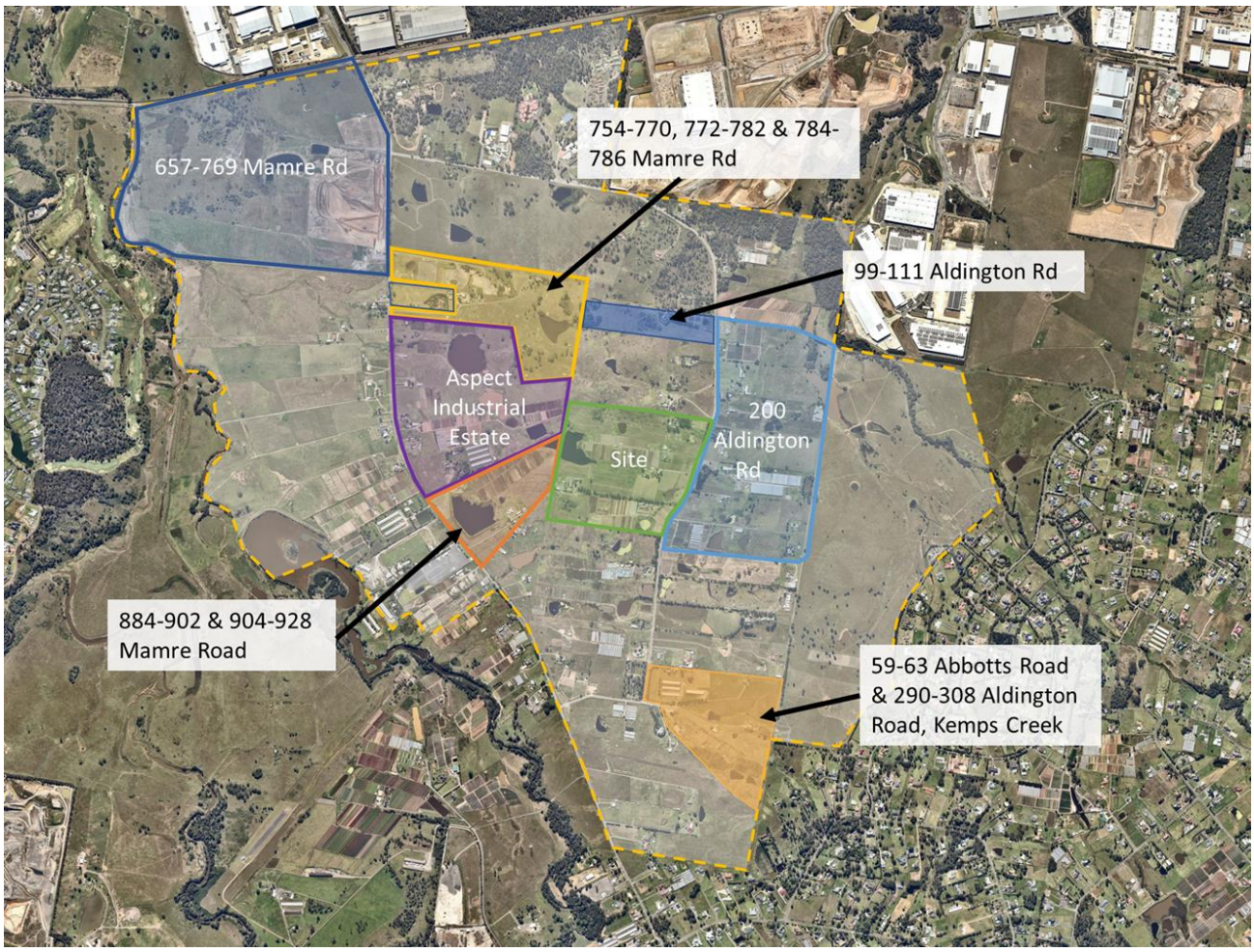


Figure 13: Sites Adopted for 2026 Interim Modelling Assessment

TABLE 8: CUMULATIVE LOG SITES GFA

ID	Site Address	Reference	GFA (m^2) by 2026
1	**657-769 Mamre Rd**	**SSD-9522**	242,488
2	**754-770, 772-782 & 784-786 Mamre Rd**	**SSD-10272349 plus 772-782 Mamre Rd**	131,460
3	**788-804, 806-824, 826-842, 844-862, & 864-882 Mamre Rd**	**SSD-10448**	186,684
4	**884-902 & 904-928 Mamre Rd**	**SSD-17647189**	61,158
5	**59-63 Abbotts Rd & 290-308 Aldington Rd**	**SSD-9138102**	118,601
6	**99-111 Aldington Rd**	-	25,806
7	**155-217 Aldington Rd**	**Site - SSD-17552047**	141,699
8	**200 Aldington Rd**	**SSD-10479**	281,816
	Total	-	**1,189,712**

This assumes a total GFA of 1,189,712m^2 to be complete by 2026 across the Precinct. On the basis of the trips rates agreed with TfNSW for the purposes of the Precinct modelling assessment this equates to the following:

- 2,736 AM peak hour trips; and
- 2,855 PM peak hour trips.

Of critical importance, this assessment assumed 141,699m^2 of the Site being developed by 2026, whereas the Proposal only seeks for approval 64,080m^2 at this stage, with any further development to be subject to future assessment processes.

Furthermore, it is expected that any other (non-LOG) developments will be required to undertake separate modelling and, as such, any adjustments to the interim upgrades can be identified as and when those submissions proceed.

6.5 Intersection Operation

6.5.1 SIDRA Intersection Model

The future operation of the proposed signalised intersection of Mamre Road and Abbotts Road has been assessed using the Roads & Maritime approved SIDRA intersection model. The SIDRA model provides a number of outputs by which to measure the performance of an intersection, including:

- Average Vehicle Delay (AVD): AVD (or average delay per vehicle in seconds) for intersections 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.
- Degree of Saturation (DOS): DOS is defined as the ratio of demand (arrival) flow to capacity.
- Level of Service (LOS): LOS is a comparative measure that provides an indication of the operating performance, based on AVD.

Table 9 provides the SIDRA recommended criteria for the assessment of intersections with reference to the RMS Guide.

TABLE 9: 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.

6.5.2 2026 Intersection Operations

The proposed interim intersection layouts that have been assessed are shown by **Figure 14, Figure 15** and **Figure 16**.

The operation of the key intersections in 2026 on the basis of the above traffic generation is summarised in **Table 10**.

TABLE 10: INTERSECTION OPERATIONS

Intersection	Configuration	Period	AVD	LOS
Mamre Road / Abbotts Road	Signals	AM	10.3	A
		PM	25.1	B
Abbotts Road / Aldington Road	Signals	AM	30.2	C
		PM	31.6	C
Aldington Road / Site Access	Roundabout	AM	13.2	A
		PM	13.4	A

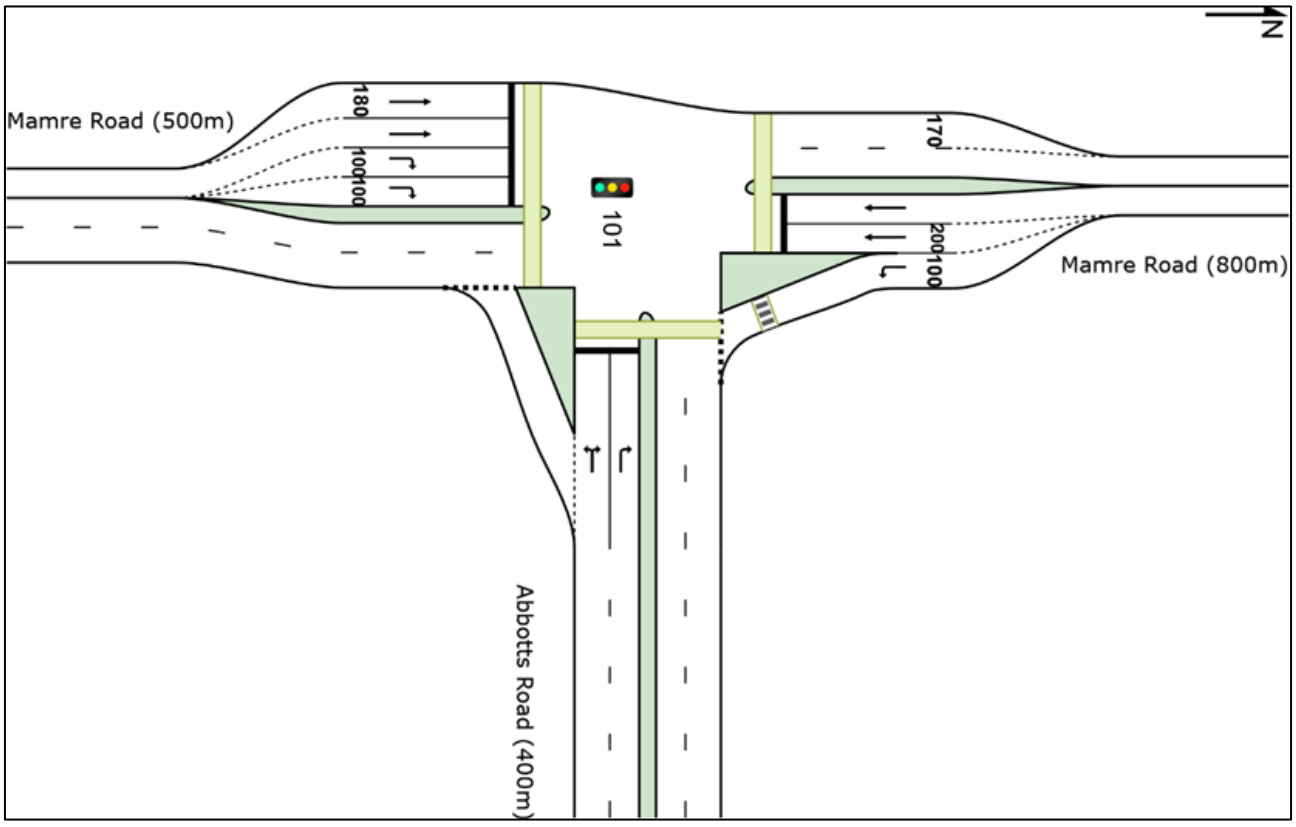


Figure 14: Interim 2026 SIDRA Intersection Layout – Mamre Road / Abbotts Road

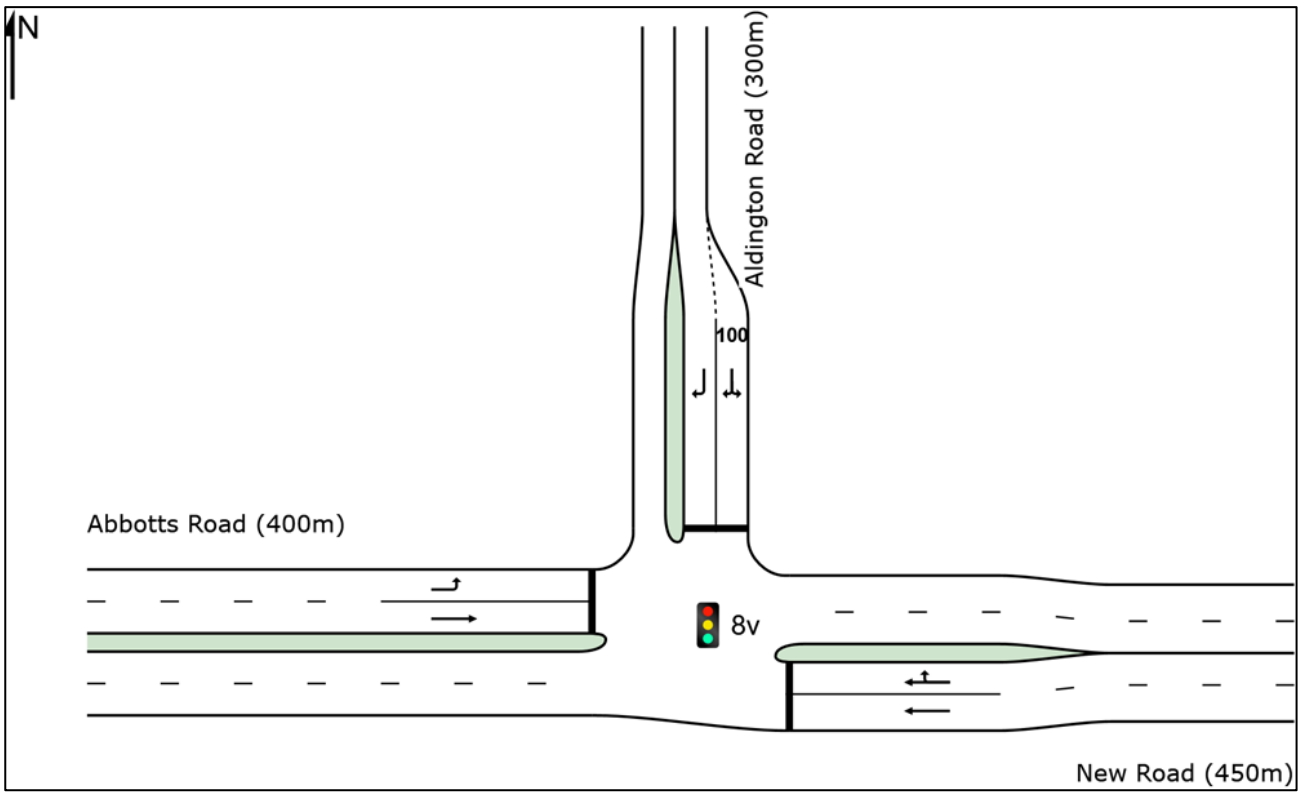


Figure 15: Interim 2026 SIDRA Intersection Layout – Abbotts Road / Aldington Road

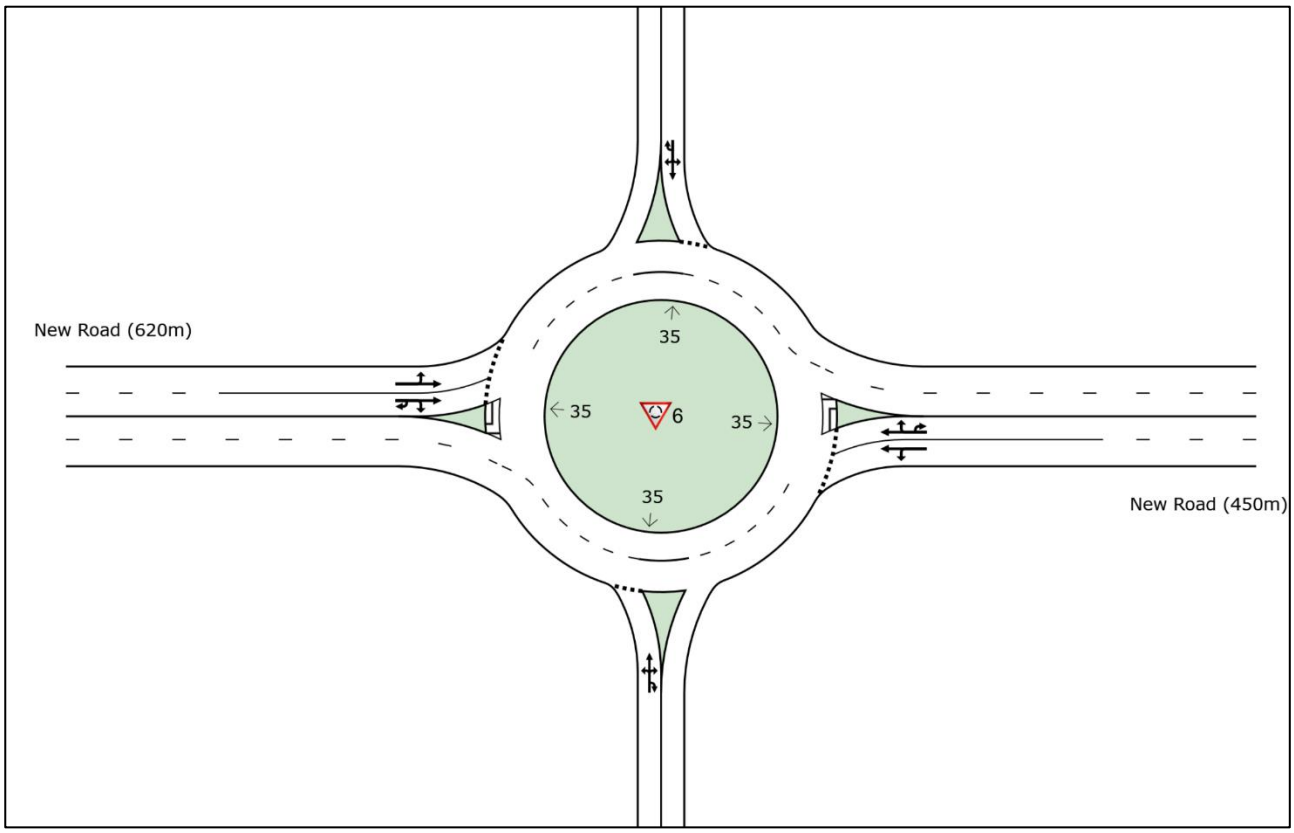


Figure 16: Interim 2026 SIDRA Intersection Layout – Aldington Road / Site Access

With reference to Table 10, the SIDRA analysis indicates that the proposed intersections can accommodate the traffic generation associated with 75% of the traffic associated with the initial development of the relevant LOG sites.

Until the wider MRP modelling assessment has been completed, further assessment of the network will not provide meaningful results until the background traffic flows and distribution (and the road network required to accommodate them) has been agreed with the relevant stakeholders and is understood.

It is assumed that the ultimate intersection would require additional capacity over that shown by the interim layout assessed. However, this relates to the background traffic flows, rather than the Site itself. The Site represents just 4% of the total area within the MRP; therefore, it is clear that – while the findings of the MRP modelling are still outstanding – the Proposal itself does not warrant the provision of any further network upgrades when considered against the context of the wider MRP.

Therefore, the assessment has demonstrated that the proposed interim arrangements are sufficient to accommodate the initial stages of development, anticipated by 2026 as a minimum, while the wider upgrades are being finalised and undertaken.

7 Transport Assessment

7.1 Existing Travel Patterns

7.1.1 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 115184210, within the Horsley Park – Kemps Creek statistical area. The travel modes are presented in **Table 11**.

TABLE 11: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Car as driver	92%
Train	0%
Bus	2%
Walked only	1%
Car as passenger	3%
Motorbike/Scooter	0%
Bicycle	0%
Taxi	1%
Other Modes	1%

With reference to Table 11, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in in the area. The data indicates that 95% travel to work by car with 92% as the driver and 3% 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 itself 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 patterns of industrial development.

7.2 Measures to Reduce Private Vehicle Use

7.2.1 Delivering the Vision of the Aerotropolis

The MRP forms of one of the initial precincts of the Aerotropolis (although not included within SEPP WSA), the background studies provide some context with regards to travel demand management.

The AECOM Report is one of the technical reports supporting the delivery of the Draft Aerotropolis Precinct Plan (November 2020) vision, which aims to create "*Sustainable urban connections including efficient and accessible public transport links, walking and cycling facilities*". The AECOM Report provides 2 key "enablers" being "*Transport Policies and Strategies*", which includes travel demand strategies; and "*Transport Infrastructure and Services*" which requires planning of a multi-modal, connected network.

Of most relevance to the Site are the following objectives identified for Travel Demand Strategies:

- Provide excellent travel choices and encourage walking, cycling and public transport trips;
- Limit unnecessary car trips, particularly for shorter trips;
- Promote alternatives to vehicle ownership;
- Reduce the need to travel, especially in peak periods;
- Facilitate the efficient use of land, through road space allocation and proximity of jobs and services to people; and
- Create a liveable community, with excellent local environmental quality and community cohesion.

Measures include implementation of Travel Plans and provision of adequate bicycle parking and End of Trip Facilities.

7.2.2 Implementation at Subject Site

A Framework Sustainable Travel Plan (FSTP) has been prepared that will inform future site-specific travel plans, expected to be implemented for each of the warehouse sites within the Estate (refer to **Appendix C**). Each of the end users within the Estate will have slightly different travel characteristics and therefore individual travel plans will be prepared to address the specific needs of the occupier.

A travel plan is a package of measures to assist in managing the transport needs of an organisation. It promotes the uptake of realistic choices of sustainable travel modes to and from a site, thereby reducing reliance upon single occupancy car travel. The travel plans will set targets, a series of measures to meet these targets and the process for monitoring and reviewing the travel plan, including the allocation of a Travel Plan Coordinator.

Each of the end users within the Estate will have slightly different travel characteristics and therefore individual travel plans will be prepared by the future occupiers on site to address their own specific needs.

7.2.3 Future Travel Patterns

The FSTP within Appendix C has identified an initial 5-year target for reducing travel by private vehicle on the Site.

These will be subject to review, prior to finalisation of any travel plan. Nevertheless, **Table 12** presents the relevant mode share details and the results of the application of these target percentages to the Proposal.

With regards to understanding the number of employees on the Site, at this stage in the development it is not clear how many employees the Site would accommodate. However, to inform this assessment, it is understood that the approximate 850 hectares of industrial land within the MRP could accommodate an approximate capacity of 17,000 jobs, based on information provided by DPIE. The developable land within the portion of the Site to be developed at this stage totals 12 hectares. On this basis therefore, it is assumed that the Site could accommodate approximately 240 employees.

TABLE 12: SITE TRAVEL MODE TARGETS & PERSON ONE-WAY TRIPS BY 2026

Travel Mode	Mode Share Target	Daily
Car as driver	88%	212
Car as passenger	3%	8
Train	0%	0
Bus	4%	10
Walked only	1%	2
Motorbike/Scooter	1%	2
Bicycle	1%	2
Taxi	1%	2
Other Modes	1%	2

The analysis indicates that 10 persons would use bus to access the Site during peak hours, or trips when accounting for arrivals and departures.

While these targets are not set, and while the bus services for the MRP are still being planned, it is not anticipated that this level of public transport travel would not be able to be accommodated. It is recommended to try to exceed the level of bus travel to the site; however, this would be subject to the implementation of appropriate services, which would be facilitated by TfNSW as the MRP develops and becomes better connected to the wider network.

8 Parking Assessment

8.1 Precinct Parking Rates

The currently applicable rates are outlined in Part C10, Table C10.2 Car Parking Rates of the Penrith DCP, which specifies requirements for various industrial and business premises.

However, the Site will ultimately be subject to a finalised version of the Draft DCP and the Proposal has therefore been assessed its requirements. There is no information to suggest that these parking rates, which have been adopted at similar sites across the WSEA, would not also be adopted in the finalised DCP. The requirements of the Draft DCP are provided within **Table 13**.

TABLE 13: DRAFT DCP PARKING RATES

Land Use	Minimum Parking Rate
Warehouse	1 space per 300m^2 or 1 space per 4 employees, whichever is the greater.
Industries	1 space per 200m^2 of gross floor area, or 1 space per 2 employees, whichever is the greater
Office	1 space per 40m^2

8.2 Parking Requirements & Provision

Table 14 details the requirements for Proposal, based on the parking rates detailed in **Table 13**.

TABLE 14: CAR PARKING REQUIREMENTS & PROPOSED PROVISION

Unit	Land Use	GFA (m^2)	Requirement (spaces)	Currently Proposed
9a	**Warehouse**	33,095	110	
	Office	816	20	
	Sub Total	**33,911**	**131**	244
9b	**Warehouse**	30,600	102	
	Office	816	20	
	Sub Total	**31,416**	**123**	233
Total	-	65,327	254	477

As per Table 14, the Proposal requires 254 parking spaces and 477 parking spaces are provided, exceeding the requirements of the adopted parking rate. Therefore, the Proposal can provide full compliance with the adopted rates.

8.3 Additional Parking Considerations

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

Accessible parking 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; therefore, providing compliance with the Disability (Access to Premises – Buildings) Standards 2010 from the BCA, as well as the accessible parking requirements provided in Appendix B of AS 2890.6.

8.4 Bicycle Parking

The Draft DCP refers to the document 'Planning Guidelines for Walking and Cycling' (NSW Government 2004) for the bicycle parking requirements. This requires bicycle parking for industrial uses to be provided for 3-5% of the staff population.

While there is currently a lack of cycle facilities in the area, it is anticipated that such facilities will be developed as part of the broader WESA. Therefore, consideration will be given to providing appropriate bicycle facilities (such as bicycle parking and end of journey facilities) within the Site at the appropriate stage. Given the nature of the Site, it is anticipated that if required, cycle parking could be readily accommodated in the future (when appropriate, to avoid any inefficient use of space).

9 Access Parking and Servicing Design

9.1 Design Standards

The Site's access, car park and loading areas have been generally designed with reference to the following Australian Standards:

- Australian Standard 2890.1:2004: Parking Facilities – Off Street Car Parking (AS 2890.1)
- Australian Standard 2890.2:2018 Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2)
- Australian Standard 2890.3:2015: Parking Facilities – Bicycle Parking (AS 2890.3);
- Australian Standard 2890.5:2020: Parking Facilities – On Street Parking (AS2890.5)
- Australian Standard 2890.6:2009 Parking Facilities – Off Street Parking for People with Disabilities (AS 2890.6); and
- NSW Department of Planning, Industry and Environment, Mamre Road Precinct Draft Development Control Plan, November 2020
- PCC Engineering Construction Specification for Civil works (Engineering Specifications);
- PCC Design Guidelines for Engineering Works for Subdivisions and Developments (Engineering Guidelines); and
- Austroads Guide to Road Design Part 3: Geometric Design (Edition 3.3, 23 April 2020)
- Fire + Rescue NSW, Fire Safety Guideline: Access for fire brigade vehicles and firefighters, Version 05, 4 October 2019 (NSW Fire Safety Guidelines)

9.2 Design Vehicles

The design vehicle adopted for the development is a 20m long articulated vehicle for each of the lots proposed.

The check vehicle adopted for the development is a 30m long PBS Type 2 vehicle for each of the lots proposed.

The 12.5 metre 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.

9.3 Access Driveways

All access driveways (to the proposed road network within the MRP) have been, and shall be, designed with reference to AS 2890.1 and AS 2890.2.

Truck access driveways shall be designed to provide for vehicles up to and including a 30m long PBS Type 2 with maximum gradients, maximum rates of change of grades, and maximum crossfalls in accordance with relevant standards applicable at the time when Construction Certification 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, assuming simultaneous movements 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.

9.4 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.

9.5 Service Areas

All service areas shall be designed with reference to AS 2890.2, and again provide for the movement of vehicles up to and including a 30m long PBS Type 2 as check vehicle, and 20m Articulated Vehicle as design vehicle.

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

10 Conclusions

Ason Group has been engaged by Frasers Property Industrial (FPI) to prepare a Transport & Accessibility Management Plan in in relation to the State Significant Development (SSD) for the proposed industrial development (the Proposal) located at 155-217 Aldington Road Estate, Kemps Creek (the Site). Further to a detailed assessment of all relevant traffic and transport issues, Ason Group provides the following conclusions:

- 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 roundabout intersection with Aldington Road, with access to the wider road network provided via Mamre Road to the west of the Site, which itself is already planned to be upgraded to accommodate the anticipated growth in the MRP.
- The trip generation rate adopted for the assessment are consistent with the rates being adopted for the MRP background modelling, being undertaken by TfNSW.
- SIDRA analysis has identified the required interim configuration of the future intersection for Mamre Road & Abbotts Road to facilitate the early stages in development of the Proposal by 2026, alongside a proportion of surrounding development, within the wider MRP. The analysis indicates that an interim signalised intersection design would more than provide for the development of the Proposal by 2026.
- The requirements for the ultimate intersection will be confirmed as part of the wider MRP road network planning being undertaken by TfNSW. Therefore, the remainder of the Site is to be subject to future assessments, at a time that the background MRP modelling assessment is complete.
- SIDRA analysis has also confirmed that an appropriate roundabout intersection at the Site access point can be provided for the 2026 assessment year. Assessment beyond that needs to be confirmed as part of the wider MRP background modelling assessment.
- All internal circulation, hardstand and parking areas within each Lot (forming part of this specific SSD) have been designed with reference to the Australian Standards and provide for vehicles up to and including a 30m long PBS Type 2. It is anticipated that full design compliance with the relevant Australian Standards would form a standard Condition of Consent further to approval, which will also provide for any design changes if required.
- The proposed parking provision exceeds the requirements of the Draft DCP, and includes an appropriate allocation of accessible parking spaces.
- All future operators will be encouraged to maximise the use of public and active transport, noting the future pedestrian, cycle and bus provisions included in the MR Upgrade design as well as that identified by the Draft DCP.

Appendix A. Hourly Traffic Generation

Start Time	All Vehicle	Light Vehicle	Heavy Vehicle	Rigid	Semi-trailer	B-double	A-double
0:00	16	11	5	3	0	0	1
1:00	14	9	5	3	0	0	1
2:00	15	10	5	3	0	0	1
3:00	17	13	4	3	0	0	1
4:00	54	44	9	6	1	0	2
5:00	103	82	20	14	1	0	5
6:00	139	110	29	19	2	0	7
7:00	137	103	34	23	2	1	9
8:00	127	88	39	26	3	1	10
9:00	110	67	43	28	3	1	11
10:00	103	62	42	28	3	1	11
11:00	108	66	42	28	3	1	11
12:00	118	80	38	25	3	1	10
13:00	142	103	39	26	3	1	10
14:00	155	120	35	23	2	1	9
15:00	132	102	31	20	2	1	8
16:00	110	85	25	16	2	0	6
17:00	91	70	21	14	1	0	5
18:00	54	40	14	9	1	0	4
19:00	32	23	9	6	1	0	2
20:00	24	17	7	5	0	0	2
21:00	31	26	5	3	0	0	1
22:00	40	33	6	4	0	0	2
23:00	28	22	5	4	0	0	1
Total	**1,901**	**1,390**	**511**	**338**	**35**	**9**	**130**

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

Appendix B. Development Traffic Flows

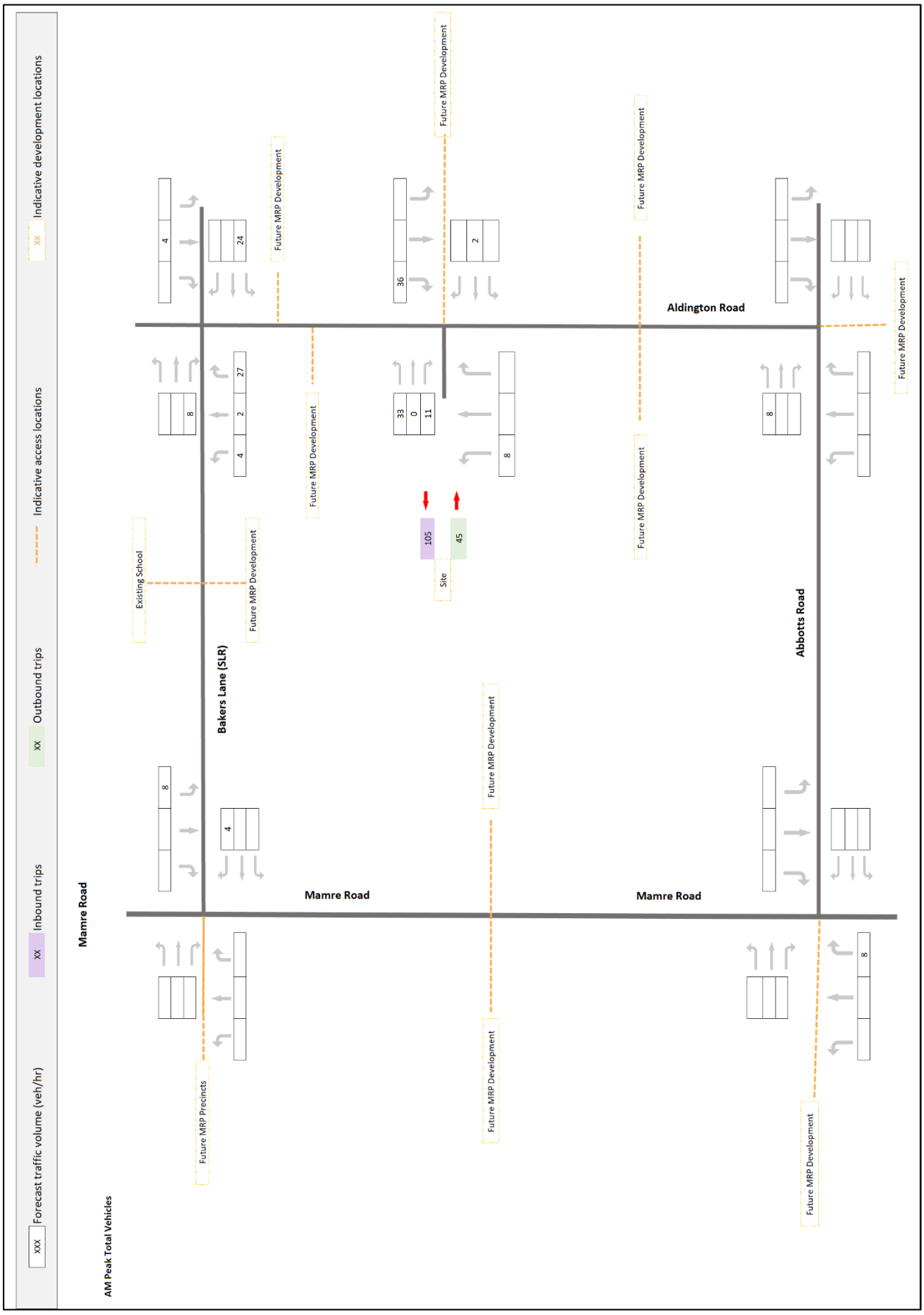


Figure 17: 2026 Development Traffic Flows, AM Peak

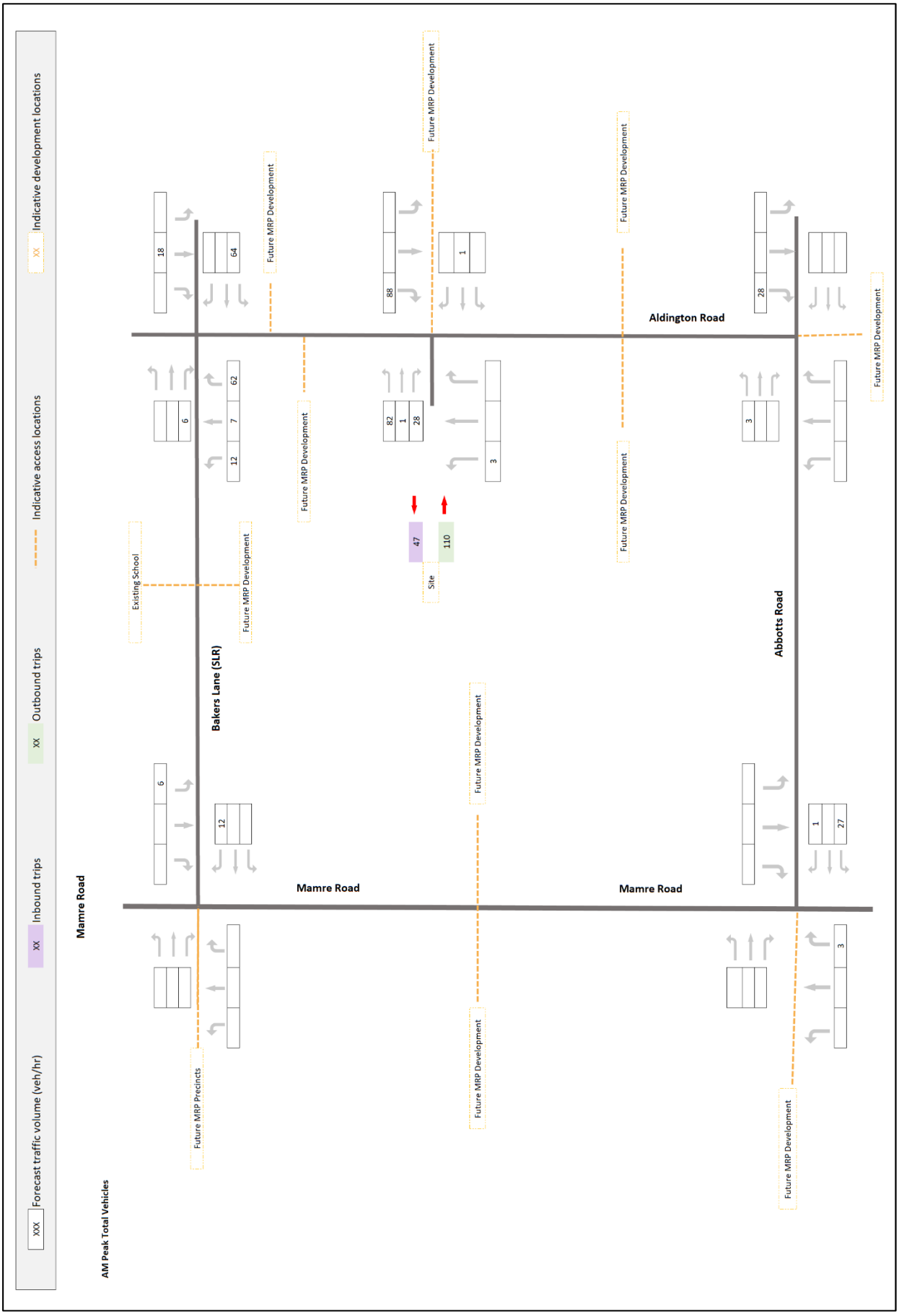


Figure 18: 2026 Development Traffic Flows, PM Peak

Appendix C. Framework Sustainable Travel Plan

Framework Sustainable Travel Plan

155-217 Aldington Road Estate, Kemps Creek

18/06/2021
P1043r03

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Project	155-217 Aldington Road Estate, Kemps Creek
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-	10/06/2021	Draft	R. Butler-Madden	T. Lewis
1	18/06/2021	Issue	R. Butler-Madden	R. Butler-Madden

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APPENDICES

1 Introduction

1.1 Context

This Framework Sustainable Travel Plan (FSTP) has been developed to support the application in relation to State Significant Development (SSD) 17552047. SSD-17552047 relates to a proposed industrial development at the 155-217 Aldington Road Estate, Kemps Creek (the Site), which is located to the west of Aldington Road, within the Penrith Local Government Area (LGA).

The Site sits within (what has been termed) the Mamre Road Precinct (MRP), which has recently been rezoned by the Department of Planning, Industry and Environment (DPIE) for industrial land uses. The MRP provides about 850 hectares of industrial land which could accommodate up to 17,000 ongoing jobs when fully developed. The MRP Structure Plan was finalised in June 2020, followed by the release of the MRP Draft Development Control Plan (DCP), the exhibition period for which has recently been completed.

The land which forms the MRP is largely made up of rural residential properties, as well as small scale agricultural industry businesses, at present. Consequently, the Site itself is therefore not well connected by travel modes other than the private vehicle. However, the Draft DCP outlines a number of objectives to ensure that, as the MRP develops, an integrated public and active transport network also develops to service future development such as the subject site.

While not specifically required by the Draft DCP, the purpose of this FSTP is therefore to complement the intent the of the future DCP, by outlining the overarching requirements for a future Sustainable / Green Travel Plan package for the Estate. This FSTP will inform the future site-specific Plans, expected to be implemented as part of a Condition of Consent relating to any detailed development approval.

1.2 Background

MRP forms one of the initial precincts of the broader Western Sydney Aerotropolis. However, as the land has already been rezoned and incorporated into the controls of the WSEA SEPP, it is not covered by the State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 or the background policy which establishes the strategic direction for the Aerotropolis.

Nevertheless, the background studies provide some context with regards to travel demand management, specifically the following report:

- AECOM *Western Sydney Aerotropolis Transport Planning and Modelling Stage 2 Report*, October 2020 (AECOM Report).

The AECOM Report is one of the technical reports supporting the delivery of the Draft Aerotropolis Precinct Plan (November 2020), which is currently on exhibition. One of the key “enablers” detailed in the AECOM Report includes *the implementation of transport policies and strategies which foster a mode shift to sustainable transport*: and recommends the inclusion of Travel Plans for new development applications within the future Aerotropolis Development Control Plan.

As detailed in the AECOM report Travel Plans should include the following:

- Baseline travel data on the existing modal share.
- Targets.
- Action plan to achieve targets.
- Commitment to on-going review of the Travel Plan.
- Monitoring and review strategy.

Of particular relevance to this FSTP, are the mode share targets set by the AECOM Report for each of the Aerotropolis precincts, the most comparable precinct to the MRP being the Badgerys Creek and Agribusiness Precincts. Of the 5 Aerotropolis Precincts covered, Badgerys Creek and Agribusiness have the lowest sustainable mode share targets (by 2056) of 20% and 18% respectively (the Badgerys Creek Precinct is shown by **Figure 1**).

This reflects the planned land uses, which are anticipated to support warehousing and logistic uses, as noted by the AECOM Report. Notably, the Agribusiness precinct will not be served by rail, but a number of bus services are planned. These targets are long-term target, with an internet to be ambitious but achievable based on the policy framework, actions, initiatives, infrastructure and services defined through the precinct planning process. On this basis, the targets of the Badgerys Creek Precinct have informed the targets for this FSTP.

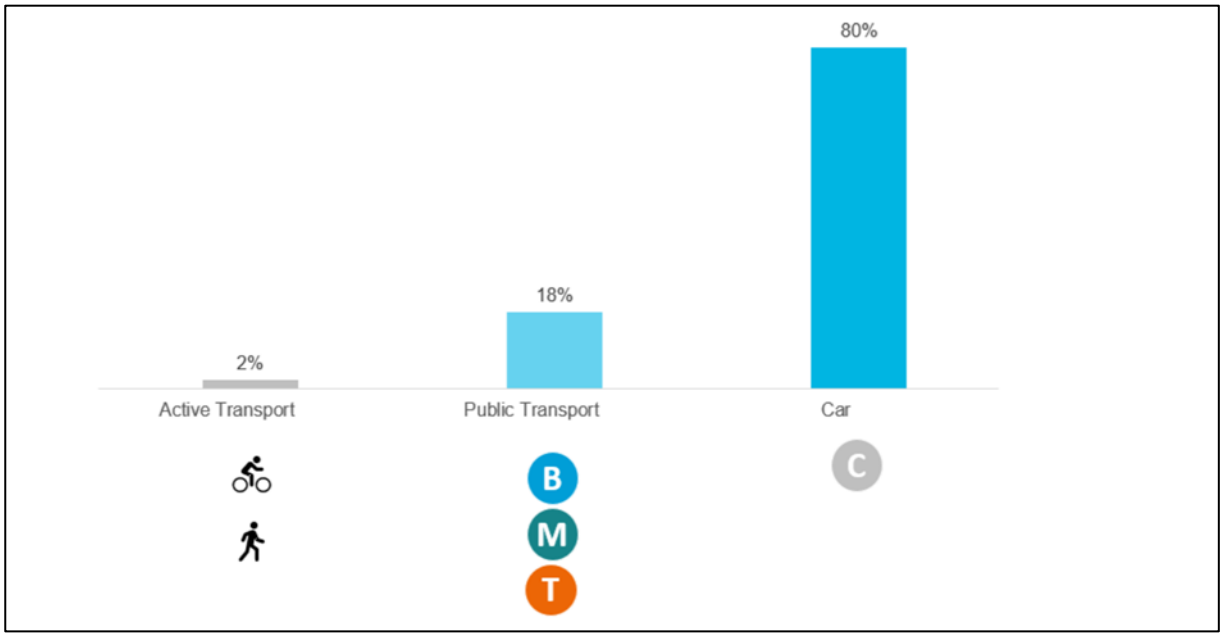


Figure 1: 2056 Badgerys Creek Mode Share Targets

Source: AECOM Report

1.3 Goals

This FSTP has specifically been prepared to achieve the following key goals:

a. Identify objectives and modes share targets (i.e., site and land use specific, measurable and achievable and timeframes for implementation) to define the direction and purpose of the future site-specific Plans;
b. Suggest specific tools and actions to help achieve the objectives and mode share targets;
c. (Suggest measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the future site-specific Plans;
d. Suggest a methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the future STP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours at appropriate times.

1.4 Objectives

Underpinning this FSTP comprises a package of measures which could be adopted and designed to address the specific travel needs of the Site. In this regard, the overall intention is to encourage and facilitate the use of alternative and sustainable modes of transport and to reduce single-occupancy car travel for journeys to and from the Site.

The primary objectives of the FSTP will be to:

- Reduce the environmental footprint of the Estate.
- Set future staff travel mode share targets.
- Improve access, amenity, convenience, and safety of sustainable transport modes to/from the Site.
- Promote the use of 'active transport' modes such as walking and cycling, particularly for short-medium distance journeys.
- Reduce reliance on the use of private vehicles for all journeys.
- Encourage a healthier, happier and more active & public transport use culture.

2 Site Audit

2.1 Introduction

An audit of the Site is required to determine the existing facilities in the area and review existing transport choices. This section will need to be updated prior to implementation of any site-specific Plan, and at appropriate times as the MRP developed, during period of review. The audit should consider the following:

- Site conditions, once the Estate is complete;
- Public transport services in the area, including proximity to the Site, frequency of services and accessibility;
- Bicycle and pedestrian facilities, including accessibility, connectivity and safety; and
- Mode-split data for the Site and local area.

2.2 Development Site

2.2.1 Location & Description

The Site is comprised of 5 separate Lots (refer to **Table 1**) and is located at 155-217 Aldington Road, Kemps Creek. It is 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 currently provides for a number of rural residential properties, as well as for small scale agricultural industries businesses.

TABLE 1: SITE DESCRIPTION

Address	Title	Area (Ha)
155-167 Aldington Road	33 / DP258949	10.12
169 – 181 Aldington Road	28 / DP255560	10.12
183 – 197 Aldington Road	27 / DP255560	10.12
199 Aldington Road	26 / DP255560	2.54
201 - 217 Aldington Road	25 / DP255560	10.12

The Site's sub-regional context is shown in **Figure 2** as well as the broader MRP Structure Plan area in which the Site lies.

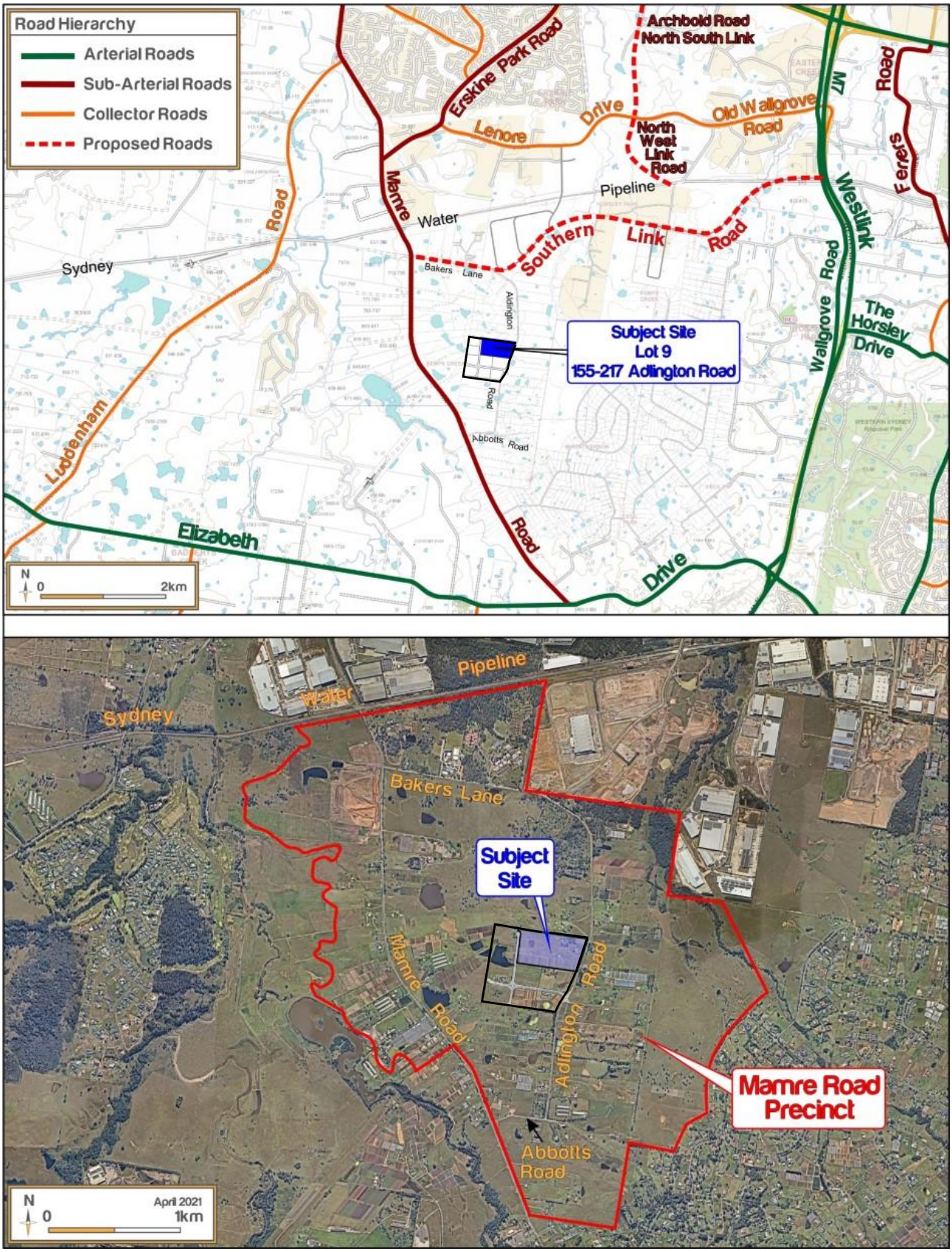


Figure 2: Site Location & Road Hierarchy

2.2.2 Proposed Development

The SSD Proposal seeks approval for:

- 65,327m^2, comprising:
  - 63,695m^2 warehouse GFA,
  - 1,632m^2 of ancillary office GFA,
- Creation of 9 individual development lots; with Lot 9 the subject of the industrial development;
- Internal roads and road connection to Aldington Road as per the Draft DCP;
- Provision for 477 car parking spaces; and
- Associated site landscaping.

The SSD Proposal is reproduced at a reduce scale in **Figure 3**.

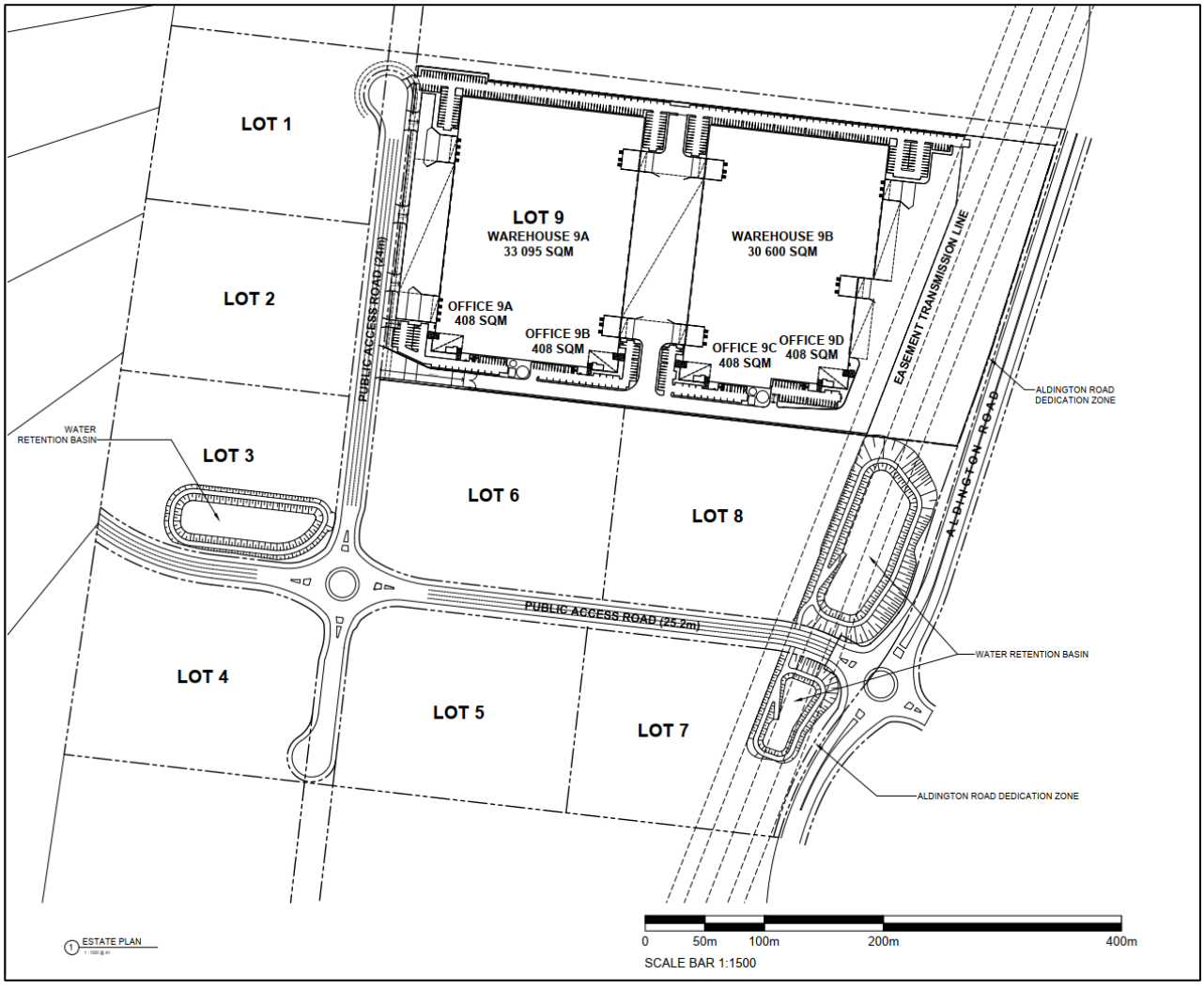


Figure 3: SSD Proposal

2.3 Public & Active Transport Opportunities

2.3.1 Introduction

The Site is limited with the current public transport service offering, as shown in **Figure 4**. Therefore, for this Site Audit, the public & active transport opportunities have been identified, noting that there are a number of projects and plans which relate to the strategic development of the MRP and more broadly the Western Sydney Employment Area (WSEA) and Broader Western Sydney Employment Area (BWSEA).

One such project is the Mamre Road Upgrade Project, which will see Mamre Road upgraded between the M4 Motorway and Kerrs Road (south of the Site, and north of Elizabeth Drive). The upgrade specifically provides for new bus stops along its entire route, with bus jump lanes at intersections also included in the strategic design.

This section will need to be updated prior to the finalisation of any future STP, and accordingly as part of the review process, as the wider area develops.

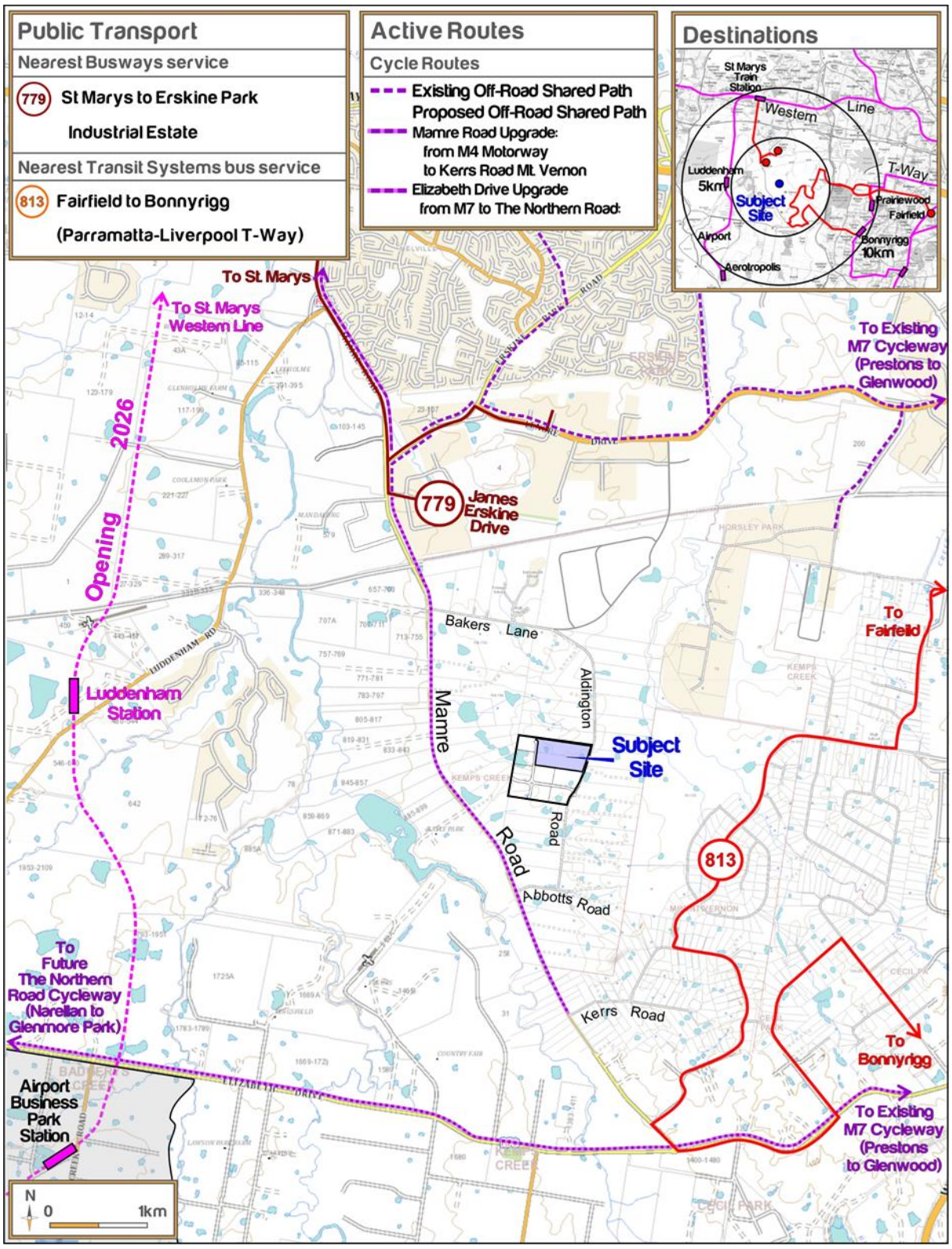


Figure 4: Public & Active Transport Network (Draft Figure to be updated)

2.3.2 Bus Services

The planning of bus services in Sydney is governed by the NSW Service Planning Guidelines, which aim to establish Strategic Transport Corridors and a hierarchy of bus route types that:

- Link to regional centres (such as Penrith and Mt Druitt);
- Pass through patronage generators such as district centres, TAFE colleges, hospitals and universities;
- Connect with other transport modes (trains, ferries and other buses);
- Are multifunctional (serving journeys to work, education, shopping and recreation);
- Are direct and frequent; and
- Meet the network planning principles.

It is also the case that the establishment of public transport services as early as possible in the development stages of the MR Precinct is important to achieve a culture of public transport use from the outset. To make public transport a viable choice in the study area, the services will ideally:

- Integrate with existing bus services in the area;
- Connect to regional centres of Penrith, Mt Druitt and Blacktown; and
- In the long term, connect to areas such as Leppington in the South West Growth Centre, Prairiewood and the Liverpool to Parramatta T-Way.

While the internal MRP road network is still be finalised as part of the DCP, it is clear from the intent of the objectives contained within the Draft DCP that a connected bus network will be provided. As per the Draft DCP, as all internal roads will accommodate heavy vehicles, they would also be capable of accommodating bus services. Therefore, there are significant opportunities to provide sub-regional services along Mamre Road and Aldington Road, as well as services within the internal MRP road network to maximise the number of sites that lie within 400m of a viable bus service.

Noting that TfNSW Guidelines state that bus services influence the travel mode choices of sites within 400m (approximately 5 minutes' walk) of a bus stop, access to bus services will be a key factor in influencing travel behaviour.

Key bus routes identified in the BWSEA Structure Plan are shown in **Figure 5**.

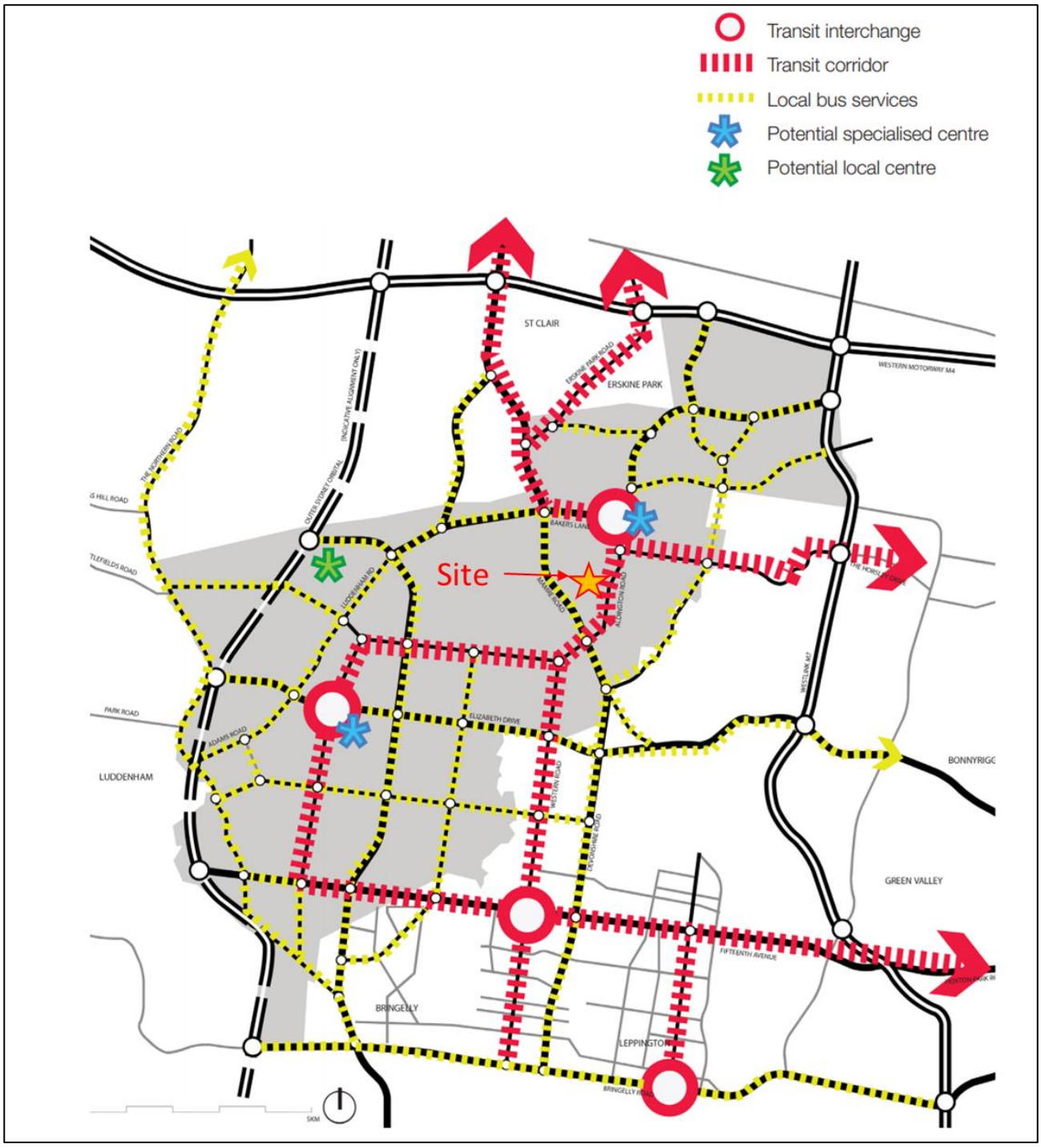


Figure 5: BWSEA Public Transport Structure

Source: BWSEA Structure Plan

2.3.3 Train Services – Metro Western Sydney Airport

The closest train station to the Site is currently some 10km away. However, the Metro Western Sydney Airport will provide 23 kilometres of new railway to link residential areas with jobs hubs and the rest of Sydney's public transport network.

The alignment of the Metro is shown by **Figure 6**. While the closest station to the Site will likely be Luddenham Station, located approximately 4km west of the Site, it will undoubtedly improve public transport accessibility to the wider area. This provides an opportunity for bus services to combine with the Metro to improve connectivity to/from the residential areas to the north of the Site.

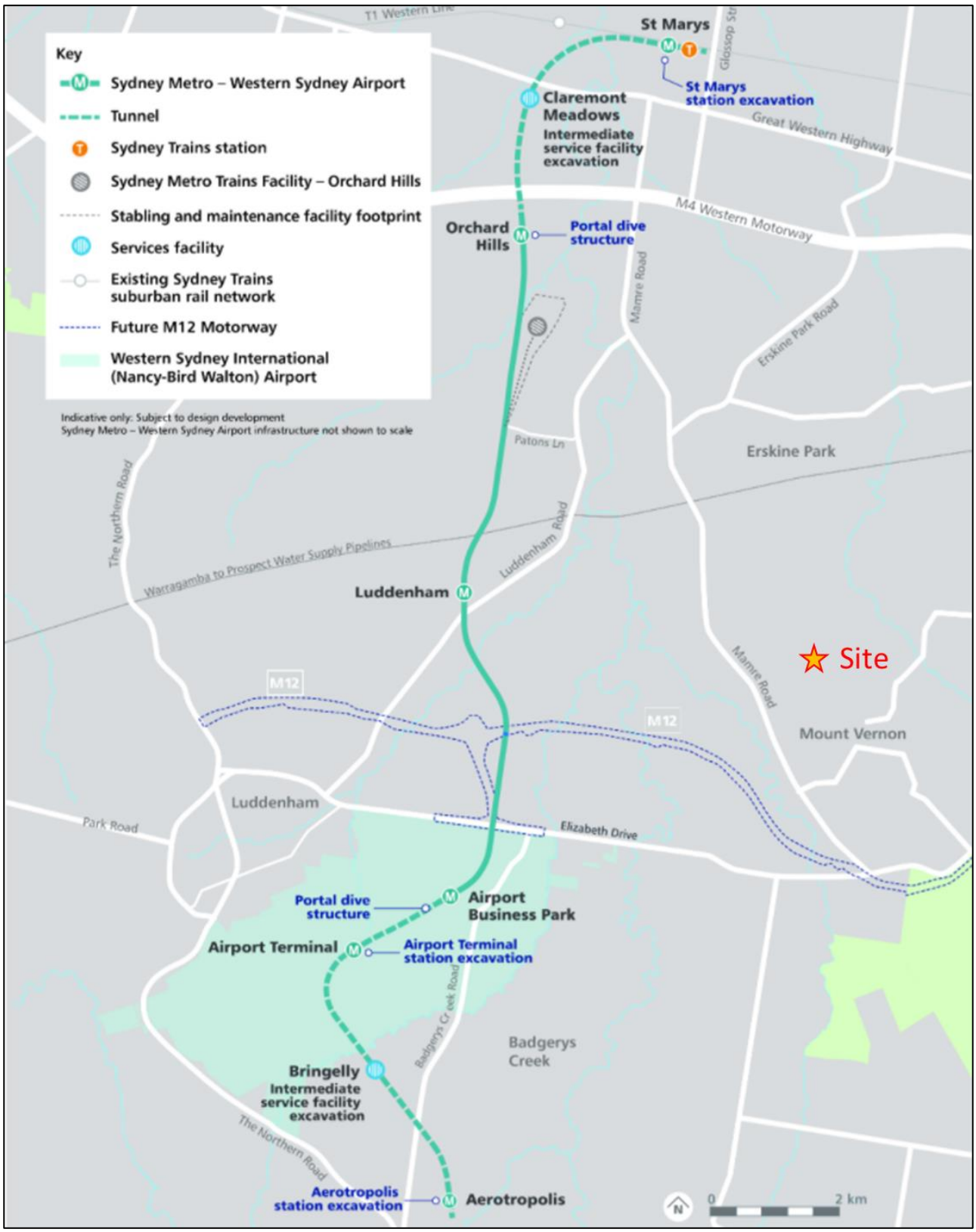


Figure 6: Metro Western Sydney Airport Alignment

2.3.4 Bicycle Network

At present, shared paths (pedestrian and cycle) are provided along Erskine Park Road and sections of Mamre Road to the west and north of the Site, but there is little cycling (or pedestrian) infrastructure around the Site itself.

The BWSEA Structure Plan provides a detailed outline of future active transport objectives and strategies, acknowledging that the provision of such will be essential to encourage the use of active transport from the outset. In this regard, the BWSEA provides the following key objectives:

- *Provide quality pedestrian and cycling environments around transit corridors and facilities.*
- *Understand the key walking and cycling needs in the region and the need for the separation of pedestrians and cyclists from motor vehicle traffic.*
- *Recognise that all trips involve walking at either the beginning or end of the journey, resulting in the need for connections between parking and public transport areas and destinations.*
- *Recognise that walking and cycling paths can form key routes between destinations.*
- *Understand that walking and cycling trips perform a variety of functions, not only travel from an origin to a destination, but such trips are also undertaken for recreation and/or health benefits, which can be influenced by the amenity of the route.*

Key active transport routes identified in the BWSEA Structure Plan are shown in **Figure 7**, noting again that the Mamre Road upgrade Project will provide shared paths along at least one side of the road for its entire length.

2.3.5 Pedestrian Connectivity

Due to the current largely undeveloped nature of the land immediately surrounding the Site, pedestrian infrastructure is currently non-existent. Key pedestrian desire lines in the vicinity of the Site would be triggered by connections to future public transport infrastructure, noting the nature of the area being largely industrial and therefore not representing key destinations and attractions for people to walk to.

In this regard, it is noted that the upgraded Mamre Road will include shared cycle and pedestrian pathways along its length. Further, the Draft 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.

Figure 7: BWSEA Cycle Routes

Source: BWSEA Structure Plan

2.4 On Demand Services

2.4.1 Car Share

Car sharing has emerged as a cost effective, flexible alternative to private vehicle ownership. Provision of car share in the area could facilitate intermittent work trips that may need to be made by car such that staff can commute by other modes.

As a future industrial area, it is not anticipated that car shares such as GoGet would be particularly successful, particularly in the early stages of development. Nonetheless, given the benefits to reducing the need for a private vehicle, it will be worth considering its appropriateness as the area develops.

Prior to the commencement of car share providers such as GoGet, it is proposed to consider schemes such as provision of car share priority parking spaces, to actively encourage car sharing amongst staff.

2.5 Existing Travel Patterns

2.5.1 2.6.1 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) has been referenced to understand the baseline travel characteristics of the Site. This data informs the initial targets and should be refined and updated as part of the monitoring process.

A summary of key travel modes for those travelling to the locality for work have been reviewed with regard for the surrounding Destination Zone 115184210, within the Horsley Park – Kemps Creek statistical area.

The travel modes are presented in **Table 2**.

TABLE 2: TRAVEL MODE SUMMARY (JOURNEY TO WORK)

Travel Mode	Mode Share of Employees
Car as driver	92%
Train	0%
Bus	2%
Walked only	1%
Car as passenger	3%
Motorbike/Scooter	0%
Bicycle	0%
Taxi	1%
Other Modes	1%

With reference to Table 2, it is evident that the private vehicle (car) is the overwhelming preferred mode of choice for commuters travelling to work in in the area. The data indicates that 95% travel to work by car with 92% as the driver and 3% as passenger i.e. car-pooling.

3 Development, Scope & Implementation of the Plan

3.1 Introduction

This section sets out in broad terms how the FSTP will be developed into site-specific STPs and the scope of the FSTP.

3.2 Responsibility

The responsibility for the future Travel Plans will lie with site management and should form part of organisational policies. Future STPs should include a statement on company policy in relation to travel, and should be endorsed by senior management.

3.3 FSTP Scope

The future STP address the following types of travel generated by the development:

- Commuter journeys by staff;
- Visitor journeys;
- Business travel; and
- Site related deliveries from contractors etc.

The future STPs are expected to have most effect on commuter journeys by staff. While the operator will aim to encourage sustainable travel by visitors, ultimately staff travel is easier to influence.

The aim is to develop practical measures that are effective in reducing car use for all journeys to the Site.

3.4 Implementation

A Travel Plan Coordinator (TPC) should be appointed to act as the primary point of contact for enquiries relating to the progress of the future Plans. It is recommended that a consistent TPC be appointed for the Estate so as to achieve a coordinated approach across the Site. However, as the individual sites will be responsible for implementing their own STPs, this will be at the discretion of site management. The TPC will manage all aspects of the STP, including the co-ordination and joint working practices between those on-site.

The TPC will promote participation in and commitment to the future STP from site tenants and will work in partnership with all stakeholders to deliver the strategies and actions.

The TPC should be appointed before the Site becomes occupied, or within 1 month of the site becoming occupied. Contact details for the TPC should be provided in the implemented Plan.

The main duties of the TPC are envisaged to be:

- Overseeing final development and implementation of the STP.
- Internal liaison to promote awareness of the STP amongst businesses and staff within the Estate.
- Liaison with outside bodies, such as Penrith City Council (Council) and local bus operators, as required regarding the operation of the STP.
- Providing updated travel information to staff and visitors, as necessary.
- Monitoring, review and (if necessary) updates to the STP.

3.5 Consultation

It is essential that any parties that may play a part in the future of STP's and their actions are aware and have an opportunity to discuss. This would enable equitable input and feedback as well maximising their overall efficacy. For this reason, a coordinated approach to STPs across the Estate should be implemented (subject to individual tenant participation) to assist in the consultation with the relevant parties, which could include the following:

- Council Traffic & Transport Department and Traffic Committee
- Local Bus Operators
- Transport for New South Wales

Other organisations may be added to this list as the Plans evolve.

3.6 Travel Mode Targets

3.6.1 Introduction

Based on the existing travel mode splits identified in Section 2.5, the Site and the surrounding areas are considered to have a low dependency on public and active transport. This is reflective of the current nature of the area, which accommodates rural residential properties and agricultural businesses.

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 to Traffic Generating Developments – Updated Traffic Surveys itself 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.

This section therefore sets out the targets for the reduction in car journeys associated with the Site, with consideration to the future land use in the area. Targets are the means of measuring the achievement of the objectives. They need to be clear, directly linked to the objectives, monitored and reviewed.

Questionnaire surveys will be conducted in the future that will form the updated travel mode baseline to further develop site-specific targets. The first surveys will be undertaken shortly after occupation. These surveys will be repeated at a suitable time to assess the effectiveness of the implemented Travel Plan; the targets are to be reviewed to align with the most up-to-date information.

The implemented STPs are to be in place for the lifetime of the development. The initial timeframe in which targets need to be monitored and reviewed will be reviewed every 1-2 years, for a minimum of 5 years.

3.6.2 Mode Share Targets

It is essential that Mode Share targets be achievable with consideration for the public transport, walking and cycling opportunities available within proximity to the Site. Targets should also be factoring in what future transport options could reasonably be used to access the Site, and also the nature of the development itself.

As per Section 1.2, the AECOM Report provides a mode share target for public & active transport of 20% and by car of 80% by 2056 for the nearby Badgerys Creek Precinct. Sites within the MRP should reflect a similar target. While at least maintaining the existing carpooling mode share of 3% (Table 2), this represents a decrease in travel by car (as a driver) by 15% by 2056.

Further, it should be recognised that during the earlier stages in development of the MRP, it would be anticipated that change in travel behaviour will be slower than in other areas, while the public and active transport networks are still being integrated.

The targets should therefore be revisited and updated after the opening of the relevant development as part of the monitoring process. The preliminary targets are nominated in **Table 3**, which represents a 5-year target to coincide with the minimum 5 years of monitoring and review.

TABLE 3: PRELIMINARY 2026 MODE SHARE TARGETS

Travel Mode	Mode Share of Employees	Proposed Targets	Relative Change
Car as driver	92%	88%	-4%
Train	0%	0%	-
Bus	2%	4%	-
Walked only	1%	1%	+2%
Car as passenger	3%	3%	-
Motorbike/Scooter	0%	1%	+1%
Bicycle	0%	1%	-
Taxi	1%	1%	+1%
Other Modes	1%	1%	-

4 Measures and Action Strategies

4.1 Measures

The below is a range of measures which could achieve the objectives of this FSTP. It is critical to note that these are suggested measures and are not necessarily likely to be applicable in the early stages of development in the MRP.

This section needs to be reviewed and confirmed prior to implementation of any future Plan.

- An introduction to the GTP for all staff, setting out its purpose and objectives.
- Provision of public transport travel information for staff, customers and visitors.
- Encouragement of car sharing, both amongst staff on site and in the wider context.
- Provision of car share spaces (future potential measure) and / or provision of a business “pool car” while public car share operators are limited in the area.
- Assisted cycle purchase schemes.
- Interest free loans to assist with cycle purchase, cycle equipment purchase etc.
- A transport section on the company website with links to local bus operator sites, to ensure that travel information is always up to date.
- The provision of transport information for visitors to the Site.

4.2 Strategies

Six main strategies are identified and the actions required for each are detailed in Table 3. The table details specific actions that could be implemented as part of a future site-specific STP (subject to tenant requirements) and the party responsible for implementing each action.

These actions must be reviewed at regular intervals to ensure that the mode split targets are being met. By that principle, this document is classed as a living document and subject to regular review. It is important to note, that the actions should not be taken as mandatory but rather potential options that should be investigated and implemented by future inhabitants of the development.

TABLE 4: PROPOSED STP ACTION STRATEGIES

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
1 Travel Planning and Demand Management				
1.1 Green / Sustainable Travel Plans	• Develop a STP to provide information for Travel Access Guide (TAG) (See Appendix A) • Management of STPs. • Promotion of STPs.	Building Manager to be responsible for overall implementation of final STP and providing annual reporting on STP outcomes to Council. Tenant to develop Company specific travel plan based on Final STP prior to the commencement of a new lease/sale of property. Company/Staff/Visitors shall be responsible for ongoing implementation of Company assigned actions and participation in annual monitoring and reporting process to Council	Upon completion of the development and ongoing annual STP events	Tenant / Business Owner
1.2 Travel Information Points	• Establish locations such as travel information points where staff and visitors and others can access travel information via interactive platforms. • Promotion of STPs • Provision of travel and transport information options	Tenant / Business Owner	Subject to employer preference.	Tenant / Business Owner
1.3 Flexible Working hours	Allow employees the flexibility to commute outside peak periods to reduce overall congestion and travel time.	Tenant / Business Owner	Subject to employer preference. Action to be considered by employers / Visitors as part of an Employer specific STP to be developed and forwarded to Council prior to building occupation.	Tenant / Business Owner
1.4 Teleworking	Provide the option to work remotely (where possible) to reduce the number of vehicles travelling to the development and encourage teleconferencing rather than travelling to meetings.	Tenant / Business Owner	Subject to employer preference. Action to be considered by employers / visitors	Tenant / Business Owner

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
2 Promoting Public Transport				
2.1 Opal Card Loan Schemes / Subsidising schemes for public transport travel through pre-paid credit cards	Company may consider subsidising staff public transport travel. Alternatively, staff can pay for their own Opal Cards / pre-paid travel card through their salary, spreading the cost over the year to make it more affordable.	Tenant / Business Owner / TPC	Subject to employer. Can be implemented at building occupation	Tenant / Business Owner
2.2 Maximise Bus Service Frequency	• Meet or exceed Transport NSW bus planning guidelines. • Decrease headway where possible, especially during peak periods. • Report back to Transport for NSW on perception of bus service adequacy	TfNSW	Developer to hold on-going discussions with TfNSW after each annual review of STP and report on relevant findings	TfNSW
2.3 Provide bus stops with shelter facilities	Ensuring provision of bus stops suitable for waiting areas for commuters – Developer to recommend improvements to the proposed / implemented bus stops along Aldington Road to TfNSW.	TfNSW	Subject to discretion of TfNSW. Advisable to be prior to the opening of the development	TfNSW
2.4 Public Transport for work travel	The company and the TPC can promote public transport as one of the main preferences for work travel. This should be supported by all users and visitors to development having access to Opal Cards.	TPC	Subject to employer. Can be implemented at building occupation	Tenant / Business Owner
2.5 Lobby for Precinct wide shuttle service	Shuttle service initiative that would transport staff to / from the MRP to the Railway Station.	TPC to lobby Estate Manager / Owner	Ongoing in the workplace. Updates can be made to organisation as appropriate	Estate Owner / Manager
3 Promoting Carpooling				
3.1 Open Car Sharing	Where anyone in a defined geographical area can join a ride sharing scheme. This involves no input from the employer and should be on the onus of staff to schedule.	Staff	Ongoing in the workplace	Fuel costs can be arranged and split equitably by those involved
3.2 Closed Car Sharing	The company / department sets up an in-house car-matching scheme	Company, TPC	Ongoing in the workplace. Updates can be made to organisation as appropriate	Tenant / Business Owner

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
3.3 Third-party Car Sharing Program	Companies such as Liftshare are an online service that facilitates journey sharing between individual users, as well as providing separate services for businesses, organisations and events.	Staff – encouraged by TPC	Ongoing in the workplace	Staff
3.4 Carpool week	Arrange for a dedicated carpool campaign week to promote the benefits of carpooling.	Tenant / Business Owner	One week per calendar year	Tenant / Business Owner
4 Promoting Cycling				
4.1 Create a Bicycle Users Group (BUG)	BUGs are local groups of like-minded bike riders who get together generally for social riding in their area. For the purposes of the workplace, this can be adapted as a way of creating as social and healthy aspect of travelling to work. As a minimum, the establishment of the BUGs should be promoted as Precinct wide initiative.	Tenant / Business Owner, TPC	Ongoing in the workplace	Tenant / Business Owner
4.2 Providing & Maintaining End of Trip Facilities	Providing facilities such as showers, change rooms, lockers. For the initial stages of development it is recommended to provide facilities compliant with the relevant controls, and as the Site develops further, they should be reviewed as part of the STP monitoring process to meet any increase in demand.	Developer / Estate &/or warehouse Owner / Manager	To be provided at sports complex completion	Developer / Estate &/or warehouse Owner / Manager
4.3 Promote Bicycle Initiatives	Promotion of bicycle initiatives – NSW bicycle week, Ride to Work etc.	TPC	To be promoted annually	Developer / Estate &/or warehouse Owner / Manager
4.4 Advertise Bicycle Routes	Promotion of bike lanes through the TAG.	TPC	To be promoted and provided at communal areas such as key information kiosks within facility	Tenant / Business Owner
5 Promoting Walking				
5.1 Providing End of Journey Facilities	Provision of sufficient end of trip facilities such as showers, change rooms, lockers etc	Developer	To be provided at completion of development	Tenant / Business Owner

STRATEGY	HOW IT WORKS	RESOURCES / RESPONSIBILITY	TIMELINE	FUNDING
	to maximise pedestrian activity throughout the site and the wider precinct.			
5.2 Walking routes	Incentivise travelling by foot by highlighting possible routes particularly those to nearest bus stops	Tenant / Business Owner	To be promoted and provided at communal areas such as key information kiosks within facility	Tenant / Business Owner
5.3 Promote walking initiatives	Promotion of walking initiatives: walk to game / training day, pedometers / step challenge / gamification of walking / reward programs based on steps to elevate pedestrian activity throughout site and to / from public transport points.	Tenant / Business Owner, TPC	To be implemented monthly or as appropriate throughout the calendar year.	Tenant / Business Owner
7 Influencing Travel Behaviour				
7.1 Provision of Sustainable Travel Packs to employees and visitors	Introduces employees and visitors alike to the STP and provides information on walking and cycling routes, and travel by bus & train, timetables, and access routes. This would include a TAG.	Tenant / Business Owner, TPC	Travel Packs to be provided upon occupancy of building to employees.	Tenant / Business Owner

4.3 Communications Strategy

4.3.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes a STP Pamphlet and other information in relation to sustainable transport choices. This pack shall include copy of the STP and a Travel Access guide (TAG) as provided in **Appendix A**, as well as general information regarding the health and social benefits of active transport and advice on where to seek further information. It is recommended that an electric copy of the welcome pack be created and made available to staff.

4.3.2 Accurate Transport Information

In addition to these 'welcome packs', a copy of the TAG (Appendix A) shall be clearly displayed in communal areas of the site including (but not limited to):

- Staff lunch room
- Lift lobby area and entrances to buildings
- Any marketing material associated with the Site, such as websites and newsletters.

5 Monitoring Strategy

5.1 Plan Maintenance

This Plan shall be subject to ongoing reviews and will be updated accordingly. Regular reviews will be undertaken by the TPC. As a minimum, a review of the STP would occur every 1-2 years.

The key considerations when reviewing or monitoring the STP are as follows:

Update baseline conditions to reflect any changes to the transport environment in the vicinity of the Site such as changes to bus services, new cycle routes etc.

- Track progress against target travel mode targets.
- Identify any shortfalls and develop an updated action plan to address issues.
- Ensure travel modes targets are updated (if necessary) to ensure they are realistic and remain ambitious.

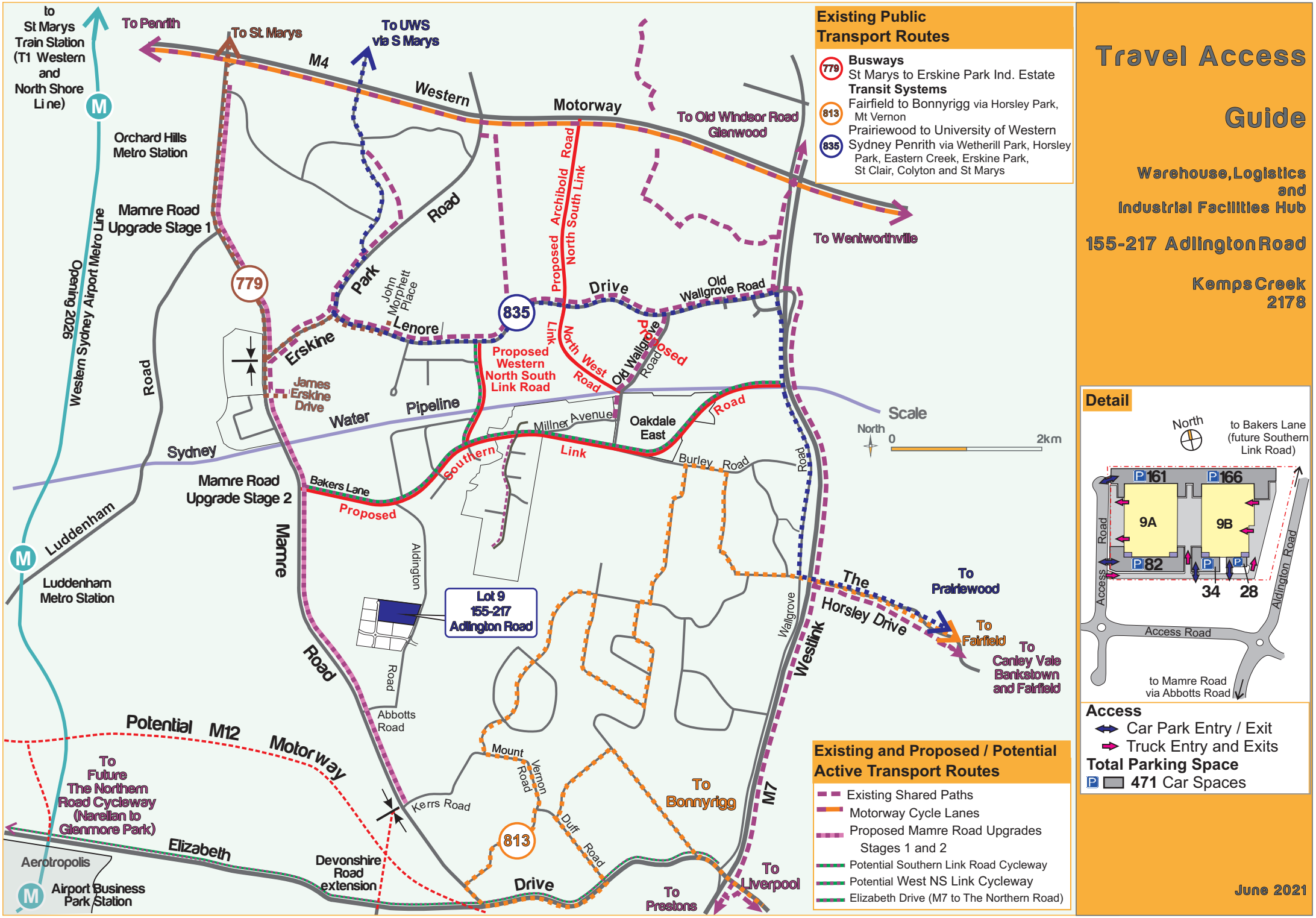
5.2 Monitoring

So as to record the overall success, as well as the effectiveness of the individual measures, monitoring and review of the STP is to be conducted at regular intervals. The TPC will act as the primary point of contact for all enquiries relating to the STP's progress.

The STP will be monitored around every 1-2 years, with the first survey being carried out shortly after first occupation of the Development. Travel mode surveys would determine the proportion of persons travelling to/from the Site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. A sample of a typical travel mode questionnaire form is included in Appendix B.

If targets are not met at the end of the initial period of monitoring, the STP will be reviewed, new measures introduced and would be reassessed at the next monitoring stage.

Appendix A. Travel Access Guide



Existing Public Transport Routes

Busways

779 St Marys to Erskine Park Ind. Estate

Transit Systems

813 Fairfield to Bonnyrigg via Horsley Park, Mt Vernon

Prairiewood to University of Western Sydney Penrith via Wetherill Park, Horsley Park, Eastern Creek, Erskine Park, St Clair, Colyton and St Marys

835

Travel Access Guide

Warehouse, Logistics and Industrial Facilities Hub

155-217 Adlington Road

Kemps Creek 2178

Detail

Access

Car Park Entry / Exit

Truck Entry and Exits

Total Parking Space

P 471 Car Spaces

Existing and Proposed / Potential Active Transport Routes

- Existing Shared Paths
- Motorway Cycle Lanes
- Proposed Mamre Road Upgrades Stages 1 and 2
- Potential Southern Link Road Cycleway
- Potential West NS Link Cycleway
- Elizabeth Drive (M7 to The Northern Road)

June 2021

Appendix B. Sample Questionnaire

Instructions for Surveyor(s)

1. The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.
2. This survey should be completed SEPARATELY for EACH TRIP undertaken

Travel Mode Questionnaire Survey Form

Date: **Approximate Time:**

Q1. Are you one of the following?

☐ Warehouse staff

☐ Office staff

☐ Courier / office delivery

☐ Casual contractor

☐ Company driver / sub-contractor

☐ Other (Please specify)……

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

☐ Walked only

☐ Bicycle only

☐ Train

☐ Bus

☐ Taxi

☐ Car share vehicle

☐ Motorcycle / scooter

☐ Car (as passenger)

☐ Car (as driver)

☐ Other (Please specify)……..

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

☐ Not applicable – did not drive

☐ On-site car park

☐ On-site within truck hardstand

☐ Other (Please specify)……

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Appendix D. SIDRA Output Summaries

MOVEMENT SUMMARY

Site: 6 [[ID: 6] (AM) Aldington Road Roundabout - 2026 (Site Folder: 2026 - AM)]

[ID: 6] Aldington Road Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	27	12	28	44.4	0.306	5.7	LOS A	1.7	16.6	0.51	0.57	0.51	50.6
2	T1	169	43	178	25.4	0.306	5.2	LOS A	1.7	16.6	0.51	0.57	0.51	56.2
3	R2	49	26	52	53.1	0.306	12.5	LOS A	1.7	16.6	0.51	0.57	0.51	52.9
3u	U	1	0	1	0.0	0.306	13.2	LOS A	1.7	16.6	0.51	0.57	0.51	58.3
Approach		246	81	259	32.9	0.306	6.8	LOS A	1.7	16.6	0.51	0.57	0.51	54.9
East: New Road (450m)														
4	L2	56	22	59	39.3	0.060	5.0	LOS A	0.4	3.5	0.61	0.55	0.61	50.5
5	T1	1	0	1	0.0	0.003	4.1	LOS A	0.0	0.1	0.60	0.54	0.60	46.8
6	R2	1	0	1	0.0	0.003	10.0	LOS A	0.0	0.1	0.60	0.54	0.60	51.2
6u	U	1	0	1	0.0	0.003	12.1	LOS A	0.0	0.1	0.60	0.54	0.60	48.7
Approach		59	22	62	37.3	0.060	5.2	LOS A	0.4	3.5	0.61	0.55	0.61	50.4
North: Aldington Road (670m)														
7	L2	1	0	1	0.0	0.394	3.9	LOS A	2.5	23.0	0.39	0.54	0.39	51.0
8	T1	202	45	213	22.3	0.394	4.3	LOS A	2.5	23.0	0.39	0.54	0.39	55.7
9	R2	200	46	211	23.0	0.394	10.6	LOS A	2.5	23.0	0.39	0.54	0.39	52.7
9u	U	1	0	1	0.0	0.394	12.5	LOS A	2.5	23.0	0.39	0.54	0.39	57.9
Approach		404	91	425	22.5	0.394	7.4	LOS A	2.5	23.0	0.39	0.54	0.39	54.1
West: New Road (620m)														
10	L2	131	60	138	45.8	0.135	4.0	LOS A	0.8	9.0	0.49	0.49	0.49	51.1
11	T1	1	0	1	0.0	0.049	2.9	LOS A	0.3	2.3	0.48	0.59	0.48	46.5
12	R2	42	10	44	23.8	0.049	9.3	LOS A	0.3	2.3	0.48	0.59	0.48	49.6
12u	U	1	0	1	0.0	0.049	10.8	LOS A	0.3	2.3	0.48	0.59	0.48	48.8
Approach		175	70	184	40.0	0.135	5.3	LOS A	0.8	9.0	0.49	0.51	0.49	50.7
All Vehicles		884	264	931	29.9	0.394	6.7	LOS A	2.5	23.0	0.46	0.54	0.46	53.4

MOVEMENT SUMMARY

Site: 6 [[ID: 6] (PM) Aldington Road Roundabout - 2026 (Site Folder: 2026 - PM)]

[ID: 6] Aldington Road Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aldington Road (580m)														
1	L2	92	22	97	23.9	0.275	3.7	LOS A	1.7	15.4	0.24	0.47	0.24	51.0
2	T1	95	19	100	20.0	0.275	3.7	LOS A	1.7	15.4	0.24	0.47	0.24	56.6
3	R2	120	26	126	21.7	0.275	9.9	LOS A	1.7	15.4	0.24	0.47	0.24	53.7
3u	U	1	0	1	0.0	0.275	12.1	LOS A	1.7	15.4	0.24	0.47	0.24	58.7
Approach		308	67	324	21.8	0.275	6.2	LOS A	1.7	15.4	0.24	0.47	0.24	53.7
East: New Road (450m)														
4	L2	150	26	158	17.3	0.139	4.3	LOS A	0.9	7.6	0.58	0.54	0.58	51.0
5	T1	1	0	1	0.0	0.003	3.6	LOS A	0.0	0.1	0.55	0.52	0.55	47.0
6	R2	1	0	1	0.0	0.003	9.5	LOS A	0.0	0.1	0.55	0.52	0.55	51.4
6u	U	1	0	1	0.0	0.003	11.5	LOS A	0.0	0.1	0.55	0.52	0.55	49.0
Approach		153	26	161	17.0	0.139	4.3	LOS A	0.9	7.6	0.58	0.54	0.58	51.0
North: Aldington Road (670m)														
7	L2	1	0	1	0.0	0.334	4.7	LOS A	1.8	19.1	0.53	0.59	0.53	51.4
8	T1	214	73	225	34.1	0.334	5.8	LOS A	1.8	19.1	0.53	0.59	0.53	56.0
9	R2	36	19	38	52.8	0.334	12.6	LOS A	1.8	19.1	0.53	0.59	0.53	52.8
9u	U	1	0	1	0.0	0.334	13.4	LOS A	1.8	19.1	0.53	0.59	0.53	58.5
Approach		252	92	265	36.5	0.334	6.8	LOS A	1.8	19.1	0.53	0.59	0.53	55.5
West: New Road (620m)														
10	L2	216	59	227	27.3	0.191	3.7	LOS A	1.1	11.1	0.46	0.47	0.46	51.5
11	T1	5	4	5	80.0	0.107	5.5	LOS A	0.6	5.3	0.46	0.61	0.46	46.4
12	R2	89	17	94	19.1	0.107	9.3	LOS A	0.6	5.3	0.46	0.61	0.46	49.7
12u	U	1	0	1	0.0	0.107	10.8	LOS A	0.6	5.3	0.46	0.61	0.46	48.8
Approach		311	80	327	25.7	0.191	5.4	LOS A	1.1	11.1	0.46	0.51	0.46	50.9
All Vehicles		1024	265	1078	25.9	0.334	5.8	LOS A	1.8	19.1	0.43	0.52	0.43	52.9

MOVEMENT SUMMARY

Site: 8v [[ID: 8] (AM) Aldington Road / Abbotts Road Roundabout - 2026 (Site Folder: 2026 - AM)]

[ID: 8] Aldington Road / Abbotts Road Roundabout
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (450m)															
5	T1	34	16	36	47.1		0.084	7.9	LOS A	0.4	4.2	0.71	0.53	0.71	47.9
6	R2	47	28	49	59.6		0.181	16.1	LOS B	0.6	7.6	0.83	0.71	0.83	34.6
Approach		81	44	85	54.3		0.181	12.6	LOS A	0.6	7.6	0.78	0.64	0.78	39.5
North: Aldington Road (300m)															
7	L2	79	17	83	21.5		0.417	16.5	LOS B	2.1	18.9	0.87	0.78	0.87	40.0
9	R2	219	58	231	26.5	*	0.417	16.6	LOS B	2.1	18.9	0.87	0.78	0.87	41.1
Approach		298	75	314	25.2		0.417	16.6	LOS B	2.1	18.9	0.87	0.78	0.87	40.7
West: Abbotts Road (400m)															
10	L2	201	54	212	26.9	*	0.457	15.1	LOS B	2.6	24.4	0.83	0.78	0.83	40.0
11	T1	66	15	69	22.7		0.134	9.1	LOS A	0.8	6.6	0.73	0.61	0.73	46.9
Approach		267	69	281	25.8		0.457	13.6	LOS A	2.6	24.4	0.80	0.74	0.80	41.7
All Vehicles		646	188	680	29.1		0.457	14.8	LOS B	2.6	24.4	0.83	0.74	0.83	41.0

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

MOVEMENT SUMMARY

Site: 8v [[ID: 8] (PM) Aldington Road / Abbotts Road Roundabout - 2026 (Site Folder: 2026 - PM)]

[ID: 8] Aldington Road / Abbotts Road Roundabout
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: New Road (450m)															
5	T1	105	13	111	12.4		0.211	9.0	LOS A	1.3	10.4	0.78	0.61	0.78	47.2
6	R2	55	8	58	14.5		0.223	17.7	LOS B	0.8	7.5	0.90	0.73	0.90	37.5
Approach		160	21	168	13.1		0.223	12.0	LOS A	1.3	10.4	0.82	0.65	0.82	43.7
North: Aldington Road (300m)															
7	L2	26	19	27	73.1		0.583	17.4	LOS B	3.2	31.8	0.90	0.84	0.98	38.9
9	R2	426	99	448	23.2	*	0.583	16.7	LOS B	3.4	31.6	0.90	0.83	0.97	41.0
Approach		452	118	476	26.1		0.583	16.8	LOS B	3.4	31.8	0.90	0.83	0.97	40.9
West: Abbotts Road (400m)															
10	L2	252	59	265	23.4	*	0.630	17.2	LOS B	3.8	35.4	0.91	0.86	1.04	39.0
11	T1	58	10	61	17.2		0.128	9.9	LOS A	0.7	6.0	0.76	0.62	0.76	46.3
Approach		310	69	326	22.3		0.630	15.9	LOS B	3.8	35.4	0.88	0.82	0.99	40.4
All Vehicles		922	208	971	22.6		0.630	15.6	LOS B	3.8	35.4	0.88	0.80	0.95	41.2

MOVEMENT SUMMARY

Site: 101 [[ID: 13] (AM) Abbotts Road / Mamre Road - 2026 (Site Folder: 2026 - AM)]

Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)															
2	T1	1038	137	1093	13.2		0.390	1.6	LOS A	1.2	10.0	0.03	0.03	0.03	79.5
3	R2	215	64	226	29.8	*	0.487	65.5	LOS E	7.2	67.4	0.95	0.80	0.95	28.7
Approach		1253	201	1319	16.0		0.487	12.6	LOS A	7.2	67.4	0.19	0.16	0.19	65.0
East: Abbotts Road (400m)															
4	L2	238	69	251	29.0		0.466	8.3	LOS A	3.8	35.4	0.30	0.64	0.30	49.6
6	R2	14	5	15	35.7	*	0.254	81.8	LOS F	1.1	9.7	1.00	0.70	1.00	29.3
Approach		252	74	265	29.4		0.466	12.4	LOS A	3.8	35.4	0.34	0.65	0.34	47.2
North: Mamre Road (800m)															
7	L2	55	5	58	9.1		0.041	8.9	LOS A	0.5	3.9	0.19	0.64	0.19	61.9
8	T1	964	149	1015	15.5	*	0.488	6.8	LOS A	8.8	74.5	0.28	0.25	0.28	71.7
Approach		1019	154	1073	15.1		0.488	7.0	LOS A	8.8	74.5	0.28	0.27	0.28	71.2
All Vehicles		2524	429	2657	17.0		0.488	10.3	LOS A	8.8	74.5	0.24	0.26	0.24	65.5

MOVEMENT SUMMARY

Site: 101 [[ID: 13] (PM) Abbotts Road / Mamre Road - 2026 (Site Folder: 2026 - PM)]

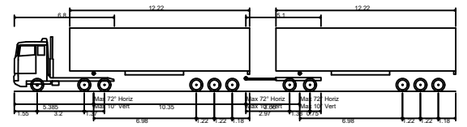
Abbotts Road / Mamre Road
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mamre Road (500m)															
2	T1	1199	128	1262	10.7		0.443	2.3	LOS A	1.5	12.0	0.04	0.03	0.04	79.4
3	R2	292	62	307	21.2	*	0.514	54.8	LOS D	7.9	70.9	0.93	0.88	0.93	31.7
Approach		1491	190	1569	12.7		0.514	12.6	LOS A	7.9	70.9	0.21	0.20	0.21	65.2
East: Abbotts Road (400m)															
4	L2	490	103	516	21.0		0.865	55.4	LOS D	30.5	275.1	0.99	1.11	1.12	29.7
6	R2	38	8	40	21.1	*	0.428	78.1	LOS F	2.8	24.9	1.00	0.74	1.00	29.1
Approach		528	111	556	21.0		0.865	57.0	LOS E	30.5	275.1	0.99	1.08	1.11	29.6
North: Mamre Road (800m)															
7	L2	7	5	7	71.4		0.010	10.5	LOS A	0.1	1.1	0.20	0.62	0.20	58.5
8	T1	1495	167	1574	11.2	*	0.870	26.4	LOS B	43.6	350.1	0.82	0.79	0.87	55.4
Approach		1502	172	1581	11.5		0.870	26.3	LOS B	43.6	350.1	0.82	0.79	0.86	55.4
All Vehicles		3521	473	3706	13.4		0.870	25.1	LOS B	43.6	350.1	0.59	0.59	0.62	53.5

Appendix E. Swept Path Analysis

VEHICLE PROFILE



Vawdrew 30m A-Double	
Overall Length	29.995m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.332m
Track Width	2.500m
Lock-to-lock time	7.00s
Curb to Curb Turning Radius	15.000m

WHEN 30 m A-DOUBLE IS EXITING, RSD TO ONLY BE OCCUPIED BY AN HRV

THESE BAYS TO BE VACANT WHEN A 30.0 m A-DOUBLE WILL BE SIDE LOADING - TO BE MANAGED THOUGH IMPLEMENTATION OF A SUITABLE MANAGEMENT PLAN.

THESE BAYS TO BE VACANT WHEN A 30.0 m A-DOUBLE WILL BE SIDE LOADING.

"NO STOPPING" RESTRICTIONS TO BE IMPLEMENTED IN THIS LOCATION

MINIMUM OF 1.5m MEDIAN TO BE PROVIDED AT SITE ACCESS

MINOR CHANGE TO KERB SPLAY. TO BE MODIFIED DURING DETAILED DESIGN PROCESS

9

SE 9A
33 095 SQM

WAREHOUSE 9B
30 600 SQM

OFFICE 9A

OFFICE 9B
408 SQM

OFFICE 9C
408 SQM

OFFICE 9D
408 SQM

ALDINGTON ROAD (24m)

EASEMENT TRANSMISSION LINE

ROAD

Notes:

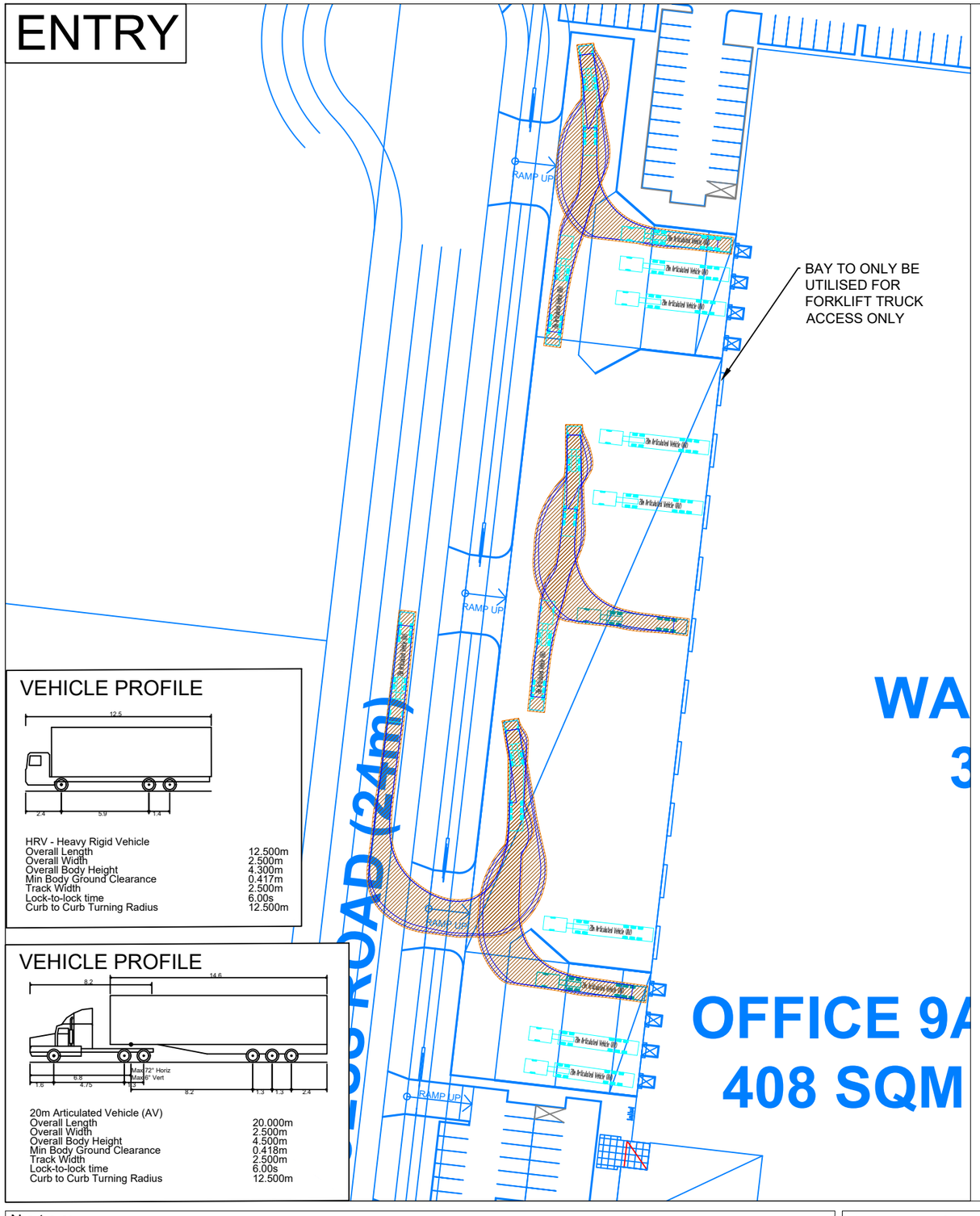
Plans assessed were provided on 16.06.2021.
All swept paths were completed at 10 km/h with 300 mm clearances.

This drawing is provided for information purposes only and should not be used for construction.

Document Info:	Drawn by: O HASHMI File name: AG1043-02-v01.dwg
Client:	FRASERS PROPERTY
Project:	1043 155-217 ALDINGTON ROAD, KEMPS CREEK
Drawing Title:	SWEPT PATH ASSESSMENT 30.0 m A-DOUBLE
Date:	17-Jun-21
Scale @ A3:	1:1500
Drawing Number:	AG01

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

ENTRY



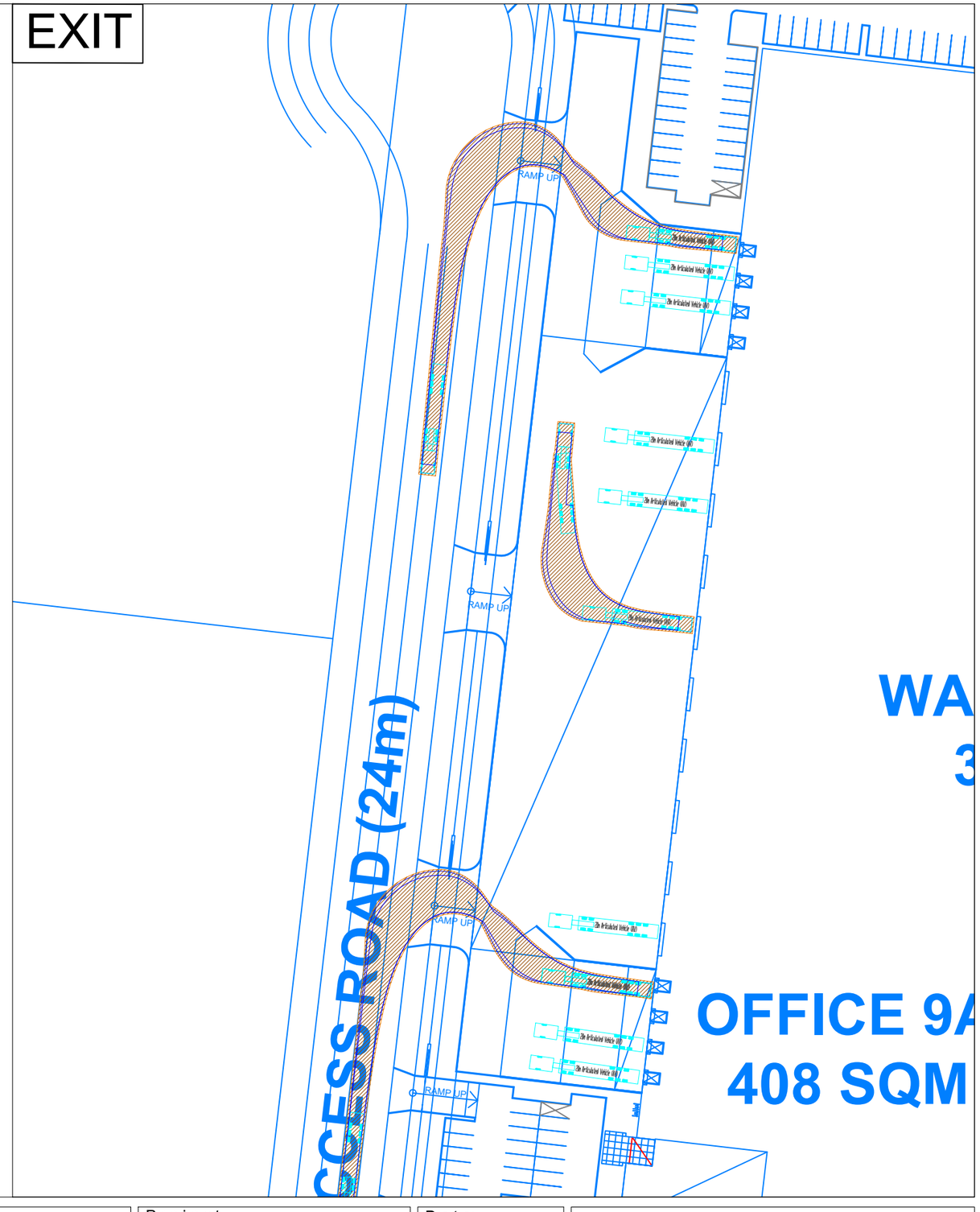
VEHICLE PROFILE

HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

VEHICLE PROFILE

20m Articulated Vehicle (AV)	
Overall Length	20.000m
Overall Width	2.500m
Overall Body Height	4.500m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

EXIT



Notes:

Plans assessed were provided on 16.06.2021.
All swept paths were completed at 10 km/h with 300 mm clearances.

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: O HASHMI
File name: AG1043-02-v01.dwg

Client:
FRASERS PROPERTY

Project:
1043
155-217 ALDINGTON ROAD, KEMPS CREEK

Drawing Title:
SWEPT PATH ASSESSMENT
20.0 m AV, 12.5 m HRV AND 8.8 m MRV

Date:
17-Jun-21

Scale @ A3:
1:900

Drawing Number:
AG02

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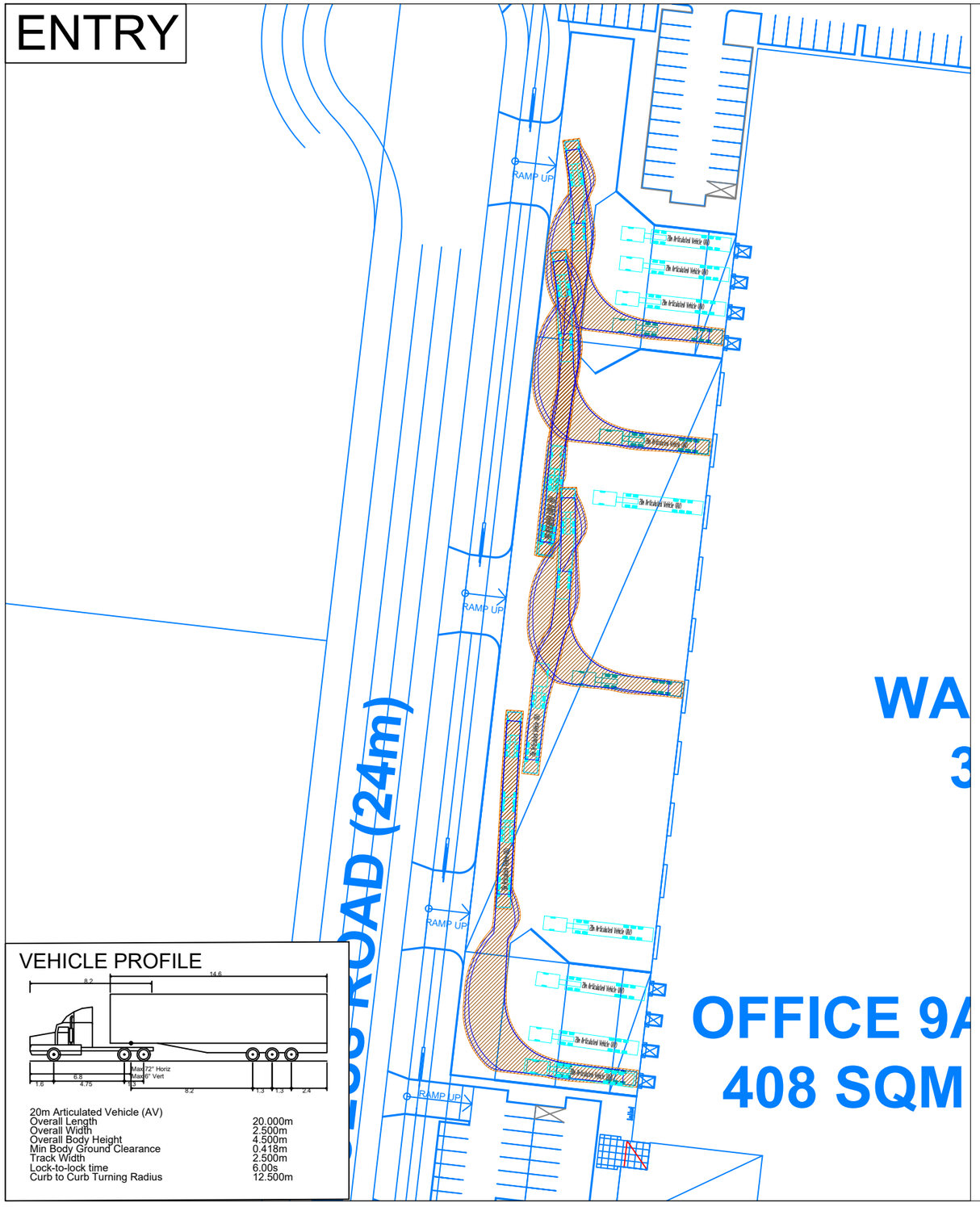
ENTRY

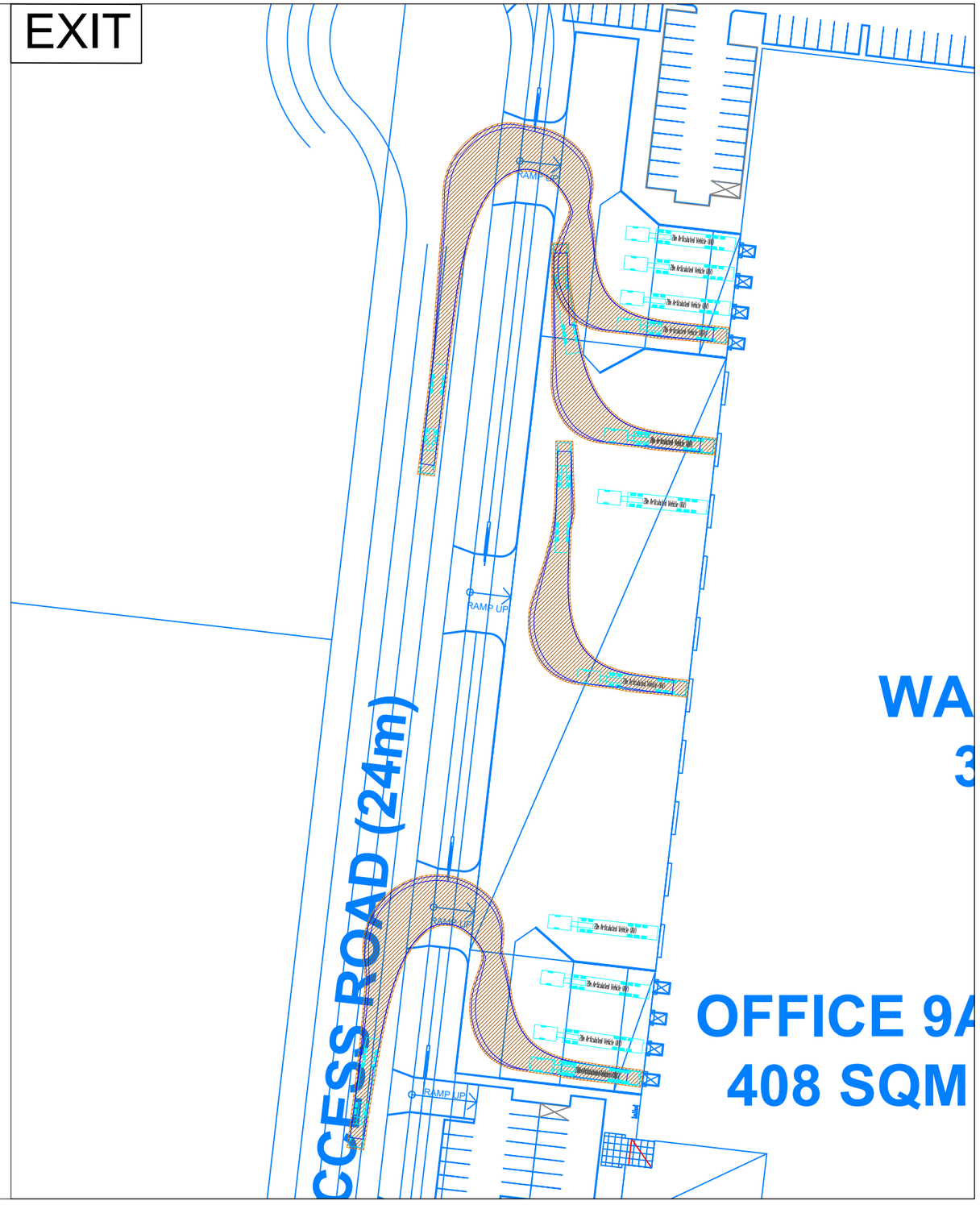


VEHICLE PROFILE

20m Articulated Vehicle (AV)

Overall Length	20.000m
Overall Width	2.500m
Overall Body Height	4.500m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

EXIT



Notes:

Plans assessed were provided on 16.06.2021.
All swept paths were completed at 10 km/h with 300 mm clearances.

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: O HASHMI
File name: AG1043-02-v01.dwg

Client:
FRASERS PROPERTY

Project:
1043
155-217 ALDINGTON ROAD, KEMPS CREEK

Drawing Title:
SWEPT PATH ASSESSMENT
20.0 m AV AND 12.5 m HRV

Date:
17-Jun-21

Scale @ A3:
1:900

Drawing Number:
AG03

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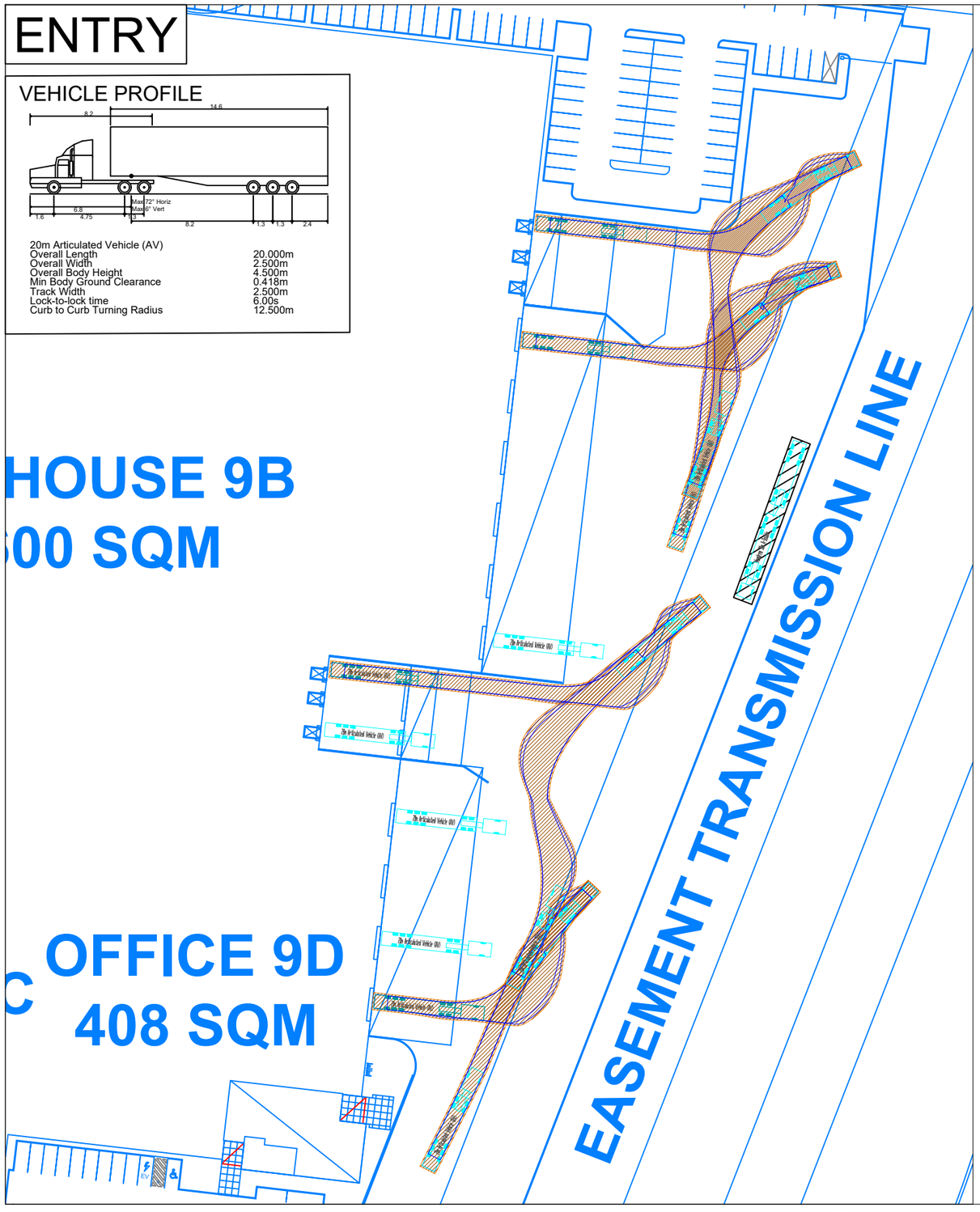
ENTRY

VEHICLE PROFILE

20m Articulated Vehicle (AV)	
Overall Length	20.000m
Overall Width	2.500m
Overall Body Height	4.500m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



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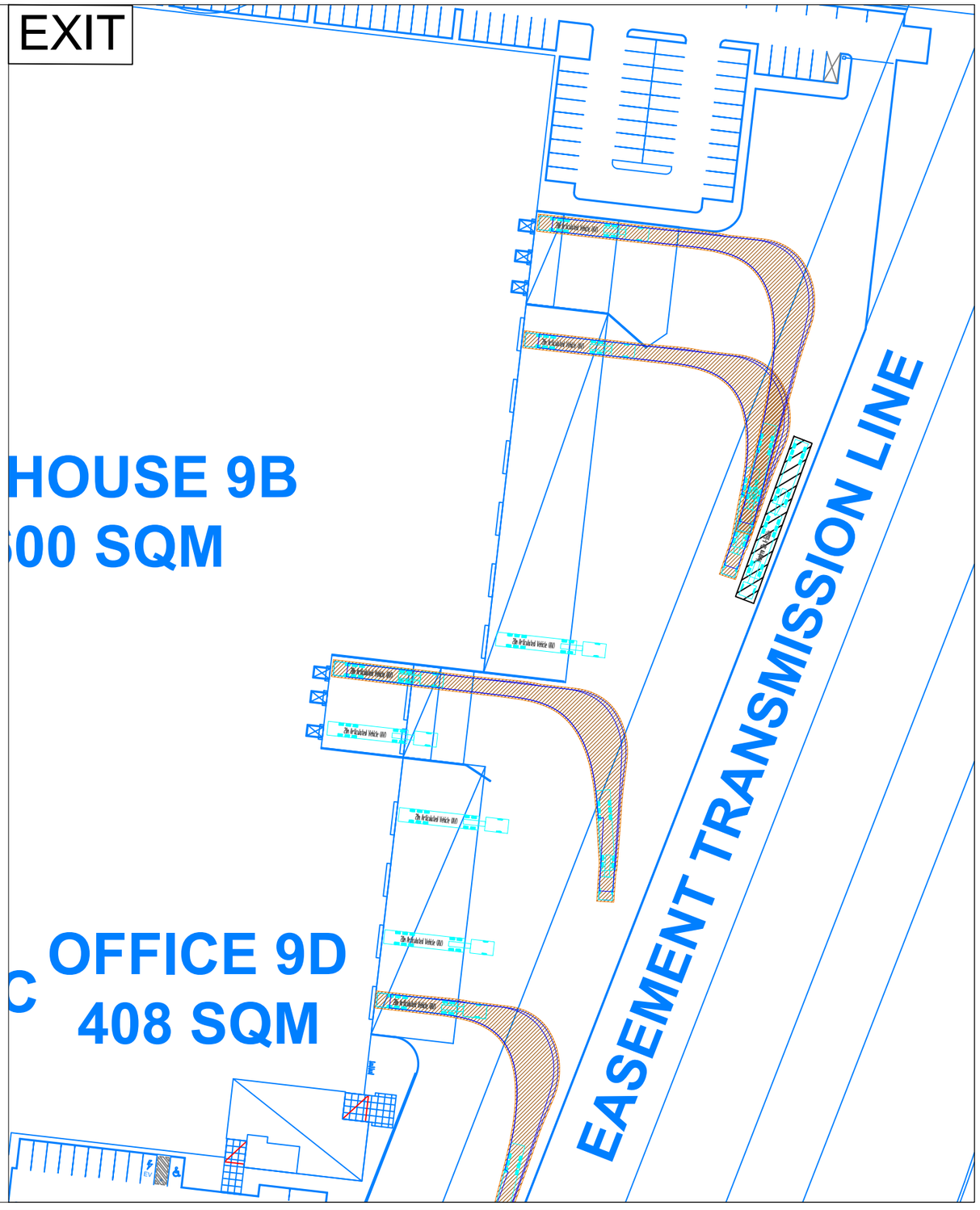

Notes:

Plans assessed were provided on 16.06.2021.
All swept paths were completed at 10 km/h with 300 mm clearances.

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: O HASHMI
File name: AG1043-02-v01.dwg

Client:
FRASERS PROPERTY

Project:
1043
155-217 ALDINGTON ROAD, KEMPS CREEK

Drawing Title:
SWEPT PATH ASSESSMENT
20.0 m AV

Date:
17-Jun-21

Scale @ A3:
1:900

Drawing Number:
AG04

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MINOR MODIFICATION TO ALLOW FIRE TRUCKS TO ACCESS THE HARDSTAND AREA IN THE CASE OF AN EMERGENCY.

LOT 9

WAREHOUSE 9A
33 095 SQM

WAREHOUSE 9B
30 600 SQM

KERBLINE TO BE MODIFIED TO ENSURE APPROPRIATE SIGHTLINES CAN BE ACHIEVED AROUND WATER TANKS FOR CARS EXITING CAR PARK. TO BE REVIEW DURING DETAILED DESIGN

OFFICE 9A
408 SQM

OFFICE 9B
408 SQM

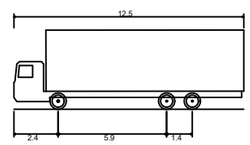
OFFICE 9C
408 SQM

OFFICE 9D
408 SQM

PUBLIC ACCESS ROAD (24m)

EASEMENT TRANSMISSION LINE

VEHICLE PROFILE



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

N o t e s:

Plans assessed were provided on 16.06.2021.
All swept paths were completed at 10 km/h with 300 mm clearances.

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: O HASHMI
File name: AG1043-02-v01.dwg

Client:
FRASERS PROPERTY

P r o j e c t:
1043
155-217 ALDINGTON ROAD, KEMPS CREEK

D r a w i n g T i t l e:
SWEPT PATH ASSESSMENT
FIRE TRUCK ACCESS (12.5 m HRV)

D a t e:
17-Jun-21

S c a l e @ A3:
1:1500

Drawing Number:
AG05

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Appendix F. Draft Construction Traffic Management Plan

Draft Construction Traffic Management Plan

155-217 Aldington Road Estate, Kemps Creek

13/09/2021
P1043r04

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Sydney, NSW 2000

Document Control

Project No	1043
Project	155-217 Aldington Road Estate, Kemps Creek
Client	Frasers Property Industrial
File Reference	P1043r04v2 Prelim CTMP_155-217 Aldington Rd Estate, Kemps Creek, Issue

Revision History

Revision No.	Date	Details	Author	Approved by
-	10/06/2021	Issue	R. Butler-Madden	R. Butler-Madden
I	18/06/2021	Issue I	R. Butler-Madden	R. Butler-Madden
II	16/08/2021	Issue II	R. Butler-Madden	R. Butler-Madden

contents

contents continued

Figures

Tables

1 Introduction

1.1 Overview

Ason Group has been engaged by Frasers Property Industrial (FPI) to prepare this Draft Construction Traffic Management Plan (CTMP) to support the application in relation to State Significant Development (SSD) 17552047. The SSD relates to a proposed industrial development at the 155-217 Aldington Road Estate, Kemps Creek (the Site).

This Draft CTMP details the proposed construction management strategies which would provide for the safe and efficient completion of the proposed works while minimising construction traffic impacts on the surrounding road network and public road network users.

From the outset, it is noted that the future CTMP, once implemented, will be designed to be updated over time as additional details in regard to the construction proposal are revised / finalised as is standard in any major construction project. All such updates would be completed in consultation with Penrith City Council (Council) in whose Local Government Area (LGA) the Site lies; and / or with the relevant authorities such as Transport for NSW (TfNSW) where special road occupancy or the like are required.

Importantly, Ason Group has been responsible for the preparation of this Draft CTMP, which has been prepared with reference to all available information in regard to the project, and all relevant CTMP preparation guidelines. The implementation of the recommendations and strategies detailed in this CTMP are the strict responsibility of FPI and / or the designated construction Project Manager once appointed.

1.2 Proposed Development and Staging

The SSD Proposal seeks approval for:

- Provision of 2 warehouses with a total building area of 65,327m^2, comprising:
  - 63,695m^2 warehouse GFA,
  - 1,632m^2 of ancillary office GFA.
- Creation of 9 individual development lots; with Lot 9 the subject of the industrial development;
- Internal road layouts and road connection to Aldington Road;
- Provision for 477 car parking spaces; and
- Associated site landscaping.

The SSD Proposal is reproduced at a reduce scale in **Figure 1**.

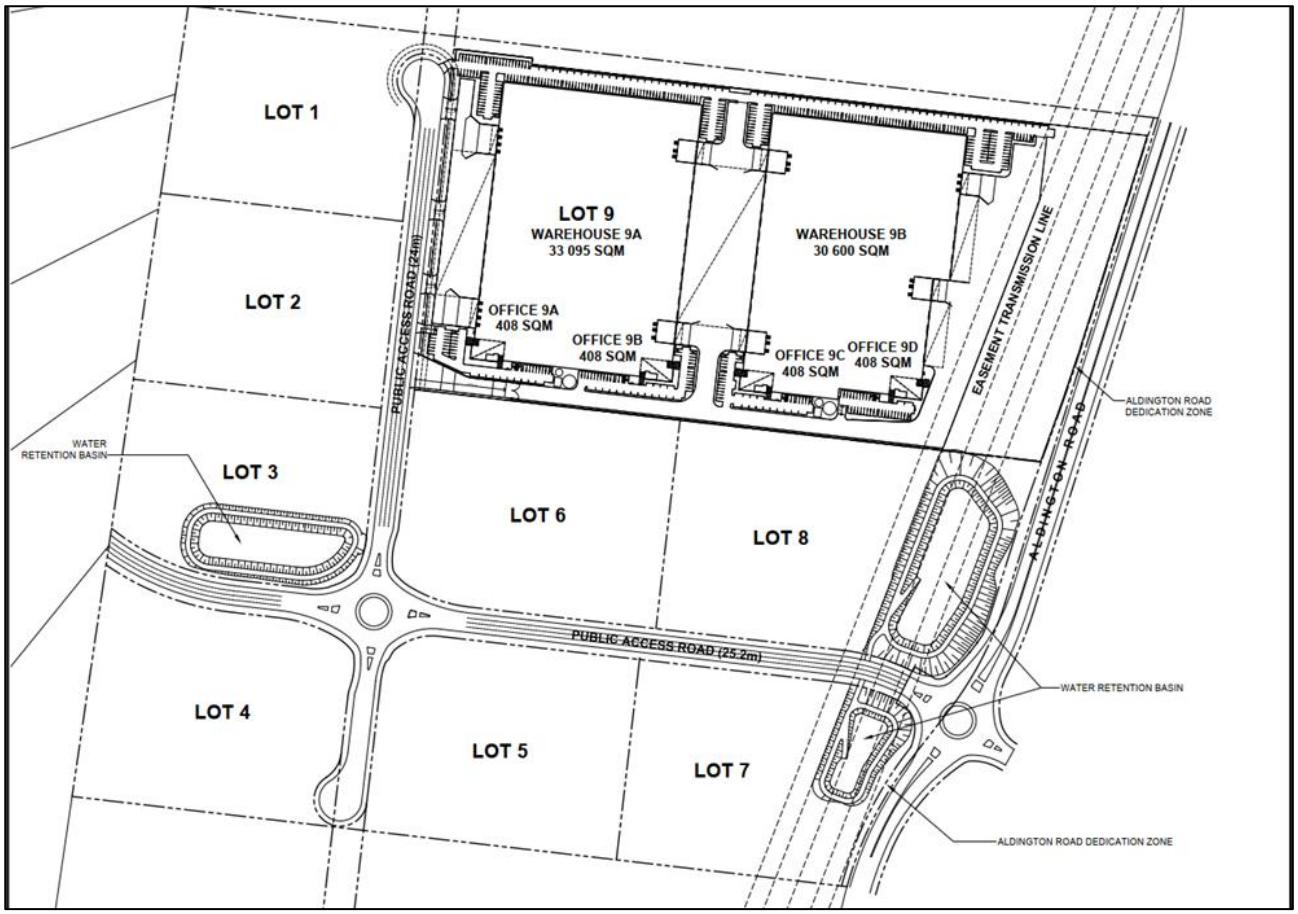

Figure 1: SSD Proposal

2 The Site

2.1 Site Location

The Site is comprised of 5 separate Lots (refer to **Table 1**) and is located at 155-217 Aldington Road, Kemps Creek. It is 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.

The Site is shown in its sub-regional context in **Figure 2**, as well as the broader MRP area in which it lies.

TABLE 1: SITE DESCRIPTION

Address	Title	Area (Ha)
155-167 Aldington Road	33 / DP258949	10.12
169 – 181 Aldington Road	28 / DP255560	10.12
183 – 197 Aldington Road	27 / DP255560	10.12
199 Aldington Road	26 / DP255560	2.54
201 - 217 Aldington Road	25 / DP255560	10.12

The Site currently has access points onto Aldington Road through various access driveways into private properties. Aldington Road connects with Mamre Road, by way of Abbotts Road, to the west of the Site, and to the north, Bakers Lane. From Mamre Road, access is available north to the M4 Motorway, Great Western Highway, Lenore Drive and M7 Motorway; and south to Elizabeth Drive, the M7 Motorway and the future M12 Motorway.

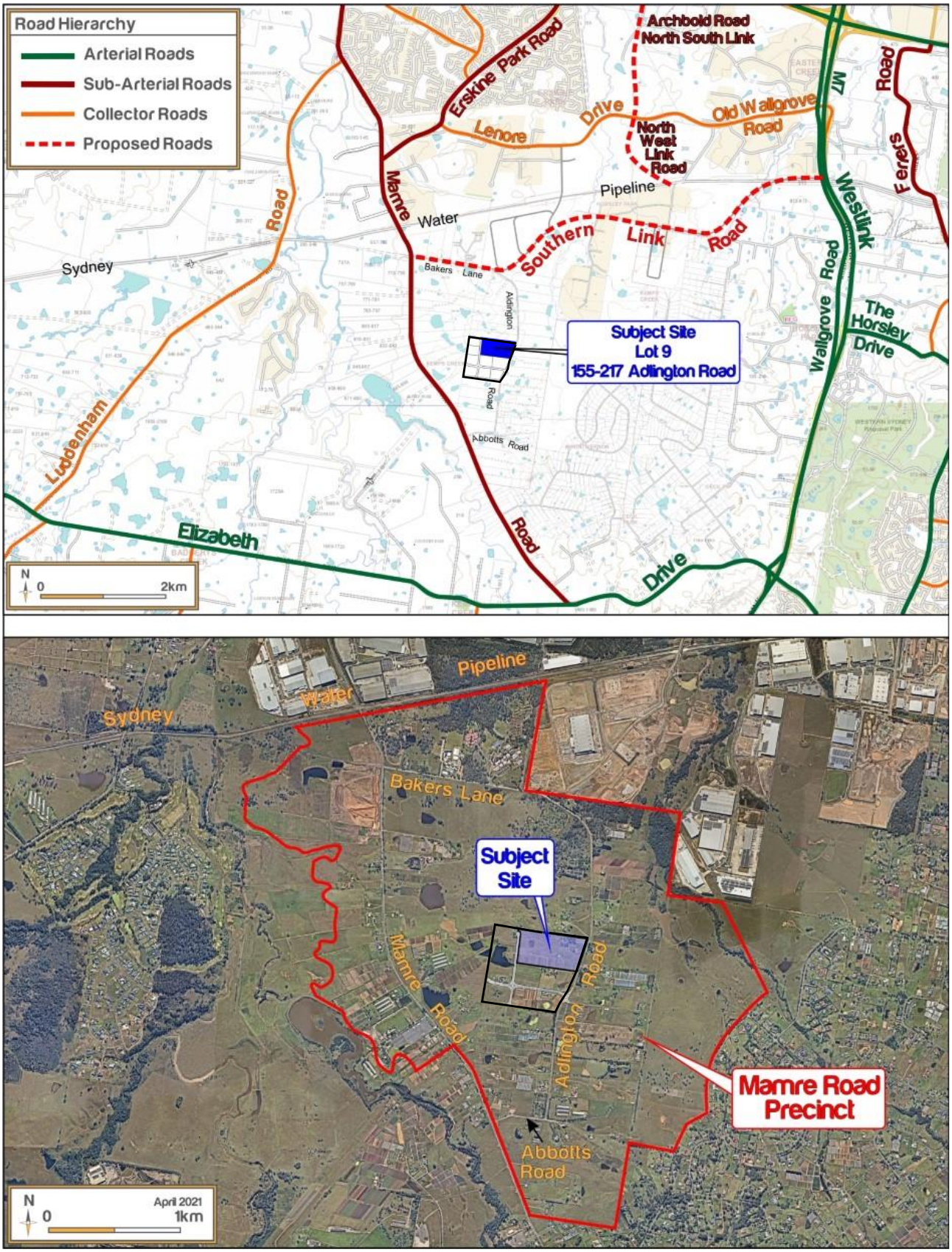

Figure 2: Site Location & Road Hierarchy

2.2 Road Network

Key roads in the vicinity of the Site are shown in Figure 2, and include:

- Westlink M7 Motorway: M7 Motorway is a high capacity road link of state significance and was built to accommodate future traffic growth in the Western Sydney region. It provides a key north-south link between the M2 Motorway to the north and the M5 Motorway to the south as part of the Sydney orbital road network. A major interchange between the M7 Motorway and M4 Western Motorway is located approximately 3.5 km north of the Site, which connects the Sydney CBD and western Sydney suburbs. The M7 Motorway provides 4 lanes (2 lanes per direction, divided carriageway) and has a posted speed limit of 100 km/h
- (Future) M12 Motorway: A proposed 16km motorway generally running in an east-west between the existing M7 motorway and the Northern Road. It is expected to run in parallel with Elizabeth Drive and is to have 2 lanes in each direction separated by a central median. Construction is expected to commence in 2020.
- Wallgrove Road: Wallgrove Road is an arterial road that runs in a north-south direction to the east of the Site and parallel (to the west of) the M7, functioning as a service road. The 2-lane, two-way road provides a link between the Great Western Highway to the north and Elizabeth Drive to the south. As with the M7, Wallgrove Road connects to the M4 motorway approximately 2.5 kilometres to the north of the Site.
- Elizabeth Drive: An TfNSW classified main road (MR 535) that runs in an east-west direction to the south of the site. Elizabeth Drive in the vicinity of the site generally provides 2 lanes (1 lane per direction) and has a posted speed limit of 80km/h. This road forms the Site's southern frontage and provides a vital link between Westlink M7 Motorway and The Northern Road.
- The Northern Road: The Northern Road is TfNSW classified main road (MR 154) that runs in a north-south direction to the west of the site. The Northern Road section near the vicinity of the site generally provides 3 lanes (1 to 2 lanes per direction) and has a posted speed limit of 80km/h. Currently, The Northern Road is undergoing multiple stages of road upgrades by RMS, including a realignment of the road in the south. The road upgrades between The Old Northern Road, Narellan and Peter Brock Drive, Oran Park, has been completed.
- Mamre Road: Mamre Road is an arterial road servicing traffic between the Great Western Highway and M4 to the north and Elizabeth Drive to the south. In the vicinity of the Site, Mamre Road generally provides 2 lanes for two-way traffic, with additional through movement and turning infrastructure at key intersections to the north through the Erskine Park and Mamre West industrial precincts, and at Elizabeth Drive to the south. Mamre Road has a posted speed limit of 80km/h in the vicinity of the Site. TfNSW has confirmed road upgrades will be undertaken for Mamre Road between Elizabeth Drive and Luddenham Road.

Further to the above, it is clear that the Site is well located in regard to immediate access to the local and sub-regional road network. **Figure 3** shows the Site context with specific reference to the current TfNSW Restricted Access Vehicle (RAC) routes, which allow for up to 25m/26m B-Double combinations. It is expected that Aldington Road and Abbotts Road will be gazetted as a B-Double route following road upgrades.

Figure 3: TfNSW Approved 25/26m B-Double Routes

3 Overview of Construction Works

3.1 Staging and Duration of Works

While there is no Contractor engaged for the project, for the purposes of the Draft CTMP, staging and duration of works has been based on similar developments in the wider area. Based on this, it is anticipated that construction works for the preliminary stages would commence in 2022 and be completed over a duration between 1-2 years, subject to authority approvals and inclement weather delays.

The following summarises key aspects of the construction phases:

- Demolition works are anticipated to have a duration for 6-10 weeks.
- Excavation activities would continue for 6-12 months.
- General Construction works are estimated to continue concurrently to excavation activities for 12 months.

3.2 Construction Hours

The type of work being undertaken will remain consistent throughout the duration of construction and associated activities. All works are expected to be undertaken within the following hours:

- Monday to Friday (other than Public Holidays): 7:00am – 6:00pm.
- Saturday: 8:00am – 1:00pm
- Sunday & Public Holidays: No works to be undertaken.

Any work to be undertaken outside of the standard construction hours will be required to obtain an Out of Hours (OOH) approval; any such works would necessarily be undertaken in accordance with the appropriate OOH protocols and approval processes.

3.3 Site Access

3.3.1 Construction Vehicle Access

All construction vehicles will enter and depart the Site from / to Aldington Road and access Mamre Road by way of Abbotts Road to the south of the Site; to avoid conflict with School peak periods. It is anticipated that a temporary access driveway will be provided, along the alignment of the future access road.

It is anticipated that the largest vehicle accessing the Site would be a 19.6m Truck & Dog combination, which the temporary access driveway will be designed for.

The following **Figure 4** shows the indicative Site access location and **Figure 5** details the likely key access strategy into the routes between the Site and the regional road network.

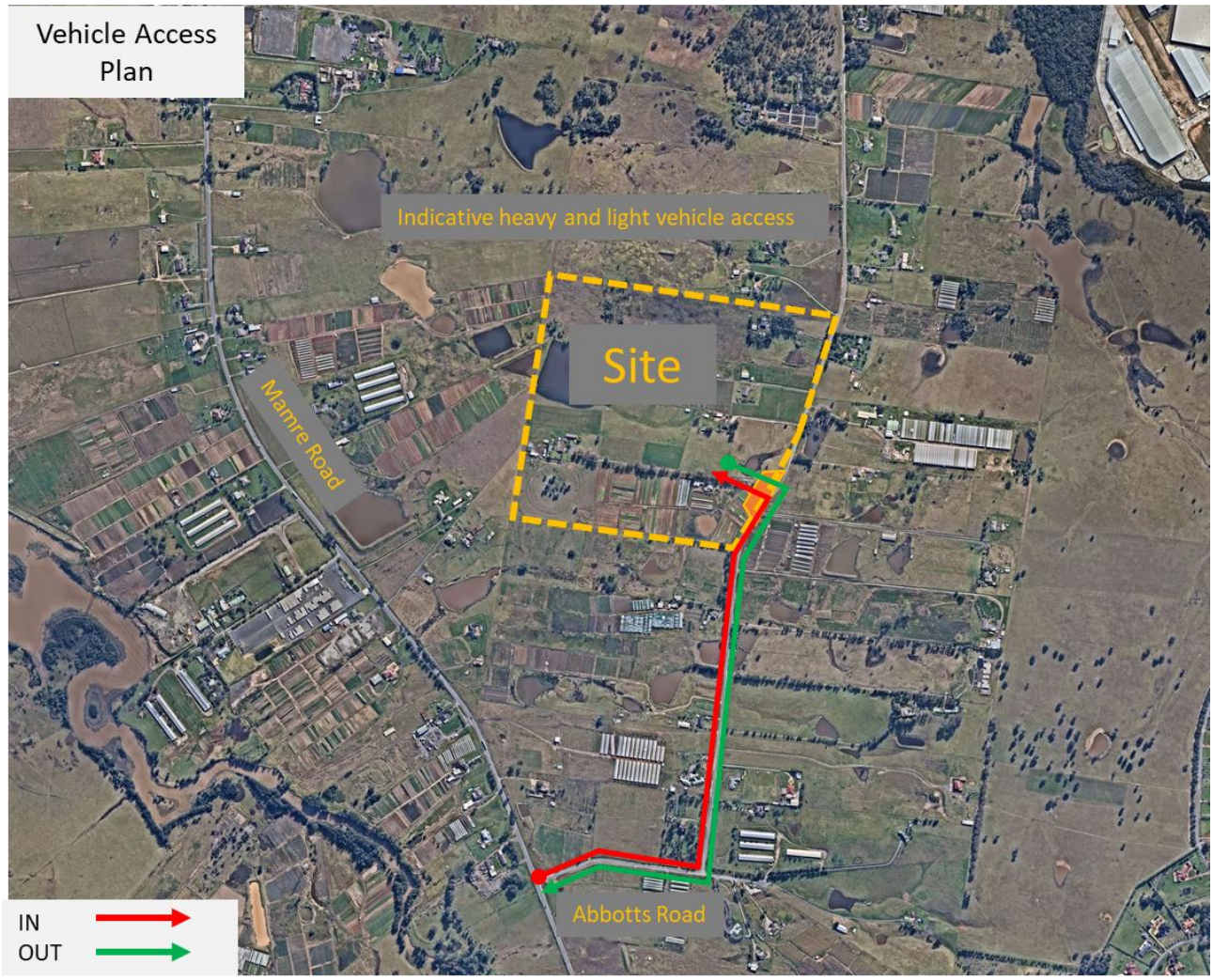

Figure 4: Indicative Vehicle Access Plan

3.3.2 Emergency Vehicle Access

Emergency vehicle access to and from the Site will be available at all times while the Site is occupied by construction workers; emergency protocols during the works will be developed by the Project Manager for inclusion within the final CTMP.

3.3.3 Pedestrian Access

There are currently no pedestrian amenities or footpaths along Aldington Road adjacent to the Site. However, the grassed verge on both sides of the road remains usable for any pedestrian that may wish to walk use it.

Further to the above, while there is no expectation of pedestrians crossing the future construction access road, pedestrian safety will be managed through the provision of appropriate signage and pedestrian barriers. Construction personnel will also be able to access the Site by foot via a secure access gate along the temporary access road, though with all construction staff (and vehicle) parking to be provided within the Site there is again little potential for such pedestrian demand.

3.4 Construction Vehicle Access Routes

As discussed, all construction vehicles will enter and exit the Site via Aldington Road.

It is anticipated that all heavy vehicles will access Site via the following routes:

- Arrival Trips:
  - Route 1: From M4 Western Motorway, southbound along Mamre Road and left into Abbotts Road. Continue on to Aldington Road and left into Site.
  - Route 2: From Westlink M7, westbound on Old Wallgrove Road, Lenore Drive and Erskine Park Road, then south along Mamre Road and left into Abbotts Road. Continue on to Aldington Road and left into Site.
- Departure Trips:
  - Route 1: From the Site, right onto Aldington Road then south on Mamre Road to Elizabeth Drive and left to the M7 Motorway and sub-regional routes to the east.
  - Route 2: From the Site, right onto Aldington Road then south on Mamre Road to Elizabeth Drive and right to Badgerys Creek and The Northern Road to the west.

These routes are shown in Figure 5.

A copy of the approved routes will be distributed by the Project Manager to all drivers as part of their induction process.

In the event that an oversized or over-mass vehicles is required to travel to and / or from the Site, a permit from TfNSW and / or the National Heavy Vehicle Register (NHVR) will be required prior to arrival to the site. Notwithstanding, this CTMP relates to general construction which does not seek the use of oversize vehicles; a separate application would be submitted if such access is required.

3.5 Fencing Requirements

Security fencing will be erected along the entire boundary of the Site and will be maintained for the duration of the construction works to ensure that unauthorised persons are kept out of the Site. The fencing will either be ATF or 2.4m chain wires.

Site access gates would be provided at the temporary driveway which would remain closed at all times outside of the permitted construction hours.

3.6 Materials Handling

All material loading will be undertaken wholly within the Site, and all construction equipment, materials and waste will similarly be strictly kept within the Site.

While not anticipated, should any materials handling (or other constructed related activity) be required from the public roadway (i.e. Aldington Road) then prior approval shall be sought and obtained from the appropriate authorities.

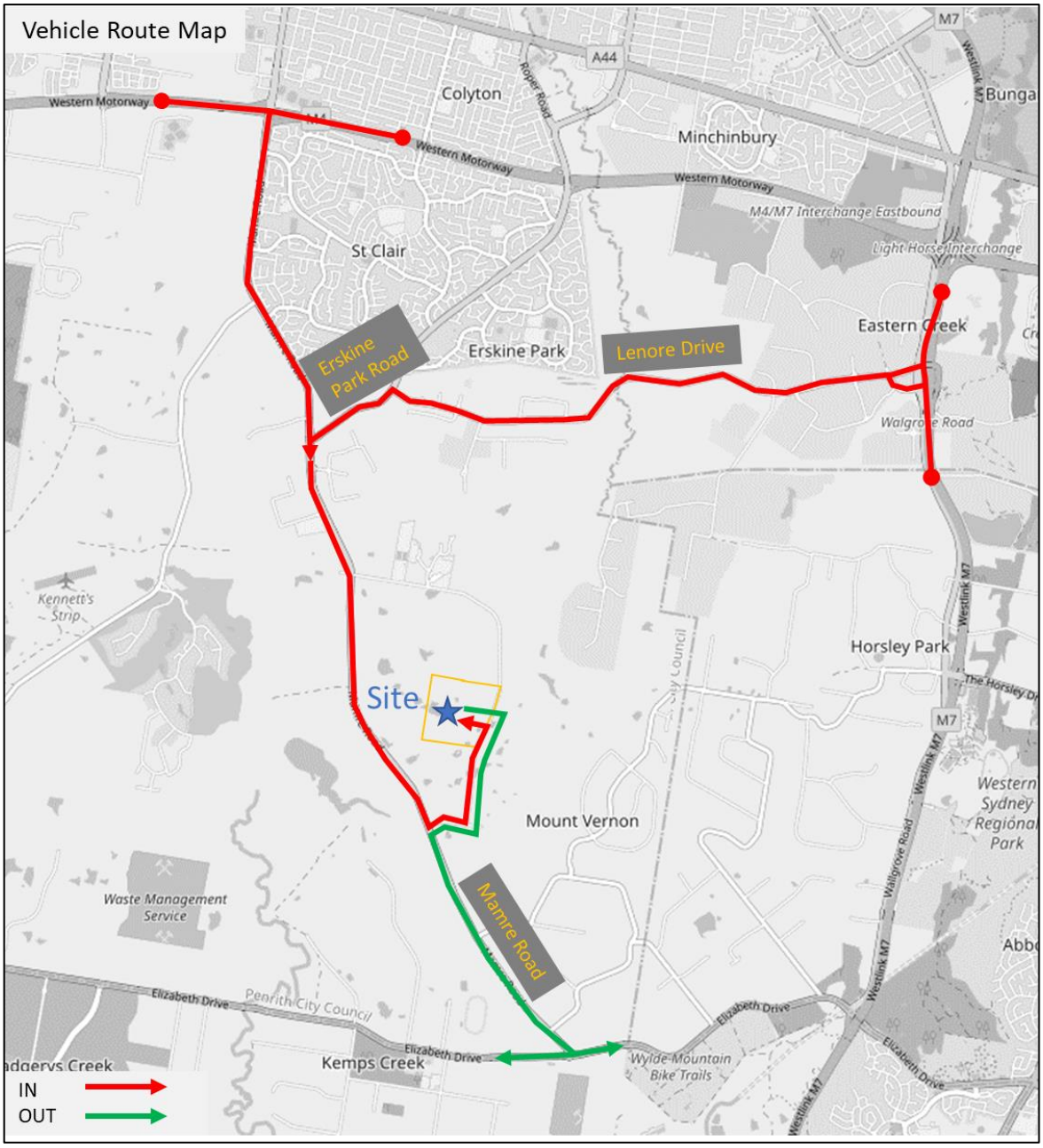

Figure 5: Construction Vehicle Routes

3.7 Additional Site Management

Although it is not expected, in the event that any Site construction traffic management outside of that described in the implemented CTMP is required, the Project Manager will be required to notify adjacent properties of any temporary traffic restrictions (or the like) at least fourteen (14) days in advance.

3.8 Road Occupancy

The potential exists for future road occupancy requirements to facilitate the construction of the temporary driveway, and then any further upgrades to Aldington Road and the intersection of Mamre Road and Abbotts Road.

Road occupancy permits will necessarily be procured prior to starting intersection construction works, while a detailed intersection-specific CTMP would be prepared in consultation with Council and TfNSW to ensure traffic along Aldington Road would continue to operate adequately during any such occupancy period.

3.9 CTMP – Monitoring & Review Process

This CTMP has been prepared referencing the existing Site conditions. Consultation with Council, TfNSW and neighbouring developments will continue to be undertaken to ensure that the cumulative traffic impacts of construction within the area do not adversely impact the operations of the neighbouring developments or the local road network.

4 Assessment of Traffic & Transport Impacts

4.1 Construction Vehicle Traffic Generation

4.1.1 Staging

In lieu of a Contractor being onboard at this early stage, the specific construction staging requirements are not fully known. Therefore, this section will need to be updated prior to implementation of the future CTMP.

However, based on similar developments we currently anticipated that, once commenced, construction will involve the following key stages:

- Demolition works could take up to 3 months;
- Excavation works could have a duration of 9 months; and
- General construction could take up to 22 months.

4.1.2 Vehicle Movements

With respect to the potential impacts of light vehicle traffic, the overwhelming majority of trips would occur in the short workforce arrival and departure periods, being (based on the proposed construction hours) 6:30am – 7:00am and 6:00pm – 6:30pm respectively; as such, any light vehicle movements would occur outside of the existing (commuter) peak periods in the local network.

While it requires further confirmation, at this stage, it anticipated that a maximum of around 40 workers would be on-site at any one time.

Heavy vehicle traffic would mainly be generated by activities associated with the delivery of construction equipment and delivery and extraction of material for construction works. As the construction programme has yet to be finalised, a worst-case scenario for heavy vehicle movements per day required for the delivery of construction materials to the Site cannot be accurately determined.

However, at this stage, it is estimated that there would be a peak of 170 truck movements a day. These truck movements will occur all day between 7:00am to 6:00pm. Therefore, A maximum peak of 16 truck movements per hour is expected (8 in movements and 8 out movements).

As such, construction could generate a peak of 56 vehicle movements per hour, of which would not coincide with the road network peak.

While this will need to be confirmed at the relevant time, it is evident that construction of the Proposal will generate less traffic than the SSD proposal itself.

4.1.3 Cumulative Traffic Generation Assessment

There are a number of planned developments in the area therefore, prior to implementation of the final CTMP, a cumulative traffic generation assessment should be undertaken. It is anticipated that this could be included as a Condition of Consent.

4.2 Vehicle Management

4.2.1 Principles

In accordance with TfNSW requirements, all vehicles transporting loose materials would have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the Site.

Further to covering/securing the load to prevent deposits onto the roadway, a Shaker Grid is proposed and installed at the point of vehicle egress to minimise the risk of dirt tracking out onto Aldington Road.

4.2.2 Construction Staff Parking

All construction staff and contractors will be required to park wholly within the Site, noting that there will be significant area available (at all times) to meet the peak parking demand.

5 Traffic Control

5.1 Traffic Control

The RMS guide “Traffic Control at Worksites” (TCAW) manual contains standard traffic control plans (TCPs) for a range or work activities. The manual’s objective is to maximise safety by ensuring traffic control at worksites complies with best practice.

The RMS TCAW outlines the requirements for a Vehicle Movement Plan (VMP) for construction works such as proposed; a VMP is a diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP should also show travel paths for trucks at key points on routes remote from the work site such as places to turn around, accesses, ramps and side roads.

Regarding construction work on roads with an average daily total (ADT) in excess of 1,500 vehicles, approach speeds of between 60 km/hr and 80 km/hr, with truck movements > 20 veh/shift, and sight distance is less than 2d, (where d equals the posted speed limit and in this instance the sight distance is required to be up to 120 metres), it would be expected for the following to be required by the RMS TCAW:

- A detailed Traffic Control Plan (TCP) with Traffic controllers
- A VMP.
- Warning Signs required during shifts.

With regard to the proposed temporary access road, a site-specific version of TCP 195 would be implemented for the duration of the works.

5.2 Authorised Traffic Controller

An authorised Traffic Controller(s) is to be present on-site throughout the proposed works. Responsibilities of the Traffic Controller will include:

- The supervision of all construction vehicle movements into and out of site at all times,
- The supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project, and
- Pedestrian management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur, while maintaining radio communication with construction vehicles at all times.

6 Monitoring & Communication Strategies

6.1 Development of Monitoring Program

The development of a program to monitor the effectiveness of this CTMP shall be established by the Project Manager and should consider scheduled reviews as well as additional reviews should construction characteristics be substantially changed (from those outlined in the Final CTMP). All and any reviews of the CTMP should be documented, with key considerations expected to include:

- Tracking heavy vehicle movements against the estimated heavy vehicle flows during the works.
- The identification of any shortfalls in the CTMP, and the development of revised strategies / action plans to address such issues.
- Ensuring that all TCPs are updated (if necessary) by “Prepare a Work Zone Traffic Management Plan” card holders to ensure they remain consistent with the set-up on-site.
- Regular checks to ensure all loads are departing the Site covered as outlined within this CTMP.

6.2 Communications Strategy

A Communications Strategy shall be established by the Project Manager for implementation throughout the construction works; this strategy will outline the most effective communication methods to ensure adequate information within the community and assist the Project Team to ensure the construction works have minimal disruption on the road network. The Communications Strategy will include:

- The erection of appropriate signage providing advanced notice of works and any traffic control measures to be implemented.
- Written notices to surrounding landowners (and tenants) likely to be directly affected by the works, prior to commencement.

Ongoing communication is also required so that all stakeholders are kept up to date of works and potential impacts.

7 Summary

This Draft CTMP has been prepared to ensure appropriate traffic management is undertaken during construction of the industrial development.

Ultimately, this CTMP report has been prepared with regard to the management principles outlined in the RMS Traffic Control at Worksites Manual (2018) and AS1742.3, and per the detailed strategies outlined in the Draft CTMP are recommended for adoption at the Site.

In summary the following measures are recommended:

- Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the Site during construction.
- All vehicles transporting loose materials will have the load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the Site.
- All vehicles are to enter and depart the Site in a forward direction, with reverse movements to occur only within the Site boundary.
- All contractor parking is to be contained wholly within the Site, and.
- Pedestrian and cyclist traffic along the Site frontage will be managed appropriately at all times.

In summary, the Draft CTMP report is proposed in accordance with the RMS TCAW.