

20 September 2022

Bruce Zhang
Senior Environmental Assessment Officer - Industry Assessments
Department of Planning and Environment
4 Parramatta Square, 12 Darcy Street
Parramatta NSW 2124

Dear Bruce

SSD-10448-MOD2 – RESPONSE TO TRANSPORT FOR NSW COMMENTS

This letter is provided to the Department of Planning and Environment (DPE) in response to the Transport for NSW (TfNSW) comments received (TfNSW ref: SYD19/01350/46 dated 2 Sep 2022) for the Aspect Industrial Estate (AIE) SSD-10448-Mod 2 in relation to the design of the location of Warehouse 1 access driveway off Road 1.

This letter also addresses items raised by TfNSW and Penrith City Council during the online coordination meeting held on Friday 16 September 2022 in relation to the Mod 2 Warehouse 1 driveway.

We believe this letter responds to the items raised, demonstrating Mod 2 Warehouse 1 driveway is in compliance with the relevant written Austroads design requirements and the proposed revised Mod 2 Warehouse 1 access arrangements will provide a more efficient and safer road network.

We respectfully request assessment of the AIE SSD-10448-Mod 2 be progressed on this basis.

Yours sincerely,



Richard Seddon
General Manager - Industrial
Mirvac Group

Please refer below responses to the items raised within TfNSW' letter dated 2 September 2022 (TfNSW ref: SYD19/01350/46) in relation to SSD-10448-Mod 2 Warehouse 1 access arrangements.

TfNSW comment:

1. *TfNSW is concerned with the close proximity to the traffic signals and impacts to its safe and efficient operation. A heavy vehicle that uses the driveway will be approaching at a very low speed due to the size of the vehicle, short deceleration lane and high vehicle entry.*

Mirvac response:

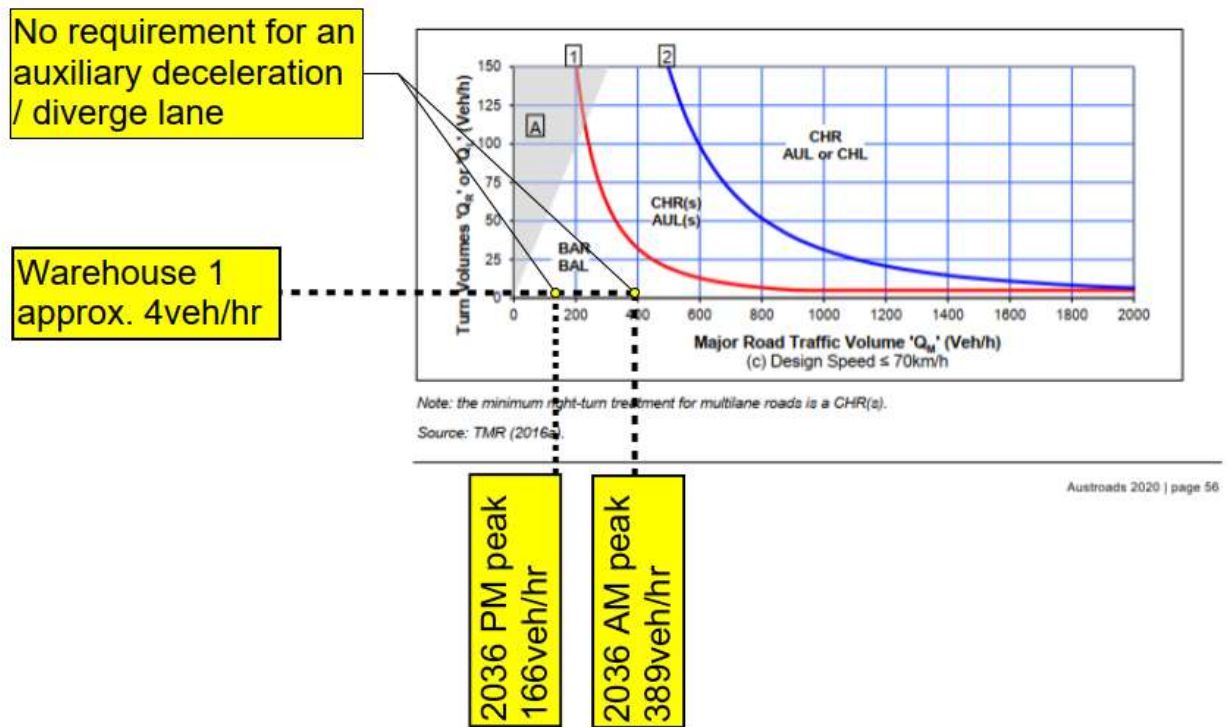
In the approved Warehouse 1 development the western driveway location provides access to the Warehouse 1 car park (26 car parking spaces total) and the estate café (minimum 12 dedicated car parking spaces) with safe entry and exit on a left-in / left-out basis directly to Road 1. As such the approved Warehouse 1 driveway generates higher traffic volumes (and operates on a left-in / left-out basis) than the exhibited Warehouse 1 Mod 2 scheme [**exhibited Mod 2 Warehouse 1 driveway**] which proposes to restrict the Warehouse 1 driveway access to facilitate commercial vehicles on a left-in basis only.

Whilst it is understood that the **exhibited Mod 2 Warehouse 1 driveway** (refer appendix 2) design is compliant with necessary requirements of Austroads and AS2890.2:2018, Mirvac have reviewed the Warehouse 1 driveway arrangement with our customer, CEVA, a global logistics and supply chain company, and propose a revised Warehouse 1 driveway arrangement to that exhibited in Mod 2 documentation [**revised Mod 2 Warehouse 1 driveway**] which would still meet our customer's operational and safety requirements and result in an increase to the distances between the driveway and the signalised intersection by a further 23m further mitigating concerns raised by TfNSW. For further details of **revised Mod 2 Warehouse 1 driveway** refer to Appendix 3.

With reference to the requirement for an auxiliary deceleration / diverge lane, review of the forecast Mod 2 Warehouse 1 traffic volumes that will utilise the Road 1 driveway and Austroads requirements indicates an auxiliary deceleration / diverge lane **is not required** for the Mod 2 Warehouse 1. The Road Safety Audit completed for the **revised Mod 2 Warehouse 1 driveway** arrangement (refer Appendix 3), is based on traffic volume information from Ason Group and the operational requirements of the customer for Warehouse 1 and notes the driveway is anticipated to experience traffic volumes of approximately 4 veh/hr during peak periods (1 vehicle maximum in a signal phase). The traffic network modelling underpinning the Mamre Road Precinct DCP forecasts 389 veh/hr in the AM peak and 166 veh/hr in the PM peak in the 'ultimate' scenario under a 2036 horizon travelling east bound of Road 1.

In contrast to the original Warehouse 1 approvals, Austroads Guide to Traffic Management – Part 6: Intersections, Interchanges and Crossings Management demonstrates that the forecast Mod 2 Warehouse 1 low volume of traffic and forecast ultimate east bound Road 1 traffic volumes **do not warrant** the provision of an auxiliary deceleration / diverge lane for Warehouse 1 (refer Figure 1 below). We note that AS2890.2: 2018 also does not require a deceleration lane for an access of this nature.

Figure No.1 – Austroads Part 6 Warrants with Mod 2 Warehouse 1 and Road 1 'ultimate' traffic volumes.



Upon TfNSW' re-consideration of the **revised Mod 2 Warehouse 1 driveway** arrangement (refer Appendix 3) and the relevant Mod 2 reports in relation to traffic volumes, should TfNSW still have concerns with the location of an auxiliary deceleration / diverge lane from the intersection, then noting that Austroads does not warrant a auxiliary deceleration /diverge lane, an alternate approach would be removal of the auxiliary deceleration / diverge lane in order to comply with the warrant requirements of Austroads and achieve a distance of approximately 119m between the driveway and the signalised intersection being greater than 50-100m from the signalised intersection stop line to the Warehouse 1 driveway. Mirvac note that in the meeting held 16 September 2022 between TfNSW, DPE, Penrith City Council and Mirvac; TfNSW', Rachel Cummings stated that on greenfield sites TfNSW' desirable distance between a driveway and a signalised intersection to be 50-100m. Notwithstanding, it is considered that the proposed auxiliary deceleration /diverge lane would provide a safer and more efficient outcome.

TfNSW comment:

1.(Continued)

In addition, the short length and width of the deceleration lane does not adequately accommodate for a 26m B-Double or 36.5m PBS Level 3 type A vehicle and therefore long vehicles will not effectively utilise the lane.

Mirvac response:

Condition A9 of SSD10448 restricts the largest vehicle permitted to enter the site as a 30.0m PBS Level 2 Type B. This is the design vehicle for the intersection and the estate. Refer table 1 below.

- As per responses above, Austroads Guide to Traffic Management – Part 6: Intersections, Interchanges and Crossings Management, indicates that the proposed low traffic volumes do not warrant provision of a deceleration / diverge lane.
- If warranted, the required length for a deceleration / diverge lane as per Austroads (Part 4A Table 5.2) for a 60km/hr design speed is 55m.
- The deceleration / diverge lane length for **exhibited Mod 2 Warehouse 1 driveway** (refer Appendix 2) was 60m with a distance from the signalised intersection stop line of 36m.
- The deceleration / diverge lane length for **revised Mod 2 Warehouse 1 driveway** (refer Appendix 3) is 83m with a distance from the signalised intersection stop line of 36m.
- The **revised Mod 2 Warehouse 1 driveway** location would facilitate an Austroads compliant deceleration / diverge lane length of 55m (design speed of 60km/hr) with a distance from the signalised intersection stop line of 64m (refer Appendix 3B). This distance is greater than the desired minimum of 50m (as required) in greenfield sites as raised by Rachel Cummings from TfNSW.
- The deceleration / diverge lane widths proposed within both the **exhibited Mod 2 Warehouse 1 driveway** and the **revised Mod 2 Warehouse 1 driveway** are compliant with the requirements of Austroads, however Mirvac would accept providing a wider auxiliary lane should TfNSW deem it necessary.

Table 1 – Estate requirements for Design and check vehicles

AIE – SSD-10448 Conditions of Consent	
Condition	Mirvac response
Condition A9 <i>The largest vehicle permitted to access the site is a 30 m Performance Based Standards (PBS) Level 2 Type B.</i>	Complies - Mirvac are not proposing amendment of this condition.
Mamre Road Precinct DCP	
Condition	Mirvac response
Section 3.4.1 – Condition 20 <i>The road network is to be designed for 30m Performance Based Standards (PBS) Level 2 Type B vehicles and tested for a 36.5m PBS Level 3 Type A vehicles</i>	Complies - The proposed MOD2 amendments to Road No.2 has been designed and tested in accordance with this condition.
Section 4.6.1 – Condition 10 <i>Vehicular access must be swept path tested for the largest vehicle that will access a particular site e.g. 30m PBS Level 2 Type B or 36.5m PBS Level 3 Type vehicles.</i>	Refer Appendix 4. The site complies with the design vehicle requirements. The estate has been conditioned for a maximum 30m PBS Level 2 Type B vehicle and the submitted documentation is compliant with this requirement.
Section 4.6.1 – Table 13 <i>Minimum design vehicle requirements for industrial developments greater than 20,000m2: 30m PBS Level 2 Type B.</i>	Complies - The submitted documentation is compliant with this requirement.

TfNSW comment:

1.(Continued)

This can result in rear-end crashes and traffic banking to the traffic signals. The consequences are a loss of efficient at the at the intersection and the deterioration of the Level of Service for vehicles to enter the Estate from Mamre Road. This issue is apparent for both the left turn and right turn approaches to Access Road 1.

Mirvac response:

The length of the proposed deceleration / diverge lane is designed in accordance with Austroads requirements to ensure all deceleration is completed within the deceleration lane itself. Refer safety risk assessment included within Appendices 2 & 3 for commentary on safety aspects. As above, whilst the provision of an auxiliary deceleration / diverge lane is not technically required per the requirements of Austroads Guide to Traffic Management – Part 6: Intersections, Interchanges and Crossings Management and in consideration of the forecast traffic volumes, an auxiliary deceleration / diverge lane would facilitate for all deceleration to be completed outside of the through lanes therefore alleviating TfNSW' concerns.

TfNSW comment:

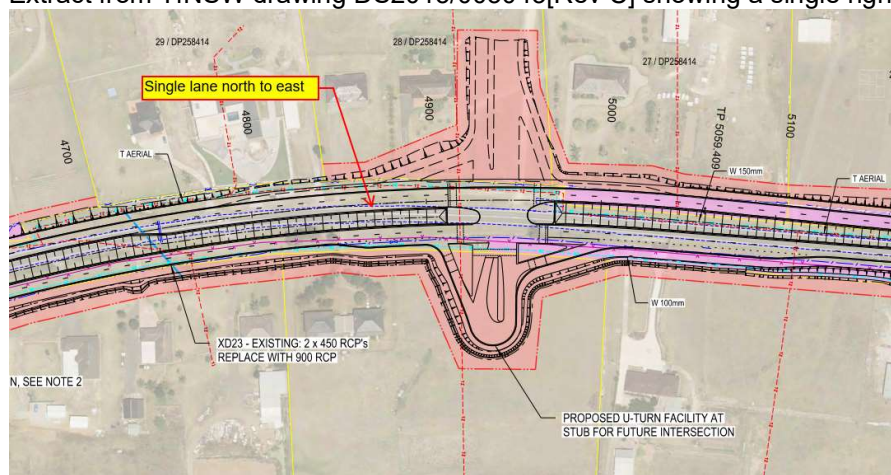
2. *The approved Mamre Road upgrade Stage 2 strategic plans indicate a dual right turn from Mamre Road into Access Road 1.*

Mirvac response:

Based on the information available, we believe this statement to be incorrect.

Please see below extract from the approved Mamre Road upgrade Stage 2 strategic plans as issued to Mirvac by TfNSW on 28 July 2020 for coordination and consideration as part of the Aspect Industrial Estate planning.

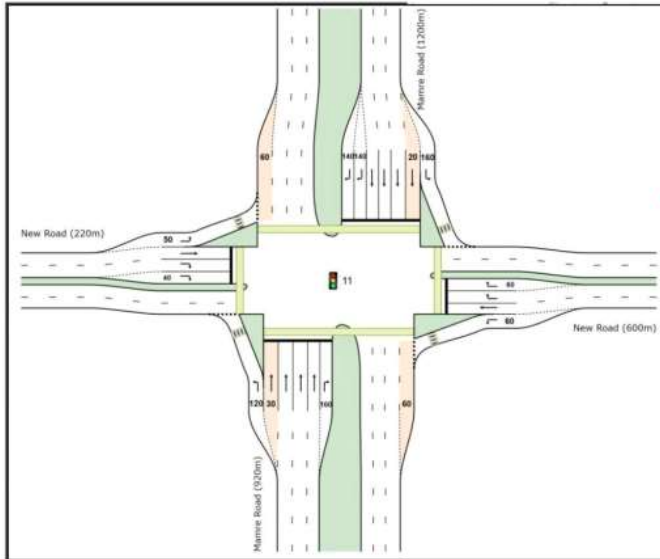
Extract from TfNSW drawing DS2015/003043[Rev C] showing a single right turn lane north to east.



With regards to the requirements for a dual right turn travelling north and turning east, the extensive road network modelling completed by Ason Group to inform the Mamre Road precinct DCP indicated only a single right turn lane north to east is required in the 'ultimate' 2036 scenario. This modelling was completed to underpin the Mamre Road precinct DCP and was prepared in direct and ongoing consultation with TfNSW and DPE.

The same modelling now underpins the Southern Link Road analysis being completed for TfNSW.

Extract from the Mamre Road Precinct road network modelling under a 2036 horizon for the Mamre Road & Road No.1 intersection showing only a single right turn lane north to east.



TfNSW comment:

2.(Continued)

TfNSW raises concerns with potential conflict of vehicles turning right from Mamre Road (in the ultimate arrangement of dual right turn) and changing lanes to access the deceleration lane (very close to signalised intersection). This could lead to potential side swipe issues and queuing into the intersection. It is also considered that the slow movement of a heavy vehicle will lead to adverse intersection efficiency impacts when merging across lanes to access the entrance to Warehouse 1 hardstand.

Mirvac response:

As per above comments, the introduction of a dual lane right turn (north to east) is a hypothetical situation. However, in the unlikely instance of a dual right turn (north to east), the Road Safety Audit included within Appendix 2 states:

“In the event that a dual lane right turn north to east is introduced, the auditors consider that based on Mirvac’s driver induction / training program for truck drives using the estate, as well as the volume of trucks entering warehouse 1 from the north to east right turn, together with the low total volume of right turn vehicles (north to east), then the road safety risk from any potential weave movements is very low”.

In relation to vehicle speeds, as stated above; the length of the proposed deceleration / diverge lane for both the **exhibited Mod 2 Warehouse 1 driveway** and the **revised Mod 2 Warehouse 1 driveway** are compliant with the Austroads requirements to ensure all deceleration from 60km/hr is completed within the deceleration lane itself.

TfNSW comment:

Based on the above issues raised, TfNSW considers Condition D11 shown below has not been satisfied to TfNSW requirements.

D11. Prior to the commencement of any construction works (excluding bulk earthworks) for Warehouse 1 as described in the EIS, the Applicant must prepare and submit design plans in consultation with TfNSW, FRNSW, and Council, and to the satisfaction of the Planning Secretary, demonstrating access to the development from Access Road 1 complies with relevant FRNSW and TfNSW access requirements.

Mirvac response:

Under the SSD-10448-Mod 2, the Warehouse 1 arrangement has been modified. As part of Mod 2, Mirvac proposes that the relevant design requirements have been met for the Warehouse 1 access driveway off Road 1 therefore propose for condition D11 to be deleted.

Penrith City Council / TfNSW comment:

Please advise why the proposed driveway location / requirement for warehouse no.1 clockwise circulation

Mirvac response:

- One-way traffic flow is required in a clockwise direction to maintain the safe accepted industry practise of 'right hand down' reverse access to docks and support efficient and safe process flow of goods throughout the warehouse.
- The proposed site layout and circulation pattern prevents two-way traffic movements on the hardstand which would be a suboptimum outcome from the Warehouse 1 customer (CEVA) from a safety perspective; and
- The proposed access arrangements also removes the need for Warehouse 1 heavy and light vehicles to exit onto Road 1 and allows relocation of car access to Road 2.

In summary, the low vehicle numbers for Mod 2 Warehouse 1 and the 2036 'ultimate' Road 1 east bound AM / PM peak traffic numbers do not warrant provision of an auxiliary deceleration / diverge lane. Without an auxiliary deceleration / diverge lane, the **revised Mod 2 Warehouse 1 driveway** would be located approximately 119m from the signalised intersection. Should TfNSW deem an auxiliary deceleration / diverge lane required, an Austroads compliant arrangement of 55m which caters for a 60km/hr design speed and 30m PBS Type 2B vehicle can be accommodated with approximately 64m to the signalised intersection (minimum 50m clear of the signalised intersection as requested by TfNSW).

The introduction of a dual lane right turn (north to east) is a hypothetical situation and is not required as part of the approved Mamre Road Stage 2 strategic design nor the extensive road network modelling completed for the Mamre Road Precinct which underpins the Mamre Road Precinct DCP. In the highly unlikely instance of a dual right turn (north to east), being imposed in the future, the Road Safety Audits completed have assessed the road safety risk from any potential weave movements as "very low".

We believe this letter and supporting material responds to all the items raised and supports the Mod 2 Warehouse 1 proposal. Mirvac would be happy to facilitate another meeting with our consultants and DPE should it be required to step through our position and material provided

This letter is to be read in conjunction with the following appendices:

Appendices:

- Appendix 1 – TfNSW submission on SSD-10448-Mod 2
- Appendix 2 – Road Safety Audit to review **exhibited Mod 2 Warehouse 1 driveway** location
- Appendix 3 – Road Safety Audit to review **revised Mod 2 Warehouse 1 driveway** location with maximum auxiliary lane
- Appendix 3B – **Revised Mod 2 Warehouse 1 driveway** with minimum auxiliary lane
- Appendix 4 – Swept turn paths to review **revised Mod 2 warehouse no.1 driveway** location
- Appendix 5 – TfNSW Mamre Road Stage 2 Approved Strategic Design