traffic + transport

Transport Assessment

Planning Proposal for Homemaker Centre, Jamisontown

for

Calardu Penrith Pty Ltd

Document Control

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1 Introduction

1.1 Overview

arc traffic + transport has been engaged by Calardu Penrith Pty Ltd (**Calardu**) to prepare a Transport Assessment (**TA**) to accompany a **Planning Proposal** providing for an expansion of retail floorspace at the Homemaker Centre, Mulgoa Road, Jamisontown (the **Site**).

The Planning Proposal provides for:

- Increasing the height of building controls on part of the Site from 12.0m to 15.0m;
- In turn, an additional 6,577m^2 of gross floor area (**GFA**), equating to 5,776m^2 of gross leasable floor area (**GLFA**) to be provided as an extension to the existing Homemaker building in the western part of the Site; and
- The loss of approximately 20 parking spaces.

1.2 Planning Background

1.2.1 Development Application 18/0339

It is noted from the outset that the assessment provided in this TA primarily references base conditions that reflect the Site operations further to the implementation of the infrastructure proposals detailed in DA18/0339, which was approved by Council in August 2019.

DA18/0339 provides for revisions to the internal road network and parking aisles further to the relocation of the internal roundabout off Wolseley Street (the **Wolseley Roundabout**), as well as additional GFA in the eastern portion of the Site (Domayne building).

Site operations further to the approval of DA18/0339 were assessed in detail by arc traffic + transport in the *Penrith Homemaker Centre Expansion TIA 2017* (**TIA 2017**) and then further by Transport for NSW (**TfNSW**) and Arcadis to ensure that the proposed upgrade of Mulgoa Road (the **Mulgoa Road Upgrade**) adjacent to the Site appropriately accounted for the changed traffic characteristics of the Site further to an approval of DA18/0339.

Technical Note: Penrith Homemaker Centre Preliminary Traffic Modelling Report 2017 (the **Arcadis Report**) prepared by Arcadis for TfNSW, is provided in **Appendix A**.

1.2.2 2023 Scoping Proposal

A Scoping Proposal (**SP 2023**) for a subsequent Planning Proposal (**PP 2024**) providing for a similar expansion as provided for in this current Planning Proposal was submitted to Council in 2023; SP 2023 was accompanied by *Planning Proposal Transport Assessment: Homemaker Centre, Jamisontown 2022* (**TA 2022**), also prepared by arc traffic + transport.

While PP 2024 was recently withdrawn (to be replaced with this new Planning Proposal), Council did undertake a review of TA 2022 during the preparation of **Council Advice** in response to SP 2023 and PP 2024; the Council Advice requested additional information in regard to traffic and transport issues be provided in regard to small number of issues.

While it is again the case that the current Planning Proposal completely replaces the PP 2024, there are essentially very few changes from PP 2024, and as such the issues raised in the Council Advice remain relevant to this TA, and as such have been fully addressed (see **Section 1.5**).

1.3 Transport Assessment Tasks

The TA provides an assessment of the relevant access, traffic and parking characteristics of the Planning Proposal, and specifically focuses on:

- Existing general Site operations;
- Existing and future public and active transport services;
- Road network upgrades in the local area, and specifically the Mulgoa Road Upgrade in the vicinity of the Site;
- Future road network operations as determined by TfNSW and Arcadis, which again includes the traffic generated by the Site further to the DA18/0399 Approval;
- The access, traffic and parking characteristics of the Planning Proposal;
- The broader design of new and revised access, parking and servicing infrastructure; and
- Mitigation measures by which to minimise any potential transport related impacts arising from the Proposal.

It is noted from the outset that as a Planning Proposal, the TA has been prepared to essentially confirm a “proof of concept”. While the TA provides considerable detail, additional information - and specifically information in regard to the design of new or revised parts of the Site - will necessarily be provided in a future Development Application.

1.4 Reference Documents

1.4.1 Planning Controls and Strategies

The Site lies within Penrith Local Government Area; key Council planning documents referenced in the preparation of the TA include:

- Penrith Development Control Plan 2014 (the **DCP 2014**); and
- Penrith Local Environmental Plan 2014 (the **LEP 2014**).

1.4.2 Local Developments

As discussed, in preparing the TA arc traffic + transport has referenced numerous reports relating to approved and/or proposed development at the Site and in the local area; these include:

- TIA 2017;
- TA 2022;
- The Arcadis Report; and
- Mulgoa Road / Castlereagh Road Corridor Upgrade Traffic & Transport Assessment Study 2017, TfNSW and Arcadis (**MRU TTA 2017**).

1.4.3 Transport & Planning Guidelines and Strategies

The TA references the following general transport and planning guidelines:

- Guide to Traffic Impact Assessment 2024, TfNSW (**TfNSW Guide**);
- Guide to Traffic Generating Developments Update Surveys 2013, Roads & Maritime Services (**RMS Guide**);
- Australian Standard 2890.1: Parking Facilities – Off-Street Car Parking, 2004 (**AS 2890.1:2004**);
- Australian Standard 2890.2: Parking Facilities – Off-Street Commercial Vehicle Facilities, 2018 (**AS 2890.2: 2018**);
- Australian Standard 2890.2: Parking Facilities – Off-Street Commercial Vehicle Facilities, 2002 (**AS 2890.2: 2002**);
- Australian Standard 2890.6: Parking Facilities – Off-Street Parking for People with a Disability, 2009 (**AS 2890.6: 2022**); and
- State Environmental Planning Policy (Transport and Infrastructure) 2021 (**SEPP 2021**).

1.5 Consultation

During and subsequent to the preparation of TIA 2017 and TA 2022, arc traffic + transport and representatives of Calardu had the opportunity to discuss details of the Site and future road conditions with Council and TfNSW officers on numerous occasions. arc traffic + transport wishes to acknowledge the insights provided by these officers, which were instrumental in determining the scope of work provided in each of the earlier assessments (and in turn this TA).

As discussed in **Section 1.2.2**, Council Advice specific to TA 2022 (as submitted with PP 2024) was received from Council on 29 January 2024, and additional advice was also received from Council on 7 June 2024.

Again noting that the scope of work provided in this TA is essentially identical to that provided in TA 2022, and moreover that the Planning Proposal is very similar to that detailed in SP 2023, **Table 1** provides a summary response to each of transport related issues identified in the Council Advice, and a reference to where each is addressed in more detail in the TA.

Table 1: Summary Response to Pre-Lodgement Advice

Council Pre-Lodgement Advice January 2024	Summary Response	TA Reference
Further details are required to be submitted with a planning proposal. The Transport Assessment Report is to be updated to include the following information: • *Road layout including dimensions and section drawings. This can be done by the architects.* • *Swept path of longest vehicle accessing the aisle. This can be done by the architects or by arc if required.* • *Proposed loading docks, collection points and footpath (if any). We will review the DA plans and provide comment on all new proposed infrastructure.*	The Planning Proposal does not provide for any changes to service vehicle routes through the Site to existing approved service areas. The only change will be the provision of an extension to the existing service lane running north-south along the western boundary of the Site (**Homemaker Service Lane**) so as to provide for a new loading dock to service the proposed additional floorspace, and to maintain efficient service vehicles in this part of the Homemaker Service Lane for existing service vehicle movements. Again though, the routes to/from the new loading dock (and other existing loading docks along the Homemaker Service Lane) will be unchanged, and continue to provide for service vehicles up to and including a 20m articulated vehicle. Preliminary swept paths in the extended section of Homemaker Service Lane, and to/from the new loading dock, are provided in **Appendix C**, noting that the final design and location of the new loading dock will be determined in the future Development Application, but as shown in the preliminary swept paths there is more than enough width and length in the new extension to accommodate any changes to the new loading dock location.	Section 2.4.3 Section 4.2.2 Appendix C
It is noted that the Transport Assessment Report indicates that the proposal will accommodate up to a 20m articulated vehicle. Confirmation is requested that the site access points and proposed road layout as per DA18/0339 can accommodate this type of vehicle.	As discussed, all internal roads providing access to service areas, as well as the service areas themselves, have previously been designed (and approved) to accommodate a 20m articulated vehicles, and swept paths have been previously provided (as part of DA18/0399, and subsequently approved. While the Planning Proposal provides for an extension of Homemaker Service Lane to provide for the new loading dock, all other service vehicle movements across the Site will be unchanged.	Section 2.4.3 Section 4.2.2

Table 1: Summary Response to Pre-Lodgement Advice (continued)

Council Pre-Lodgement Advice January 2024	Summary Response	TA Reference
The traffic assessment assumptions and methodology are to be consistent with DA18/0339 and TN 2017. The assumed additional trips for Thursday PM peak would be 28 vehicles more than the TN 2017 assumption, which is considered minimal.	A detailed assessment of the trip generation of the Site and additional GFA provided for under the Planning Proposal has been undertaken, which specifically references the new guidance on trip rates provided in the TfNSW Guide based on more recent surveys and analysis of the trip generating characteristics of bulky goods sites. These trip rates are lower than previously adopted in TIA 2017 and TA 2022, and reflect issues such as larger bulky goods sites generated a higher number of shared trips (i.e. visits to more than one outlet); and the increase in online shopping (and home deliveries). Further to adopting the TfNSW trip rates, the total trip generation of the Site (further to the Planning Proposal) will be considerable less than previously determined in TIA 2017 and TA 2022, and more importantly less than the total trip generation of the Site under the DA 2018/0039 Approval.	Section 3.4 Section 3.5 Section 4.3
Any future development application is to include provisions for additional bicycle parking facilities for staff and visitors as per Penrith DCP 2014.	Additional bicycle parking for both staff and visitors will be provided as part of a future Development Application, including bicycle racks and secure bicycle parking for staff. End of journey facilities may also be provided within the proposed additional floorspace, again to be determined in the future Development Application. More broadly, the active transport infrastructure across the Site will be significant enhanced to provide more direct and safer movements for pedestrians. This includes the creation of additional pedestrian areas adjacent to the Homemaker building further to revisions to service vehicle access paths.	Section 2.7.2 Section 4.5
The Transport Assessment report refers to Technical Note 1: Penrith Homemaker Centre Preliminary Traffic Modelling Report 2017, TfNSW and Arcadis (Homemaker TN 2017). It is requested that this report is provided to Council for review as part of any future Planning Proposal.	The Arcadis Report is attached as **Appendix A**.	Appendix A

Table 1: Summary Response to Pre-Lodgement Advice (continued)

Council Advice June 2024	Summary Response	TA Reference
The total Site trip generation with the inclusion of the proposed Planning Proposal expansion results to an increase of 38 vph in the Thursday PM peak than the modelled traffic volumes in TN 2017. ***This increase is considered minimal if only the overall site traffic generation is considered.*** *However, Section 4.3.1 of the Transport Assessment report states that "additional SIDRA analysis has been undertaken by arc traffic + transport to better reflect the directional distribution of flows further to the DA18/0339 approval rather than the assignment provided in TN 2017". This may or may not result to different intersection performance result on what was presented in TN 2017 and it is unclear in the Transport Assessment report on which traffic assessment was adopted as there are conflicting assumptions in TN 2017 and DA18/0339 reports.*	New guidance provided by TfNSW in the TfNSW Guide in regard to the trip generation of bulky goods developments indicates that the trip generation of the Site – even further to the Planning Proposal – will be significantly lower than previously assessed, such that the operation of key intersections identified in the Arcadis Report would represent absolute worst case conditions through 2036 even further to the Planning Proposal. With regard to the analysis of the Wolseley Street roundabout provided in TA 2022, the difference in total trips identified in the Arcadis Report versus those identified in TA 2022 relates to the provision of the new car park east of the roundabout, including a new eastern approach (per the DA18/0399 approval). Based on the resulting redistribution of trips to different parking areas, as well as the closure of some internal access aisles, the total weekday PM peak traffic volumes at the roundabout was determined to be lower than modelled in the Arcadis Report. Conversely though, the total Saturday peak traffic volumes at the roundabout were determined to be higher than modelled in the Arcadis Report. Again, the assessment of the roundabout in TA 2022 simply provided a more nuanced assessment based on numerous factors not considered in the Arcadis Report. As discussed above, it is regardless the case that the total peak trips at the roundabout (and at key interface intersections and across the Site) will be lower than assessed in both TA 2022 and the Arcadis Report further to consideration of the new trip rate guidance provided by TfNSW in the TfNSW Guide. The Arcadis Report is provided as **Appendix A** of this TA.	Section 3.4 Section 3.5 Section 4.3 Appendix A

Table 1: Summary Response to Pre-Lodgement Advice (continued)

Council Pre-Lodgement Advice June 2024	Summary Response	TA Reference
The Transport Assessment report indicates that the proposed Wolseley roundabout in this Planning Proposal is different from the modelled layout in TN 2017 assessment, which is also illustrated in Appendix B of the report. However, the PP proposed roundabout layout is also not consistent with the DA18/0339 approved layout. The submitted Preliminary Architectural Plans do not reflect the proposed modified roundabout layout.	It is apparent that at some time between the finalisation of TIA 2017 and TA 2022 revisions were made to the design of the Wolseley Street roundabout, with the design identified an modelled in TA 2022 being the same as that modelled in TIA 2017. While we are not aware of why these revisions – which remove additional lanes on the southern and western approaches to the roundabout – were made, SIDRA analysis of the revised (stamped plan) design regardless shows that the roundabout will continue to operate at a good Level of Service further to the Planning Proposal. SIDRA Movement Summary Reports for the revised analysis are provided in **Appendix B**. Notwithstanding the above, application of the new guidance provided by TfNSW in the TfNSW Guide for bulky goods trip rates indicates that the traffic volumes at the Wolseley Roundabout will be much lower than previously assessed in both the Arcadis Report and TA 2024, and as such the Wolseley Roundabout will operate with even lower average delays and queue lengths than reported in the new SIDRA analysis.	Section 3.5 Appendix B

2 Existing Conditions

2.1 Overview

At this time, much of the work approved per DA 2018/0339 has yet to commence, but those approved works are essentially the “base” conditions against which the Planning Proposal has been assessed (see **Section 3**). Notwithstanding, sections below provide details of existing Site operations and local conditions for context.

2.2 Location

The Site is located at 13 – 23 Pattys Place, Jamisontown, noting that the Site’s address is better identified as the corner of Mulgoa Road & Wolseley Street, where the Site’s primary access intersection is located. Noting that the Site includes multiple lots, the Planning Proposal specifically relates to Lot 10, DP1046110.

The Site is shown in its local context in **Figure 1**; arc traffic + transport notes that for ease of reference, we have identified Mulgoa Road and Pattys Place as running north-south, and Wolseley Street and M4 Motorway as running east-west.

Figure 1: Site Location Local Context

Source: Nearmap

2.3 Area and Land Use

The Site provides some 65,696m^2 GFA, and 63,682m^2 GLFA, of what is generally referred to as 'bulky goods' retail floorspace, as well as a Bunnings hardware store.

2.4 Vehicle Access

2.4.1 External Road Network

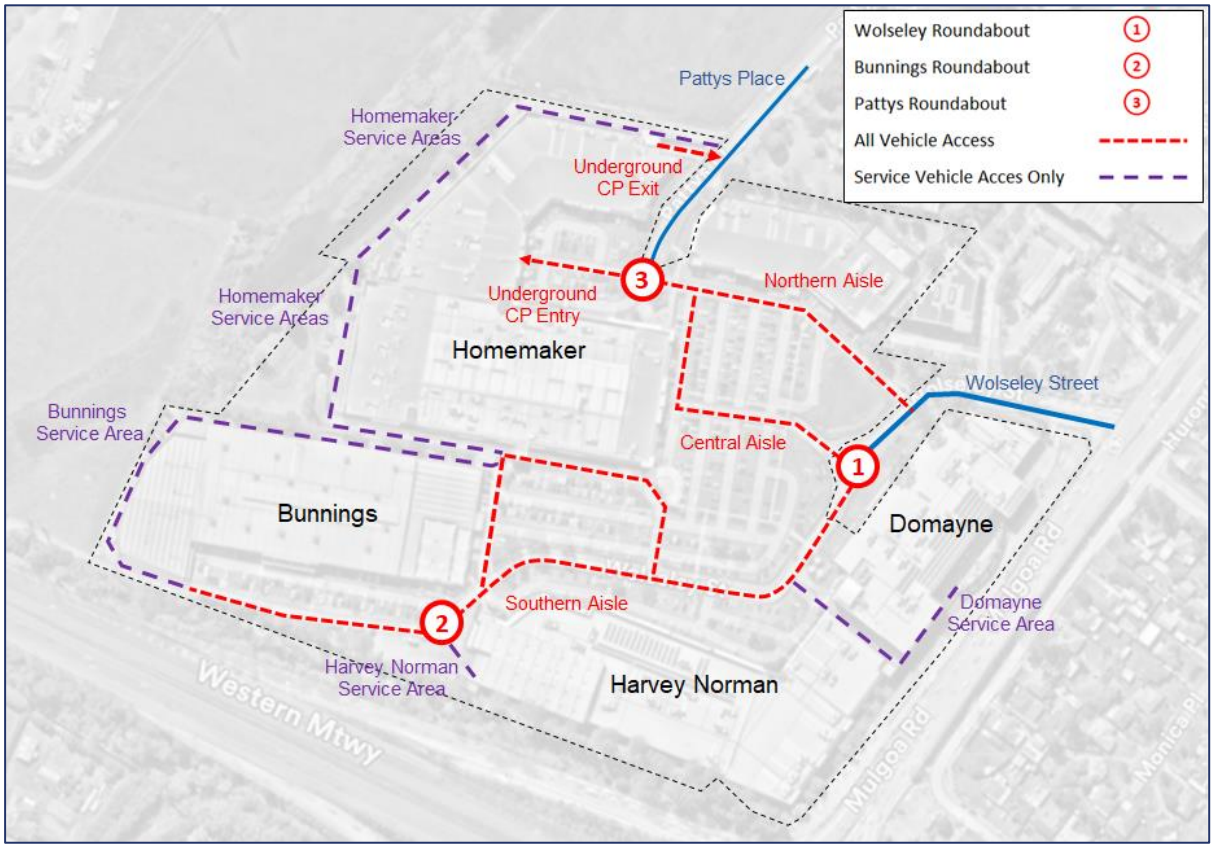
Access to the Site is available via the intersection of Mulgoa Road & Wolseley Street; and via Pattys Place (in turn primarily to/from the intersection of Pattys Place & Blaikie Road, and then Mulgoa Road & Blaikie Road). From Mulgoa Road, access is available to the north to Penrith and the Great Western Highway; and south to the M4 Motorway, Glenmore Park and Mulgoa.

More broadly, the Site is provided with excellent and immediate access to the sub-regional road network.

2.4.2 Internal Road Network

For ease of reference, arc traffic + transport has named key roads and parking/service aisles within the Site, as shown in **Figure 2** and described further in sections below.

Figure 2: Internal Road Network



Source: Nearmap

With reference to **Figure 2**, Wolseley Street – a [Council owned] local road – runs from Mulgoa Road to Wolseley Roundabout, which is located on land also owned by Council. As part of DA18/0339, Calardu agreed to purchase Wolseley Street between Mulgoa Road and Wolseley Roundabout from Council; it is our understanding that the details of this purchase are at this time being finalised.

Pattys Place is also a Council owned local road which extends south from Blaikie Road to a point immediately north of the internal [private] Site roundabout (the **Pattys Roundabout**).

Additional key internal road infrastructure includes:

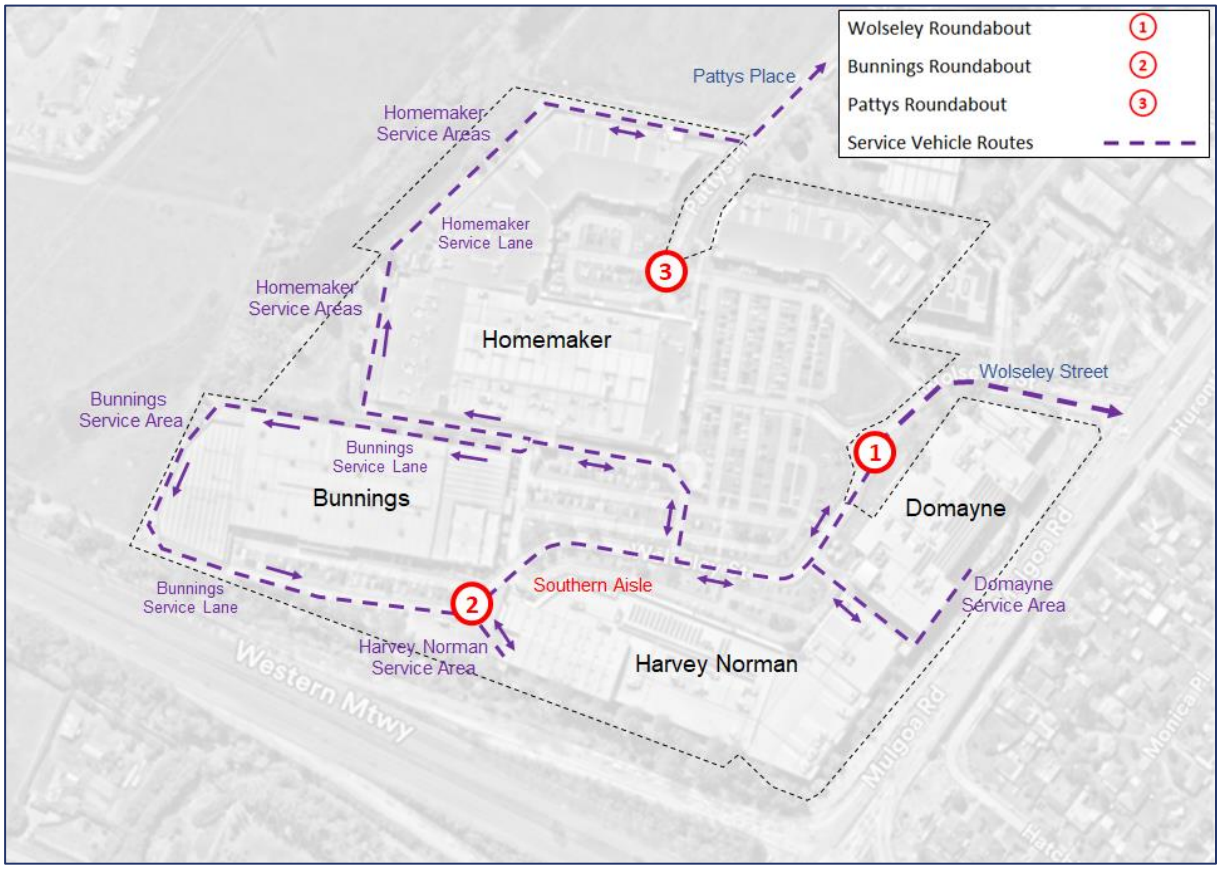
- The two-way **Northern Aisle** that provides access to parking in the northern part of the Site.
- The two-way **Central Aisle** that provides access to parking in the central part of the Site.
- The two-way **Southern Aisle** that provides access to parking in the central and southern parts of the Site, and parking adjacent to Bunnings.

2.4.3 Service Vehicle Access

Further to the above, service areas are provided across the Site which are accessed via the Southern Aisle (Domayne, Harvey Norman, Bunnings and Homemaker Service Areas) and via a dedicated service road off Pattys Place (Homemaker Service Areas). All sections of road providing access to/from the service areas are two-way other than the one-way service road around Bunnings.

Existing service areas and service vehicle paths through the Site are shown in **Figure 3**, with key service vehicle links also named by arc traffic + transport for ease of reference. It is noted that no service vehicle access is permitted via Central Aisle, Northern Aisle or through the car park south of Southern Aisle; and moreover that the Planning Proposal does not provide for any changes to service vehicle routes across the Site.

Figure 3: Existing Service Vehicle Access



Source: Nearmap

2.5 Traffic

2.5.1 Trip Generation

Trip generation rates for bulky goods sites are provided in Section 5 of the TfNSW Guide; in the weekday and Saturday peak periods, these rates are:

- 1.01 trips per 100m^2 GLFA in the weekday PM peak; and
- 2.24 trips per 100m^2 GLFA in the Saturday network peak.

Application of these trip rates to the existing Site GLFA indicates an existing trip generation of:

- 644 trips in the Thursday PM peak hour; and
- 1,427 trips in the Saturday network peak hour.

It is noted that the Site would generate only minor traffic volumes in the weekday AM peak given that most stores do not open until 9:00am. As importantly, it is noted that these revised TfNSW trips rates are lower than were previously adopted by arc traffic + transport in TIA 2017 and TA 2022 based on previous RMS trips rates.

2.5.2 Trip Distribution

With reference to surveys commissioned for the Arcadis Report, and the surveys commissioned by arc traffic + transport in the preparation of TIA 2017, the Site has the following trip distribution characteristics:

- Weekday PM Peak Hour
  - Approximately 82% of trips were generated to/from Mulgoa Road, of which approximately 39% were to/from the north, and 61% were to/from the south; and
  - Approximately 18% of trips were generated to/from Pattys Place, with the majority then using Blaikie Road to/from Mulgoa Road north of Blaike Road.
- Saturday Peak Hour
  - Approximately 82% of trips were generated to/from Mulgoa Road, of which approximately 42% were to/from the north, and 58% to/from the south; and
  - Approximately 18% of trips generated to/from Pattys Place, with the majority then using Blaikie Road to/from Mulgoa Road north of Blaike Road.

Further to the above, the broader distribution profile of the Site is:

- Weekday PM Peak Hour
  - Approximately 50% of trips to/from the north; and
  - Approximately 50% of trips to/from the south.
- Saturday Peak Hour
  - Approximately 52% of trips to/from the north; and
  - Approximately 48% of trips to/from the south.

Both survey data sets further indicate that in both the weekday PM peak hour and Saturday peak hour, approximately 50% of trips were arrival trips and 50% of trips were departure trips.

2.5.3 Traffic Conditions

As discussed, a more detailed assessment of existing and future traffic conditions is provided in the Arcadis Report commissioned by TfNSW. Details in this regard are provided in **Section 3.4**

2.6 Parking

2.6.1 Parking Capacity

The Site currently provides at total of 1,629 parking spaces; this equates to the provision of approximately 1 space per 40.3m^2 GFA, which is in excess of the parking requirements of DCP 2014 for bulky goods floorspace (1 per 50m^2 GFA).

The capacity of the key parking sub-precincts across the broader Site is summarised in **Table 2**.

Table 2: Existing Parking Spaces

Existing Parking (Sub-Precinct)	General	Accessible	Loading	Trailer	Parents with Prams	Staff	Motorcycle	Total Spaces
Domayne	64	3	2	0	0	0	0	**69**
Harvey Norman	126	6	0	0	0	22	0	**154**
Bunnings	156	6	10	7	0	0	0	**179**
Central	532	6	0	0	0	0	0	**534**
Homemaker	75	6	9	0	4	19	0	**113**
Northern	32	4	0	0	0	17	0	**53**
Basement	504	8	1	0	10	0	4	**527**
Total Parking	**1,489**	**39**	**22**	**7**	**14**	**0**	**4**	**1,629**

2.6.2 Parking Demand

Surveys of parking demand across the Site were undertaken as part of the preparation of TIA 2017 during weekday and Saturday peak periods. The results of the surveys are summarised in **Table 3**, noting that there is no information to indicate that parking demand would have changed significantly since these surveys were completed. Moreover, the parking surveys support a contention that trip generation rates for bulky goods sites are more aligned with those now adopted in the TfNSW Guide than those adopted in TIA 2017 and TA 2022 based on the former RMS Guide.

Table 3: Existing Parking Demand

Peak Day	Parking	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm
Thursday	Demand		532	533			
	Capacity		1629	1629			
	% Used		**33%**	**33%**			
Saturday	Demand	559	720	767	818	835	772
	Capacity	1,629	1,629	1,629	1,629	1,629	1,629
	% Used	**34%**	**44%**	**47%**	**50%**	**51%**	**47%**

With reference to **Table 3**, it is acknowledged that demand can be higher than standard demand during some parts of the year; however, the Site provides more than enough capacity to accommodate such peaks, and as discussed provides parking in excess of the DCP 2014 requirement.

2.7 Public & Active Transport

2.7.1 Public Transport

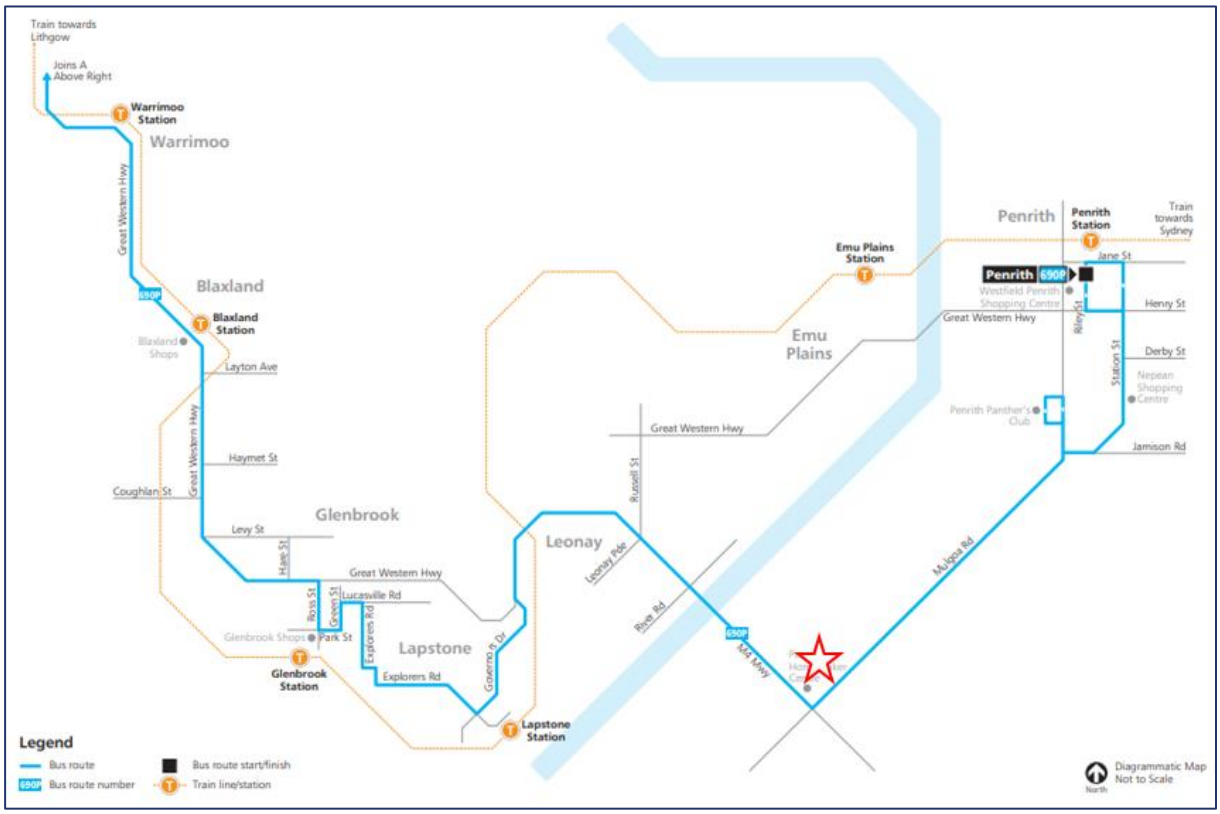
While the potential for public transport trip generation for visitors is relatively moderate given the type of goods available at the Site, there are excellent opportunities for staff (and visitors) to utilise bus services for access to the Site, services which will be significantly augmented further to the Mulgoa Road Upgrade.

Busways currently operate the following services in Mulgoa Road directly past the Site, with bus stops in Mulgoa Road south of Blaikie Road:

- Route 690P: Penrith to Springwood;
- Route 781: Penrith to St Marys via Glenmore Park;
- Route 795: Penrith to Warragamba
- Route 797: Penrith to Glenmore Park Loop Service; and
- Route 799: Penrith to Glenmore Park via Regentville.

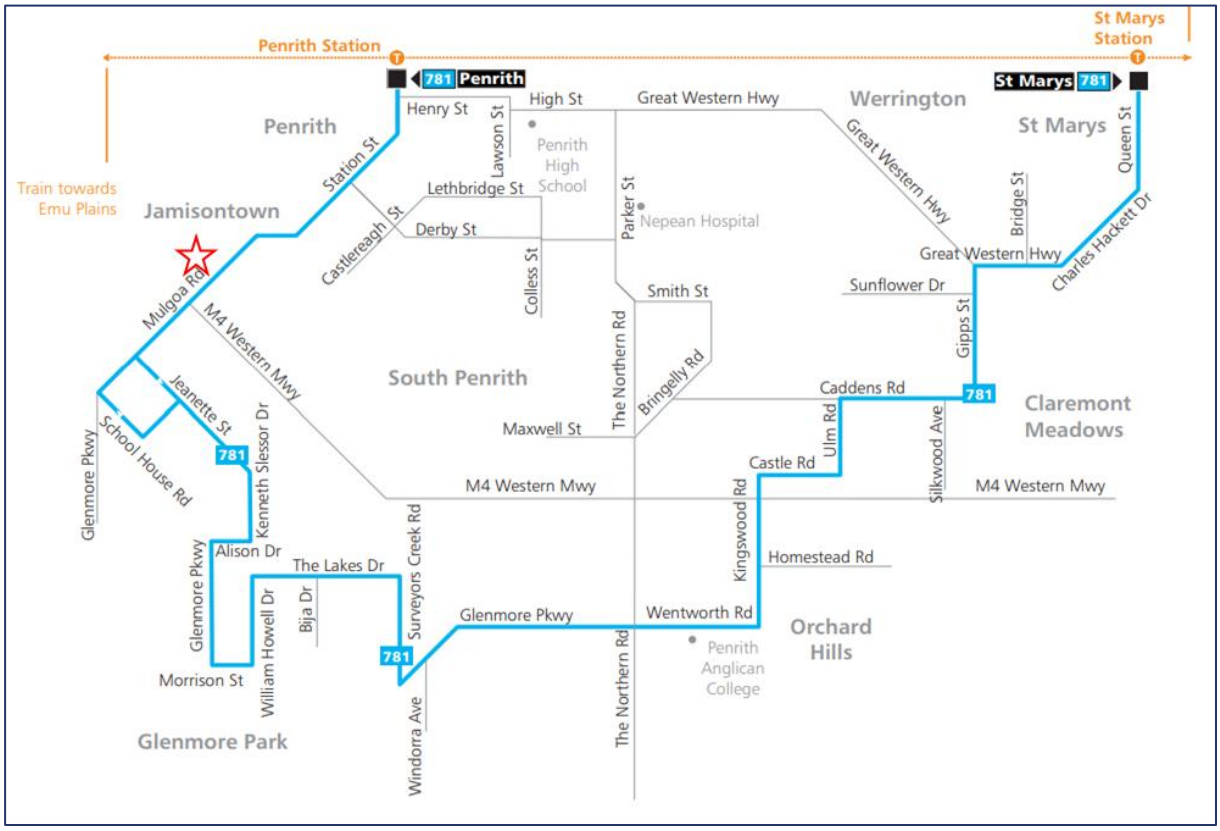
Each of these routes connect to the Penrith Town Centre and transport interchange at Penrith Station, providing excellent local, sub-regional and regional accessibility. These routes are shown in the figures below, noting that the Mulgoa Road Upgrade provides for new bus stops immediately north of Wolseley Street; bus priority at the new signalised intersection of Mulgoa Road & Wolseley Street; and a new signalised pedestrian crossing of Mulgoa Road linking the bus stops.

Figure 4: Bus Route 690P Springwood to Penrith



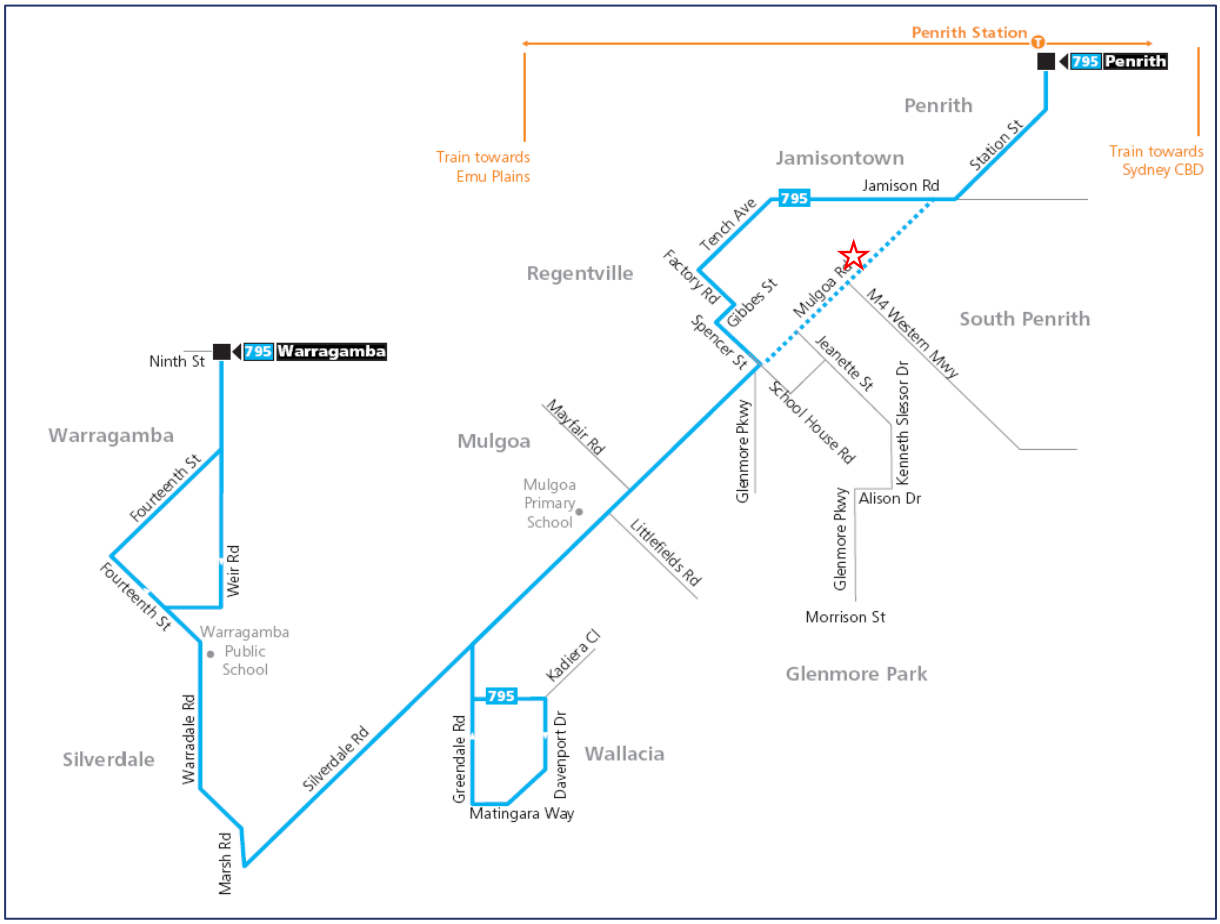
Source: TfNSW

Figure 5: Bus Route 781 Penrith to Glenmore Park



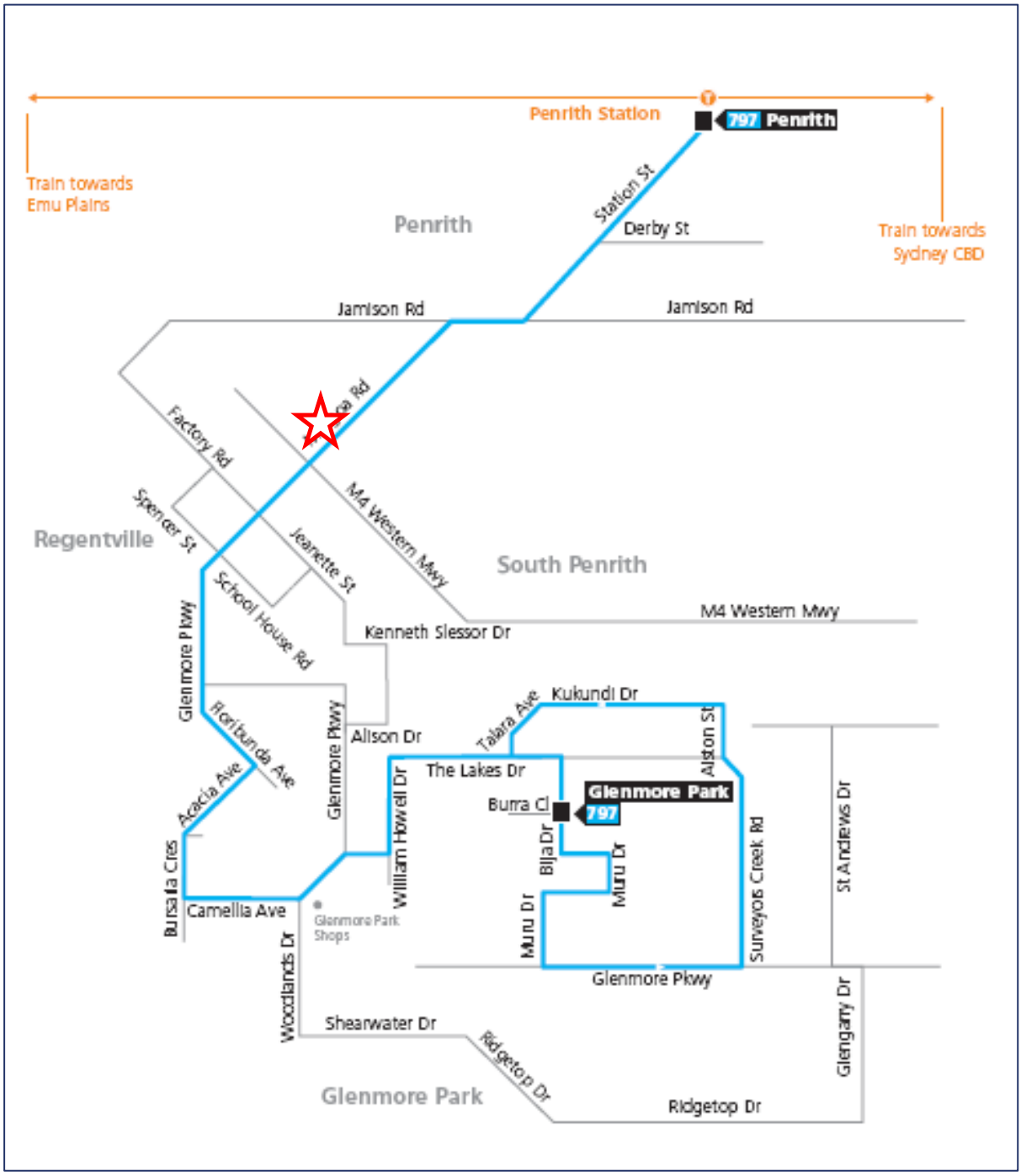
Source: TfNSW

Figure 6: Bus Route 795 Penrith to Warragamba



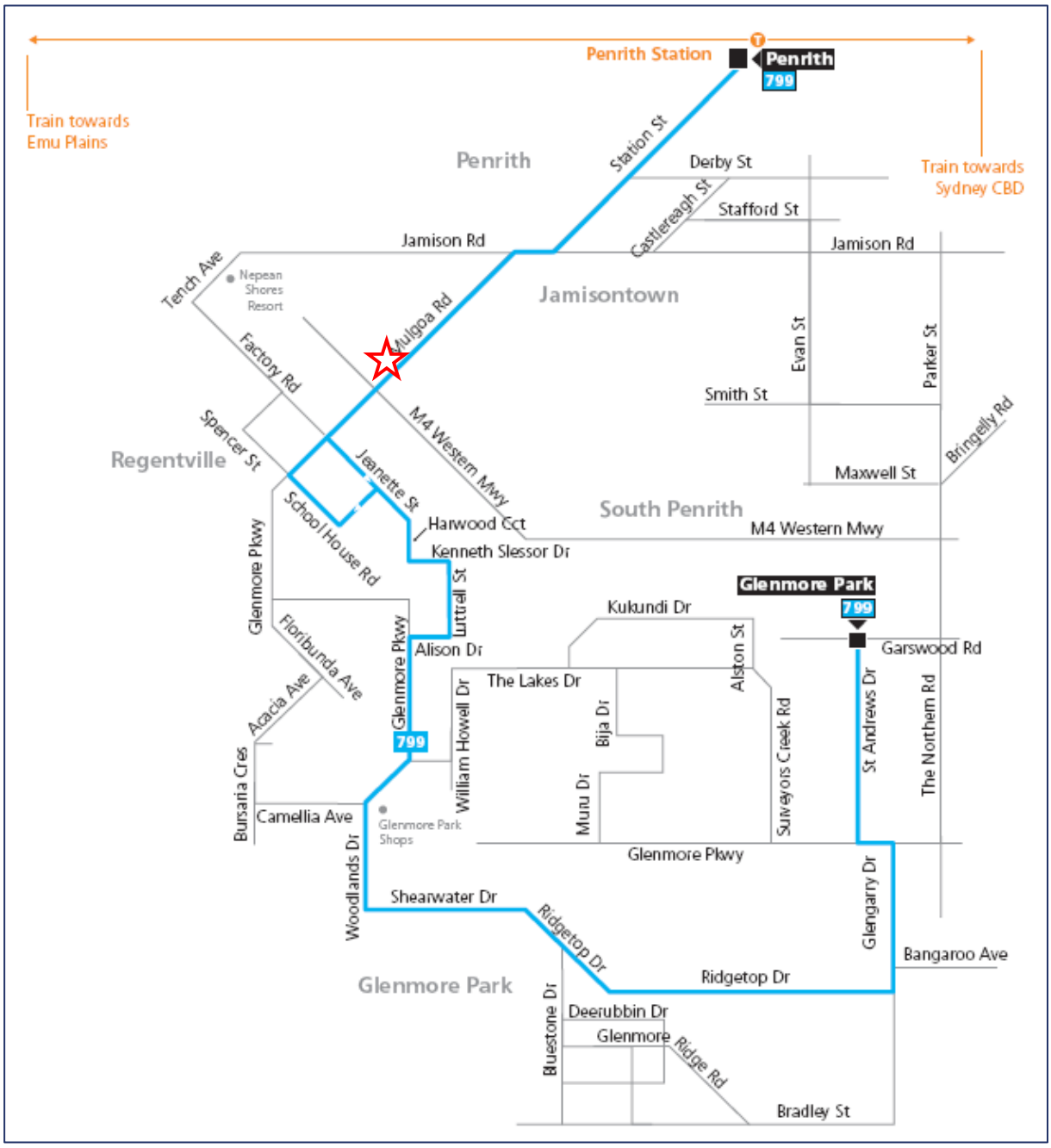
Source: TfNSW

Figure 7: Bus Route 797 Penrith to Warragamba



Source: TfNSW

Figure 8: Bus Route 799



Source: TfNSW

2.7.2 Active Transport

As with public transport, active transport (pedestrian and cycle) opportunities would generally be reserved for Site staff.

Off-site, pedestrian paths are provided along the western side Mulgoa Road, with a signalised crossing of Wolseley Street, and a pedestrian crossing of the Mulgoa Road left turn slip lane to Wolseley Street. A signalised crossing of Mulgoa Road on the northern approach to the Wolseley Street intersection is also provided.

These paths then link to an on-site pedestrian path along the southern side of Wolseley Street, which in turn links to on-site paths through the Domayne sub-precinct and then to connections across the Site, including numerous north-south and east-west marked footpaths and pedestrian crossings of key internal access roads.

An off-road shared path extends from the north along the eastern side of Mulga Road, terminating just north of Wolseley Street (then connecting to a short footpath to the signalised crossing of the Mulgoa Road northern approach). It is noted that the Mulgoa Road Upgrade will provide new shared paths for the length of Mulgoa Road, which would meet the recommendations of Council's Penrith Accessible Trails Hierarchy Study (**PATHS**), which aims to provide shared or dedicated cycle paths on all key roads throughout Penrith.

Pedestrian paths are also provided into the Site along the eastern side of Pattys Place, though pedestrian demand in Pattys Place would be relatively minor.

3 The DA18/0339 Approval

3.1 Overview

As discussed, DA18/0339 was approved in August 2019; the DA18/0339 Approval provides for the addition of 2,560m^2 of GFA, but an additional 2,760m^2 of GLFA, primarily further to alterations and additions to the existing Domayne building. The DA18/0339 Approval also provides for an additional 68 parking spaces (primarily in proximity to the Domayne building), with a resulting total parking supply of some 1,697 parking spaces.

In addition, the DA18/0339 Approval provides for:

- The relocation of Wolseley Roundabout (and by association its immediate approaches) to a point generally north-west of its existing location. This relocation would provide for additional and relocated parking to the east of Wolseley Roundabout (i.e. within the Domayne sub-precinct) to be accessed via a new eastern approach (termed the **Eastern Aisle** for ease of reference) to Wolseley Roundabout;
- Further to the above, the realignment of Southern Aisle south and then west of Wolseley Roundabout through to the Bunnings Roundabout;
- Broader revisions to existing car parking area further to the new alignment of Southern Aisle; and
- Additional on-site upgrades and management proposals designed to provide enhanced access to, and safety of, all parking and service areas.

The DA18/0339 Approved Site Plan is shown in **Figure 9**.

Figure 9: DA18/0339 Approval Site Plan

Source: Leffler Simes

3.2 Vehicle Access

3.2.1 External Road Network Access

Access to the external road network would be essentially unchanged by the DA18/0339 works, with access retained via the intersection of Mulgoa Road & Wolseley Street, and via Pattys Place. Importantly, the intersection of Mulgoa Road & Wolseley Street will be upgraded as part of the Mulgoa Road Upgrade to provide a signalised at-grade intersection; this intersection (and the broader traffic implications of the Mulgoa Road Upgrade) are examined further in **Section 3.4**.

3.2.2 Internal Road Network Access

As discussed, the DA18/0339 Approval provides for the relocation of Wolseley Roundabout and for the realignment of Southern Aisle. Further to the relocation of Wolseley Roundabout, the realignment of Wolseley Street north of Wolseley Roundabout would be very minor (limited to the immediate approach to the Wolseley Roundabout) while the realignment of Southern Aisle to the south and south-west of Wolseley Roundabout will be more significant, providing a more direct path through to the Harvey Norman and Bunnings sub-precincts.

Additional changes provided for in the DA18/0339 Approval include:

- Removal of Wolseley Street Access Points

  The DA18/0339 Approval provides for the removal of the existing Domayne sub-precinct undercroft car park access point from Wolseley Street immediately north of Wolseley Roundabout.

  The DA18/0339 Approval also provides for the removal of the Wolseley Street & Northern Aisle intersection, which will result in a redistribution of departure trips currently using Northern Aisle to instead travel via Central Aisle and Wolseley Roundabout; this redistribution is discussed further in **Section 3.5.4**.

- Wolseley Roundabout

  As discussed, the DA18/0339 Approval provides for the relocation of Wolseley Roundabout generally to the north-west of the existing roundabout location; and for the new Eastern Aisle approach to Wolseley Roundabout servicing the expanded car park within the Domayne sub-precinct.

  Further to the relocation of Wolseley Roundabout, revisions to the designation of approach lanes have been approved; these are discussed further in **Section 3.5**.

3.2.3 Service Vehicle Access

Service vehicle routes across the Site are essentially unchanged (from existing) under the DA18/0339 Approval other than being more efficient based on the realignment of some internal roads, and particularly the Southern Aisle providing access for the Harvey Norman, Bunnings and Homemaker Service Areas.

3.2.4 Trip Generation

With reference to trip rates provided in the [then] RMS Guide, TIA 2017 estimated that the additional 2,560m^2 GFA provided for by the DA18/0339 Approval would generate an additional 54vph in the weekday PM peak hour, and an additional 84vph in the Saturday peak hour.

3.2.5 External Trip Distribution

External trips were assumed to accord with the existing trip distribution of the Site to/from Mulgoa Road and Pattys Place as detailed in **Section 2.5.2**.

3.3 Mulgoa Road Upgrade

Further to many years of detailed planning, TfNSW commenced the Mulgoa Road Upgrade works between Blaikie Road and Jeanette Street in early 2023, with work anticipated to be completed in 2026.

However, most of the works in the immediate vicinity of the Site have now been completed, including the upgrade of the Mulgoa Road & Wolseley Street intersection. Additional works will include the widening of Mulgoa Road to provide an additional lane in each direction, as well as significant public and active transport improvements including bus shelters, shared paths and signalised crossings.

A plan of the Mulgoa Road Upgrade works in the vicinity of the Site is provided in **Figure 10**.

Figure 10: Mulga Road Upgrade Wolseley Street and Blaikie Street Intersections

Source: TfNSW

3.4 Future External Intersection Operations

3.4.1 Arcadis Report

During the preparation of TIA 2017, arc traffic + transport identified the need for TfNSW and Calardu to work together to ensure that the Mulgoa Road Upgrade would not rule out (from a traffic and transport perspective) the proposed works in DA18/0339, nor would the proposed works impact the [then] design of the Mulgoa Road Upgrade.

As such, TfNSW commissioned Arcadis to undertake an assessment of future conditions further to the Mulgoa Road Upgrade that specifically considered the operation of the Site; and then sensitivity testing of the DA18/0339 proposed works under both weekday PM and Saturday peak conditions.

Appendix A of the Arcadis Report provides detailed traffic flow diagrams for the key intersections providing access to the Site for a future year 2036 further to the implementation of the Mulgoa Road Upgrade. With reference to these traffic flow diagrams – and as agreed with Council - it is clear that the Arcadis Report assignment of Site trips was in excess of the estimated trip generation of the Site further to DA18/0339 (per **Section 3.2.4** above), and indeed significantly higher than the trip generation of the Site when assessed using the RMS Guide trip rates.

In this regard, the maximum trip generation of the Site further to the DA18/0339 Approval was estimated in TIA 2017 at some 1,452vph and 2,214vph in the weekday PM and Saturday peaks respectively based on trip rates provided in the RMS Guide.

However, the Arcadis Report assigns some 1,519vph and 2,408vph in the weekday PM and Saturday peaks respectively, i.e. higher trip totals have been assigned to the forecast year in the Arcadis Report than were estimated to be generated by the Site further to DA18/0339.

As such, it can only be concluded that the Sites' trip generation assigned in the Arcadis Report appropriately accounted for the future trip generation of the Site further to DA18/0339, which was also inherently the opinion of Council given the subsequent DA18/0339 Approval.

3.4.2 Mulgoa Road & Wolseley Street Intersection

The Arcadis Report analysis of the Mulgoa Road & Wolseley Street intersection includes:

- The Mulgoa Road Upgrade proposed infrastructure;
- The Arcadis Report forecast Site trip generation (as detailed in **Section 3.4**); and
- The forecast background traffic increases along the Mulgoa Road corridor to 2036.

The future operational characteristics of the intersection reported in the Arcadis Report are summarised in **Table 4**.

Table 4: Mulgoa Road & Wolseley Street Intersection Operations 2036

Peak Hour	Level of Service	Average Delay	Wolseley Street Queue
Weekday PM Peak	B	18 seconds	63m
Saturday Peak	B	23 seconds	87m

Source: Arcadis Report

With reference to **Table 4**, the Arcadis Report concludes that the intersection of Mulgoa Road & Wolseley Street would operate at an appropriate Level of Service even further to the DA18/0339 works through 2036, and that there would be no queuing constraints such as would impact the operation of the Wolseley Roundabout.

3.4.3 Mulgoa Road & Blaikie Road Intersection

The Arcadis Report analysis of the Mulgoa Road & Blaikie Road intersection includes:

- The Mulgoa Road Upgrade proposed infrastructure;
- The Arcadis Report forecast of Site trip generation (as detailed in **Section 3.4**); and
- The forecast increases in background traffic along the Mulgoa Road corridor to 2036.

The future operational characteristics of the intersection then reported in Arcadis Report are summarised in **Figure 5**.

Table 5: Mulgoa Road & Blaikie Road Intersection Operations 2036

Peak Hour	Level of Service	Average Delay	Blaikie Road (E) Queue
Thursday PM Peak	B	20 seconds	18m
Saturday PM Peak	C	30 seconds	31m

Source: Arcadis Report

With reference to **Figure 5**, the Arcadis Report concludes that the intersection of Mulgoa Road & Blaikie Road would operate at an appropriate Level of Service even further to the DA18/0339 works through 2036.

3.4.4 Future External Intersection Operations Summary

With reference to sections above, the detailed traffic analysis provided in the Arcadis Report conclusively shows that the traffic generated further to the DA18/0339 works could be appropriately accommodated by the local road network further to the Mulgoa Road Upgrade.

This conclusions was inherently agreed by Council (and TfNSW) given the subsequent DA18/0339 Approval.

3.5 Internal Trips

3.5.1 Closure of Wolseley Street & Northern Aisle Intersection

The closure of the Wolseley Street & Northern Aisle intersection will result in trips currently turning left from Wolseley Street to Northern Aisle and – more significantly – trips currently turning left from Northern Aisle to Wolseley Street, instead being generated to Central Aisle and Wolseley Roundabout.

3.5.2 Closure of Wolseley Street Access Point to Domayne Car Park

The closure of the existing Domayne sub-precinct undercroft car park access point to Wolseley Street north of Wolseley Roundabout will result in these trips (and additional trips further to the additional parking provided off Eastern Aisle) being generated to the Eastern Aisle approach to Wolseley Roundabout.

3.5.3 New and Relocated Parking Areas

The provision of additional parking off Eastern Aisle will result in a proportional increase in trips to/from Eastern Aisle, with a commensurate reduction in trips to/from Central Aisle and Southern Aisle.

At the same time, further to the realignment of Southern Aisle, a higher proportion of total Site parking will be provided south of Southern Aisle; this would again reduce trips to/from Central Aisle, but increase trips to/from Southern Aisle.

Further to these considerations, and with reference to the broader car park revisions and the traffic surveys of existing trip distribution within the Site, it is estimated that further to the DA18/0339 Approval, internal trips will in turn have the following distribution characteristics at Wolseley Roundabout:

- Thursday PM Peak Hour
  - Approximately 55% of Centre trips will be to/from Central Aisle;
  - Approximately 35% of trips will be to/from Southern Aisle; and
  - Approximately 10% of trips will be to/from Eastern Aisle.
- Saturday PM Peak Hour
  - Approximately 50% of Centre trips will be to/from Central Aisle;
  - Approximately 40% of trips will be to/from Southern Aisle; and
  - Approximately 10% of trips will be to/from Eastern Aisle.

It is noted that the higher assignment of trips to Southern Aisle on a Saturday is consistent with the surveyed flows, which reflect the higher generation of Bunnings on a Saturday.

3.5.4 Wolseley Roundabout

While the Arcadis Report provides an assessment of the operation of Wolseley Roundabout, it does not provide details of the assigned distribution of trips to Wolseley Roundabout, nor how trips have been assigned to the new Eastern Aisle.

Further to a review of the Arcadis Report, arrivals and departures to the interface intersections at Mulgoa Road and Blaikie Road are generally balanced in both the weekday PM and Saturday peaks, i.e. 50% of trips are arrival trips and 50% of trips are departure trips. However, the arrival and departure distribution to each of the Wolseley Roundabout approaches provided in the Arcadis Report indicates relatively significant differences in arrival and departure distribution for each approach.

As previously stated, the assumptions made in preparing this arrival and departure distribution profile are not detailed in the Arcadis Report, but it is our opinion that the arrival and departure profile of each of the Wolseley Roundabout approaches would be more balanced (between arrivals and departures) in line with the surveyed arrival and departure distribution of the existing Central Aisle and Wolseley Aisle approaches.

Notwithstanding, the future operation of Wolseley Roundabout as reported in the Arcadis Report is summarised in **Table 6**.

Table 6: Wolseley Roundabout Operations 2036

Peak Hour	Level of Service	Average Delay	Southern Aisle Queue
Thursday PM Peak	A	13 seconds	13m
Saturday PM Peak	D	47 seconds	90m

Source: Arcadis Report

The Arcadis Report then provides the following summary of the future operation of Wolseley Roundabout:

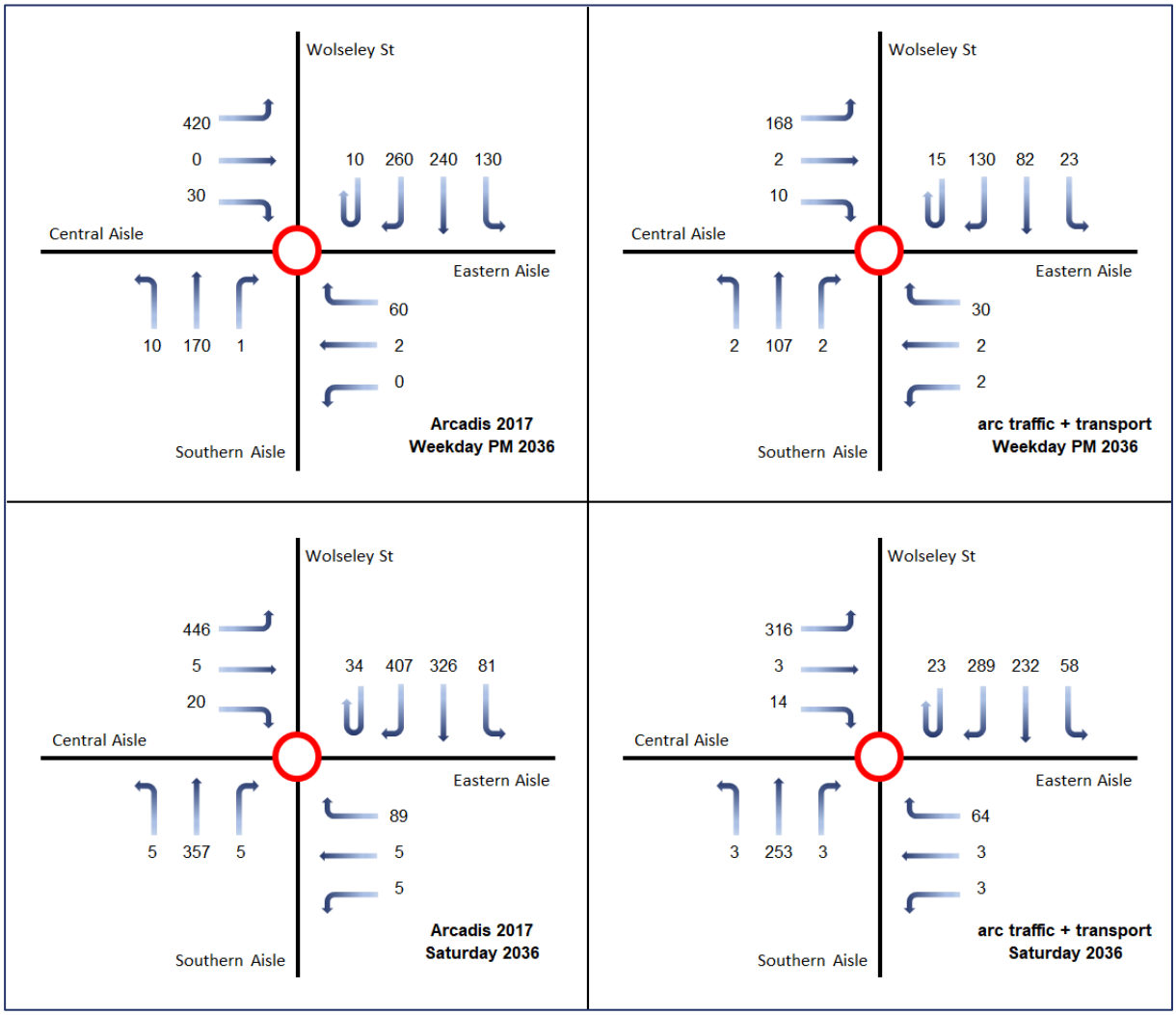
> *The traffic modelling undertaken in 2036 for Wolseley Street / Homemaker Centre Carpark roundabout indicated that proposed upgrades would provide level of service A (13 seconds delay) for Thursday traffic condition. Model predicted level of service D (47 seconds delay) for Saturday traffic condition*.

With reference to **Table 6**, the Arcadis Report identifies the Level of Service at the roundabout based on the worst approach delay; SIDRA determines the Level of Service of roundabouts based on the average delay to all approaches, which – with reference to the SIDRA analysis provided in the Arcadis Report - indicates that the roundabout would actually operate at Level of Service A in both peak periods.

Notwithstanding that Arcadis Report confirms that Wolseley Roundabout will operate at an appropriate Level of Service, additional SIDRA analysis has been undertaken by arc traffic + transport to better reflect the redistribution of trips at the Wolseley Roundabout as discussed in **Section 3.5**; and the arrival and departure profile of each of the Wolseley Roundabout approaches.

It is noted that reference to the new TfNSW Guide trip rates for bulky goods retail indicate that the trip generation of the Site – and moreover peak period trips at the Wolseley Roundabout – will be much lower than assessed in both the Arcadis Report and TA 2022. Notwithstanding, and specifically noting the advice provided by Council in June 2024, **Figure 11** provides a summary of the revised traffic volumes at Wolseley Roundabout compared with those provided in Arcadis Report without any consideration of the lower TfNSW trip rates.

Figure 11: Wolseley Roundabout Revised Traffic Volumes



As discussed in **Table 1** in regard to the advice provided by Council in June 2024, the reassignment of trips at the Wolseley roundabout results in their being fewer trips at the roundabout than identified in the Arcadis Report in the weekday PM peak, but more trips than identified in the Arcadis Report in the Saturday peak. Again, this simply reflects the broader redistribution of parking across the Site and the closure of some internal access aisles.

As also discussed in **Table 1** in regard to the advice provided by Council in June 2024, the design of the Wolseley Roundabout has been revised since the analysis provided in TIA 2017 and TA 2022. arc traffic + transport was not aware of these design revisions, but regardless we have undertaken new SIDRA analysis based on the revised design as advised by Council.

Further to consideration of the issues outlined above, SIDRA analysis of the operation of Wolseley Roundabout in 2036 indicates that it will continue to operate at a Level of Service A, with significantly reduced queue lengths from those reported in the Arcadis Report. SIDRA Movement Summary reports are provided in **Appendix B**.

3.6 Road Network Operations Summary

With reference to sections above, it is the conclusion of arc traffic + transport – and moreover the conclusion of the Arcadis Report - that the key intersections providing access to and within the Site will continue to operate at appropriate levels of service further to the works provided for under the DA18/0339 Approval through 2036.

Critically of course, this was also inherently the conclusion of Council given that DA18/0039 was subsequently approved with no additional Conditions of Consent or the like requiring any additional road network infrastructure.

With reference to the assessment of traffic associated with the Planning Proposal provided in **Section 4.3**, the new advice provided by TfNSW in the TfNSW Guide in regard to trip rates for bulky goods developments indicates that they are lower than the rates previously adopted for the traffic analysis provided in TIA 2017, TA 2022 and the Arcadis Report. As such, it is anticipated that all key intersections will actually operate with lower average vehicle delays, and additional capacity, even further to the floorspace increased provided for in the Planning Proposal.

3.7 Parking

As discussed, the DA18/0339 Approval provides for additional parking spaces across the Site, bringing the total number of parking spaces to 1,697 spaces. This represents the provision of 1 space per 41m^2 GFA, i.e. more parking than required per DCP 2014.

4 The Planning Proposal

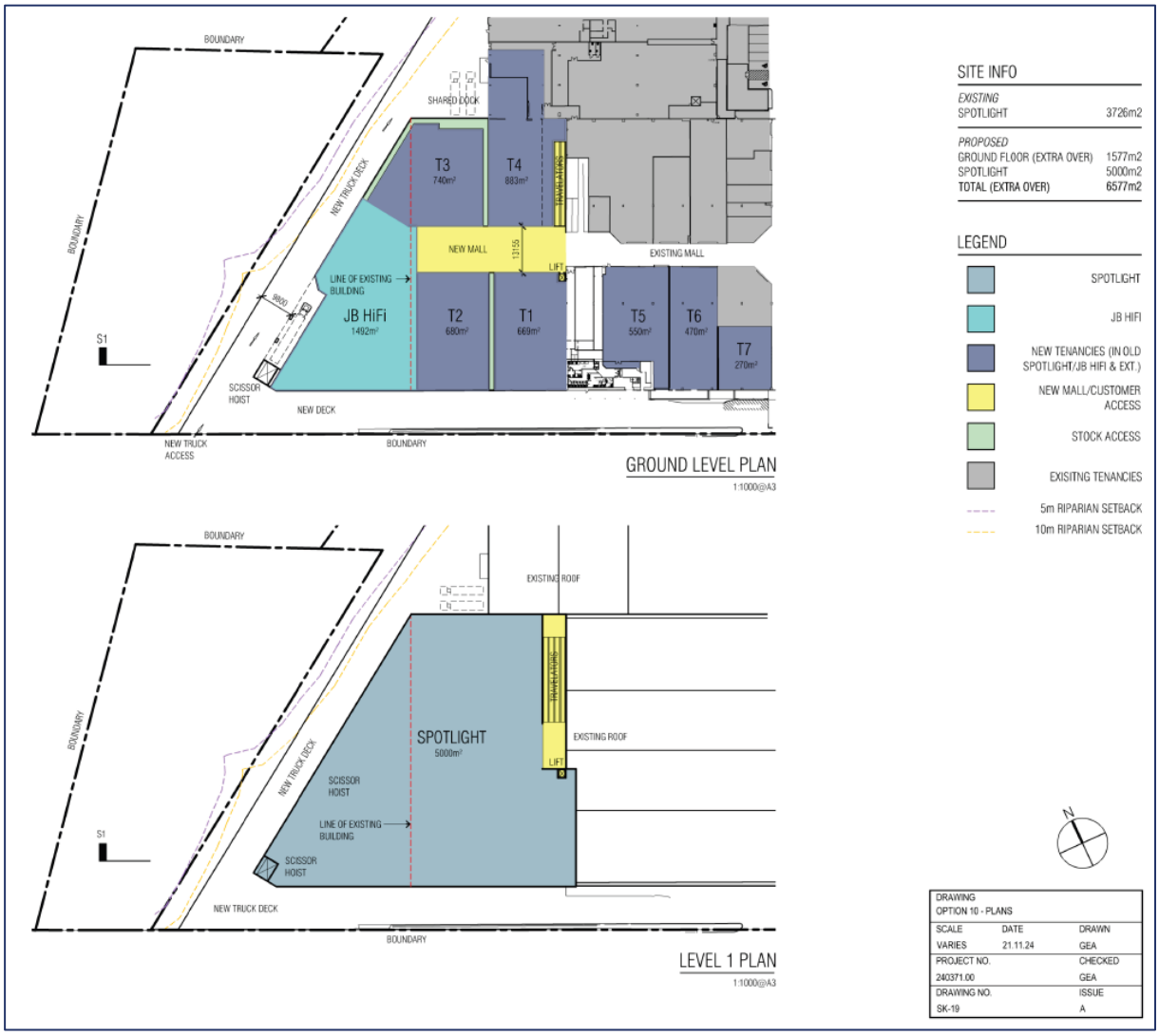
4.1 Overview

As discussed in the **Introduction**, the Proposal provides for:

- Increasing the height of building controls on part of the Site from 12.0m to 15.0m;
- In turn, an additional 6,577m^2 of gross floor area (**GFA**), equating to 5,776m^2 of gross leasable floor area (**GLFA**) to be provided as an extension to the existing Homemaker building in the western part of the Site; and
- The loss of approximately 20 parking spaces.

Full details of Proposal are provided in the broader Planning Proposal submission that this TA accompanies, while a Concept Plan for the proposed works is provided in **Figure 12**.

Figure 12: Planning Proposal Concept Plan



Source: architectus

4.2 Access

4.2.1 General Vehicle Access

General vehicle access to all car parks is unchanged under the Planning Proposal from that provided for under the DA18/0339 Approval.

4.2.2 Service Vehicle Access

Similarly, service vehicle routes to all existing service areas will be unchanged; the only difference will be the provision of an extension to the southern portion of Homemaker Service Lane to provide access to the new loading dock while maintaining safe and efficient movements in the vicinity of the new loading dock for existing service vehicle movements. Service vehicles using this new loading dock will travel along the same paths as currently used by service vehicles accessing other Homemaker building loading docks in this part of the Site.

Preliminary swept paths of movements in this section of Homemaker Service Lane have been prepared by Leffler Simes and Genesis Traffic examining different loading dock locations, again to ensure that wherever the final loading dock location is, appropriate access (per AS 2890.2) will be available. These preliminary swept path are provided in **Appendix C**, and final swept paths will necessarily be provided in the future Development Application further to a final determination of the location of the new loading dock.

4.3 Traffic

4.3.1 Trip Generation

The trip generation of the additional floorspace has been calculated with reference to the TfNSW Guide trip generation rates detailed in **Section 2.5.1**; application of these rates to the additional 5,776m^2 GLFA indicates that the Proposal will generate and additional:

- 59vph in the weekday PM peak; and
- 140vph in the Saturday peak.

4.3.2 Trip Distribution

There is no information to indicate that the trip distribution characteristics of these additional trips would be different to the existing distribution characteristics of Site trips.

4.3.3 Traffic Impacts

As discussed in **Section 3.4**, the Arcadis Report assigned a higher number of trips to the Site than would have been generated by existing Site trips plus the additional trips provided for in DA18/0339.

More importantly in the context of the Planning Proposal, the total number of Site trips assigned in the Arcadis Report is higher than will be generated by the Site further to the DA18/0339 Approval **and** the trips which will be generated by the Planning Proposal, as summarised in **Table 7**.

Table 7: Forecast Trips

Peak Hour	Total Trips				
	DA18/0339	Proposal	Total	Arcadis Report	Difference
Weekday PM Peak	644	58	702	1,519	**-817**
Saturday Peak	1,427	140	1,567	2,408	**-841**

Source: arc traffic + transport, TfNSW Guide and Arcadis Report

With reference to **Table 7**, the total trip generation of the Site further to the Planning Proposal will be significantly lower than the trips assigned in the Arcadis Report, which again was instrumental to Councils approval of DA2018/0339 with respect to potential traffic impacts.

In summary therefore, the Planning Proposal will not result in any significant traffic impacts, and moreover all information indicates that the key intersections providing access for the Site will operate with lower average vehicle delays and queue lengths, and retain more spare capacity than identified in the Arcadis Report, further to consideration of the new TfNSW Guide trip rates for bulky goods floorspace.

As such, arc traffic + transport can fully support the Planning Proposal further to traffic considerations.

4.4 Parking

4.4.1 Parking Requirement

The parking required to accommodate the additional floorspace can again be calculated with reference to DCP 2014, which requires 1 space per 50m^2 GFA; application of this rate to the GFA proposed in the Proposal indicates a requirement for 132 additional parking spaces.

The total Site parking requirement per DCP 2014 – including existing, DA18/0339 and the Planning Proposal parking requirements - would therefore increase to a total of 1,514 parking spaces.

4.4.2 Parking Provision

While the Proposal will result in the loss of approximately 20 parking spaces (so as to provide appropriate service vehicle access infrastructure for the new floorspace) the total parking that will be available across the Site – some 1,677 spaces – will remain in excess of the requirements of DCP 2014, representing the provision of approximately 1 space per 42m^2 GFA, and as such full compliance with the DCP 2014 parking requirements.

4.5 Active Transport

With reference to the Pre-Lodgement Advice, additional consideration has been given the provision of appropriate active transport infrastructure across the Site.

As discussed in **Section 2.7.2**, external active transport demands would generally be limited to staff, but the high quality of new active transport infrastructure provided by the Mulgoa Road Upgrade, linking to the excellent bus services available in Mulgoa Road, further increases the potential for both staff and visitor trips by means other than private vehicle.

With regard to pedestrian infrastructure, footpaths are provided across the Site links to each of the sub-precincts, and formal pedestrian crossings and/or refuges are located along key pedestrian desire lines.

With regard to bicycle parking, it is proposed that bike racks be provided in close proximity to the primary [pedestrian] access points to the key sub-precincts, including entry points to the Domayne, Homemaker and Bunnings buildings; and on the paths adjacent to Northern Aisle and Southern Aisle.

It is also anticipated that secure bicycle parking area will be provided for staff, most likely in the basement car park under the Homemaker building. These secure parking areas, and the provision of end of journey facilities (lockers and showers) will be further examined as part of the future Development Application.

5 Conclusions

Further to the assessment of the Planning Proposal, arc traffic + transport has determined the following:

- The Site is provided with immediate and excellent access to the local and sub-regional road network.
- The Mulgoa Road Upgrade has specifically considered the access requirements of the Site, and will provide new lane and intersection infrastructure that appropriately accommodates Site traffic – including the additional traffic generated by the DA18/0339 approval – through 2036.
- The internal road infrastructure, including Wolseley Roundabout, Pattys Roundabout and key internal access aisles, have been designed to appropriately accommodate Site traffic – including the additional traffic generated by the DA18/0339 approval – through 2036.
- The Planning Proposal does not provide for any changes to the existing, approved, service vehicle routes across the Site, nor the relocation of any existing service areas. The only change will be the extension of the southern portion of Homemaker Service Lane to provide a new loading dock; service vehicle routes to the new loading dock will be identical to the service vehicle routes to other Homemaker loading docks, and preliminary swept paths indicate that 20m articulated vehicles can be accommodated by the new loading dock without impact existing service vehicle movements.
- The additional GLFA provided under the Planning Proposal would generate only a moderate amount of additional traffic in the Thursday PM and Saturday PM peak hours. Importantly though, new TfNSW guidance in the TfNSW Guide supports a contention that the trip generation of the Site will be much lower than previously assessed reference RMS trip rates, such that the total future trip generation of the Site further to the Planning Proposal will be much less than assessed in the Arcadis Report, which was instrumental to the approval of DA18/0339.

  Given that the Arcadis Report concludes that the road network would operate well through 2036 based on these much higher volumes, it can only be concluded that the Planning Proposal would have no impact on the operation of the road network.
- While a small number of parking spaces will be removed to provide additional infrastructure to support the Planning Proposal, the Site will retain well in excess of the total parking required with reference to DCP 2014, being approximately 1 space per 42m^2 GFA compared to the DCP 2014 requirement for 1 space per 50m^2.
- The Site is provided with excellent access to public transport services in Mulgoa Road, and internal pedestrian paths provide safe and direct access between Mulgoa Road and all sub-precincts.
- New bicycle parking areas for both staff and visitors will be provided, and end of journey facilities for staff will be investigated as part of the future Development Application.

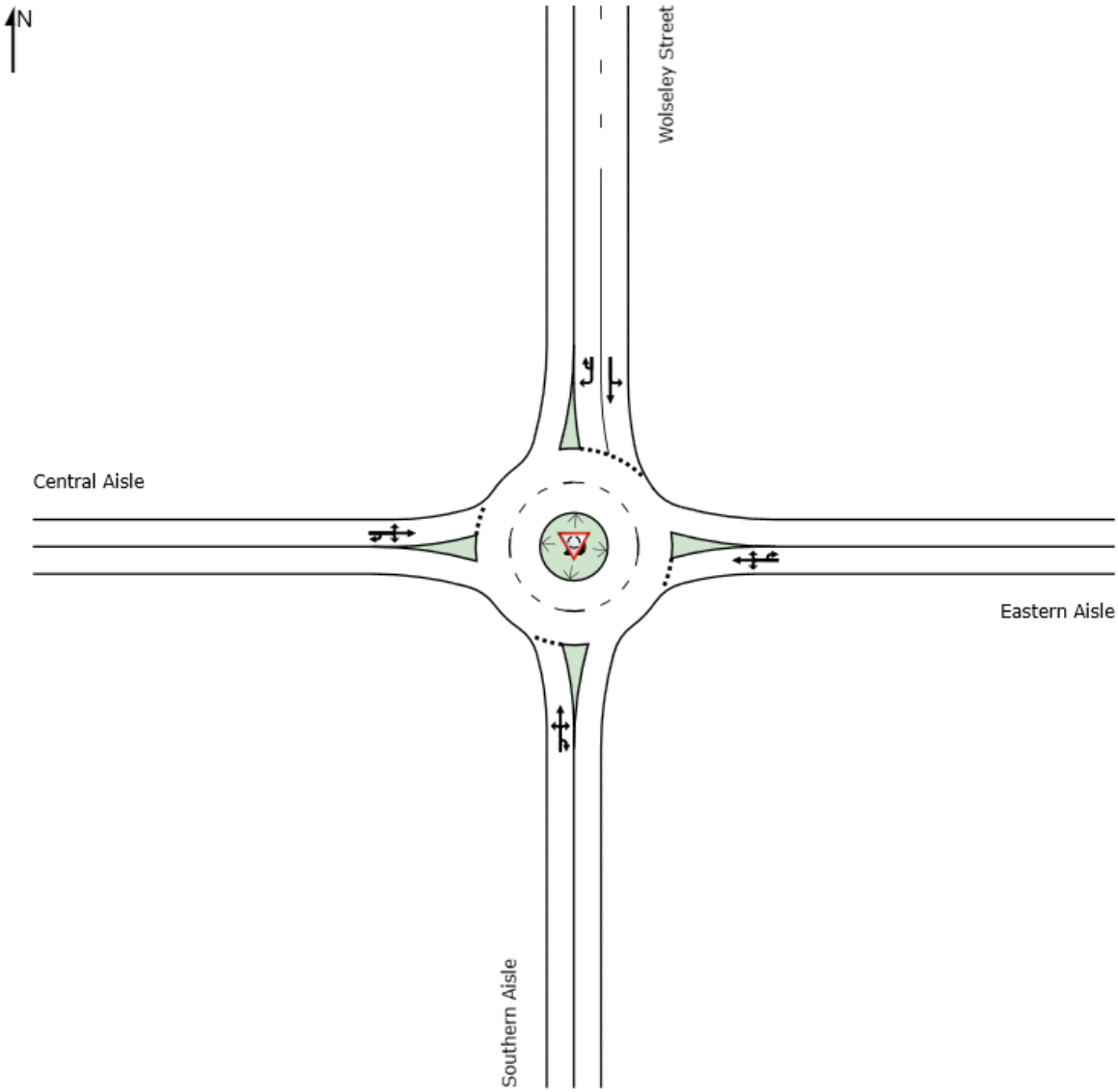
In summary, arc traffic + transport has determined that the Planning Proposal is entirely supportable further to access, traffic and parking considerations.

Appendix A: Arcadis Report prepared by Arcadis for TfNSW

Attached as a separate document.

Appendix B: Wolseley Roundabout SIDRA Movement Summary Reports

Wolseley Roundabout Stamped Plans Design



Wolseley Roundabout Thursday 2036 Arcadis Report Volumes Redistributed

MOVEMENT SUMMARY

Site: [Wolseley Roundabout Revised Volumes Weekday PM 2025 (Site Folder: General)]

Stamped Plan Design
Site Category: Proposed Design 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	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: Southern Aisle														
1	L2	2	1.0	2	1.0	0.117	2.1	LOS A	0.5	3.4	0.31	0.25	0.31	29.8
2	T1	107	1.0	113	1.0	0.117	1.3	LOS A	0.5	3.4	0.31	0.25	0.31	30.2
3	R2	2	1.0	2	1.0	0.117	4.4	LOS A	0.5	3.4	0.31	0.25	0.31	30.4
3u	U	1	1.0	1	1.0	0.117	5.4	LOS A	0.5	3.4	0.31	0.25	0.31	30.8
Approach		112	1.0	118	1.0	0.117	1.4	LOS A	0.5	3.4	0.31	0.25	0.31	30.2
East: Eastern Aisle														
4	L2	2	1.0	2	1.0	0.038	2.1	LOS A	0.1	1.0	0.33	0.50	0.33	29.2
5	T1	2	1.0	2	1.0	0.038	1.4	LOS A	0.1	1.0	0.33	0.50	0.33	29.6
6	R2	30	1.0	32	1.0	0.038	4.5	LOS A	0.1	1.0	0.33	0.50	0.33	29.8
6u	U	1	1.0	1	1.0	0.038	5.4	LOS A	0.1	1.0	0.33	0.50	0.33	30.2
Approach		35	1.0	37	1.0	0.038	4.2	LOS A	0.1	1.0	0.33	0.50	0.33	29.8
North: Wolseley Street														
7	L2	23	1.0	24	1.0	0.083	1.7	LOS A	0.3	2.5	0.08	0.13	0.08	30.0
8	T1	82	1.0	86	1.0	0.083	0.5	LOS A	0.3	2.5	0.08	0.13	0.08	30.5
9	R2	130	1.0	137	1.0	0.103	3.6	LOS A	0.4	3.1	0.08	0.46	0.08	29.9
9u	U	15	1.0	16	1.0	0.103	4.5	LOS A	0.4	3.1	0.08	0.46	0.08	30.3
Approach		250	1.0	263	1.0	0.103	2.4	LOS A	0.4	3.1	0.08	0.32	0.08	30.1
West: Central Aisle														
10	L2	168	1.0	177	1.0	0.185	2.0	LOS A	0.8	5.9	0.32	0.36	0.32	29.7
11	T1	2	1.0	2	1.0	0.185	1.3	LOS A	0.8	5.9	0.32	0.36	0.32	30.1
12	R2	10	1.0	11	1.0	0.185	4.4	LOS A	0.8	5.9	0.32	0.36	0.32	30.3
12u	U	1	1.0	1	1.0	0.185	5.3	LOS A	0.8	5.9	0.32	0.36	0.32	30.7
Approach		181	1.0	191	1.0	0.185	2.1	LOS A	0.8	5.9	0.32	0.36	0.32	29.7
All Vehicles		578	1.0	608	1.0	0.185	2.3	LOS A	0.8	5.9	0.22	0.33	0.22	30.0

Wolseley Roundabout Saturday 2036 Arcadis Report Volumes Redistributed

MOVEMENT SUMMARY

Site: [Wolseley Roundabout Revised Volumes Saturday 2025 (Site Folder: General)]

Stamped Plan Design
Site Category: Proposed Design 1
Roundabout

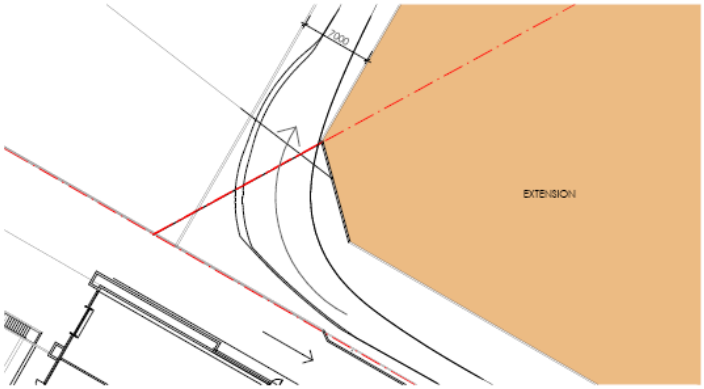
Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	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: Southern Aisle														
1	L2	3	1.0	3	1.0	0.318	3.6	LOS A	1.6	11.1	0.53	0.49	0.53	29.5
2	T1	253	1.0	266	1.0	0.318	2.9	LOS A	1.6	11.1	0.53	0.49	0.53	29.9
3	R2	3	1.0	3	1.0	0.318	6.0	LOS A	1.6	11.1	0.53	0.49	0.53	30.1
3u	U	1	1.0	1	1.0	0.318	6.9	LOS A	1.6	11.1	0.53	0.49	0.53	30.5
Approach		260	1.0	274	1.0	0.318	3.0	LOS A	1.6	11.1	0.53	0.49	0.53	29.9
East: Eastern Aisle														
4	L2	3	1.0	3	1.0	0.093	3.4	LOS A	0.3	2.4	0.48	0.65	0.48	29.0
5	T1	3	1.0	3	1.0	0.093	2.6	LOS A	0.3	2.4	0.48	0.65	0.48	29.4
6	R2	64	1.0	67	1.0	0.093	5.7	LOS A	0.3	2.4	0.48	0.65	0.48	29.5
6u	U	1	1.0	1	1.0	0.093	6.7	LOS A	0.3	2.4	0.48	0.65	0.48	29.9
Approach		71	1.0	75	1.0	0.093	5.5	LOS A	0.3	2.4	0.48	0.65	0.48	29.5
North: Wolseley Street														
7	L2	58	1.0	61	1.0	0.217	1.8	LOS A	1.1	8.1	0.12	0.13	0.12	29.9
8	T1	232	1.0	244	1.0	0.217	0.5	LOS A	1.1	8.1	0.12	0.13	0.12	30.4
9	R2	289	1.0	304	1.0	0.217	3.6	LOS A	1.2	8.1	0.11	0.45	0.11	29.9
9u	U	23	1.0	24	1.0	0.217	4.5	LOS A	1.2	8.1	0.11	0.45	0.11	30.3
Approach		602	1.0	634	1.0	0.217	2.3	LOS A	1.2	8.1	0.11	0.30	0.11	30.1
West: Central Aisle														
10	L2	316	1.0	333	1.0	0.403	3.6	LOS A	2.3	16.4	0.58	0.59	0.58	29.4
11	T1	3	1.0	3	1.0	0.403	2.9	LOS A	2.3	16.4	0.58	0.59	0.58	29.8
12	R2	14	1.0	15	1.0	0.403	6.0	LOS A	2.3	16.4	0.58	0.59	0.58	30.0
12u	U	1	1.0	1	1.0	0.403	6.9	LOS A	2.3	16.4	0.58	0.59	0.58	30.4
Approach		334	1.0	352	1.0	0.403	3.7	LOS A	2.3	16.4	0.58	0.59	0.58	29.4
All Vehicles		1267	1.0	1334	1.0	0.403	3.0	LOS A	2.3	16.4	0.34	0.43	0.34	29.9

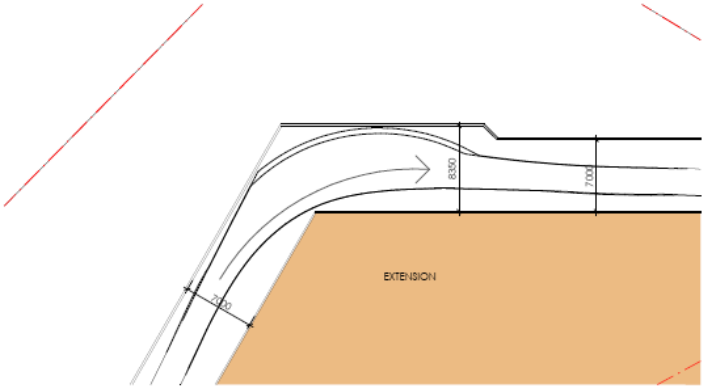
Appendix C: Preliminary Swept Paths

Prepared by Leffler Simes and by Genesis Traffic

ISSUE	AMENDMENT	DATE	CHK'D
P1	ADDITIONAL SECTIONS & 20m TRUCK SWEEP PATH ADDED FOR INFORMATION	16.02.24	CSG

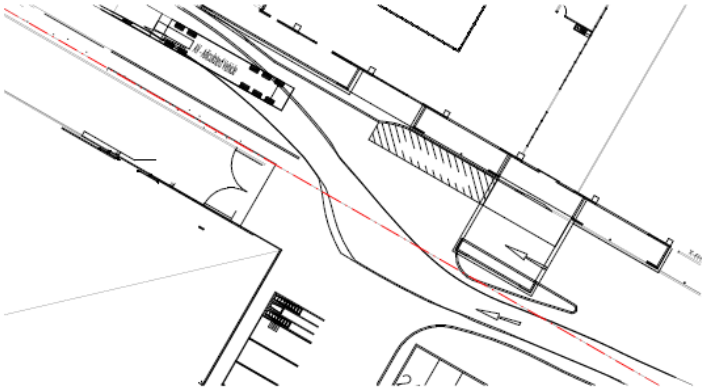


1 SK127 TRUCK SWEEP - EXTENSION CORNER 1
Scale: 1 : 200

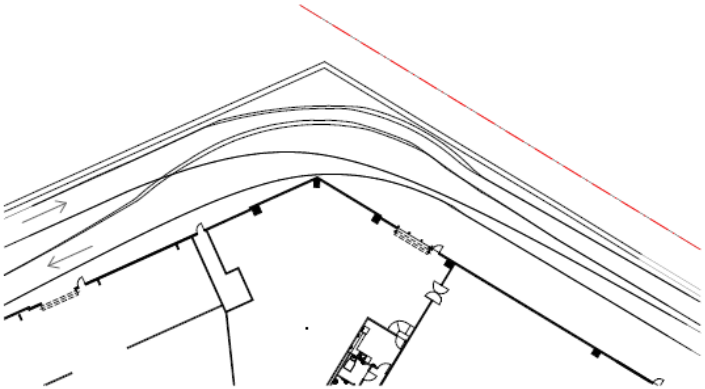


2 SK127 TRUCK SWEEP - EXTENSION CORNER 2
Scale: 1 : 200

PRELIMINARY



3 SK127 TRUCK SWEEP - CENTRAL S BEND TOWARDS NW SERVICE ROAD
Scale: 1 : 200



4 SK127 TRUCK SWEEP - NORTHERN SERVICE ROAD EXISTING
Scale: 1 : 200

TRUCK SWEEP PLANS 2

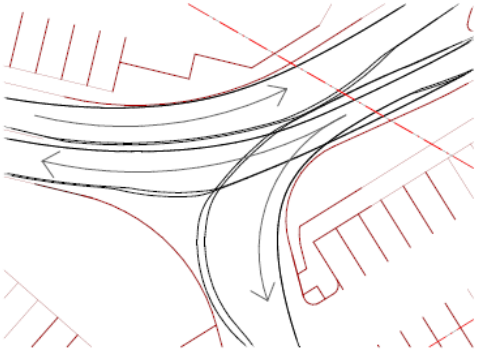
LEFFLER SIMES PTY LTD ABN 89 001 043 992 WEB: www.lefflersimes.com.au
SYDNEY 7 YOUNG ST, NEUTRAL BAY, NSW 2089 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344
BRISBANE 2 - 290 BOUNDARY ST, SPRING HILL, QLD 4004 T:+61 7 31235544
SCALE @ A1 1:200

PENRITH HOMEMAKER CENTRE
CNR. MULGOA RD & WOLSELEY ST, PENRITH

JOB NO: 4317 DATE: 16.02.24 DRAWN: CSG
DWG NO. SK135 REV. P1

LEFFLER SIMES ARCHITECTS

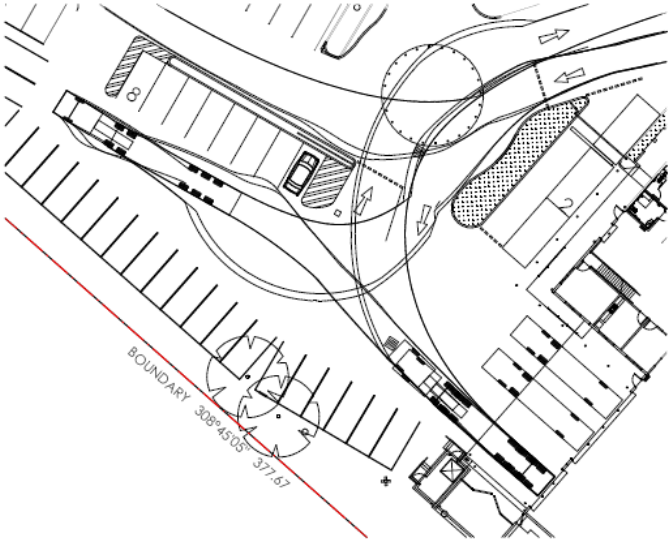
ISSUE	AMENDMENT	DATE	CHK'D
P1	ADDITIONAL SECTIONS & 20m TRUCK SWEEP PATH ADDED FOR INFORMATION	16.02.24	CSG



1 (BK127) TRUCK SWEEP INTERSECTION 1
Scale: 1 : 200

3 (BK127) TRUCK SWEEP - ROUNDABOUT
Scale: 1 : 200

2 (BK127) TRUCK SWEEP INTERSECTION 2
Scale: 1 : 200



4 (BK127) TRUCK SWEEP - HARVEY NORMAN REAR DOCK
Scale: 1 : 200

PRELIMINARY

TRUCK SWEEP PLANS 1

LEFFLER SIMES PTY LTD
ABN 89 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY 7 YOUNG ST, NEUTRAL BAY, NSW 2089 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344
BRISBANE 2 - 290 BOUNDARY ST, SPRING HILL, QLD 4004 T:+61 7 31235544

SCALE @ A1 1:200

PENRITH HOMEMAKER CENTRE
CNR. MULGOA RD & WOLSELEY ST, PENRITH

JOB NO: 4317 DWG NO. SK134 REV. P1
DATE: 16.02.24
DRAWN: CSG

LEFFLER SIMES ARCHITECTS

ISSUE	AMENDMENT	DATE	CHK'D
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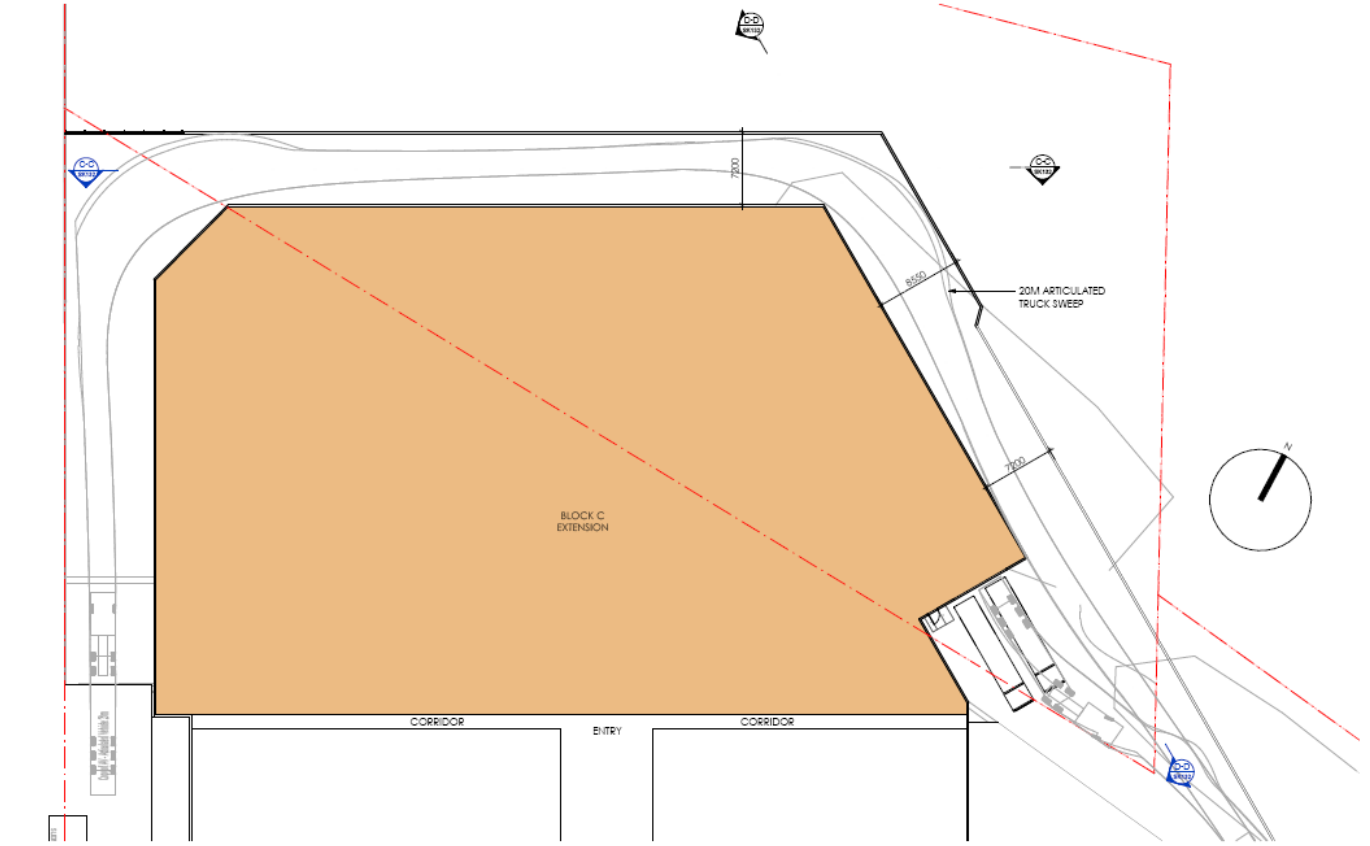


1 BLOCK C EXTENSION FLOOR PLAN
Scale: 1 : 200

PRELIMINARY

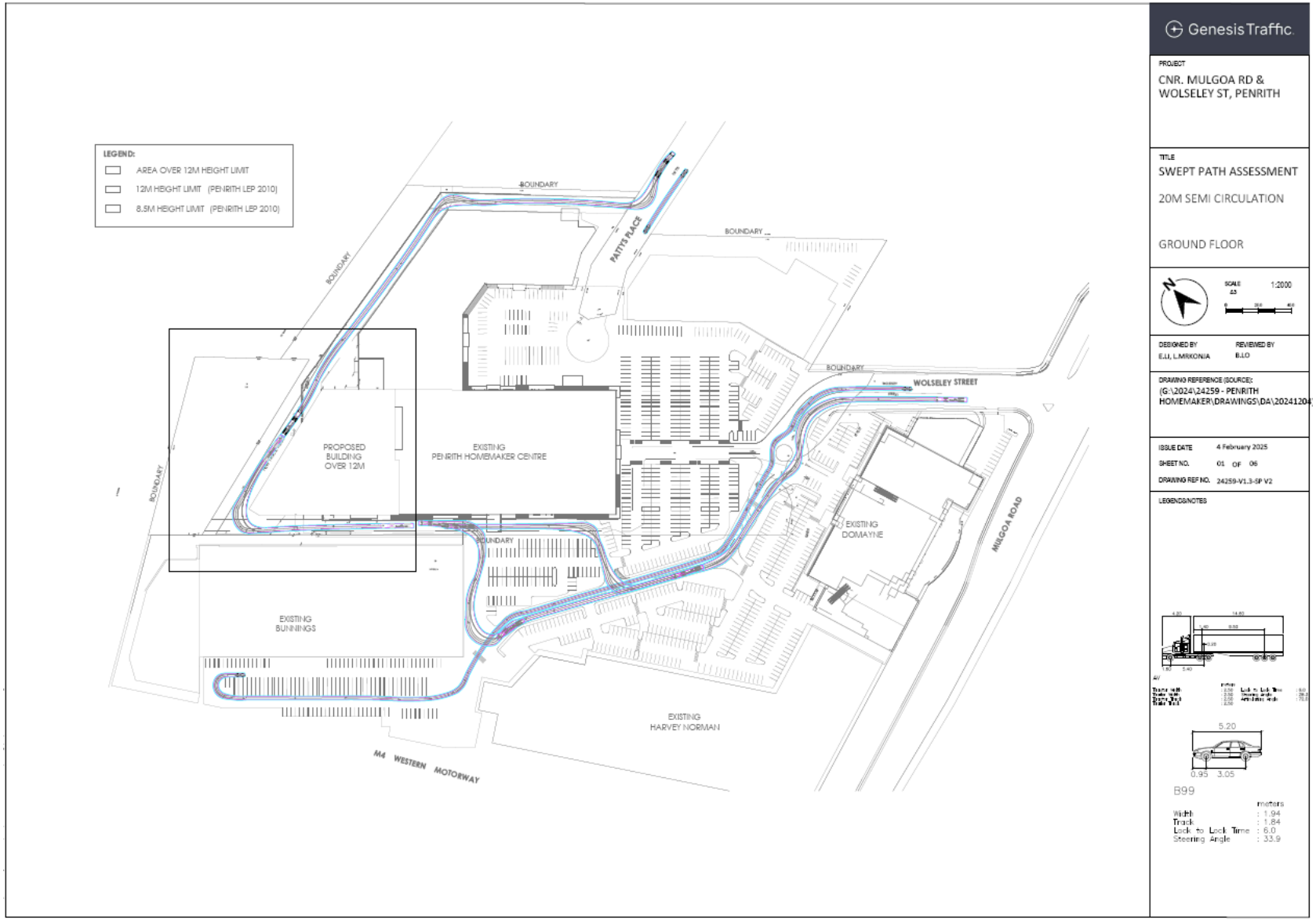
BLOCK C EXTENSION FLOOR PLAN

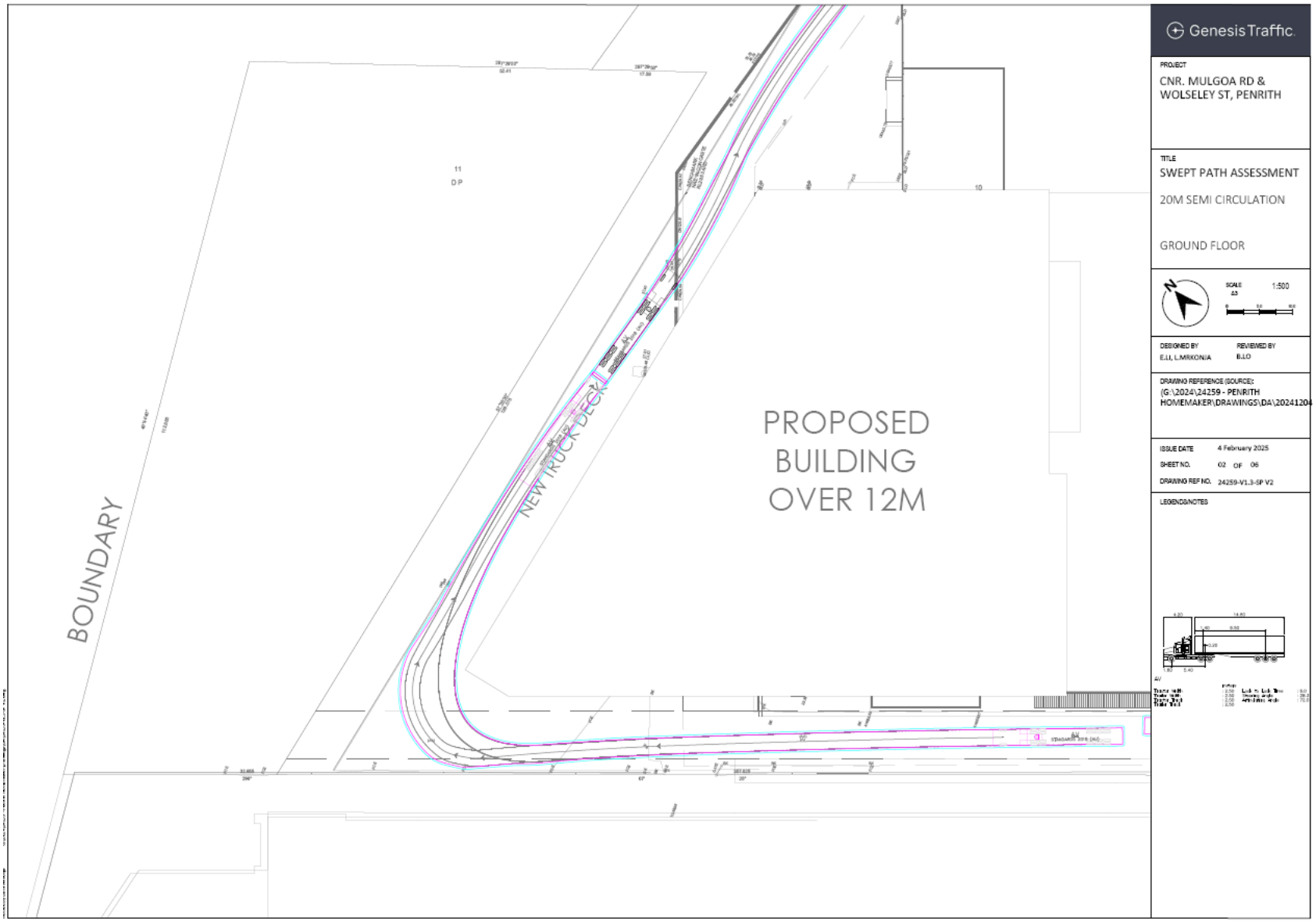
LEFFLER SIMES PTY LTD ABN 39 001 043 992 WEB: www.lefflersimes.com.au
SYDNEY 7 YOUNG ST, NEUTRAL BAY, NSW 2089 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344
BRISBANE 2 - 290 BOUNDARY ST, SPRING HILL, QLD 4000 T:+61 7 31235544
SCALE @ A1 1:200

PENRITH HOMEMAKER CENTRE
CNR. MULGOA RD & WOLSELEY ST, PENRITH

JOB NO: 4317 DATE: 16.02.24 DRAWN: CRB
DWG NO. SK133 REV. P1

LEFFLER SIMES ARCHITECTS


LEGEND:
AREA OVER 12M HEIGHT LIMIT
12M HEIGHT LIMIT (PENRITH LEP 2010)
8.5M HEIGHT LIMIT (PENRITH LEP 2010)
BOUNDARY
PATTS PLACE
WOLSELEY STREET
PROPOSED BUILDING OVER 12M
EXISTING PENRITH HOMEMAKER CENTRE
EXISTING DOMAYNE
MULGOA ROAD
EXISTING BUNNINGS
EXISTING HARVEY NORMAN
M4 WESTERN MOTORWAY
Genesis Traffic.
PROJECT
CNR. MULGOA RD & WOLSELEY ST, PENRITH
TITLE
SWEPT PATH ASSESSMENT
20M SEMI CIRCULATION
GROUND FLOOR
SCALE 1:2000
DESIGNED BY E.LI, L.MRKONJA
REVIEWED BY B.LO
DRAWING REFERENCE (SOURCE): (G:\2024\24259 - PENRITH HOMEMAKER\DRAWINGS\DA\20241204)
ISSUE DATE 4 February 2025
SHEET NO. 01 OF 06
DRAWING REF NO. 24259-V1.3-SP V2
LEGEND&NOTES
5.20
0.95 3.05
B99
meters
Width : 1.94
Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9


BOUNDARY
NEW TRUCK DECK
PROPOSED
BUILDING
OVER 12M
Genesis Traffic
PROJECT
CNR. MULGOA RD &
WOLSELEY ST, PENRITH
TITLE
SWEPT PATH ASSESSMENT
20M SEMI CIRCULATION
GROUND FLOOR
SCALE 1:500
DESIGNED BY
E.LI, L.MRKONJA
REVIEWED BY
B.LO
DRAWING REFERENCE (SOURCE):
(G:\2024\24259 - PENRITH
HOMEMAKER\DRAWINGS\DA\20241204
ISSUE DATE 4 February 2025
SHEET NO. 02 OF 06
DRAWING REF NO. 24259-V1.3-SP V2
LEGENDS/NOTES


SHARED DECK
T3
740m²
T4
883m²
NEW MALL
13155
LIFT
LINE OF EXISTING BUILDING
JB HiFi
1492m²
T2
680m²
T1
669m²
SCISSOR HOIST
NEW DECK
NEW TRUCK ACCESS
BOUNDARY
9800
Genesis Traffic
PROJECT
CNR. MULGOA RD & WOLSELEY ST, PENRITH
TITLE
SWEPT PATH ASSESSMENT
20M SEMI ENTER AND EXIT LOADING BAYS
GROUND FLOOR
SCALE 1:500
DESIGNED BY E.LI, L.MRKONJA
REVIEWED BY B.LO
DRAWING REFERENCE (SOURCE): (G:\2024\24259 - PENRITH HOMEMAKER\DRAWINGS\DA\20241204
ISSUE DATE 4 February 2025
SHEET NO. 03 OF 06
DRAWING REF NO. 24259-V1.3-SP V2
LEGEND&NOTES


Genesis Traffic
PROJECT
CNR. MULGOA RD &
WOLSELEY ST, PENRITH
TITLE
SWEPT PATH ASSESSMENT
20M SEMI CIRCULATION
GROUND FLOOR
SCALE
A3
1:250
DESIGNED BY
E.LI, L.MIRKONIA
REVIEWED BY
B.LO
DRAWING REFERENCE (SOURCE):
(G:\2024\24259 - PENRITH
HOMEMAKER\DRAWINGS\DA\20241204)
ISSUE DATE
4 February 2025
SHEET NO.
05 OF 06
DRAWING REF NO.
24259-V1.3-SP V2
LEGENDS/NOTES


DP1264644
Genesis Traffic
PROJECT
CNR. MULGOA RD &
WOLSELEY ST, PENRITH
TITLE
SWEPT PATH ASSESSMENT
20M SEMI CIRCULATION
GROUND FLOOR
SCALE
A3
1:250
DESIGNED BY
E.LI, L.MRKONJA
REVIEWED BY
B.LO
DRAWING REFERENCE (SOURCE):
(G:\2024\24259 - PENRITH
HOMEMAKER\DRAWINGS\DA\20241204)
ISSUE DATE
4 February 2025
SHEET NO.
06 OF 06
DRAWING REF NO.
24259-V1.3-SP V2
LEGENDS/NOTES
AV
STANDARDS 2018
5.20
0.95
3.05
B99
meters
Width : 1.94
Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9