Georges Cove Village - Modified Planning Proposal

Addendum Traffic Impact Assessment

Prepared for Benedict Industries Pty Ltd

October 2023

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Benedict Industries Pty Ltd

J17103 RP#1

October 2023

Version	Date	Prepared by	Approved by	Comments
V1	03/08/2023	John Mai	Abdullah Uddin	Draft
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1 Introduction

1.1 Overview

This report has been prepared on behalf of Benedict Industries Pty Limited to consider the traffic impacts of a proposed amendment to the *Liverpool Local Environmental Plan 2008* (LLEP).

The amendment relates to the land situated at 146 Newbridge Road, Moorebank (the site) and would result in the following:

- a site-specific provision for a retail premises with a maximum gross floor area of 4,000 m^2

The proposed amendment would be pursuant to Schedule 1 of the Liverpool Local Environmental Plan 2008 (LLEP 2008) and would provide for an additional permitted use on the subject site.

This report is a supporting technical document and should be read in conjunction with the planning proposal.

1.2 Background

An earlier planning proposal, prepared by the applicant, was referred to the Liverpool Local Planning Panel and was considered at a Council meeting in September 2020. Council subsequently forwarded the proposal to the Department of Planning and Environment (DPE) for Gateway determination. DPE returned the Gateway Request in December 2020 noting a need to further address issues regarding flooding and evacuation.

The applicant has since revised the design and function of the proposed development, and hence the earlier planning proposal is being modified.

Note that the earlier planning proposal sought:

- provision of a child care centre, being prohibited development pursuant to the (then) land zoning of B6 Enterprise Corridor
- exceedance of the permissible 15 m building height control
- exceedance of the permissible floor space ratio of 0.75:1
- a gross floor area of 15,500 m^2 as per an existing Voluntary Planning Agreement (VPA).

These matters are no longer proposed.

In April 2023, Council was provided revised concept architectural plans and in June 2023 Council issued advice regarding the information required in order to progress the revised planning proposal, based on the revised drawings.

Concept designs of the site plans prepared by Rothelowman Architects are provided at Appendix A.

In regard to traffic, the following comments were provided by Council:

a) Updated Traffic Impact Assessment

The most recent Traffic Impact Assessment report is prepared by Ason Group, dated 9 October 2017.

Due to the timeframe which has lapsed since the Traffic Impact Assessment Report was prepared being over 5 years and as the planning proposal concept architectural plans submitted in April 2023 have significantly changed since the preparation of the Traffic Impact Assessment Report, a revised Traffic Impact Assessment Report is to be submitted to Council.

This may be in the form of an addendum as the development intensity of the subject site has been reduced as per the planning proposal concept architectural plans submitted in April 2023. It is required to include updated access and internal design comments (section 5), updated existing traffic and transport conditions/traffic studies (section 6), section 7 (Traffic Assessment), section 8 (summary) and appendix A (SIDRA Modelling outputs).

The traffic report, prepared by Ason Group (Ason), has been reviewed and this report responds to the revised design and the above matters required by Council.

1.3 Site context

The planning proposal relates only to Georges Cove Village; however this traffic assessment considers the other development sites within the broader Georges Cove precinct, which includes residential and commercial component of Georges Cove Marina, the residential development at Georges Cove residences and the Moorebank Recyclers land.

The planning proposal site (Georges Cove Village) is shown in the precinct context in Figure 1.1.

Figure 1.1 Planning proposal site context

2 Comparison between previous proposal and current proposal

A comparison of the 2017 planning proposal and 2023 planning proposal is provided in Table 2.1. For the 2023 proposal, the gross lettable floor area (GLFA) has been estimated to be 75% of the gross floor area (GFA), as noted in *Guide to Traffic Generating Developments* (RTA Guide) (RTA 2002).

Table 2.1 Comparison of 2017 and 2023 proposal

Land use	Component	2017 number of components or GLFA (m^2)	2023 number of components or GLFA (m^2) GFA shown in brackets (m^2)
Residential units (including Seniors Living)	1 bed	46	0
	2 bed	60	0
	3 bed	56	0
Total (Residential)		*162*	*0*
Service Apartments/Terraces	1 bed	2	0
	2 bed	7	0
Total (Service apartments/Terraces)		*9*	*0*
Retail	Supermarket	1,599 m^2	2,848.2 m^2 (3,797.6 m^2)
	Fast Trade	904 m^2	*0*
	Speciality Shops	1,607 m^2	1,188.8 m^2 (1,585 m^2)
Total (Retail)		*4,110 m^2*	*4,037 m^2 (5,382.6 m^2)*
Commercial (office)		1,156 m^2	0
Medical		695 m^2	0
Childcare centre		798 m^2 (86 children)	0
Gym		551 m^2	0
Light industrial (office)		0	3,519.2 m^2 (4,692.3 m^2)
Car parking		*	351 spaces
Accessible parking		*	10 spaces
Motorbike parking		*	10 spaces

Note: *Number of parking spaces not specified

There is no residential component in the revised proposal. A light industrial (office) component has been added. The net retail component has been reduced slightly.

2.1 Site access and egress

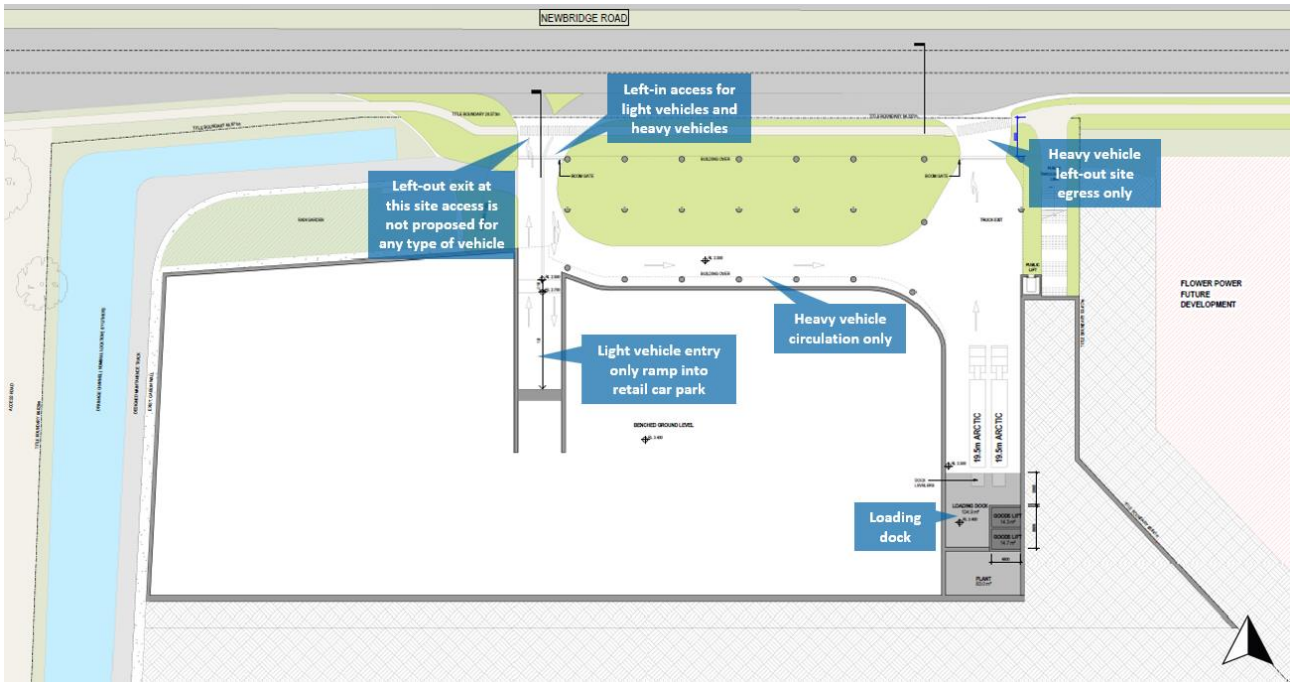
Access to the site is proposed via:

- left in only access from Newbridge Road (east) for use by light and heavy vehicles, including a 50-metre deceleration lane that is currently in place
- left out only egress to Newbridge Road (west) for use by heavy vehicles using the loading dock (not light vehicles)
- two entry and exit driveways to a new road on the southern boundary of the site, which will hereinafter be referred to as DCP Road.

2.2 Internal car park design

Heavy vehicles accessing the site from Newbridge Road (east) will access the loading dock via a one-way internal circulation that is separate from the car park provided for light vehicles, as shown in Figure 2.1.

The retail car park will be located on the bottom levels, which will be separated from the light industrial car park on the top level.



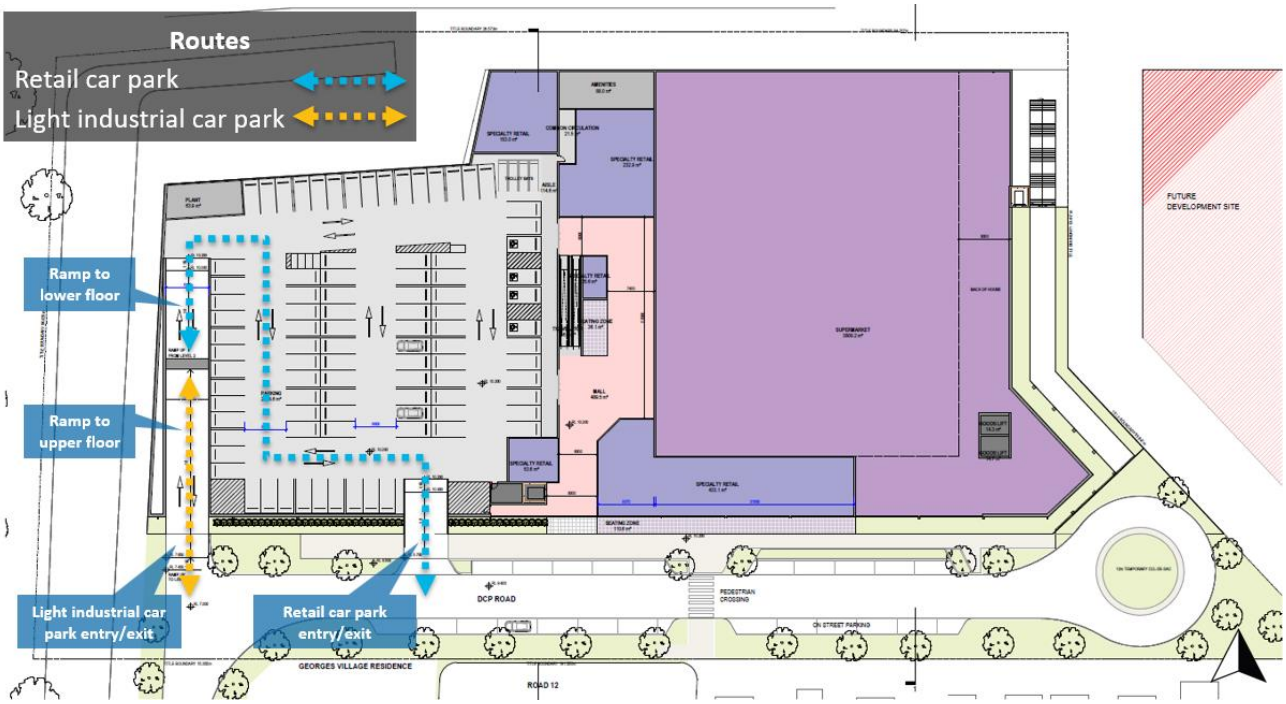
Source: Rothelowman

Figure 2.1 Site access from Newbridge Road and loading dock

Light vehicles accessing the site from Newbridge Road (east) will access the retail car park via a ramp, as shown in Figure 2.1. The retail portion of the car park will also be accessible from DCP Road. Two floors of retail car parking will be provided and circulation within the two floors of the retail car park can be completely accessed internally without going onto a public road.

The car park for light industrial/office spaces will be accessed via a ramp from DCP Road, on the south-west corner of the site.

The routes to access the retail and light industrial car parks from DCP Road are shown in Figure 2.2.



Source: Rothelowman

Figure 2.2 Inbound and outbound vehicular routes from DCP Road to the car parking areas

3 Existing traffic and transport conditions

3.1 Current condition of the site and surrounds

The vehicular bridge on Promontory Way connecting Brickmakers Drive and Spinnaker Drive is now complete and operational (Figure 3.1). Dedicated left and right turn lanes are provided at the Brickmakers Drive/Promontory Way intersection. The residential dwellings along the western fringe of the Georges Cove residential estate are already occupied and the others being constructed.

Source: MetroMap

Figure 3.1 Aerial view of the Georges Cove Precinct (July 2023)

3.2 Road network within the village

The internal road and pedestrian infrastructure serving the occupied residential dwellings are now completed (Photograph 3.1 and Photograph 3.2). The infrastructure along the eastern side of the precinct is currently being constructed. Therefore, traffic surveys undertaken as part of the study have captured both residential and construction traffic.

Photograph 3.1 Mast Place (looking north)

Photograph 3.2 Ketch Lane (looking north)

3.3 Public transport

Buses run along Newbridge Road. The closest bus stops to the site are served by bus route M90 (Figure 3.2), which operates from Liverpool Station to Burwood Station via Bankstown.

The operating hours of the M90 are:

- Monday to Friday: 5 am–11 pm
- Saturdays: 6 am–11 pm
- Sundays and Public Holidays: 7 am–9 pm.

The M90 service operates at 10-minute intervals during the AM and PM peaks, 15-minute intervals during the day on weekdays and 20-minute intervals during the day on weekends and public holidays. The Georges Cove Site is therefore well serviced by public transport.

Source: MetroMap

Figure 3.2 Bus stops and bus route in the vicinity of the site

3.4 Bicycle network

An off-road bicycle path is provided on the north side of Newbridge Road (Figure 3.3), which directly passes the site. The paths connect to the wider bicycle network towards Liverpool and Bankstown. These provide opportunities for staff and visitors to cycle to the site.

Source: MetroMap

Figure 3.3 Bicycle network in the vicinity of the site

3.5 Pedestrian connectivity

Pedestrian connectivity within the precinct is suitable. Footpaths are provided in most of the street frontages (Photograph 3.3) within the Georges Cove residences, which will connect to Georges Cove Village. At Promontory Way, a pedestrian foot overbridge will link the Georges Cove residences and the residential precinct located west of Brickmakers Drive (Photograph 3.4).

Photograph 3.3 Footpath in Angler Avenue (looking north)

Photograph 3.4 Pedestrian overbridge to be opened late 2023

3.6 Journey to work data analysis

Australian Bureau of Statistics (ABS) data from the Census of Population and Housing 2021 is published on https://profile.id.com.au/ (ID). In this report, ID data has been used to determine the trip distribution, based on the locations of residents of people working in the Liverpool Local Government Area (LGA). The route selection for each journey is taken as the fastest route between the site and the destination.

Furthermore, the likely residences of retail customers have been factored into the traffic distribution, taking into account that traffic entering the retail premises are more likely to be local.

Based on the combination of the 2021 ID data and factoring in the local traffic for retail premises, a trip distribution has been found for a typical person visiting the site, which has been compared with the distribution assumed by Ason. These results are shown in Table 3.1.

Table 3.1 Trip distribution

Direction	2017 Ason	2023 EMM (this report)
North – Governor Macquarie Drive north of Newbridge Road	15%	10%
East – Newbridge Road east of Davy Robinson Drive	30%	39%
South – Brickmakers Drive south of Promontory Way	15%	16%
West – Newbridge Road west of Governor Macquarie Drive	40%	35%

As seen in Table 3.1, the difference in each direction is less than 10% for each direction, which is unlikely to vary the results significantly. For simplicity, the Ason distribution have been used for each direction.

3.7 Existing traffic volumes

As part of this traffic report, traffic surveys were conducted on Thursday 22 June 2023 between 7 am–9 am and 4 pm–6 pm, during a non-school holiday period. The following intersections were surveyed, as shown in Figure 3.4:

- Brickmakers Drive/Promontory Way
- Newbridge Road/Governor Macquarie Drive/Brickmakers Drive
- Newbridge Road/Site Access
- Newbridge Road/Davy Robinson Drive.

Source: MetroMap

Figure 3.4 Surveyed intersections

The network peak hours have been found to be:

- AM: 7:15 am to 8:15 am
- PM: 4:45 pm to 5:45 pm.

The traffic volumes on the road network in the vicinity of the site are shown in Figure 3.5.

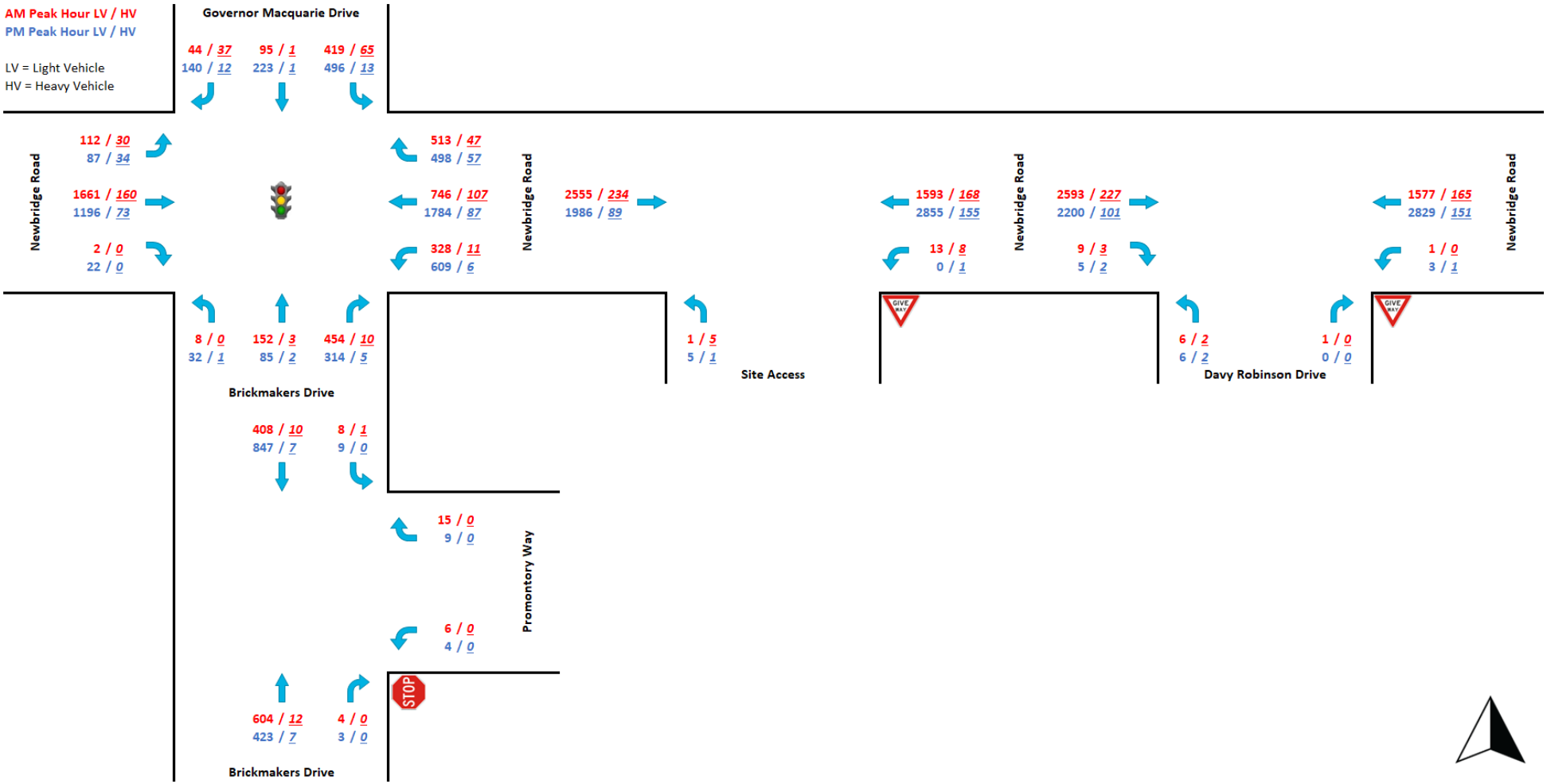


Figure 3.5 **2023 surveyed traffic volumes during the AM and PM peak hour**

The traffic data in the above figure shows that Newbridge Road carried 4,577 vehicles in the AM peak and 5,092 vehicles in the PM peak. For Promontory Way, the respective AM and PM volumes were 34 and 25.

The traffic volumes from Figure 3.5 will be referred to as the baseline traffic volumes in the subsequent sections of the report.

Along Newbridge Road, the heavy vehicle percentages were found to be:

- AM peak: 9%
- PM peak: 5%

4 Development traffic assessment

Two scenarios have been assessed to determine the traffic impacts of the development of Georges Cove Village.

Scenario A assumes that DCP Road will not be connected to Davy Robinson Drive. Newbridge Road/Davy Robinson Drive intersection will not be signalised. Scenario A has been modelled based on the existing connection of the site to Brickmakers Drive via Promontory Way.

Scenario B assumes that DCP Road will be connected to Davy Robinson Drive via the Flower Power site (Figure 1.1). Newbridge Road/Davy Robinson Drive intersection will be signalised. Scenario B has been modelled to determine whether there will be potential improvement to the performance of Newbridge Road/Governor Macquarie Drive/Brickmakers Drive and Brickmakers Drive/Promontory Way intersections as a result of providing another signalised intersection at Newbridge Road/Davy Robinson Drive for the development traffic to enter and exit the area.

A summary of Scenario A and Scenario B is shown in Table 4.1.

Table 4.1 Inclusions in Scenario A and Scenario B

Scenario	Signalised Newbridge Rd/ Governor Macquarie Dr/ Brickmakers Dr	Signalised Brickmakers Dr/ Promontory Way	Signalised Newbridge Rd/ Davy Robinson Dr	Left in from Newbridge Road to Georges Cove Village for light and heavy vehicles	Left out from Georges Cove Village to Newbridge Road for heavy vehicles	Left out from Georges Cove Village to Newbridge Road for light vehicles
A	Yes	Yes	No	Yes	Yes	No
B	Yes	Yes	Yes	Yes	Yes	No

Details of the traffic distribution for Scenario A and Scenario B are discussed later in this chapter.

4.1 Georges Cove Village development traffic assessment

The traffic assessment for the Georges Cove Village development assumes that all other developments within the precinct are operational. This is a conservative approach for the traffic assessment.

4.1.1 Georges Cove Village development traffic distribution

The details for the development traffic distribution for each scenarios are:

- **Scenario A**:
  - DCP Road will not be connected to Davy Robinson Drive.
  - All Georges Cove Village traffic that leaves to the south via DCP Road will connect to the broader road network via Brickmakers Drive/Promontory Way signalised intersection.
  - Light and heavy vehicles will be allowed to turn left from Newbridge Road (east) to enter the Georges Cove Village site, but light vehicles will not be allowed to leave the Georges Cove Village site directly onto Newbridge Road (west).
  - Heavy vehicles will still be allowed to leave the Georges Cove Village site directly via a left turn onto Newbridge Road (west).

- **Scenario B**:

  - DCP Road will be connected to Davy Robinson Drive, allowing all Georges Cove Village traffic to use the Newbridge Road/Davy Robinson Drive signalised intersection, as well as the Brickmakers Drive/Promontory Way signalised intersection.

  - Light and heavy vehicles will be allowed to turn left from Newbridge Road (east) to enter the Georges Cove Village site, but light vehicles will not be allowed to leave the Georges Cove Village site directly onto Newbridge Road (west).

  - Heavy vehicles will still be allowed to leave the Georges Cove Village site directly via a left turn onto Newbridge Road (west).

The Georges Cove Village traffic distribution for Scenario A is shown in Figure 4.1, and Scenario B is shown in Figure 4.2.

Source: MetroMap

Figure 4.1 Georges Cove Village traffic distribution for Scenario A

Source: MetroMap

Figure 4.2 Georges Cove Village traffic distribution for Scenario B

4.1.2 Georges Cove Village development traffic generation and volumes

Georges Cove Village development traffic has been calculated based on Section 3.6.1 of the RTA Guide. During weekdays, the site is likely to generate the most traffic on Thursday. Hence, the relevant formula from Section 3.6.1 that calculates traffic on a Thursday is likely to provide a conservative estimate of the peak hour traffic generation.

The peak hour traffic generation can be calculated using the 2023 GLFA in Table 2.1. The traffic generation rate for the evening peak period for different land uses are shown in Table 4.2. Movements are defined to be a vehicle going from one point to another, excluding the return journey. A return trip to/from a land use is counted as two movements.

Table 4.2 Evening peak hour traffic generation factor

Land use category	GLFA (m^2)	Peak hour traffic generation rate (vehicle movements per m^2 of GLFA)
Supermarket (retail)	2,848.2	0.155
Speciality shops (retail)	1,188.8	0.046
Light industrial and office	3,519.2	0.022

Furthermore, the following factors have been considered to calculate the peak hour traffic movements:

- For the evening peak, the presence of the site next to an arterial road (Newbridge Road) and the multiple stores within the site mean that the site will benefit from a reduction in vehicular movements due to linked trips (passing trade) and multi-purpose trips (where more than one shop is visited). In accordance with Section 3.6.1 of the RTA guide, retail traffic generation rates during the evening peak, shown in Table 4.2, have been reduced by 25%.

- For the morning peak, it is assumed that retail traffic generation rates are 33% of the evening peak traffic generation rates shown in Table 4.2.

The traffic split for the morning and evening peak period are:

- AM peak hour: 70% in/30% out
- PM peak hour: 50% in/50% out.

It is assumed that the proportion of heavy vehicles entering/exiting the site follows the same distribution as Newbridge Road, which is 9% during the AM peak hour and 5% during the PM peak hour.

Considering all of the above, the development is expected to generate the following morning and evening peak hourly traffic volumes shown in Table 4.3. The traffic volumes in the table shows that the PM peak volumes are significantly higher, compared to AM peak, due to the influence of the retail component of the development. The traffic generation due to the retail is minimal during the AM peak.

Table 4.3 Georges Cove Village development traffic volumes

Peak hour	Movements in		Movements out		Total movements
	Light vehicles	Heavy vehicles	Light vehicles	Heavy vehicles	
AM	158	11	61	11	241
PM	214	11	214	11	450

The Georges Cove Village traffic volumes calculated from Table 4.3 are distributed to the wider road network in accordance with Figure 4.1 and Figure 4.2 (Scenario A and Scenario B respectively). The resultant Georges Cove Village traffic volumes for Scenario A and Scenario B are shown in Figure 4.3 and Figure 4.4 respectively. Note that the sum of the movements may be off by one due to rounding.

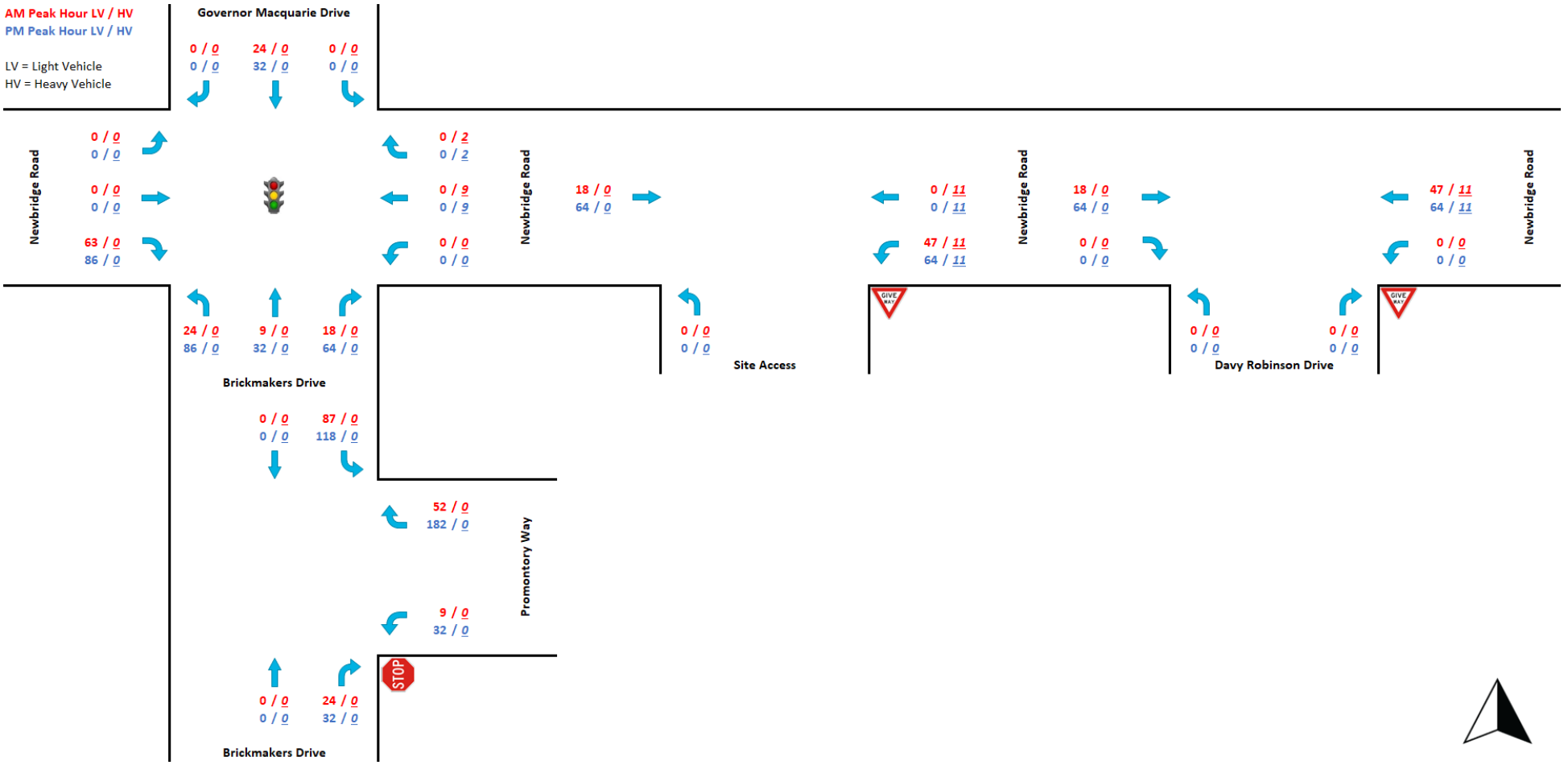


Figure 4.3 Georges Cove Village traffic volumes for Scenario A

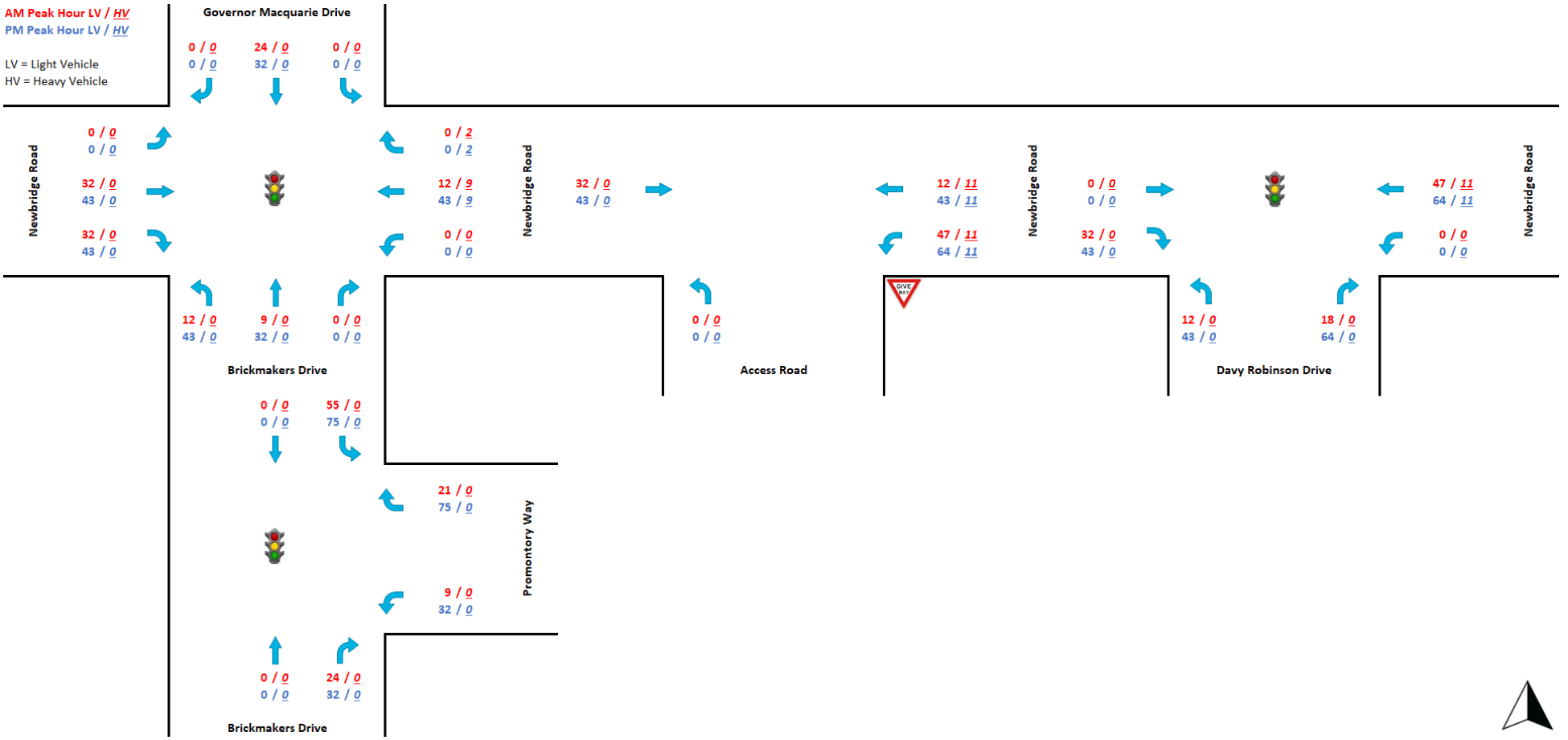


Figure 4.4 Georges Cove Village traffic volumes for Scenario B

4.2 Cumulative developments

To assess the cumulative traffic for the planning proposal, the following components of the broader precinct have been included:

- Georges Cove residences
- Georges Cove Marina (residential)
- Georges Cove Marina (commercial)
- Moorebank Recyclers land.

For the cumulative developments, a comparison of the traffic generating factors in the previous planning proposal[1] (EMM 2018) and the 2023 proposal is provided in Table 4.4.

Table 4.4 Cumulative developments

Land use	Component	2018 proposal	2023 proposal
Georges Cove residences	Residential	179 dwellings	No change
Moorebank Recyclers land	Industrial	Trucks delivering/dispatching waste and dispatching products	No change
Georges Cove Marina	Commercial	1,243 m^2 commercial gross floor area (GFA), 250 dry storage berths, 186 marina berths	No change
Georges Cove Marina	Residential	374 dwellings	340 dwellings (319 apartments and 21 terrace dwellings) and 1,500 m^2 restaurant & cafe

4.2.1 Cumulative traffic distribution

The details for the cumulative traffic distribution (i.e. other than for Georges Cove Village) for each scenario assume:

- **Scenario A**:
  - DCP Road will not be connected to Davy Robinson Drive.
  - All traffic will be entering and exiting Georges Cove precinct via Promontory Way.
  - Brickmakers Drive/Promontory Way is a signalised intersection with the existing approach and departure lane layout and a pedestrian crossing facility at the north approach.

[1] Georges Cove Marina Residential Planning Proposal Traffic Impact Assessment prepared by EMM dated 10 April 2018

- **Scenario B**:
  - DCP Road will be connected to Davy Robinson Drive following the development of Flower Power site and Georges Cove Village site.
  - Traffic will be distributed so that it enters and exits the Georges Cove precinct via both Promontory Way and Davy Robinson Drive.
  - Brickmakers Drive/Promontory Way is a signalised intersection with the existing approach and departure lane layout and a pedestrian crossing facility at the north approach.
  - Newbridge Road/Davy Robinson Drive is a signalised intersection with the existing approach and departure lane layout and pedestrian crossing facilities on all three approaches (east, south and west approaches).

The cumulative traffic distribution for Scenario A and Scenario B are shown in Figure 4.5 and Figure 4.6.

Source: MetroMap

Figure 4.5 Scenario A cumulative traffic distribution

Source: MetroMap

Figure 4.6 Scenario B cumulative traffic distribution

4.2.2 Cumulative traffic volumes

The assumed cumulative traffic generation for the different developments in the precinct are shown in Table 4.5.

Table 4.5 Cumulative traffic volumes from different developments

Development component	Peak hour	Movements in		Movements out		Total movements
		Light vehicles	Heavy vehicles	Light vehicles	Heavy vehicles	
Georges Cove Marina (residential)	AM	33	0	132	0	165
	PM	99	0	66	0	165
Georges Cove Marina (commercial)	AM	46	3	9	3	61
	PM	41	2	41	2	86
Georges Cove residences	AM	30	0	122	0	152
	PM	91	0	61	0	152
Moorebank Recyclers land	AM	0	23	0	20	43
	PM	0	13	0	16	29
Total	**AM**	**109**	**26**	**263**	**23**	**421**
	PM	**231**	**15**	**168**	**18**	**432**

The cumulative traffic volumes calculated from Table 4.5 are distributed to the wider road network in accordance with Figure 4.5 for Scenario A and Figure 4.6 for Scenario B. The resultant cumulative traffic volumes are shown in

Figure 4.7 and Figure 4.8 for Scenario A and Scenario B respectively. Note that the sum of the movements may be off by one due to rounding.

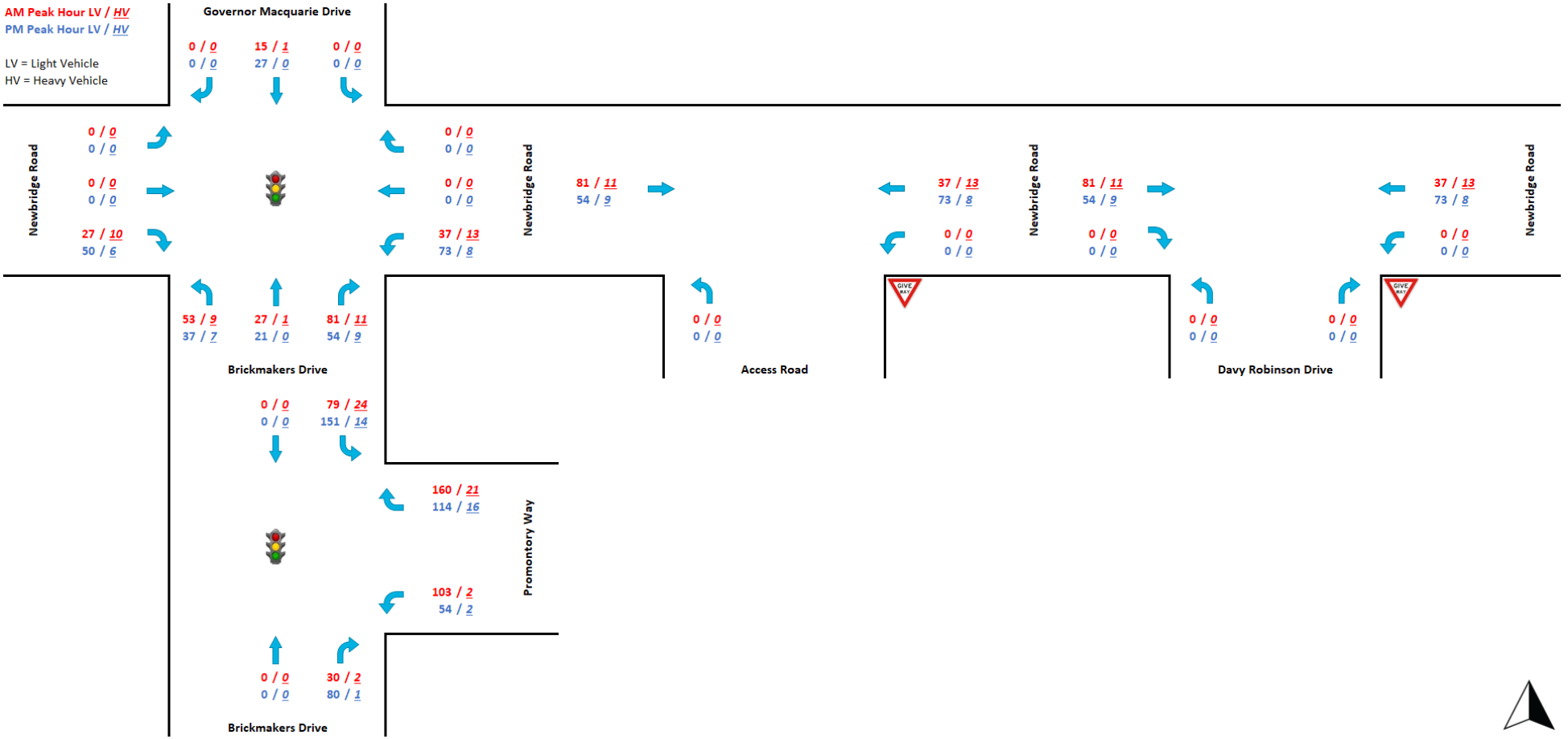


Figure 4.7 Scenario A cumulative traffic volumes

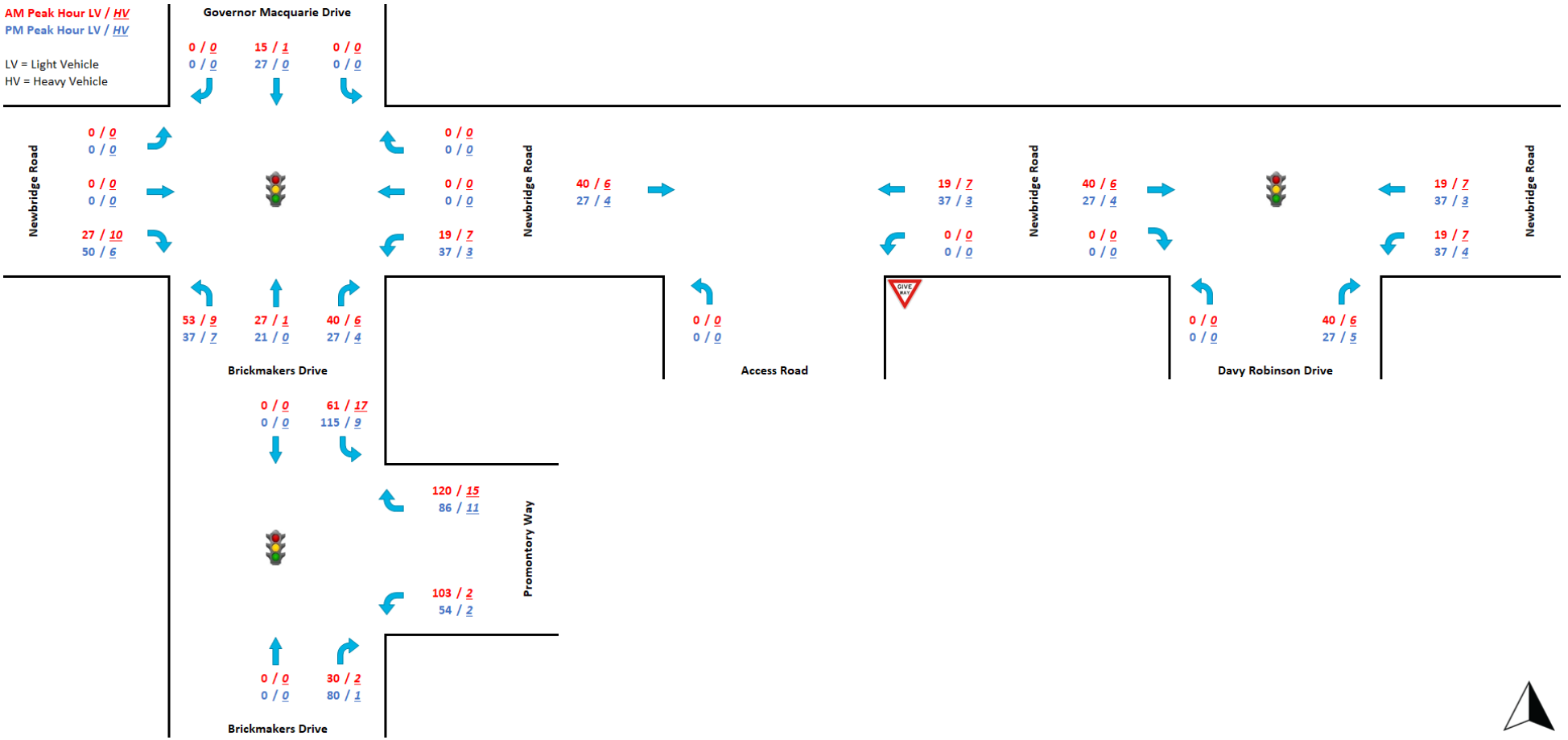


Figure 4.8 Scenario B cumulative traffic volumes

4.3 Baseline, Georges Cove Village development and cumulative traffic

Currently, left-in movements are permitted from Newbridge Road (east) to the site, while left-out movements are permitted from the site to Newbridge Road (west) for both light and heavy vehicles. The existing left turn light vehicle movements from the site to Newbridge Road will be restricted in the future once the Georges Cove Village site is developed. All movements exiting the site at the existing intersection will be restricted as the access road will only be for left turning vehicles entering the site.

To calculate the baseline traffic volumes, the existing left turning movements from the site that will be restricted in the future have been redistributed to the other parts of the road network.

The redistributed baseline, Georges Cove Village development and cumulative traffic have been combined in Scenario A and Scenario B, which are shown in Figure 4.9 and Figure 4.10 respectively.

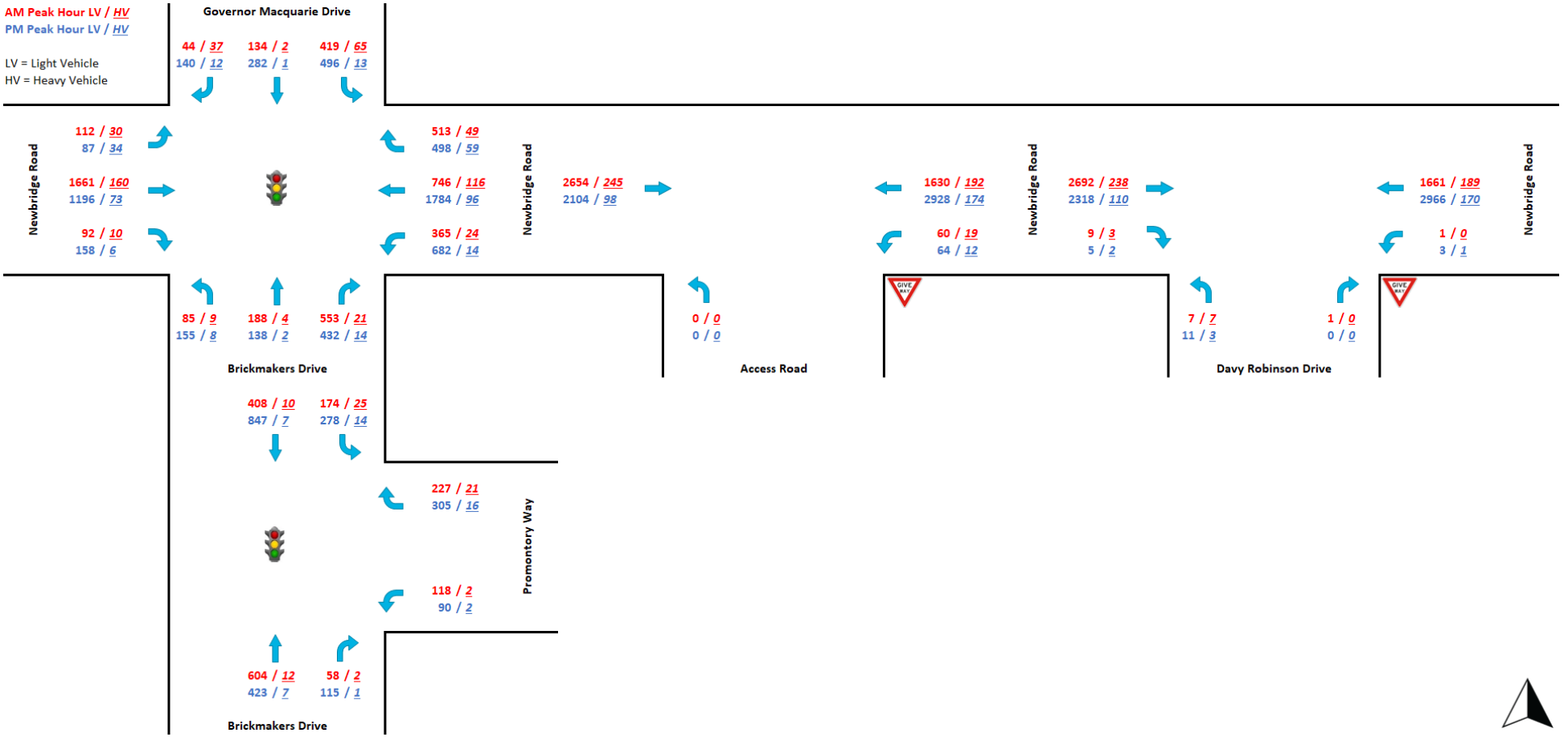


Figure 4.9 **Baseline, Georges Cove Village development and cumulative traffic volumes for Scenario A**

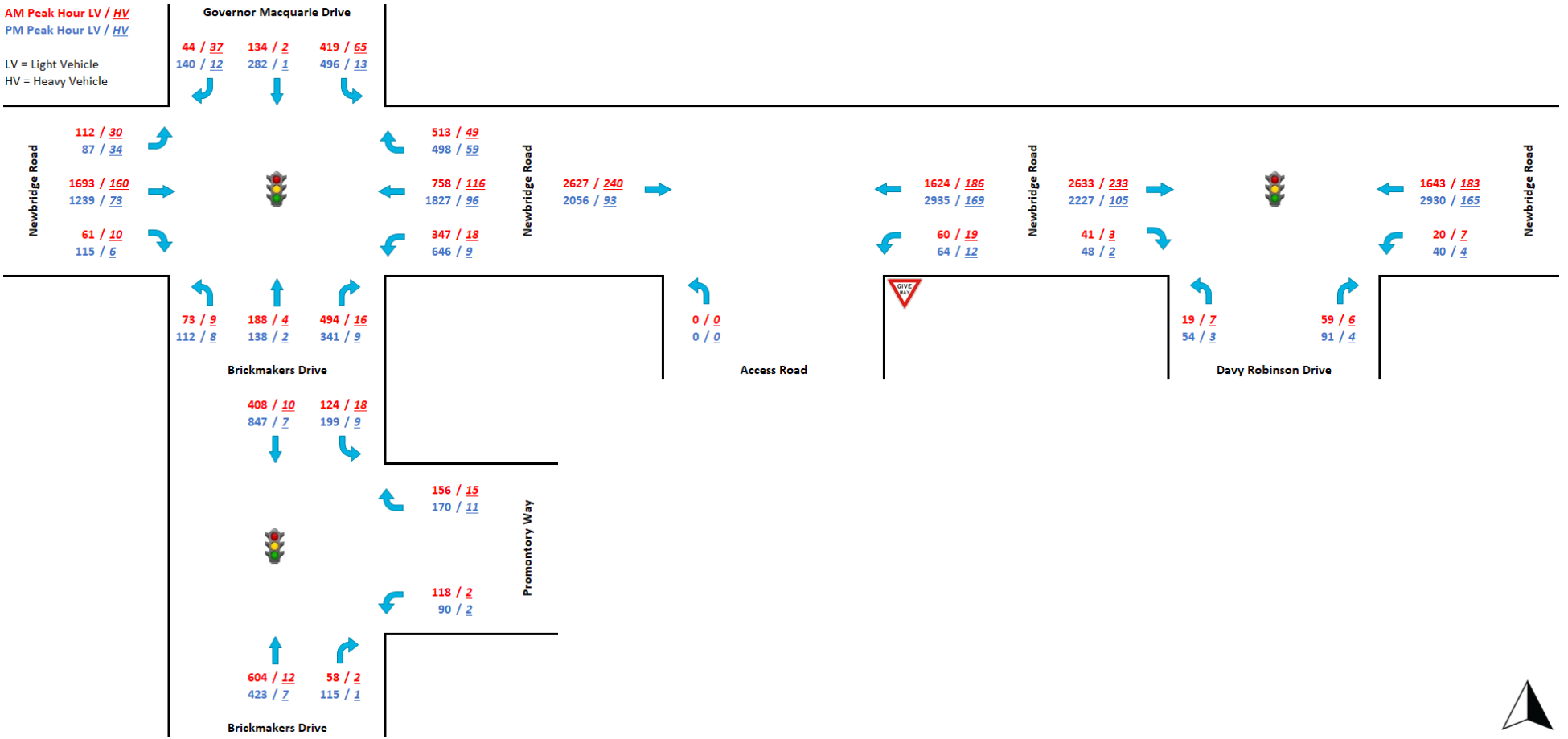


Figure 4.10 Baseline, Georges Cove Village development and cumulative traffic volumes for Scenario B

4.4 Intersection impact assessment

The intersections shown in Figure 3.4 have been modelled with the SIDRA Intersection 9.1 software, a micro-analytical tool for individual intersections and linked intersection-network modelling. The modelling is based on the surveyed traffic volumes detailed in Section 3.7 and site traffic volumes in Section 4.3. SIDRA provides the following performance indicators:

- Degree of saturation (DOS) – the total usage of the intersection expressed as a factor of 1 with 1 representing 100% use/saturation (e.g. 0.8 = 80% saturation).

  In practice, the target degrees of saturation of 0.90 for signals, 0.85 for roundabouts and 0.80 for unsignalised intersections are generally agreed to. These are usually called 'practical degrees of saturation'.

- Average delay (DEL) – for a signalised or roundabout intersection, this is the average delay in seconds encountered by all vehicles passing through the intersection. For a priority-controlled intersection, this is the average delay experienced by the worst approach and turning movement. It is often important to review the average delay of each approach as a side road could have a long delay time, while the large free flowing major traffic will provide an overall low average delay.

- Level of service (LOS) – this is a categorisation of average delay, intended for simple reference. For a priority-controlled intersection, this is the categorisation of the average delay experienced by the worst approach and turning movement.

- 95% queue lengths (Q95) – is defined to be the queue length in metres that has only a 5% probability of being exceeded during the analysed time period. It transforms the average delay into measurable distance units.

The LOS is a good indicator of overall performance for individual intersections, with each level summarised in Table 4.6.

Table 4.6 Intersection LOS standards

Level of service	Average delay (seconds per vehicle)	Traffic signals, roundabout	Priority intersection ('Stop' and 'Give Way')
A	<14	Good operation	Good operations
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity. At traffic signals, incidents will cause extensive delays. Roundabouts require other control mode.	At capacity, required other control mode
F	>71	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing; required other control mode

Source: *RTA Guide to Traffic Generating Developments* (RTA 2002)

SIDRA intersection modelling has been conducted for the following scenarios:

- Existing scenario: This scenario includes surveyed traffic volumes only and without any proposed development or cumulative traffic volumes.
- Scenario A: This scenario includes the baseline, development and cumulative traffic volumes all entering and exiting via Promontory Way, as discussed in Section 4.1.1 and Section 4.2.1.
- Scenario B: This scenario includes the baseline, development and cumulative traffic volumes distributed via Promontory Way and Davy Robinson Drive, as discussed in Section 4.1.1 and Section 4.2.1.

The following abbreviations are used for the turn movements:

- TH: through
- LT: left turn
- RT: right turn.

The SIDRA results for the key intersections are presented in the following tables. Detailed SIDRA results can be found in Appendix C.

4.4.1 Brickmakers Drive/Promontory Way

Table 4.7 SIDRA modelling result for Brickmakers Drive/Promontory Way

Control: 1. Priority controlled (stop) 2. Signalised 3. Signalised	AM Peak						PM Peak					
Scenarios	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**
1. Existing (without development)	1,124	11.6	A	0.337	0.8	RT from Promontory Way (east)	1,378	22.7	B	0.463	1.0	RT from Promontory Way (east)
2. Scenario A: Baseline + Georges Cove Village development + cumulative developments via Promontory Way	1,748	25.5	B	0.573	186.9	TH from Brickmakers Drive (south)	2,216	15.3	B	0.858	142.4	TH from Brickmakers Drive (north)
3. Scenario B: Baseline + Georges Cove Village development + cumulative developments via Promontory Way and Davy Robinson Drive	1,607	9.7	A	0.641	66.3	TH from Brickmakers Drive (south)	1,980	13.2	A	0.883	133.8	TH from Brickmakers Drive (north)

Key findings for Brickmakers Drive/Promontory Way intersection:

- In AM and PM, the intersection performs satisfactorily within capacity with LOS A or B and DoS <0.9 for all scenarios.
- Signalisation of the Brickmakers Drive/Promontory Way intersection prior to the completion of this development will produce an acceptable level of performance and provide capacity to accommodate additional traffic.
- In the AM peak in Scenario A, the queue may stretch back to the roundabout. This queuing will be alleviated by the connection of the DCP Road to Davy Robinson Drive, as modelled in Scenario B. In addition, it should be noted that the existing traffic counts at this intersection also included construction related heavy vehicles. Hence, the SIDRA model is conservative. Overall, the SIDRA results for Scenario B are better than Scenario A due to less traffic at this intersection.
- Regardless of the timing of the Flower Power development and the eventual signalisation of Brickmakers Drive/Davy Robinson Drive, all the remaining developments can proceed under Scenario A at acceptable levels.

4.4.2 Newbridge Road/Governor Macquarie Drive/Brickmakers Drive

Table 4.8 SIDRA modelling result for Newbridge Road/Governor Macquarie Drive/Brickmakers Drive

Control: Signalised	AM Peak						PM Peak					
Scenarios	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**
1. Existing (without development)	5,268	70.7	F	1.177	368.8	LT from Newbridge Road (west)	6,081	110.3	F	1.128	300.4	LT from Newbridge Road (west)
2. Scenario A: Baseline + Georges Cove Village development + cumulative developments via Promontory Way	5,725	120.1	F	1.113	651.7	LT from Newbridge Road (west)	6,716	72.0	F	0.982	293.8	TH from Newbridge Road (east)
3. Scenario B: Baseline + Georges Cove Village development + cumulative developments via Promontory Way and Davy Robinson Drive	5,634	105.2	F	1.081	617.7	LT from Newbridge Road (west)	6,572	60.0	E	0.930	293.8	TH from Newbridge Road (east)

Key findings for Newbridge Road/Governor Macquarie Drive/Brickmakers Drive intersection:

- In AM and PM, the intersection performs over the capacity with LOS F for existing scenarios.
- Despite additional traffic volumes for Scenario A and B, some intersection parameters will be improved due to the prioritisation of certain movements in the existing scenario. In the existing scenario, the prioritisation of certain movements is contributing to DOS >1.1 in the AM peak and an average delay greater than 100 seconds in the PM peak.
- As the intersection is already over capacity in the existing scenarios, the additional traffic volumes from the Georges Cove Village development and cumulative developments make a negligible difference, as they only contribute up to 10.4% of the intersection traffic volumes.
- When comparing Scenario A and Scenario B, there is a reduction in the average intersection delay from 120.1 seconds to 105.3 seconds in the AM peak once Davy Robinson Drive is connected to the site.
- When comparing Scenario A and Scenario B, the LOS improves from F to E in the PM peak once Davy Robinson Drive is connected to the site.

4.4.3 Newbridge Road/Site Access

Table 4.9 SIDRA modelling result for Newbridge Road/Site Access

Control: Priority controlled (give way)	AM Peak						PM Peak					
Scenarios	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**
1. Existing (without development)	4,818	13.4	A	0.529	1.0	LT from Access Road (south)	5,360	17.2	B	0.560	413.5	TH from Newbridge Road (east)
2. Scenario A: Baseline + Georges Cove Village development + cumulative developments via Promontory Way	5,053	9.9	A	0.506	0	N/A	5,663	9.8	A	0.578	247.6	TH from Newbridge Road (east)
3. Scenario B: Baseline + Georges Cove Village development + cumulative developments via Promontory Way and Davy Robinson Drive	5,006	9.9	A	0.514	0	N/A	5,609	9.8	A	0.667	173.4	TH from Newbridge Road (east)

Key findings for Newbridge Road/Site Access intersection:

- In AM, the intersection performs satisfactorily within capacity with LOS A and DoS <0.6 for all scenarios.
- In PM, the intersection performs satisfactorily within capacity with LOS B and DoS <0.7 for all scenarios.
- In Scenario A, due to the maximum queue of 247.6 m on the east approach of Newbridge Road/Governor Macquarie Drive/Brickmakers Drive, light and heavy vehicles from Newbridge Road (east) will be part of the queue while attempting to enter the site. There are no vehicles exiting at this intersection.

4.4.4 Newbridge Road/Davy Robinson Drive

Table 4.10 SIDRA modelling result for Newbridge Road/Davy Robinson Drive

Control: 1. Priority controlled (give way) 2. Priority controlled (give way) 3. Signalised	AM Peak						PM Peak					
Scenarios	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**	**Intersection volume**	**DEL (s)**	**LOS**	**DOS**	**Q95 (m)**	**Q95 approach and direction**
1. Existing (without development)	4,825	159.7	F	1.013	15.4	LT from Davy Robinson Drive (south)	5,580	448.7	F	1.219	24.6	RT from Newbridge Road (west)
2. Scenario A: Baseline + Georges Cove Village development + cumulative developments via Promontory Way	5,061	184.8	F	1.029	20.7	LT and RT from Davy Robinson Drive (south)	5,884	436.0	F	1.228	24.6	RT from Newbridge Road (west)
3. Scenario B: Baseline + Georges Cove Village development + cumulative developments via Promontory Way and Davy Robinson Drive	5,109	22.7	B	0.894	338.3	TH from Newbridge Road (west)	5,972	18.9	B	0.882	382.0	TH from Newbridge Road (east)

Key findings for Newbridge Road/Davy Robinson Drive intersection:

- In AM and PM, the intersection performs over capacity in the existing scenario and Scenario A, with LOS F and DoS >1.0 for these scenarios with priority controlled (give way) intersections.
- Overall, the intersection will have capacity to accommodate the development when it is upgraded to a signalised intersection once the DCP Road is connected to Davy Robinson Drive. Depending on the spatial traffic distribution and broader network connectivity, upgrades may be required to Davy Robinson Drive (south approach), such as dedicated left and right turn lanes to minimise queue lengths and overall delays. This is also dependent on the development of the Flower Power site.
- Given that signalisation of Newbridge Road/Davy Robinson Drive intersection improves the overall performance of the road network, Transport for New South Wales (TfNSW) should consider signalisation of Newbridge Road/Davy Robinson Drive in the future.

5 Conclusion and summary

This traffic report considers the revised design for the Georges Cove Village site and responds to Liverpool City Council's requirements for a revised report.

In summary:

- The revised Georges Cove Village proposal will have retail and light industrial land uses, with no residential components.
- The retail car park will be located on the bottom levels, which will be separated from the light industrial car park on the top level.
- Vehicles will be able to access the site via Promontory Way for all scenarios, while vehicles may access the site via Davy Robinson Drive in Scenario B. Scenario B is dependent on the development of the Flower Power site to connect DCP Road to Davy Robinson Drive, as well as the signalisation of Newbridge Road/Davy Robinson Drive.
- Light vehicles will be able to enter the site from DCP Road on the south side of the site, as well as make a left turn from Newbridge Road (east) to the site access. For Scenario A, all light vehicle traffic will exit via Promontory Way, but will not exit via Davy Robinson Drive or from the site to Newbridge Road (west). For Scenario B, DCP Road will be connected to Davy Robinson Drive to the east of the site, so light vehicles will be able to exit via Davy Robinson Drive by a signalised intersection at Newbridge Road/Davy Robinson Drive.
- Heavy vehicles will be able to enter via a left turn from Newbridge Road east to the site, then proceed through an anti-clockwise circulation on the lower floor, exiting via a left turn to Newbridge Road (west) at the north-east of the site.
- The SIDRA traffic analysis shows that:
    - Newbridge Road/Governor Macquarie Drive/Brickmakers Drive intersection is already operating over capacity, with LOS F and DOS >1, so additional traffic volumes from the development will have a minor impact on the intersection.
    - Efficiencies in the operation of the Newbridge Road/Governor Macquarie Drive/Brickmakers Drive intersection can reduce the delays in the PM peak compared to the existing scenario, even after the addition of the Georges Cove Village development and cumulative traffic volumes.
    - The connection of DCP Road to Davy Robinson Drive and the signalisation of Newbridge Road/Davy Robinson Drive will improve the performance of Newbridge Road/Governor Macquarie Drive/Brickmakers Drive intersection in the AM and PM peak. Hence, due to the overall network benefits, TfNSW should consider signalisation of Newbridge Road/Davy Robinson Drive.
    - The signalised Brickmakers Drive/Promontory Way intersection will operate satisfactorily at LOS A or B, with minimal delays. However, in the AM peak the queue may stretch back to the roundabout. This queuing will be alleviated by the connection of the DCP Road to Davy Robinson Drive. In addition, it should be noted that the existing traffic counts at this intersection also included construction related heavy vehicles. Hence, the SIDRA model is conservative.
    - Newbridge Road/Site Access Road intersection will be impacted by traffic queues on Newbridge Road extending from Newbridge Road/Governors Macquarie Drive/Brickmakers Drive. While light

and heavy vehicles will be queued while attempting to enter the site, no light vehicles will exit the site. Only heavy vehicles will exit the site onto Newbridge Road, which generally occurs outside of peak hours. Therefore, the additional impacts to this intersection will be negligible.

- In the existing scenario, Davy Robinson Drive (south approach) on the Newbridge Road/Davy Robinson Drive intersection experiences LOS F during the AM and PM peak hour. When the development traffic can exit via Davy Robinson Drive, signalisation of Newbridge Road/Davy Robinson Drive intersection will allow it to perform at LOS B.

- Until the DCP Road is constructed, as part of the Flower Power site development (Lot 2 DP 602988), and connection is established with Davy Robinson Drive, all traffic will be required to enter and exit the precinct via Promontory Way. In accordance with the Georges Cove Marina Consent (DA-611/2018), this intersection must be signalised prior to marina operations. It is expected that the precinct's traffic network will operate satisfactorily with the single connection via Promontory Way.

- The DCP Road connection to Davy Robinson Drive would further improve the operation of all roads in the precinct once constructed, and Newbridge Road/Davy Robinson Drive intersection is signalised by TfNSW. However, the DCP Road connection to Davy Robinson Drive and the signalisation of Newbridge Road/Davy Robinson Drive is not necessary for satisfactory traffic network performance in the precinct.

- Overall, this development either improves or maintains the existing levels of service surrounding the development. There will only be minor impacts on the existing community and users of the surrounding road network.

References

Ason 2017. *Traffic Impact Assessment.* Ason Group.

EMM 2018. *Georges Cove Marina Residential Planning Proposal.*

RTA 2002. *Guide to Traffic Generating Developments.* Transport for New South Wales.

Appendix A
Architectural plans

EMM
creating opportunities

DEVELOPMENT SUMMARY

LEVEL	PARKING	NLA COMMERCIAL	NLA RETAIL	CIRCULATION/ SERVICES
Not Placed	0.0 m²	0.0 m²	0.0 m²	0.0 m²
LEVEL 1 - DOCK	0.0 m²	0.0 m²	0.0 m²	216.9 m²
LEVEL 2 - PARKING	5786.1 m²	0.0 m²	0.0 m²	479.3 m²
LEVEL 3 - SUPERMARKET	2794.6 m²	3809.2 m²	1045.0 m²	862.7 m²
LEVEL 4 - INDUSTRIAL	0.0 m²	3859.3 m²	0.0 m²	96.3 m²
LEVEL 5 - INDUSTRIAL MEZZANINE	0.0 m²	1274.4 m²	0.0 m²	0.0 m²
	8580.7 m²	8942.9 m²	1045.0 m²	1655.2 m²

GFA SCHEDULE

NAME	AREA
Core	83.0 m²
GFA_Office	4692.3 m²
GFA_Retail/Commercial	1585.0 m²
GFA_Supermarket	3797.6 m²
Services	230.2 m²
	10388.1 m²

GFA SUMMARY

LEVEL	GFA
LEVEL 1 - DOCK	83.0 m²
LEVEL 2 - PARKING	376.7 m²
LEVEL 3 - SUPERMARKET	5388.0 m²
LEVEL 4 - INDUSTRIAL	3243.4 m²
LEVEL 5 - INDUSTRIAL MEZZANINE	1297.0 m²
	10388.1 m²

AREA	PERMISSIBLE FSR	PERMISSIBLE GFA
17218.4 m²	0.75	12913.8 m²

Area Schedule (NLA - RETAIL)

Level	Area
LEVEL 3 - SUPERMARKET	5326.7 m²
	5326.7 m²

Area Schedule (NLA - INDUSTRIAL)

Level	Area
LEVEL 4 - INDUSTRIAL	3627.5 m²
LEVEL 5 - INDUSTRIAL MEZZANINE	1275.6 m²
	4903.0 m²

SHEET LIST

No.	TITLE	REV.
SK00.00	DEVELOPMENT SUMMARY	P2
SK00.01	SITE PLAN	P6
SK01.01	LEVEL 1 - DOCK	P6
SK01.02	LEVEL 2 - CARPARK	P6
SK01.03	LEVEL 3 - RETAIL	P6
SK01.04	LEVEL 4 - LIGHT INDUSTRIAL	P2
SK01.05	LEVEL 5 - MEZZANINE OFFICE	P2
SK01.06	LEVEL 6 - ROOF	P2
SK02.01	SECTIONS	P2
SK03.01	WINTER SOLSTICE	P2
SK03.02	EQUINOX	P2
SK05.01	GFA PLANS	P4
SK05.02	NLA PLANS	P4

PARKING SCHEDULE

LEVEL	CARPARKS				CAR PARKING	MOTORBIKE PARKING
	INDUSTRIAL	INDUSTRIAL (ACCESSIBLE)	RETAIL	RETAIL (ACCESSIBLE)		
LEVEL 2 - PARKING	0	0	182	4	182	5
LEVEL 3 - SUPERMARKET	0	0	97	4	97	5
LEVEL 4 - INDUSTRIAL	72	2	0	0	72	0
	72	2	279	8	351	10

Area Schedule (NLA - RETAIL PARKING RATE)	
Area	Parking Rate (RETAIL)
5326.7 m²	266

Area Schedule (NLA - INDUSTRIAL PARKING RATE)	
Area	Parking Rate
4903.0 m²	140

Area Schedule (NLA - FACTORY PARKING RATE)	
Area	Parking Rate
4903.0 m²	65

Liverpool DCP:

1 disabled parking per 100 retail/commercial

Current Industrial LFA: 4923.5m^2

1 carpark per **35m^2** of **Office LFA**

1 carpark per **75m^2** of **Factory/Warehouse LFA**

Current Retail LFA: 5331.7m^2

1 carpark per **20m^2** of **Retail LFA**

LINK:
https://eplanning.liverpool.nsw.gov.au/Pages/Plan/Book.aspx?exhibit=OnlineControls&hid=4992&s=b6+enterprise+corridor

Liverpool Development Control Plan 2008 > Part 1 (General Controls for all Development) > 20 (Car Parking and Access) > 20.3 (On site parking)

PLANNING PROPOSAL

Revisions

P1	20.12.22	FOR CLIENT REVIEW	DM
P2	31.03.23	FOR CLIENT REVIEW	DM

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Project: **GEORGES COVE VILLAGE**
146 Newbridge Rd
MOOREBANK, NSW

Drawing: **DEVELOPMENT SUMMARY**

Project No: **214205** Date: **20.12.22** Author: **DM** Scale: @ A1

Drawing No.: **SK00.00 P2**

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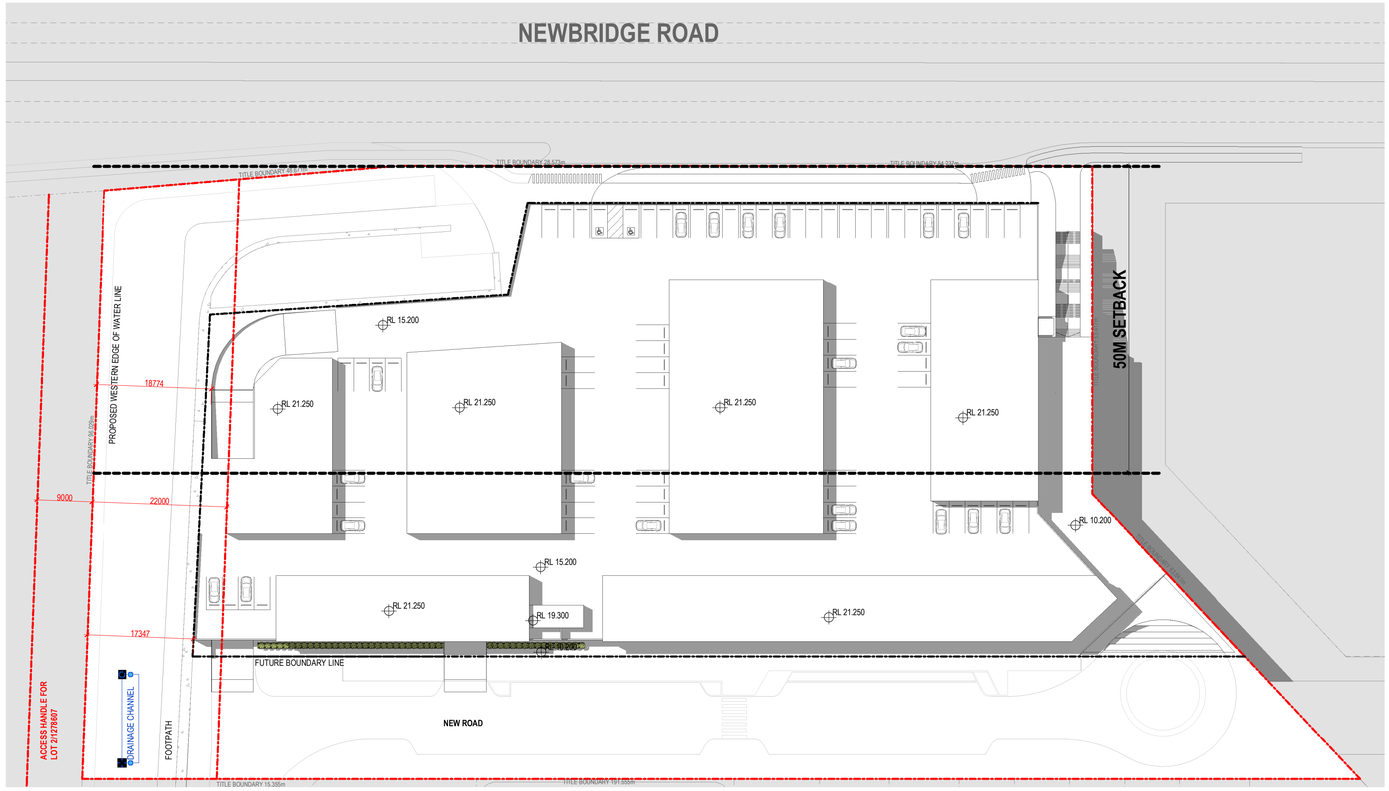

SITE PLAN - 50m Setback

PLANNING PROPOSAL

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	P3	19.08.19	FOR CLIENT REVIEW	JLi
	P4	28.08.19	FOR CLIENT REVIEW	JLi
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	P6	31.03.23	FOR CLIENT REVIEW	DM

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146 Newbridge Rd
MOOREBANK, NSW

Drawing: **SITE PLAN**

Project No: **214205**

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Author: **DM**

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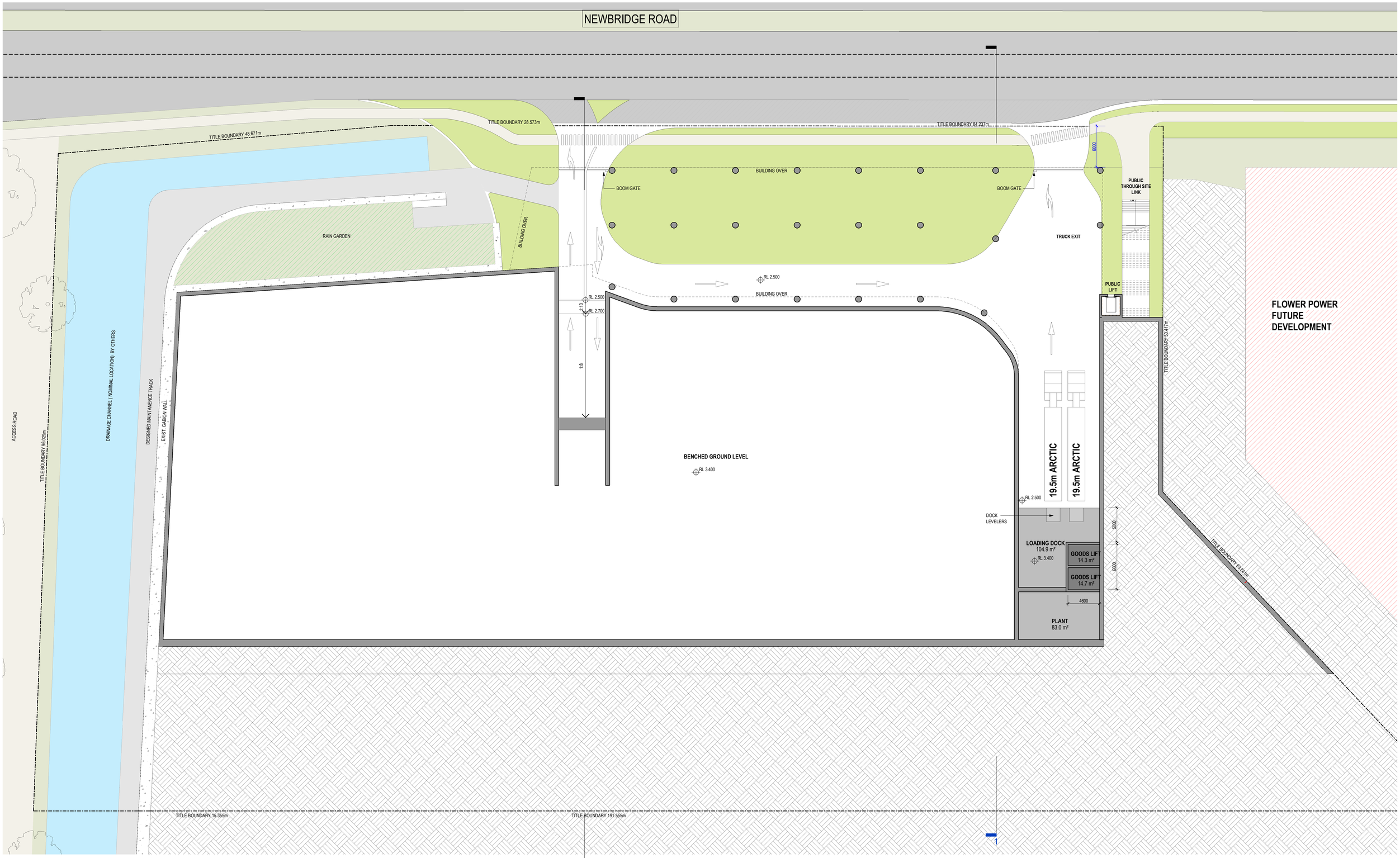

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146 Newbridge Rd
MOOREBANK, NSW

Drawing: **LEVEL 1 - DOCK**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

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Drawing No.: **SK01.01 P6**

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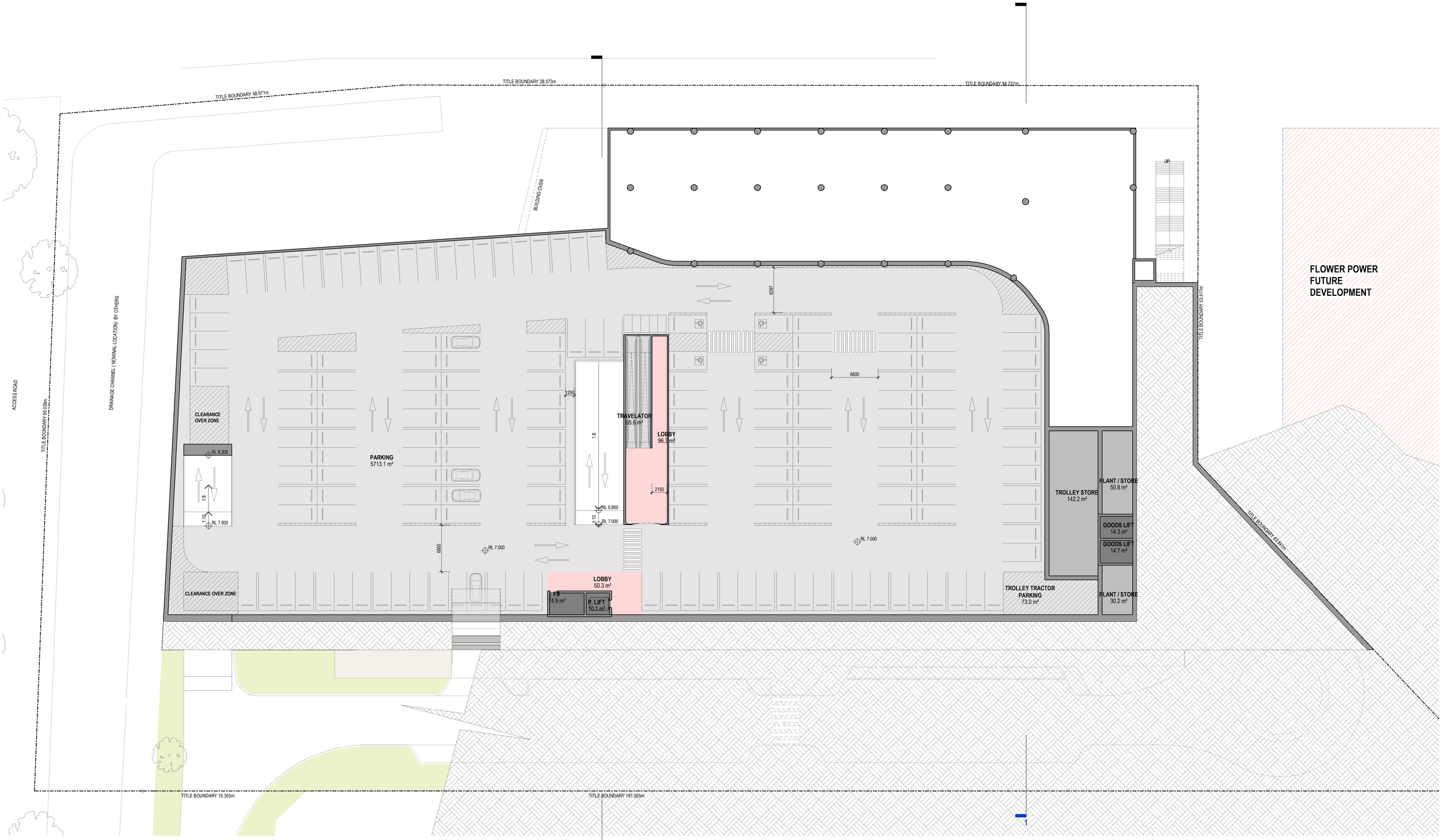

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P6	31.03.23	FOR CLIENT REVIEW	DM

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Project
GEORGES COVE VILLAGE
146 Newbridge Rd
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Drawing **LEVEL 2 - CARPARK**

Project No **214205**

Date **20.12.22**

Author **DM**

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Drawing No. **SK01.02 P6**

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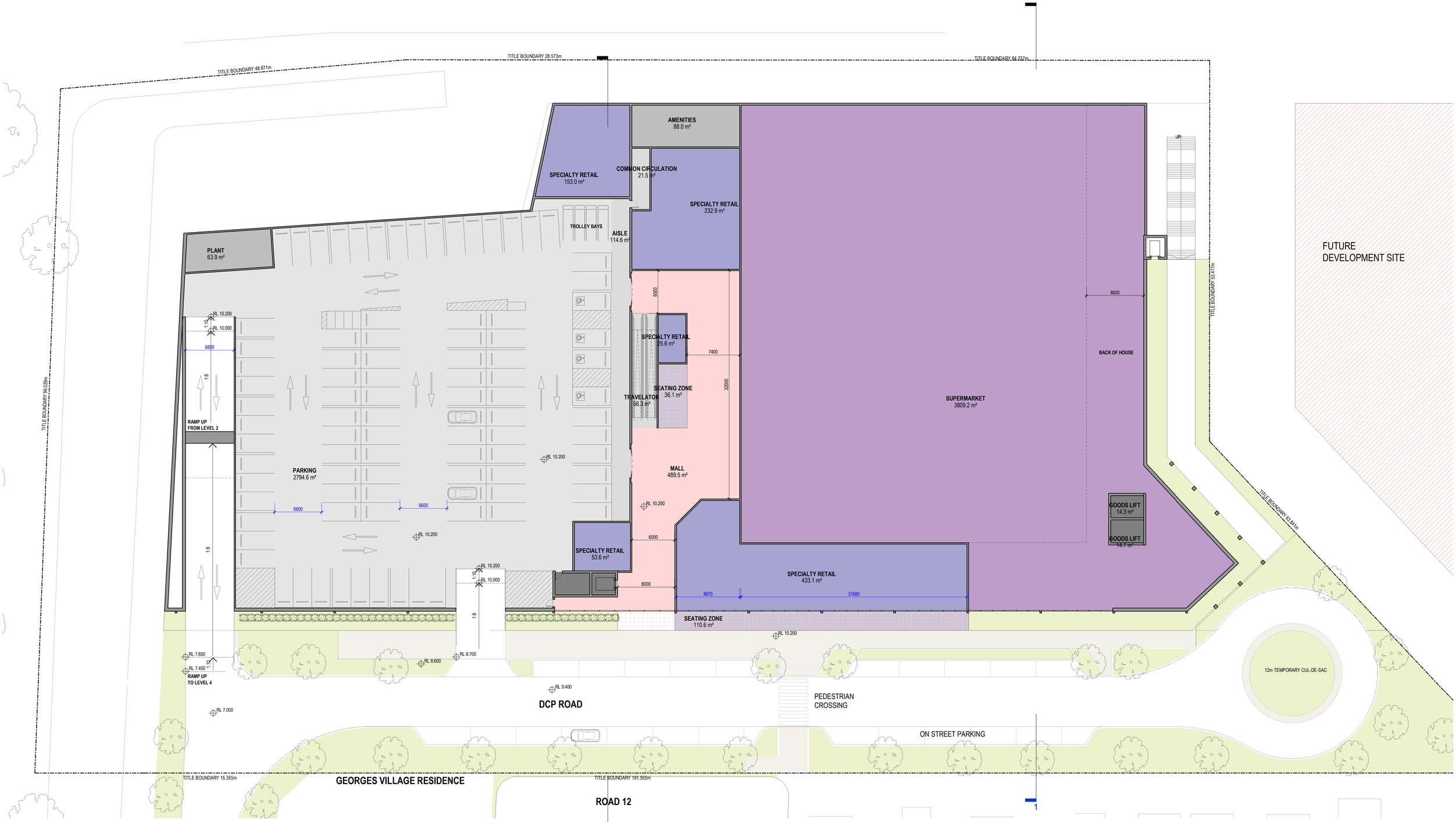

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P6	31.03.23	FOR CLIENT REVIEW	DM

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146 Newbridge Rd
MOOREBANK, NSW

Drawing: **LEVEL 3 - RETAIL**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

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Drawing No.: **SK01.03 P6**

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MOOREBANK, NSW

Drawing: **LEVEL 4 - LIGHT INDUSTRIAL**

Project No: **214205**
Date: **20.12.22**
Author: **DM**
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Drawing No.: **SK01.04 P2**

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TITLE BOUNDARY 28.573m

TITLE BOUNDARY 84.237m

TITLE BOUNDARY 48.671m

TITLE BOUNDARY 98.029m

TITLE BOUNDARY 53.417m

TITLE BOUNDARY 61.841m

TITLE BOUNDARY 15.355m

TITLE BOUNDARY 191.555m

22000

10000

MEZZANINE OFFICE 35.4 m²

MEZZANINE OFFICE 49.4 m²

MEZZANINE OFFICE 35.4 m²

MEZZANINE OFFICE 50.7 m²

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RL 19.300

MEZZANINE OFFICE 75.5 m²

MEZZANINE OFFICE 31.9 m²

MEZZANINE OFFICE 31.9 m²

MEZZANINE OFFICE 31.9 m²

MEZZANINE OFFICE 31.9 m²

MEZZANINE OFFICE 53.9 m²

FLOWER POWER
FUTURE
DEVELOPMENT

1

2

PLANNING PROPOSAL

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Drawing: **LEVEL 5 - MEZZANINE OFFICE**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

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Drawing No.: **SK01.05 P2**

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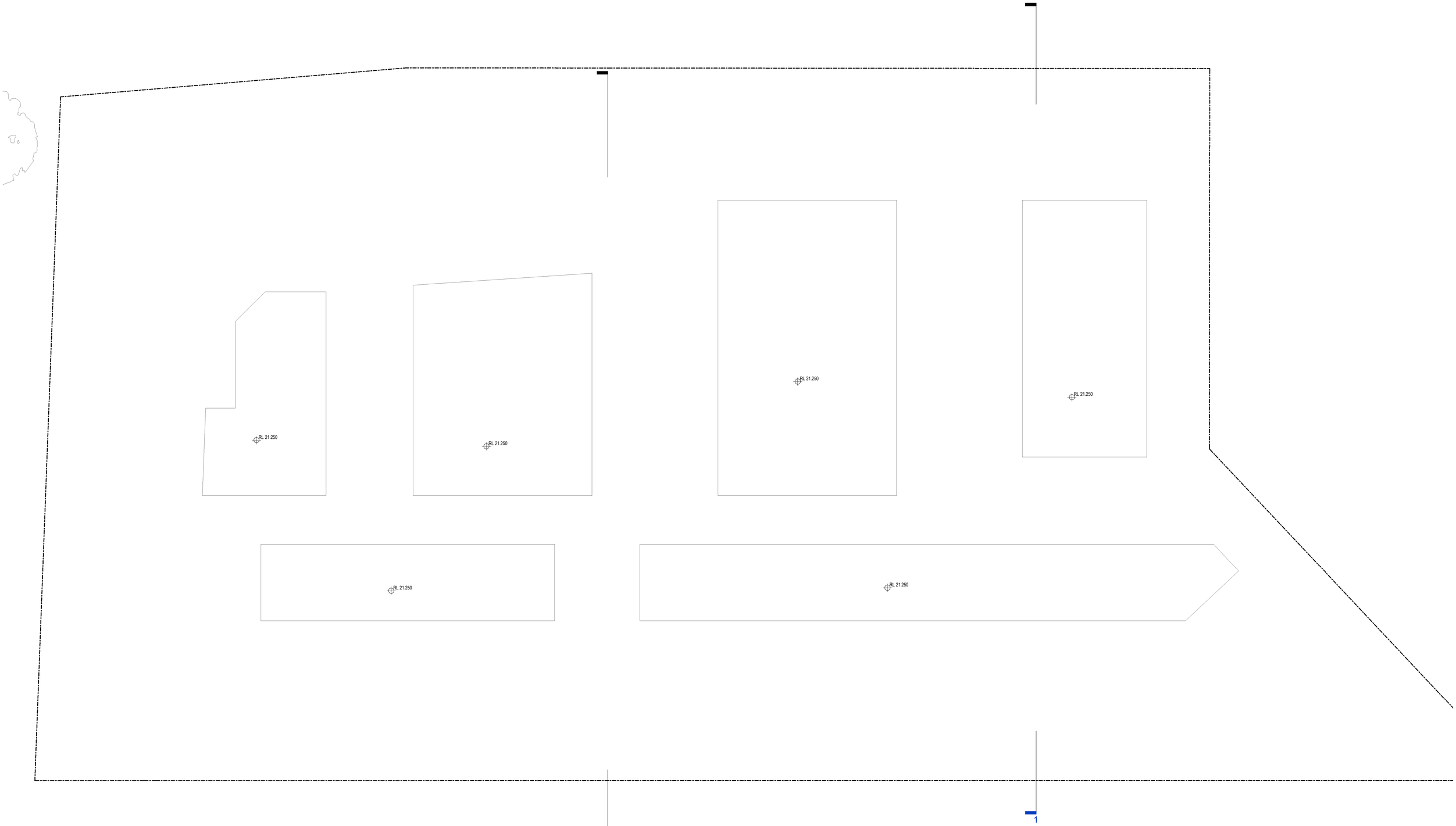

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MOOREBANK, NSW

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Project No: **214205**

Date: **20.12.22**

Author: **DM**

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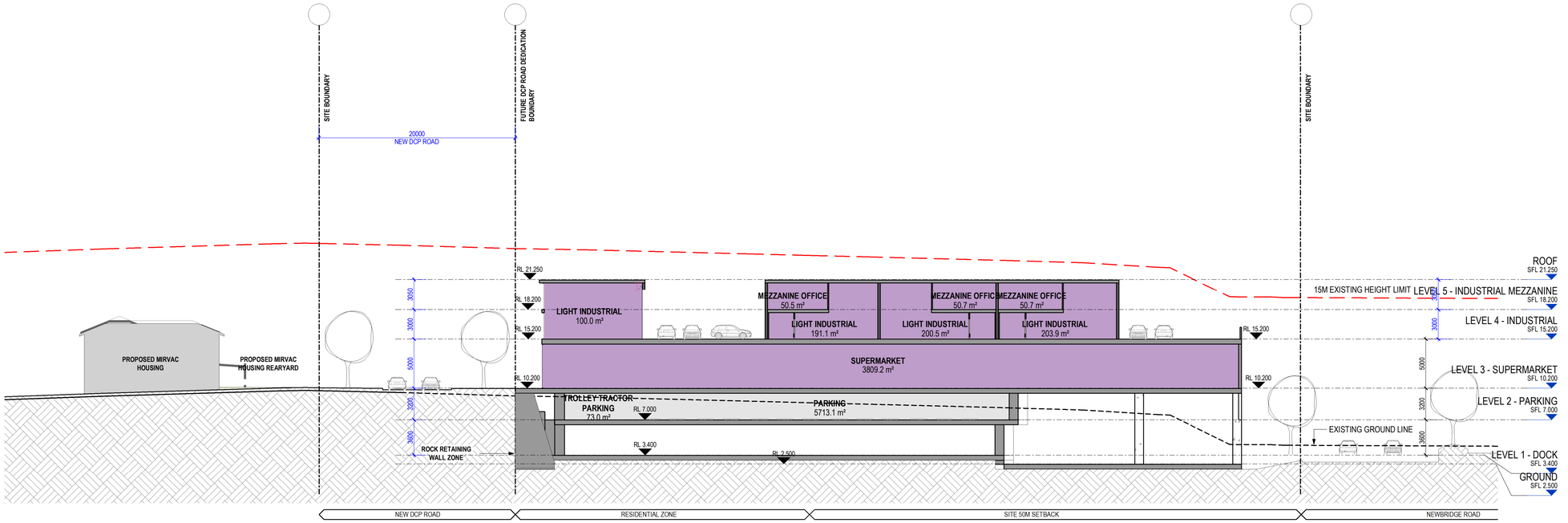

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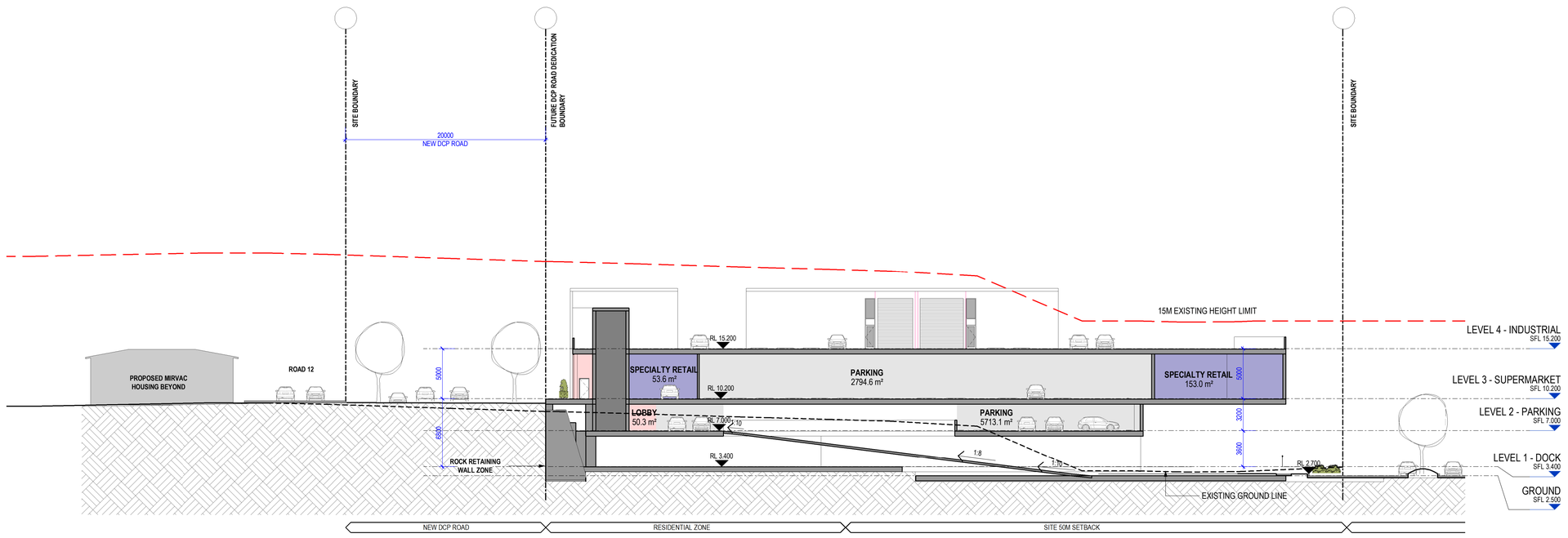

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Drawing: **SECTIONS**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

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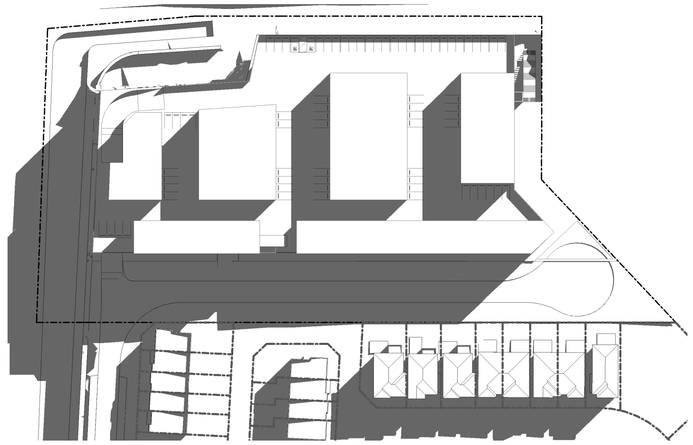
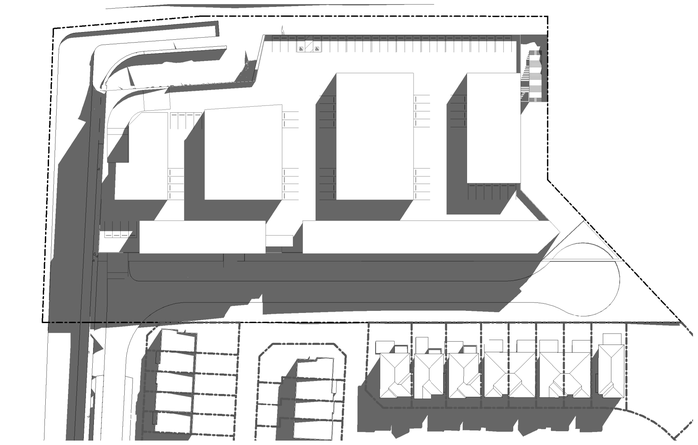


0900 JUN22



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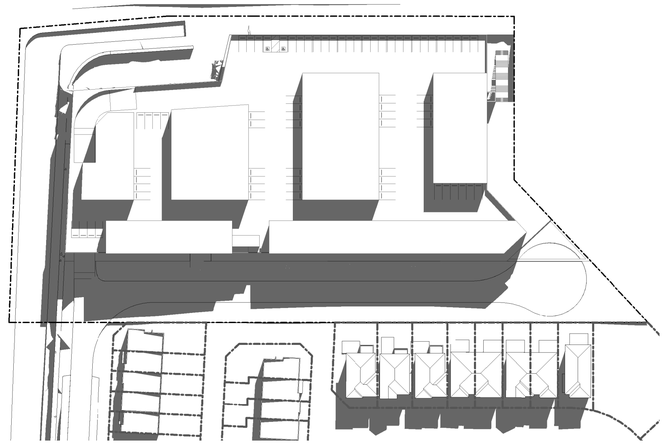

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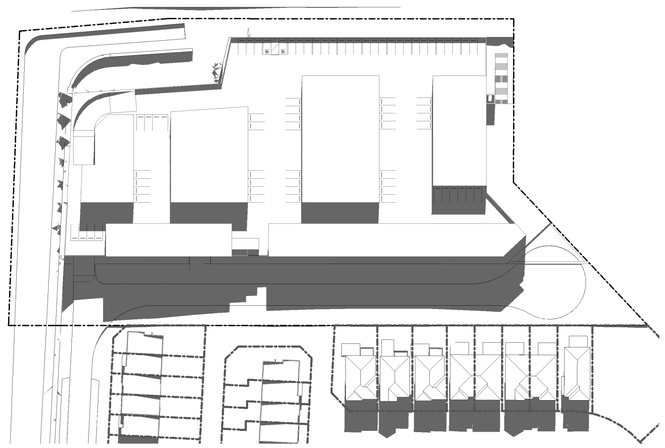

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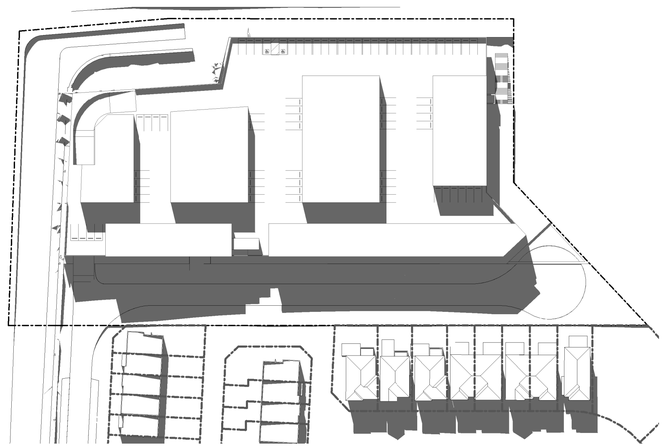

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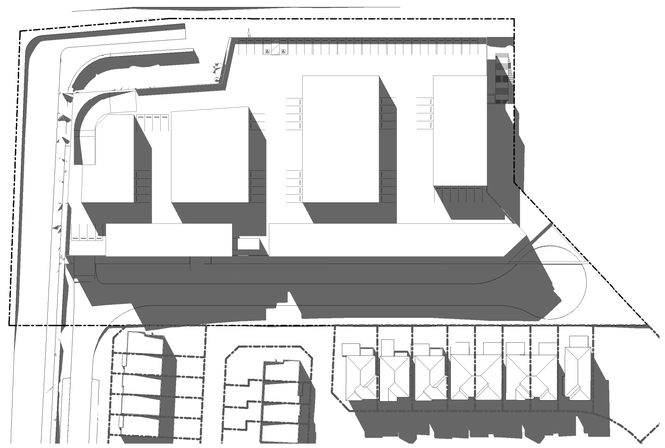

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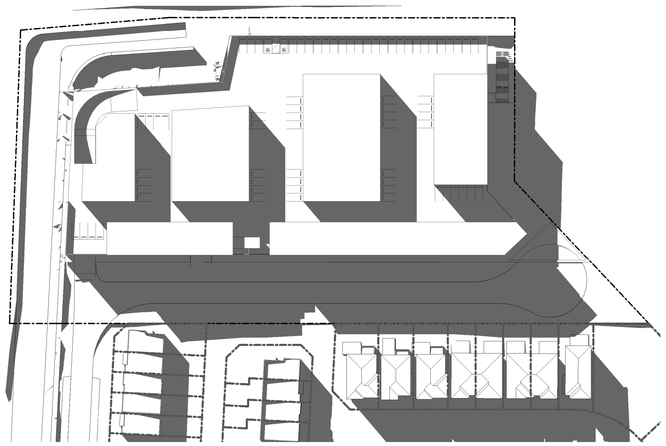

1500 JUN22

PLANNING PROPOSAL

Revisions				
	P1	20.12.22	FOR CLIENT REVIEW	DM
	P2	31.03.23	FOR CLIENT REVIEW	DM

5/07/2023 3:52:29 PM

Project: **GEORGES COVE VILLAGE**
146 Newbridge Rd
MOOREBANK, NSW

Drawing: **WINTER SOLSTICE**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

Scale: @ A1: **1 : 1000**

Drawing No.: **SK03.01 P2**

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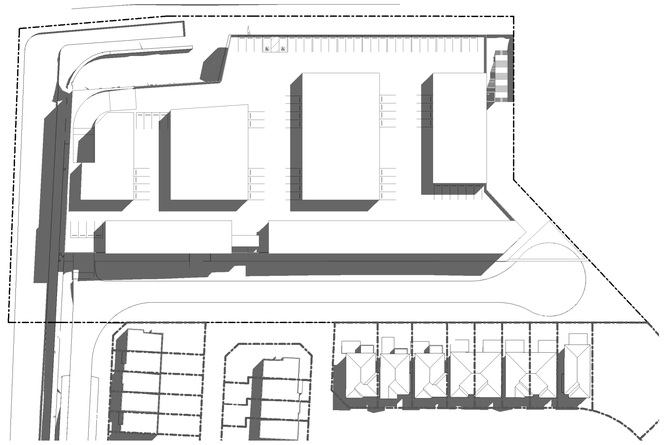
0900 SEP22



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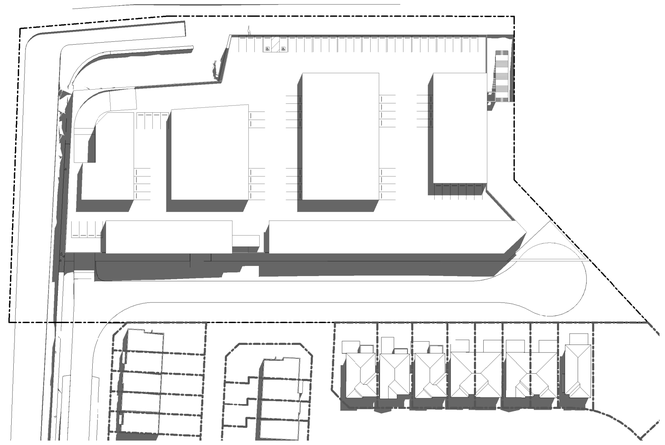
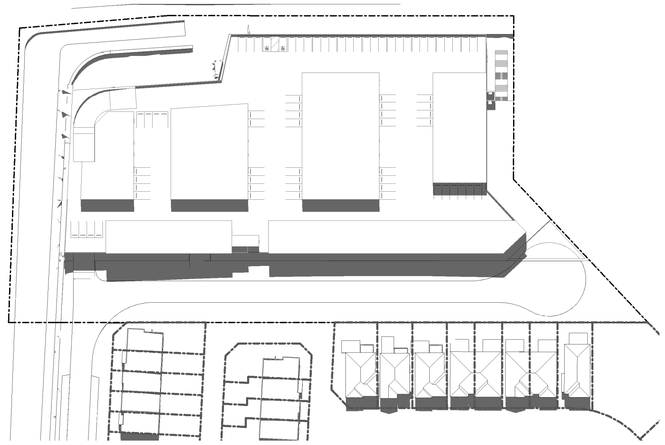


1100 SEP22



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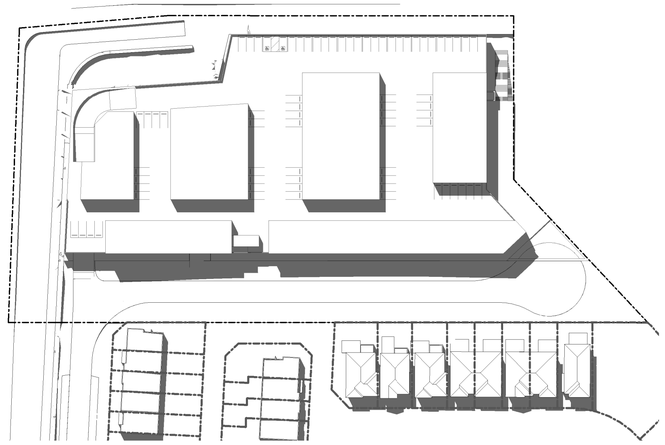

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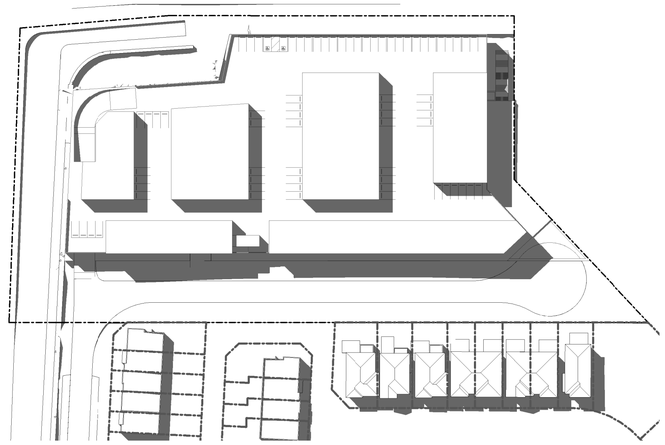

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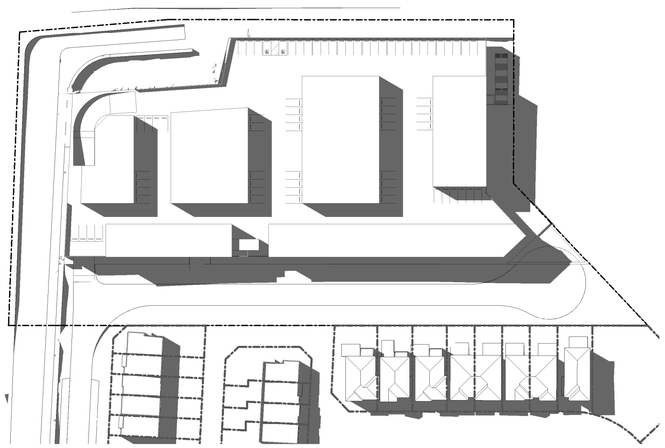

1500 SEP22

PLANNING PROPOSAL

Revisions				
	P1	20.12.22	FOR CLIENT REVIEW	DM
	P2	31.03.23	FOR CLIENT REVIEW	DM

5/07/2023 3:52:42 PM

Project: **GEORGES COVE VILLAGE**
146 Newbridge Rd
MOOREBANK, NSW

Drawing: **EQUINOX**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

Scale: @ A1: **1 : 1000**

Drawing No.: **SK03.02 P2**

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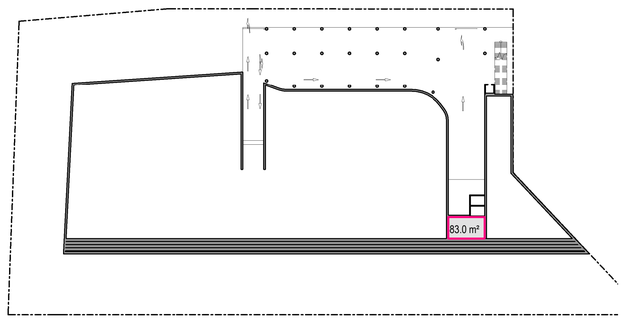
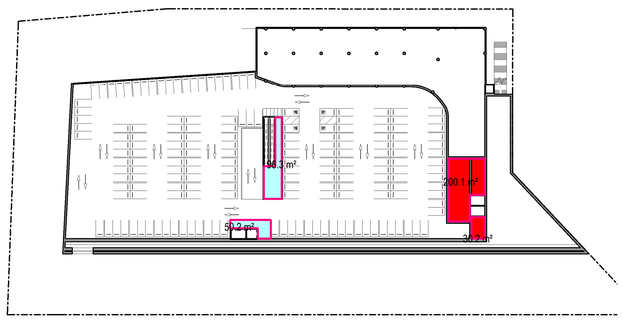
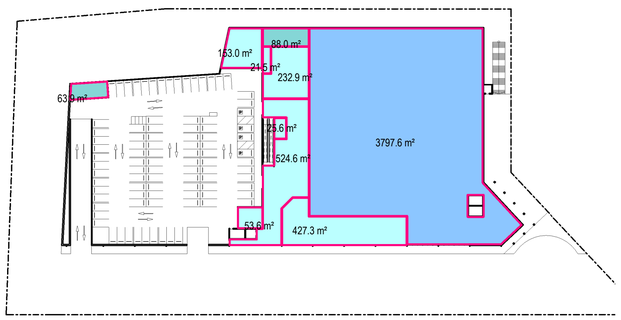


LEVEL 1 - DOCK



LEVEL 2 - PARKING



LEVEL 3 - SUPERMARKET

LEVEL 4 - INDUSTRIAL

LEVEL 5 - INDUSTRIAL MEZZANINE

LEVEL 6 - ROOF

GFA SUMMARY

LEVEL	GFA
LEVEL 1 - DOCK	83.0 m²
LEVEL 2 - PARKING	376.7 m²
LEVEL 3 - SUPERMARKET	5388.0 m²
LEVEL 4 - INDUSTRIAL	3243.4 m²
LEVEL 5 - INDUSTRIAL MEZZANINE	1297.0 m²
	10388.1 m²

GFA SCHEDULE

NAME	AREA
Core	83.0 m²
GFA_Office	4692.3 m²
GFA_Retail/Commercial	1585.0 m²
GFA_Supermarket	3797.6 m²
Services	230.2 m²
	10388.1 m²

AREA DEFINITIONS:

RESIDENTIAL:
Draft Strata Area - measured to inside finished face of corridor walls, parti walls and external walls.

OFFICE:
Net Lettable Area - measured as per the PCA method of measurement.

RETAIL:
Gross Lettable Area Retail - measured as per the PCA method of measurement.

GFA:
Gross Floor Area - measured as defined by the relevant LEP (Local Environmental Plan).

GBA:
Gross Building Area - measured to the slab edge of the building at all floor levels as the total enclosed and unenclosed area of the building.

*For preliminary feasibility purposes. Areas are not to be used for purpose of lease or sale agreements. Layouts may not comply with building regulations or other regulatory requirements. The information contained in this schedule is believed to be correct at the time of printing. Areas are generally measured in accordance with the Property Council of Australia Method of Measurement.

PLANNING PROPOSAL

Revisions			
P1	27.03.19	ISSUE FOR CLIENT REVIEW	SM
P2	24.05.19	FOR INFORMATION	JG
P3	20.12.22	FOR CLIENT REVIEW	DM
P4	31.03.23	FOR CLIENT REVIEW	DM

5/07/2023 3:52:49 PM

Project: **GEORGES COVE VILLAGE**
146 Newbridge Rd
MOOREBANK, NSW

Drawing: **GFA PLANS**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

Scale: @ A1: **1 : 1000**

Drawing No.: **SK05.01 P4**

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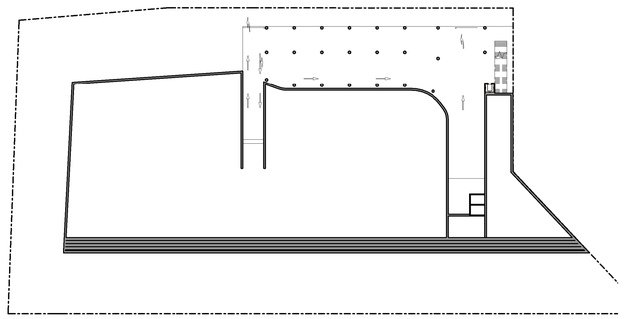
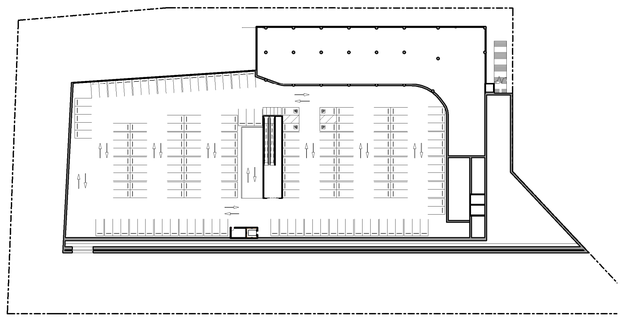
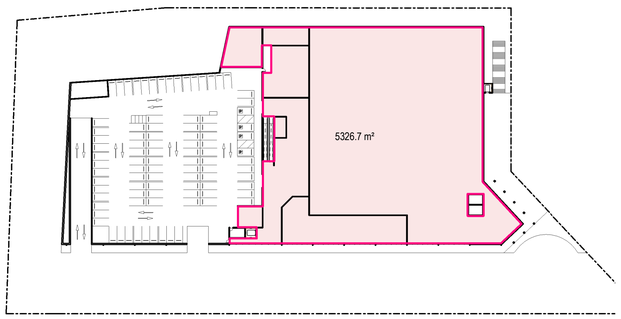


LEVEL 1 - DOCK



LEVEL 2 - PARKING



LEVEL 3 - SUPERMARKET

LEVEL 4 - INDUSTRIAL

LEVEL 5 - INDUSTRIAL MEZZANINE

Area Schedule (NLA - RETAIL)

Level	Area
LEVEL 3 - SUPERMARKET	5326.7 m²
	5326.7 m²

Area Schedule (NLA - INDUSTRIAL)

Level	Area
LEVEL 4 - INDUSTRIAL	3627.5 m²
LEVEL 5 - INDUSTRIAL MEZZANINE	1275.6 m²
	4903.0 m²

Area Schedule (NLA - RETAIL PARKING RATE)

Area	Parking Rate (RETAIL)
5326.7 m²	266

Area Schedule (NLA - INDUSTRIAL PARKING RATE)

Area	Parking Rate
4903.0 m²	140

Area Schedule (NLA - FACTORY PARKING RATE)

Area	Parking Rate
4903.0 m²	65

Liverpool DCP:

1 disabled parking per 100 retail/commercial

Current Industrial LFA: 4923.5m^2

1 carpark per **35m^2** of **Office LFA**

1 carpark per **75m^2** of **Factory/Warehouse LFA**

Current Retail LFA: 5331.7m^2

1 carpark per **20m^2** of **Retail LFA**

LINK:
https://eplanning.liverpool.nsw.gov.au/Pages/Plan/Book.aspx?exhibit=OnlineControls&hid=4992&s=b6+enterprise+corridor

Liverpool Development Control Plan 2008 > Part 1 (General Controls for all Development) > 20 (Car Parking and Access) > 20.3 (On site parking)

PLANNING PROPOSAL

Revisions

P1	27.03.19	ISSUE FOR CLIENT REVIEW	SM
P2	24.05.19	FOR INFORMATION	JG
P3	20.12.22	FOR CLIENT REVIEW	DM
P4	31.03.23	FOR CLIENT REVIEW	DM

5/07/2023 3:52:57 PM

Project: **GEORGES COVE VILLAGE**
146 Newbridge Rd
MOOREBANK, NSW

Drawing: **NLA PLANS**

Project No: **214205**

Date: **20.12.22**

Author: **DM**

Scale: @ A1: **1 : 1000**

Drawing No.: **SK05.02 P4**

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Appendix B

Traffic survey data

EMM
creating opportunities

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Brickmakers Dr and Promontory Wy, Moo

GPS	-33.931536, 150.962727
Date:	Thu 22/06/23
Weather:	Overcast
Suburban:	Moorebank
Customer:	EMM

North:	Brickmakers Dr
East:	Promontory Wy
South:	Brickmakers Dr
West:	N/A

Survey Period	AM:	7:00 AM-9:00 AM
	PM:	4:00 PM-6:00 PM
Traffic Peak	AM:	8:00 AM-9:00 AM
	PM:	4:30 PM-5:30 PM

All Vehicles

Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:00	7:15	0	112	4	0	1	1	0	3	139	1085	
7:15	7:30	1	94	2	0	6	2	0	1	155	1073	
7:30	7:45	0	92	2	0	4	0	0	2	198	1107	
7:45	8:00	4	114	3	0	4	2	0	1	138	1112	
8:00	8:15	0	118	2	0	1	2	0	0	125	1197	Peak
8:15	8:30	1	134	1	0	2	1	0	2	154		
8:30	8:45	4	117	1	0	2	4	0	2	173		
8:45	9:00	1	155	1	0	2	0	0	3	189		
16:00	16:15	0	214	0	0	2	0	1	1	121	1315	
16:15	16:30	0	212	2	0	3	1	0	0	91	1299	
16:30	16:45	1	183	2	0	4	3	0	1	137	1338	Peak
16:45	17:00	0	211	2	0	2	0	0	0	121	1310	
17:00	17:15	1	208	0	0	6	0	0	2	106	1263	
17:15	17:30	0	228	1	0	1	3	0	1	114		
17:30	17:45	0	207	6	0	0	1	0	0	89		
17:45	18:00	0	188	1	0	2	1	0	3	94		

Peak Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
8:00	9:00	6	524	5	0	7	7	0	7	641	1197
16:30	17:30	2	830	5	0	13	6	0	4	478	1338

Pedestrians Crossing

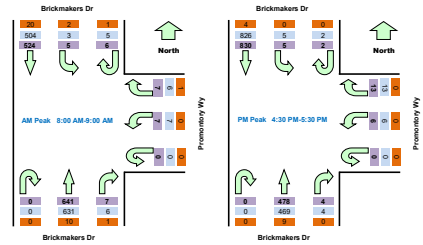
Time		pproach Brickma		pproach Promont		pproach Brickma		Hourly Tot
Period Start	Period End	Vestbour	Eastboun	orthboun	outhbou	Vestbour	Eastboun	
7:00	7:15	0	0	0	0	0	0	3
7:15	7:30	1	0	0	0	0	0	6
7:30	7:45	2	0	0	0	0	0	5
7:45	8:00	0	0	0	0	0	0	6
8:00	8:15	0	3	0	0	0	0	6
8:15	8:30	0	0	0	0	0	0	
8:30	8:45	3	0	0	0	0	0	
8:45	9:00	0	0	0	0	0	0	
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	1
16:30	16:45	0	0	0	0	0	0	1
16:45	17:00	0	0	0	0	0	0	1
17:00	17:15	1	0	0	0	0	0	1
17:15	17:30	0	0	0	0	0	0	
17:30	17:45	0	0	0	0	0	0	
17:45	18:00	0	0	0	0	0	0	

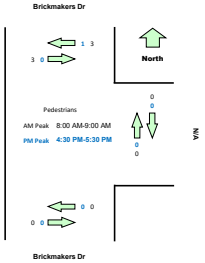
Peak Time		pproach Brickma		pproach Promont		pproach Brickma		Peak total
Period Start	Period End	Vestbour	Eastboun	orthboun	outhbou	Vestbour	Eastboun	
8:00	9:00	3	3	0	0	0	0	6
16:30	17:30	1	0	0	0	0	0	1

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy





Light Vehicles

Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	108	4	0	1	1	0	3	136
7:15	7:30	1	90	2	0	6	2	0	1	153
7:30	7:45	0	92	2	0	4	0	0	2	193
7:45	8:00	4	109	3	0	4	2	0	1	137
8:00	8:15	0	117	1	0	1	2	0	0	121
8:15	8:30	1	129	1	0	1	1	0	2	152
8:30	8:45	4	113	1	0	2	4	0	2	170
8:45	9:00	0	145	0	0	2	0	0	2	188
16:00	16:15	0	208	0	0	1	0	1	1	119
16:15	16:30	0	209	2	0	3	1	0	0	90
16:30	16:45	1	182	2	0	4	3	0	1	133
16:45	17:00	0	210	2	0	2	0	0	0	119
17:00	17:15	1	206	0	0	6	0	0	2	104
17:15	17:30	0	228	1	0	1	3	0	1	113
17:30	17:45	0	203	6	0	0	1	0	0	87
17:45	18:00	0	188	1	0	2	1	0	3	92

Peak Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
8:00	9:00	5	504	3	0	6	7	0	6	631	1162
16:30	17:30	2	826	5	0	13	6	0	4	469	1325

Heavy Vehicles

Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	4	0	0	0	0	0	0	3
7:15	7:30	0	4	0	0	0	0	0	0	2
7:30	7:45	0	0	0	0	0	0	0	0	5
7:45	8:00	0	5	0	0	0	0	0	0	1
8:00	8:15	0	1	1	0	0	0	0	0	4
8:15	8:30	0	5	0	0	1	0	0	0	2
8:30	8:45	0	4	0	0	0	0	0	0	3
8:45	9:00	1	10	1	0	0	0	0	1	1
16:00	16:15	0	6	0	0	1	0	0	0	2
16:15	16:30	0	3	0	0	0	0	0	0	1
16:30	16:45	0	1	0	0	0	0	0	0	4
16:45	17:00	0	1	0	0	0	0	0	0	2
17:00	17:15	0	2	0	0	0	0	0	0	2
17:15	17:30	0	0	0	0	0	0	0	0	1
17:30	17:45	0	4	0	0	0	0	0	0	2
17:45	18:00	0	0	0	0	0	0	0	0	2

Peak Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
8:00	9:00	1	20	2	0	1	0	0	1	10	35
16:30	17:30	0	4	0	0	0	0	0	0	9	13

Cyclists

Time		rth Approach Brickmakers			st Approach Promontory			uth Approach Brickmakers		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY trafficsurvey.com.au

Intersection of Newbridge Rd and Gov Macquarie Dr, Moorebank

GPS	-33.928747, 150.962336
Date:	Thu 22/06/23
Weather:	Overcast
Suburban:	Moorebank
Customer:	EMM

North:	Gov Macquarie Dr
East:	Newbridge Rd
South:	Brickmakers Dr
West:	Newbridge Rd

Survey Period	AM:	7:00 AM-9:00 AM
	PM:	4:00 PM-6:00 PM
Traffic Peak	AM:	7:15 AM-8:15 AM
	PM:	4:45 PM-5:45 PM

All Vehicles

Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	19	20	88	0	129	207	92	0	114	20	1	0	3	453	22	4969	
7:15	7:30	0	16	22	106	0	123	220	75	0	114	42	0	0	1	491	29	5006	Peak
7:30	7:45	0	21	23	141	0	139	194	73	0	164	42	2	0	1	461	37	4946	
7:45	8:00	0	21	21	125	0	151	233	96	0	103	36	2	0	0	437	39	4859	
8:00	8:15	0	23	30	112	1	147	206	95	0	83	35	4	0	0	432	37	4827	
8:15	8:30	0	16	29	130	1	140	185	100	0	89	58	7	1	3	382	38		
8:30	8:45	0	26	40	117	0	146	211	78	0	86	85	2	0	5	372	43		
8:45	9:00	0	28	58	133	0	109	193	90	0	111	84	2	0	7	357	60		
16:00	16:15	0	47	73	120	0	159	356	139	0	87	35	5	0	2	274	38	5694	
16:15	16:30	0	34	53	120	0	166	472	155	0	62	22	6	0	7	274	31	5755	
16:30	16:45	0	45	70	123	1	142	413	115	0	105	29	12	1	4	304	29	5754	
16:45	17:00	0	36	53	131	0	165	541	149	0	89	22	8	0	8	340	22	5777	Peak
17:00	17:15	0	40	48	133	0	135	446	154	0	79	27	9	0	7	289	29	5514	
17:15	17:30	0	42	76	148	0	128	442	153	0	83	26	10	0	2	260	31		
17:30	17:45	0	34	47	97	0	127	442	159	0	68	12	6	0	5	380	39		
17:45	18:00	0	39	44	91	0	147	424	145	0	70	24	5	0	3	291	18		

Peak Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
7:15	8:15	0	81	96	484	1	560	853	339	0	464	155	8	0	2	1821	142	5006
16:45	17:45	0	152	224	509	0	555	1871	615	0	319	87	33	0	22	1269	121	5777

Pedestrians Crossing

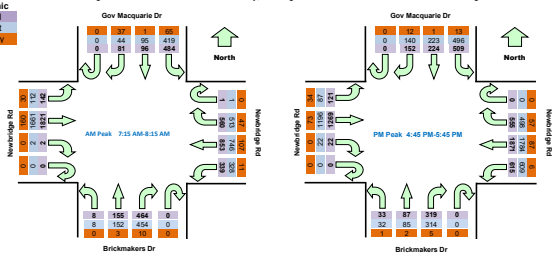
Time		Approach Gov Mac		Approach Newbri		Approach Brickma		Approach Newbri		Hourly Tot
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	
7:00	7:15	0	0	0	0	0	0	0	2	5
7:15	7:30	0	0	0	0	0	0	0	0	6
7:30	7:45	0	0	0	0	0	0	0	0	22
7:45	8:00	0	0	0	1	0	0	0	2	32
8:00	8:15	1	0	0	0	0	0	2	0	29
8:15	8:30	0	0	0	1	0	1	1	13	
8:30	8:45	0	0	0	1	0	1	0	8	
8:45	9:00	0	0	0	0	0	0	0	0	
16:00	16:15	1	0	0	0	0	0	2	0	12
16:15	16:30	0	0	0	0	0	0	3	0	9
16:30	16:45	0	0	0	0	0	0	1	3	9
16:45	17:00	0	0	1	0	1	0	0	0	6
17:00	17:15	0	0	0	0	0	0	0	0	4
17:15	17:30	0	0	0	0	1	0	0	2	
17:30	17:45	0	0	0	0	0	0	0	1	
17:45	18:00	0	0	0	0	0	0	0	0	

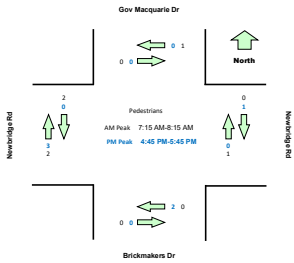
Peak Time		Approach Gov Mac		Approach Newbri		Approach Brickma		Approach Newbri		Peak hour
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	
7:15	8:15	1	0	0	1	0	0	2	2	6
16:45	17:45	0	0	1	0	2	0	0	3	6

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy





Light Vehicles

Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	10	20	73	0	116	168	88	0	113	19	0	0	3	411	13
7:15	7:30	0	9	22	91	0	117	191	71	0	112	42	0	0	1	462	20
7:30	7:45	0	9	23	126	0	131	164	73	0	159	42	2	0	1	419	28
7:45	8:00	0	11	21	101	0	138	206	91	0	103	35	2	0	0	389	32
8:00	8:15	0	15	29	101	1	127	185	93	0	80	33	4	0	0	391	32
8:15	8:30	0	9	28	113	1	116	156	96	0	88	58	6	1	3	339	29
8:30	8:45	0	13	38	96	0	128	174	76	0	85	84	1	0	5	311	30
8:45	9:00	0	18	54	100	0	92	170	83	0	110	83	2	0	7	322	48
16:00	16:15	0	41	72	105	0	144	334	134	0	86	33	5	0	2	252	26
16:15	16:30	0	29	53	117	0	150	449	152	0	61	22	6	0	7	249	24
16:30	16:45	0	39	70	118	1	123	395	114	0	102	28	12	1	4	286	22
16:45	17:00	0	32	53	129	0	149	521	148	0	87	22	8	0	8	324	19
17:00	17:15	0	40	48	128	0	118	413	152	0	77	26	9	0	7	273	23
17:15	17:30	0	39	76	144	0	120	426	153	0	82	26	10	0	2	248	21
17:30	17:45	0	29	46	95	0	111	424	156	0	68	11	5	0	5	351	24
17:45	18:00	0	33	44	86	0	131	403	145	0	69	23	5	0	3	282	13

Peak Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
7:15	8:15	0	44	95	419	1	513	746	328	0	454	152	8	0	2	1661	112	4535
16:45	17:45	0	140	223	496	0	498	1784	609	0	314	85	32	0	22	1196	87	5486

Heavy Vehicles

Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	9	0	15	0	13	39	4	0	1	1	1	0	0	42	9
7:15	7:30	0	7	0	15	0	6	29	4	0	2	0	0	0	0	29	9
7:30	7:45	0	12	0	15	0	8	30	0	0	5	0	0	0	0	42	9
7:45	8:00	0	10	0	24	0	13	27	5	0	0	1	0	0	0	48	7
8:00	8:15	0	8	1	11	0	20	21	2	0	3	2	0	0	0	41	5
8:15	8:30	0	7	1	17	0	24	29	4	0	1	0	1	0	0	43	9
8:30	8:45	0	13	2	21	0	18	37	2	0	1	1	1	0	0	61	13
8:45	9:00	0	10	4	33	0	17	23	7	0	1	1	0	0	0	35	12
16:00	16:15	0	6	1	15	0	15	22	5	0	1	2	0	0	0	22	12
16:15	16:30	0	5	0	3	0	16	23	3	0	1	0	0	0	0	25	7
16:30	16:45	0	6	0	5	0	19	18	1	0	3	1	0	0	0	18	7
16:45	17:00	0	4	0	2	0	16	20	1	0	2	0	0	0	0	16	3
17:00	17:15	0	0	0	5	0	17	33	2	0	2	1	0	0	0	16	6
17:15	17:30	0	3	0	4	0	8	16	0	0	1	0	0	0	0	12	10
17:30	17:45	0	5	1	2	0	16	18	3	0	0	1	1	0	0	29	15
17:45	18:00	0	6	0	5	0	16	21	0	0	1	1	0	0	0	9	5

Peak Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd				Peak total
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
7:15	8:15	0	37	1	65	0	47	107	11	0	10	3	0	0	0	160	30	471
16:45	17:45	0	12	1	13	0	57	87	6	0	5	2	1	0	0	73	34	291

Cyclists

Time		North Approach Gov Macquarie Dr				East Approach Newbridge Rd				South Approach Brickmakers Dr				West Approach Newbridge Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Newbridge Rd and Unnamed Rd, Mooreb

GPS	-33.928659, 150.964611
Date:	Thu 22/06/23
Weather:	Overcast
Suburban:	Moorebank
Customer:	EMM

North:	N/A
East:	Newbridge Rd
South:	Unnamed Rd
West:	Newbridge Rd

Survey	AM:	7:00 AM-9:00 AM
Period	PM:	4:00 PM-6:00 PM
Traffic	AM:	7:15 AM-8:15 AM
Peak	PM:	4:45 PM-5:45 PM

All Vehicles

Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	429	7	0	0	1	0	0	646	4562	
7:15	7:30	0	416	4	0	0	1	0	0	710	4577	Peak
7:30	7:45	0	425	5	0	0	0	0	0	777	4473	
7:45	8:00	0	472	4	0	0	3	0	0	662	4266	
8:00	8:15	0	448	8	0	0	2	0	0	640	4132	
8:15	8:30	0	420	1	0	0	3	0	0	603		
8:30	8:45	0	438	2	0	0	2	0	0	558		
8:45	9:00	0	396	5	0	0	2	0	0	604		
16:00	16:15	0	686	1	0	0	1	0	0	470	4972	
16:15	16:30	0	753	0	0	0	1	0	0	455	5074	
16:30	16:45	0	724	1	0	0	1	0	0	543	5064	
16:45	17:00	0	807	1	0	0	4	0	0	524	5092	Peak
17:00	17:15	0	748	0	0	0	2	0	0	510	4967	
17:15	17:30	0	728	0	0	0	0	0	0	471		
17:30	17:45	0	727	0	0	0	0	0	0	570		
17:45	18:00	0	728	0	0	0	0	0	0	483		

Peak Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	1761	21	0	0	6	0	0	2789	4577
16:45	17:45	0	3010	1	0	0	6	0	0	2075	5092

Pedestrians Crossing

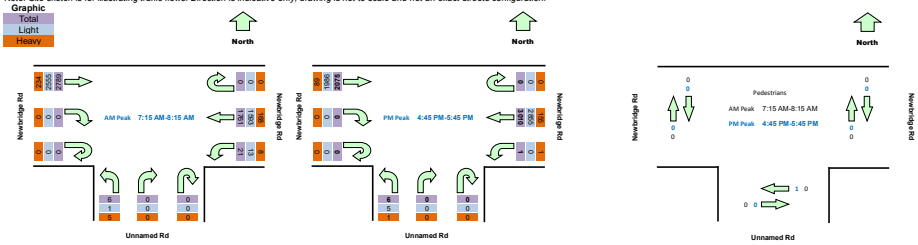
Time		Approach Newbrid	Approach Unnam	Approach Newbrid	Hourly Tot
Period Start	Period End	outhbou	orthbou	estbou	astbou	outhbou	orthbou	
7:00	7:15	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	
8:30	8:45	0	0	0	0	0	0	
8:45	9:00	0	0	0	0	0	0	
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	1
16:45	17:00	0	0	0	0	0	0	1
17:00	17:15	0	0	0	0	0	0	1
17:15	17:30	0	0	1	0	0	0	
17:30	17:45	0	0	0	0	0	0	
17:45	18:00	0	0	0	0	0	0	

Peak Time		Approach Newbrid	Approach Unnam	Approach Newbrid	Peak
Period Start	Period End	outhbou	orthbou	estbou	astbou	outhbou	orthbou	total
7:15	8:15	0	0	0	0	0	0	0
16:45	17:45	0	0	1	0	0	0	1

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	381	4	0	0	0	0	0	587
7:15	7:30	0	377	4	0	0	1	0	0	665
7:30	7:45	0	384	4	0	0	0	0	0	713
7:45	8:00	0	427	2	0	0	0	0	0	593
8:00	8:15	0	405	3	0	0	0	0	0	584
8:15	8:30	0	369	0	0	0	0	0	0	548
8:30	8:45	0	378	2	0	0	1	0	0	472
8:45	9:00	0	349	3	0	0	0	0	0	539
16:00	16:15	0	639	0	0	0	1	0	0	434
16:15	16:30	0	722	0	0	0	0	0	0	425
16:30	16:45	0	687	0	0	0	0	0	0	514
16:45	17:00	0	768	0	0	0	4	0	0	507
17:00	17:15	0	695	0	0	0	1	0	0	485
17:15	17:30	0	699	0	0	0	0	0	0	455
17:30	17:45	0	693	0	0	0	0	0	0	539
17:45	18:00	0	687	0	0	0	0	0	0	465

Peak Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	1593	13	0	0	1	0	0	2555	4162
16:45	17:45	0	2855	0	0	0	5	0	0	1986	4846

Heavy Vehicles

Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	48	3	0	0	1	0	0	59
7:15	7:30	0	39	0	0	0	0	0	0	45
7:30	7:45	0	41	1	0	0	0	0	0	64
7:45	8:00	0	45	2	0	0	3	0	0	69
8:00	8:15	0	43	5	0	0	2	0	0	56
8:15	8:30	0	51	1	0	0	3	0	0	55
8:30	8:45	0	60	0	0	0	1	0	0	86
8:45	9:00	0	47	2	0	0	2	0	0	65
16:00	16:15	0	47	1	0	0	0	0	0	36
16:15	16:30	0	31	0	0	0	1	0	0	30
16:30	16:45	0	37	1	0	0	1	0	0	29
16:45	17:00	0	39	1	0	0	0	0	0	17
17:00	17:15	0	53	0	0	0	1	0	0	25
17:15	17:30	0	29	0	0	0	0	0	0	16
17:30	17:45	0	34	0	0	0	0	0	0	31
17:45	18:00	0	41	0	0	0	0	0	0	18

Peak Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	168	8	0	0	5	0	0	234	415
16:45	17:45	0	155	1	0	0	1	0	0	89	246

Cyclists

Time		East Approach Newbridge R			South Approach Unnamed			West Approach Newbridge R		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	1	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Newbridge Rd and Davy Robinson Dr, Mc

GPS	-33.928536, 150.968867
Date:	Thu 22/06/23
Weather:	Overcast
Suburban:	Moorebank
Customer:	EMM

North:	N/A
East:	Newbridge Rd
South:	Davy Robinson Dr
West:	Newbridge Rd

Survey	AM:	7:00 AM-9:00 AM
Period	PM:	4:00 PM-6:00 PM
Traffic	AM:	7:15 AM-8:15 AM
Peak	PM:	4:45 PM-5:45 PM

All Vehicles

Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	1	423	0	0	0	2	5	3	652	4586	
7:15	7:30	0	403	1	0	0	0	2	3	704	4595	Peak
7:30	7:45	0	419	0	0	1	2	3	4	779	4552	
7:45	8:00	0	481	0	0	0	4	2	3	689	4342	
8:00	8:15	0	439	0	0	0	2	4	2	648	4173	
8:15	8:30	0	410	1	0	0	0	1	0	658		
8:30	8:45	1	436	0	0	0	1	1	0	559		
8:45	9:00	2	382	1	0	0	1	4	1	619		
16:00	16:15	0	687	2	0	0	6	7	1	455	5124	
16:15	16:30	0	729	2	0	1	3	4	1	502	5278	
16:30	16:45	0	711	3	0	0	4	0	3	602	5276	
16:45	17:00	0	815	1	0	0	4	1	4	576	5311	Peak
17:00	17:15	0	734	1	0	0	3	5	2	567	5174	
17:15	17:30	0	699	0	0	0	1	3	0	537		
17:30	17:45	0	732	2	0	0	0	2	1	621		
17:45	18:00	1	683	2	0	0	4	2	0	572		

Peak Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	1742	1	0	1	8	11	12	2820	4595
16:45	17:45	0	2980	4	0	0	8	11	7	2301	5311

Pedestrians Crossing

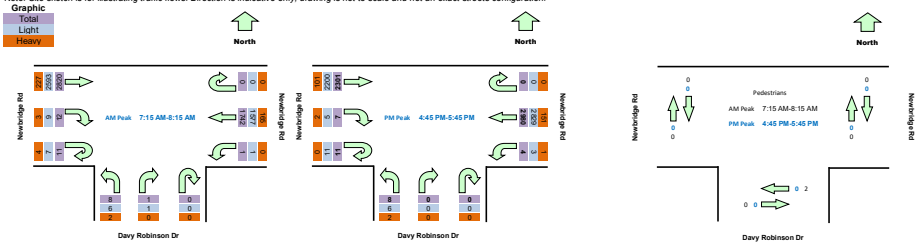
Time		Approach Newbrid	Approach Newbrid	Approach Davy Rob	Approach Newbrid	Approach Newbrid		Hourly Tot
Period Start	Period End	outbound	orthbound	estbound	astbound	outbound	orthbound	
7:00	7:15	0	0	0	0	0	0	2
7:15	7:30	0	0	0	0	0	0	2
7:30	7:45	0	0	0	0	0	0	2
7:45	8:00	0	0	2	0	0	0	3
8:00	8:15	0	0	0	0	0	0	1
8:15	8:30	0	0	0	0	0	0	
8:30	8:45	0	0	0	1	0	0	
8:45	9:00	0	0	0	0	0	0	
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	
17:30	17:45	0	0	0	0	0	0	
17:45	18:00	0	0	0	0	0	0	

Peak Time		Approach Newbrid	Approach Newbrid	Approach Davy Rob	Approach Newbrid	Approach Newbrid		Peak
Period Start	Period End	outbound	orthbound	estbound	astbound	outbound	orthbound	total
7:15	8:15	0	0	2	0	0	0	2
16:45	17:45	0	0	0	0	0	0	0

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	1	374	0	0	0	0	4	1	597
7:15	7:30	0	367	1	0	0	0	2	3	661
7:30	7:45	0	376	0	0	1	2	2	3	714
7:45	8:00	0	439	0	0	0	2	1	1	626
8:00	8:15	0	395	0	0	0	2	2	2	592
8:15	8:30	0	359	1	0	0	0	0	0	602
8:30	8:45	1	380	0	0	0	0	1	0	475
8:45	9:00	2	336	1	0	0	0	3	0	551
16:00	16:15	0	642	2	0	0	4	7	0	426
16:15	16:30	0	696	2	0	1	2	4	1	474
16:30	16:45	0	676	2	0	0	3	0	2	567
16:45	17:00	0	775	0	0	0	2	1	2	557
17:00	17:15	0	687	1	0	0	3	5	2	540
17:15	17:30	0	671	0	0	0	1	3	0	515
17:30	17:45	0	696	2	0	0	0	2	1	588
17:45	18:00	1	647	2	0	0	4	2	0	550

Peak Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	1577	1	0	1	6	7	9	2593	4194
16:45	17:45	0	2829	3	0	0	6	11	5	2200	5054

Heavy Vehicles

Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	49	0	0	0	2	1	2	55
7:15	7:30	0	36	0	0	0	0	0	0	43
7:30	7:45	0	43	0	0	0	0	1	1	65
7:45	8:00	0	42	0	0	0	2	1	2	63
8:00	8:15	0	44	0	0	0	0	2	0	56
8:15	8:30	0	51	0	0	0	0	1	0	56
8:30	8:45	0	56	0	0	0	1	0	0	84
8:45	9:00	0	46	0	0	0	1	1	1	68
16:00	16:15	0	45	0	0	0	2	0	1	29
16:15	16:30	0	33	0	0	0	1	0	0	28
16:30	16:45	0	35	1	0	0	1	0	1	35
16:45	17:00	0	40	1	0	0	2	0	2	19
17:00	17:15	0	47	0	0	0	0	0	0	27
17:15	17:30	0	28	0	0	0	0	0	0	22
17:30	17:45	0	36	0	0	0	0	0	0	33
17:45	18:00	0	36	0	0	0	0	0	0	22

Peak Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd			Peak
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
7:15	8:15	0	165	0	0	0	2	4	3	227	401
16:45	17:45	0	151	1	0	0	2	0	2	101	257

Cyclists

Time		East Approach Newbridge Rd			North Approach Davy Robinson Dr			West Approach Newbridge Rd		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0
8:15	8:30	0	1	0	0	0	0	0	0	1
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	1	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0

Appendix C
SIDRA results

EMM
creating opportunities

MOVEMENT SUMMARY

Site: 101 [Ex Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex AM (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	8	0.0	8	0.0	0.696	70.7	LOS F	11.6	82.6	1.00	0.85	1.04	25.0
2	T1	All MCs	163	1.9	163	1.9	*0.696	65.1	LOS E	11.6	82.6	1.00	0.85	1.04	24.8
3	R2	All MCs	488	2.2	488	2.2	0.890	79.6	LOS F	18.6	132.4	1.00	1.01	1.26	10.9
Approach			660	2.1	660	2.1	0.890	75.9	LOS F	18.6	132.4	1.00	0.97	1.20	14.9
East: Newbridge Road															
4	L2	All MCs	357	3.2	357	3.2	0.252	7.4	LOS A	2.8	20.3	0.16	0.62	0.16	40.8
5	T1	All MCs	898	12.5	898	12.5	0.273	13.6	LOS A	9.4	72.9	0.50	0.44	0.50	50.9
6	R2	All MCs	589	8.4	589	8.4	*1.177	256.7	LOS F	37.7	283.2	1.00	1.39	2.19	8.8
Approach			1844	9.4	1844	9.4	1.177	90.1	LOS F	37.7	283.2	0.60	0.78	0.97	18.2
North: Governor Macquarie Drive															
7	L2	All MCs	509	13.4	509	13.4	0.501	49.1	LOS D	14.3	111.7	0.88	0.82	0.88	23.2
8	T1	All MCs	101	1.0	101	1.0	0.406	62.8	LOS E	6.5	45.6	0.96	0.77	0.96	20.3
9	R2	All MCs	85	45.7	85	45.7	0.305	45.3	LOS D	4.3	42.1	0.89	0.76	0.89	31.2
Approach			696	15.6	696	15.6	0.501	50.6	LOS D	14.3	111.7	0.89	0.80	0.89	24.1
West: Newbridge Road															
10	L2	All MCs	149	21.1	149	21.1	*0.894	36.9	LOS C	48.0	368.8	1.00	0.99	1.11	33.0
11	T1	All MCs	1917	8.8	1917	8.8	0.894	60.2	LOS E	48.8	367.5	1.00	0.99	1.11	24.5
12	R2	All MCs	2	0.0	2	0.0	0.008	56.3	LOS D	0.1	0.6	0.60	0.64	0.60	32.2
Approach			2068	9.7	2068	9.7	0.894	58.5	LOS E	48.8	368.8	1.00	0.99	1.11	25.3
All Vehicles			5268	9.4	5268	9.4	1.177	70.7	LOS F	48.8	368.8	0.84	0.89	1.04	20.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	16.0	LOS B	0.0	0.0	0.48	0.48	32.7	20.0	0.61
East: Newbridge Road											

P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	34.3	LOS D	0.0	0.0	0.70	0.70	51.0	20.0	0.39
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	59.8	LOS E	0.1	0.1	0.92	0.92	76.5	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Ex Brickmakers Dr/Promontory Way AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex AM (Network Folder: General)]

Intersection with Stop Sign
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	648	1.9	648	1.9	0.337	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.8
3	R2	All MCs	4	0.0	4	0.0	0.005	6.5	LOS A	0.0	0.1	0.46	0.57	0.46	41.8
Approach			653	1.9	653	1.9	0.337	0.2	NA	0.0	0.1	0.00	0.00	0.00	49.8
East: Promontory Way															
4	L2	All MCs	6	0.0	6	0.0	0.009	9.9	LOS A	0.0	0.2	0.46	0.85	0.46	40.0
6	R2	All MCs	16	0.0	16	0.0	0.030	11.6	LOS A	0.1	0.8	0.53	0.90	0.53	20.6
Approach			22	0.0	22	0.0	0.030	11.1	LOS A	0.1	0.8	0.51	0.88	0.51	31.3
North: Brickmakers Drive															
7	L2	All MCs	9	11.1	9	11.1	0.006	4.7	LOS A	0.0	0.0	0.00	0.53	0.00	40.1
8	T1	All MCs	440	2.4	440	2.4	0.229	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			449	2.6	449	2.6	0.229	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.8
All Vehicles			1124	2.2	1124	2.2	0.337	0.4	NA	0.1	0.8	0.01	0.02	0.01	49.5

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [Ex Newbridge Rd/Site Access Rd AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex AM (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Site Access Road															
1	L2	All MCs	6	83.3	6	83.3	0.028	13.4	LOS A	0.1	1.0	0.75	0.75	0.75	9.3
Approach			6	83.3	6	83.3	0.028	13.4	LOS A	0.1	1.0	0.75	0.75	0.75	9.3
East: Newbridge Road															
4	L2	All MCs	22	38.1	22	38.1	0.015	10.2	LOS A	0.0	0.0	0.00	0.80	0.00	44.3
5	T1	All MCs	1854	9.5	1854	9.5	0.398	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.6
Approach			1876	9.9	1876	9.9	0.398	0.2	NA	0.0	0.0	0.00	0.01	0.00	68.6
West: Newbridge Road															
11	T1	All MCs	2936	8.4	2936	8.4	0.529	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
Approach			2936	8.4	2936	8.4	0.529	0.1	NA	0.0	0.0	0.00	0.00	0.00	69.5
All Vehicles			4818	9.1	4818	9.1	0.529	0.2	NA	0.1	1.0	0.00	0.00	0.00	67.9

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Ex Newbridge Rd/Davy Robinson Dr AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex AM (Network Folder: General)]

Intersection with Give Way Sign
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	8	25.0	8	25.0	1.013	159.7	LOS F	1.9	15.4	1.00	0.94	1.09	10.2
3	R2	All MCs	1	0.0	1	0.0	1.013	35.7	LOS C	1.9	15.4	1.00	0.94	1.09	17.3
Approach			9	22.2	9	22.2	1.013	146.0	LOS F	1.9	15.4	1.00	0.94	1.09	11.1
East: Newbridge Road															
4	L2	All MCs	1	0.0	1	0.0	0.333	6.4	LOS A	0.0	0.0	0.00	0.00	0.00	65.5
5	T1	All MCs	1834	9.5	1834	9.5	0.333	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			1835	9.5	1835	9.5	0.333	0.1	NA	0.0	0.0	0.00	0.00	0.00	69.7
West: Newbridge Road															
11	T1	All MCs	2968	8.0	2968	8.0	0.534	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
12	R2	All MCs	13	25.0	13	25.0	0.645	151.8	LOS F	1.1	9.3	0.99	1.03	1.16	15.2
Approach			2981	8.1	2981	8.1	0.645	0.8	NA	1.1	9.3	0.00	0.00	0.00	68.4
All Vehicles			4825	8.7	4825	8.7	1.013	0.8	NA	1.9	15.4	0.00	0.00	0.01	68.2

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Ex Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex PM (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	35	3.0	35	3.0	0.366	37.6	LOS C	7.6	54.3	0.92	0.75	0.92	27.1
2	T1	All MCs	92	2.3	92	2.3	0.366	61.9	LOS E	7.6	54.3	0.92	0.75	0.92	27.0
3	R2	All MCs	336	1.6	336	1.6	* 1.067	156.6	LOS F	17.3	122.7	1.00	1.32	1.83	6.2
Approach			462	1.8	462	1.8	1.067	128.9	LOS F	17.3	122.7	0.98	1.17	1.58	10.1
East: Newbridge Road															
4	L2	All MCs	647	1.0	647	1.0	0.483	48.7	LOS D	11.8	83.1	0.36	1.16	0.36	35.7
5	T1	All MCs	1969	4.6	1969	4.6	* 1.128	195.6	LOS F	40.4	293.8	1.00	1.67	1.91	11.6
6	R2	All MCs	584	10.3	584	10.3	* 0.656	58.0	LOS E	10.4	79.1	0.95	0.85	0.95	32.0
Approach			3201	4.9	3201	4.9	1.128	140.8	LOS F	40.4	293.8	0.86	1.42	1.42	14.1
North: Governor Macquarie Drive															
7	L2	All MCs	536	2.6	536	2.6	0.312	20.5	LOS B	8.4	60.0	0.66	0.75	0.66	36.1
8	T1	All MCs	236	0.4	236	0.4	* 0.679	59.9	LOS E	15.2	107.1	0.99	0.83	0.99	20.9
9	R2	All MCs	160	7.9	160	7.9	0.499	48.4	LOS D	8.7	65.4	0.92	0.79	0.92	33.4
Approach			932	2.9	932	2.9	0.679	35.3	LOS C	15.2	107.1	0.79	0.78	0.79	30.5
West: Newbridge Road															
10	L2	All MCs	127	28.1	127	28.1	0.948	61.7	LOS E	39.0	300.4	1.00	1.12	1.29	26.5
11	T1	All MCs	1336	5.8	1336	5.8	0.948	88.5	LOS F	40.8	299.7	1.00	1.13	1.28	18.1
12	R2	All MCs	23	0.0	23	0.0	0.056	83.6	LOS F	0.8	5.4	0.82	0.69	0.82	32.1
Approach			1486	7.6	1486	7.6	0.948	86.1	LOS F	40.8	300.4	1.00	1.12	1.27	19.2
All Vehicles			6081	5.0	6081	5.0	1.128	110.3	LOS F	40.8	300.4	0.89	1.23	1.30	16.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	34.3	LOS D	0.0	0.0	0.70	0.70	51.0	20.0	0.39
East: Newbridge Road											

P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	49.7	LOS E	0.0	0.0	0.84	0.84	66.4	20.0	0.30
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	61.7	LOS F	0.1	0.1	0.94	0.94	78.4	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Ex Brickmakers Dr/Promontory Way PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex PM (Network Folder: General)]

Intersection with Stop Sign
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	453	1.6	453	1.6	0.235	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
3	R2	All MCs	3	0.0	3	0.0	0.007	10.9	LOS A	0.0	0.2	0.68	0.72	0.68	38.5
Approach			456	1.6	456	1.6	0.235	0.1	NA	0.0	0.2	0.00	0.01	0.00	49.8
East: Promontory Way															
4	L2	All MCs	4	0.0	4	0.0	0.013	16.2	LOS B	0.0	0.3	0.72	0.93	0.72	36.2
6	R2	All MCs	9	0.0	9	0.0	0.044	22.7	LOS B	0.1	1.0	0.79	1.00	0.79	13.0
Approach			14	0.0	14	0.0	0.044	20.7	LOS B	0.1	1.0	0.77	0.98	0.77	24.2
North: Brickmakers Drive															
7	L2	All MCs	9	0.0	9	0.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	40.6
8	T1	All MCs	899	0.8	899	0.8	0.463	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			908	0.8	908	0.8	0.463	0.2	NA	0.0	0.0	0.00	0.01	0.00	49.7
All Vehicles			1378	1.1	1378	1.1	0.463	0.4	NA	0.1	1.0	0.01	0.02	0.01	49.5

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 103 [Ex Newbridge Rd/Site Access Rd PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex PM (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Site Access Road															
1	L2	All MCs	6	16.7	6	16.7	0.067	17.2	LOS B	0.1	0.8	0.83	0.83	0.83	9.2
Approach			6	16.7	6	16.7	0.067	17.2	LOS B	0.1	0.8	0.83	0.83	0.83	9.2
East: Newbridge Road															
4	L2	All MCs	1	100.0	1	100.0	0.001	11.4	LOS A	0.0	0.0	0.00	0.79	0.00	42.1
5	T1	All MCs	3168	5.1	3168	5.1	0.560	0.2	LOS A	56.6	413.5	0.00	0.00	0.00	69.4
Approach			3169	5.2	3169	5.2	0.560	0.2	NA	56.6	413.5	0.00	0.00	0.00	69.4
West: Newbridge Road															
11	T1	All MCs	2184	4.3	2163	4.3	0.380	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			2184	4.3	2163	4.3	0.380	0.0	NA	0.0	0.0	0.00	0.00	0.00	69.7
All Vehicles			5360	4.8	5339	4.9	0.560	0.1	NA	56.6	413.5	0.00	0.00	0.00	68.6

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Ex Newbridge Rd/Davy Robinson Dr PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Ex PM (Network Folder: General)]

Intersection with Give Way Sign
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	8	25.0	8	25.0	1.031	186.9	LOS F	1.8	15.3	1.00	1.05	1.18	8.8
3	R2	All MCs	1	0.0	1	0.0	1.031	68.6	LOS E	1.8	15.3	1.00	1.05	1.18	15.3
Approach			9	22.2	9	22.2	1.031	173.8	LOS F	1.8	15.3	1.00	1.05	1.18	9.6
East: Newbridge Road															
4	L2	All MCs	4	25.0	4	25.0	0.584	6.9	LOS A	0.0	0.0	0.00	0.00	0.00	57.3
5	T1	All MCs	3137	5.1	3137	5.1	0.584	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.3
Approach			3141	5.1	3141	5.1	0.584	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.2
West: Newbridge Road															
11	T1	All MCs	2422	4.4	2401	4.4	0.422	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
12	R2	All MCs	7	28.6	7	28.7	1.219	448.7	LOS F	2.8	24.6	1.00	1.08	1.41	6.3
Approach			2429	4.5	2409	4.5	1.219	1.5	NA	2.8	24.6	0.00	0.00	0.00	67.6
All Vehicles			5580	4.8	5559	4.9	1.219	1.1	NA	2.8	24.6	0.00	0.00	0.00	67.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dev Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr AM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A AM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	99	9.6	99	9.6	1.092	174.3	LOS F	33.0	239.8	1.00	1.48	1.85	13.0
2	T1	All MCs	202	2.1	202	2.1	* 1.092	168.5	LOS F	33.0	239.8	1.00	1.48	1.85	13.1
3	R2	All MCs	604	3.7	604	3.7	1.113	189.7	LOS F	34.4	248.7	1.00	1.43	1.93	5.2
Approach			905	4.0	905	4.0	1.113	183.3	LOS F	34.4	248.7	1.00	1.44	1.91	7.9
East: Newbridge Road															
4	L2	All MCs	409	6.2	409	6.2	0.369	11.3	LOS A	6.9	51.0	0.42	0.71	0.42	33.7
5	T1	All MCs	907	13.5	907	13.4	0.295	16.3	LOS B	10.4	81.3	0.55	0.48	0.55	48.3
6	R2	All MCs	592	8.7	591	8.7	* 1.079	170.9	LOS F	31.7	238.4	1.00	1.24	1.81	12.2
Approach			1908	10.4	1908	10.4	1.079	63.2	LOS E	31.7	238.4	0.66	0.76	0.91	22.8
North: Governor Macquarie Drive															
7	L2	All MCs	509	13.4	509	13.4	0.429	42.9	LOS D	13.2	103.2	0.82	0.80	0.82	25.2
8	T1	All MCs	143	1.5	143	1.5	0.494	61.0	LOS E	9.1	64.6	0.97	0.79	0.97	20.7
9	R2	All MCs	85	45.7	85	45.7	0.328	44.3	LOS D	4.2	40.8	0.92	0.76	0.92	31.5
Approach			738	14.8	738	14.8	0.494	46.6	LOS D	13.2	103.2	0.86	0.80	0.86	25.2
West: Newbridge Road															
10	L2	All MCs	149	21.1	149	21.1	* 1.107	150.6	LOS F	84.9	651.7	1.00	1.55	1.80	16.2
11	T1	All MCs	1917	8.8	1917	8.8	1.107	175.8	LOS F	86.2	649.0	1.00	1.59	1.81	9.7
12	R2	All MCs	107	9.8	107	9.8	0.507	69.6	LOS E	5.9	44.8	0.82	0.80	0.82	26.4
Approach			2174	9.7	2174	9.7	1.107	168.8	LOS F	86.2	651.7	0.99	1.55	1.76	10.6
All Vehicles			5725	9.7	5725	9.7	1.113	120.1	LOS F	86.2	651.7	0.87	1.17	1.39	13.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	18.5	LOS B	0.0	0.0	0.51	0.51	35.2	20.0	0.57

East: Newbridge Road										
P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	39.4	LOS D	0.0	0.0	0.75	0.75	56.0	20.0	0.36
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	60.3	LOS F	0.1	0.1	0.92	0.92	76.9	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Dev Brickmakers Dr/Promontory Way AM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A AM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	648	1.9	648	1.9	*0.566	18.4	LOS B	26.3	186.9	0.66	0.60	0.66	33.7
3	R2	All MCs	63	3.3	63	3.3	0.163	23.0	LOS B	2.2	15.9	0.54	0.69	0.54	31.9
Approach			712	2.1	712	2.1	0.566	18.8	LOS B	26.3	186.9	0.65	0.60	0.65	33.5
East: Promontory Way															
4	L2	All MCs	126	1.7	126	1.7	0.219	59.5	LOS E	6.3	44.6	0.78	0.75	0.78	24.9
6	R2	All MCs	261	8.5	261	8.5	*0.573	64.9	LOS E	14.8	111.5	0.89	0.82	0.89	6.8
Approach			387	6.3	387	6.3	0.573	63.1	LOS E	14.8	111.5	0.85	0.80	0.85	14.6
North: Brickmakers Drive															
7	L2	All MCs	209	12.6	209	12.6	0.205	18.1	LOS B	6.4	49.4	0.49	0.69	0.49	28.8
8	T1	All MCs	440	2.4	440	2.4	0.382	6.9	LOS A	8.5	60.5	0.31	0.28	0.31	44.6
Approach			649	5.7	649	5.7	0.382	10.5	LOS A	8.5	60.5	0.37	0.41	0.37	40.5
All Vehicles			1748	4.3	1748	4.3	0.573	25.5	LOS B	26.3	186.9	0.59	0.57	0.59	31.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Brickmakers Drive											
P3	Full	6	40.1	LOS E	0.0	0.0	0.76	0.76	56.8	20.0	0.35
All Pedestrians		6	40.1	LOS E	0.0	0.0	0.76	0.76	56.8	20.0	0.35

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Dev Newbridge Rd/Site Access Rd AM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A AM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Newbridge Road															
4	L2	All MCs	83	24.1	83	24.0	0.052	9.9	LOS A	0.0	0.0	0.00	0.80	0.00	47.4
5	T1	All MCs	1918	10.5	1918	10.5	0.390	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			2001	11.1	2001	11.1	0.390	0.5	NA	0.0	0.0	0.00	0.03	0.00	66.8
West: Newbridge Road															
11	T1	All MCs	3052	8.5	2805	8.5	0.506	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
Approach			3052	8.5	2805	8.5	0.506	0.1	NA	0.0	0.0	0.00	0.00	0.00	69.5
All Vehicles			5053	9.5	4805	10.0	0.506	0.3	NA	0.0	0.0	0.00	0.01	0.00	67.8

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Dev Newbridge Rd/Davy Robinson Dr AM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A AM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Intersection with Give Way Sign
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	15	50.0	15	50.0	1.029	121.6	LOS F	2.1	20.7	1.00	1.08	1.25	12.1
3	R2	All MCs	1	0.0	1	0.0	1.029	48.7	LOS D	2.1	20.7	1.00	1.08	1.25	20.1
Approach			16	46.7	16	46.7	1.029	116.7	LOS F	2.1	20.7	1.00	1.08	1.25	12.7
East: Newbridge Road															
4	L2	All MCs	1	0.0	1	0.0	0.355	6.4	LOS A	0.0	0.0	0.00	0.00	0.00	65.4
5	T1	All MCs	1947	10.2	1947	10.2	0.355	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			1948	10.2	1948	10.2	0.355	0.1	NA	0.0	0.0	0.00	0.00	0.00	69.7
West: Newbridge Road															
11	T1	All MCs	3084	8.1	2839	8.2	0.511	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
12	R2	All MCs	13	25.0	12	25.2	0.868	184.8	LOS F	1.4	11.9	1.00	1.05	1.25	13.2
Approach			3097	8.2	2850	8.3	0.868	0.9	NA	1.4	11.9	0.00	0.00	0.01	68.3
All Vehicles			5061	9.1	4814	9.6	1.029	1.0	NA	2.1	20.7	0.01	0.01	0.01	68.0

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dev Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr PM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A PM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	172	4.9	172	4.9	0.970	88.9	LOS F	27.7	199.7	1.00	1.16	1.41	19.6
2	T1	All MCs	147	1.4	147	1.4	*0.970	102.6	LOS F	27.7	199.7	1.00	1.16	1.41	19.7
3	R2	All MCs	469	3.1	469	3.1	0.952	93.8	LOS F	19.6	140.7	1.00	1.11	1.41	9.6
Approach			788	3.2	788	3.2	0.970	94.4	LOS F	27.7	199.7	1.00	1.13	1.41	14.2
East: Newbridge Road															
4	L2	All MCs	733	2.0	732	2.0	0.670	40.9	LOS C	17.9	127.3	0.61	1.28	0.61	25.8
5	T1	All MCs	1979	5.1	1979	5.1	*0.982	88.5	LOS F	40.2	293.8	1.00	1.23	1.33	21.9
6	R2	All MCs	586	10.6	586	10.6	0.950	84.0	LOS F	15.4	117.8	1.00	1.01	1.37	23.2
Approach			3298	5.4	3297	5.4	0.982	77.1	LOS F	40.2	293.8	0.91	1.20	1.18	22.4
North: Governor Macquarie Drive															
7	L2	All MCs	536	2.6	536	2.6	0.381	24.4	LOS B	9.0	64.1	0.76	0.78	0.76	33.6
8	T1	All MCs	298	0.4	298	0.4	0.932	82.4	LOS F	23.8	167.4	1.00	1.10	1.32	16.8
9	R2	All MCs	160	7.9	160	7.9	0.545	45.5	LOS D	8.1	60.5	0.97	0.80	0.97	34.2
Approach			994	2.8	994	2.8	0.932	45.2	LOS D	23.8	167.4	0.87	0.88	0.96	26.7
West: Newbridge Road															
10	L2	All MCs	127	28.1	127	28.1	*0.867	35.7	LOS C	34.2	262.8	1.00	0.98	1.11	31.0
11	T1	All MCs	1336	5.8	1336	5.8	0.867	66.2	LOS E	35.9	263.7	1.00	0.98	1.12	22.5
12	R2	All MCs	173	3.7	173	3.7	*0.872	97.1	LOS F	9.1	65.9	1.00	0.91	1.27	22.9
Approach			1636	7.3	1636	7.3	0.872	67.1	LOS E	35.9	263.7	1.00	0.97	1.13	23.5
All Vehicles			6716	5.2	6715	5.2	0.982	72.0	LOS F	40.2	293.8	0.94	1.09	1.16	21.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	27.7	LOS C	0.0	0.0	0.63	0.63	44.3	20.0	0.45

East: Newbridge Road										
P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	45.6	LOS E	0.0	0.0	0.81	0.81	62.3	20.0	0.32
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	61.1	LOS F	0.1	0.1	0.93	0.93	77.8	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Dev Brickmakers Dr/Promontory Way PM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A PM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 50 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	453	1.6	453	1.6	0.434	7.5	LOS A	6.7	47.7	0.64	0.56	0.64	41.5
3	R2	All MCs	122	0.9	122	0.9	0.630	26.9	LOS B	3.1	22.0	0.95	0.87	1.11	30.0
Approach			575	1.5	575	1.5	0.630	11.7	LOS A	6.7	47.7	0.71	0.62	0.74	38.0
East: Promontory Way															
4	L2	All MCs	97	2.2	97	2.2	0.241	22.7	LOS B	2.0	14.5	0.86	0.75	0.86	32.0
6	R2	All MCs	338	5.0	338	5.0	* 0.856	32.5	LOS C	9.9	72.2	1.00	1.05	1.43	9.3
Approach			435	4.4	435	4.4	0.856	30.3	LOS C	9.9	72.2	0.97	0.98	1.30	16.8
North: Brickmakers Drive															
7	L2	All MCs	307	4.8	307	4.8	0.317	11.6	LOS A	4.2	30.7	0.59	0.72	0.59	33.6
8	T1	All MCs	899	0.8	899	0.8	* 0.858	11.7	LOS A	20.2	142.4	0.79	0.85	0.96	41.5
Approach			1206	1.8	1206	1.8	0.858	11.7	LOS A	20.2	142.4	0.74	0.82	0.87	40.1
All Vehicles			2216	2.2	2216	2.2	0.858	15.3	LOS B	20.2	142.4	0.78	0.80	0.92	35.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Brickmakers Drive											
P3	Full	1	19.4	LOS B	0.0	0.0	0.88	0.88	36.0	20.0	0.56
All Pedestrians		1	19.4	LOS B	0.0	0.0	0.88	0.88	36.0	20.0	0.56

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Dev Newbridge Rd/Site Access Rd PM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A PM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Newbridge Road															
4	L2	All MCs	80	15.8	80	15.8	0.048	9.8	LOS A	0.0	0.0	0.00	0.81	0.00	49.4
5	T1	All MCs	3265	5.6	3265	5.6	0.578	0.2	LOS A	33.8	247.6	0.00	0.00	0.00	69.4
Approach			3345	5.9	3345	5.8	0.578	0.4	NA	33.8	247.6	0.00	0.02	0.00	67.9
West: Newbridge Road															
11	T1	All MCs	2318	4.5	2318	4.5	0.408	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			2318	4.5	2318	4.5	0.408	0.0	NA	0.0	0.0	0.00	0.00	0.00	69.7
All Vehicles			5663	5.3	5662	5.3	0.578	0.3	NA	33.8	247.6	0.00	0.01	0.00	68.3

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Dev Newbridge Rd/Davy Robinson Dr PM - Copy (2) (Site Folder: Development Scenario A)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev A PM GCV+cumul excl. DCP Road connection (Network Folder: General)]

Intersection with Give Way Sign
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	15	21.4	15	21.4	1.052	147.2	LOS F	2.2	17.9	1.00	1.12	1.41	10.3
3	R2	All MCs	1	0.0	1	0.0	1.052	77.7	LOS F	2.2	17.9	1.00	1.12	1.41	17.5
Approach			16	20.0	16	20.0	1.052	142.6	LOS F	2.2	17.9	1.00	1.12	1.41	10.9
East: Newbridge Road															
4	L2	All MCs	4	25.0	4	25.0	0.585	6.9	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
5	T1	All MCs	3301	5.4	3301	5.4	0.585	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	69.3
Approach			3305	5.4	3305	5.4	0.585	0.3	NA	0.0	0.0	0.00	0.00	0.00	69.3
West: Newbridge Road															
11	T1	All MCs	2556	4.5	2556	4.5	0.450	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.6
12	R2	All MCs	7	28.6	7	28.6	1.228	436.0	LOS F	2.8	24.6	1.00	1.08	1.43	6.5
Approach			2563	4.6	2563	4.6	1.228	1.4	NA	2.8	24.6	0.00	0.00	0.00	67.7
All Vehicles			5884	5.1	5884	5.1	1.228	1.1	NA	2.8	24.6	0.00	0.00	0.01	67.6

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [Dev Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr AM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B AM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	86	11.0	86	11.0	1.045	139.9	LOS F	28.8	210.0	1.00	1.37	1.68	15.3
2	T1	All MCs	202	2.1	202	2.1	* 1.045	134.1	LOS F	28.8	210.0	1.00	1.37	1.68	15.5
3	R2	All MCs	537	3.1	537	3.1	1.034	132.4	LOS F	26.3	189.0	1.00	1.26	1.65	7.2
Approach			825	3.7	825	3.7	1.045	133.6	LOS F	28.8	210.0	1.00	1.30	1.66	10.4
East: Newbridge Road															
4	L2	All MCs	384	4.9	384	4.9	0.323	9.6	LOS A	4.6	33.8	0.34	0.68	0.34	36.6
5	T1	All MCs	920	13.3	920	13.3	0.295	15.8	LOS B	10.4	81.2	0.54	0.47	0.54	48.8
6	R2	All MCs	592	8.7	592	8.7	* 1.079	171.1	LOS F	31.7	238.6	1.00	1.24	1.81	12.2
Approach			1896	10.2	1896	10.2	1.079	63.0	LOS E	31.7	238.6	0.65	0.76	0.90	23.0
North: Governor Macquarie Drive															
7	L2	All MCs	509	13.4	509	13.4	0.429	42.9	LOS D	13.2	103.2	0.82	0.80	0.82	25.2
8	T1	All MCs	143	1.5	143	1.5	0.494	61.0	LOS E	9.1	64.6	0.97	0.79	0.97	20.7
9	R2	All MCs	85	45.7	85	45.7	0.342	45.1	LOS D	4.2	41.3	0.93	0.76	0.93	31.3
Approach			738	14.8	738	14.8	0.494	46.7	LOS D	13.2	103.2	0.86	0.80	0.86	25.2
West: Newbridge Road															
10	L2	All MCs	149	21.1	149	21.1	* 1.081	130.8	LOS F	80.5	617.7	1.00	1.48	1.69	17.8
11	T1	All MCs	1951	8.6	1951	8.6	1.081	155.8	LOS F	81.8	614.9	1.00	1.51	1.70	10.9
12	R2	All MCs	75	14.1	75	14.1	0.365	67.9	LOS E	3.8	30.0	0.76	0.77	0.76	27.6
Approach			2175	9.7	2175	9.7	1.081	151.1	LOS F	81.8	617.7	0.99	1.49	1.67	11.7
All Vehicles			5634	9.6	5634	9.6	1.081	105.2	LOS F	81.8	617.7	0.86	1.12	1.30	15.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	18.0	LOS B	0.0	0.0	0.51	0.51	34.7	20.0	0.58

East: Newbridge Road										
P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	38.6	LOS D	0.0	0.0	0.74	0.74	55.3	20.0	0.36
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	60.2	LOS F	0.1	0.1	0.92	0.92	76.9	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Dev Brickmakers Dr/Promontory Way AM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B AM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	648	1.9	648	1.9	*0.641	7.5	LOS A	9.3	66.3	0.77	0.68	0.77	41.5
3	R2	All MCs	63	3.3	63	3.3	0.143	12.0	LOS A	0.8	5.5	0.62	0.69	0.62	37.8
Approach			712	2.1	712	2.1	0.641	7.9	LOS A	9.3	66.3	0.75	0.68	0.75	41.1
East: Promontory Way															
4	L2	All MCs	126	1.7	126	1.7	0.393	21.6	LOS B	2.4	16.7	0.93	0.77	0.93	32.5
6	R2	All MCs	180	8.8	180	8.8	*0.588	22.8	LOS B	3.6	26.9	0.97	0.83	1.04	12.3
Approach			306	5.8	306	5.8	0.588	22.3	LOS B	3.6	26.9	0.95	0.80	0.99	24.6
North: Brickmakers Drive															
7	L2	All MCs	149	12.7	149	12.7	0.167	10.1	LOS A	1.6	12.0	0.55	0.68	0.55	34.6
8	T1	All MCs	440	2.4	440	2.4	0.436	3.8	LOS A	3.8	27.2	0.46	0.40	0.46	46.9
Approach			589	5.0	589	5.0	0.436	5.4	LOS A	3.8	27.2	0.48	0.47	0.48	44.6
All Vehicles			1607	3.9	1607	3.9	0.641	9.7	LOS A	9.3	66.3	0.69	0.63	0.70	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Brickmakers Drive											
P3	Full	6	14.5	LOS B	0.0	0.0	0.85	0.85	31.1	20.0	0.64
All Pedestrians		6	14.5	LOS B	0.0	0.0	0.85	0.85	31.1	20.0	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Dev Newbridge Rd/Site Access Rd AM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B AM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Newbridge Road															
4	L2	All MCs	83	24.1	83	24.1	0.052	9.9	LOS A	0.0	0.0	0.00	0.80	0.00	47.4
5	T1	All MCs	1905	10.3	1905	10.3	0.387	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			1988	10.9	1988	10.9	0.387	0.5	NA	0.0	0.0	0.00	0.03	0.00	66.8
West: Newbridge Road															
11	T1	All MCs	3018	8.4	2853	8.4	0.514	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.5
Approach			3018	8.4	2853	8.4	0.514	0.1	NA	0.0	0.0	0.00	0.00	0.00	69.5
All Vehicles			5006	9.4	4842	9.7	0.514	0.3	NA	0.0	0.0	0.00	0.01	0.00	67.8

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Dev Newbridge Rd/Davy Robinson Dr AM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B AM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	27	26.9	27	26.9	0.232	34.6	LOS C	3.4	26.9	0.84	0.75	0.84	26.0
3	R2	All MCs	68	9.2	68	9.2	* 0.232	34.4	LOS C	3.4	26.9	0.84	0.75	0.84	35.5
Approach			96	14.3	96	14.3	0.232	34.5	LOS C	3.4	26.9	0.84	0.75	0.84	33.4
East: Newbridge Road															
4	L2	All MCs	28	25.9	28	25.9	0.594	20.0	LOS B	17.5	133.9	0.67	0.61	0.67	47.3
5	T1	All MCs	1922	10.0	1922	10.0	0.594	11.9	LOS A	17.7	134.3	0.67	0.61	0.67	48.0
Approach			1951	10.3	1951	10.3	0.594	12.1	LOS A	17.7	134.3	0.67	0.61	0.67	48.0
West: Newbridge Road															
11	T1	All MCs	3017	8.1	2855	8.1	* 0.894	29.4	LOS C	45.2	338.3	0.94	0.98	1.08	43.5
12	R2	All MCs	46	6.8	44	6.8	0.380	36.1	LOS C	1.5	11.4	0.76	0.77	0.76	36.4
Approach			3063	8.1	2899	8.1	0.894	29.5	LOS C	45.2	338.3	0.93	0.97	1.08	43.4
All Vehicles			5109	9.0	4945	9.3	0.894	22.7	LOS B	45.2	338.3	0.83	0.83	0.91	44.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Davy Robinson Drive											
P1	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	206.0	200.0	0.97
East: Newbridge Road											
P2	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	206.0	200.0	0.97
West: Newbridge Road											
P4	Full	53	39.3	LOS D	0.1	0.1	0.94	0.94	206.0	200.0	0.97
All Pedestrians		158	39.3	LOS D	0.1	0.1	0.94	0.94	206.0	200.0	0.97

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

MOVEMENT SUMMARY

Site: 101 [Dev Newbridge Rd/Gov Macquarie Dr/Brickmakers Dr PM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B PM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Four Way Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
1	L2	All MCs	126	6.7	126	6.7	0.816	61.5	LOS E	19.2	138.9	1.00	0.94	1.12	24.2
2	T1	All MCs	147	1.4	147	1.4	0.816	70.8	LOS F	19.2	138.9	1.00	0.94	1.12	24.4
3	R2	All MCs	368	2.6	368	2.6	0.884	82.0	LOS F	14.0	100.2	1.00	1.01	1.28	10.7
Approach			642	3.1	642	3.1	0.884	75.4	LOS F	19.2	138.9	1.00	0.98	1.21	16.9
East: Newbridge Road															
4	L2	All MCs	689	1.4	689	1.4	0.564	32.9	LOS C	15.8	111.6	0.51	1.33	0.51	28.7
5	T1	All MCs	2024	5.0	2024	5.0	* 0.930	62.5	LOS E	40.2	293.8	1.00	1.08	1.18	27.8
6	R2	All MCs	586	10.6	586	10.6	0.914	79.5	LOS F	16.4	125.5	1.00	1.00	1.28	23.7
Approach			3300	5.2	3300	5.2	0.930	59.3	LOS E	40.2	293.8	0.90	1.12	1.06	26.9
North: Governor Macquarie Drive															
7	L2	All MCs	536	2.6	536	2.6	0.367	23.9	LOS B	9.0	64.4	0.75	0.77	0.75	33.8
8	T1	All MCs	298	0.4	298	0.4	* 0.893	74.4	LOS F	22.5	158.1	1.00	1.04	1.23	18.1
9	R2	All MCs	160	7.9	160	7.9	0.614	47.5	LOS D	8.3	62.4	0.99	0.80	0.99	33.6
Approach			994	2.8	994	2.8	0.893	42.9	LOS D	22.5	158.1	0.86	0.86	0.93	27.4
West: Newbridge Road															
10	L2	All MCs	127	28.1	127	28.1	* 0.866	35.8	LOS C	34.8	266.9	1.00	0.99	1.11	31.1
11	T1	All MCs	1381	5.6	1381	5.6	0.866	65.7	LOS E	36.5	267.8	1.00	0.98	1.11	22.7
12	R2	All MCs	127	5.0	127	5.0	* 0.806	92.8	LOS F	6.1	44.8	1.00	0.85	1.20	24.7
Approach			1636	7.3	1636	7.3	0.866	65.5	LOS E	36.5	267.8	1.00	0.97	1.12	23.8
All Vehicles			6572	5.2	6572	5.2	0.930	60.0	LOS E	40.2	293.8	0.93	1.03	1.07	24.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Brickmakers Drive											
P1	Full	1	24.6	LOS C	0.0	0.0	0.59	0.59	41.3	20.0	0.48

East: Newbridge Road										
P2 Full	1	64.1	LOS F	0.0	0.0	0.96	0.96	80.8	20.0	0.25
North: Governor Macquarie Drive										
P3 Full	1	44.8	LOS E	0.0	0.0	0.80	0.80	61.5	20.0	0.33
West: Newbridge Road										
P4 Full	16	64.2	LOS F	0.1	0.1	0.96	0.96	80.8	20.0	0.25
All Pedestrians	19	60.9	LOS F	0.1	0.1	0.93	0.93	77.6	20.0	0.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Dev Brickmakers Dr/Promontory Way PM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B PM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Brickmakers Drive															
2	T1	All MCs	453	1.6	453	1.6	0.447	6.5	LOS A	5.6	39.9	0.66	0.57	0.66	42.5
3	R2	All MCs	122	0.9	122	0.9	0.548	22.9	LOS B	2.5	17.3	0.96	0.81	1.03	31.8
Approach			575	1.5	575	1.5	0.548	10.0	LOS A	5.6	39.9	0.72	0.62	0.74	39.3
East: Promontory Way															
4	L2	All MCs	97	2.2	97	2.2	0.303	21.2	LOS B	1.8	12.6	0.91	0.75	0.91	32.7
6	R2	All MCs	191	6.1	191	6.1	*0.612	22.9	LOS B	3.8	28.1	0.97	0.84	1.06	12.3
Approach			287	4.8	287	4.8	0.612	22.4	LOS B	3.8	28.1	0.95	0.81	1.01	23.0
North: Brickmakers Drive															
7	L2	All MCs	219	4.3	219	4.3	0.231	10.3	LOS A	2.4	17.1	0.57	0.70	0.57	34.7
8	T1	All MCs	899	0.8	899	0.8	*0.883	13.1	LOS A	19.0	133.8	0.85	0.97	1.13	40.7
Approach			1118	1.5	1118	1.5	0.883	12.5	LOS A	19.0	133.8	0.79	0.92	1.02	40.0
All Vehicles			1980	2.0	1980	2.0	0.883	13.2	LOS A	19.0	133.8	0.80	0.82	0.94	38.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Brickmakers Drive											
P3	Full	1	14.5	LOS B	0.0	0.0	0.85	0.85	31.1	20.0	0.64
All Pedestrians		1	14.5	LOS B	0.0	0.0	0.85	0.85	31.1	20.0	0.64

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Dev Newbridge Rd/Site Access Rd PM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B PM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Site Access
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Newbridge Road															
4	L2	All MCs	80	15.8	80	15.8	0.048	9.8	LOS A	0.0	0.0	0.00	0.81	0.00	49.4
5	T1	All MCs	3267	5.4	3267	5.4	0.667	0.3	LOS A	23.7	173.4	0.00	0.00	0.00	68.9
Approach			3347	5.7	3347	5.7	0.667	0.5	NA	23.7	173.4	0.00	0.02	0.00	67.5
West: Newbridge Road															
11	T1	All MCs	2262	4.3	2262	4.3	0.398	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			2262	4.3	2262	4.3	0.398	0.0	NA	0.0	0.0	0.00	0.00	0.00	69.7
All Vehicles			5609	5.1	5609	5.1	0.667	0.3	NA	23.7	173.4	0.00	0.01	0.00	68.0

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

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

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 104 [Dev Newbridge Rd/Davy Robinson Dr PM - Copy (Site Folder: Development Scenario B)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: N101 [Dev B PM GCV+cumul incl. DCP Road connection (Network Folder: General)]

Signalised intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Davy Robinson Drive															
1	L2	All MCs	60	5.3	60	5.3	0.445	46.9	LOS D	7.7	55.8	0.93	0.79	0.93	22.2
3	R2	All MCs	100	4.2	100	4.2	* 0.445	46.9	LOS D	7.7	55.8	0.93	0.79	0.93	32.0
Approach			160	4.6	160	4.6	0.445	46.9	LOS D	7.7	55.8	0.93	0.79	0.93	29.0
East: Newbridge Road															
4	L2	All MCs	46	9.1	46	9.1	* 0.882	30.5	LOS C	52.0	381.1	0.88	0.86	0.94	42.3
5	T1	All MCs	3258	5.3	3258	5.3	0.882	21.4	LOS B	52.2	382.0	0.88	0.86	0.94	38.5
Approach			3304	5.4	3304	5.4	0.882	21.5	LOS B	52.2	382.0	0.88	0.86	0.94	38.6
West: Newbridge Road															
11	T1	All MCs	2455	4.5	2455	4.5	0.669	12.7	LOS A	26.9	195.5	0.66	0.60	0.66	55.5
12	R2	All MCs	53	4.0	53	4.0	0.731	66.6	LOS E	3.2	23.5	0.99	0.90	1.31	26.2
Approach			2507	4.5	2507	4.5	0.731	13.8	LOS A	26.9	195.5	0.66	0.61	0.67	54.2
All Vehicles			5972	5.0	5972	5.0	0.882	18.9	LOS B	52.2	382.0	0.79	0.75	0.83	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Davy Robinson Drive											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Newbridge Road											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Newbridge Road											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		158	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

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