

# Transport Impact Assessment

20 Kelso Crescent, Moorebank

Proposed Multi Storey Warehouse Development

GT23016

Prepared for

Mapletree

25 September 2025



## Contact Information

Genesis Traffic	Suite 3, 53 Grandview Street, Pymble NSW 2073
	www.genestrtraffic.com.au
	ABN 34 660 055 532
Email	bernard@genestrtraffic.com.au
Approved By	Bernard Lo

## Document Information

Report	Transport Impact Assessment
Prepared for	Mapletree
Proposal	Proposed Multi Storey Warehouse Development
Architects	PACE Architects
Project Name	20 Kelso Crescent, Moorebank
Council	SSDA No. 589 78472
Job Reference	GT23016
Date	25/09/2025

## Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1	20/07/2023	Draft	NB, LN	Bernard Lo
2	8/9/2023	For Submission	NB, LN, BL	Bernard Lo
3	14/9/2023	For Submission	NB, LN, BL	Bernard Lo
4	17/09/2025	Draft	BB	Bernard Lo
5	25/09/2025	For Issue	BB	Bernard Lo



## Table of Contents

1	Introduction	7
1.1	Background	7
1.2	Scope of Assessment	8
1.3	Executive Summary	8
1.4	Reference Documents	9
2	Response to SEARs	10
3	Existing Conditions	12
3.1	Site and Surrounding Context	12
3.2	Road Network	13
3.3	Traffic Controls	14
3.4	Crash History	14
3.5	Existing Traffic Conditions	15
4	Proposed Development	19
5	Parking Assessment	20
5.1	Car Parking Requirement	20
5.1.1	Liverpool DCP (2008)	20
5.1.2	TfNSW Guide to Transport Impact Assessment (2024)	20
5.1.3	Requirement	20
5.1.4	Proposed Parking Provision	20
5.2	Bicycle Storage/Parking Requirement	21
6	Access & Circulation Design	22
6.1	Site Access	22
6.2	Design Assessment	22
7	Operational Arrangement	24
7.1	Car Park Access & Circulation	24
7.2	Truck Access	25
7.3	Truck Circulation	27
7.4	Queue Storage Provision	27
7.5	Truck Routes	27



8	Traffic Assessment	29
8.1	Existing Land Use Traffic Generation	29
8.2	Traffic Generation	29
8.3	Traffic Distribution	30
8.4	Post-Development Traffic Assessment	33
8.5	Road Safety Impact	35
8.6	Cumulative Impact	35
9	Preliminary Construction Traffic Management Plan	37
9.1	Construction Program	37
9.1.1	Construction Staging/Phasing	37
9.1.2	Construction Hours	37
9.2	Construction Personnel	38
9.3	Construction Traffic Management	38
9.3.1	Site Access & Circulation	38
9.3.2	Emergency vehicle Access	38
9.3.3	Onsite Parking	38
9.3.4	Vehicle Management	38
9.3.5	Construction Vehicle Routes	39
9.4	Traffic Impacts	39
9.4.1	Impact on Public Transport Services	39
9.4.2	Impact on Pedestrians	39
9.4.3	Impact on Emergency Vehicle Access	39
9.4.4	On-Street Queue Impact	39
9.4.5	Road Serviceability	39
9.4.6	Materials Handling	40
9.4.7	Public Notification & Communication	40
10	Green Travel Plan	41
10.1	Definition	41
10.2	Purpose	41
10.3	Process	41
10.4	Responsibilities	42



10.5	Site Audit	42
10.5.1	Walking	42
10.5.2	On-street Parking	42
10.5.3	Public Transport Services	42
10.5.4	Journey to Work – Existing Travel Mode Share	43
10.6	Mode Share Targets	44
10.7	Proposed Action Items	44
10.8	Monitoring and Review	44
10.8.1	Purpose	44
10.8.2	Data Collection	44
10.8.3	Frequency	45
11	Consultation Process	46
12	Conclusion	47

## Attachments

- Attachment 1 Traffic Survey Data
- Attachment 2 SIDRA Model Output
- Attachment 3 Turning Path Assessment
- Attachment 4 TfNSW Consultation

## Tables

Table 2-1	Response to SEARs	10
Table 3-1	Crash Data Record ( <i>Source: TfNSW</i> )	14
Table 3-2	Intersection Performance – Levels of Service	17
Table 3-3	Existing Network Operation (2025)	18
Table 5-1	DCP Car Parking Rates	20
Table 5-2	Number of Required Car Parking Spaces	20
Table 5-3	Bicycle Parking Rates	21
Table 5-4	Number of Required Bicycle Parking Spaces	21
Table 6-1	Design Assessment Summary	22
Table 8-1	Total Trip Generation During Peak Hour – GTIA 2024 rates	29



Table 8-2	Proportion of Cars vs Trucks	30
Table 8-3	Origin/Destination Proportion of Local Employees	30
Table 8-4	Proportion of Inbound and Outbound Traffic	30
Table 8-5	Existing vs Post-development Network Operation – <b>Base Year 2025</b>	33
Table 8-6	Existing vs Post-development Network Operation – <b>Year 2030</b>	34
Table 8-7	Existing vs Post-development Network Operation – <b>Year 2035</b>	34
Table 9-1	Estimated Works Program	37
Table 9-2	Expected Work Hours	37
Table 10-1	Nearest Bus Stop (M90, 903)	43
Table 10-2	Journey to Work – Travel Mode Share Summary	43
Table 10-3	Journey to Work – Travel Mode Share Target (12 months post-occupation)	44

## Figures

Figure 1-1	Site	7
Figure 3-1	Site Context	12
Figure 3-2	Road Network	13
Figure 3-3	Surveyed Intersections	16
Figure 4-1	Proposal Context	19
Figure 7-1	Car Park Access and Egress Points	24
Figure 7-2	Truck Access and Egress Points	26
Figure 7-3	NHVR Nominal Truck Route to/from East (e.g., Port Botany)	28
Figure 7-4	NHVR Nominal Truck Route to/from West (e.g., Penrith, Blue Mountains & beyond)	28
Figure 8-1	Inbound and Outbound Traffic during the AM Peak	31
Figure 8-2	Inbound and Outbound Traffic during the PM Peak	32

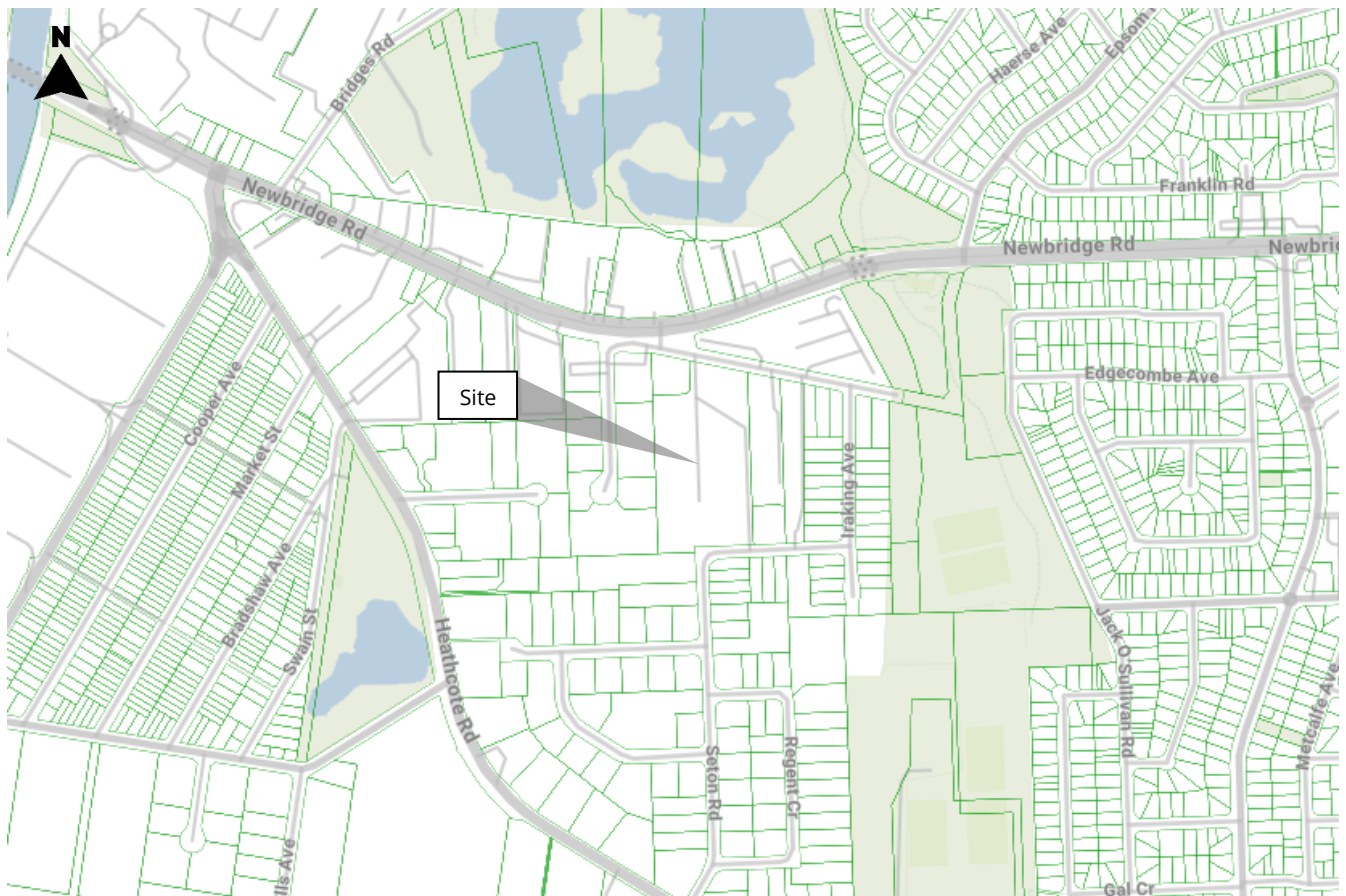


# 1 Introduction

## 1.1 Background

This Traffic Impact Assessment has been prepared to accompany a State Significant Development Application (SSDA) for a proposed industrial development on a site at 20 Kelso Crescent, Moorebank (Figure 1-1).

Figure 1-1 Site



Source: Mecone (edited by Genesis Traffic)

The proposal involves a multi-storey warehouse development with ancillary administrative offices comprising a total Gross Floor Area (GFA) of 33,749m<sup>2</sup>. Car parking will be accommodated in the form of a hardstand and undercroft containing 160 spaces with an appropriate quantum of DDA-compliant spaces. Vehicle access points will be located on Kelso Crescent and Seton Road. Vast hardstand areas and loading facilities will be provided onsite accommodating articulated vehicles.



## 1.2 Scope of Assessment

The assessment considers a range of traffic, transport, and parking-related matters in conjunction with the TfNSW Guide to Traffic Generating Development and the SEARs criteria. The report is structured in the following manner:

Section 1	Introduction
Section 2	SEARs & Summary of Response
Section 3	Existing Site & Traffic Circumstances
Section 4	Proposal Description
Section 5	Parking Assessment
Section 6	Access & Circulation Design Assessment
Section 7	Operational Arrangement
Section 8	Traffic Assessment
Section 9	Preliminary Construction Traffic Management Planning
Section 10	Green Travel Planning
Section 11	Consultation Process
Section 12	Conclusion

## 1.3 Executive Summary

The Transport Impact Assessment for the proposed industrial warehouse development at 20 Kelso Crescent, Moorebank concludes that the development will have minimal impact on the surrounding road network. Key findings include:

- **Traffic Impact:** The development will generally maintain acceptable Levels of Service (LOS) on the local road network in both 2025 and 2030.
- **Intersection Performance:**
  - **Newbridge Road/Kelso Crescent:** A minor decline in LOS (from C to D) is projected for the right-turn movement in the 2025 AM peak. By 2035, background traffic growth (not attributable to the development) is expected to cause this movement to fail (LOS F). The PM peak also worsens slightly (from LOS D to E). Authorities may consider restricting the right-turn to alleviate congestion.
  - **Heathcote Road/Seton Road:** The right-turn from Seton Road is projected to operate at LOS F in 2025 AM and PM peaks under background traffic alone, due to SCATS signal prioritisation. This is not development-related, and signal timing adjustments could improve performance. The assessment notes that the post development scenarios retain the LOS with marginal increased in average delays across all design years.



- **Parking & Access:** The development's parking supply complies with TfNSW and Council guidelines. Internal access and circulation meet Australian Standards.
- **Sustainable Transport:** A Green Travel Plan has been prepared to encourage sustainable travel choices for future occupants.
- **Construction Traffic:** A preliminary Construction Traffic Management Plan has been provided to guide detailed planning post-approval.

## 1.4 Reference Documents

Reference has been made to the following documents when preparing this report:

- AS2890.1:2004
- AS2890.2:2018
- AS2890.3:2015
- AS2890.6:2009
- Liverpool Development Control Plan (2008)
- Liverpool City Council Bike Plan (2018)
- Guide to Transport Impact Assessment, NSW Government, 2024
- Architectural plans prepared by PACE Architects
- Employment data provided by Mapletree
- Traffic and survey data collected as part of this assessment.



## 2 Response to SEARs

The NSW Department of Planning and Environment issued site-specific assessment criteria known as the Secretary's Environmental Assessment Requirements (SEARs).

The relevant traffic, transport, and accessibility criteria that the assessment must consider are reproduced in Table 2-1. The corresponding assessment outcome is identified in the adjoining column 'Response Reference'.

Table 2-1 Response to SEARs

Issue and Assessment Requirements	Response Reference
<p><b>6.0 Traffic, Transport and Accessibility</b></p> <p>Provide a transport and accessibility impact assessment, which includes:</p>	
<p><b>6.1</b> Details of all traffic types and volumes likely to be generated during construction and operation, including a description of key access and haul routes</p>	<p>Section 8.1 Section 9.4</p>
<p><b>6.2</b> An assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections (using industry standard modelling).</p>	<p>Road Safety Section 3.4, Section 8.4 Existing Capacity Section 3.5 Development Traffic Impact Section 8</p>
<p><b>6.3</b> Plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading, or servicing can be accommodated on the site to avoid queuing in the street network</p>	<p>Operational Traffic Management Section 7.4 Construction Traffic Management Section 9.4.4</p>
<p><b>6.4</b> Details and plans of any proposed internal road network, loading dock provision and servicing, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards.</p>	<p>Section 5</p>
<p><b>6.5</b> Swept path analysis for the largest vehicle requiring access to the development.</p>	<p>Section 6 &amp; Attachment 3</p>
<p><b>6.6</b> Details of road upgrades, infrastructure works, or new roads or access points required for the development if necessary.</p>	<p>Section 6 &amp; Section 8</p>
<p><b>6.7</b> Provide a Construction Traffic Management Plan detailing predicted construction vehicle movements, routes, access and parking arrangements, coordination with other</p>	<p>Section 9</p>



construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.

**6.8** Provide a Green Travel Plan or equivalent

Section 10

## 3 Existing Conditions

### 3.1 Site and Surrounding Context

The development site (Figure 3-1) is legally known as Lot 1 DP 1296586, located at 20 Kelso Crescent, Moorebank. The site occupies an irregularly shaped area of some 3.5 hectares (35,200m<sup>2</sup>) and has frontages to Kelso Crescent on the northern part and Seton Road on the southern part.

Figure 3-1 Site Context



Source: Metromap (Modified by Genesis Traffic)

The site is currently vacant at present. Prior there was a brick and masonry manufacturing factory 'Adbri Masonry' occupying the site, comprising an approximate enclosed building GFA of 5,970m<sup>2</sup> plus associated 28,000m<sup>2</sup> open storage and processing areas. Existing vehicle access points are located at Kelso Crescent and Seton Road.



## 3.2 Road Network

The road network serving the site's vicinity (Figure 3-2) comprises:

Figure 3-2 Road Network



Source: TfNSW

- **Newbridge Road:** The A34 is a State Road that connects Milperra Road (east) to Terminus Street (west). It has a posted speed limit of 60 km/h. The road consists of two (2) traffic lanes on both sides.
- **Heathcote Road:** The A6 is a State Road that connects Newbridge Road (north) to the Princes Highway (southeast) at Heathcote. It has a posted speed limit of 60 km/h. The road consists of three (3) traffic lanes on both sides.
- **Kelso Crescent:** An east-west local road carrying one (1) traffic lane in each direction. On-street parking is available on both sides.
- **Iraking Avenue:** A north-south local road that connects to Kelso Crescent to the north and Seton Road to the south. The road consists of one (1) traffic lane in each direction and on-street parking is available on both sides.
- **Seton Road:** A local road that connects Iraking Avenue to the north and Heathcote to the south. It has a signposted speed limit of 50 km/h and consists of one (1) traffic lane in each direction. On-street parking is permitted on both sides.



### 3.3 Traffic Controls

The traffic controls on the road system in the vicinity of the site comprise:

- Traffic control signals at the intersection of
  - Newbridge Road and Heathcote Road
  - Newbridge Road and Epsom Road
  - Heathcote Road and Seton Road
- Stop Control at the intersection of Newbridge Road and Kelso Crescent (including the right turn storage bay from Newbridge Road to Kelso Crescent and No U-Turn at Newbridge Road)
- Give Way priority control at the intersection of Kelso Crescent (east-west) and Kelso Crescent (north-south)

### 3.4 Crash History

Transport for NSW (TfNSW) provides a history of recorded crash data between 2017 and 2021. This data is reviewed to better understand the existing road safety levels near the site and the potential implications of any increase in traffic volumes.

The data reveal the following number of crashes near the site (Table 3-1).

Table 3-1 Crash Data Record (Source: TfNSW)

Location	Date of Crash	Type	RUM Code	Severity/Injury
Newbridge Road @ Kelso Crescent	2019	Two westbound vehicles rear end collision on Newbridge Rd	30	Moderate
	2019	Left turn from Kelso Cr collided by a westbound vehicle on Newbridge Rd	13	Minor
	2020	Lane crossing collision (same direction but not identified)	39	Moderate
	2020	Right turn from Kelso Cr collided by an eastbound vehicle on Newbridge Rd	11	Moderate
	2021	Right turn from Kelso Cr collided by an eastbound vehicle on Newbridge Rd	12	Minor
Kelso Crescent (east of site)	2021	Ped – walking with traffic	4	Moderate



Seton Road @ Iraking Avenue	2018	Off Road to the left (hitting object)	71	Minor
	2020	Off Road to the right (hitting object)	73	Moderate
Heathcote Road @ Seton Road	2017	Right turning vehicle from Heathcote Rd to Seton Rd collided from rear	32	Minor
	2019	Right turning vehicle from Heathcote Rd to Seton Rd collided from rear	32	Serious

The data recorded 10 crashes in the site's vicinity in the 5-year period, only one out of the nine incidents involved a serious injury. The assessment notes one to two crashes in the local road system surrounding the site over the five-year period. Five crashes were recorded at the intersection of Newbridge Road and Kelso Road. Of these, one involved a left-turning vehicle from Kelso Crescent, while another two turned right from Kelso Crescent, highlighting a potential difficulty for turning vehicles at this intersection. Further south, two rear-end crashes involving right-turning traffic from Heathcote Road to Seton Road were recorded in the same period.

The recorded crashes are not highly repetitive in occurrence; there is insufficient evidence at this stage to indicate a critical safety deficiency at these assessed locations.

### 3.5 Existing Traffic Conditions

Intersection movement counts were commissioned as part of this assessment to record the background traffic volumes in the local road network (**Attachment 1**). The traffic survey was conducted in July 2023 at the following intersections (Figure 3-3) during the road network AM and PM peak periods:

- Newbridge Road & Kelso Crescent & Field Close
- Kelso Crescent & Iraking Avenue
- Seton Road & Iraking Avenue
- Heathcote Road & Seton Road

The traffic volumes have been projected to the current year (2025) using a 1.5% per annum growth rate.



Figure 3-3 Surveyed Intersections



Source: Mecone (edited by Genesis Traffic)



The existing intersections' operation have been assessed using SIDRA traffic modelling program. SIDRA is a micro-analytical tool for individual

and network intersection modelling based on collected traffic survey data. SIDRA provides several performance indicators, as follows:

- Degree of Saturation – the total usage of the intersection expressed as a factor of 1, with 1 representing 100% use/saturation.
- Average Delay (AVD) – the average delay encountered by all vehicles passing through the intersection.
- 95% Queue Length (Q95) – is defined to be the queue length in metres that has only a 5% probability of being exceeded during the analysis period. It transforms the average delays into measurable distance units.
- Level of Service (LOS) – this is a categorisation of average delay, intended for simple reference. The RMS adopts the following bands (Table 3-2)

Table 3-2 Intersection Performance – Levels of Service

Level of Service	Average Delay (s/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
<b>A</b>	< 14	Good operation	Good operation
<b>B</b>	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & Spare capacity
<b>C</b>	29 to 42	Satisfactory	Satisfactory but accident study required
<b>D</b>	43 to 56	Operating near capacity	Near capacity & accident study required
<b>E</b>	57 to 70	At capacity. At signals, incidents would cause excessive delays. Roundabouts require other control mode	At capacity and requires other mode of control
<b>F</b>	> 70	Extra capacity required	Extreme delay, major treatment required

The SIDRA model results for each surveyed intersection are provided in **Attachment 2** and summarised in Table 3-3.



Table 3-3 Existing Network Operation (2025)

Intersection	AM Peak		PM Peak	
	LOS	AVD (s)	LOS	AVD (s)
Newbridge Rd/Kelso Cr	C (SRT)	42.3	C (SRT)	28.8
Kelso Cr/Field Close	A (ERT)	5.1	A (ERT)	4.8
Kelso Cr/Iraking Ave	A (SRT)	4.8	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.0	A (WRT)	4.8
Heathcote Rd/Seton Rd	A	6.1	B	16.1

Note: (WRT) denotes the worst operating movement - Abbreviation:

*LOS = Level of Service*

*AVD = Average Intersection Delay*

*WRT = West Approach Right Turn*

*ERT = East Approach Right Turn*

*SRT = South Approach Right Turn*

*NRT = North Approach Right Turn*

*NUT = North Approach U- Turn*

The assessment outcome reveals ample spare capacity under existing traffic demand during the AM and PM peak periods.



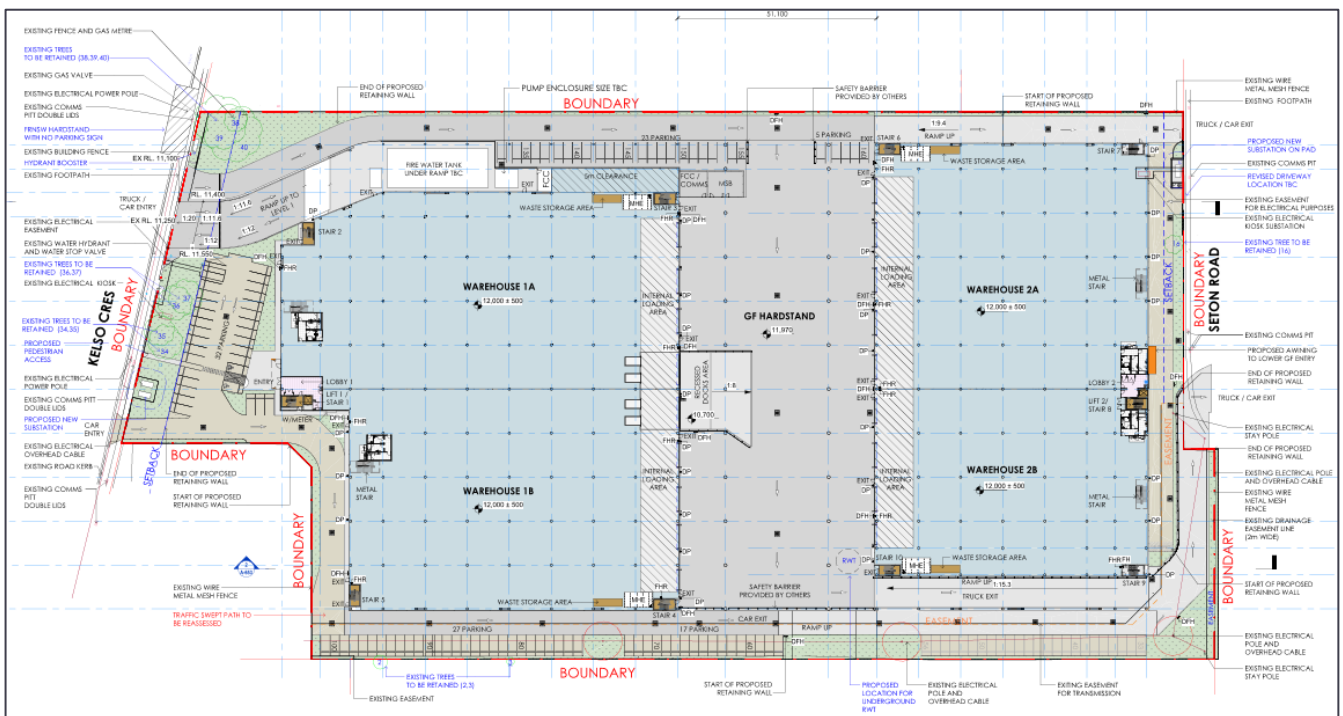
## 4 Proposed Development

The proposal is to undertake earthworks to provide a level building platform, and construct a two-storey warehouse building complex in the following composition:

- 8 x warehouse units (total GFA - 32,269m<sup>2</sup>)
- Office space (GFA - 1,480m<sup>2</sup>)
- 160 car parking spaces

The existing vehicle crossovers will be demolished and reinstated with kerb and gutter. A total of five driveways will be constructed to serve the new development (Figure 4-1).

Figure 4-1 Proposal Context



Source: PACE Architects

Details of the proposal are indicated in the accompanying architectural plans.



## 5 Parking Assessment

### 5.1 Car Parking Requirement

The appropriate car parking quantum is assessed on the following basis:

#### 5.1.1 Liverpool DCP (2008)

The relevant DCP car parking rates are set out in Table 5-1.

Table 5-1 DCP Car Parking Rates

Development Type	Parking Rates
<b>Industry warehouse (&gt;1,000m<sup>2</sup> GFA)</b>	1 space per 250m <sup>2</sup> GFA
<b>Office</b>	1 space per 35m <sup>2</sup> LFA

#### 5.1.2 TfNSW Guide to Transport Impact Assessment (2024)

By comparison, the TfNSW Guide recommends a lower warehouse parking requirement of 1 space per 300m<sup>2</sup> GFA. For offices, the TfNSW Guide requires 1 space per 40m<sup>2</sup> GFA.

#### 5.1.3 Requirement

Application of the DCP and TfNSW rates to the proposal would indicate the following parking requirements (Table 5-2).

Table 5-2 Number of Required Car Parking Spaces

Element	DCP	TfNSW
<b>Warehouse (GFA - 32,269 m<sup>2</sup>)</b>	129 spaces	108 spaces
<b>Office Premise (GFA - 1,480m<sup>2</sup>, GLA - 1,710 m<sup>2</sup>)</b>	49 spaces	37 spaces
<b>Total</b>	<b>178 spaces</b>	<b>145 spaces</b>

#### 5.1.4 Proposed Parking Provision

The assessment supports the provision of 160 parking spaces, achieving a suitable balance between the DCP and TfNSW requirements. This figure is consistent with Mapletree's expected onsite employment of approximately 148 employees based on NCC criteria. As such, the supply can accommodate the peak demand at any one time. Importantly, it is unlikely that any warehousing operation to anticipate full employment attendance over the 24 hour period. Rather, they are typically distributed by shifts. As such, the concurrent parking demand/traffic demand will likely be lower than expected in the assessment.



## 5.2 Bicycle Storage/Parking Requirement

The Liverpool DCP specifies the following rates for onsite bicycle storage facilities:

Table 5-3 Bicycle Parking Rates

Development Type	Parking Rates
<b>Warehouse</b>	1 per 10 staff/1 per 10 car spaces (if staff numbers are undetermined)

Application of the DCP rates to the proposal would indicate the following requirements (Table 5-4).

Table 5-4 Number of Required Bicycle Parking Spaces

Element	Requirement	Provision
<b>Warehouse (160 spaces)</b>	16	16
<b>Total</b>	<b>16 spaces</b>	<b>16 spaces</b>

In addition to the above, the DCP also requires the following to be supplemented onsite as part of the End of Trip Facility:

- 1 change/shower room provided per 10 employee bicycle space
- 1 locker provided for each employee bicycle space

Based on the above, the corresponding requirements for EOTF are:

- 2 shower/change rooms
- 16 lockers

The proposal will include the following provision to comply with the above criteria:

- 16 bicycle spaces for employees
- 4 showers (2 males, 2 females)
- 16 lockers



## 6 Access & Circulation Design

### 6.1 Site Access

The site will involve five new access driveways:

- Two on Kelso Crescent
- Three on Seton Road

All proposed access driveways have been designed to accord with the AS2890.1 and AS2890.2 requirements. Detailed geometrical assessment of the driveways is summarised in Table 6-1. Details of swept path analysis demonstrating a satisfactory provision for the largest design vehicle (20m semi-trailer) intended to access the site are provided in **Attachment 3**.

### 6.2 Design Assessment

A detailed review of the parking access and arrangement has been undertaken to assess its conformance with the AS2890.1 and AS2890.2 design criteria.

The assessment findings (Table 6-1) confirm the design provisions are adequate and meet the relevant design standards.

Table 6-1 Design Assessment Summary

Features	Requirement	Provision	Compliance	Notes
<b>Access for Car Parking (AS2890.1:2004) - Category 2</b>				
Access Width	6m-9m combined	Min 5.5m (one way driveway)	Satisfied	
Location (Category 3)	6m from any intersection tangent	Exceeds minimum requirement	Yes	
Sight Distance (60km/h)	Min 45m (50 km/h)	Provided	Yes	
Sight Splays (Pedestrian)	2.5m x 2.0m	Provided	Yes	
<b>Access for 20m long Semi Trailer (AS2890.2:2018)</b>				
Access Driveway	12.5m (two-way on minor road)	>12.5m (two-way) 9.7m (one-way)	Yes	
Ramp Grade	Max 15.4% (1 in 6.5)	1:12	Yes	
Rates of Change of Grades	Max 6.25% (1 in 16)	1:16	Yes	



Transitions	10m	10m	Yes	
Width (Single Lane)	3.5m	>3.5m	Yes	
Sight Distance (50km/h)	Min 83m	Provided	Yes	
Vertical Clearance	4.5m	>4.5m	Yes	
<b>Driveway / Ramp (AS2890.1:2004)</b>				
Ramp Grade	Max 25% (1 in 4)	1:6.4	Yes	
Transitions	2.0m	1:15	Yes	
Width	5.5m	>5.5m	Yes	
Gradient for First 6m of driveway	Max 5% (1 in 20)	Level	Yes	
<b>Parking Modules (AS2890.1:2004) - User Class 1A</b>				
Space Length	5.4m	5.4m	Yes	
Space Width	2.4m	2.4m	Yes	
Aisle Width	5.8m	6.2m	Yes	
Height Clearance	2.2m	>2.2m	Yes	
Gradient	Max 5% (1 in 20)	Level	Yes	



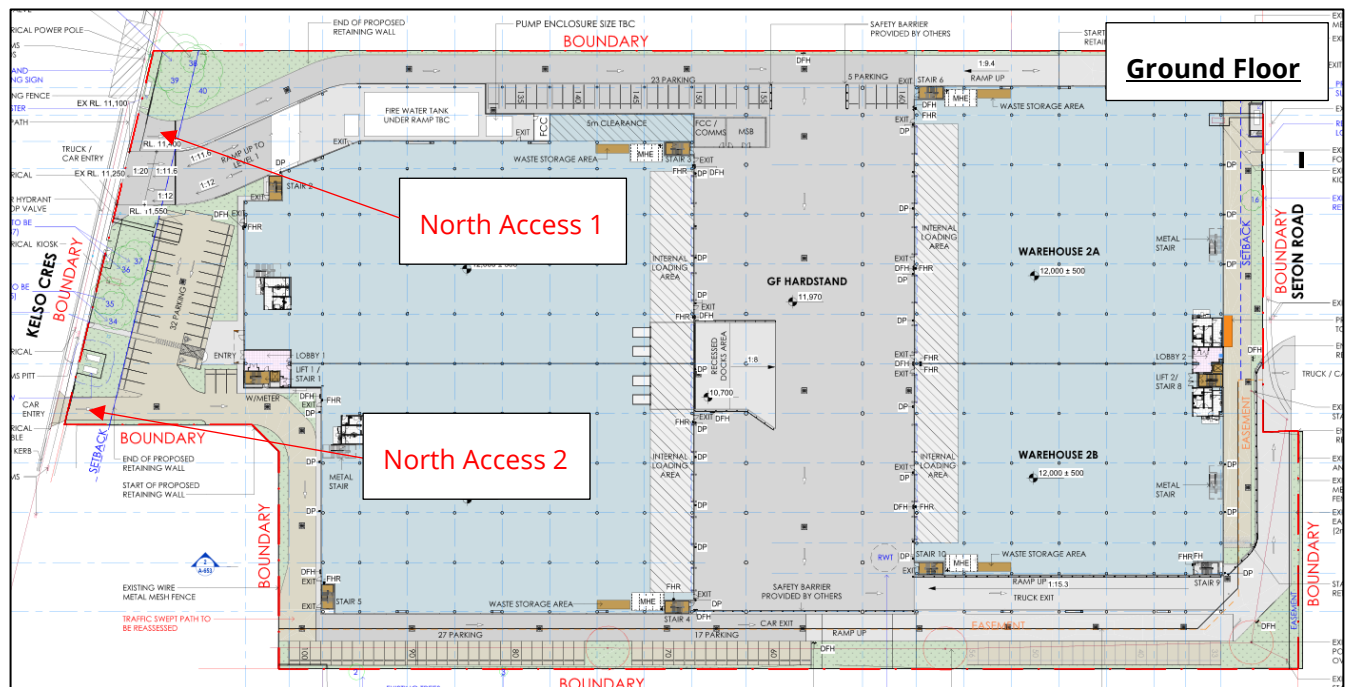
## 7 Operational Arrangement

A detailed and tenancy-specific Operational Traffic Management Plan (OTMP) will be prepared prior to the building's occupation. However, the following outlines the principles of site access, circulation, and approach/departure route management that will be generally consistent regardless of tenancy types.

### 7.1 Car Park Access & Circulation

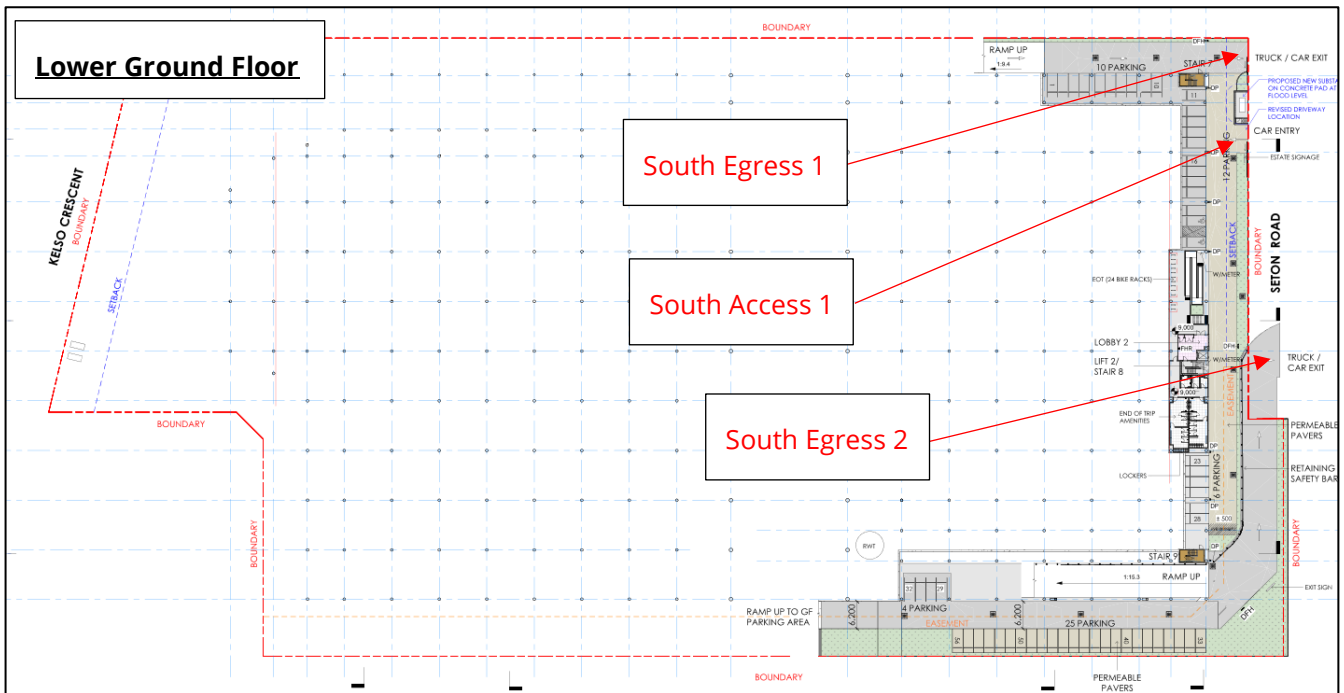
All light vehicles will access the car park via the 2 northern driveways at Kelso Crescent and 1 southern driveway at Seton Road. All drivers will exit via the 2 southern egress points (Figure 7-1).

Figure 7-1 Car Park Access and Egress Points



Note:

In response to the DPH's query, the assessment confirms that all parking spaces located along the western part of the site will be for staff only, and each staff member will be allocated a specific space along this corridor.



Source: PACE Architects

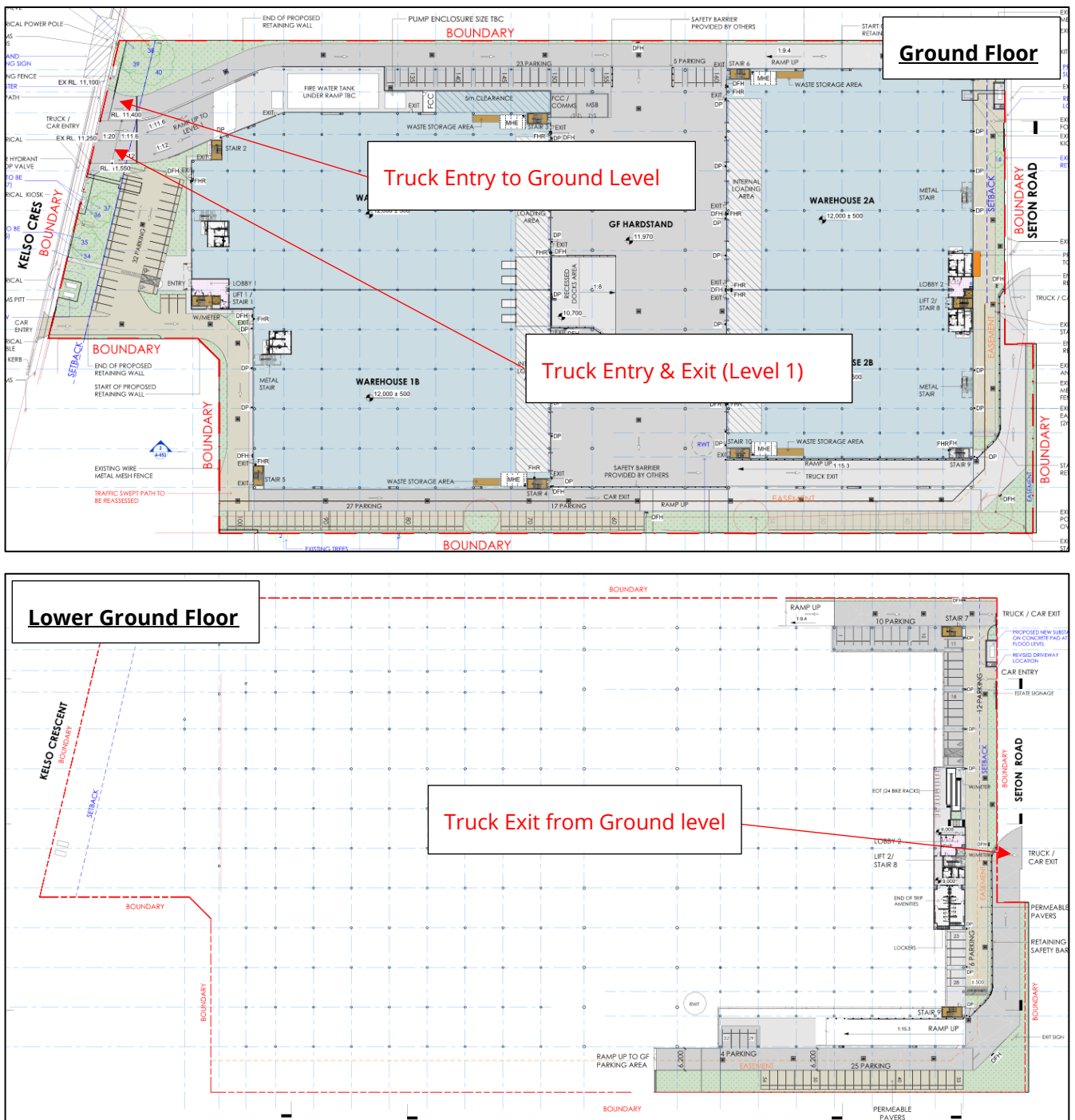
## 7.2 Truck Access

Truck access to the site involves:

- Kelso Crescent – entry only to Ground Floor warehouses
- Kelso Crescent – entry & exit to Level 1 warehouses
- Seton Road – exit only



Figure 7-2 Truck Access and Egress Points



Source: PACE Architects



### 7.3 Truck Circulation

All trucks will be capable of entering and exiting the site in a forward direction. Internally, trucks will undertake up to one reverse manoeuvre to align with the loading docks and depart forwards.

A swept path analysis has been undertaken to demonstrate the intended vehicle circulation movements in the facility. These swept path diagrams are provided in **Attachment 3**.

### 7.4 Queue Storage Provision

Part 3.4 of the AS2890.1:2004 provides a guideline for determining adequate queue storage for inbound vehicles to a car park with access control points, e.g., boom gate, roller shutter, card reader, etc.

While there will be gates installed near the site boundary, it is noted that the proposed car parking facilities will not be subject to physical access control, because the site gates will be left open during business hours. Therefore, when the premises are open, vehicles/trucks can flow freely between the frontage roads and the car park ramps. Appendix D of the AS2890.1 reveals 600 vehicles per hour per lane to be the capacity of a free-flowing car park entry point. In the context of this proposal, Table 8-2 indicates a peak inbound traffic load of 71 vehicles (including 21 trucks) per hour distributed over four entry points. This demand is equivalent to approximately 3% of the available capacity. The assessment confirms traffic generation of this magnitude will not result in any perceptible queueing effect on the public road network.

### 7.5 Truck Routes

The envisaged approach and departure routes that have regard to the restrictions published in the National Heavy Vehicle Registry (NHVR) are indicated in Figure 7-3 and Figure 7-4.

The assessment projects that a large proportion of the heavy vehicle traffic generation will be between the site and Port Botany (75%). As such, it is anticipated that a large proportion of these movements will head south towards Heathcote Road via the Seton Road exit.



Figure 7-3 NHVR Nominal Truck Route to/from East (e.g., Port Botany)

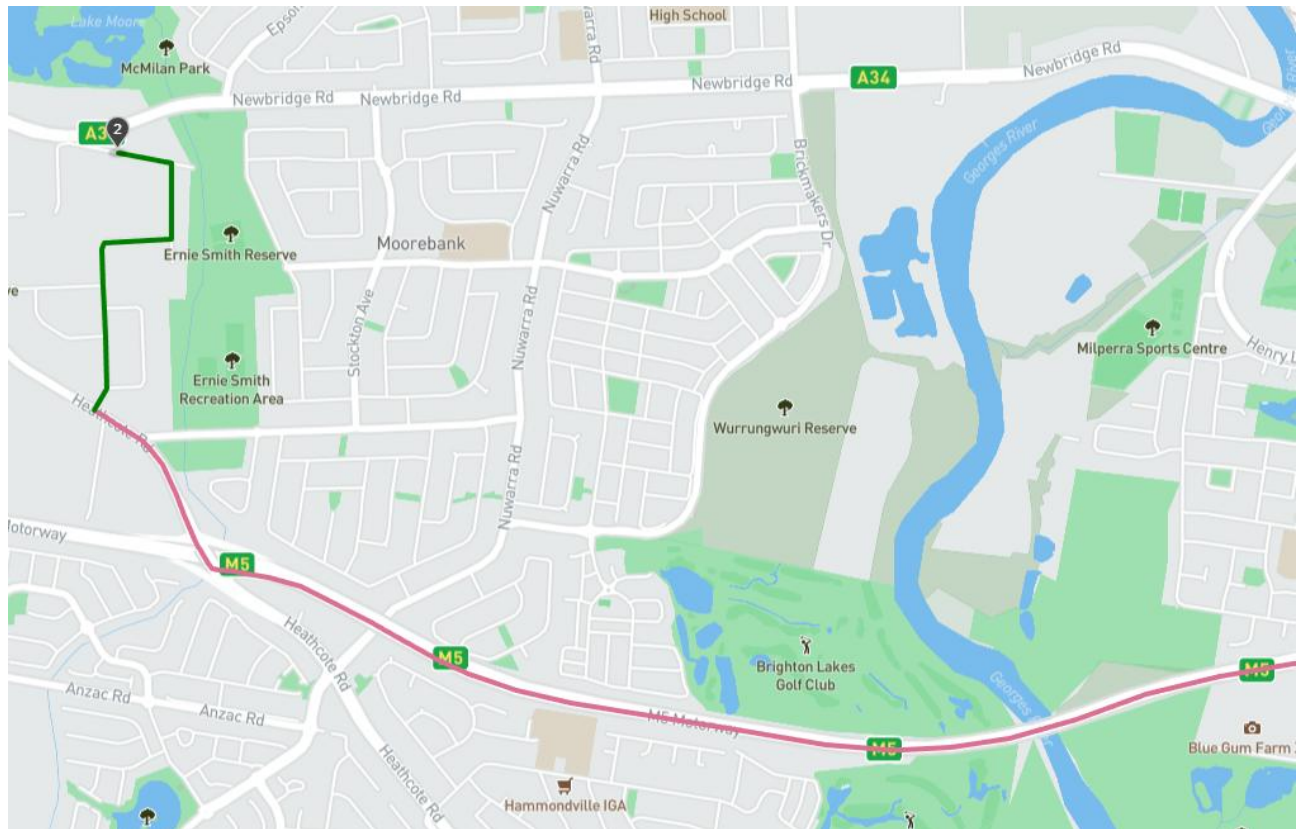
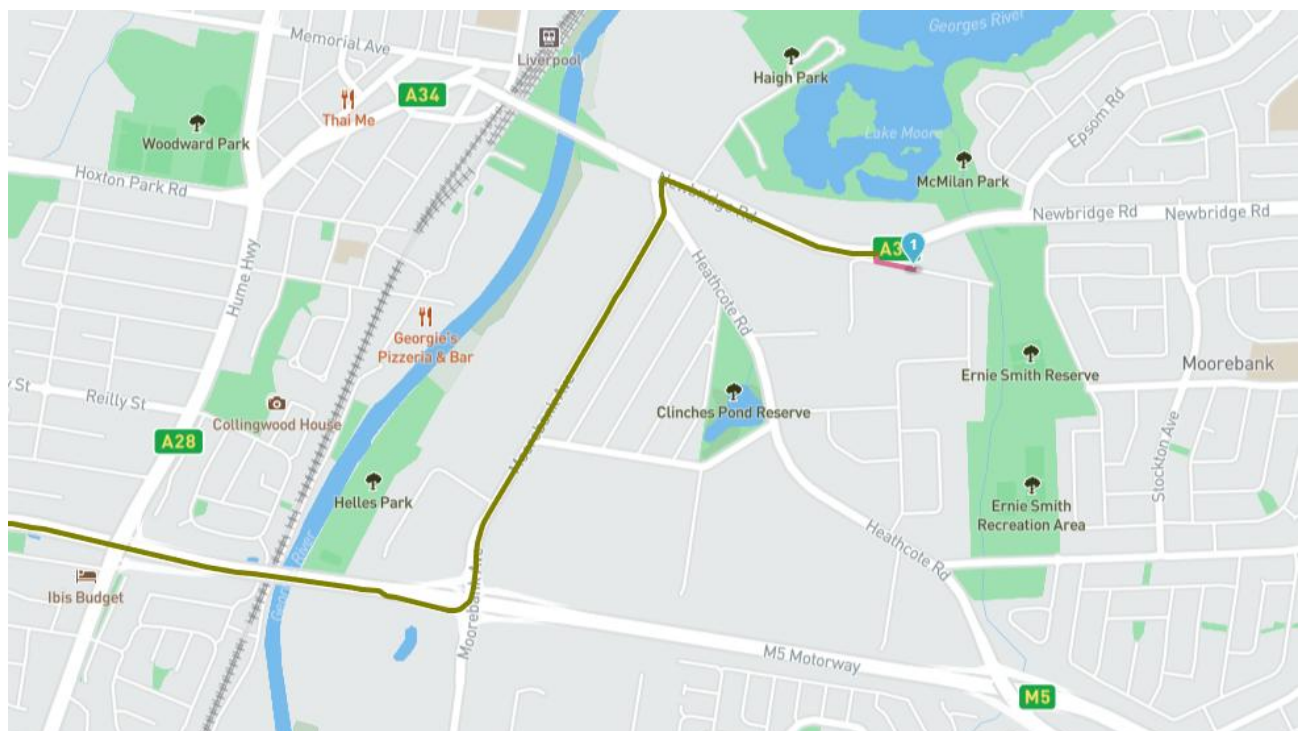


Figure 7-4 NHVR Nominal Truck Route to/from West (e.g., Penrith, Blue Mountains & beyond)





## 8 Traffic Assessment

### 8.1 Existing Land Use Traffic Generation

It is important for the assessment to acknowledge the operations on the site which existed when the traffic surveys were conducted in 2023. At that time, the site was occupied by a masonry and brick manufacturing factory which generated a certain level of traffic during the road network peak periods. As this operation has since ceased, it is appropriate to subtract the existing/former traffic movements from the projected development traffic to provide a fair representation of the post development impact.

The GTIA does not provide specific trip generation rates for factory facilities. However, the most comparable classification within the GTIA is large format warehousing, which is assigned a trip generation rate of 4 vehicle trips per 100m<sup>2</sup> GFA per day and 0.5 vehicle trips per 100m<sup>2</sup> GFA during the peak period hour (facilities between 0m<sup>2</sup> and 10,000m<sup>2</sup>). Applying this rate to the existing some 6,000m<sup>2</sup> (GFA) indicates an ongoing traffic output of around 30 vehicle movements per hour during peak periods or some 240 trips a day.

### 8.2 Traffic Generation

Reference is made to the Guide to Transport Impact Assessment 2024 for the applicable trip generation rates for large format warehousing (larger than 10,000m<sup>2</sup> GFA). The published trip generation rates are as follows:

- 0.17 trips per 100m<sup>2</sup> GFA during the morning peak hour
- 0.21 trips per 100m<sup>2</sup> GFA during the evening peak hour
- 2.83 trips per 100m<sup>2</sup> GFA per day

Application of the above rates to the proposed warehouse development results in a traffic generation outcome summarised in Table 8-1.

Table 8-1 Total Trip Generation During Peak Hour – GTIA 2024 rates

Period	AM peak	PM peak	Daily
<b>Proposal (33,749m<sup>2</sup> GFA)</b>	+ 57 vtp	+ 71 vtp	+ 955 vehicle trips
<b>Less Existing Traffic</b>	- 30 vtp	- 30 vtp	- 240 vehicle trips
<b>Net Addition</b>	+ 27 vtp	+ 41 vtp	+ 715 vehicle trips

In relation to the proportion of heavy vehicles to light vehicles, the GTIA specifies a ratio of 30% heavy vehicles and 70% light vehicles. Applying this to the overall traffic generation outcome reveals the following traffic generation composition (Table 8-2).



Table 8-2 Proportion of Cars vs Trucks

Period	AM peak (vtph)	PM peak (vtph)	Daily (vehicle trips)
Total	27	41	715
Cars (70%)	19	29	500
Trucks (30%)	8	12	215

### 8.3 Traffic Distribution

The distribution of development traffic across the road network has regard to the Australian Bureau of Statistics (ABS) Journey to Work Data (2021) and appropriate reference to Google trip planning feature. An extract of the JTW data indicating residents who work in the Moorebank LGA is reproduced in Table 8-3.

Table 8-3 Origin/Destination Proportion of Local Employees

Usual LGA of Residence	Direction of Travel	Sample Size	Proportion
Liverpool	West	29,558	39%
Campbelltown	South	8,014	11%
Fairfield	North	6,394	8%
Camden	South	6,197	8%
Canterbury-Bankstown	East	4,444	6%
Blacktown	North	2,599	3%
Sutherland Shire	East	2,450	3%
Penrith	North	2,111	3%
Cumberland	North	2,047	3%
Others	-	12,456	16%
<b>Total</b>		<b>76,270</b>	<b>100%</b>

On this basis, the directional distribution is summarised in Table 8-4. For simplicity, the 16% attributed to 'Others' in the statistical data (last row) will be evenly distributed across the four directions of travel.

Table 8-4 Proportion of Inbound and Outbound Traffic

Direction	Proportion
North	17% + 4% others (21%)
East	9% + 4% others (13%)
South	19% + 4% others (23%)
West	39% + 4% others (43%)

The resulting development traffic movements are then distributed in the local network as illustrated in Figure 8-1 and Figure 8-2.



Figure 8-1 Inbound and Outbound Traffic during the AM Peak

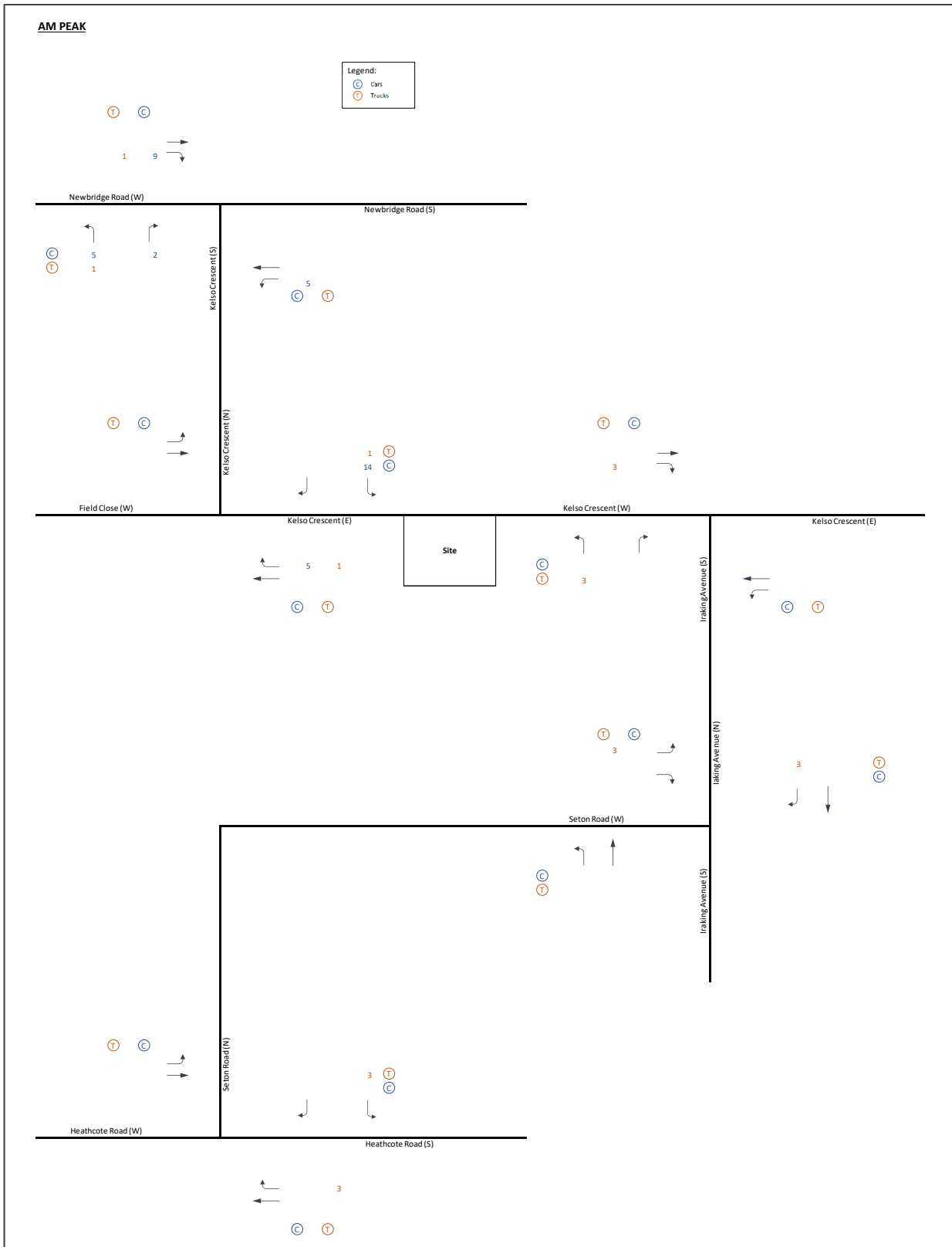




Figure 8-2 Inbound and Outbound Traffic during the PM Peak





Based on the above, the development traffic is added onto the background traffic.

It is assumed that 75% of the truck movements will be to/from the east, using the Seton Road-Heathcote Road route as indicated in Figure 7-3. The remainder will be travelling via Newbridge Road as indicated in Figure 7-4.

## 8.4 Post-Development Traffic Assessment

SIDRA modelling is used to quantify the extent of the development impact on the local road network. The outcome of the assessment (**Attachment 2**) is tabulated in Table 8-5 below.

As required by the TfNSW in its consultation advice<sup>1</sup>, a sensitivity analysis evaluating the five (5) and ten (10) year horizons will also be undertaken in this assessment. Similarly, the annual background traffic growth projection is taken to be 1.5% reflecting a relatively established land use circumstance in the immediate surrounding.

On this basis, the following assessment outcome compares the base case (without development) and post-development in 2025, 2030, and 2035:

Table 8-5 Existing vs Post-development Network Operation – **Base Year 2025**

Intersection	AM Peak		PM Peak	
	LOS	AVD (s)	LOS	AVD (s)
<b>Existing</b>				
Newbridge Rd/Kelso Cr	C (SRT)	42.3	C (SRT)	28.8
Kelso Cr/Field Close	A (ERT)	5.1	A (ERT)	4.8
Kelso Cr/Iraking Ave	A (SRT)	4.8	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.0	A (WRT)	4.8
Heathcote Rd/Seton Rd	A	6.1	B	16.1
<b>Post-Development</b>				
Newbridge Rd/Kelso Cr	D (SRT)	43.1	C (SRT)	30.4
Kelso Cr/Field Close	A (ERT)	5.2	A (ERT)	4.9
Kelso Cr/Iraking Ave	A (SRT)	4.8	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.4	A (WRT)	4.8
Heathcote Rd/Seton Rd	A	6.2	B	16.8

<sup>1</sup> Further details outlined in Section 11 of this report.



Table 8-6 Existing vs Post-development Network Operation – Year 2030

Intersection	AM Peak		PM Peak	
	LOS	AVD (s)	LOS	AVD (s)
<b>Existing</b>				
Newbridge Rd/Kelso Cr	E (SRT)	66.8	C (SRT)	37.5
Kelso Cr/Field Close	A (ERT)	5.2	A (ERT)	4.8
Kelso Cr/Iraking Ave	A (SRT)	4.9	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.0	A (WRT)	4.9
Heathcote Rd/Seton Rd	A	6.2	B	17.9
<b>Post-Development</b>				
Newbridge Rd/Kelso Cr	E (SRT)	67.6	C (SRT)	39.8
Kelso Cr/Field Close	A (ERT)	5.2	A (ERT)	4.9
Kelso Cr/Iraking Ave	A (SRT)	4.9	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.1	A (WRT)	4.9
Heathcote Rd/Seton Rd	A	6.3	B	18.8

Table 8-7 Existing vs Post-development Network Operation – Year 2035

Intersection	AM Peak		PM Peak	
	LOS	AVD (s)	LOS	AVD (s)
<b>Existing</b>				
Newbridge Rd/Kelso Cr	F (SRT)	147.9	D (SRT)	55.5
Kelso Cr/Field Close	A (ERT)	5.2	A (ERT)	4.9
Kelso Cr/Iraking Ave	A (SRT)	4.9	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.0	A (WRT)	4.9
Heathcote Rd/Seton Rd	A	6.4	B	21.2
<b>Post-Development</b>				
Newbridge Rd/Kelso Cr	F (SRT)	161.0	E (SRT)	60.5
Kelso Cr/Field Close	A (ERT)	5.2	A (ERT)	4.9
Kelso Cr/Iraking Ave	A (SRT)	4.9	A (SRT)	4.8
Iraking Ave/Seton Rd	A (WRT)	5.0	A (WRT)	4.9
Heathcote Rd/Seton Rd	A	6.5	B	22.2

Abbreviation

LOS = Level of Service (definition of LOS are provided in Table 3-2)

AVD = Average Intersection Delay

WRT = West Approach Right Turn

ERT = East Approach Right Turn



*SRT = South Approach Right Turn*

*NRT = North Approach Right Turn*

The assessment found that the projected traffic load resulting from the proposal will generally retain the road network's levels of service in 2025 and 2030. The only exception is the Newbridge Road/Kelso Crescent intersection where the right-hand turn movement from Kelso Crescent just tipped the intersection from LOS C to LOS D in the 2025 AM peak (i.e. an increase in intersection movement average delay of some 1 second).

However, as the background traffic grow further by 2035, the right-turn movement from Kelso Crescent to Newbridge Road at the Newbridge Road/Kelso Crescent intersection is expected to fail in the AM peak (i.e. without the proposed development). In the PM peak, the intersection's additional delay of 5 seconds tipped it from LOS D to LOS E.

As the Newbridge Road/Kelso Crescent intersection critical right turn movement's failure (2035 AM peak) is not directly caused by the development traffic, the road authority may consider treatment to the right-turn movement in due course to alleviate this isolated capacity issue. The assessment highlights that all other approaches of the Newbridge Road/Kelso Crescent intersection operate with spare capacity through to 2035.

The assessment also notes that while the overall Heathcote Road/Seton Road intersection is expected to operate at a satisfactory level of service, the right turn movement from Seton Road to Heathcote Road is projected to operate at a LOS F in 2025 during the AM and PM peak under only background traffic conditions. The post-development LOS are retained for all design years. This outcome is a typical event in a SCATS controlled corridor where green time is prioritised for the major road – in this case, Heathcote Road which operate at a LOS A. To reduce delays for right turning vehicles from Seton Road, the road authority may consider allocating more green time to the Seton Road leg.

## 8.5 Road Safety Impact

An assessment of the road crash history in Section 3.4 of this report reveals no apparent physical safety deficiency on the local road network.

## 8.6 Cumulative Impact

An enquiry using the Liverpool Council's E-Planning portal reveals no recent Development Application lodged and approved in the site's vicinity. Nevertheless, the assessment notes a number of development schemes that are either under documentation or assessment. They are detailed briefly as follows:

- A proposed paper trade processing resource recovery facility at 49 Heathcote Road (SSD 46042458). At this stage, the extent of traffic generation for the proposal is unknown; however, it is worth noting that an existing industrial warehouse already occupies the site. Therefore, the assessment does not anticipate any notable additional traffic beyond what currently exists on-site."
- A proposed warehouse and distribution centre at 23 Iraking Avenue, Moorebank (DA 942/2022). The planning documents for the proposal indicate an estimated 2 to 3 vehicle movements per day.



- 
- A proposed modification to DA 388/1986, involving an increase in operating capacity for concrete production from 43,000 cubic metres to 150,000 cubic metres at an existing facility/plant at 26 Seton Road, Moorebank. The relevant planning documents project no additional traffic movements during peak hours, although they do acknowledge a potential increase of approximately 18 truck movements per hour during nighttime.

The assessment notes that the nearby potential traffic-generating developments mentioned above are not of substantial nature and do not warrant further assessment. However, it is acknowledged that TfNSW requires the consideration of approved developments only when conducting cumulative assessments.



## 9 Preliminary Construction Traffic Management Plan

This preliminary Construction Traffic Management Plan (CTMP) presents the proposed construction activities associated with the proposal. In addition, it has regard to the relevant SEARs as follows:

*“Secretary’s Environmental Assessment Requirement 6.2: Provide a Construction Traffic Management Plan detailing predicted construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.”*

It is noted however that a detailed CTMP cannot be produced without the involvement of a builder and consideration of all final design selections. The preliminary CTMP is intended to provide a framework within which a future CTMP can be prepared.

### 9.1 Construction Program

#### 9.1.1 Construction Staging/Phasing

Table 9-1 indicates a preliminary phasing outline of each construction stage, including estimated vehicle types and volumes and the approximate number of daily workers. These estimations may be subject to change following the appointment of a contractor.

Table 9-1 Estimated Works Program

Phase	Estimated Period	No. of Trucks per day	Avg. No. of Trucks per hour	No. of Workers per day
<b>Site Establishment</b>	1 month	1-5	0.5	10
<b>Construction</b>	18 months	10-30* (see Note 1)	1-3	50-60
<b>Fitout</b>	6 months	5-8	0.5	50-60

Note 1: Construction peak traffic movement occurs during the concrete pour for a brief period.

#### 9.1.2 Construction Hours

The proposed work hours will accord with the consent details; however, it is expected that construction activities will be limited to the following period (

Table 9-2):

Table 9-2 Expected Work Hours

Days	Hours
<b>Monday to Friday</b>	7.00am to 6.00pm
<b>Saturday</b>	8.00am to 1.00pm
<b>Sunday/Public Holiday</b>	No work



## 9.2 Construction Personnel

All personnel dealing with traffic control, being either contractors or sub-contractors, must hold the following current accreditation (as relevant):

- WHS&E general induction certificate (white card)
- RMS Traffic Controller (for traffic control, performing stop/slow control)
- RMS Implement Traffic Control Plans (for implementation of signage)
- RMS Prepare a Work Zone Traffic Management Plan (TMP) for the design of Traffic Management Plan (TMP) and Traffic Control Plans
- All staff must be inducted onsite before the commencement of work.

## 9.3 Construction Traffic Management

### 9.3.1 Site Access & Circulation

Construction vehicles are expected to use the existing vehicle driveways to access the site. In addition, all vehicles associated with the works are expected to be able to turn around internally, enabling forward direction entry and exit at the site boundaries.

### 9.3.2 Emergency vehicle Access

All site access points will be gated and manned by traffic personnel during work hours. Emergency vehicles will be able to access the site via all construction access points. Contact details of the site-nominated supervisor must be displayed prominently adjacent to each site gate.

### 9.3.3 Onsite Parking

Construction workers may park in the existing hard-stand car park on the site.

Construction vehicles are expected to use the existing vehicle driveways at Kelso Crescent and Seton Road to access the site.

### 9.3.4 Vehicle Management

Vehicle movements will occur within the prescribed working hours. Delivery and removal trucks are to have a staggered arrival schedule and occur outside peak hours where possible. The following construction traffic management shall be implemented onsite during construction:

- No queuing of heavy vehicles is to occur on the surrounding streets unless approved by the Council.
- Truck loading and unloading activities are to occur within the Works Zone or within the site.



- All construction deliveries are to occur during the approved working hours only.

Any vehicles arriving after the worksite has reached maximum capacity will be expected to reschedule their delivery and depart, although it is anticipated that enough queueing space will be available within the site.

Where possible, all loading and unloading of construction vehicles will occur within the site boundaries. If this is not possible, traffic controllers will be stationed so that other road users can still move safely and efficiently around the construction activities.

### 9.3.5 Construction Vehicle Routes

Construction vehicles are anticipated to travel to/from the site via Heathcote Road and Newbridge Road.

## 9.4 Traffic Impacts

### 9.4.1 Impact on Public Transport Services

The nominated heavy vehicle haulage routes will largely be limited to arterial and/or sub-arterial roads which are designed to accommodate heavy vehicle movements. The anticipated truck activity will be relatively low (in comparison to the post-development circumstance), and there will be no adverse impact on existing public transport services.

### 9.4.2 Impact on Pedestrians

During the construction activity, pedestrian movements along the frontage footpaths will remain accessible. Onsite trained personnel will supervise pedestrian movements along the site frontages during the construction process.

### 9.4.3 Impact on Emergency Vehicle Access

Site personnel will be onsite regularly with contact details prominently displayed. Emergency vehicles' access to the site and neighbouring sites must not be impeded/affected by the construction storage/activities.

### 9.4.4 On-Street Queue Impact

The number of peak construction vehicle movements of 3 trucks per hour (as projected in Table 9-1) indicates an average traffic load of one truck every some 20 minutes. The construction site will be vast and circulation space ample during the entire construction process. Notwithstanding, it is recommended that all traffic controllers should ensure site access gates are open upon being notified of approaching trucks to minimise entry delays.

### 9.4.5 Road Serviceability

The nominated contractor will ensure that the road pavement, kerb, and gutter along each road frontage shall remain in clean and serviceable states during the construction at no cost to Council.



#### 9.4.6 Materials Handling

All materials will be loaded and unloaded within the site and stored within designated areas within secured areas. No materials are to be stored outside the site boundary at any time.

#### 9.4.7 Public Notification & Communication

The nominated contractor would prepare notification letters, under the approval of the Council, that would be delivered to nearby properties to advise of the construction works and timing thereof prior to any site works. A minimum notice period of 14 days shall be applicable for all external communications.

The nominated contractor shall also engage with the surrounding building teams at the time of construction to establish the extent of truck delivery movements with an aim to minimise overlapping movements on the same routes.

To be able to notify motorists of roadwork and when traffic controllers are present, traffic control advance-warning signage (in accordance with TfNSW guidelines and Australian Standards) is to be used and in place. Signage size is to be size "A" and is to be monitored throughout the works to ensure visibility.

All contractors will be made aware of this Construction Traffic Management Plan and relevant Traffic Control Plans, and their responsibility to adhere to these plans through induction.



## 10 Green Travel Plan

### 10.1 Definition

A GTP is a document that outlines how the development intends to make travel to and from the site safer and more sustainable for all occupants. The GTP addresses the local traffic issues around the site and encourages active, safe, and sustainable travel methods, such as walking, cycling, scooting, public transport, or car-sharing. A GTP is a document that is monitored and reviewed annually.

### 10.2 Purpose

The development of a Green Travel Plan is widely accepted as one of the best ways to increase active travel. A successful Green Travel Plan offers many benefits for the community, including:

- Improving social interaction by walking and/or cycling with others
- Improving safety around the site by reducing traffic and local road congestion
- Improving the environment by reducing air pollution from private vehicles
- Creating opportunities for healthier lifestyles and more vibrant, cohesive, and accessible communities

Informed occupants with a better understanding of active and sustainable modes of transport will follow a healthy and active lifestyle. This will create a generation of workforce who will care about the environment and prioritise location and lifestyle over car ownership.

An effective GTP can offer many benefits, such as reduced parking demand, fewer congestion on public road networks, and health and environmental benefits, which generally result in a healthier and more productive workforce.

### 10.3 Process

**Understanding Existing Travel Patterns and Infrastructure:** Background information is collected about the existing site, such as:

- Existing travel patterns
- Local public transport facilities
- Walking routes
- Cycling facilities

**Setting Achievable Targets:** With reference to the existing conditions, a range of targets should be developed to meet the aims of the plan. The targets would involve:



- reducing private vehicle mode share
- reducing the vehicle kilometres travelled.

**Developing Actions:** A range of actions have been developed to facilitate meeting the targets. For each action, a measurable outcome has been identified.

**Monitoring and Revision:** It is intended that this plan is updated every 12 months with the targets and actions reviewed.

## 10.4 Responsibilities

The implementation of this GTP will require a formal Travel Plan Coordinator who will have responsibility for further developing, implementing, and monitoring the GTP after the project handover.

## 10.5 Site Audit

### 10.5.1 Walking

Established footpaths are available on both the Kelso Crescent and Seton Road frontages.

### 10.5.2 On-street Parking

Ample unrestricted on-street parking spaces are available along Kelso Crescent and Seton Road. The assessment highlights that heavy vehicles are permitted to park along Kelso Road between 7pm and 6am seven days a week.

Notwithstanding, it is not suggested that the proposal will rely on existing on-street parking. The assessment confirms that the proposed car parking provision is in keeping with the industry standard and consistent with the anticipated activity generated by the commercial operations.

### 10.5.3 Public Transport Services

Liverpool Railway Station is situated 1.4 km to the west in the Liverpool CBD. It is directly accessible via Newbridge Road and Kelso Crescent. It can be accessed by foot (20 minutes) via existing footpaths or by bus no. (M90 and 903) on a combined frequency of approximately eight (8) services per hour during the peak periods. The nearest bus stop is located approximately 190m (2-minute walk) from the site (Table 10-1).



Table 10-1 Nearest Bus Stop (M90, 903)



Source: Google Transit

#### 10.5.4 Journey to Work – Existing Travel Mode Share

Table 8-3 reveals some 40% of residents who work in the Liverpool LGA in fact live in the local LGA. The Liverpool City Council’s Bike Plan (2018) reveals the following travel mode share amongst its local residents:

Table 10-2 Journey to Work – Travel Mode Share Summary

Method of travel to work	Place of Work Mode Share (%)
<b>Private Vehicle (car, truck, motorbike)</b>	80% (6% passenger)
<b>Public transport (train, taxi, bus, ferry, tram)</b>	13%
<b>Active transport (bicycle, walking)</b>	2%

\* ‘Other mode & Mode Not Stated’ not included in the above table

The above information indicates a relatively low uptake of public transport usage. Given that the majority of the workforce in the LGA works in the local area, opportunities exist for developers to promote the use of active transport mode.



## 10.6 Mode Share Targets

Mode share targets for the development's occupants have been projected using the existing mode share as a base and shifting it towards more sustainable travel modes. The mode share targets are shown Table 10-3.

Table 10-3 Journey to Work – Travel Mode Share Target (12 months post-occupation)

Method of travel to work	Place of Work Mode Share Target (%) 12 months
<b>Private Vehicle (car, truck, motorbike)</b>	70%
<b>Public transport (train, taxi, bus, ferry, tram)</b>	20%
<b>Active transport (bicycle, walking)</b>	10%

## 10.7 Proposed Action Items

To be provided in coordination with tenants and Travel Plan Coordinator.

## 10.8 Monitoring and Review

### 10.8.1 Purpose

Ongoing monitoring and review are crucial to the GTP's success as it assesses whether the initiatives have been successful in meeting the objectives and targets. In addition, monitoring will provide the opportunity for introducing new incentives or ways to change the travel decisions being made by the workforce to achieve positive outcomes on traffic congestion, road safety, and the environment.

### 10.8.2 Data Collection

To monitor the effectiveness (or otherwise) of the GTP and target mode shares, it is recommended that travel mode surveys be undertaken either as an online platform (requiring participant responses). The interval of the review surveys must allow for sufficient behaviour change and ensure the survey is clear of public holidays or significant events that may alter behaviour.

The survey is to capture the occupants' travel mode share to ensure sufficient details are collected to inform the decision-making process.

A sample travel mode survey is provided below:

Q1: What is your post code? \_\_\_\_

Q2: How do you usually travel to work? (Select one)



- *Walk / run*
- *Bicycle*
- *Bus*
- *Train*
- *Combination bus and train*
- *Drive a car*
- *Passenger in a car*
- *Other (explain)\_\_\_\_\_*

Q3: *What time do you usually leave for work in the morning?*

Q4: *Other than travelling to work, what is your main mode of transport around Sydney? (Select one)*

- *Walk / run*
- *Bicycle*
- *Bus*
- *Train*
- *Combination bus and train*
- *Drive a car*
- *Passenger in a car*
- *Other (explain)\_\_\_\_\_*

Q5: *To facilitate transport programs, can we share your contact details with green travel champions?*

- *Yes – I'll walk (if Yes, please provide your email here:\_\_\_\_\_)*
- *Yes – I'm a cyclist (if Yes, please provide your email here:\_\_\_\_\_)*
- *Yes – I'm a public transport passenger (if Yes, please provide your email here:\_\_\_\_\_)*
- *No*

### 10.8.3 Frequency

The review surveys will be undertaken within no earlier than 3 months of the action items being adopted and then regularly at yearly intervals.



---

## 11 Consultation Process

This report has been updated in response to Liverpool Council, DPHI and TfNSW consultation process (dated 31 January 2025 and 25 February 2025).

Details of the consultation package and correspondence are provided in **Attachment 4**.



## 12 Conclusion

The Transport Impact Assessment undertaken for the proposed industrial warehouse development at 20 Kelso Crescent, Moorebank has concluded that:

- The traffic generation of the proposed development will not present any adverse traffic implications on the local road network
- The proposed parking provision will be consistent with the TfNSW Guidelines while the parking provision will be in keeping with the Council's DCP
- The proposed access, internal circulation and parking arrangements will be appropriate to AS design criteria
- The documented Green Travel Plan will provide a guiding framework to manage the travel mode of the building's future occupants
- The preliminary construction traffic management plan will provide a suitable and adequate basis on which the detailed construction traffic strategy may be developed following development consent and contract nomination.



# Attachment 1

## Traffic Survey Data

Location Seton Road  
Heatcote Road  
-  
Heatcote Road  
Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
Day/Date Wednesday, 21 June 2023  
Weather -

All Vehicles Time Per 15 Mins	NORTH Seton Road								EAST Heatcote Road								TOTAL		TOTAL			
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY				
7:00 - 7:15	14	4	18				26						113	11	124	45	8	53	177	271	36	307
7:15 - 7:30	21	4	25				39						132	10	142	39	3	42	184	345	31	376
7:30 - 7:45	18	2	20				29						148	10	158	31	2	33	191	329	27	356
7:45 - 8:00	18	4	22				30						166	8	174	34	9	43	217	374	35	409
8:00 - 8:15	8	1	9				17						162	13	175	54	7	61	236	390	31	421
8:15 - 8:30	21	6	27				50						174	12	186	37	3	40	226	405	40	445
8:30 - 8:45	8	3	11				24						157	12	169	43	4	47	216	373	37	410
8:45 - 9:00	20	2	22				38						151	9	160	37	9	46	206	337	33	370
Period End	128	26	154				253						1203	85	1288	320	45	365	1653	2824	270	3094
16:00 - 16:15	44	1	45				90						114	10	124	20	1	21	145	392	19	411
16:15 - 16:30	55	1	56				92						113	8	121	23	8	31	152	394	20	414
16:30 - 16:45	51	3	54				87						107	7	114	38	3	41	155	421	18	439
16:45 - 17:00	48	0	48				77						93	8	101	20	0	20	121	389	14	403
17:00 - 17:15	48	2	50				76						107	6	113	19	2	21	134	429	13	442
17:15 - 17:30	44	1	45				64						94	6	100	16	1	17	117	357	12	369
17:30 - 17:45	51	1	52				74						116	3	119	28	1	29	148	419	6	425
17:45 - 18:00	28	0	28				36						97	6	103	20	2	22	125	312	13	325
Period End	369	9	378				596						841	54	895	184	18	202	1097	3113	115	3228

All Vehicles Time Per 15 Mins	SOUTH -								WEST Heatcote Road								TOTAL		TOTAL
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY			
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY	
7:00 - 7:15								86	11	97	7	0	7	104	271	36	307		
7:15 - 7:30								128	11	139	14	0	14	153	345	31	376		
7:30 - 7:45								117	9	126	10	0	10	136	329	27	356		
7:45 - 8:00								135	8	143	16	3	19	162	374	35	409		
8:00 - 8:15								146	5	151	15	2	17	168	390	31	421		
8:15 - 8:30								145	12	157	10	2	12	169	405	40	445		
8:30 - 8:45								148	12	160	8	2	10	170	373	37	410		
8:45 - 9:00								109	4	113	12	1	13	126	337	33	370		
Period End								1014	72	1086	92	10	102	1188	2824	270	3094		
16:00 - 16:15								166	5	171	5	0	5	176	392	19	411		
16:15 - 16:30								159	2	161	9	0	9	170	394	20	414		
16:30 - 16:45								188	3	191	6	0	6	197	421	18	439		
16:45 - 17:00								194	5	199	5	1	6	205	389	14	403		
17:00 - 17:15								224	1	225	5	2	7	232	429	13	442		
17:15 - 17:30								184	4	188	0	0	0	188	357	12	369		
17:30 - 17:45								199	0	199	4	0	4	203	419	6	425		
17:45 - 18:00								160	3	163	1	0	1	164	312	13	325		
Period End								1474	23	1497	35	3	38	1535	3113	115	3228		

Location Seton Road  
Heatcote Road  
 -  
Heatcote Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 -  
 Day/Date Wednesday, 21 June 2023  
 Weather -

All Vehicles Time Per Hour	NORTH Seton Road							EAST Heatcote Road							TOTAL		TOTAL						
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY							
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ										
7:00 - 8:00	71	14	85				27	12	39	124				559	39	598	149	22	171	769	1319	129	1448
7:15 - 8:15	65	11	76				26	13	39	115				608	41	649	158	21	179	828	1438	124	1562
7:30 - 8:30	65	13	78				33	15	48	126				650	43	693	156	21	177	870	1498	133	1631
7:45 - 8:45	55	14	69				37	15	52	121				659	45	704	168	23	191	895	1542	143	1685
8:00 - 9:00	57	12	69				40	20	60	129				644	46	690	171	23	194	884	1505	141	1646
Period End																							
16:00 - 17:00	198	5	203				138	5	143	346				427	33	460	101	12	113	573	1596	71	1667
16:15 - 17:15	202	6	208				121	3	124	332				420	29	449	100	13	113	562	1633	65	1698
16:30 - 17:30	191	6	197				105	2	107	304				401	27	428	93	6	99	527	1596	57	1653
16:45 - 17:45	191	4	195				95	1	96	291				410	23	433	83	4	87	520	1594	45	1639
17:00 - 18:00	171	4	175				72	3	75	250				414	21	435	83	6	89	524	1517	44	1561
Period End																							

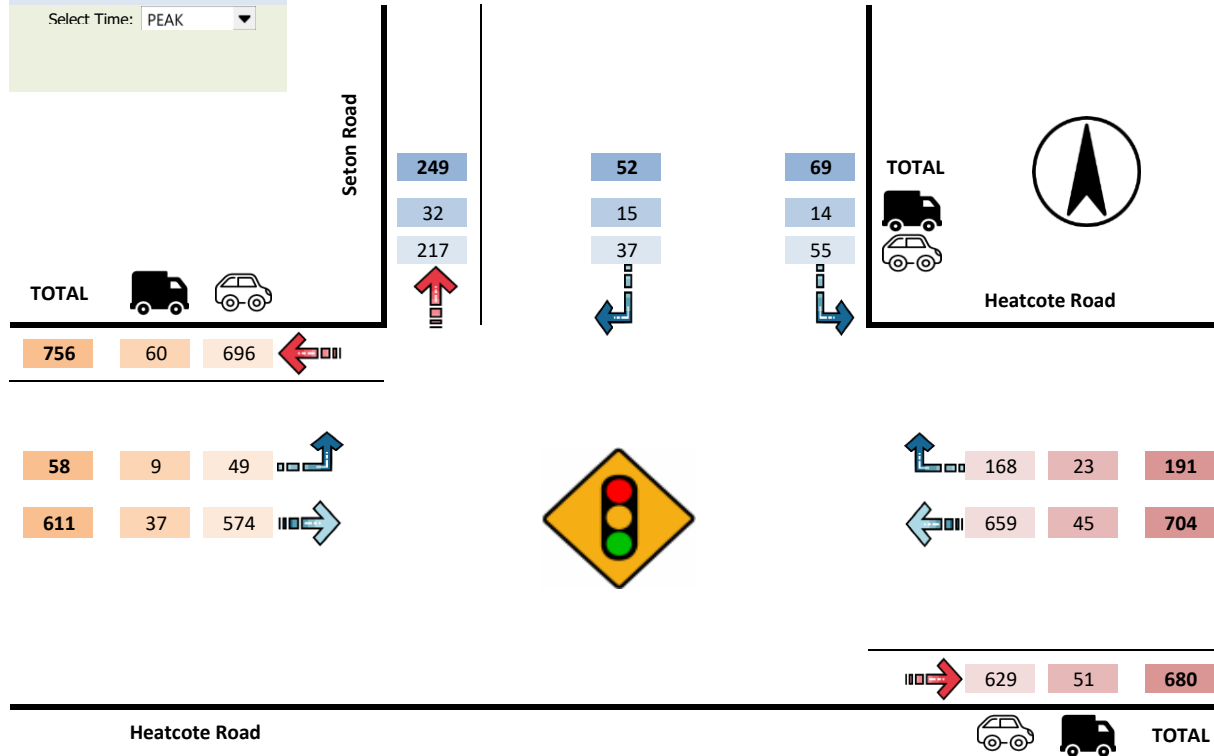
All Vehicles Time Per Hour	SOUTH -							WEST Heatcote Road							TOTAL		TOTAL						
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY							
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ										
7:00 - 8:00								466	39	505	47	3	50				555	1319	129	1448			
7:15 - 8:15								526	33	559	55	5	60				619	1438	124	1562			
7:30 - 8:30								543	34	577	51	7	58				635	1498	133	1631			
7:45 - 8:45								574	37	611	49	9	58				669	1542	143	1685			
8:00 - 9:00								548	33	581	45	7	52				633	1505	141	1646			
Period End																							
16:00 - 17:00								707	15	722	25	1	26				748	1596	71	1667			
16:15 - 17:15								765	11	776	25	3	28				804	1633	65	1698			
16:30 - 17:30								790	13	803	16	3	19				822	1596	57	1653			
16:45 - 17:45								801	10	811	14	3	17				828	1594	45	1639			
17:00 - 18:00								767	8	775	10	2	12				787	1517	44	1561			
Period End																							

Location Seton Road  
Heatcote Road  
 -  
Heatcote Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 -  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time: PEAK

**TIME RANGE**  
 PEAK - AM  
 PEAK  
 7:45 - 8:45

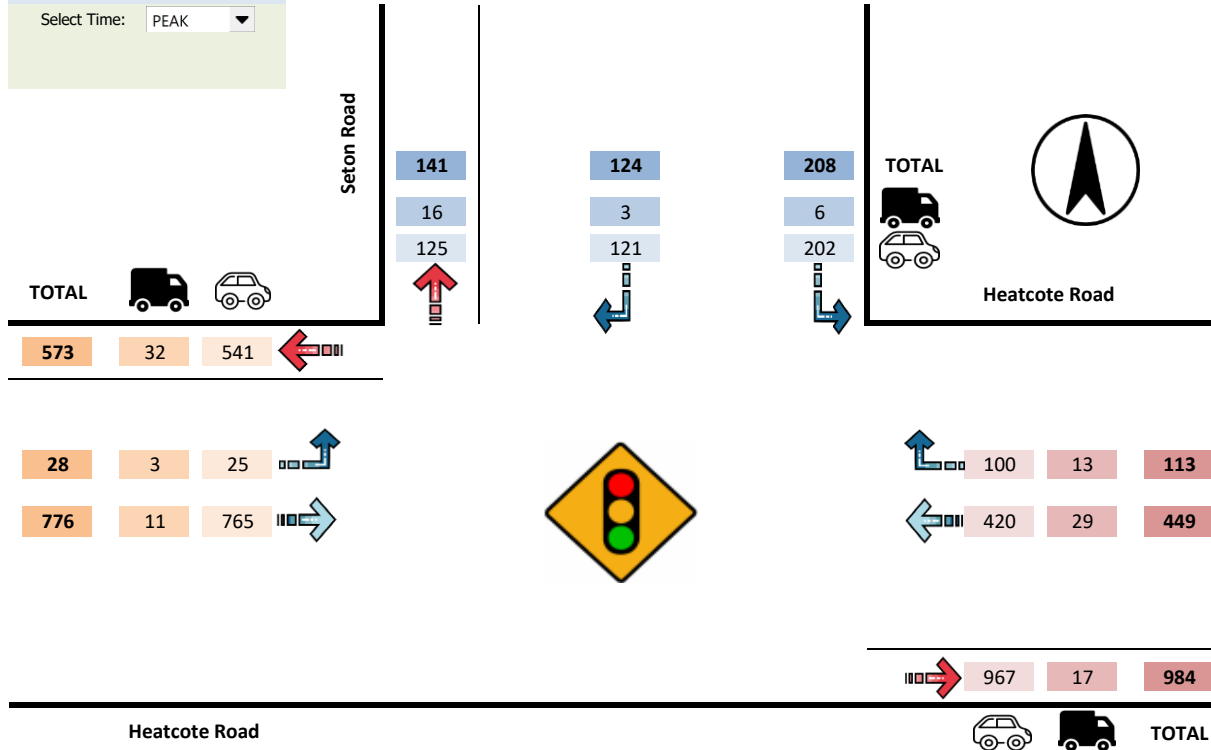


Location Seton Road  
Heatcote Road  
 -  
Heatcote Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 -  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time:

TIME RANGE		
PEAK	-	PM
PEAK		
16:15	-	17:15



Location \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_

Duration \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Day/Date \_\_\_\_\_  
 Weather \_\_\_\_\_

All Vehicles Time Per 15 Mins	NORTH							EAST Kelso Crescent							TOTAL		TOTAL	
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ					LIGHT
7:00 - 7:15								1	0	1	2	0	2		3	54	9	63
7:15 - 7:30								0	1	1	0	0	0		1	46	10	56
7:30 - 7:45								0	0	0	1	0	1		1	39	6	45
7:45 - 8:00								1	0	1	1	1	2		3	47	12	59
8:00 - 8:15								1	0	1	2	1	3		4	54	11	65
8:15 - 8:30								1	0	1	0	0	0		1	42	6	48
8:30 - 8:45								2	0	2	2	0	2		4	54	7	61
8:45 - 9:00								3	0	3	1	0	1		4	52	12	64
Period End								9	1	10	9	2	11		21	388	73	461
16:00 - 16:15								1	0	1	2	0	2		3	59	3	62
16:15 - 16:30								2	0	2	1	0	1		3	64	6	70
16:30 - 16:45								0	0	0	1	0	1		1	59	8	67
16:45 - 17:00								0	0	0	1	0	1		1	50	0	50
17:00 - 17:15								3	0	3	4	0	4		7	57	2	59
17:15 - 17:30								2	0	2	2	0	2		4	36	2	38
17:30 - 17:45								0	0	0	1	0	1		1	40	3	43
17:45 - 18:00								0	0	0	2	0	2		2	27	3	30
Period End								8	0	8	14	0	14		22	392	27	419

All Vehicles Time Per 15 Mins	SOUTH Iraking Avenue							WEST Kelso Crescent							TOTAL		TOTAL					
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ					LIGHT	HEAVY			
7:00 - 7:15	15	5	20				2	0	2				3	0	3	31	4	35	38	54	9	63
7:15 - 7:30	13	4	17				0	0	0				3	1	4	30	4	34	38	46	10	56
7:30 - 7:45	10	3	13				0	0	0				3	0	3	25	3	28	31	39	6	45
7:45 - 8:00	20	4	24				0	0	0				5	1	6	20	6	26	32	47	12	59
8:00 - 8:15	22	6	28				4	0	4				5	1	6	20	3	23	29	54	11	65
8:15 - 8:30	20	4	24				1	0	1				1	0	1	19	2	21	22	42	6	48
8:30 - 8:45	26	3	29				3	1	4				2	0	2	19	3	22	24	54	7	61
8:45 - 9:00	24	7	31				0	0	0				7	0	7	17	5	22	29	52	12	64
Period End	150	36	186				10	1	11				29	3	32	181	30	211	243	388	73	461
16:00 - 16:15	28	1	29				0	0	0				0	0	0	28	2	30	30	59	3	62
16:15 - 16:30	20	5	25				0	0	0				2	0	2	39	1	40	42	64	6	70
16:30 - 16:45	31	2	33				0	0	0				0	0	0	27	6	33	33	59	8	67
16:45 - 17:00	17	0	17				0	0	0				0	0	0	32	0	32	32	50	0	50
17:00 - 17:15	24	0	24				0	0	0				0	0	0	26	2	28	28	57	2	59
17:15 - 17:30	14	2	16				0	0	0				1	0	1	17	0	17	18	36	2	38
17:30 - 17:45	19	1	20				0	0	0				0	0	0	20	2	22	22	40	3	43
17:45 - 18:00	12	0	12				0	0	0				0	0	0	13	3	16	16	27	3	30
Period End	165	11	176				0	0	0				3	0	3	202	16	218	221	392	27	419

Location \_\_\_\_\_  
 \_\_\_\_\_  
 Kelso Crescent  
 Iraking Avenue  
 \_\_\_\_\_  
 Kelso Crescent  
 \_\_\_\_\_  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
 \_\_\_\_\_  
 16:00 - 18:00  
 \_\_\_\_\_  
 Day/Date Wednesday, 21 June 2023  
 \_\_\_\_\_  
 Weather \_\_\_\_\_

All Vehicles Time Per Hour	NORTH							EAST							TOTAL		TOTAL
	-							Kelso Crescent							TOTAL		
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY		
7:00 - 8:00								2	1	3	4	1	5	8	186	37	223
7:15 - 8:15								2	1	3	4	2	6	9	186	39	225
7:30 - 8:30								3	0	3	4	2	6	9	182	35	217
7:45 - 8:45								5	0	5	5	2	7	12	197	36	233
8:00 - 9:00								7	0	7	5	1	6	13	202	36	238
Period End																	
16:00 - 17:00								3	0	3	5	0	5	8	232	17	249
16:15 - 17:15								5	0	5	7	0	7	12	230	16	246
16:30 - 17:30								5	0	5	8	0	8	13	202	12	214
16:45 - 17:45								5	0	5	8	0	8	13	183	7	190
17:00 - 18:00								5	0	5	9	0	9	14	160	10	170
Period End																	

All Vehicles Time Per Hour	SOUTH							WEST							TOTAL		TOTAL									
	Iraking Avenue							Kelso Crescent							TOTAL											
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY										
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY											
7:00 - 8:00	58	16	74				2	0	2				76				14	2	16	106	17	123	139	186	37	223
7:15 - 8:15	65	17	82				4	0	4				86				16	3	19	95	16	111	130	186	39	225
7:30 - 8:30	72	17	89				5	0	5				94				14	2	16	84	14	98	114	182	35	217
7:45 - 8:45	88	17	105				8	1	9				114				13	2	15	78	14	92	107	197	36	233
8:00 - 9:00	92	20	112				8	1	9				121				15	1	16	75	13	88	104	202	36	238
Period End																										
16:00 - 17:00	96	8	104				0	0	0				104				2	0	2	126	9	135	137	232	17	249
16:15 - 17:15	92	7	99				0	0	0				99				2	0	2	124	9	133	135	230	16	246
16:30 - 17:30	86	4	90				0	0	0				90				1	0	1	102	8	110	111	202	12	214
16:45 - 17:45	74	3	77				0	0	0				77				1	0	1	95	4	99	100	183	7	190
17:00 - 18:00	69	3	72				0	0	0				72				1	0	1	76	7	83	84	160	10	170
Period End																										

Location -  
Kelso Crescent  
Iraking Avenue  
Kelso Crescent  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time: PEAK

**TIME RANGE**  
 PEAK - AM  
 PEAK  
 8:00 - 9:00



**TOTAL** **Kelso Crescent**

---

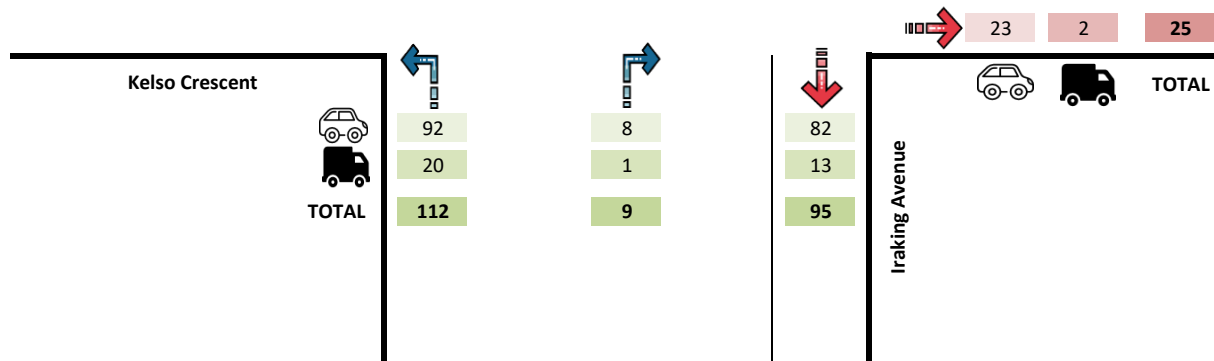
**118** **21** **97**

**16** **1** **15**

**88** **13** **75**

**5** **1** **6**

**7** **0** **7**

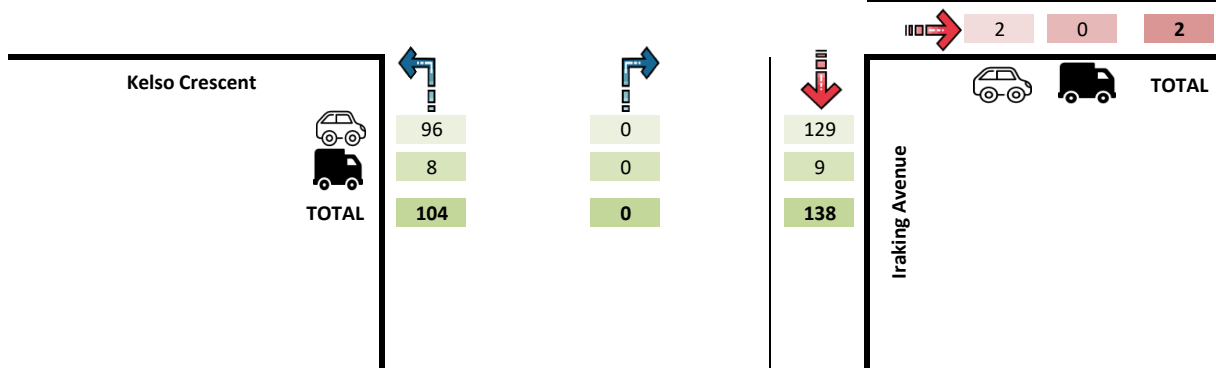
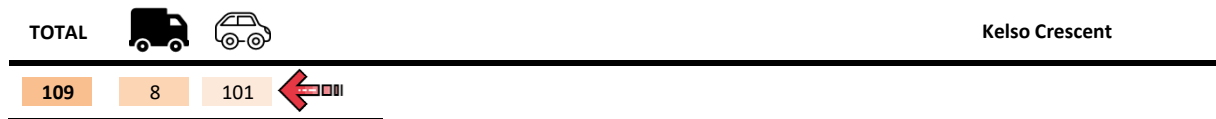


Location -  
Kelso Crescent  
Iraking Avenue  
Kelso Crescent  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time:

TIME RANGE		
PEAK	-	PM
PEAK		
16:00	-	17:00



Location Iraking Avenue  
-  
Iraking Avenue  
Seton Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

All Vehicles Time Per 15 Mins	NORTH Iraking Avenue									EAST -									TOTAL		TOTAL	
	L			T			R			TOTAL	L			T			R			TOTAL		TOTAL
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ			
7:00 - 7:15				4	0	4	22	4	26	30										45	9	54
7:15 - 7:30				2	0	2	29	3	32	34										47	8	55
7:30 - 7:45				2	0	2	25	3	28	30										39	5	44
7:45 - 8:00				3	0	3	15	4	19	22										42	9	51
8:00 - 8:15				3	0	3	21	4	25	28										48	8	56
8:15 - 8:30				4	1	5	18	1	19	24										50	7	57
8:30 - 8:45				3	0	3	18	4	22	25										48	9	57
8:45 - 9:00				2	0	2	14	6	20	22										46	12	58
Period End				23	1	24	162	29	191	215										365	67	432
16:00 - 16:15				0	1	1	27	1	28	29										61	3	64
16:15 - 16:30				3	0	3	42	1	43	46										70	4	74
16:30 - 16:45				1	0	1	27	3	30	31										52	5	57
16:45 - 17:00				1	0	1	35	0	35	36										55	0	55
17:00 - 17:15				1	0	1	29	1	30	31										46	1	47
17:15 - 17:30				0	0	0	22	1	23	23										35	3	38
17:30 - 17:45				0	0	0	20	1	21	21										38	2	40
17:45 - 18:00				1	0	1	11	3	14	15										21	3	24
Period End				7	1	8	213	11	224	232										378	21	399

All Vehicles Time Per 15 Mins	SOUTH Iraking Avenue									WEST Seton Road									TOTAL		TOTAL		
	L			T			R			TOTAL	L			T			R			TOTAL		TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				
7:00 - 7:15	0	0	0	0	0	0				0	17	5	22				2	0	2	24	45	9	54
7:15 - 7:30	0	2	2	3	0	3				5	13	3	16				0	0	0	16	47	8	55
7:30 - 7:45	2	0	2	1	0	1				3	7	2	9				2	0	2	11	39	5	44
7:45 - 8:00	0	0	0	2	0	2				2	22	3	25				0	2	2	27	42	9	51
8:00 - 8:15	1	0	1	2	0	2				3	21	4	25				0	0	0	25	48	8	56
8:15 - 8:30	0	0	0	4	1	5				5	23	4	27				1	0	1	28	50	7	57
8:30 - 8:45	1	1	2	1	0	1				3	23	3	26				2	1	3	29	48	9	57
8:45 - 9:00	3	0	3	1	0	1				4	25	6	31				1	0	1	32	46	12	58
Period End	7	3	10	14	1	15				25	151	30	181				8	3	11	192	365	67	432
16:00 - 16:15	6	0	6	6	0	6				12	22	1	23				0	0	0	23	61	3	64
16:15 - 16:30	3	0	3	1	0	1				4	21	3	24				0	0	0	24	70	4	74
16:30 - 16:45	1	0	1	1	0	1				2	21	2	23				1	0	1	24	52	5	57
16:45 - 17:00	1	0	1	2	0	2				3	16	0	16				0	0	0	16	55	0	55
17:00 - 17:15	0	0	0	1	0	1				1	15	0	15				0	0	0	15	46	1	47
17:15 - 17:30	0	0	0	0	0	0				0	13	2	15				0	0	0	15	35	3	38
17:30 - 17:45	0	0	0	1	0	1				1	17	1	18				0	0	0	18	38	2	40
17:45 - 18:00	1	0	1	0	0	0				1	8	0	8				0	0	0	8	21	3	24
Period End	12	0	12	12	0	12				24	133	9	142				1	0	1	143	378	21	399

Location Iraking Avenue  
-  
Iraking Avenue  
Seton Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 Day/Date Wednesday, 21 June 2023  
 Weather -

All Vehicles Time Per Hour	NORTH Iraking Avenue								EAST -								TOTAL		TOTAL	
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY				
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY		
7:00 - 8:00				11	0	11	91	14	105	116								173	31	204
7:15 - 8:15				10	0	10	90	14	104	114								176	30	206
7:30 - 8:30				12	1	13	79	12	91	104								179	29	208
7:45 - 8:45				13	1	14	72	13	85	99								188	33	221
8:00 - 9:00				12	1	13	71	15	86	99								192	36	228
Period End																				
16:00 - 17:00				5	1	6	131	5	136	142								238	12	250
16:15 - 17:15				6	0	6	133	5	138	144								223	10	233
16:30 - 17:30				3	0	3	113	5	118	121								188	9	197
16:45 - 17:45				2	0	2	106	3	109	111								174	6	180
17:00 - 18:00				2	0	2	82	6	88	90								140	9	149
Period End																				

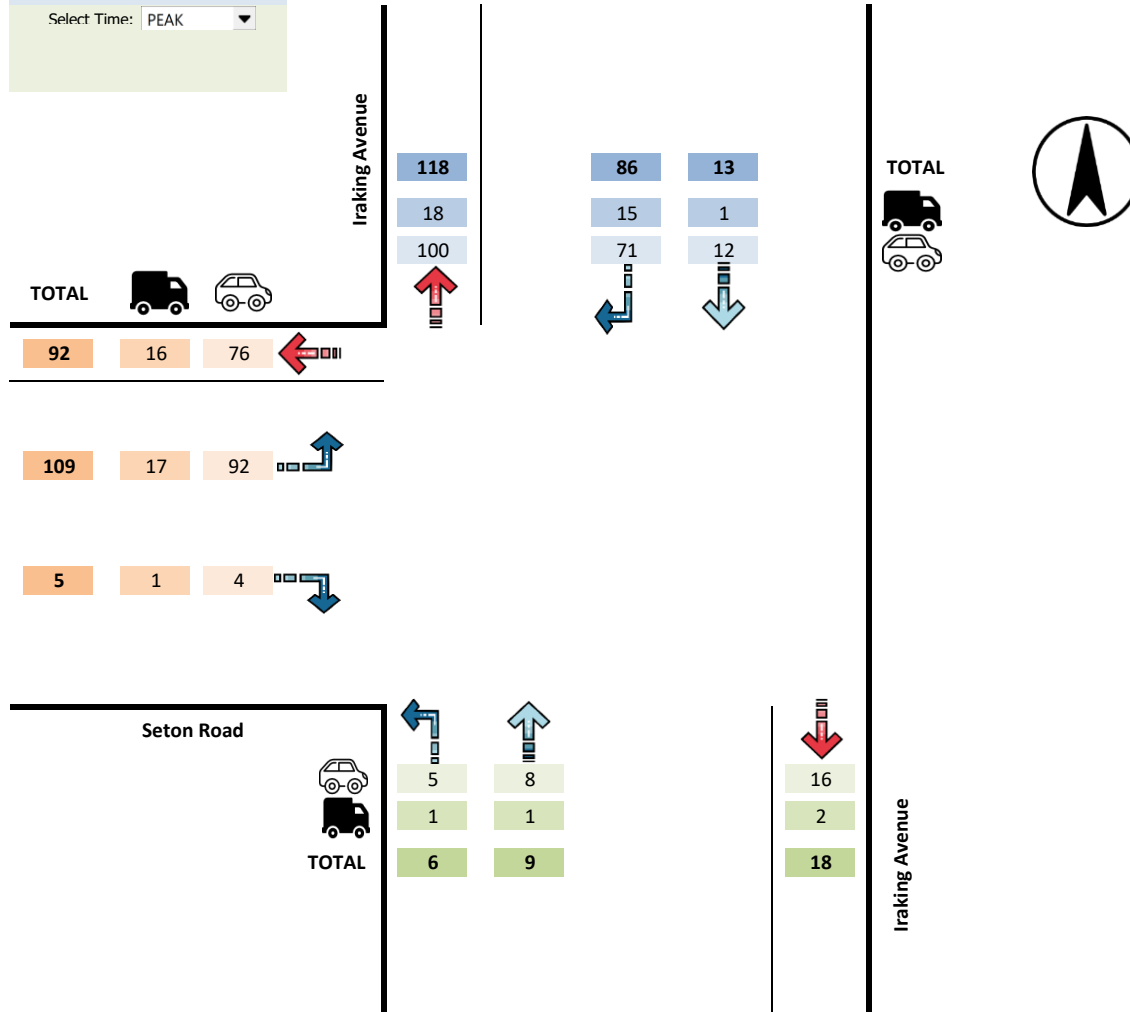
All Vehicles Time Per Hour	SOUTH Iraking Avenue								WEST Seton Road								TOTAL		TOTAL		
	L		T		R		TOTAL	L		T		R		TOTAL	LIGHT	HEAVY					
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY			
7:00 - 8:00	2	2	4	6	0	6			10	59	13	72			4	2	6	78	173	31	204
7:15 - 8:15	3	2	5	8	0	8			13	63	12	75			2	2	4	79	176	30	206
7:30 - 8:30	3	0	3	9	1	10			13	73	13	86			3	2	5	91	179	29	208
7:45 - 8:45	2	1	3	9	1	10			13	89	14	103			3	3	6	109	188	33	221
8:00 - 9:00	5	1	6	8	1	9			15	92	17	109			4	1	5	114	192	36	228
Period End																					
16:00 - 17:00	11	0	11	10	0	10			21	80	6	86			1	0	1	87	238	12	250
16:15 - 17:15	5	0	5	5	0	5			10	73	5	78			1	0	1	79	223	10	233
16:30 - 17:30	2	0	2	4	0	4			6	65	4	69			1	0	1	70	188	9	197
16:45 - 17:45	1	0	1	4	0	4			5	61	3	64			0	0	0	64	174	6	180
17:00 - 18:00	1	0	1	2	0	2			3	53	3	56			0	0	0	56	140	9	149
Period End																					

Location Iraking Avenue  
-  
Iraking Avenue  
Seton Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time: **PEAK**

TIME RANGE		
PEAK	-	AM
PEAK		
8:00	-	9:00

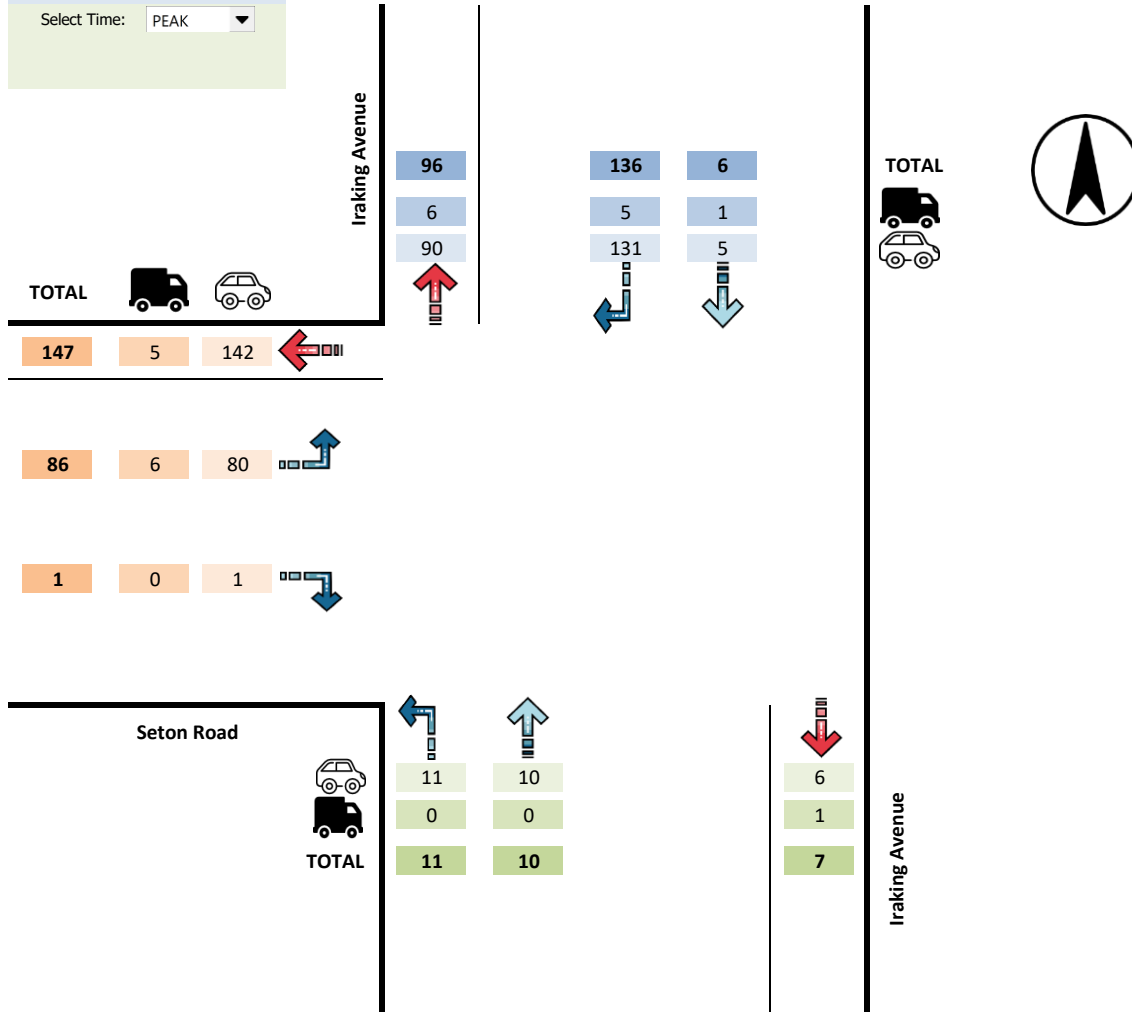


Location Iraking Avenue  
-  
Iraking Avenue  
Seton Road  
Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
Day/Date Wednesday, 21 June 2023  
Weather -

**DATA SELECTION**  
Select Time:

TIME RANGE		
PEAK	-	PM
PEAK		
16:00	-	17:00



Location \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_

Duration \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Day/Date \_\_\_\_\_  
 \_\_\_\_\_  
 Weather \_\_\_\_\_

All Vehicles Time Per 15 Mins	NORTH								EAST								TOTAL		TOTAL
	Newbridge Road								Newbridge Road								TOTAL	TOTAL	
	L		I		R		TOTAL	L		I		R		TOTAL	TOTAL				
LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT		HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT			HEAVY	Σ	LIGHT	HEAVY
7:00 - 7:15									29	4	33	221	29	250		283	756	70	826
7:15 - 7:30									16	7	23	240	25	265		288	801	64	865
7:30 - 7:45									18	2	20	232	17	249		269	731	62	793
7:45 - 8:00									17	5	22	314	23	337		359	801	74	875
8:00 - 8:15									21	3	24	267	35	302		326	718	82	800
8:15 - 8:30									15	1	16	244	43	287		303	678	84	762
8:30 - 8:45									19	4	23	258	34	292		315	695	80	775
8:45 - 9:00									15	5	20	243	25	268		288	676	82	758
Period End									150	31	181	2019	231	2250		2431	5856	598	6454
16:00 - 16:15									15	1	16	454	27	481		497	899	48	947
16:15 - 16:30									19	1	20	457	29	486		506	896	54	950
16:30 - 16:45									22	3	25	448	26	474		499	884	48	932
16:45 - 17:00									23	0	23	449	19	468		491	889	33	922
17:00 - 17:15									23	1	24	433	20	453		477	920	33	953
17:15 - 17:30									14	1	15	469	27	496		511	877	48	925
17:30 - 17:45									17	0	17	449	13	462		479	934	29	963
17:45 - 18:00									14	3	17	514	17	531		548	940	31	971
Period End									147	10	157	3673	178	3851		4008	7239	324	7563

All Vehicles Time Per 15 Mins	SOUTH								WEST								TOTAL		TOTAL		
	Kelso Crescent								Newbridge Road								TOTAL	TOTAL			
	L		I		R		TOTAL	L		I		R		TOTAL	TOTAL						
LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT		HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT			HEAVY	Σ	LIGHT	HEAVY		
7:00 - 7:15	10	3	13					9	3	12	25							518	756	70	826
7:15 - 7:30	4	6	10					6	1	7	17							560	801	64	865
7:30 - 7:45	10	2	12					2	2	4	16							508	731	62	793
7:45 - 8:00	11	5	16					9	2	11	27							489	801	74	875
8:00 - 8:15	21	2	23					5	7	12	35							439	718	82	800
8:15 - 8:30	13	1	14					6	2	8	22							437	678	84	762
8:30 - 8:45	19	2	21					8	4	12	33							427	695	80	775
8:45 - 9:00	11	3	14					12	4	16	30							440	676	82	758
Period End	99	24	123					57	25	82	205							3818	5856	598	6454
16:00 - 16:15	23	0	23					25	1	26	49							401	899	48	947
16:15 - 16:30	23	4	27					17	1	18	45							399	896	54	950
16:30 - 16:45	33	2	35					18	0	18	53							380	884	48	932
16:45 - 17:00	28	0	28					9	0	9	37							394	889	33	922
17:00 - 17:15	30	0	30					24	0	24	54							422	920	33	953
17:15 - 17:30	12	2	14					6	2	8	22							392	877	48	925
17:30 - 17:45	11	1	12					20	0	20	32							452	934	29	963
17:45 - 18:00	14	0	14					14	0	14	28							395	940	31	971
Period End	174	9	183					133	4	137	320							3235	7239	324	7563

Location \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Suburb \_\_\_\_\_

Duration \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Day/Date \_\_\_\_\_  
 Weather \_\_\_\_\_

All Vehicles Time Per Hour	NORTH							EAST							TOTAL		TOTAL			
	Newbridge Road							Newbridge Road							TOTAL	TOTAL				
	L	I	R	TOTAL	L	I	R	TOTAL	LIGHT	HEAVY										
7:00 - 8:00	1199	3089	270		3359	80	18		98	1007	94	1101	1242	3051	282	3333				
7:15 - 8:15	72	17	89	1053	100	1153	1257	2928	302	3230	72	13	85	1083	135	1218	1303	2892	320	3212
7:30 - 8:30	71	11	82	1057	118	1175	1232	2767	328	3095	70	13	83	1012	137	1149	1232	2767	328	3095
7:45 - 8:45	72	13	85	1083	135	1218	1303	2892	320	3212	70	13	83	1012	137	1149	1232	2767	328	3095
8:00 - 9:00	70	13	83	1012	137	1149	1232	2767	328	3095	70	13	83	1012	137	1149	1232	2767	328	3095
Period End																				
16:00 - 17:00	79	5	84	1808	101	1909	1993	3568	183	3751	79	5	84	1808	101	1909	1993	3568	183	3751
16:15 - 17:15	87	5	92	1787	94	1881	1973	3589	168	3757	87	5	92	1787	94	1881	1973	3589	168	3757
16:30 - 17:30	82	5	87	1799	92	1891	1978	3570	162	3732	82	5	87	1799	92	1891	1978	3570	162	3732
16:45 - 17:45	77	2	79	1800	79	1879	1958	3620	143	3763	77	2	79	1800	79	1879	1958	3620	143	3763
17:00 - 18:00	68	5	73	1865	77	1942	2015	3671	141	3812	68	5	73	1865	77	1942	2015	3671	141	3812
Period End																				

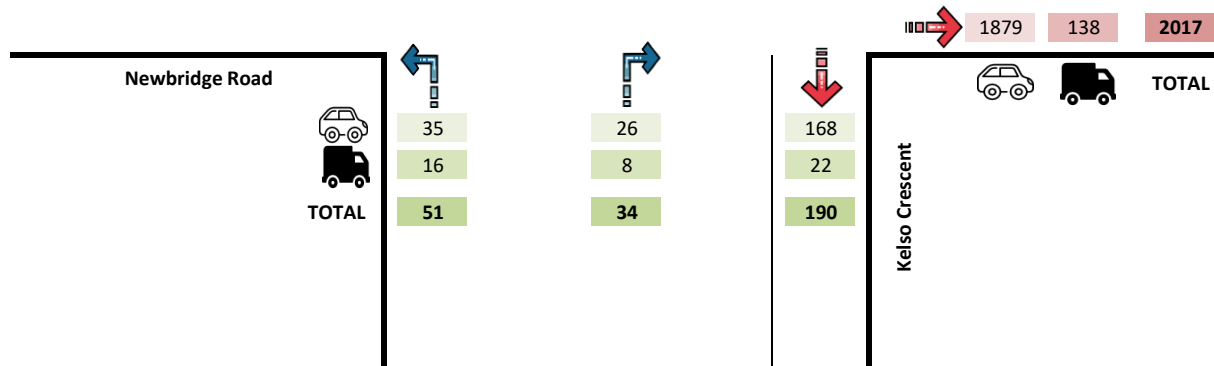
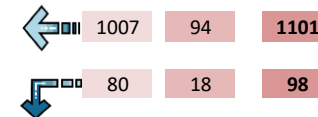
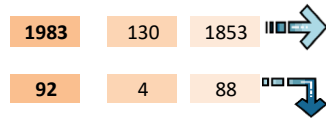
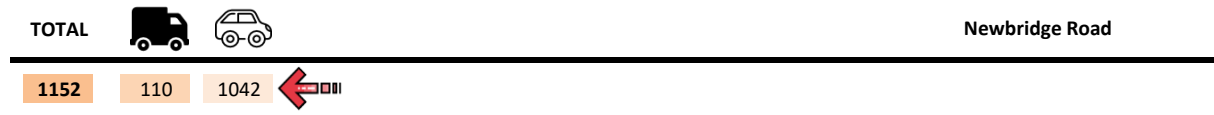
All Vehicles Time Per Hour	SOUTH							WEST							TOTAL		TOTAL								
	Kelso Crescent							Newbridge Road							TOTAL	TOTAL									
	L	I	R	TOTAL	L	I	R	TOTAL	LIGHT	HEAVY															
7:00 - 8:00	35	16	51		85	1853	130		1983	2075	3089	270	3359	35	16	51	85	1853	130	1983	88	4	92	2075	3089
7:15 - 8:15	46	15	61	95	1771	132	1903	1996	3051	282	3333	46	15	61	95	1771	132	1903	87	6	93	1996	3051	282	3333
7:30 - 8:30	55	10	65	100	1648	144	1792	1873	2928	302	3230	55	10	65	100	1648	144	1792	75	6	81	1873	2928	302	3230
7:45 - 8:45	64	10	74	117	1567	141	1708	1792	2892	320	3212	64	10	74	117	1567	141	1708	78	6	84	1792	2892	320	3212
8:00 - 9:00	64	8	72	120	1509	145	1654	1743	2767	328	3095	64	8	72	120	1509	145	1654	81	8	89	1743	2767	328	3095
Period End																									
16:00 - 17:00	107	6	113	184	1422	67	1489	1574	3568	183	3751	107	6	113	184	1422	67	1489	83	2	85	1574	3568	183	3751
16:15 - 17:15	114	6	120	189	1442	60	1502	1595	3589	168	3757	114	6	120	189	1442	60	1502	91	2	93	1595	3589	168	3757
16:30 - 17:30	103	4	107	166	1447	56	1503	1588	3570	162	3732	103	4	107	166	1447	56	1503	82	3	85	1588	3570	162	3732
16:45 - 17:45	81	3	84	145	1526	53	1579	1660	3620	143	3763	81	3	84	145	1526	53	1579	77	4	81	1660	3620	143	3763
17:00 - 18:00	67	3	70	136	1533	50	1583	1661	3671	141	3812	67	3	70	136	1533	50	1583	74	4	78	1661	3671	141	3812
Period End																									

Location -  
Newbridge Road  
Kelso Crescent  
Newbridge Road  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

**DATA SELECTION**  
 Select Time:

TIME RANGE		
PEAK	-	AM
PEAK		
7:00	-	8:00

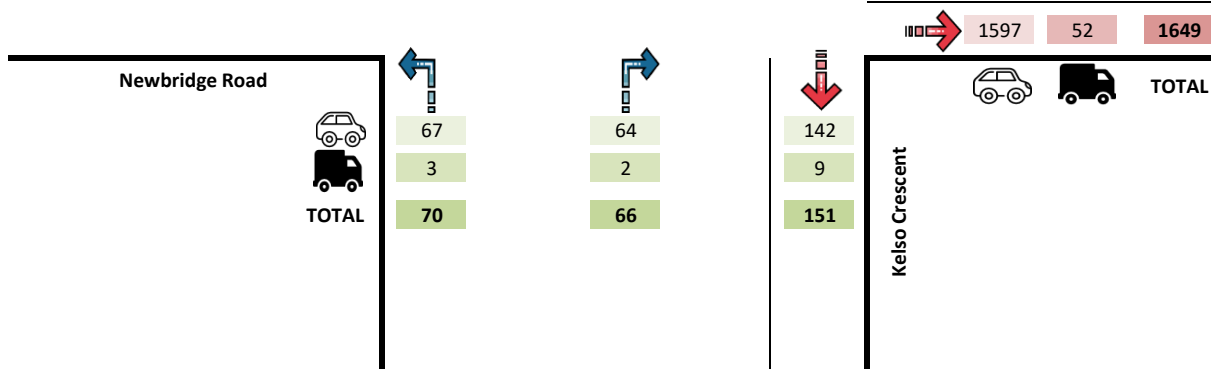
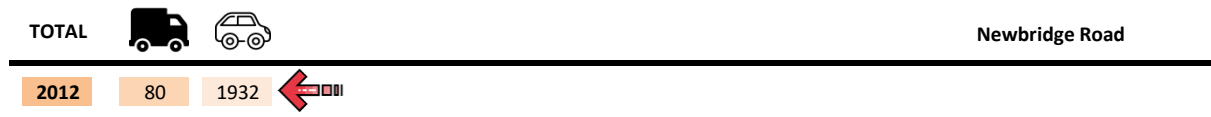


Location \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Suburb **MOOREBANK**

Duration **7:00 - 9:00**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Day/Date **Wednesday, 21 June 2023**  
 Weather \_\_\_\_\_

**DATA SELECTION**  
 Select Time: **PEAK**

**TIME RANGE**  
 PEAK - PM  
 PEAK  
 17:00 - 18:00



Location Newbridge Road  
Kelso Crescent  
-  
Field Close  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
-  
 Day/Date Wednesday, 21 June 2023  
 Weather -

All Vehicles Time Per 15 Mins	NORTH Newbridge Road								EAST Kelso Crescent								TOTAL		TOTAL
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY			
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY	
7:00 - 7:15	41	5	46				51												
7:15 - 7:30	35	4	39				44												
7:30 - 7:45	31	3	34				38												
7:45 - 8:00	34	7	41				47												
8:00 - 8:15	27	4	31				40												
8:15 - 8:30	17	2	19				25												
8:30 - 8:45	33	3	36				44												
8:45 - 9:00	36	7	43				47												
Period End	254	35	289				336												
16:00 - 16:15	24	1	25				28												
16:15 - 16:30	35	0	35				41												
16:30 - 16:45	27	4	31				36												
16:45 - 17:00	33	1	34				38												
17:00 - 17:15	31	1	32				34												
17:15 - 17:30	22	2	24				27												
17:30 - 17:45	27	0	27				34												
17:45 - 18:00	21	3	24				35												
Period End	220	12	232				273												

All Vehicles Time Per 15 Mins	SOUTH -								WEST Field Close								TOTAL		TOTAL
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY			
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				LIGHT	HEAVY	
7:00 - 7:15								1	0	1	1	0	1	2	67	11	78		
7:15 - 7:30								1	1	2	2	0	2	4	52	11	63		
7:30 - 7:45								1	0	1	1	0	1	2	47	7	54		
7:45 - 8:00								1	1	2	1	0	1	3	63	15	78		
8:00 - 8:15								2	1	3	1	0	1	4	61	14	75		
8:15 - 8:30								1	0	1	5	1	6	7	47	8	55		
8:30 - 8:45								5	1	6	2	0	2	8	73	11	84		
8:45 - 9:00								3	0	3	3	1	4	7	67	16	83		
Period End								15	4	19	16	2	18	37	477	93	570		
16:00 - 16:15								13	0	13	5	0	5	18	78	2	80		
16:15 - 16:30								13	1	14	7	0	7	21	85	5	90		
16:30 - 16:45								15	0	15	3	0	3	18	87	6	93		
16:45 - 17:00								9	0	9	7	0	7	16	85	1	86		
17:00 - 17:15								6	0	6	3	0	3	9	77	1	78		
17:15 - 17:30								4	0	4	2	0	2	6	48	5	53		
17:30 - 17:45								5	0	5	6	0	6	11	73	0	73		
17:45 - 18:00								10	0	10	6	1	7	17	70	5	75		
Period End								75	1	76	39	1	40	116	603	25	628		

Location Newbridge Road  
Kelso Crescent  
-  
Field Close  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 Day/Date Wednesday, 21 June 2023  
 Weather -

All Vehicles Time Per Hour	NORTH Newbridge Road							EAST Kelso Crescent							TOTAL		TOTAL				
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY					
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ								
7:00 - 8:00	141	19	160			19	1	20	180			9	0	9	51	22	73	82	229	44	273
7:15 - 8:15	127	18	145			22	2	24	169			8	0	8	56	24	80	88	223	47	270
7:30 - 8:30	109	16	125			22	3	25	150			12	1	13	62	21	83	96	218	44	262
7:45 - 8:45	111	16	127			24	5	29	156			18	1	19	73	22	95	114	244	48	292
8:00 - 9:00	113	16	129			22	5	27	156			17	2	19	74	22	96	115	248	49	297
Period End																					
16:00 - 17:00	119	6	125			18	0	18	143			18	0	18	108	7	115	133	335	14	349
16:15 - 17:15	126	6	132			17	0	17	149			19	0	19	109	6	115	134	334	13	347
16:30 - 17:30	113	8	121			14	0	14	135			15	0	15	106	5	111	126	297	13	310
16:45 - 17:45	113	4	117			16	0	16	133			10	0	10	102	3	105	115	283	7	290
17:00 - 18:00	101	6	107			22	1	23	130			13	0	13	90	3	93	106	268	11	279
Period End																					

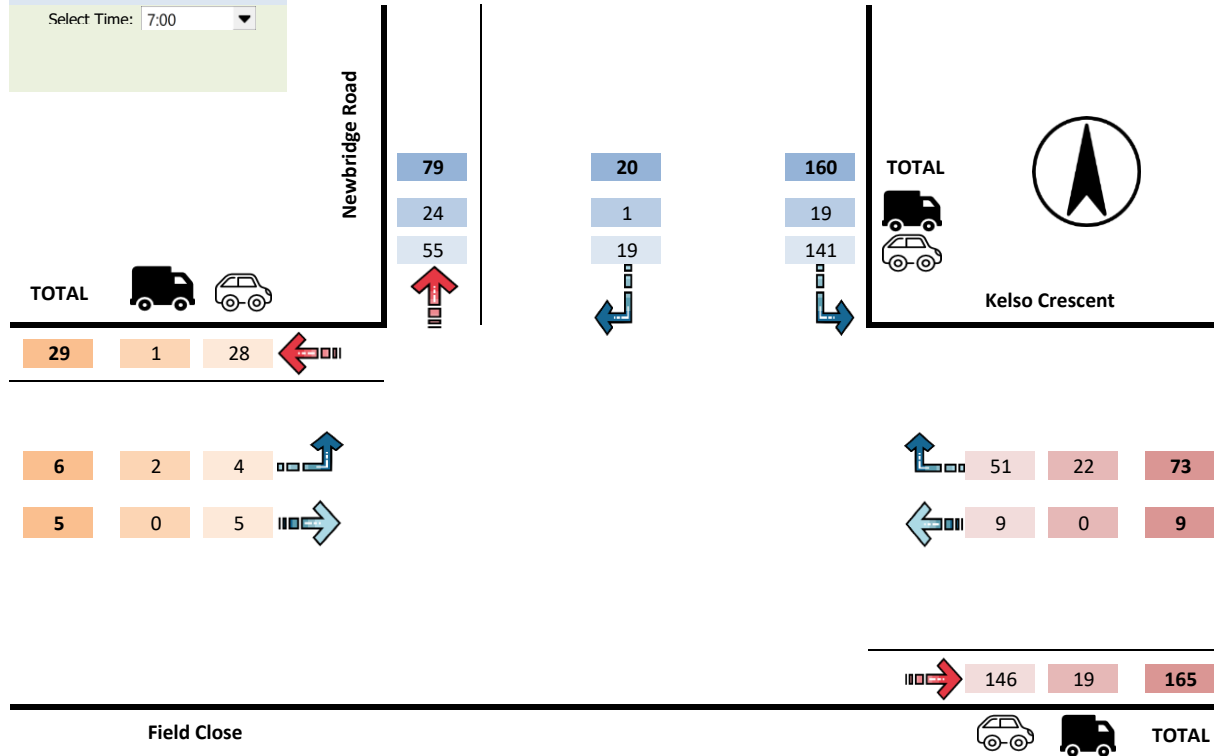
All Vehicles Time Per Hour	SOUTH -							WEST Field Close							TOTAL		TOTAL
	L		I		R		TOTAL	L		I		R		TOTAL	LIGHT	HEAVY	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ				
7:00 - 8:00								4	2	6	5	0	5	11	229	44	273
7:15 - 8:15								5	3	8	5	0	5	13	223	47	270
7:30 - 8:30								5	2	7	8	1	9	16	218	44	262
7:45 - 8:45								9	3	12	9	1	10	22	244	48	292
8:00 - 9:00								11	2	13	11	2	13	26	248	49	297
Period End																	
16:00 - 17:00								50	1	51	22	0	22	73	335	14	349
16:15 - 17:15								43	1	44	20	0	20	64	334	13	347
16:30 - 17:30								34	0	34	15	0	15	49	297	13	310
16:45 - 17:45								24	0	24	18	0	18	42	283	7	290
17:00 - 18:00								25	0	25	17	1	18	43	268	11	279
Period End																	

Location Newbridge Road  
Kelso Crescent  
 -  
Field Close  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 -  
 Day/Date Wednesday, 21 June 2023  
 Weather -

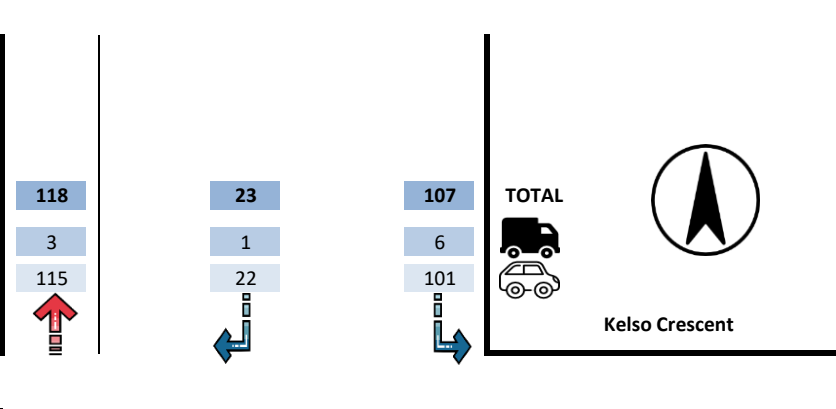
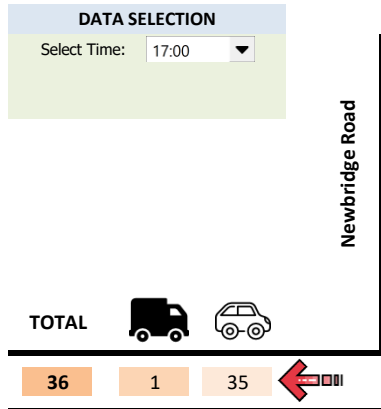
**DATA SELECTION**  
 Select Time: 7:00

**TIME RANGE**  
 7:00 - 8:00  
 PEAK  
 8:00 - 9:00



Location Newbridge Road  
Kelso Crescent  
 -  
Field Close  
 Suburb MOOREBANK

Duration 7:00 - 9:00  
16:00 - 18:00  
 -  
 Day/Date Wednesday, 21 June 2023  
 Weather -



**TIME RANGE**

17:00	-	18:00
PEAK		
16:00	-	17:00





# Attachment 2

## SIDRA Model Output

# MOVEMENT SUMMARY

 **Site: [105 (13)] Heathcote Road | Seton Road (No Dev AM Peak - 2025)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2025

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec	[ Veh. Dist ]						km/h
			veh/h	%	veh/h	%									
East: Heathcote Road (E)															
5	T1	All MCs	763	6.3	763	6.3	* 0.521	0.9	LOSA	1.4	10.6	0.04	0.16	0.04	51.2
6	R2	All MCs	207	12.2	207	12.2	0.521	6.0	LOSA	1.4	10.6	0.04	0.26	0.04	46.5
Approach			971	7.6	971	7.6	0.521	2.0	LOSA	1.4	10.6	0.04	0.18	0.04	50.0
North: Seton Road (N)															
7	L2	All MCs	75	19.7	75	19.7	0.235	56.5	LOS D	4.3	35.0	0.88	0.76	0.88	29.9
9	R2	All MCs	56	28.3	56	28.3	* 0.421	72.3	LOS F	3.7	32.5	0.99	0.76	0.99	27.8
Approach			131	23.4	131	23.4	0.421	63.2	LOS E	4.3	35.0	0.93	0.76	0.93	29.0
West: Heathcote Road (W)															
10	L2	All MCs	62	15.3	62	15.3	0.270	5.8	LOSA	0.6	4.6	0.03	0.20	0.03	42.5
11	T1	All MCs	662	6.0	662	6.0	0.273	0.9	LOSA	0.7	4.8	0.03	0.10	0.03	47.1
Approach			724	6.8	724	6.8	0.273	1.3	LOSA	0.7	4.8	0.03	0.11	0.03	46.6
All Vehicles			1825	8.4	1825	8.4	0.521	6.1	LOSA	4.3	35.0	0.10	0.19	0.10	45.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec	[ Ped Dist ]							
					ped	m				sec	m	m/sec
East: Heathcote Road (E)												
P2	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		156	164	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**  
Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:13 PM  
Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (13)] Newbridge Road | Kelso Crescent (No Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]			km/h	
			veh/h	%	veh/h	%		veh	m				
South: Kelso Crescent (S)													
1	L2	All MCs	55 30.8	55 30.8	0.265	6.7	LOS A	1.4	11.9	0.92	0.70	0.96	34.1
2	R2	All MCs	37 22.9	37 22.9	0.265	42.3	LOS C	1.4	11.9	0.92	0.70	0.96	31.5
Approach			92 27.6	92 27.6	0.265	21.0	LOS B	1.4	11.9	0.92	0.70	0.96	33.1
East: Newbridge Road (E)													
3	L2	All MCs	106 18.8	106 18.8	0.237	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.9
4	T1	All MCs	1194 8.6	1194 8.6	0.237	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1300 9.4	1300 9.4	0.237	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)													
5	T1	All MCs	2151 6.6	2151 6.6	0.575	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.4
6	R2	All MCs	100 4.2	100 4.2	0.278	14.7	LOS B	0.9	6.3	0.68	0.88	0.74	37.3
Approach			2251 6.5	2251 6.5	0.575	0.9	NA	0.9	6.3	0.03	0.04	0.03	58.5
All Vehicles			3642 8.0	3642 8.0	0.575	1.3	NA	1.4	11.9	0.04	0.06	0.04	58.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (13)] Kelso Crescent | Field Close (No Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	to Depart	km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	9	0.0	9	0.0	0.072	3.3	LOS A	0.2	1.5	0.15	0.54	0.15	44.0
6	R2	All MCs	80	30.3	80	30.3	0.072	5.1	LOS A	0.2	1.5	0.15	0.54	0.15	36.7
Approach			89	27.1	89	27.1	0.072	5.0	LOS A	0.2	1.5	0.15	0.54	0.15	38.2
North: Minor Road (N)															
7	L2	All MCs	174	12.1	174	12.1	0.114	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	22	4.8	22	4.8	0.114	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			196	11.3	196	11.3	0.114	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.0
West: Field Close (W)															
10	L2	All MCs	6	33.3	6	33.3	0.007	4.9	LOS A	0.0	0.1	0.16	0.49	0.16	32.2
11	T1	All MCs	5	0.0	5	0.0	0.007	3.7	LOS A	0.0	0.1	0.16	0.49	0.16	44.8
Approach			12	18.2	12	18.2	0.007	4.3	LOS A	0.0	0.1	0.16	0.49	0.16	38.1
All Vehicles			297	16.3	297	16.3	0.114	3.1	NA	0.2	1.5	0.05	0.49	0.05	40.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (13)] Kelso Crescent | Iraking Avenue (No Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	Rate	km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	122	18.1	122	18.1	0.072	4.7	LOS A	0.3	2.8	0.04	0.51	0.04	45.5
3	R2	All MCs	9	11.1	9	11.1	0.072	4.8	LOS A	0.3	2.8	0.04	0.51	0.04	45.4
Approach			132	17.6	132	17.6	0.072	4.7	LOS A	0.3	2.8	0.04	0.51	0.04	45.5
East: Kelso Crescent (E)															
4	L2	All MCs	7	0.0	7	0.0	0.008	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	6	16.7	6	16.7	0.008	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.2
Approach			14	7.7	14	7.7	0.008	2.5	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	17	6.2	17	6.2	0.053	0.0	LOS A	0.3	2.2	0.07	0.46	0.07	47.3
12	R2	All MCs	95	14.4	95	14.4	0.053	4.7	LOS A	0.3	2.2	0.07	0.46	0.07	45.8
Approach			112	13.2	112	13.2	0.053	4.0	NA	0.3	2.2	0.07	0.46	0.07	46.0
All Vehicles			257	15.2	257	15.2	0.072	4.3	NA	0.3	2.8	0.05	0.47	0.05	45.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (13)] Iraking Avenue | Seton Road (No Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec	[ Veh. Dist ]					km/h	
			veh/h	%	veh/h	%			veh	m			
South: Iraking Avenue (S)													
1	L2	All MCs	6 16.7	6 16.7	0.009	4.7	LOSA	0.0	0.0	0.00	0.21	0.00	47.8
2	T1	All MCs	9 11.1	9 11.1	0.009	0.0	LOSA	0.0	0.0	0.00	0.21	0.00	48.4
Approach			16 13.3	16 13.3	0.009	1.9	NA	0.0	0.0	0.00	0.21	0.00	48.1
North: Iraking Avenue (N)													
8	T1	All MCs	14 7.7	14 7.7	0.051	0.0	LOSA	0.3	2.2	0.08	0.47	0.08	46.2
9	R2	All MCs	93 17.0	93 17.0	0.051	4.8	LOSA	0.3	2.2	0.08	0.47	0.08	45.3
Approach			106 15.8	106 15.8	0.051	4.1	NA	0.3	2.2	0.08	0.47	0.08	45.4
West: Seton Road (W)													
10	L2	All MCs	119 15.9	119 15.9	0.066	4.7	LOSA	0.3	2.5	0.05	0.51	0.05	45.2
12	R2	All MCs	5 20.0	5 20.0	0.066	5.0	LOSA	0.3	2.5	0.05	0.51	0.05	46.0
Approach			124 16.1	124 16.1	0.066	4.7	LOSA	0.3	2.5	0.05	0.51	0.05	45.3
All Vehicles			246 15.8	246 15.8	0.066	4.3	NA	0.3	2.5	0.06	0.47	0.06	45.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (16)] Heathcote Road | Seton Road (No Dev AM Peak - 2030)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	819	6.4	819	6.4	* 0.564	1.0	LOSA	1.7	12.4	0.04	0.16	0.04	51.4
6	R2	All MCs	222	11.8	222	11.8	0.564	6.0	LOSA	1.7	12.4	0.05	0.26	0.05	46.6
Approach			1041	7.6	1041	7.6	0.564	2.1	LOSA	1.7	12.4	0.04	0.18	0.04	50.1
North: Seton Road (N)															
7	L2	All MCs	80	19.7	80	19.7	0.251	56.8	LOS E	4.6	37.6	0.89	0.76	0.89	29.9
9	R2	All MCs	61	29.3	61	29.3	* 0.466	72.7	LOS F	4.1	36.0	0.99	0.76	0.99	27.7
Approach			141	23.9	141	23.9	0.466	63.7	LOS E	4.6	37.6	0.93	0.76	0.93	28.9
West: Heathcote Road (W)															
10	L2	All MCs	67	15.6	67	15.6	0.290	5.8	LOSA	0.7	5.1	0.03	0.20	0.03	42.7
11	T1	All MCs	711	6.1	711	6.1	0.293	0.9	LOSA	0.7	5.3	0.03	0.11	0.03	47.4
Approach			778	6.9	778	6.9	0.293	1.4	LOSA	0.7	5.3	0.03	0.11	0.03	46.8
All Vehicles			1960	8.5	1960	8.5	0.564	6.2	LOSA	4.6	37.6	0.10	0.20	0.10	46.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		171	180	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:16 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (16)] Newbridge Road | Kelso Crescent (No Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]			km/h	
			veh/h	%	veh/h	%		veh	m				
South: Kelso Crescent (S)													
1	L2	All MCs	60 31.6	60 31.6	0.423	12.0	LOS A	2.6	23.0	1.00	0.90	1.44	30.7
2	R2	All MCs	40 23.7	40 23.7	0.423	66.8	LOS E	2.6	23.0	1.00	0.90	1.44	27.9
Approach			100 28.4	100 28.4	0.423	33.9	LOS C	2.6	23.0	1.00	0.90	1.44	29.6
East: Newbridge Road (E)													
3	L2	All MCs	114 18.5	114 18.5	0.254	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.9
4	T1	All MCs	1281 8.5	1281 8.5	0.254	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1395 9.4	1395 9.4	0.254	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)													
5	T1	All MCs	2307 6.6	2307 6.6	0.617	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.3
6	R2	All MCs	106 4.0	106 4.0	0.310	15.7	LOS B	1.0	7.2	0.72	0.90	0.79	36.9
Approach			2414 6.5	2414 6.5	0.617	1.0	NA	1.0	7.2	0.03	0.04	0.03	58.4
All Vehicles			3908 8.1	3908 8.1	0.617	1.7	NA	2.6	23.0	0.05	0.06	0.06	57.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (16)] Kelso Crescent | Field Close (No Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	Rate	km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	11	0.0	11	0.0	0.076	3.3	LOS A	0.2	1.6	0.15	0.54	0.15	43.9
6	R2	All MCs	84	30.0	84	30.0	0.076	5.2	LOS A	0.2	1.6	0.15	0.54	0.15	36.6
Approach			95	26.7	95	26.7	0.076	5.0	LOS A	0.2	1.6	0.15	0.54	0.15	38.2
North: Minor Road (N)															
7	L2	All MCs	186	11.9	186	11.9	0.122	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	23	4.5	23	4.5	0.122	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			209	11.1	209	11.1	0.122	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.0
West: Field Close (W)															
10	L2	All MCs	6	33.3	6	33.3	0.007	4.9	LOS A	0.0	0.1	0.17	0.49	0.17	32.2
11	T1	All MCs	6	0.0	6	0.0	0.007	3.7	LOS A	0.0	0.1	0.17	0.49	0.17	44.8
Approach			13	16.7	13	16.7	0.007	4.3	LOS A	0.0	0.1	0.17	0.49	0.17	38.7
All Vehicles			317	15.9	317	15.9	0.122	3.1	NA	0.2	1.6	0.05	0.49	0.05	40.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (16)] Kelso Crescent | Iraking Avenue (No Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	131	17.7	131	17.7	0.077	4.7	LOS A	0.4	3.0	0.05	0.51	0.05	45.5
3	R2	All MCs	11	10.0	11	10.0	0.077	4.9	LOS A	0.4	3.0	0.05	0.51	0.05	45.4
Approach			141	17.2	141	17.2	0.077	4.7	LOS A	0.4	3.0	0.05	0.51	0.05	45.5
East: Kelso Crescent (E)															
4	L2	All MCs	8	0.0	8	0.0	0.009	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	7	14.3	7	14.3	0.009	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Approach			16	6.7	16	6.7	0.009	2.4	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	19	5.6	19	5.6	0.057	0.0	LOS A	0.3	2.4	0.07	0.45	0.07	47.3
12	R2	All MCs	102	14.4	102	14.4	0.057	4.7	LOS A	0.3	2.4	0.07	0.45	0.07	45.8
Approach			121	13.0	121	13.0	0.057	4.0	NA	0.3	2.4	0.07	0.45	0.07	46.0
All Vehicles			278	14.8	278	14.8	0.077	4.3	NA	0.4	3.0	0.06	0.47	0.06	45.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (16)] Iraking Avenue | Seton Road (No Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec	[ Veh. Dist ]						km/h
			veh/h	%	veh/h	%			veh	m			
South: Iraking Avenue (S)													
1	L2	All MCs	7 14.3	7 14.3	0.010	4.7	LOS A	0.0	0.0	0.00	0.22	0.00	47.8
2	T1	All MCs	11 10.0	11 10.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	48.3
Approach			18 11.8	18 11.8	0.010	1.9	NA	0.0	0.0	0.00	0.22	0.00	48.0
North: Iraking Avenue (N)													
8	T1	All MCs	15 7.1	15 7.1	0.055	0.0	LOS A	0.3	2.4	0.08	0.47	0.08	46.1
9	R2	All MCs	100 17.9	100 17.9	0.055	4.8	LOS A	0.3	2.4	0.08	0.47	0.08	45.3
Approach			115 16.5	115 16.5	0.055	4.2	NA	0.3	2.4	0.08	0.47	0.08	45.4
West: Seton Road (W)													
10	L2	All MCs	127 15.7	127 15.7	0.071	4.7	LOS A	0.3	2.7	0.06	0.51	0.06	45.2
12	R2	All MCs	5 20.0	5 20.0	0.071	5.0	LOS A	0.3	2.7	0.06	0.51	0.06	46.0
Approach			133 15.9	133 15.9	0.071	4.7	LOS A	0.3	2.7	0.06	0.51	0.06	45.3
All Vehicles			265 15.9	265 15.9	0.071	4.3	NA	0.3	2.7	0.06	0.47	0.06	45.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (17)] Heathcote Road | Seton Road (No Dev AM Peak - 2035)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	875	6.4	875	6.4	* 0.607	1.1	LOSA	1.9	14.6	0.04	0.16	0.04	51.5
6	R2	All MCs	237	12.0	237	12.0	0.607	6.0	LOSA	1.9	14.6	0.05	0.27	0.05	46.7
Approach			1112	7.6	1112	7.6	0.607	2.2	LOSA	1.9	14.6	0.04	0.18	0.04	50.3
North: Seton Road (N)															
7	L2	All MCs	86	20.7	86	20.7	0.273	57.3	LOS E	5.0	41.1	0.89	0.76	0.89	29.9
9	R2	All MCs	65	29.0	65	29.0	* 0.500	73.1	LOS F	4.4	38.6	1.00	0.77	1.00	27.7
Approach			152	24.3	152	24.3	0.500	64.1	LOS E	5.0	41.1	0.94	0.77	0.94	28.9
West: Heathcote Road (W)															
10	L2	All MCs	73	15.9	73	15.9	0.310	5.8	LOSA	0.8	5.7	0.03	0.21	0.03	42.8
11	T1	All MCs	759	6.1	759	6.1	0.313	1.0	LOSA	0.8	5.9	0.03	0.11	0.03	47.6
Approach			832	7.0	832	7.0	0.313	1.5	LOSA	0.8	5.9	0.03	0.12	0.03	47.1
All Vehicles			2095	8.5	2095	8.5	0.607	6.4	LOSA	5.0	41.1	0.10	0.20	0.10	46.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		186	196	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**  
Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:19 PM  
Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (17)] Newbridge Road | Kelso Crescent (No Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	63	31.7	63	31.7	0.812	43.0	LOS D	6.4	55.3	1.00	1.60	2.63	23.1
2	R2	All MCs	42	22.5	42	22.5	0.812	147.9	LOS F	6.4	55.3	1.00	1.60	2.63	20.4
Approach			105	28.0	105	28.0	0.812	85.0	LOS F	6.4	55.3	1.00	1.60	2.63	22.1
East: Newbridge Road (E)															
3	L2	All MCs	121	18.3	121	18.3	0.271	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.9
4	T1	All MCs	1367	8.5	1367	8.5	0.271	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1488	9.3	1488	9.3	0.271	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)															
5	T1	All MCs	2463	6.5	2463	6.5	0.658	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
6	R2	All MCs	115	4.6	115	4.6	0.356	17.0	LOS B	1.2	8.4	0.75	0.92	0.85	36.3
Approach			2578	6.5	2578	6.5	0.658	1.2	NA	1.2	8.4	0.03	0.04	0.04	58.2
All Vehicles			4172	8.0	4172	8.0	0.812	3.0	NA	6.4	55.3	0.05	0.08	0.09	57.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (17)] Kelso Crescent | Field Close (No Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	12	0.0	12	0.0	0.083	3.3	LOS A	0.2	1.7	0.16	0.55	0.16	43.9
6	R2	All MCs	91	30.2	91	30.2	0.083	5.2	LOS A	0.2	1.7	0.16	0.55	0.16	36.5
Approach			102	26.8	102	26.8	0.083	5.0	LOS A	0.2	1.7	0.16	0.55	0.16	38.2
North: Minor Road (N)															
7	L2	All MCs	198	11.7	198	11.7	0.129	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	24	4.3	24	4.3	0.129	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			222	10.9	222	10.9	0.129	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.0
West: Field Close (W)															
10	L2	All MCs	7	28.6	7	28.6	0.008	4.8	LOS A	0.0	0.2	0.18	0.49	0.18	32.2
11	T1	All MCs	6	0.0	6	0.0	0.008	3.7	LOS A	0.0	0.2	0.18	0.49	0.18	44.7
Approach			14	15.4	14	15.4	0.008	4.3	LOS A	0.0	0.2	0.18	0.49	0.18	38.1
All Vehicles			338	15.9	338	15.9	0.129	3.1	NA	0.2	1.7	0.06	0.49	0.06	40.4

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:18 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [103 (17)] Kelso Crescent | Iraking Avenue (No Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	140	18.0	140	18.0	0.082	4.7	LOS A	0.4	3.2	0.05	0.51	0.05	45.5
3	R2	All MCs	11	10.0	11	10.0	0.082	4.9	LOS A	0.4	3.2	0.05	0.51	0.05	45.4
Approach			151	17.5	151	17.5	0.082	4.7	LOS A	0.4	3.2	0.05	0.51	0.05	45.4
East: Kelso Crescent (E)															
4	L2	All MCs	8	0.0	8	0.0	0.009	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	7	14.3	7	14.3	0.009	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Approach			16	6.7	16	6.7	0.009	2.4	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	20	5.3	20	5.3	0.061	0.0	LOS A	0.3	2.6	0.07	0.45	0.07	47.3
12	R2	All MCs	109	14.4	109	14.4	0.061	4.7	LOS A	0.3	2.6	0.07	0.45	0.07	45.7
Approach			129	13.0	129	13.0	0.061	4.0	NA	0.3	2.6	0.07	0.45	0.07	46.0
All Vehicles			296	14.9	296	14.9	0.082	4.3	NA	0.4	3.2	0.06	0.47	0.06	45.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (17)] Iraking Avenue | Seton Road (No Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]			km/h	
			veh/h	%	veh/h	%		veh	m				
South: Iraking Avenue (S)													
1	L2	All MCs	7 14.3	7 14.3	0.010	4.7	LOSA	0.0	0.0	0.00	0.22	0.00	47.8
2	T1	All MCs	11 10.0	11 10.0	0.010	0.0	LOSA	0.0	0.0	0.00	0.22	0.00	48.3
Approach			18 11.8	18 11.8	0.010	1.9	NA	0.0	0.0	0.00	0.22	0.00	48.0
North: Iraking Avenue (N)													
8	T1	All MCs	16 6.7	16 6.7	0.059	0.0	LOSA	0.3	2.6	0.08	0.47	0.08	46.1
9	R2	All MCs	107 17.6	107 17.6	0.059	4.8	LOSA	0.3	2.6	0.08	0.47	0.08	45.3
Approach			123 16.2	123 16.2	0.059	4.2	NA	0.3	2.6	0.08	0.47	0.08	45.4
West: Seton Road (W)													
10	L2	All MCs	136 15.5	136 15.5	0.076	4.7	LOSA	0.4	2.9	0.06	0.51	0.06	45.2
12	R2	All MCs	6 16.7	6 16.7	0.076	5.0	LOSA	0.4	2.9	0.06	0.51	0.06	46.0
Approach			142 15.6	142 15.6	0.076	4.7	LOSA	0.4	2.9	0.06	0.51	0.06	45.3
All Vehicles			283 15.6	283 15.6	0.076	4.3	NA	0.4	2.9	0.06	0.47	0.06	45.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (14)] Heathcote Road | Seton Road (No Dev PM Peak - 2025)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2025

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	487	6.5	487	6.5	0.331	0.7	LOSA	0.6	4.8	0.03	0.15	0.03	50.4
6	R2	All MCs	122	11.2	122	11.2	*0.331	5.9	LOSA	0.6	4.8	0.03	0.25	0.03	45.9
Approach			609	7.4	609	7.4	0.331	1.7	LOSA	0.6	4.8	0.03	0.17	0.03	49.3
North: Seton Road (N)															
7	L2	All MCs	225	2.8	225	2.8	0.670	68.6	LOS E	14.2	102.1	0.98	0.83	0.98	30.2
9	R2	All MCs	135	2.3	135	2.3	*0.859	87.6	LOS F	10.0	71.3	1.00	0.95	1.28	27.7
Approach			360	2.6	360	2.6	0.859	75.7	LOS F	14.2	102.1	0.99	0.88	1.10	28.1
West: Heathcote Road (W)															
10	L2	All MCs	31	10.3	31	10.3	0.314	5.8	LOSA	0.8	5.9	0.03	0.14	0.03	42.9
11	T1	All MCs	841	1.4	841	1.4	*0.317	1.3	LOSA	0.8	5.9	0.03	0.08	0.03	47.6
Approach			872	1.7	872	1.7	0.317	1.4	LOSA	0.8	5.9	0.03	0.08	0.03	47.4
All Vehicles			1841	3.8	1841	3.8	0.859	16.1	LOS B	14.2	102.1	0.22	0.27	0.24	41.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		156	164	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:14 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (14)] Newbridge Road Kelso Crescent (No Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	76	4.2	76	4.2	0.313	8.5	LOS A	2.1	14.8	0.91	0.88	1.08	37.4
2	R2	All MCs	72	2.9	72	2.9	0.313	28.8	LOS C	2.1	14.8	0.91	0.88	1.08	34.6
Approach			147	3.6	147	3.6	0.313	18.4	LOS B	2.1	14.8	0.91	0.88	1.08	36.1
East: Newbridge Road (E)															
3	L2	All MCs	79	6.7	79	6.7	0.384	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.3
4	T1	All MCs	2105	4.0	2105	4.0	0.384	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2184	4.0	2184	4.0	0.384	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Newbridge Road (W)															
5	T1	All MCs	1716	3.1	1716	3.1	0.449	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	84	5.0	84	5.0	0.359	22.6	LOS B	1.1	7.8	0.84	0.96	0.95	33.4
Approach			1800	3.2	1800	3.2	0.449	1.2	NA	1.1	7.8	0.04	0.04	0.04	58.4
All Vehicles			4132	3.7	4132	3.7	0.449	1.3	NA	2.1	14.8	0.05	0.06	0.06	58.3

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (14)] Kelso Crescent | Field Close (No Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	Rate	km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	14	0.0	14	0.0	0.081	3.3	LOS A	0.2	1.4	0.14	0.54	0.14	44.2
6	R2	All MCs	101	3.1	101	3.1	0.081	4.8	LOS A	0.2	1.4	0.14	0.54	0.14	37.1
Approach			115	2.8	115	2.8	0.081	4.6	LOS A	0.2	1.4	0.14	0.54	0.14	38.8
North: Minor Road (N)															
7	L2	All MCs	116	5.5	116	5.5	0.079	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.7
9	R2	All MCs	25	4.2	25	4.2	0.079	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			141	5.2	141	5.2	0.079	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.5
West: Field Close (W)															
10	L2	All MCs	27	0.0	27	0.0	0.026	4.6	LOS A	0.1	0.5	0.14	0.49	0.14	35.6
11	T1	All MCs	20	5.3	20	5.3	0.026	3.6	LOS A	0.1	0.5	0.14	0.49	0.14	44.6
Approach			47	2.2	47	2.2	0.026	4.2	LOS A	0.1	0.5	0.14	0.49	0.14	39.8
All Vehicles			303	3.8	303	3.8	0.081	3.4	NA	0.2	1.4	0.07	0.50	0.07	40.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (14)] Kelso Crescent | Iraking Avenue (No Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	113	7.5	113	7.5	0.056	4.6	LOS A	0.3	2.0	0.03	0.51	0.03	45.8
3	R2	All MCs	1	0.0	1	0.0	0.056	4.8	LOS A	0.3	2.0	0.03	0.51	0.03	45.7
Approach			114	7.4	114	7.4	0.056	4.6	LOS A	0.3	2.0	0.03	0.51	0.03	45.8
East: Kelso Crescent (E)															
4	L2	All MCs	3	0.0	3	0.0	0.004	4.6	LOS A	0.0	0.0	0.00	0.20	0.00	47.7
5	T1	All MCs	5	0.0	5	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	48.9
Approach			8	0.0	8	0.0	0.004	1.7	NA	0.0	0.0	0.00	0.20	0.00	48.4
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.065	0.0	LOS A	0.4	2.7	0.05	0.53	0.05	47.0
12	R2	All MCs	146	6.5	146	6.5	0.065	4.6	LOS A	0.4	2.7	0.05	0.53	0.05	45.6
Approach			148	6.4	148	6.4	0.065	4.6	NA	0.4	2.7	0.05	0.53	0.05	45.6
All Vehicles			271	6.6	271	6.6	0.065	4.5	NA	0.4	2.7	0.04	0.51	0.04	45.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (14)] Iraking Avenue | Seton Road (No Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	Rate	km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	12	0.0	12	0.0	0.012	4.6	LOSA	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	11	0.0	11	0.0	0.012	0.0	LOSA	0.0	0.0	0.00	0.28	0.00	47.8
Approach			22	0.0	22	0.0	0.012	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	6	16.7	6	16.7	0.067	0.0	LOSA	0.4	2.8	0.09	0.51	0.09	45.7
9	R2	All MCs	147	3.6	147	3.6	0.067	4.6	LOSA	0.4	2.8	0.09	0.51	0.09	45.2
Approach			154	4.1	154	4.1	0.067	4.4	NA	0.4	2.8	0.09	0.51	0.09	45.2
West: Seton Road (W)															
10	L2	All MCs	93	6.8	93	6.8	0.047	4.6	LOSA	0.2	1.7	0.05	0.51	0.05	45.5
12	R2	All MCs	1	0.0	1	0.0	0.047	4.8	LOSA	0.2	1.7	0.05	0.51	0.05	46.4
Approach			94	6.7	94	6.7	0.047	4.6	LOSA	0.2	1.7	0.05	0.51	0.05	45.5
All Vehicles			269	4.7	269	4.7	0.067	4.3	NA	0.4	2.8	0.07	0.49	0.07	45.5

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:14 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

 **Site: [105 (15)] Heathcote Road | Seton Road (No Dev PM Peak - 2030)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	522	6.5	522	6.5	0.358	0.7	LOSA	0.7	5.3	0.03	0.15	0.03	50.5
6	R2	All MCs	132	11.2	132	11.2	*0.358	6.0	LOSA	0.7	5.3	0.03	0.25	0.03	46.0
Approach			654	7.4	654	7.4	0.358	1.8	LOSA	0.7	5.3	0.03	0.17	0.03	49.4
North: Seton Road (N)															
7	L2	All MCs	242	3.0	242	3.0	0.753	76.2	LOS F	16.1	115.5	1.00	0.87	1.07	30.1
9	R2	All MCs	144	2.2	144	2.2	*0.925	99.4	LOS F	11.3	80.8	1.00	1.02	1.42	27.6
Approach			386	2.7	386	2.7	0.925	84.8	LOS F	16.1	115.5	1.00	0.93	1.20	27.3
West: Heathcote Road (W)															
10	L2	All MCs	33	9.7	33	9.7	0.336	5.7	LOSA	0.9	6.5	0.03	0.14	0.03	43.2
11	T1	All MCs	902	1.4	902	1.4	*0.340	1.5	LOSA	0.9	6.6	0.03	0.08	0.03	47.9
Approach			935	1.7	935	1.7	0.340	1.6	LOSA	0.9	6.6	0.03	0.08	0.03	47.6
All Vehicles			1975	3.8	1975	3.8	0.925	17.9	LOS B	16.1	115.5	0.22	0.28	0.26	41.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		171	180	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**  
Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:17 PM  
Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (15)] Newbridge Road | Kelso Crescent (No Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	81	3.9	81	3.9	0.414	11.6	LOS A	2.9	21.1	0.98	0.98	1.37	35.9
2	R2	All MCs	77	2.7	77	2.7	0.414	37.5	LOS C	2.9	21.1	0.98	0.98	1.37	33.1
Approach			158	3.3	158	3.3	0.414	24.2	LOS B	2.9	21.1	0.98	0.98	1.37	34.6
East: Newbridge Road (E)															
3	L2	All MCs	85	7.4	85	7.4	0.412	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	56.2
4	T1	All MCs	2259	4.0	2259	4.0	0.412	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2344	4.1	2344	4.1	0.412	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Newbridge Road (W)															
5	T1	All MCs	1841	3.1	1841	3.1	0.482	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
6	R2	All MCs	91	4.7	91	4.7	0.408	24.4	LOS B	1.2	9.0	0.86	0.98	1.00	32.8
Approach			1932	3.2	1932	3.2	0.482	1.3	NA	1.2	9.0	0.04	0.05	0.05	58.3
All Vehicles			4434	3.7	4434	3.7	0.482	1.6	NA	2.9	21.1	0.05	0.07	0.07	58.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (15)] Kelso Crescent | Field Close (No Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	15	0.0	15	0.0	0.086	3.3	LOS A	0.2	1.5	0.14	0.54	0.14	44.1
6	R2	All MCs	107	2.9	107	2.9	0.086	4.8	LOS A	0.2	1.5	0.14	0.54	0.14	37.1
Approach			122	2.6	122	2.6	0.086	4.7	LOS A	0.2	1.5	0.14	0.54	0.14	38.8
North: Minor Road (N)															
7	L2	All MCs	125	5.9	125	5.9	0.085	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.7
9	R2	All MCs	26	4.0	26	4.0	0.085	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			152	5.6	152	5.6	0.085	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.5
West: Field Close (W)															
10	L2	All MCs	29	0.0	29	0.0	0.028	4.6	LOS A	0.1	0.5	0.15	0.49	0.15	35.6
11	T1	All MCs	21	5.0	21	5.0	0.028	3.7	LOS A	0.1	0.5	0.15	0.49	0.15	44.6
Approach			51	2.1	51	2.1	0.028	4.2	LOS A	0.1	0.5	0.15	0.49	0.15	39.7
All Vehicles			324	3.9	324	3.9	0.086	3.4	NA	0.2	1.5	0.08	0.50	0.08	40.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (15)] Kelso Crescent | Iraking Avenue (No Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	121	7.8	121	7.8	0.061	4.6	LOS A	0.3	2.2	0.04	0.51	0.04	45.8
3	R2	All MCs	1	0.0	1	0.0	0.061	4.8	LOS A	0.3	2.2	0.04	0.51	0.04	45.7
Approach			122	7.8	122	7.8	0.061	4.6	LOS A	0.3	2.2	0.04	0.51	0.04	45.7
East: Kelso Crescent (E)															
4	L2	All MCs	3	0.0	3	0.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	47.8
5	T1	All MCs	6	0.0	6	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	49.0
Approach			9	0.0	9	0.0	0.005	1.5	NA	0.0	0.0	0.00	0.18	0.00	48.6
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.069	0.0	LOS A	0.4	2.9	0.05	0.53	0.05	47.0
12	R2	All MCs	157	6.7	157	6.7	0.069	4.6	LOS A	0.4	2.9	0.05	0.53	0.05	45.6
Approach			159	6.6	159	6.6	0.069	4.6	NA	0.4	2.9	0.05	0.53	0.05	45.6
All Vehicles			291	6.9	291	6.9	0.069	4.5	NA	0.4	2.9	0.05	0.51	0.05	45.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (15)] Iraking Avenue | Seton Road (No Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate	Rate	km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	13	0.0	13	0.0	0.013	4.6	LOSA	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	12	0.0	12	0.0	0.013	0.0	LOSA	0.0	0.0	0.00	0.28	0.00	47.8
Approach			24	0.0	24	0.0	0.013	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	7	14.3	7	14.3	0.073	0.1	LOSA	0.4	3.0	0.09	0.50	0.09	45.7
9	R2	All MCs	159	4.0	159	4.0	0.073	4.7	LOSA	0.4	3.0	0.09	0.50	0.09	45.2
Approach			166	4.4	166	4.4	0.073	4.4	NA	0.4	3.0	0.09	0.50	0.09	45.2
West: Seton Road (W)															
10	L2	All MCs	100	7.4	100	7.4	0.050	4.6	LOSA	0.2	1.8	0.05	0.51	0.05	45.4
12	R2	All MCs	1	0.0	1	0.0	0.050	4.9	LOSA	0.2	1.8	0.05	0.51	0.05	46.3
Approach			101	7.3	101	7.3	0.050	4.6	LOSA	0.2	1.8	0.05	0.51	0.05	45.5
All Vehicles			292	5.1	292	5.1	0.073	4.3	NA	0.4	3.0	0.07	0.49	0.07	45.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (18)] Heathcote Road | Seton Road (No Dev PM Peak - 2035)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	558	6.4	558	6.4	0.386	0.8	LOSA	0.8	5.9	0.03	0.15	0.03	50.7
6	R2	All MCs	140	11.3	140	11.3	*0.386	6.0	LOSA	0.8	5.9	0.03	0.25	0.03	46.1
Approach			698	7.4	698	7.4	0.386	1.8	LOSA	0.8	5.9	0.03	0.17	0.03	49.5
North: Seton Road (N)															
7	L2	All MCs	258	2.9	258	2.9	0.828	84.8	LOS F	18.2	130.5	1.00	0.93	1.15	29.9
9	R2	All MCs	155	2.7	155	2.7	*1.002	127.8	LOS F	14.0	100.1	1.00	1.13	1.63	27.5
Approach			413	2.8	413	2.8	1.002	101.0	LOS F	18.2	130.5	1.00	1.00	1.33	26.7
West: Heathcote Road (W)															
10	L2	All MCs	36	11.8	36	11.8	0.360	5.8	LOSA	1.0	7.3	0.03	0.15	0.03	43.4
11	T1	All MCs	964	1.4	964	1.4	*0.364	1.6	LOSA	1.0	7.3	0.03	0.09	0.03	48.2
Approach			1000	1.8	1000	1.8	0.364	1.8	LOSA	1.0	7.3	0.03	0.09	0.03	47.9
All Vehicles			2111	3.8	2111	3.8	1.002	21.2	LOS B	18.2	130.5	0.22	0.29	0.29	41.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		186	196	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:20 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (18)] Newbridge Road | Kelso Crescent (No Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	87	4.8	87	4.8	0.598	19.5	LOS B	4.6	33.0	1.00	1.21	1.81	32.9
2	R2	All MCs	82	2.6	82	2.6	0.598	55.5	LOS D	4.6	33.0	1.00	1.21	1.81	30.0
Approach			169	3.7	169	3.7	0.598	37.0	LOS C	4.6	33.0	1.00	1.21	1.81	31.6
East: Newbridge Road (E)															
3	L2	All MCs	91	7.0	91	7.0	0.440	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.2
4	T1	All MCs	2413	4.0	2413	4.0	0.440	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2503	4.1	2503	4.1	0.440	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.4
West: Newbridge Road (W)															
5	T1	All MCs	1966	3.2	1966	3.2	0.515	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
6	R2	All MCs	97	5.4	97	5.4	0.468	26.8	LOS B	1.4	10.5	0.89	1.00	1.06	32.1
Approach			2063	3.3	2063	3.3	0.515	1.5	NA	1.4	10.5	0.04	0.05	0.05	58.2
All Vehicles			4736	3.7	4736	3.7	0.598	2.1	NA	4.6	33.0	0.05	0.07	0.09	57.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (18)] Kelso Crescent | Field Close (No Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	16	0.0	16	0.0	0.094	3.3	LOS A	0.2	1.7	0.15	0.54	0.15	44.1
6	R2	All MCs	116	3.6	116	3.6	0.094	4.9	LOS A	0.2	1.7	0.15	0.54	0.15	37.0
Approach			132	3.2	132	3.2	0.094	4.7	LOS A	0.2	1.7	0.15	0.54	0.15	38.7
North: Minor Road (N)															
7	L2	All MCs	133	5.6	133	5.6	0.090	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.7
9	R2	All MCs	28	3.7	28	3.7	0.090	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.8
Approach			161	5.2	161	5.2	0.090	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.5
West: Field Close (W)															
10	L2	All MCs	32	0.0	32	0.0	0.030	4.6	LOS A	0.1	0.6	0.15	0.50	0.15	35.6
11	T1	All MCs	22	4.8	22	4.8	0.030	3.7	LOS A	0.1	0.6	0.15	0.50	0.15	44.6
Approach			54	2.0	54	2.0	0.030	4.2	LOS A	0.1	0.6	0.15	0.50	0.15	39.6
All Vehicles			346	4.0	346	4.0	0.094	3.4	NA	0.2	1.7	0.08	0.50	0.08	40.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (18)] Kelso Crescent | Iraking Avenue (No Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec			[ Veh. ]	[ Dist ]			km/h
			veh/h	%	veh/h	%									
South: Iraking Avenue (S)															
1	L2	All MCs	128	7.4	128	7.4	0.064	4.6	LOS A	0.3	2.3	0.04	0.51	0.04	45.8
3	R2	All MCs	1	0.0	1	0.0	0.064	4.8	LOS A	0.3	2.3	0.04	0.51	0.04	45.7
Approach			129	7.3	129	7.3	0.064	4.6	LOS A	0.3	2.3	0.04	0.51	0.04	45.8
East: Kelso Crescent (E)															
4	L2	All MCs	4	0.0	4	0.0	0.006	4.6	LOS A	0.0	0.0	0.00	0.22	0.00	47.6
5	T1	All MCs	6	0.0	6	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	48.8
Approach			11	0.0	11	0.0	0.006	1.8	NA	0.0	0.0	0.00	0.22	0.00	48.3
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.074	0.0	LOS A	0.4	3.2	0.06	0.53	0.06	47.0
12	R2	All MCs	168	6.9	168	6.9	0.074	4.6	LOS A	0.4	3.2	0.06	0.53	0.06	45.5
Approach			171	6.8	171	6.8	0.074	4.6	NA	0.4	3.2	0.06	0.53	0.06	45.6
All Vehicles			311	6.8	311	6.8	0.074	4.5	NA	0.4	3.2	0.05	0.51	0.05	45.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (18)] Iraking Avenue | Seton Road (No Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	14	0.0	14	0.0	0.014	4.6	LOS A	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	13	0.0	13	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	47.8
Approach			26	0.0	26	0.0	0.014	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	7	14.3	7	14.3	0.078	0.1	LOS A	0.4	3.2	0.10	0.51	0.10	45.6
9	R2	All MCs	169	3.7	169	3.7	0.078	4.7	LOS A	0.4	3.2	0.10	0.51	0.10	45.1
Approach			177	4.2	177	4.2	0.078	4.5	NA	0.4	3.2	0.10	0.51	0.10	45.2
West: Seton Road (W)															
10	L2	All MCs	106	6.9	106	6.9	0.053	4.6	LOS A	0.3	1.9	0.06	0.51	0.06	45.4
12	R2	All MCs	1	0.0	1	0.0	0.053	4.9	LOS A	0.3	1.9	0.06	0.51	0.06	46.3
Approach			107	6.9	107	6.9	0.053	4.6	LOS A	0.3	1.9	0.06	0.51	0.06	45.4
All Vehicles			311	4.7	311	4.7	0.078	4.3	NA	0.4	3.2	0.08	0.49	0.08	45.5

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Monday, 15 September 2025 4:39:20 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

 **Site: [105 (19)] Heathcote Road | Seton Road (Post Dev AM Peak - 2025)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2025

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	763	6.3	763	6.3	* 0.525	0.9	LOSA	1.4	10.7	0.04	0.16	0.04	51.2
6	R2	All MCs	211	13.5	211	13.5	0.525	6.0	LOSA	1.4	10.7	0.04	0.26	0.04	46.5
Approach			974	7.9	974	7.9	0.525	2.0	LOSA	1.4	10.7	0.04	0.18	0.04	49.9
North: Seton Road (N)															
7	L2	All MCs	78	23.0	78	23.0	0.249	56.7	LOS E	4.5	37.5	0.89	0.76	0.89	29.9
9	R2	All MCs	56	28.3	56	28.3	* 0.421	72.3	LOS F	3.7	32.5	0.99	0.76	0.99	27.8
Approach			134	25.2	134	25.2	0.421	63.2	LOS E	4.5	37.5	0.93	0.76	0.93	29.0
West: Heathcote Road (W)															
10	L2	All MCs	62	15.3	62	15.3	0.270	5.8	LOSA	0.6	4.6	0.03	0.20	0.03	42.5
11	T1	All MCs	662	6.0	662	6.0	0.273	0.9	LOSA	0.7	4.8	0.03	0.10	0.03	47.1
Approach			724	6.8	724	6.8	0.273	1.3	LOSA	0.7	4.8	0.03	0.11	0.03	46.6
All Vehicles			1832	8.7	1832	8.7	0.525	6.2	LOSA	4.5	37.5	0.10	0.20	0.10	45.9

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		156	164	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:55 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (19)] Newbridge Road | Kelso Crescent (Post Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	61	29.3	61	29.3	0.282	7.0	LOS A	1.5	13.2	0.92	0.70	0.99	34.3
2	R2	All MCs	39	21.6	39	21.6	0.282	43.1	LOS D	1.5	13.2	0.92	0.70	0.99	31.7
Approach			100	26.3	100	26.3	0.282	21.0	LOS B	1.5	13.2	0.92	0.70	0.99	33.4
East: Newbridge Road (E)															
3	L2	All MCs	112	17.9	112	17.9	0.238	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.8
4	T1	All MCs	1194	8.6	1194	8.6	0.238	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1305	9.4	1305	9.4	0.238	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)															
5	T1	All MCs	2151	6.6	2151	6.6	0.575	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.4
6	R2	All MCs	111	4.8	111	4.8	0.310	15.1	LOS B	1.0	7.3	0.70	0.89	0.77	37.2
Approach			2261	6.5	2261	6.5	0.575	1.0	NA	1.0	7.3	0.03	0.04	0.04	58.4
All Vehicles			3666	8.0	3666	8.0	0.575	1.4	NA	1.5	13.2	0.05	0.06	0.05	58.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (19)] Kelso Crescent | Field Close (Post Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	9	0.0	9	0.0	0.077	3.3	LOS A	0.2	1.6	0.15	0.54	0.15	43.9
6	R2	All MCs	86	29.3	86	29.3	0.077	5.2	LOS A	0.2	1.6	0.15	0.54	0.15	36.6
Approach			96	26.4	96	26.4	0.077	5.0	LOS A	0.2	1.6	0.15	0.54	0.15	38.0
North: Minor Road (N)															
7	L2	All MCs	189	11.7	189	11.7	0.123	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	22	4.8	22	4.8	0.123	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			212	10.9	212	10.9	0.123	2.1	NA	0.0	0.0	0.00	0.47	0.00	41.9
West: Field Close (W)															
10	L2	All MCs	6	33.3	6	33.3	0.007	4.9	LOS A	0.0	0.1	0.17	0.49	0.17	32.2
11	T1	All MCs	5	0.0	5	0.0	0.007	3.7	LOS A	0.0	0.1	0.17	0.49	0.17	44.7
Approach			12	18.2	12	18.2	0.007	4.3	LOS A	0.0	0.1	0.17	0.49	0.17	38.1
All Vehicles			319	15.8	319	15.8	0.123	3.1	NA	0.2	1.6	0.05	0.49	0.05	40.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (19)] Kelso Crescent | Iraking Avenue (Post Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	125	20.2	125	20.2	0.074	4.7	LOS A	0.4	2.9	0.04	0.51	0.04	45.5
3	R2	All MCs	9	11.1	9	11.1	0.074	4.8	LOS A	0.4	2.9	0.04	0.51	0.04	45.4
Approach			135	19.5	135	19.5	0.074	4.8	LOS A	0.4	2.9	0.04	0.51	0.04	45.5
East: Kelso Crescent (E)															
4	L2	All MCs	7	0.0	7	0.0	0.008	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	6	16.7	6	16.7	0.008	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.2
Approach			14	7.7	14	7.7	0.008	2.5	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	17	6.2	17	6.2	0.055	0.0	LOS A	0.3	2.4	0.07	0.46	0.07	47.3
12	R2	All MCs	98	17.2	98	17.2	0.055	4.7	LOS A	0.3	2.4	0.07	0.46	0.07	45.7
Approach			115	15.6	115	15.6	0.055	4.1	NA	0.3	2.4	0.07	0.46	0.07	45.9
All Vehicles			263	17.2	263	17.2	0.074	4.3	NA	0.4	2.9	0.05	0.48	0.05	45.8

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:55 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Model\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [104 (19)] Iraking Avenue | Seton Road (Post Dev AM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec	[ Veh. Dist ]					km/h	
			veh/h	%	veh/h	%			veh	m			
South: Iraking Avenue (S)													
1	L2	All MCs	6 16.7	6 16.7	0.009	4.7	LOS A	0.0	0.0	0.00	0.21	0.00	47.8
2	T1	All MCs	9 11.1	9 11.1	0.009	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	48.4
Approach			16 13.3	16 13.3	0.009	1.9	NA	0.0	0.0	0.00	0.21	0.00	48.1
North: Iraking Avenue (N)													
8	T1	All MCs	14 7.7	14 7.7	0.053	0.0	LOS A	0.3	2.3	0.08	0.47	0.08	46.2
9	R2	All MCs	96 19.8	96 19.8	0.053	4.8	LOS A	0.3	2.3	0.08	0.47	0.08	45.3
Approach			109 18.3	109 18.3	0.053	4.2	NA	0.3	2.3	0.08	0.47	0.08	45.4
West: Seton Road (W)													
10	L2	All MCs	119 15.9	119 15.9	0.071	4.7	LOS A	0.3	2.7	0.05	0.51	0.05	45.1
12	R2	All MCs	8 50.0	8 50.0	0.071	5.4	LOS A	0.3	2.7	0.05	0.51	0.05	45.5
Approach			127 18.2	127 18.2	0.071	4.8	LOS A	0.3	2.7	0.05	0.51	0.05	45.1
All Vehicles			253 17.9	253 17.9	0.071	4.3	NA	0.3	2.7	0.06	0.47	0.06	45.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (20)] Heathcote Road | Seton Road (Post Dev AM Peak - 2030)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec			[ Veh. ]	[ Dist ]			km/h
			veh/h	%	veh/h	%									
East: Heathcote Road (E)															
5	T1	All MCs	819	6.4	819	6.4	* 0.567	1.0	LOSA	1.7	12.6	0.04	0.16	0.04	51.4
6	R2	All MCs	225	13.1	225	13.1	0.567	6.0	LOSA	1.7	12.6	0.05	0.27	0.05	46.6
Approach			1044	7.9	1044	7.9	0.567	2.1	LOSA	1.7	12.6	0.04	0.18	0.04	50.1
North: Seton Road (N)															
7	L2	All MCs	83	22.8	83	22.8	0.266	57.1	LOS E	4.8	40.1	0.89	0.76	0.89	29.9
9	R2	All MCs	61	29.3	61	29.3	* 0.466	72.7	LOS F	4.1	36.0	0.99	0.76	0.99	27.7
Approach			144	25.5	144	25.5	0.466	63.7	LOS E	4.8	40.1	0.93	0.76	0.93	28.9
West: Heathcote Road (W)															
10	L2	All MCs	67	15.6	67	15.6	0.290	5.8	LOSA	0.7	5.1	0.03	0.20	0.03	42.7
11	T1	All MCs	711	6.1	711	6.1	0.293	1.0	LOSA	0.7	5.3	0.03	0.11	0.03	47.4
Approach			778	6.9	778	6.9	0.293	1.4	LOSA	0.7	5.3	0.03	0.11	0.03	46.8
All Vehicles			1966	8.8	1966	8.8	0.567	6.3	LOSA	4.8	40.1	0.10	0.20	0.10	46.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec			[ Ped ]	[ Dist ]			m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		171	180	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:53 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (20)] Newbridge Road | Kelso Crescent (Post Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	56	35.8	56	35.8	0.441	13.0	LOS A	2.8	24.2	1.00	0.94	1.48	29.8
2	R2	All MCs	42	22.5	42	22.5	0.441	67.6	LOS E	2.8	24.2	1.00	0.94	1.48	27.2
Approach			98	30.1	98	30.1	0.441	36.5	LOS C	2.8	24.2	1.00	0.94	1.48	28.7
East: Newbridge Road (E)															
3	L2	All MCs	119	17.7	119	17.7	0.255	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.8
4	T1	All MCs	1281	8.5	1281	8.5	0.255	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1400	9.3	1400	9.3	0.255	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)															
5	T1	All MCs	2307	6.6	2307	6.6	0.617	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.3
6	R2	All MCs	117	4.5	117	4.5	0.345	16.2	LOS B	1.1	8.2	0.73	0.91	0.82	36.8
Approach			2424	6.5	2424	6.5	0.617	1.1	NA	1.1	8.2	0.04	0.04	0.04	58.3
All Vehicles			3922	8.1	3922	8.1	0.617	1.8	NA	2.8	24.2	0.05	0.07	0.06	57.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (20)] Kelso Crescent | Field Close (Post Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	11	0.0	11	0.0	0.082	3.3	LOSA	0.2	1.7	0.16	0.55	0.16	43.9
6	R2	All MCs	91	29.1	91	29.1	0.082	5.2	LOSA	0.2	1.7	0.16	0.55	0.16	36.5
Approach			101	26.0	101	26.0	0.082	5.0	LOSA	0.2	1.7	0.16	0.55	0.16	38.1
North: Minor Road (N)															
7	L2	All MCs	202	11.5	202	11.5	0.131	2.2	LOSA	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	23	4.5	23	4.5	0.131	2.0	LOSA	0.0	0.0	0.00	0.47	0.00	44.7
Approach			225	10.7	225	10.7	0.131	2.1	NA	0.0	0.0	0.00	0.47	0.00	41.9
West: Field Close (W)															
10	L2	All MCs	6	33.3	6	33.3	0.007	4.9	LOSA	0.0	0.1	0.18	0.49	0.18	32.2
11	T1	All MCs	6	0.0	6	0.0	0.007	3.7	LOSA	0.0	0.1	0.18	0.49	0.18	44.7
Approach			13	16.7	13	16.7	0.007	4.3	LOSA	0.0	0.1	0.18	0.49	0.18	38.7
All Vehicles			339	15.5	339	15.5	0.131	3.1	NA	0.2	1.7	0.05	0.49	0.05	40.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (20)] Kelso Crescent | Iraking Avenue (Post Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	134	19.7	134	19.7	0.080	4.7	LOS A	0.4	3.1	0.05	0.51	0.05	45.4
3	R2	All MCs	11	10.0	11	10.0	0.080	4.9	LOS A	0.4	3.1	0.05	0.51	0.05	45.3
Approach			144	19.0	144	19.0	0.080	4.8	LOS A	0.4	3.1	0.05	0.51	0.05	45.4
East: Kelso Crescent (E)															
4	L2	All MCs	8	0.0	8	0.0	0.009	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	7	14.3	7	14.3	0.009	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Approach			16	6.7	16	6.7	0.009	2.4	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	19	5.6	19	5.6	0.059	0.0	LOS A	0.3	2.6	0.07	0.45	0.07	47.3
12	R2	All MCs	105	17.0	105	17.0	0.059	4.8	LOS A	0.3	2.6	0.07	0.45	0.07	45.7
Approach			124	15.3	124	15.3	0.059	4.0	NA	0.3	2.6	0.07	0.45	0.07	45.9
All Vehicles			284	16.7	284	16.7	0.080	4.3	NA	0.4	3.1	0.06	0.47	0.06	45.8

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:52 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Model\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [104 (20)] Iraking Avenue | Seton Road (Post Dev AM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec	[ Veh. Dist ]						km/h
			veh/h	%	veh/h	%			veh	m			
South: Iraking Avenue (S)													
1	L2	All MCs	7 14.3	7 14.3	0.010	4.7	LOS A	0.0	0.0	0.00	0.22	0.00	47.8
2	T1	All MCs	11 10.0	11 10.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	48.3
Approach			18 11.8	18 11.8	0.010	1.9	NA	0.0	0.0	0.00	0.22	0.00	48.0
North: Iraking Avenue (N)													
8	T1	All MCs	15 7.1	15 7.1	0.057	0.0	LOS A	0.3	2.5	0.08	0.47	0.08	46.1
9	R2	All MCs	103 20.4	103 20.4	0.057	4.8	LOS A	0.3	2.5	0.08	0.47	0.08	45.2
Approach			118 18.8	118 18.8	0.057	4.2	NA	0.3	2.5	0.08	0.47	0.08	45.3
West: Seton Road (W)													
10	L2	All MCs	131 17.7	131 17.7	0.073	4.7	LOS A	0.4	2.8	0.06	0.51	0.06	45.2
12	R2	All MCs	5 20.0	5 20.0	0.073	5.1	LOS A	0.4	2.8	0.06	0.51	0.06	46.0
Approach			136 17.8	136 17.8	0.073	4.7	LOS A	0.4	2.8	0.06	0.51	0.06	45.2
All Vehicles			272 17.8	272 17.8	0.073	4.3	NA	0.4	2.8	0.06	0.47	0.06	45.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (22)] Heathcote Road | Seton Road (Post Dev AM Peak - 2035)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	875	6.4	875	6.4	* 0.611	1.1	LOSA	2.0	14.8	0.04	0.16	0.04	51.5
6	R2	All MCs	240	13.2	240	13.2	0.611	6.0	LOSA	2.0	14.8	0.05	0.27	0.05	46.7
Approach			1115	7.8	1115	7.8	0.611	2.2	LOSA	2.0	14.8	0.04	0.18	0.04	50.2
North: Seton Road (N)															
7	L2	All MCs	89	23.5	89	23.5	0.288	57.6	LOS E	5.2	43.6	0.90	0.77	0.90	29.9
9	R2	All MCs	65	29.0	65	29.0	* 0.500	73.1	LOS F	4.4	38.6	1.00	0.77	1.00	27.7
Approach			155	25.9	155	25.9	0.500	64.1	LOS E	5.2	43.6	0.94	0.77	0.94	28.9
West: Heathcote Road (W)															
10	L2	All MCs	73	15.9	73	15.9	0.310	5.8	LOSA	0.8	5.7	0.03	0.21	0.03	42.8
11	T1	All MCs	759	6.1	759	6.1	0.313	1.1	LOSA	0.8	5.9	0.03	0.11	0.03	47.6
Approach			832	7.0	832	7.0	0.313	1.5	LOSA	0.8	5.9	0.03	0.12	0.03	47.1
All Vehicles			2101	8.8	2101	8.8	0.611	6.5	LOSA	5.2	43.6	0.11	0.20	0.11	46.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		186	196	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:50 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (22)] Newbridge Road | Kelso Crescent (Post Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Stop (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed	
			[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]			km/h	
			veh/h	%	veh/h	%		veh	m				
South: Kelso Crescent (S)													
1	L2	All MCs	68 30.8	68 30.8	0.862	52.1	LOS D	7.7	66.3	1.00	1.75	2.96	22.9
2	R2	All MCs	44 21.4	44 21.4	0.862	161.0	LOS F	7.7	66.3	1.00	1.75	2.96	20.2
Approach			113 27.1	113 27.1	0.862	94.9	LOS F	7.7	66.3	1.00	1.75	2.96	21.9
East: Newbridge Road (E)													
3	L2	All MCs	126 17.5	126 17.5	0.272	5.8	LOS A	0.0	0.0	0.00	0.15	0.00	54.8
4	T1	All MCs	1367 8.5	1367 8.5	0.272	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.5
Approach			1494 9.3	1494 9.3	0.272	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: Newbridge Road (W)													
5	T1	All MCs	2463 6.5	2463 6.5	0.658	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
6	R2	All MCs	125 5.0	125 5.0	0.392	17.5	LOS B	1.3	9.5	0.76	0.93	0.89	36.2
Approach			2588 6.5	2588 6.5	0.658	1.2	NA	1.3	9.5	0.04	0.05	0.04	58.1
All Vehicles			4195 8.0	4195 8.0	0.862	3.5	NA	7.7	66.3	0.05	0.09	0.11	57.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [102 (22)] Kelso Crescent | Field Close (Post Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec			[ Veh. ]	[ Dist ]			km/h
			veh/h	%	veh/h	%									
East: Kelso Crescent (E)															
5	T1	All MCs	12	0.0	12	0.0	0.088	3.3	LOS A	0.2	1.9	0.17	0.55	0.17	43.9
6	R2	All MCs	97	29.3	97	29.3	0.088	5.2	LOS A	0.2	1.9	0.17	0.55	0.17	36.4
Approach			108	26.2	108	26.2	0.088	5.0	LOS A	0.2	1.9	0.17	0.55	0.17	38.0
North: Minor Road (N)															
7	L2	All MCs	214	11.3	214	11.3	0.138	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.4
9	R2	All MCs	24	4.3	24	4.3	0.138	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			238	10.6	238	10.6	0.138	2.1	NA	0.0	0.0	0.00	0.47	0.00	41.9
West: Field Close (W)															
10	L2	All MCs	7	28.6	7	28.6	0.008	4.8	LOS A	0.0	0.2	0.18	0.49	0.18	32.2
11	T1	All MCs	6	0.0	6	0.0	0.008	3.8	LOS A	0.0	0.2	0.18	0.49	0.18	44.7
Approach			14	15.4	14	15.4	0.008	4.3	LOS A	0.0	0.2	0.18	0.49	0.18	38.1
All Vehicles			360	15.5	360	15.5	0.138	3.1	NA	0.2	1.9	0.06	0.49	0.06	40.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (22)] Kelso Crescent | Iraking Avenue (Post Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	143	19.9	143	19.9	0.085	4.7	LOS A	0.4	3.3	0.05	0.51	0.05	45.4
3	R2	All MCs	11	10.0	11	10.0	0.085	4.9	LOS A	0.4	3.3	0.05	0.51	0.05	45.3
Approach			154	19.2	154	19.2	0.085	4.8	LOS A	0.4	3.3	0.05	0.51	0.05	45.4
East: Kelso Crescent (E)															
4	L2	All MCs	8	0.0	8	0.0	0.009	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.1
5	T1	All MCs	7	14.3	7	14.3	0.009	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Approach			16	6.7	16	6.7	0.009	2.4	NA	0.0	0.0	0.00	0.29	0.00	47.6
West: Kelso Crescent (W)															
11	T1	All MCs	20	5.3	20	5.3	0.063	0.0	LOS A	0.3	2.8	0.07	0.46	0.07	47.3
12	R2	All MCs	113	16.8	113	16.8	0.063	4.7	LOS A	0.3	2.8	0.07	0.46	0.07	45.7
Approach			133	15.1	133	15.1	0.063	4.0	NA	0.3	2.8	0.07	0.46	0.07	45.9
All Vehicles			302	16.7	302	16.7	0.085	4.3	NA	0.4	3.3	0.06	0.47	0.06	45.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (22)] Iraking Avenue | Seton Road (Post Dev AM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

AM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance													
Mov ID	Turn	Mov Class	Demand Flows	Arrival Flows	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	v/c	sec	[ Veh. Dist ]						km/h
			veh/h	%	veh/h	%			veh	m			
South: Iraking Avenue (S)													
1	L2	All MCs	7 14.3	7 14.3	0.010	4.7	LOS A	0.0	0.0	0.00	0.22	0.00	47.8
2	T1	All MCs	11 10.0	11 10.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	48.3
Approach			18 11.8	18 11.8	0.010	1.9	NA	0.0	0.0	0.00	0.22	0.00	48.0
North: Iraking Avenue (N)													
8	T1	All MCs	16 6.7	16 6.7	0.061	0.0	LOS A	0.3	2.7	0.08	0.47	0.08	46.1
9	R2	All MCs	111 20.0	111 20.0	0.061	4.8	LOS A	0.3	2.7	0.08	0.47	0.08	45.2
Approach			126 18.3	126 18.3	0.061	4.2	NA	0.3	2.7	0.08	0.47	0.08	45.3
West: Seton Road (W)													
10	L2	All MCs	139 17.4	139 17.4	0.078	4.7	LOS A	0.4	3.0	0.06	0.51	0.06	45.2
12	R2	All MCs	6 16.7	6 16.7	0.078	5.0	LOS A	0.4	3.0	0.06	0.51	0.06	46.0
Approach			145 17.4	145 17.4	0.078	4.7	LOS A	0.4	3.0	0.06	0.51	0.06	45.2
All Vehicles			289 17.5	289 17.5	0.078	4.3	NA	0.4	3.0	0.06	0.47	0.06	45.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (23)] Heathcote Road | Seton Road (Post Dev PM Peak - 2025)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2025

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	487	6.5	487	6.5	0.337	0.7	LOSA	0.6	4.9	0.03	0.15	0.03	50.4
6	R2	All MCs	127	14.9	127	14.9	*0.337	6.0	LOSA	0.6	4.9	0.03	0.25	0.03	45.9
Approach			615	8.2	615	8.2	0.337	1.8	LOSA	0.6	4.9	0.03	0.17	0.03	49.3
North: Seton Road (N)															
7	L2	All MCs	231	5.0	231	5.0	0.712	72.4	LOS F	14.9	109.0	0.99	0.85	1.02	30.1
9	R2	All MCs	135	2.3	135	2.3	*0.859	89.7	LOS F	10.0	71.3	1.00	0.95	1.28	27.7
Approach			365	4.0	365	4.0	0.859	78.8	LOS F	14.9	109.0	0.99	0.89	1.12	27.7
West: Heathcote Road (W)															
10	L2	All MCs	31	10.3	31	10.3	0.314	5.8	LOSA	0.8	5.9	0.03	0.14	0.03	42.9
11	T1	All MCs	841	1.4	841	1.4	*0.317	1.3	LOSA	0.8	5.9	0.03	0.08	0.03	47.6
Approach			872	1.7	872	1.7	0.317	1.5	LOSA	0.8	5.9	0.03	0.08	0.03	47.4
All Vehicles			1852	4.3	1852	4.3	0.859	16.8	LOS B	14.9	109.0	0.22	0.27	0.25	41.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	52	55	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		156	164	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:54 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (23)] Newbridge Road Kelso Crescent (Post Dev  
PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
Site Category: 2025  
Stop (Two-Way)  
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	100	5.3	100	5.3	0.359	9.4	LOS A	2.6	19.2	0.92	0.91	1.17	37.8
2	R2	All MCs	79	2.7	79	2.7	0.359	30.4	LOS C	2.6	19.2	0.92	0.91	1.17	35.1
Approach			179	4.1	179	4.1	0.359	18.7	LOS B	2.6	19.2	0.92	0.91	1.17	36.7
East: Newbridge Road (E)															
3	L2	All MCs	82	6.4	82	6.4	0.385	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	56.2
4	T1	All MCs	2105	4.0	2105	4.0	0.385	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2187	4.0	2187	4.0	0.385	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Newbridge Road (W)															
5	T1	All MCs	1716	3.1	1716	3.1	0.449	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	All MCs	93	6.8	93	6.8	0.408	23.8	LOS B	1.2	9.1	0.85	0.97	0.99	33.1
Approach			1808	3.3	1808	3.3	0.449	1.4	NA	1.2	9.1	0.04	0.05	0.05	58.2
All Vehicles			4175	3.7	4175	3.7	0.449	1.6	NA	2.6	19.2	0.06	0.07	0.07	58.1

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

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:53 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Model\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [102 (23)] Kelso Crescent | Field Close (Post Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	14	0.0	14	0.0	0.099	3.3	LOS A	0.2	1.8	0.15	0.54	0.15	44.1
6	R2	All MCs	125	4.2	125	4.2	0.099	4.9	LOS A	0.2	1.8	0.15	0.54	0.15	37.0
Approach			139	3.8	139	3.8	0.099	4.7	LOS A	0.2	1.8	0.15	0.54	0.15	38.4
North: Minor Road (N)															
7	L2	All MCs	127	6.6	127	6.6	0.086	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.6
9	R2	All MCs	25	4.2	25	4.2	0.086	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			153	6.2	153	6.2	0.086	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.4
West: Field Close (W)															
10	L2	All MCs	27	0.0	27	0.0	0.026	4.6	LOS A	0.1	0.5	0.15	0.49	0.15	35.6
11	T1	All MCs	20	5.3	20	5.3	0.026	3.7	LOS A	0.1	0.5	0.15	0.49	0.15	44.6
Approach			47	2.2	47	2.2	0.026	4.2	LOS A	0.1	0.5	0.15	0.49	0.15	39.8
All Vehicles			339	4.7	339	4.7	0.099	3.5	NA	0.2	1.8	0.08	0.50	0.08	40.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (23)] Kelso Crescent | Iraking Avenue (Post Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	118	11.6	118	11.6	0.060	4.7	LOS A	0.3	2.2	0.03	0.51	0.03	45.7
3	R2	All MCs	1	0.0	1	0.0	0.060	4.8	LOS A	0.3	2.2	0.03	0.51	0.03	45.7
Approach			119	11.5	119	11.5	0.060	4.7	LOS A	0.3	2.2	0.03	0.51	0.03	45.7
East: Kelso Crescent (E)															
4	L2	All MCs	3	0.0	3	0.0	0.004	4.6	LOS A	0.0	0.0	0.00	0.20	0.00	47.7
5	T1	All MCs	5	0.0	5	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	48.9
Approach			8	0.0	8	0.0	0.004	1.7	NA	0.0	0.0	0.00	0.20	0.00	48.4
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.068	0.0	LOS A	0.4	3.0	0.05	0.53	0.05	47.0
12	R2	All MCs	152	9.7	152	9.7	0.068	4.7	LOS A	0.4	3.0	0.05	0.53	0.05	45.5
Approach			154	9.6	154	9.6	0.068	4.6	NA	0.4	3.0	0.05	0.53	0.05	45.5
All Vehicles			281	10.1	281	10.1	0.068	4.5	NA	0.4	3.0	0.04	0.51	0.04	45.7

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

SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:53 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Model\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [104 (23)] Iraking Avenue | Seton Road (Post Dev PM Peak - 2025)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2025  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec			[ Veh. ]	[ Dist ]			km/h
			veh/h	%	veh/h	%									
South: Iraking Avenue (S)															
1	L2	All MCs	12	0.0	12	0.0	0.012	4.6	LOSA	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	11	0.0	11	0.0	0.012	0.0	LOSA	0.0	0.0	0.00	0.28	0.00	47.8
Approach			22	0.0	22	0.0	0.012	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	6	16.7	6	16.7	0.071	0.0	LOSA	0.4	3.0	0.09	0.51	0.09	45.7
9	R2	All MCs	153	6.9	153	6.9	0.071	4.7	LOSA	0.4	3.0	0.09	0.51	0.09	45.2
Approach			159	7.3	159	7.3	0.071	4.5	NA	0.4	3.0	0.09	0.51	0.09	45.2
West: Seton Road (W)															
10	L2	All MCs	98	11.8	98	11.8	0.050	4.7	LOSA	0.2	1.9	0.05	0.51	0.05	45.4
12	R2	All MCs	1	0.0	1	0.0	0.050	4.8	LOSA	0.2	1.9	0.05	0.51	0.05	46.3
Approach			99	11.7	99	11.7	0.050	4.7	LOSA	0.2	1.9	0.05	0.51	0.05	45.4
All Vehicles			280	8.3	280	8.3	0.071	4.4	NA	0.4	3.0	0.07	0.49	0.07	45.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (21)] Heathcote Road | Seton Road (Post Dev PM Peak - 2030)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	522	6.5	522	6.5	0.365	0.7	LOSA	0.7	5.4	0.03	0.15	0.03	50.6
6	R2	All MCs	137	14.6	137	14.6	*0.365	6.0	LOSA	0.7	5.4	0.03	0.25	0.03	46.0
Approach			659	8.1	659	8.1	0.365	1.8	LOSA	0.7	5.4	0.03	0.17	0.03	49.4
North: Seton Road (N)															
7	L2	All MCs	247	5.1	247	5.1	0.793	80.6	LOS F	16.9	123.8	1.00	0.90	1.11	30.0
9	R2	All MCs	144	2.2	144	2.2	*0.925	101.3	LOS F	11.3	80.8	1.00	1.02	1.42	27.6
Approach			392	4.0	392	4.0	0.925	88.3	LOS F	16.9	123.8	1.00	0.95	1.22	26.9
West: Heathcote Road (W)															
10	L2	All MCs	33	9.7	33	9.7	0.336	5.7	LOSA	0.9	6.5	0.03	0.14	0.03	43.2
11	T1	All MCs	902	1.4	902	1.4	*0.340	1.5	LOSA	0.9	6.6	0.03	0.08	0.03	47.9
Approach			935	1.7	935	1.7	0.340	1.6	LOSA	0.9	6.6	0.03	0.08	0.03	47.6
All Vehicles			1985	4.3	1985	4.3	0.925	18.8	LOS B	16.9	123.8	0.22	0.28	0.27	41.0

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	57	60	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		171	180	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:51 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (21)] Newbridge Road | Kelso Crescent (Post Dev)  
PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
Site Category: 2030  
Stop (Two-Way)  
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	105	5.0	105	5.0	0.469	12.8	LOS A	3.7	27.0	0.99	1.02	1.51	36.4
2	R2	All MCs	84	2.5	84	2.5	0.469	39.8	LOS C	3.7	27.0	0.99	1.02	1.51	33.6
Approach			189	3.9	189	3.9	0.469	24.8	LOS B	3.7	27.0	0.99	1.02	1.51	35.2
East: Newbridge Road (E)															
3	L2	All MCs	88	7.1	88	7.1	0.413	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	56.2
4	T1	All MCs	2259	4.0	2259	4.0	0.413	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2347	4.1	2347	4.1	0.413	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.4
West: Newbridge Road (W)															
5	T1	All MCs	1841	3.1	1841	3.1	0.482	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
6	R2	All MCs	99	6.4	99	6.4	0.461	25.7	LOS B	1.4	10.4	0.88	0.99	1.04	32.5
Approach			1940	3.3	1940	3.3	0.482	1.5	NA	1.4	10.4	0.04	0.05	0.05	58.1
All Vehicles			4477	3.7	4477	3.7	0.482	1.9	NA	3.7	27.0	0.06	0.08	0.09	57.9

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

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:50 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [102 (21)] Kelso Crescent | Field Close (Post Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	15	0.0	15	0.0	0.105	3.3	LOS A	0.3	1.9	0.15	0.54	0.15	44.1
6	R2	All MCs	132	4.0	132	4.0	0.105	4.9	LOS A	0.3	1.9	0.15	0.54	0.15	36.9
Approach			146	3.6	146	3.6	0.105	4.7	LOS A	0.3	1.9	0.15	0.54	0.15	38.4
North: Minor Road (N)															
7	L2	All MCs	137	6.9	137	6.9	0.092	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.6
9	R2	All MCs	26	4.0	26	4.0	0.092	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			163	6.5	163	6.5	0.092	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.4
West: Field Close (W)															
10	L2	All MCs	29	0.0	29	0.0	0.028	4.6	LOS A	0.1	0.5	0.15	0.50	0.15	35.6
11	T1	All MCs	21	5.0	21	5.0	0.028	3.7	LOS A	0.1	0.5	0.15	0.50	0.15	44.6
Approach			51	2.1	51	2.1	0.028	4.2	LOS A	0.1	0.5	0.15	0.50	0.15	39.7
All Vehicles			360	4.7	360	4.7	0.105	3.5	NA	0.3	1.9	0.08	0.50	0.08	40.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (21)] Kelso Crescent | Iraking Avenue (Post Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	126	11.7	126	11.7	0.064	4.7	LOS A	0.3	2.4	0.04	0.51	0.04	45.7
3	R2	All MCs	1	0.0	1	0.0	0.064	4.8	LOS A	0.3	2.4	0.04	0.51	0.04	45.7
Approach			127	11.6	127	11.6	0.064	4.7	LOS A	0.3	2.4	0.04	0.51	0.04	45.7
East: Kelso Crescent (E)															
4	L2	All MCs	3	0.0	3	0.0	0.005	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	47.8
5	T1	All MCs	6	0.0	6	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	49.0
Approach			9	0.0	9	0.0	0.005	1.5	NA	0.0	0.0	0.00	0.18	0.00	48.6
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.073	0.0	LOS A	0.4	3.2	0.05	0.53	0.05	47.0
12	R2	All MCs	162	9.7	162	9.7	0.073	4.7	LOS A	0.4	3.2	0.05	0.53	0.05	45.5
Approach			164	9.6	164	9.6	0.073	4.6	NA	0.4	3.2	0.05	0.53	0.05	45.5
All Vehicles			301	10.1	301	10.1	0.073	4.5	NA	0.4	3.2	0.05	0.51	0.05	45.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (21)] Iraking Avenue | Seton Road (Post Dev PM Peak - 2030)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	13	0.0	13	0.0	0.013	4.6	LOSA	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	12	0.0	12	0.0	0.013	0.0	LOSA	0.0	0.0	0.00	0.28	0.00	47.8
Approach			24	0.0	24	0.0	0.013	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	7	14.3	7	14.3	0.076	0.1	LOSA	0.4	3.3	0.09	0.51	0.09	45.7
9	R2	All MCs	164	7.1	164	7.1	0.076	4.7	LOSA	0.4	3.3	0.09	0.51	0.09	45.1
Approach			172	7.4	172	7.4	0.076	4.5	NA	0.4	3.3	0.09	0.51	0.09	45.1
West: Seton Road (W)															
10	L2	All MCs	105	12.0	105	12.0	0.054	4.7	LOSA	0.3	2.0	0.06	0.51	0.06	45.4
12	R2	All MCs	1	0.0	1	0.0	0.054	4.9	LOSA	0.3	2.0	0.06	0.51	0.06	46.3
Approach			106	11.9	106	11.9	0.054	4.7	LOSA	0.3	2.0	0.06	0.51	0.06	45.4
All Vehicles			302	8.4	302	8.4	0.076	4.4	NA	0.4	3.3	0.07	0.49	0.07	45.4

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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: [105 (24)] Heathcote Road | Seton Road (Post Dev PM Peak - 2035)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak

Site Category: 2030

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 138.0 seconds (Site User-Given Phase Times)

**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
East: Heathcote Road (E)															
5	T1	All MCs	558	6.4	558	6.4	0.393	0.8	LOSA	0.8	6.0	0.03	0.15	0.03	50.7
6	R2	All MCs	145	14.5	145	14.5	*0.393	6.0	LOSA	0.8	6.0	0.03	0.25	0.03	46.1
Approach			703	8.1	703	8.1	0.393	1.9	LOSA	0.8	6.0	0.03	0.17	0.03	49.5
North: Seton Road (N)															
7	L2	All MCs	263	4.8	263	4.8	0.868	91.2	LOS F	19.4	141.3	1.00	0.97	1.21	29.8
9	R2	All MCs	155	2.7	155	2.7	*1.002	129.6	LOS F	14.0	100.1	1.00	1.13	1.63	27.5
Approach			418	4.0	418	4.0	1.002	105.4	LOS F	19.4	141.3	1.00	1.03	1.37	26.3
West: Heathcote Road (W)															
10	L2	All MCs	36	11.8	36	11.8	0.360	5.8	LOSA	1.0	7.3	0.03	0.15	0.03	43.4
11	T1	All MCs	964	1.4	964	1.4	*0.364	1.7	LOSA	1.0	7.3	0.03	0.09	0.03	48.2
Approach			1000	1.8	1000	1.8	0.364	1.8	LOSA	1.0	7.3	0.03	0.09	0.03	47.9
All Vehicles			2121	4.3	2121	4.3	1.002	22.2	LOS B	19.4	141.3	0.22	0.30	0.30	40.8

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ]	[ Dist ]			sec	m	m/sec
						ped	m					
East: Heathcote Road (E)												
P2	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
North: Seton Road (N)												
P3	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
West: Heathcote Road (W)												
P4	Full	62	65	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92
All Pedestrians		186	196	63.3	LOS F	0.2	0.2	0.96	0.96	217.1	200.0	0.92

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.

---

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:48 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

**STOP** Site: [101 (24)] Newbridge Road | Kelso Crescent (Post Dev)  
PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
Site Category: 2030  
Stop (Two-Way)  
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h		veh/h					veh	m				
South: Kelso Crescent (S)															
1	L2	All MCs	112	5.7	112	5.7	0.670	22.8	LOS B	6.0	43.4	1.00	1.34	2.09	33.1
2	R2	All MCs	89	2.4	89	2.4	0.670	60.5	LOS E	6.0	43.4	1.00	1.34	2.09	30.3
Approach			201	4.2	201	4.2	0.670	39.6	LOS C	6.0	43.4	1.00	1.34	2.09	31.9
East: Newbridge Road (E)															
3	L2	All MCs	94	6.7	94	6.7	0.441	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	56.2
4	T1	All MCs	2413	4.0	2413	4.0	0.441	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach			2506	4.1	2506	4.1	0.441	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.4
West: Newbridge Road (W)															
5	T1	All MCs	1966	3.2	1966	3.2	0.515	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
6	R2	All MCs	105	7.0	105	7.0	0.524	28.4	LOS B	1.6	12.1	0.90	1.01	1.11	31.7
Approach			2072	3.4	2072	3.4	0.524	1.7	NA	1.6	12.1	0.05	0.05	0.06	58.0
All Vehicles			4779	3.8	4779	3.8	0.670	2.6	NA	6.0	43.4	0.06	0.09	0.11	57.7

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

**SIDRA INTERSECTION 10.0 | Copyright © 2000-2025 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Wednesday, 17 September 2025 12:27:47 PM

Project: G:\2023\23016 - 20 Kelso Crescent, Moorebank\Modell\23016-V1.4-SIDRA 10092025\20 Kelso Crescent, Moorebank 17092025.sipx

# MOVEMENT SUMMARY

Site: [102 (24)] Kelso Crescent | Field Close (Post Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
East: Kelso Crescent (E)															
5	T1	All MCs	16	0.0	16	0.0	0.113	3.3	LOS A	0.3	2.1	0.16	0.55	0.16	44.0
6	R2	All MCs	140	4.5	140	4.5	0.113	4.9	LOS A	0.3	2.1	0.16	0.55	0.16	36.8
Approach			156	4.1	156	4.1	0.113	4.7	LOS A	0.3	2.1	0.16	0.55	0.16	38.3
North: Minor Road (N)															
7	L2	All MCs	144	6.6	144	6.6	0.097	2.2	LOS A	0.0	0.0	0.00	0.47	0.00	41.6
9	R2	All MCs	28	3.7	28	3.7	0.097	2.0	LOS A	0.0	0.0	0.00	0.47	0.00	44.7
Approach			173	6.1	173	6.1	0.097	2.1	NA	0.0	0.0	0.00	0.47	0.00	42.4
West: Field Close (W)															
10	L2	All MCs	32	0.0	32	0.0	0.030	4.6	LOS A	0.1	0.6	0.16	0.50	0.16	35.5
11	T1	All MCs	22	4.8	22	4.8	0.030	3.7	LOS A	0.1	0.6	0.16	0.50	0.16	44.6
Approach			54	2.0	54	2.0	0.030	4.2	LOS A	0.1	0.6	0.16	0.50	0.16	39.6
All Vehicles			382	4.7	382	4.7	0.113	3.5	NA	0.3	2.1	0.09	0.50	0.09	40.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (24)] Kelso Crescent | Iraking Avenue (Post Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec			[ Veh. ]	[ Dist ]			km/h
			veh/h	%	veh/h	%									
South: Iraking Avenue (S)															
1	L2	All MCs	134	11.0	134	11.0	0.068	4.7	LOS A	0.3	2.5	0.04	0.51	0.04	45.7
3	R2	All MCs	1	0.0	1	0.0	0.068	4.8	LOS A	0.3	2.5	0.04	0.51	0.04	45.7
Approach			135	10.9	135	10.9	0.068	4.7	LOS A	0.3	2.5	0.04	0.51	0.04	45.7
East: Kelso Crescent (E)															
4	L2	All MCs	4	0.0	4	0.0	0.006	4.6	LOS A	0.0	0.0	0.00	0.22	0.00	47.6
5	T1	All MCs	6	0.0	6	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	48.8
Approach			11	0.0	11	0.0	0.006	1.8	NA	0.0	0.0	0.00	0.22	0.00	48.3
West: Kelso Crescent (W)															
11	T1	All MCs	2	0.0	2	0.0	0.078	0.0	LOS A	0.5	3.4	0.06	0.53	0.06	46.9
12	R2	All MCs	174	9.7	174	9.7	0.078	4.7	LOS A	0.5	3.4	0.06	0.53	0.06	45.5
Approach			176	9.6	176	9.6	0.078	4.6	NA	0.5	3.4	0.06	0.53	0.06	45.5
All Vehicles			321	9.8	321	9.8	0.078	4.5	NA	0.5	3.4	0.05	0.51	0.05	45.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (24)] Iraking Avenue | Seton Road (Post Dev PM Peak - 2035)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

PM Peak  
 Site Category: 2030  
 Give-Way (Two-Way)  
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Iraking Avenue (S)															
1	L2	All MCs	14	0.0	14	0.0	0.014	4.6	LOSA	0.0	0.0	0.00	0.28	0.00	47.7
2	T1	All MCs	13	0.0	13	0.0	0.014	0.0	LOSA	0.0	0.0	0.00	0.28	0.00	47.8
Approach			26	0.0	26	0.0	0.014	2.4	NA	0.0	0.0	0.00	0.28	0.00	47.8
North: Iraking Avenue (N)															
8	T1	All MCs	7	14.3	7	14.3	0.081	0.1	LOSA	0.5	3.4	0.10	0.51	0.10	45.6
9	R2	All MCs	175	6.6	175	6.6	0.081	4.7	LOSA	0.5	3.4	0.10	0.51	0.10	45.1
Approach			182	6.9	182	6.9	0.081	4.5	NA	0.5	3.4	0.10	0.51	0.10	45.1
West: Seton Road (W)															
10	L2	All MCs	112	11.3	112	11.3	0.057	4.7	LOSA	0.3	2.1	0.06	0.50	0.06	45.4
12	R2	All MCs	1	0.0	1	0.0	0.057	4.9	LOSA	0.3	2.1	0.06	0.50	0.06	46.3
Approach			113	11.2	113	11.2	0.057	4.7	LOSA	0.3	2.1	0.06	0.50	0.06	45.4
All Vehicles			321	7.9	321	7.9	0.081	4.4	NA	0.5	3.4	0.08	0.49	0.08	45.4

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



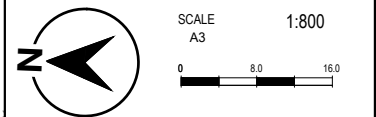
# Attachment 3

## Turning Path Assessment

PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
COMPLIANCE ASSESSMENT

GROUND FLOOR



DESIGNED BY  
B.BUI

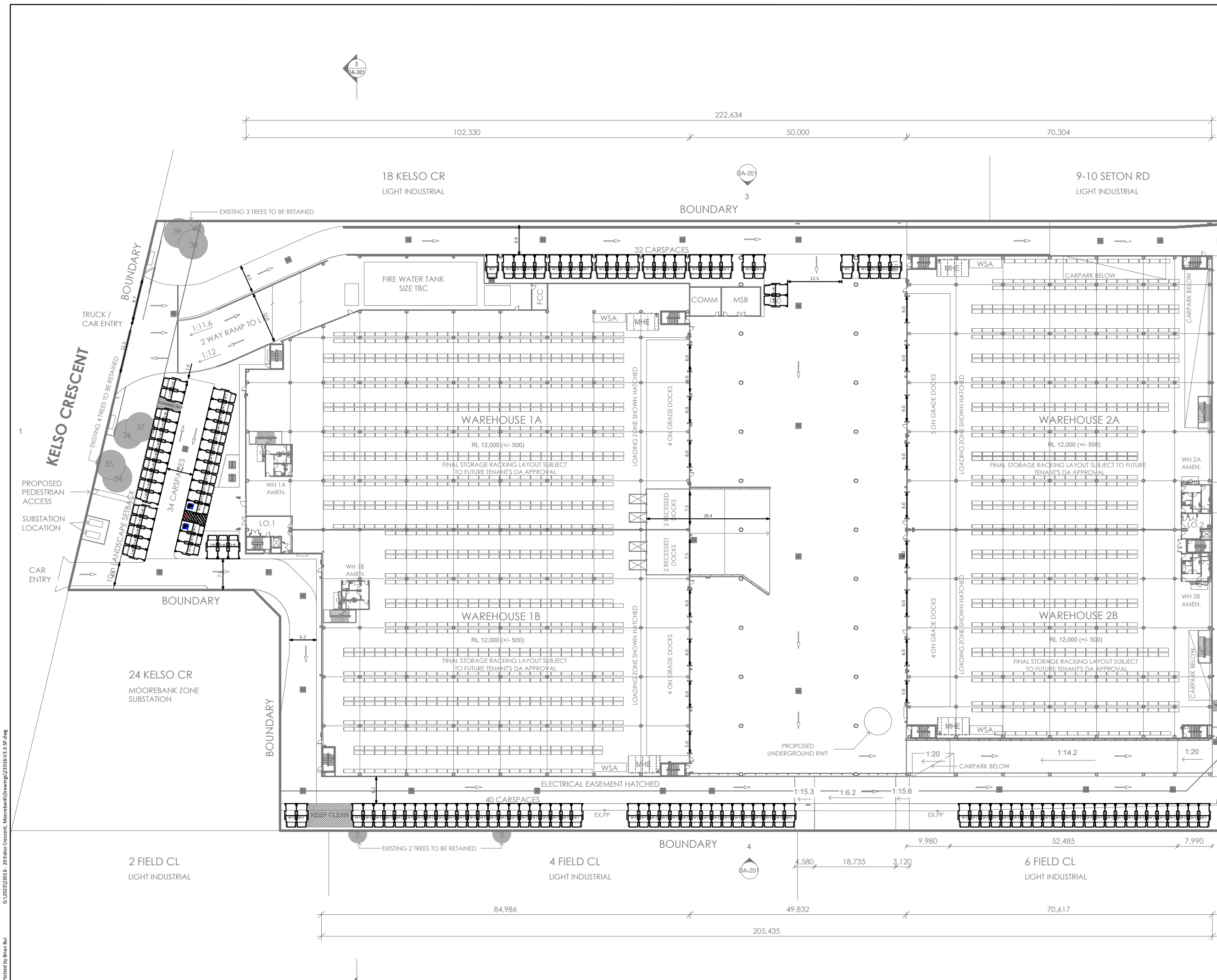
REVIEWED BY  
B.LO

DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO  
CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 01 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 4.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE SERVICE VEHICLE ACCESS ROADWAYS AND LOADING DOCKS
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- ANY VERTICAL DROPS EXCEEDING 0.6m IN HEIGHT SHOULD BE PROTECTED BY STRUCTURAL WALL/BARRIER



Plotted by Brian Bui G:\2023\23016 - 20 Kelso Crescent, Moorebank\Drawings\23016-V3.3-SP.dwg

PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
COMPLIANCE ASSESSMENT

LEVEL 1



DESIGNED BY  
B.BUI

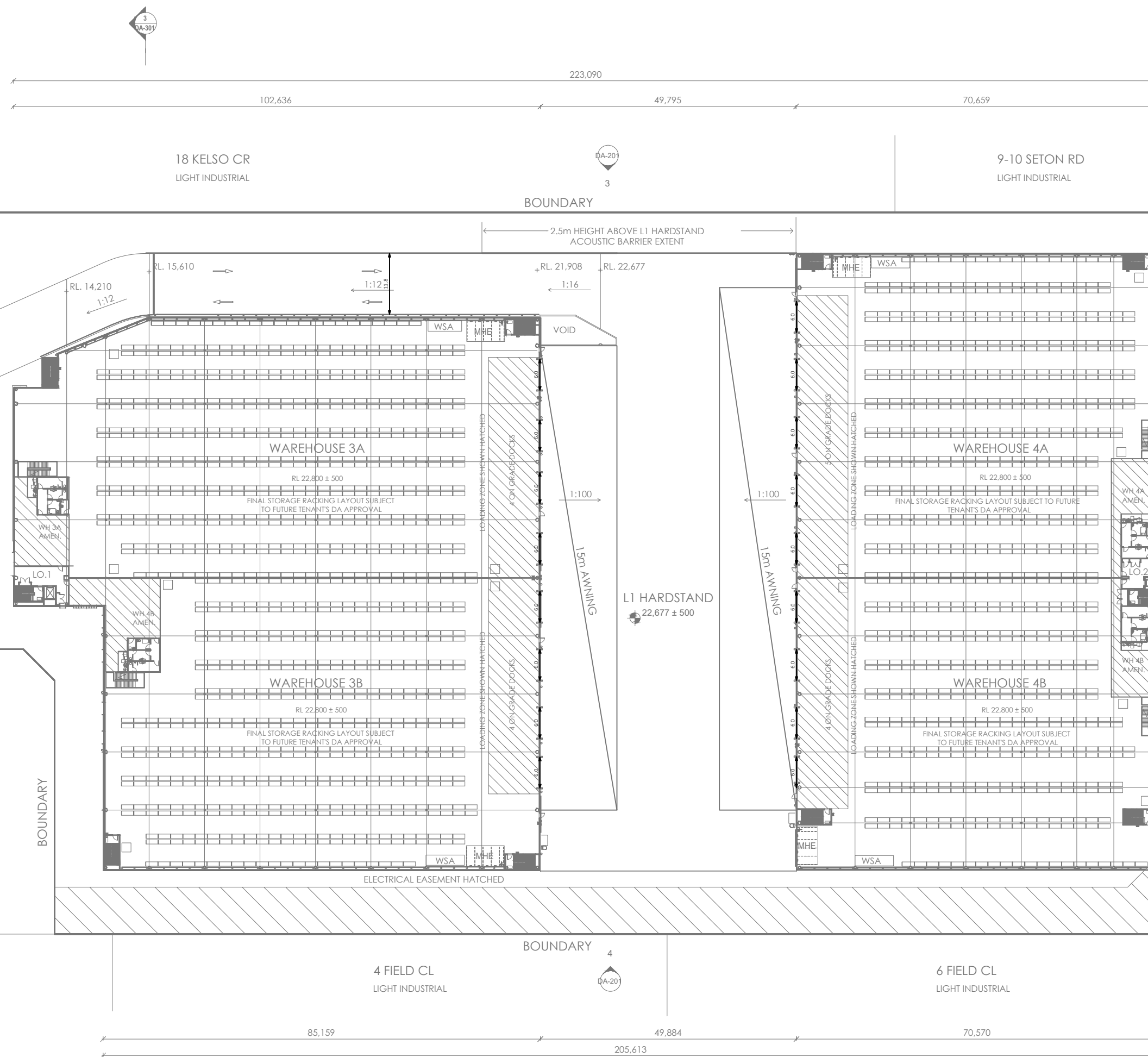
REVIEWED BY  
B.LO

DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO  
CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 02 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

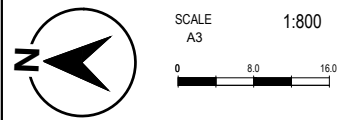
- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 4.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE SERVICE VEHICLE ACCESS ROADWAYS AND LOADING DOCKS
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- ANY VERTICAL DROPS EXCEEDING 0.6m IN HEIGHT SHOULD BE PROTECTED BY STRUCTURAL WALL/BARRIER



PROJECT  
**20 KELSO CRESCENT,  
 MOOREBANK**

TITLE  
**COMPLIANCE ASSESSMENT**

LOWER GROUND FLOOR



DESIGNED BY  
 B.BUI

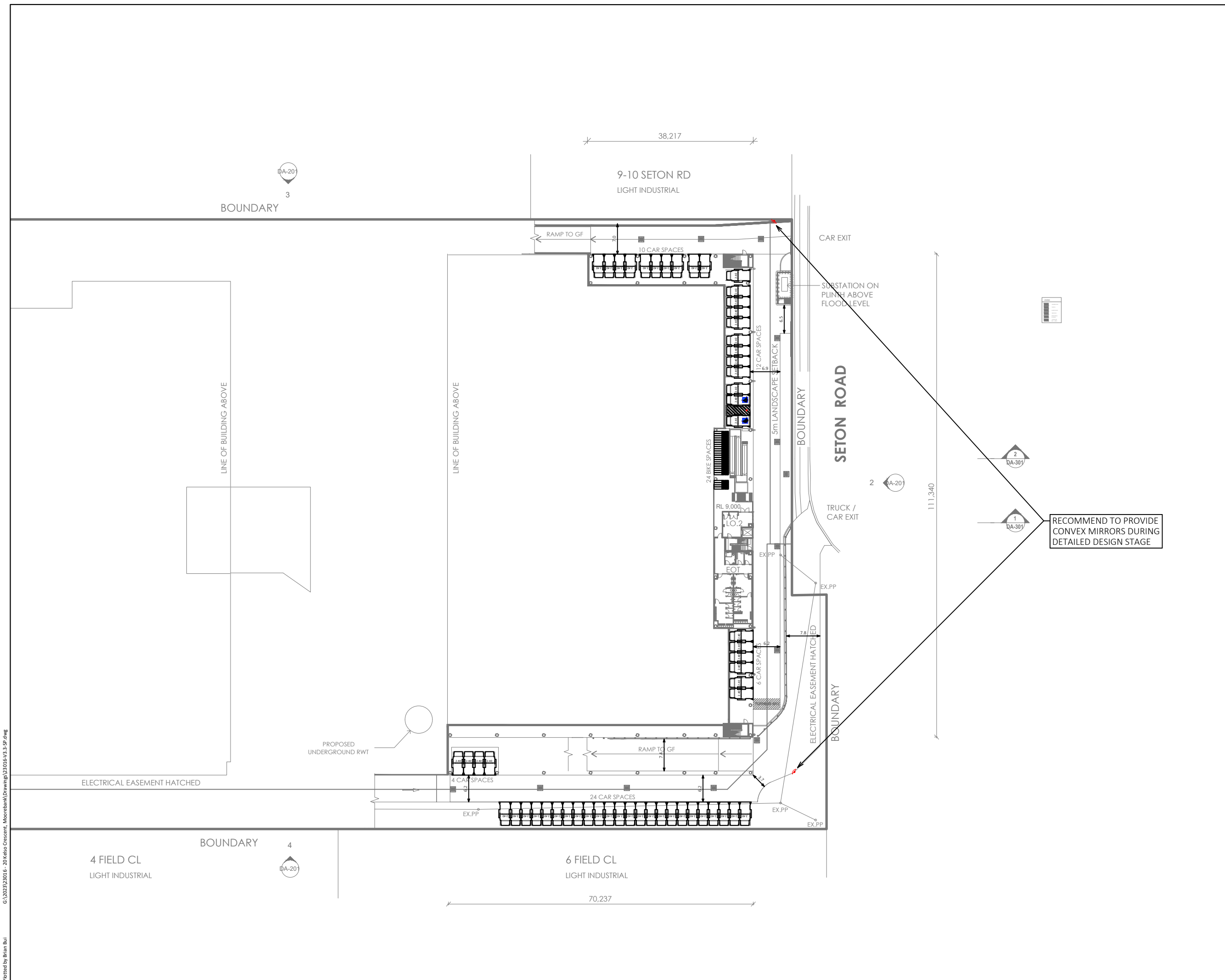
REVIEWED BY  
 B.LO

DRAWING REFERENCE (SOURCE):  
 G:\2023\23016 - 20 KELSO CRESCENT,  
 MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
 SHEET NO. 03 OF 11  
 DRAWING REF NO. 23016-V3.3-SP

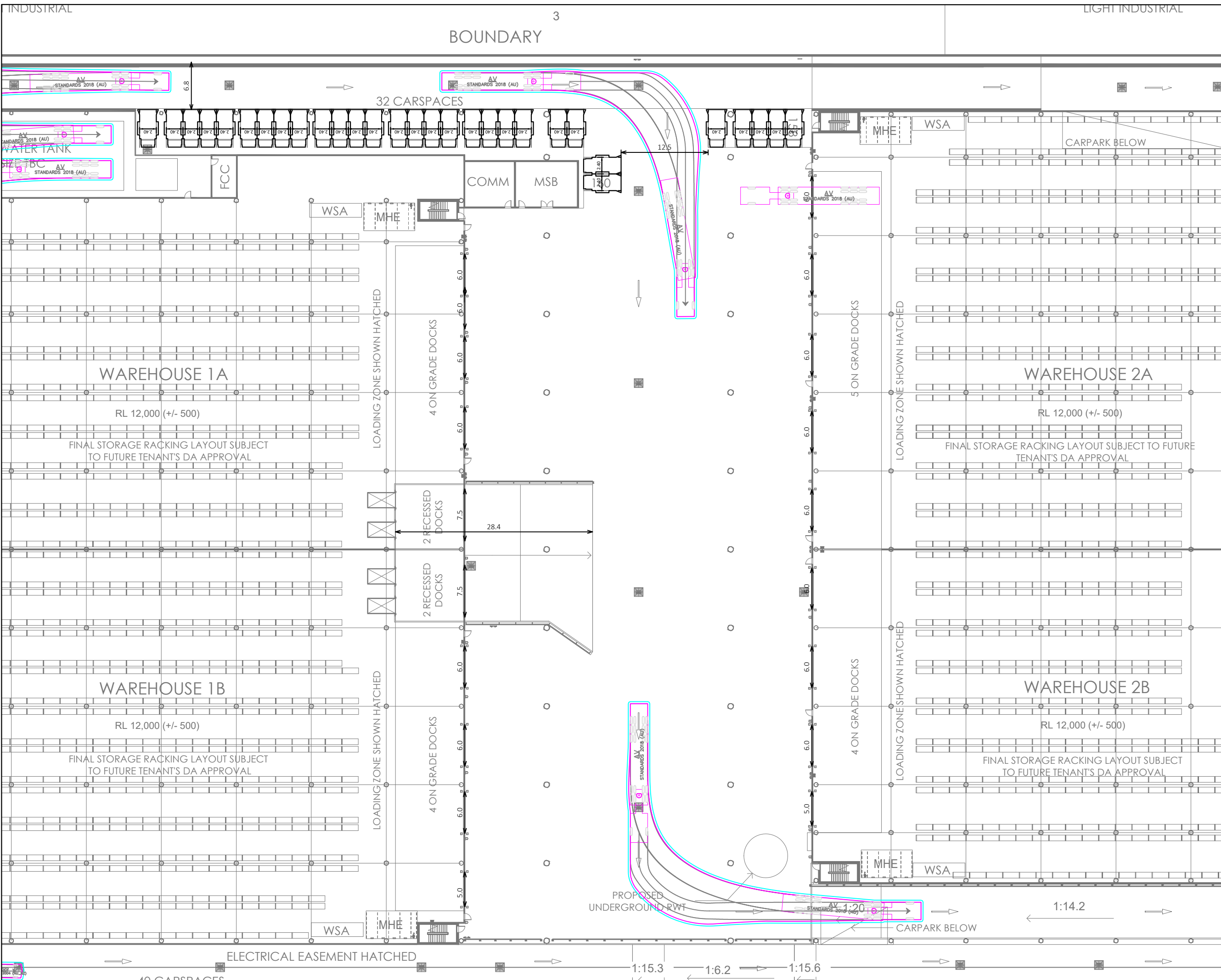
LEGENDS/NOTES

- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 4.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE SERVICE VEHICLE ACCESS ROADWAYS AND LOADING DOCKS
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- ANY VERTICAL DROPS EXCEEDING 0.6m IN HEIGHT SHOULD BE PROTECTED BY STRUCTURAL WALL/BARRIER



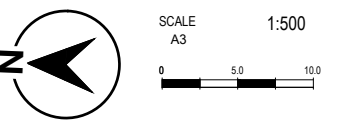






PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
SWEEP PATH ASSESSMENT  
SEMI TRAILER CIRCULATION  
GROUND FLOOR



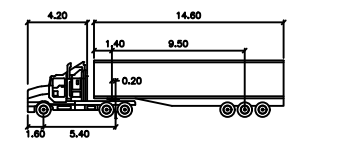
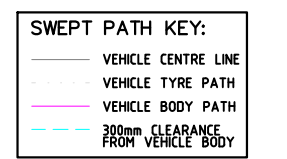
DESIGNED BY  
B.BUI

REVIEWED BY  
B.L.O

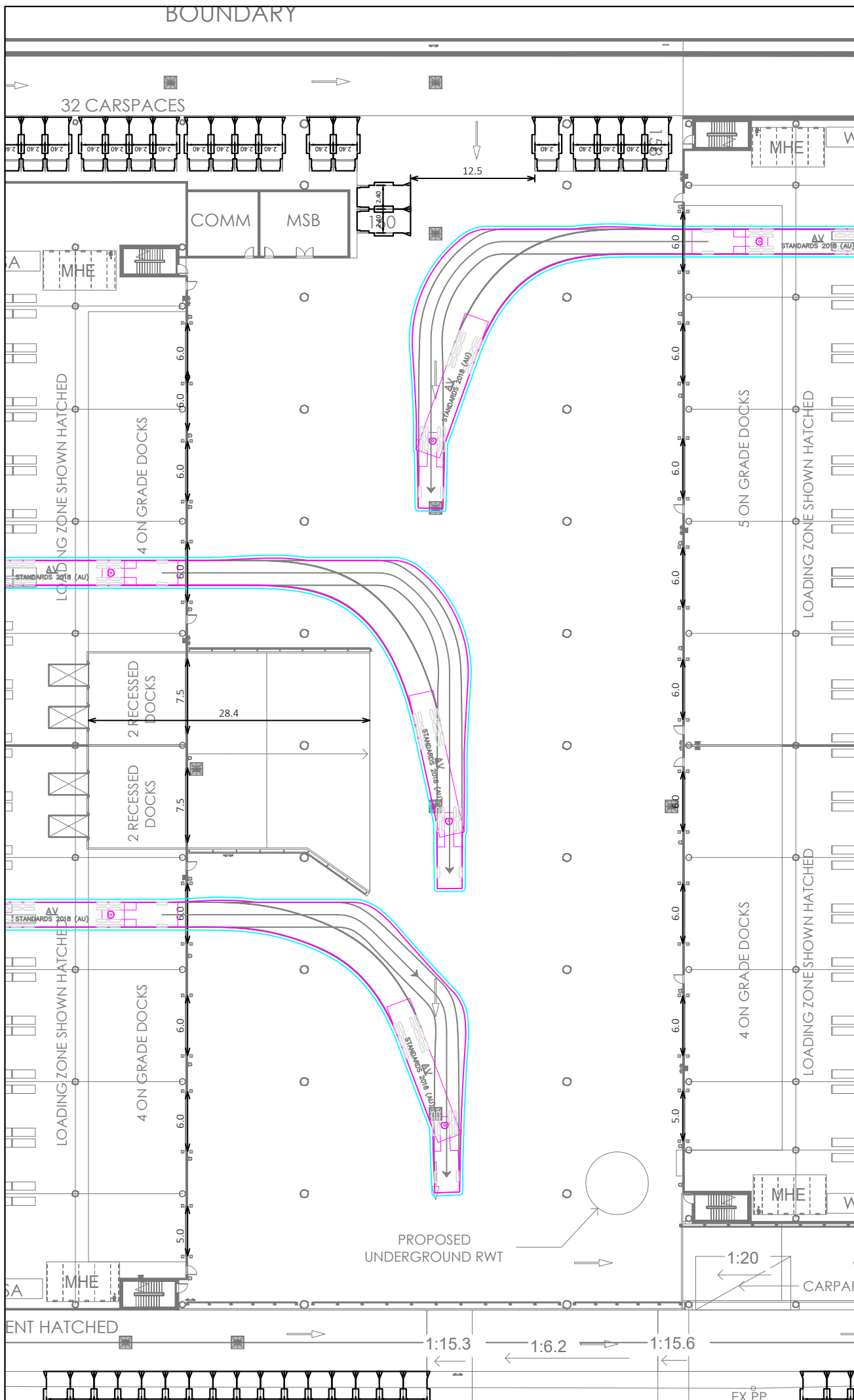
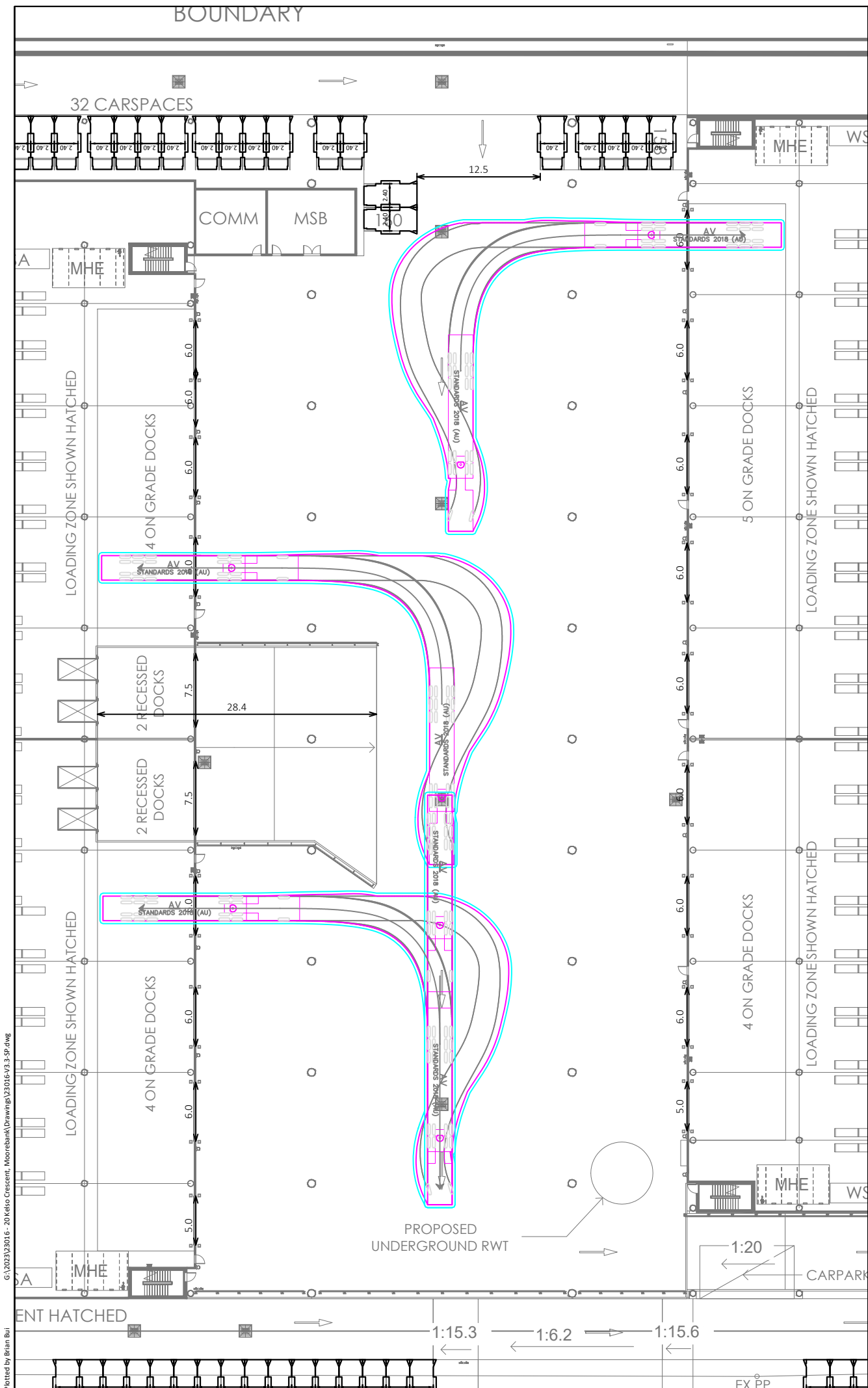
DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 06 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES



AV	Tractor Width	Trailer Width	Tractor Track	Trailer Track	Lock to Lock Time	Steering Angle	Articulating Angle
	2.50	2.50	2.50	2.50	6.0	25.5	172.0



**GenesisTraffic**

PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
SWEEP PATH ASSESSMENT  
SEMI TRAILER PARKING  
GROUND FLOOR

DESIGNED BY  
B.BUI

REVIEWED BY  
B.LO

DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 07 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

**SWEPT PATH KEY:**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

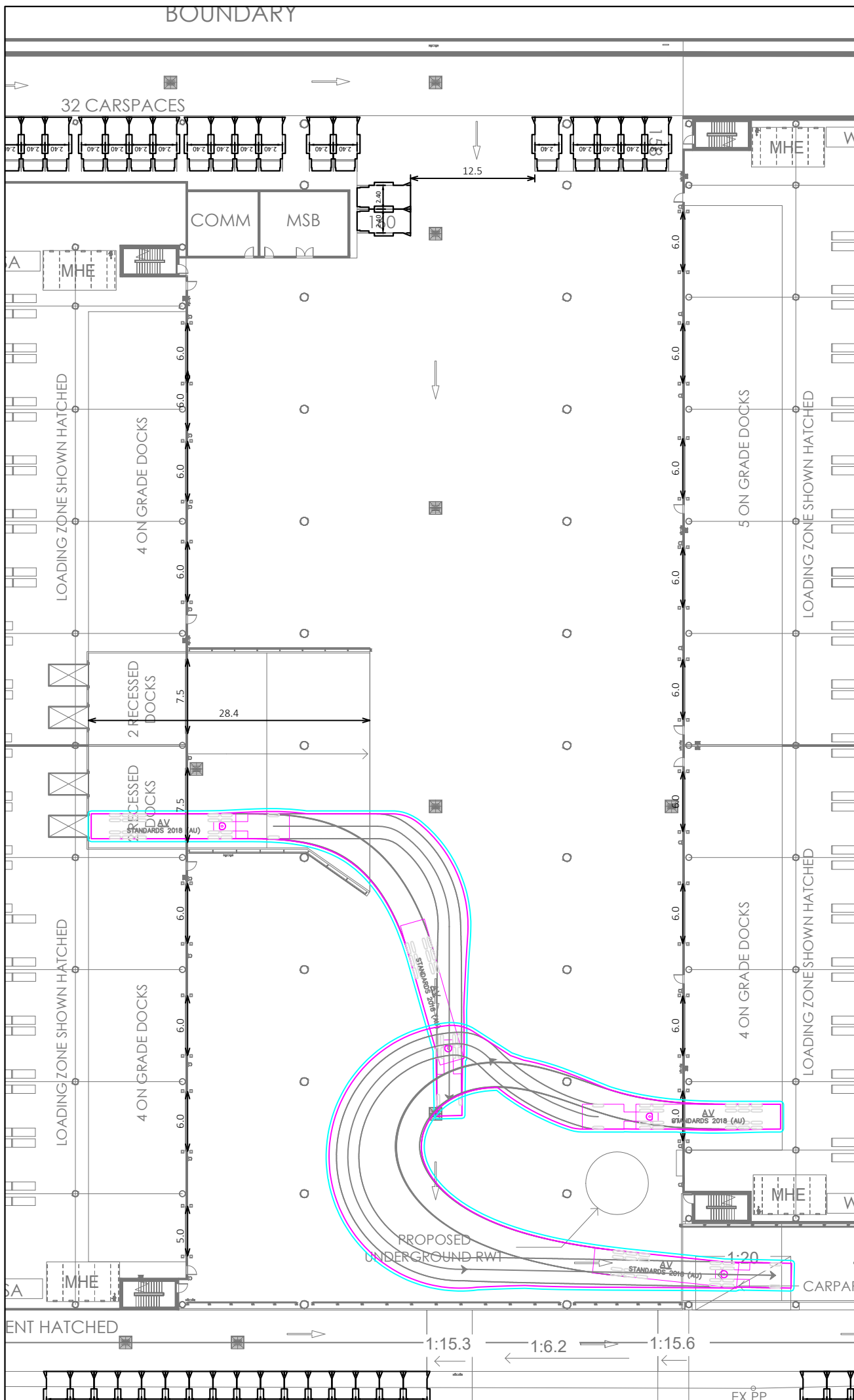
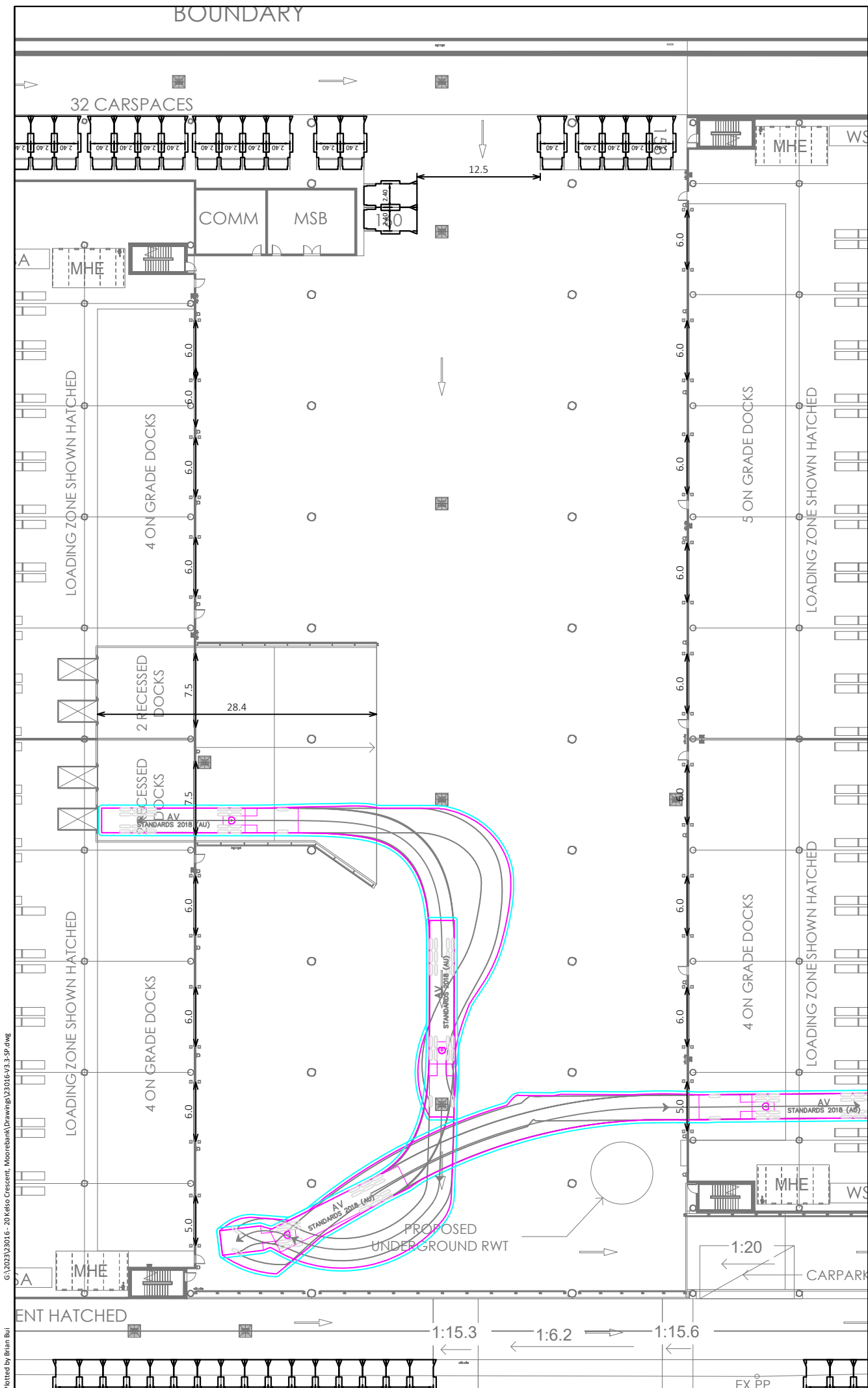
AV

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	28.5
Tractor Track	2.50	Articulating Angle	17.0
Trailer Track	2.50		

Scale: 1:500  
A3  
0 5.0 10.0

4.20 14.80  
1.40 9.50  
1.00 5.40 0.20

Plotted by Brian Bui G:\2023\23016 - 20 Kelso Crescent, Moorebank\Drawings\23016-V3.3-SP.dwg

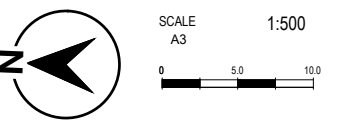


PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
SWEEP PATH ASSESSMENT

AV PARKING

GROUND FLOOR



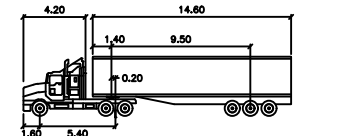
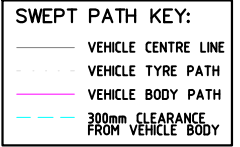
DESIGNED BY  
B.BUI

REVIEWED BY  
B.LO

DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 08 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

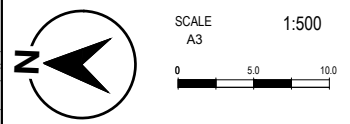


AV

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Tractor Wheelbase	: 1.40	Shearing Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
SWEEP PATH ASSESSMENT  
SEMI TRAILER CIRCULATION  
LEVEL 1



DESIGNED BY  
B.BUI

REVIEWED BY  
B.LO

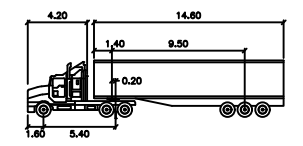
DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 09 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

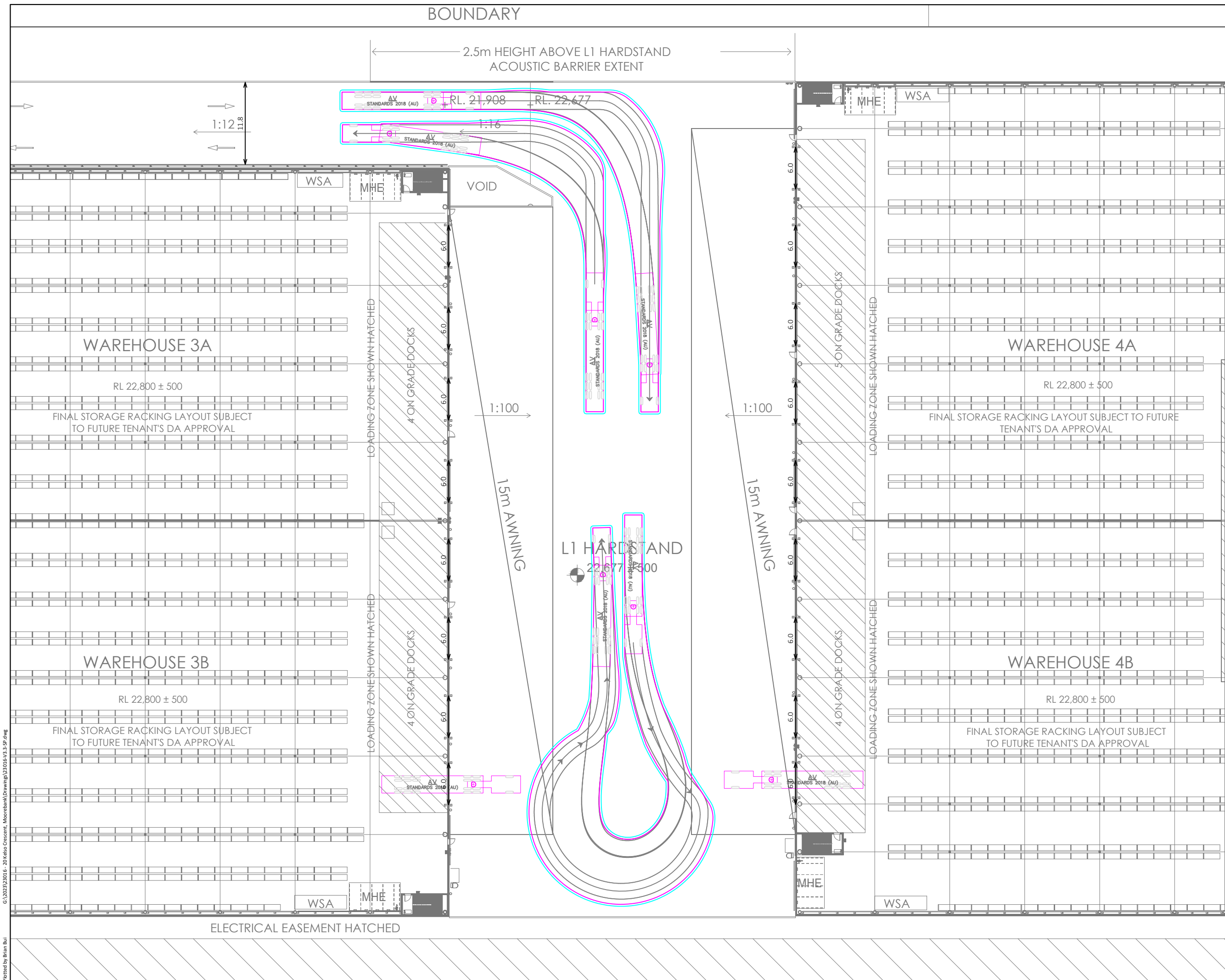
**SWEEP PATH KEY:**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



AV

meters	
Tractor Width	: 2.50
Trailer Width	: 2.50
Tractor Track	: 2.50
Trailer Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 25.3
Articulating Angle	: 17.0



Plotted by Brian Bui G:\2023\23016 - 20 Kelso Crescent, Moorebank\Drawings\23016-V3.3-SP.dwg

BOUNDARY

2.5m HEIGHT ABOVE L1 HARDSTAND  
ACOUSTIC BARRIER EXTENT

RL. 21,908 RL. 22,677

1:16

1:100

15m AWNING

L1 HARDSTAND  
22,677 ± 500

1:100

15m AWNING

L1 HARDSTAND  
22,677 ± 500

1:100

15m AWNING

BOUNDARY

2.5m HEIGHT ABOVE L1 HARDSTAND  
ACOUSTIC BARRIER EXTENT

RL. 21,908 RL. 22,677

1:16

1:100

15m AWNING

1:100

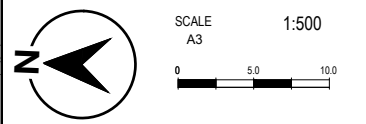
15m AWNING

PROJECT  
20 KELSO CRESCENT,  
MOOREBANK

TITLE  
SWEEP PATH ASSESSMENT

SEMI TRAILER PARKING

LEVEL 1



DESIGNED BY  
B.BUI

REVIEWED BY  
B.LO

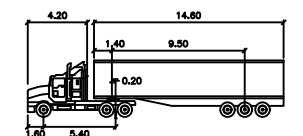
DRAWING REFERENCE (SOURCE):  
G:\2023\23016 - 20 KELSO CRESCENT,  
MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
SHEET NO. 10 OF 11  
DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

**SWEPT PATH KEY:**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

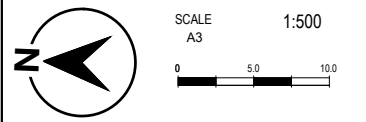


**AV**

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 25.5
Tractor Track	: 2.50	Articulating Angle	: 172.0
Trailer Track	: 2.50		

PROJECT  
**20 KELSO CRESCENT,  
 MOOREBANK**

TITLE  
**SWEPT PATH ASSESSMENT**  
 SITE ENTRY/EXIT  
 LOWER GROUND FLOOR



DESIGNED BY  
 B.BUI

REVIEWED BY  
 B.LO

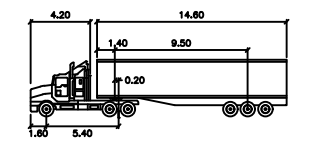
DRAWING REFERENCE (SOURCE):  
 G:\2023\23016 - 20 KELSO CRESCENT,  
 MOOREBANK\DRAWINGS\20250926

ISSUE DATE 26 September 2025  
 SHEET NO. 11 OF 11  
 DRAWING REF NO. 23016-V3.3-SP

LEGENDS/NOTES

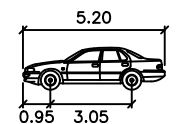
**SWEPT PATH KEY:**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



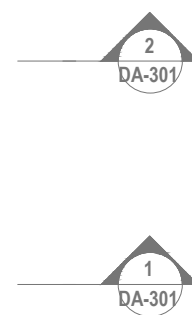
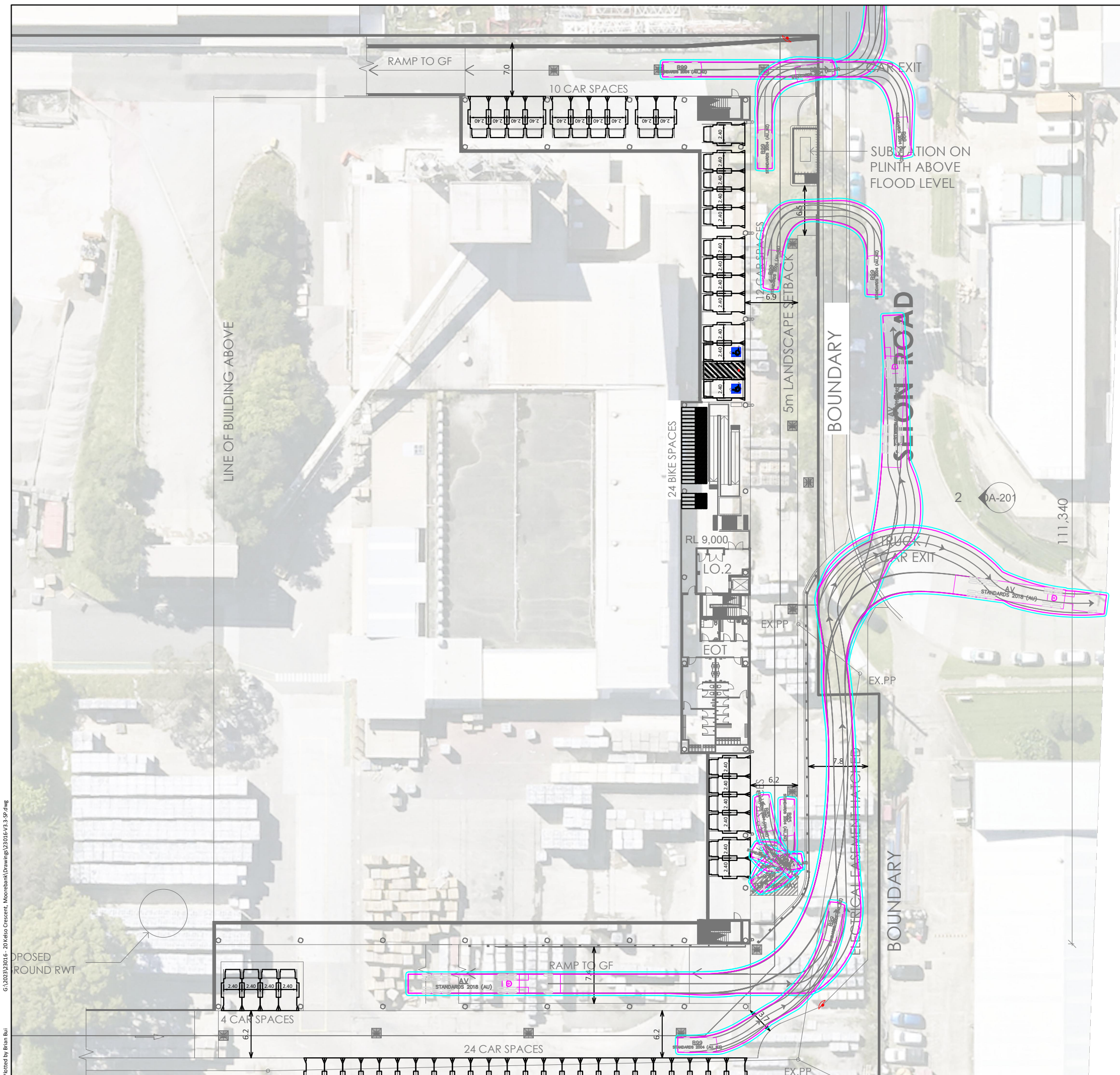
AV

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 17.2
Trailer Track	: 2.50		



B99

Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9



Plotted by Brian Bui  
 G:\2023\23016 - 20 Kelso Crescent, Moorebank\Drawings\23016-V3.3-SP.dwg



# Attachment 4

TfNSW Consultation

Documents/Correspondence

David Auster  
Department of Planning, Housing and Infrastructure  
Locked Bag 5022  
Parramatta NSW 2124

**Sent via portal**

**Re: Request advice on the RTS for SSD-58978472 – Kelso Crescent Multi-Level Warehouse, Moorebank**

Dear David,

Liverpool City Council was invited to provide advice on the RTS for the above application.

Attachment A of this letter provides detailed comments.

Page 2	-Community Planning
Page 3	-Heritage
Page 3	-Public Art
Page 4	-Transport Planning
Page 7	-Development Engineering
Page 11	-Flooding

Should you require further information or clarification, please feel free to be in contact.

Yours sincerely,



**Tony Hadchiti**  
Austral Delivery Manager

## Attachment A – Detailed comments

### 1. Community Planning

#### Reviewed documents:

- Appendix D1-RTS Response Matrix
- Response to Submissions Report (Willowtree Planning, 13 December 2024)
- Council Response 20 Kelso Crescent Moorebank (1 July, 2024)

#### Review & Comments:

- **Community benefits:** As we mentioned before, the proposal is compatible with local context. The site is located within the Moorebank industrial area (E4) and predominantly surrounded by large warehouse and distribution centres. There are no sensitive developments nearby.

The site is bit far-off from the residential developments. The closest homes would be on Jack O'Sullivan Road, which is a fair distance, across a large park and on much higher ground than this unit. The proposal would unlikely create added community concerns.

Rather, the proposal has a potential to increase socio-economic benefits by adding local employment opportunities close to home and improved livelihood.

- **Operating hours:** We raised concern on the proposed 24/7 operation of the business. As we mentioned before, there is a Fernwood Gym in that area opposite to the site, which is women only and has 24/7 access. There may be some concerns regarding safety for women coming in and out of the gym at later hours, particularly in those hours where the gym is unstaffed, including traffic and personal safety concerns. We don't know how heavily frequented the gym is in the later hours, but they should be considered as a stakeholder.

The SIA states, *'the presence of crime hotspots in the vicinity of the site has been noted, and though some are located nearby the site, the actual crime count was low.*

*The proposed development will have secure vehicle entrances but, notwithstanding this, it is recommended that the design incorporates Crime Prevention Through Environmental Design (CPTED) principle' (p 39).*

Council response had included our concern in the previous submission (01/07/24). As it stated, ***'A blanket 24-hour operation is not considered suitable for this development. At this stage, it is unclear what the end uses for the warehouses will be, and allowance for 24-hour operation does not take into the consideration the potential impacts of each use. Therefore, Council is of the opinion that approval for 24-hour operation should be removed from the application. If a land use within this development requires 24-hour operation, a separate Development Application***

***should be lodged with Council as part of the end use, so the impacts can be appropriately assessed (p2).'***

The response Matrix has addressed this concern. It states, '*It is proposed that an appropriately worded condition of any Development Consent prescribe that the 24-hour operation is permitted for a 12-month trial period from the date of issue of the first Occupation Certificate. Any complaints received during this period would necessitate the preparation and submission of evidence Page 10 of 17 demonstrating successful mitigation pursuant to the condition of the Development Consent'* (p9).

We recommend reviewing the operating hours of other businesses of the premises and justification of a new 24/7 business in that set-up. The business should consider all aspects of sustainability and CPTED in the design and management process. Roof top solar panel, adequate lighting, after hour security and access controls, maximize the scope of active and passive surveillance are some examples.

### **Concluding remarks**

Community Planning **does not have any objection** to the proposed state significant development if it complies with the statutory requirements and protects public interests.

## **2. Heritage**

No objections, no additional requirements.

## **3. Public Art**

- A Public Art Strategy or Plan is to be developed for the site, it is recommended further consultation is undertaken with Council's public arts officer prior to undertaking the document.
- Narratives and themes are to be endemic, meaningful, and relevant to the site.
- Public art delivered across the site is to be undertaken by/or in collaboration with local Liverpool artist/s.
- Public art is to be durable and permanent (lifespan of 25 years+).
- Public artwork is to be incorporated into a minimum of 30% of the area of the northern façade to break up the built form when viewed from Newbridge Road.
- Public artwork incorporated into a minimum of 30% of the area of the southern façade or across 70% of the associated glazing, to break up the built form when viewed from Seton Road to the South.

It is recommended that public art is employed to address bulk facades visible from the public domain.

### **Prior to the issue of a Construction Certificate**

- A Preliminary Public Art Plan, including appropriate planning controls; initial proposed locations, scale to bulk, identified current and/or future audiences, role, benefit, and

benchmarking, is to be submitted to Liverpool City Council Public Arts Officer for approval and endorsement.

#### **Prior to Works Commencing**

- Prior to Works Commencing the Public Art Plan is to be updated, commissioned artist/s, concept designs, artwork dimensions, materials and submitted to Liverpool City Council Public Art Plan for approval and endorsement.
- Prior to Works Commencing updated architectural and landscape plans are to be submitted identifying the endorsed public art concept designs.

#### **During Construction**

- During Construction notification provided to Liverpool City Council Public Arts Officer on commencement of artwork fabrication, delivery, and/or installation.
- During Construction, the Public Art Plan is to be finalised, including artist/s and artwork statement, maintenance, ownership and final design, and submitted to Liverpool City Council Public Arts Officer for approval and endorsement.

#### **Prior to Occupation Certificate**

- Prior to Occupation Certificate high resolution images of completed artworks and associated landscaping submitted to Liverpool City Council Public Arts Officer for approval and endorsement.
- Prior to Occupation Certificate the final Public Art Plan is to be submitted to Liverpool City Council Public Arts Officer for approval and endorsement.

#### **4. Transport Planning**

The proposed development is anticipated to generate approximately 179 vehicles during the AM peak hour and 193 vehicles during the PM peak hour. Overall, it is expected to generate a total of 1,584 vehicle movements per day, with 23% of these being heavy vehicles.

According to the Traffic Assessment Addendum, by the year 2033, the intersection of Newbridge Road and Kelso Crescent is projected to experience significant delays for traffic entering and exiting Kelso Crescent. At a sign-controlled intersection, prolonged delays can lead to driver impatience, resulting in unsafe turns due to insufficient gaps in the traffic stream, thereby increasing the risk of crashes.

As previously recommended, a road safety audit is required to identify and implement safe treatments for this intersection. Should this review not be carried out, Council recommends that an Operational Traffic Management Plan (OPTM) should be prepared by an accredited practitioner and submitted to and endorsed by Council's Transport Management Section prior to the OC being issued to the subject site. The OPTM is to include haulage routes to/from the subject site, pedestrian/cyclist travel routes, traffic and parking management associated with the operation. The OPTM is to include right turn movements restrictions from Kelso Crescent to Newbridge Road for the vehicles to/from the subject site, particularly heavy vehicles during AM and PM peak hours.

Please find other traffic related conditions to be incorporated into the consent conditions:

1. The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) shall be in accordance with AS 2890.1-2004, AS2890.6-2009 and AS 2890.2-2018 for heavy vehicle usage. Parking Restrictions may be required to maintain the required sight distances at the driveway. The driveway and car parking design is to be approved by the Certifier.
2. The applicant shall submit a Section 138 Roads Act application to Council for any proposed new driveway and road work in, on or over a public road including the payment of application and inspection fees.

Prior to the issue of the construction certificate for any roadwork, the Applicant must submit the design plans to the satisfaction of Council and provide a copy of the approved documents to the Certifier for information.

3. A Construction Traffic Management Plan (CTMP) detailing updated construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be prepared for future developments and submitted to and endorsed by Council's Transport Management Section prior to the issue of a Construction Certificate.

The CTMP is to outline the need for a Road Occupancy Permit issued by Council or Road Occupancy Permit issued by the Transport Management Centre.

Works within the road reserve shall not commence until the construction traffic management plan has been endorsed.

### **During construction**

4. All works within the road reserve shall be constructed by the applicant, at no cost to Council, and all signage is to be in accordance with the TfNSW Traffic Control at Worksites Manual and the TfNSW Delineation Guideline.
5. If a works zone is required, an application must be made to Council's Transport Management Section. The application is to indicate the exact location required and the applicable fee is to be included. If parking restrictions are in place, an application to have the restrictions moved, will need to be made.
6. Notice must be given to Council's Transport Management Section of any interruption to pedestrian or vehicular traffic within the road reserve, caused by the construction of this development. A Traffic Control Plan, prepared by a suitably accredited practitioner must be submitted to and approved by Council's Transport Management Section, at least 7 days prior to implementation. This includes temporary closures for delivery of materials, concrete pours etc.
7. Applications must be submitted to and approved by Council's Transport Management Section for any road closures. The applicant is to include a Traffic Control Plan, prepared by a suitably

qualified person, which is to include the date and times of closures and any other relevant information.

8. All the construction vehicles shall enter and exit the site in a forward direction.
9. Parking for all construction workers should be accommodated within the development site.

### **Prior to Occupation**

10. An Operational Traffic Management Plan (OPTM) should be prepared by an accredited practitioner and submitted to and endorsed by Council's Transport Management Section prior to the OC being issued to the subject site. The OPTM is to include measures to identify haulage routes to/from the subject site, pedestrian/cyclist travel routes, traffic and parking management associated with the operation. The OPTM is to include right turn movements from Kelso Crescent to Newbridge Road are restricted for the vehicles to/from the subject site, particularly heavy vehicles during AM and PM peak hours.
11. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority shall ensure that all works associated with a S138 Roads Act approval or S68 Local Government Act approval have been inspected and signed off by Liverpool City Council.
12. All the approved roadworks, traffic control devices, pedestrian crossings, signposting, line marking and street lighting are to be completed to Liverpool Council requirements, at no expense to Liverpool Council or Transport for NSW.
13. Council's on-street assets such as footpath shall be protected at all times. Any damages shall be rectified by the applicant, at no cost to Council, and to Council's satisfaction.

### **Post Occupation**

14. The Operational Traffic Management Plan (OTMP) must be in place and implemented at all times.
15. All loading and unloading must take place on the subject site. Goods and/or waste or extraneous material must not be stored in the vehicular manoeuvrings and parking areas. Those areas must be kept clear at all times for the free movement of vehicles.

## 5. Development Engineering

### General

1. All roadworks, drainage works and dedications, required to affect the consented development shall be undertaken at no cost to Liverpool City Council

### Prior to the issue of a Construction Certificate

2. Prior to the issue of a Construction Certificate a S138 Roads Act application/s, including payment of fees shall be lodged with Liverpool City Council, as the Roads Authority for any works required in a public road. These works may include but are not limited to the following:

- Vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
- Road opening for utilities and stormwater (including stormwater connection to Council infrastructure)
- Road occupancy or road closures

All works shall be carried out in accordance with the Roads Act approval, the development consent including the stamped approved plans, and Liverpool City Council's

Note:. Approvals may also be required from the Transport for NSW (TfNSW) for classified roads.

3. All retaining walls shall be of masonry construction and must be wholly within the property boundary, including footings and agricultural drainage lines. Construction of retaining walls or associated drainage works along common boundaries shall not compromise the structural integrity of any existing structures.

Where a retaining wall exceeds 600mm in height, the wall shall be designed by a practicing structural engineer and a construction certificate must be obtained prior to commencement of works on the retaining wall.

4. A stormwater drainage system (including OSD) shall be provided generally in accordance with the concept plan/s lodged for development approval, prepared by TTW Consulting Engineers, reference number 231204-TTW-11-DR-CV-00041 revision P7, 00051 revision P3, dated 15.09.23.
  - a) The proposed development and stormwater drainage system shall be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties.
  - b) Engineering plans and supporting calculations for the stormwater drainage system are to be prepared by a suitably qualified engineer and shall accompany the application for a Construction Certificate. The plan shall indicate the method of disposal of all stormwater and must include rainwater tanks, existing ground levels, finish surface levels and sizes of all pipes.

Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that the stormwater drainage system has been designed in accordance with Liverpool City Council's Design Guidelines and Construction Specification for Civil Works.

5. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that details of a stormwater pre-treatment system have been provided on the stormwater plans and that the design meets pollutant retention criteria in accordance Council's Development Control Plan.

The Construction Certificate must be supported by:

- Specification & installation details of the stormwater pre-treatment system
- The approval of an operation and maintenance manual/schedule for the stormwater pre-treatment system

A copy of the approved operation and maintenance manual/ schedule shall be submitted to Liverpool City Council with notification of the Construction Certificate issue.

6. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that the stormwater drainage system for the basement car park has been designed in accordance with the requirements for pumped systems in AS3500.3:2003 and Council's Stormwater Drainage Design Specifications for pump out systems for basement carparks.
7. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that vehicular access, circulation, manoeuvring, pedestrian and parking areas associated with the subject development are in accordance with AS 2890.1, AS2890.2, AS2890.6 and Liverpool City Council's Development Control Plan.
8. Prior to the Commencement of Works a dilapidation report of all infrastructure fronting the development in Kelso Crescent & Seton Road is to be submitted to Liverpool City Council. The report is to include, but not limited to, the road pavement, kerb and gutter, footpath, services and street trees and is to extend 20m either side of the development.
9. A full dilapidation survey and report on the visible and structural condition of all neighbouring structures within the 'zone of influence' of the required excavations must be submitted to the Certifying Authority for approval prior to the issue of any Construction Certificate. The zone of influence is to be defined as the horizontal distance from the edge of the excavation face to twice the excavation depth.

The dilapidation report and survey is to be prepared by a consulting structural/geotechnical engineer agreed to by both the applicant and the owner of any affected adjoining property.

All costs incurred in achieving compliance with this condition shall be borne by the person entitled to act on this Consent.

In the event that access for undertaking the dilapidation survey is denied by an adjoining owner, the applicant **MUST DEMONSTRATE**, in writing, to the satisfaction of Council that all reasonable steps have been taken to obtain access and advise the affected property owner of the reason for the survey and that these steps have failed. Written concurrence must be obtained from Council in such circumstances.

10. Note: This documentation is for record keeping purposes only, and may be used by the developer or affected property owner to assist in any action required to resolve any dispute

over damage to adjoining properties arising from the works. It is in the applicant's and adjoining owner's interest for it to be as full and detailed as possible

### **Prior to Commencement of Works**

11. Prior to commencement of works sediment and erosion control measures shall be installed in accordance with the approved Construction Certificate and to ensure compliance with the Protection of the Environment Operations Act 1997 and Landcom's publication "Managing Urban Stormwater – Soils and Construction (2004)" – also known as "The Blue Book".

The erosion and sediment control measures shall remain in place and be maintained until all disturbed areas have been rehabilitated and stabilised.

12. Prior to commencement of works a Traffic Control Plan including details for pedestrian management, shall be prepared in accordance with AS1742.3 "Traffic Control Devices for Works on Roads" and the Roads and Traffic Authority's publication "Traffic Control at Worksites" and certified by an appropriately accredited Roads and Traffic Authority Traffic Controller.

Traffic control measures shall be implemented during the construction phase of the development in accordance with the certified plan. A copy of the plan shall be available on site at all times

Note: A copy of the Traffic Control Plan shall accompany the Notice of Commencement to Liverpool City Council

### **Requirements during Construction**

13. Erosion and sediment control measures shall remain in place and be maintained until all disturbed areas have been rehabilitated and stabilised.
14. Prior to the connection of private drainage to Council's drainage system, an inspection is to be carried out by Liverpool City Council's Development Engineering Unit. A fee will be charged in accordance with Council's adopted Fees and Charges, and is to be paid prior to the inspection.
15. All earthworks shall be undertaken in accordance with AS 3798 and Liverpool City Council's Design Guidelines and Construction Specification for Civil Works.

The level of testing shall be determined by the Geotechnical Testing Authority/ Superintendent in consultation with the Principal Certifying Authority.

### **Prior to the issue of an Occupation Certificate**

16. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority shall ensure that all works associated with a S138 Roads Act approval or S68 Local Government Act approval have been inspected and signed off by Liverpool City Council.
17. Prior to the issue of an Occupation Certificate the Principal Certifying Authority shall ensure that the:

- a) On-site detention system/s
- b) Stormwater pre-treatment system/s
- c) Basement Carpark pump-out system

- Have been satisfactorily completed in accordance with the approved Construction Certificate and the requirements of this consent.
- Have met the design intent regarding any construction variations to the approved design.
- Any remedial works required to be undertaken have been satisfactorily completed.

Details of the approved and constructed system/s shall be provided as part of the Works-As-Executed drawings

18. Prior to the issue of an Occupation Certificate a restriction as to user and positive covenant relating to the:

- a) On-site detention system/s
- b) Stormwater pre-treatment system/s
- c) Basement Carpark pump-out system

Shall be registered on the title of the property. The restriction as to user and positive covenant shall be in Liverpool City Council's standard wording as detailed in Liverpool City Council's Design and Construction Guidelines and Construction Specification for Civil Works.

19. Prior to the issue of an Occupation Certificate, any damage to Council infrastructure not identified in the dilapidation report, because of the development shall be rectified at no cost to Liverpool City Council.

Any rectification works within Kelso Crescent & Seton Road will require a Roads Act application. The application is to be submitted and approved by Liverpool City Council prior to such works commencing.

Any rectification works required by Council regarding the condition of Council infrastructure shall be undertaken, at full cost to the developer.

### **Advisory**

20. Before any excavation work starts, contractors and others should phone "Dial Before You Dig" service to access plans/information for underground pipes and cables. [www.1100.com.au](http://www.1100.com.au)
21. The Liverpool City Council Local Government Area soils and ground water may be subject to varying levels of Salinity. Whilst Council may require applicants to obtain Salinity Reports relating to some developments, no assessment may be made by Council in that regard. Soil and ground water salinity levels can change over time due to varying factors. It is recommended that all applicants make their own independent enquiries as to the appropriate protection against the current and future potential effect of salinity to ensure the ongoing structural integrity of any work undertaken. Liverpool City Council will not accept any liability for damage occurring to any construction of any type affected by soil and ground water salinity.
22. The cost of any necessary adjustments to utility mains and services shall be borne by the applicant.

23. Care shall be taken by the applicant and the applicant's agents to prevent any damage to adjoining properties. The applicant or applicant's agents may be liable to pay compensation to any adjoining owner if, due to construction works, damage is caused to such an adjoining property.

## **6. Flooding**

Taylor Thomson Whitting (TTW) Pty Ltd conducted a flood impact assessment (Reference: 231204 CAAA, Flood Report - Project Marvel, Version 1, dated 08/09/2023) and a stormwater design (Reference: 231204 CAAA, Civil Engineering Report - Project Marvel, Revision 3, dated 11/09/2023). TTW subsequently provided responses to flooding submissions, including a flood emergency response plan (Reference: 231204, Flood Response to Submissions - Project Marvel, dated 21 November 2024).

TTW's response does not adequately demonstrate how the flood compensatory excavation will be implemented. Additionally, the information in the civil engineering report and drawings does not align with the flood compensatory works shown in the TTW response. Therefore, the applicant is requested to submit additional information addressing the following issues:

- The TTW response lacks necessary details of the proposed flood compensatory excavation works. A separate sheet for the flood compensatory excavation must be included in the engineering drawing set, showing the length, width, and depth of the excavation.
- Adequate drainage provisions must be implemented to ensure the flood compensatory excavation area is effectively drained as the floodwater recedes. The engineering drawings must include the necessary details of the drainage arrangement for the flood compensatory excavation area.
- A flood storage volume of 414 cubic meters has been shown within the driveway approaching Seton Road. Only the excavation below the level of 8.45m will provide flood storage volume below the 1% AEP flood. Additionally, the driveway cannot be lower than the Seton Road level. Therefore, the flood storage volume in the driveway should be further reviewed, and calculation details should be included in the report.
- Civil engineering drawings, including Drawing Nos. 231204-TTW-00-DR-CV-00031 and 231204-TTW-00-DR-CV-00041, must be corrected to include the proposed compensatory excavation amendments (Reference: 231204 CAAA, Civil Engineering Report - Project Marvel, Revision 3, dated 11/09/2023).

Our ref: Kelso Crescent Multi-Level Warehouse, Moorebank (SSD-58978472)

Mr Eng Khoon Tan  
Senior Manager  
Mapletree SR Australia Management Pty Ltd  
9.01  
580 George Street  
Sydney NSW 2000  
25 February 2025

---

Subject: Kelso Crescent Multi-Level Warehouse, Moorebank (SSD-58978472) Request for Additional Information

Dear Mr Tan

I refer to the information provided in the Submissions Report (Willowtree Planning, 13 December 2024) for the Kelso Crescent Multi-Level Warehouse, Moorebank (SSD-58978472). After careful consideration, the Department of Planning, Housing and Infrastructure (the Department) is requesting that you provide additional information.

You are requested to submit additional information that effectively addresses the issues identified in Attachment 1.

You are requested to provide the information, or notification that the information will not be provided, to the Department by 31 March 2025. If you cannot meet this deadline or do not intend to provide the additional information, please advise the Department via the NSW planning portal.

If you have any questions, please contact Dave Auster on 9274 6122 or via email at [dave.auster@dpie.nsw.gov.au](mailto:dave.auster@dpie.nsw.gov.au).

Yours sincerely,



Joanna Bakopanos  
Team Leader  
Industry Assessments

## Attachment 1

### Traffic

- Transport for NSW (TfNSW) and Council have raised further concerns in relation to traffic impacts of the development. Please address the issues raised, including in relation to transport mitigation measures to ameliorate the future traffic impacts of the development (see attached TfNSW and Council responses), and provide updated SIDRA files.
- Table 5 *Existing vs Post-development Network Operation – Year 2033* in the Applicant’s Traffic Response (Genesis Traffic, 26 August 2024) indicates the development will significantly increase the average delays for the Newbridge Rd/Kelso Cr intersection in both peaks, particularly in the PM peak, reducing the LOS from D to E and doubling the average delay. The Department and TfNSW require you to identify transport mitigation measures to be implemented to ameliorate this impact.
- The Department is not satisfied with the combined responses to queries in relation to the number of car parking spaces provided on-site, access to public transport, and traffic impacts.
- The Department recognises the justification for limited parking is to discourage excessive private vehicle use. However, in order to access public transport, it is noted pedestrians either have to use a pedestrian crossing 450 metres east on Newbridge Road or possibly a new crossing at Field Close (which would increase walking distance required and still require crossing of Kelso Road).
- Noting that the predicted LOS and average delays on the southern approach of Kelso Road to Newbridge Road, the pedestrian route to the bus stop indicated on page 11 of the Traffic Response would appear to require crossing through heavy queuing traffic during the peak hours. If the proposed parking rates are predicated on access to public transport the application must demonstrate safe and convenient access can be provided.

### Flooding

- Conservation Programs, Heritage and Regulation (CPHR) Group (formerly Biodiversity, Conservation and Science (BCS) Group) of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), and Council, have raised further concerns with the information provided in relation to flooding. Please review the attached responses, and provide further information to address the issues raised.

### Urban Design/Landscaping

- Please note the Department has requested clarification from Council with regard to its original comments on design of the building, landscaping, and new requirements for public art. The Department will contact you once a response has been received from Council.

3 February 2025

TfNSW Reference: SYD24/01042/02  
Reference: SSD-58978472



Ms. Kirsten Fishburn  
Secretary  
Department of Planning, Housing, and Infrastructure  
Locked Bag 5022  
Parramatta NSW 2124

---

**RESPONSE TO SUBMISSIONS FOR MULTI LEVEL WAREHOUSE DISTRIBUTION CENTRE  
20 KELSO CRESCENT, MOOREBANK**

Dear Ms Fishburn,

Thank you for providing Transport for NSW (**TfNSW**) an opportunity to comment on the Response to Submissions (**RtS**) for the proposed multi-level warehouse distribution centre at 20 Kelso Crescent, Moorebank.

TfNSW has reviewed the submitted RtS and advises the following:

- The proposed revised information has been updated to reflect the correct traffic generation rates as previously requested by TfNSW.
- The revised modelling has identified the performance levels of the intersections on Heathcote Road and Newbridge Road as a network.
- The SIDRA Files for the revised modelling were not provided within the RtS for verification by TfNSW.

As such, TfNSW is unable determine the extent of impacts to network as the electronic SIDRA files were not provided to TfNSW for review and verification.

TfNSW also advises the Department that the application does not propose any transport network mitigation measures, even with a documented degradation in the Level of Service (**LoS**) of the Newbridge Road/Kelso Crescent when the development is operational. The Applicant's RtS Traffic response states that *"by 2033, the south approach of Kelso Crescent at its intersection with Newbridge Road will fail under the AM peak background traffic demand. With the development intuitively, this critical approach will continue to fail"*.

This may result in network safety and efficiency issues on Newbridge Road (**classified road**) and Kelso Crescent (**local road**). TfNSW recommends that the electronic SIDRA files are provided to TfNSW for review and verification, but also some suggested mitigation measures to ameliorate the future impact of the development which has been acknowledged by the Applicant.

If you have any further questions regarding the above matter, James Douglas, Land Use Planner, would be pleased to take your call on (02) 9983 3987 or via email at [development.sydney@transport.nsw.gov.au](mailto:development.sydney@transport.nsw.gov.au).

Yours sincerely,

A handwritten signature in black ink that reads "BEPeg".

**Brendan Pegg**  
Senior Manager Land Use Assessment Central and Western  
Transport Planning, Planning, Integration and Passenger Division



Empowering Developments