STOCKLAND ROCKHAMPTON

PROPOSED SUPERMARKET DEVELOPMENT APPLICATION

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/66-2022

Dated: 2 November 2022

DRAWING SCHEDULE

	Document Title
DA000	COVER SHEET
DA001	EXISTING OVERALL SITE PLAN
DA002	OVERALL SITE PLAN
DA003	GROUND FLOOR PLAN
DA004	ROOF PLAN
DA005	DETAIL FLOOR PLAN
DA020	LANDSCAPING PLAN
DA030	SUNSHADING DIAGRAM PLAN
DA031	MATERIALS PALETTE
DA040	ELEVATIONS
DA041	ELEVATIONS
DA042	SECTION
DA050	PERSPECTIVES
DA051	PERSPECTIVES
DA052	PERSPECTIVES
DA053	PERSPECTIVES
DA054	PERSPECTIVES
DA055	PERSPECTIVES
DA056	PERSPECTIVES

Stockland

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REVISION:
A PRELIMINARY ISSUE 15.02.22
B PLANT DECK AMENDED 18.03.22

STATUS: Sketch
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **COVER SHEET**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_000_B_3

ROCKHAMPTON REGIONAL COUNCIL

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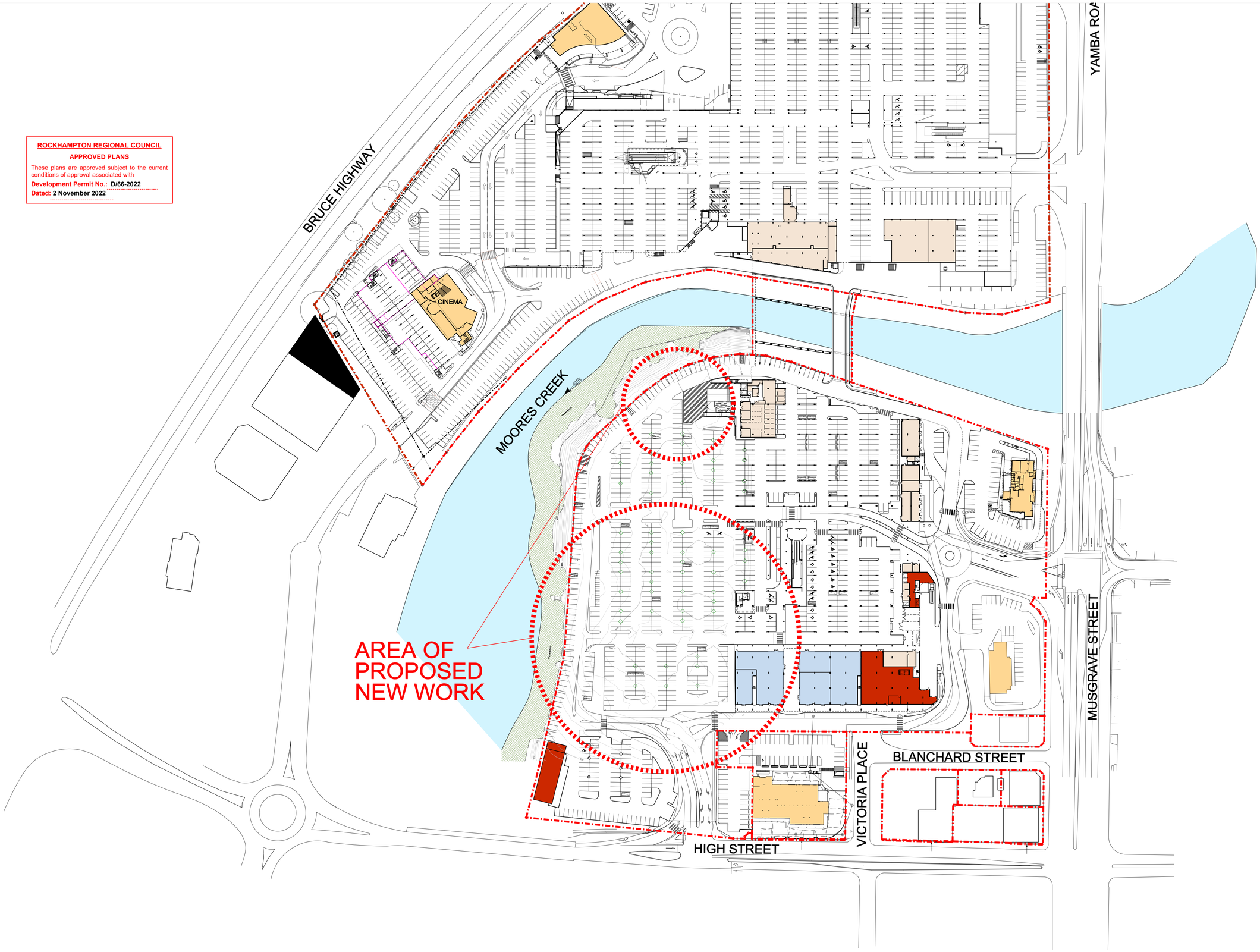

Stockland

Commercial Design Group

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Ph : 02 9035 2000
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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA

AUTHOR: MB

DATE: 15.02.22

SCALE: 1:1000 @ A1

0m 20m 40m 60m 80m

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
EXISTING OVERALL SITE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_001_A_3

ROCKHAMPTON REGIONAL COUNCIL

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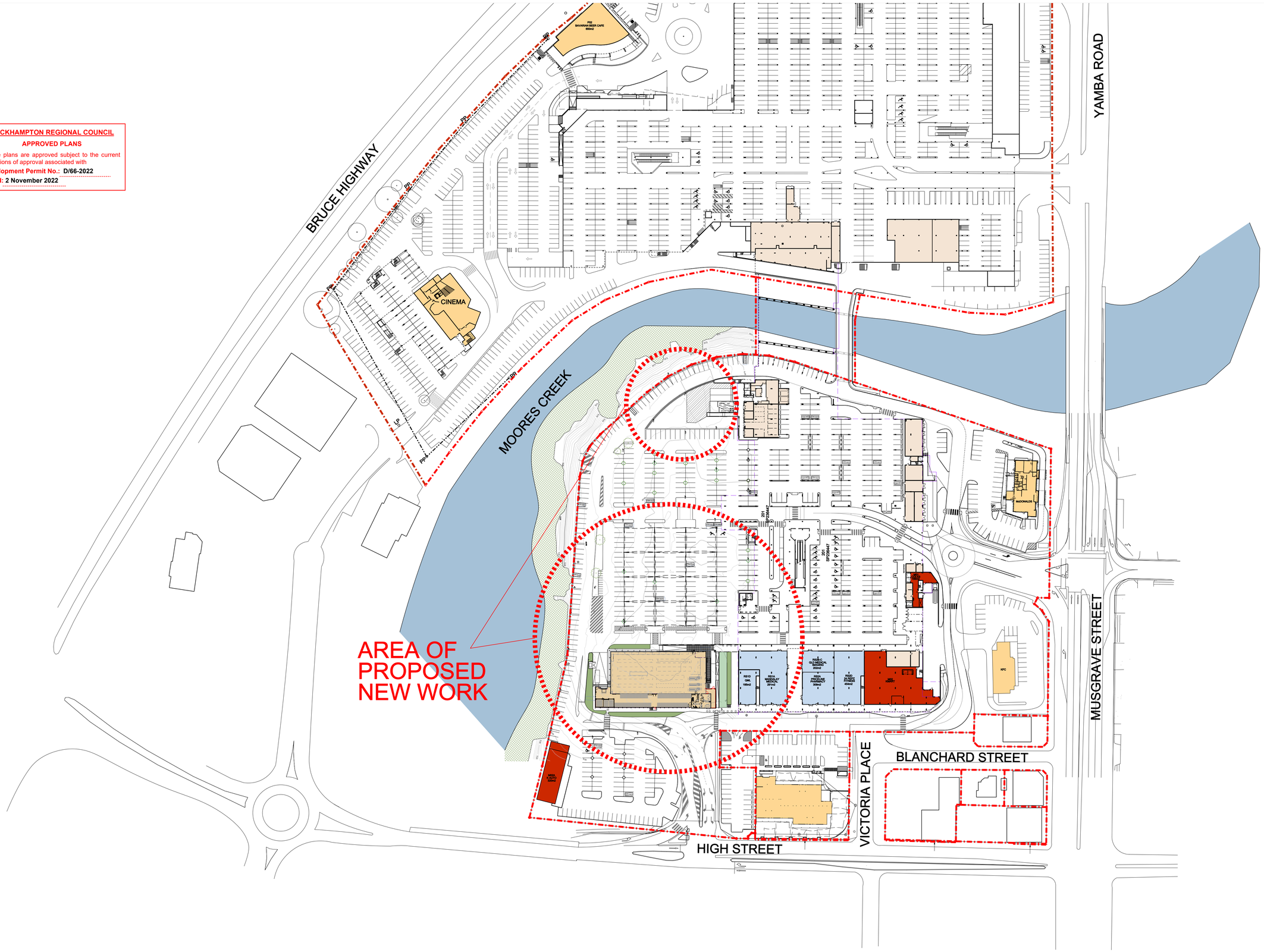
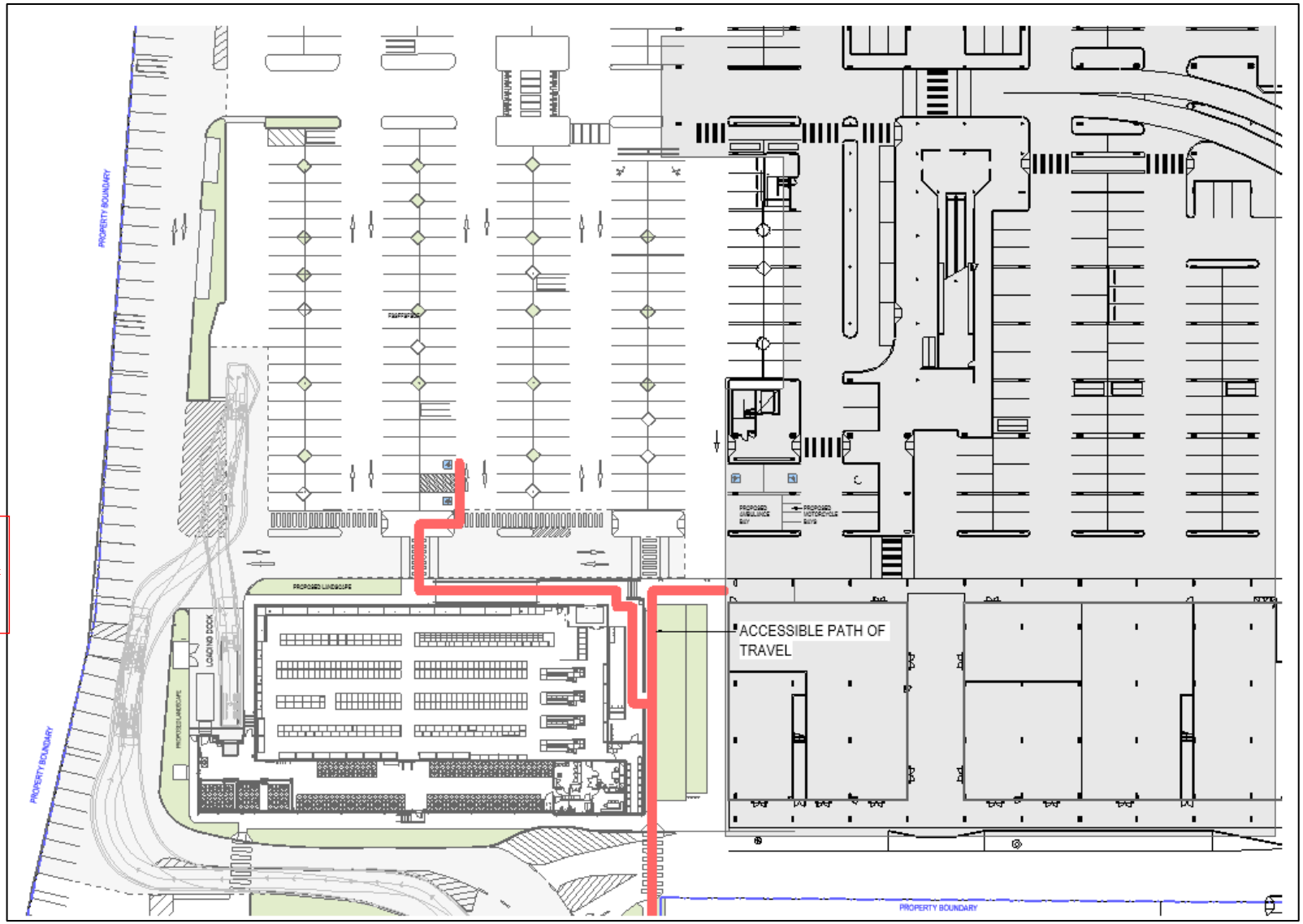


Stockland	Commercial Design Group Level 25 Castlereagh Street Sydney NSW 2000 Ph : 02 9035 2000 Fax: 02 8988 2000		REVISION: A PRELIMINARY ISSUE 15.02.22 B TRAFFIC LAYOUT ADDED 28.02.22	STATUS: DA AUTHOR: MB DATE: 15.02.22 SCALE: 1:1000 @ A1 0m 20m 40m 60m 80m	PROJECT: **Stockland ROCKHAMPTON** 120-331 Yaamba Road, North Rockhampton QLD 4701 TITLE: **OVERALL SITE PLAN**	PROJECT NUMBER: **20-05-12-RO** DEVELOPMENT APPLICATION DRAWING NUMBER: **DA_002_B_3**	



Part Site Plan: The main internal pedestrian pathway (red line) from the PWD parking bays past the Aldi shopping centre entrance and through to the pedestrian link / line of scope of building works.

SCHEDULE OF AREAS

EXISTING GLA:	58,397 m²
EXISTING CARPARKING:	2,829 CARS
NEW SUPERMARKET GLA	+1725 m²
TOTAL CENTRE GLA:	60,122 m²
CARPARKING LOST:	-123 CARS
TOTAL CARPARKING:	2,706 CARS

ROCKHAMPTON REGIONAL COUNCIL

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Dated: 2 November 2022

01 / 40

01 / 42

PROPOSED SHADESAILS OVER DOTTED

CLICK & COLLECT PARKING BAYS

LOADING STANDBY

LANDSCAPED GARDEN

RAMP

LOADING & SERVICE

SUPERMARKET

BOH

TROLLEYS

RAMP

PLAZA

LANDSCAPED GARDEN

RAMP

LANDSCAPED GARDEN

LANDSCAPED GARDEN

02 / 41

01 / 41

02 / 40

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G

3600 6620 6440 6237 3782 7660 480 — 34862

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670 — 66292

Stockland

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REVISION:
A PRELIMINARY ISSUE 15.02.22
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STATUS: DA

AUTHOR: MB

DATE: 15.02.22

SCALE: 1:500 @ A3

0m 5m 10m 15m 20m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **GROUND FLOOR PLAN**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_003_B_3

PROPOSED NEW SHADE SAILS

SUN SHADES

BOX GUTTER

ROOF PLANT ENCLOSURE

FASCIA GUTTER

3600 6620 6440 6237 3782 7660 480 = 34862

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670 = 66292

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C	PLANT DECK AMENDED	18.03.22

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DATE: 15.02.22

SCALE: 1:500 @ A3

0m 5m 10m 15m 20m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **ROOF PLAN**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_004_C_3

LOADING STANDBY

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

RAISED CROSSING

RAISED CROSSING

NEW COVERED LINK ROOF OVER DOTTED

800 DIA CONC BOLLARDS

02 / 41

01 / 40

RL 13.440

RL 13.480

RL 13.430

RL 13.000

RL 14.170
LANDSCAPED GARDEN

RL 14.390

RL 14.360

1:20 RAMP

RL 14.190

RL 14.150

RL 14.150

RL 14.320

RL 13.170

RL 13.460

RL 13.790

RL 13.870

RL 14.900

1 2 3 4 5 6 7 8 9 10 11 12 13 14

H G F E D D1 C B A

3600 6620 6483 34862 6237 3782 7660 480

ROCKHAMPTON REGIONAL COUNCIL

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SUPERMARKET

RETAIL FLOOR AREA

AIR LOCK

TROLLEY STORE

BIN STORE

SERVICE ZONE

COMPACTOR

LOADING ZONE

RL -13.550

LOADING DOCK

FREEZER

CHILLER

WAREHOUSE

SWITCH ROOM

OFFICE

STAFF ROOM

AMB

PWD

CLICK & COLLECT STORE

BIKE RACKS

1:14 RAMP

1:14 RAMP

1:20 RAMP

PLAZA

LANDSCAPED GARDEN

LANDSCAPED GARDEN

LANDSCAPED GARDEN

EXISTING RETAIL

LP

LP

LP

FH

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670

66292

02 / 40

01 / 42

01 / 41

Stockland Level 25 Castlereagh Street Sydney NSW 2000 Ph : 02 9035 2000 Fax: 02 8988 2000		REVISION: A PRELIMINARY ISSUE 15.02.22 B TRAFFIC LAYOUT ADDED 01.03.22	STATUS: DA AUTHOR: MB DATE: 15.02.22 SCALE: 1:250 @ A3 0m 2.5m 5m 7.5m 10m	PROJECT: **Stockland ROCKHAMPTON** 120-331 Yaamba Road, North Rockhampton QLD 4701 TITLE: **SUPERMARKET DETAIL PLAN**	PROJECT NUMBER: 20-05-12-RO DEVELOPMENT APPLICATION DRAWING NUMBER: DA_005_B_3	

LEGEND - LANDSCAPE

EXISTING TREES TO BE RETAINED

EXISTING TREES TO BE REMOVED

DENSE LOW LEVEL LANDSCAPING

GRASS LAWN

IMPERVIOUS AREAS

EXISTING IMPERVIOUS AREA
9730m2 - 347m2 LANDSCAPE = 9383m2

PROPOSED IMPERVIOUS AREA
9730m2 - 456m2 LANDSCAPE = 9274m2

NETT IMPERVIOUS AREA LOST = 109m2

ROCKHAMPTON REGIONAL COUNCIL

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Dated: 2 November 2022

01 LANDSCAPE PLAN

1:500

Stockland

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REVISION:

A	PRELIMINARY ISSUE	15.02.22
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C	IMPERVIOUS AREAS CALCULATED	15.03.22

STATUS:	AUTHOR:	DATE:
DA	MB	15.02.22

SCALE: 1:500 @ A3

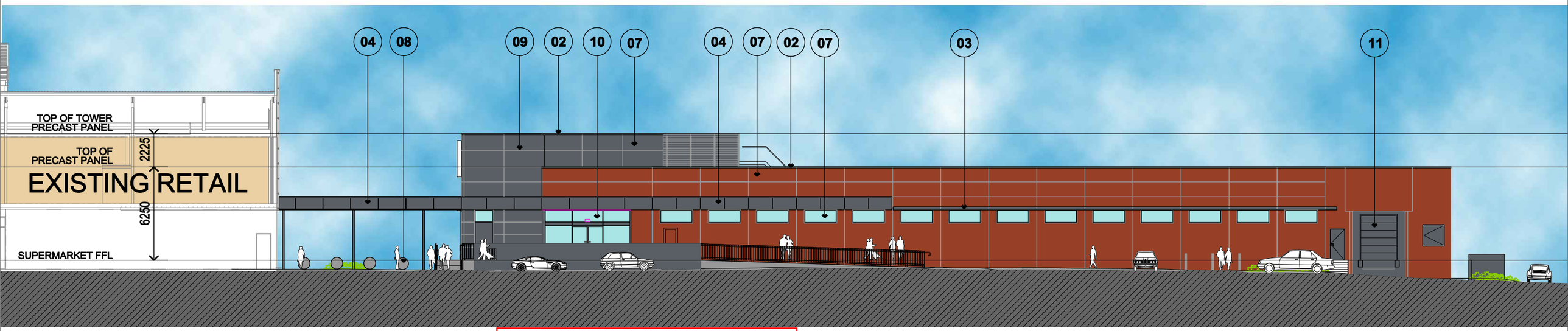
0m 5m 10m 15m 20m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **LANDSCAPE PLAN**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_020_C_3



01 NORTH ELEVATION
1:250

ROCKHAMPTON REGIONAL COUNCIL

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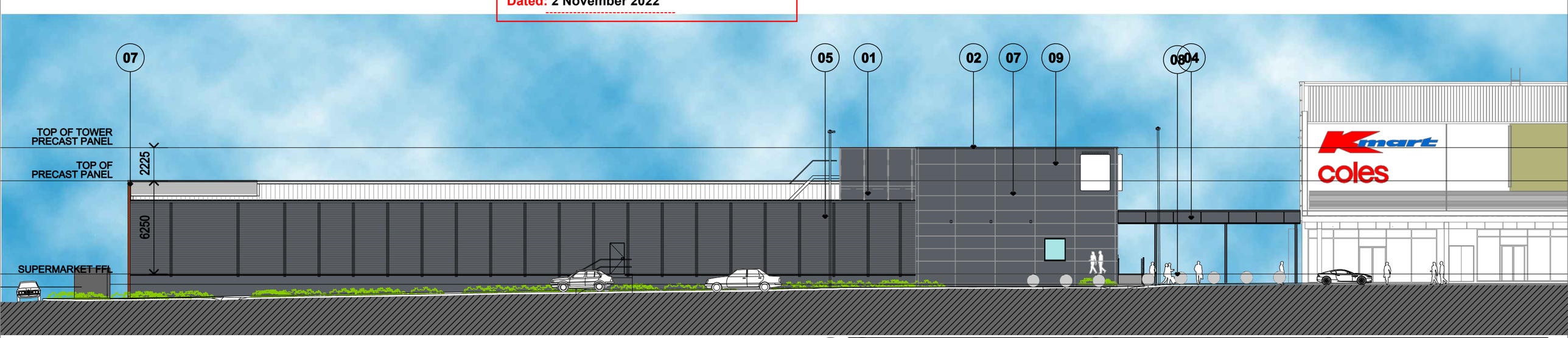

02 SOUTH ELEVATION
1:250

LEGEND

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE - PAINT FINISH	11	ROLLERSHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

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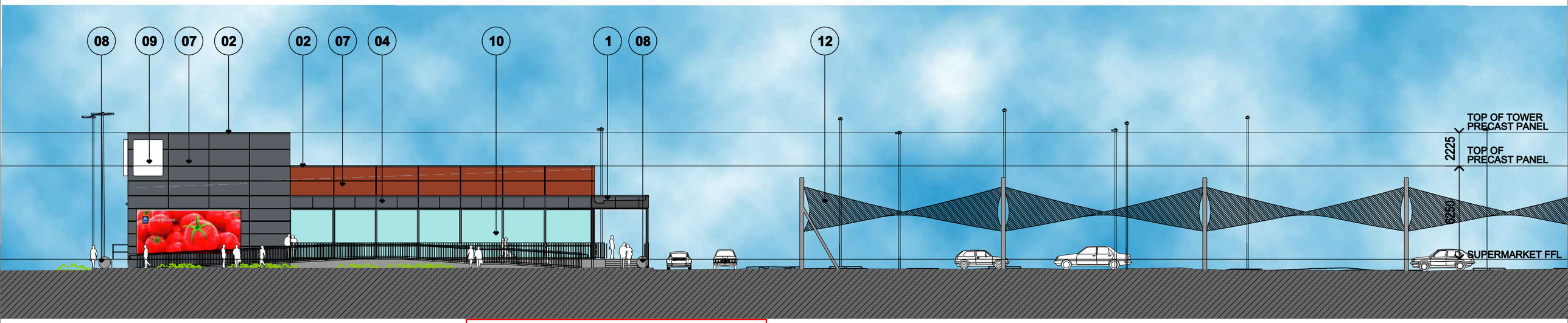
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_040_B_3



01 EAST ELEVATION
1:250

ROCKHAMPTON REGIONAL COUNCIL

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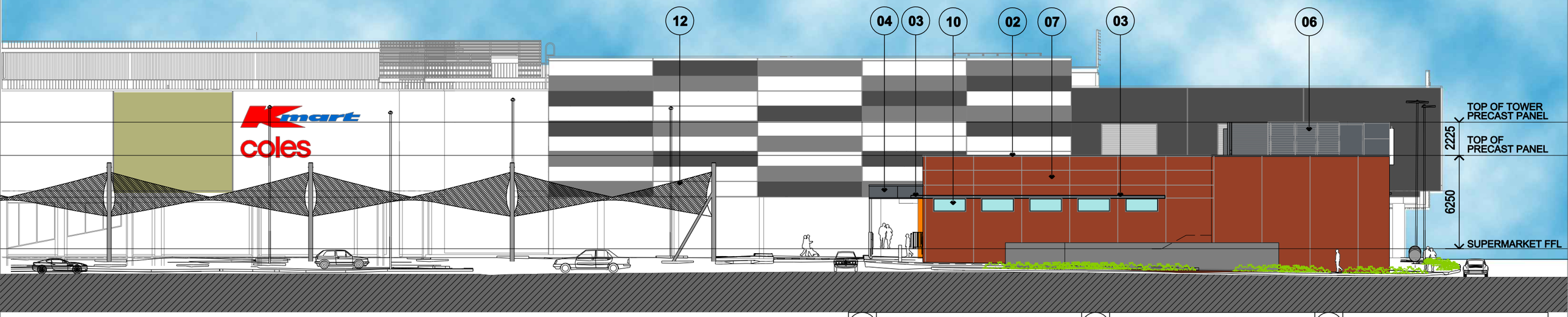

02 WEST ELEVATION
1:250

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE - PAINT FINISH	11	ROLLERSHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

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SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_041_A_3

FLOOD HAZARD OVERLAY CODE ASSESSMENT REPORT

SUPERMARKET - STOCKLAND ROCKHAMPTON

3 March 2022

STORM Water Consulting Pty Ltd
ACN 105 078 377
5/541 Old Cleveland Rd, CAMP HILL QLD 4152
Ph (07) 3398 4992 Fax (07) 3398 4993
www.stormw.com.au

Job No: J8700 v1.0

Job Name: Supermarket - Stockland Rockhampton

Report Name	Date	Report No.
Flood Hazard Overlay Code Assessment Report	3 March 2022	J8700 v1.0

Project Engineer: Jack Hu
BE Civil (Hons), MIEAust
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Reviewed By: Darren Rogers
BE Civil (Hons), MIEAust, RPEQ 5016
Director
E darren@stormw.com.au

Table of Contents

1.0 INTRODUCTION

Storm Water Consulting Pty Ltd was commissioned by Stockland to complete a Flood Hazard Overlay Code Assessment Report for the proposed supermarket at Stockland Rockhampton (120-331 Yaamba Road, North Rockhampton).

This report has been prepared to assess the extent of flooding on the subject site and the potential impacts of the proposed development. This report addresses the relevant sections of the Flood Hazard Overlay Code. This code forms part of the Rockhampton Region Planning Scheme 2015.

2.0 SITE CONDITIONS

2.1 Existing Site

The location of the proposed supermarket is shown in Figure 2.1 below, located west of the southern shopping centre building. The area on which the development is proposed is currently a bitumen open-air carpark. The shopping centre is susceptible to flooding from Moores Creek. Moores Creek is located approximately 50 metres west of the proposed supermarket location.

Figure 2.1 – Locality Plan

2.2 Developed Site

A supermarket is proposed to be constructed within the location shown in Figure 2.1 above. The proposed works involve a new building constructed slab on fill. Development plans are presented in Appendix C.

3.0 MOORES CREEK FLOOD STUDY

Rockhampton Regional Council (RRC) recently completed a flood study of Moores Creek in 2017 and published the draft findings in the *Moores Creek Local Catchment Study*. The defined flood event for commercial developments is the 1% AEP (1 in 100 year ARI) flood event. The 1% AEP flood results were sourced from RRC and are presented below.

Figure 3.1 – 1% AEP Flood Levels (metres AHD)

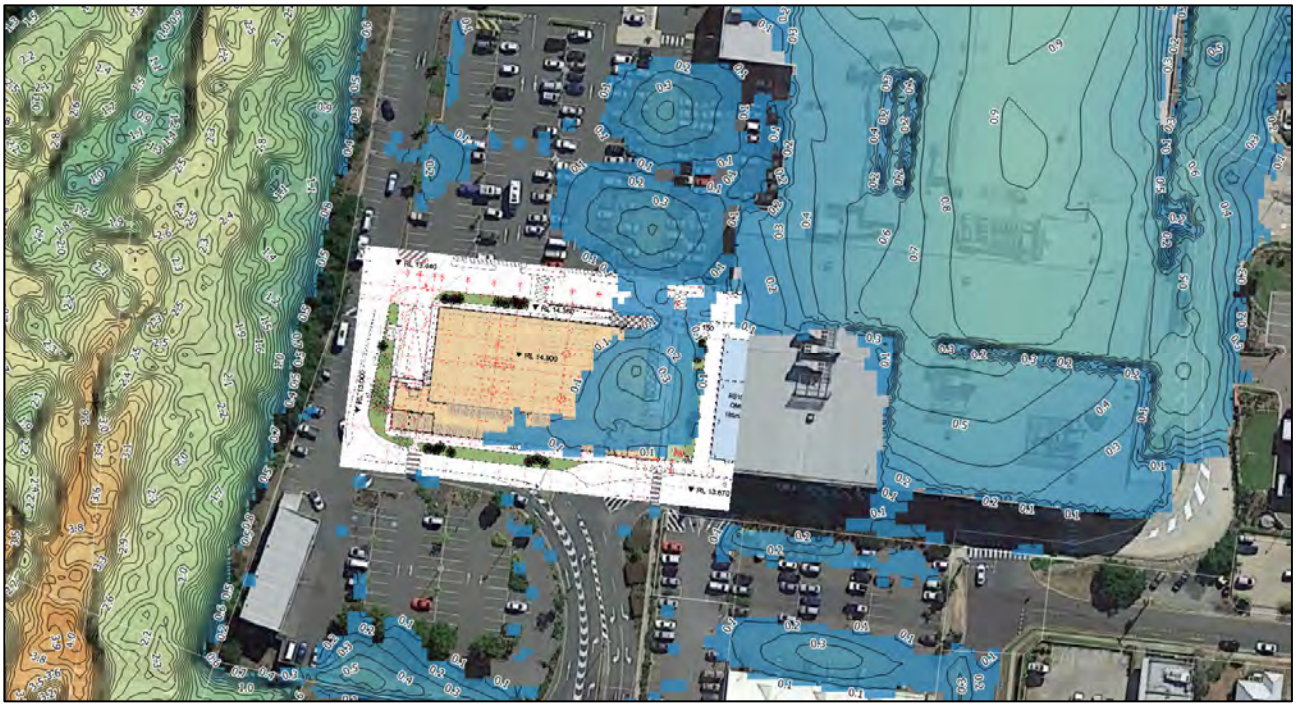


Figure 3.2 – 1% AEP Flood Depths (metres)

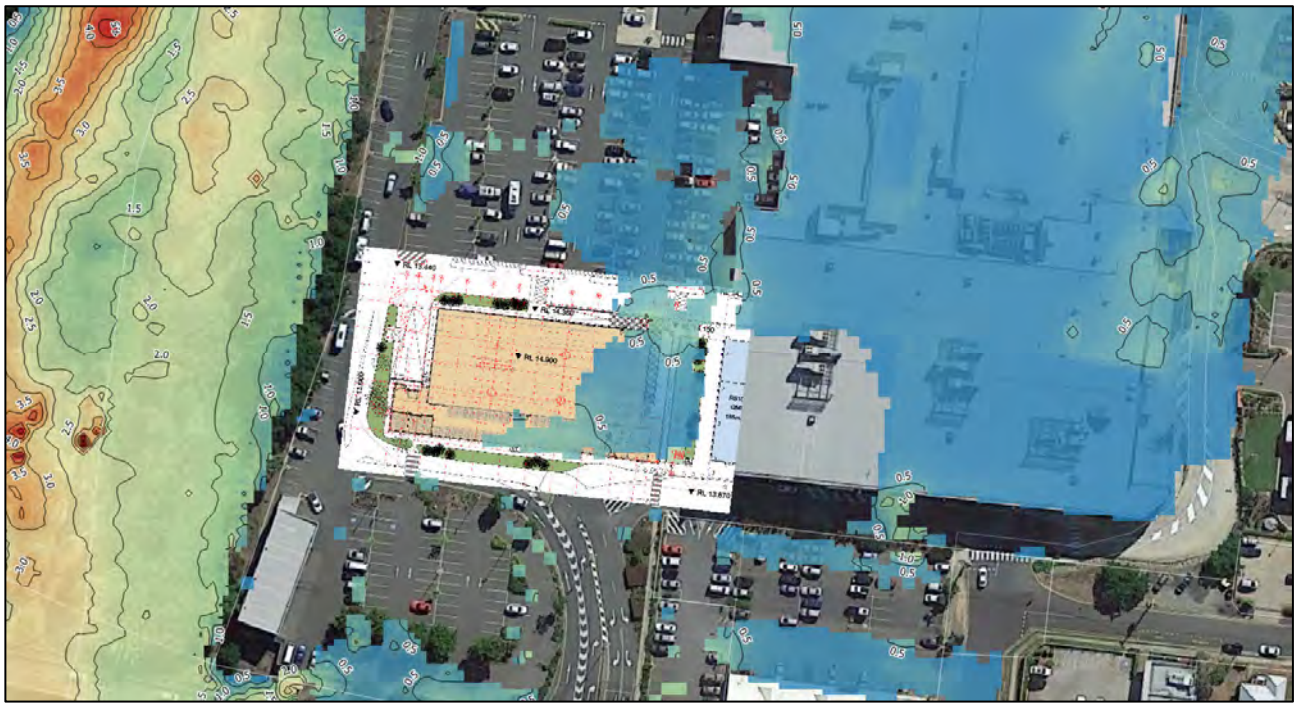


Figure 3.3 – 1% AEP Flood Velocities (m/s)

The XP-RAFTS model of Moores Creek was sourced from Council. The model sub-areas were used to form the basis for an URBS model. The URBS model was set up to generate an inflow hydrograph for input into TUFLOW. The URBS model setup, parameters and results are presented in Section 4.0.

The TUFLOW model of Moores Creek was sourced from Council. The model was truncated to around the shopping centre to assess the potential impacts of the supermarket on creek flooding. The TUFLOW model setup, parameters and results are presented in Section 5.0.

4.0 HYDROLOGIC MODELLING

The URBS sub-areas contributing to Moores Creek are presented below, as well as in Figure 1, Appendix A (based on Council's XP-RAFTS model sub-area setup). The total catchment flowing toward High Street (downstream end of the site) is 2680 ha in area. URBS data files are presented in Appendix D. A summary of the adopted URBS parameters is presented in Table 4.1 below.

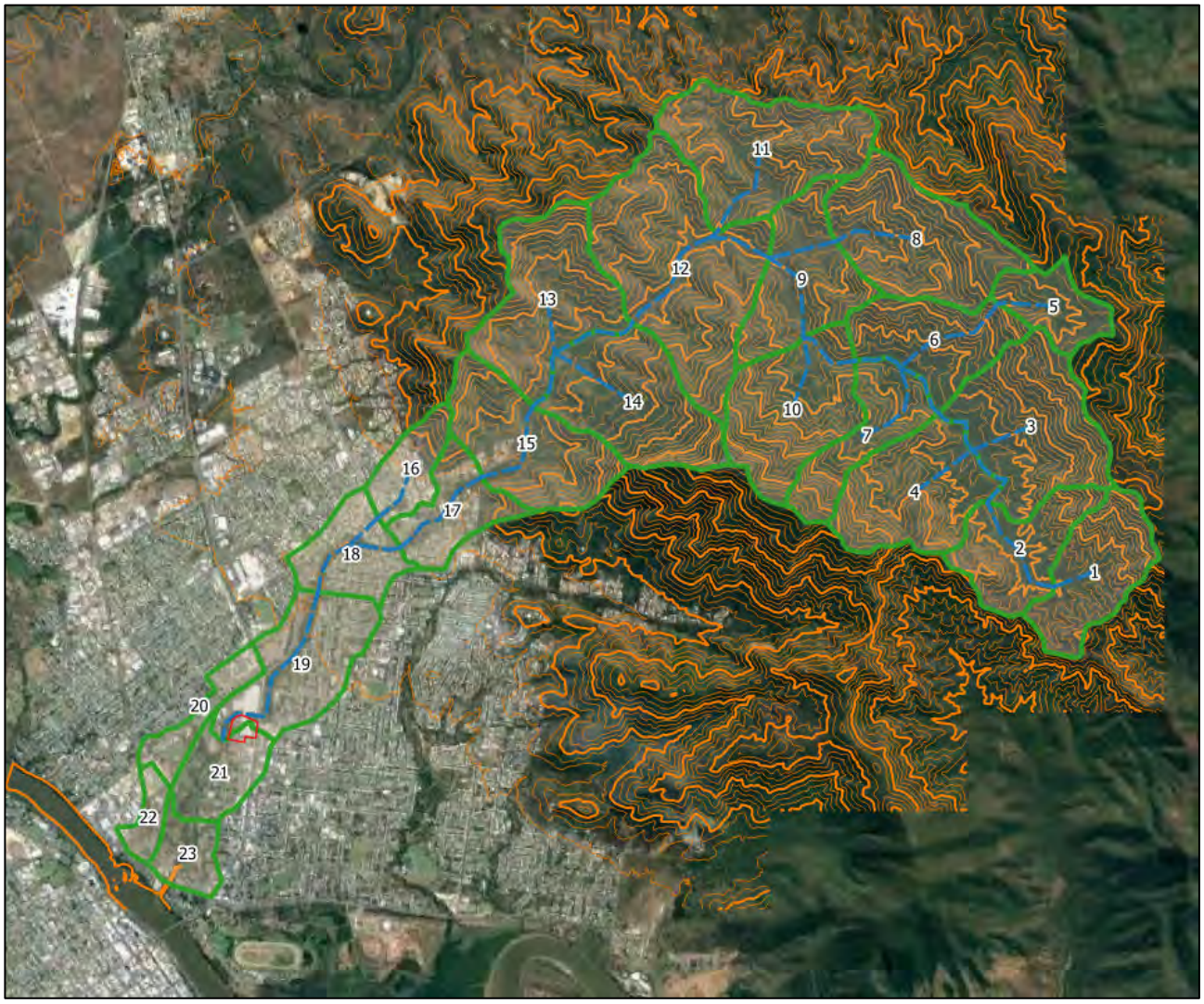


Figure 4.1 – URBS Schematic Layout

Table 4.1 – Catchment URBS Model Parameters

AEP	Storage Coefficient	Non-Linearity Index	Initial Rainfall Loss	Continuing Rainfall Loss
%	α	β	mm	mm/hr
1	0.85	0.8	15	2.5

The URBS model peak 1% AEP catchment runoff immediately downstream of sub-area #19 (High Street), adopting the model parameters in Table 4.1, is 350 m^3/s. This flow compares favourably with the Council's XP-RAFTS flow at High Street of 359 m^3/s (sourced from *Moores Creek Local Catchment Study*).

The critical storm duration for the 1% AEP event is the 12-hour storm. The peak 1% AEP hydrograph is shown below. This hydrograph was input into TUFLOW.

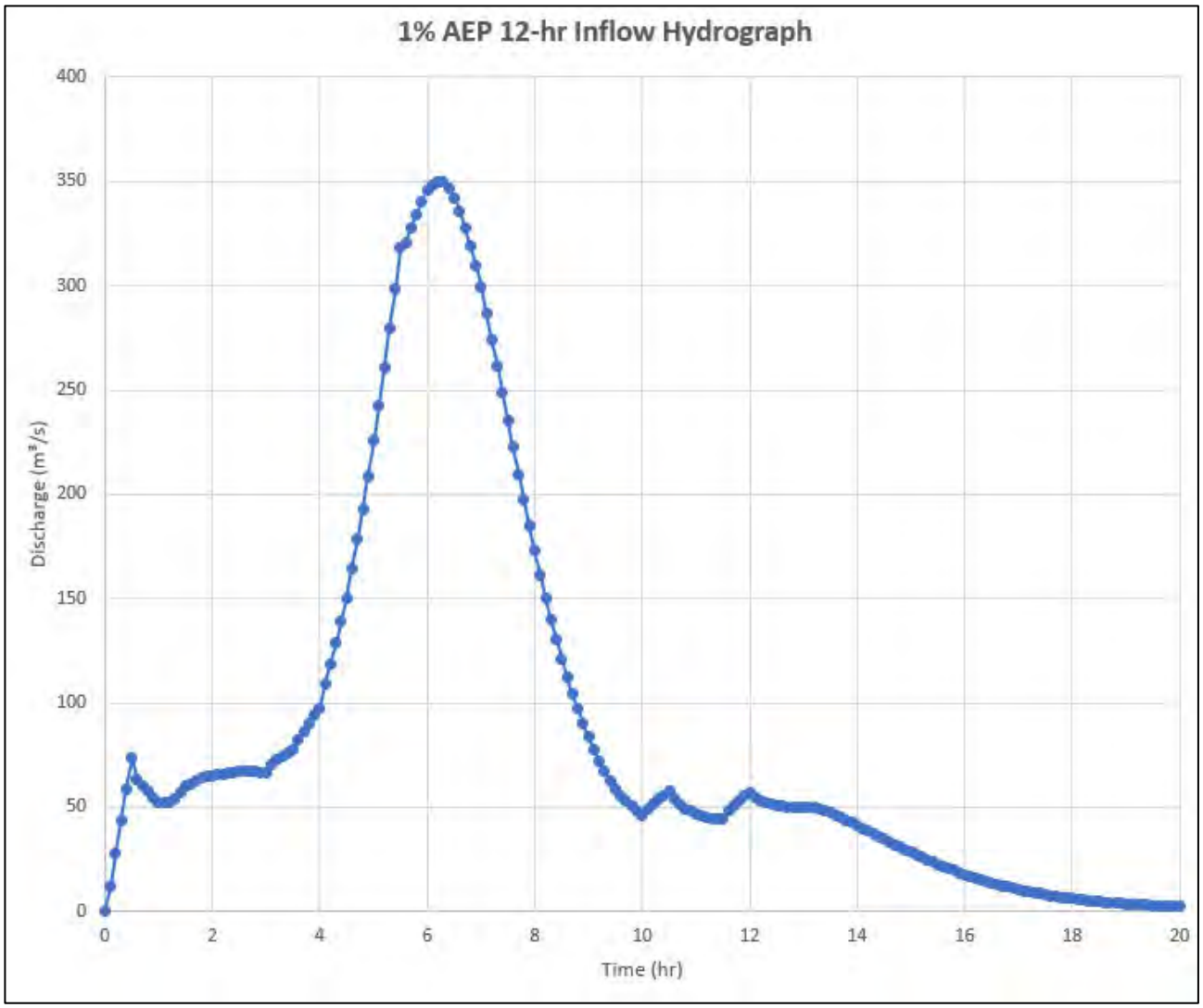


Figure 4.2 – Inflow Hydrograph

5.0 HYDRODYNAMIC MODELLING

The TUFLOW model of Moores Creek was sourced from Council. The model was truncated to around the shopping centre to assess the potential impacts of the supermarket on creek flooding. The existing and developed model setup, results and comparisons are presented in the following sections.

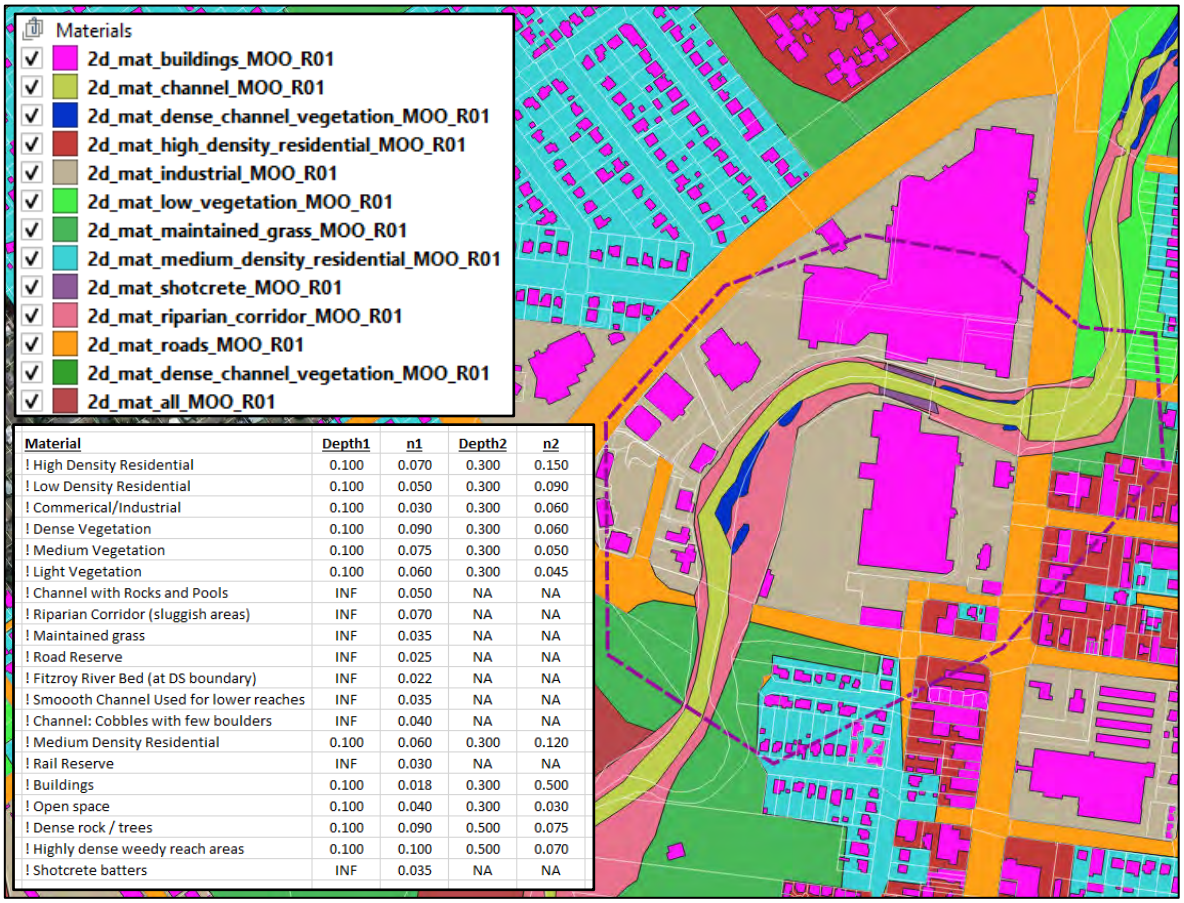
5.1 TUFLOW Model Setup – Existing

Figure 5.1 – Existing Model Extents

A schematic of the existing TUFLOW model setup is presented above (detailed version in Figure 2, Appendix A). The Digital Elevation Model (DEM) was based on the DEM contained within the Moores Creek Flood Study, which included DEMs of the northern and southern undercroft carparks of the shopping centre. Detailed survey of the childcare centre site (located on the southern side of the site), as well as the open-air carpark (located on the western side of the site) were included. The DEM consists of 3 metre cell sizes, which matches the grid size of the Moores Creek Flood Study.

Existing obstructions, such as storage areas, landings and elevator shafts were included as raised elevation polygons (2d_zsh and 2d_z). Existing upstream/downstream bridges and crossings, including the shopping centre crossing/connection spanning Moores Creek, were modelled using layered flow constriction layers (2d_lfcsh) with properties sourced from the Moores Creek Flood Study.

The Manning's roughness coefficients within the Moores Creek Flood Study were adopted in the TUFLOW model. The adopted values are shown below. For flow depths less than *Depth1*, a value of *n1* was assigned. For flow depths more than *Depth2*, a value of *n2* was assigned. Assigned values between *Depth1* and *Depth2* were interpolated between the values of *n1* and *n2*.



Material	Depth1	n1	Depth2	n2
! High Density Residential	0.100	0.070	0.300	0.150
! Low Density Residential	0.100	0.050	0.300	0.090
! Commerical/Industrial	0.100	0.030	0.300	0.060
! Dense Vegetation	0.100	0.090	0.300	0.060
! Medium Vegetation	0.100	0.075	0.300	0.050
! Light Vegetation	0.100	0.060	0.300	0.045
! Channel with Rocks and Pools	INF	0.050	NA	NA
! Riparian Corridor (sluggish areas)	INF	0.070	NA	NA
! Maintained grass	INF	0.035	NA	NA
! Road Reserve	INF	0.025	NA	NA
! Fitzroy River Bed (at DS boundary)	INF	0.022	NA	NA
! Smoooth Channel Used for lower reaches	INF	0.035	NA	NA
! Channel: Cobbles with few boulders	INF	0.040	NA	NA
! Medium Density Residential	0.100	0.060	0.300	0.120
! Rail Reserve	INF	0.030	NA	NA
! Buildings	0.100	0.018	0.300	0.500
! Open space	0.100	0.040	0.300	0.030
! Dense rock / trees	0.100	0.090	0.500	0.075
! Highly dense weedy reach areas	0.100	0.100	0.500	0.070
! Shotcrete batters	INF	0.035	NA	NA

Figure 5.2 – Materials Layer

The downstream boundary condition was set as a height-discharge (HQ) boundary based on the Moores Creek Local Catchment Study 1% AEP flood slope. The inflow into the model was based on a discharge-time (QT) inflow utilising the hydrograph presented in Figure 4.2. The existing model was run with a timestep of 1 second for a period of 9 hours. The results of the existing TUFLOW are presented in the following section, as well as in Figures 3 to 6, Appendix A.

5.2 TUFLOW Model Results – Existing

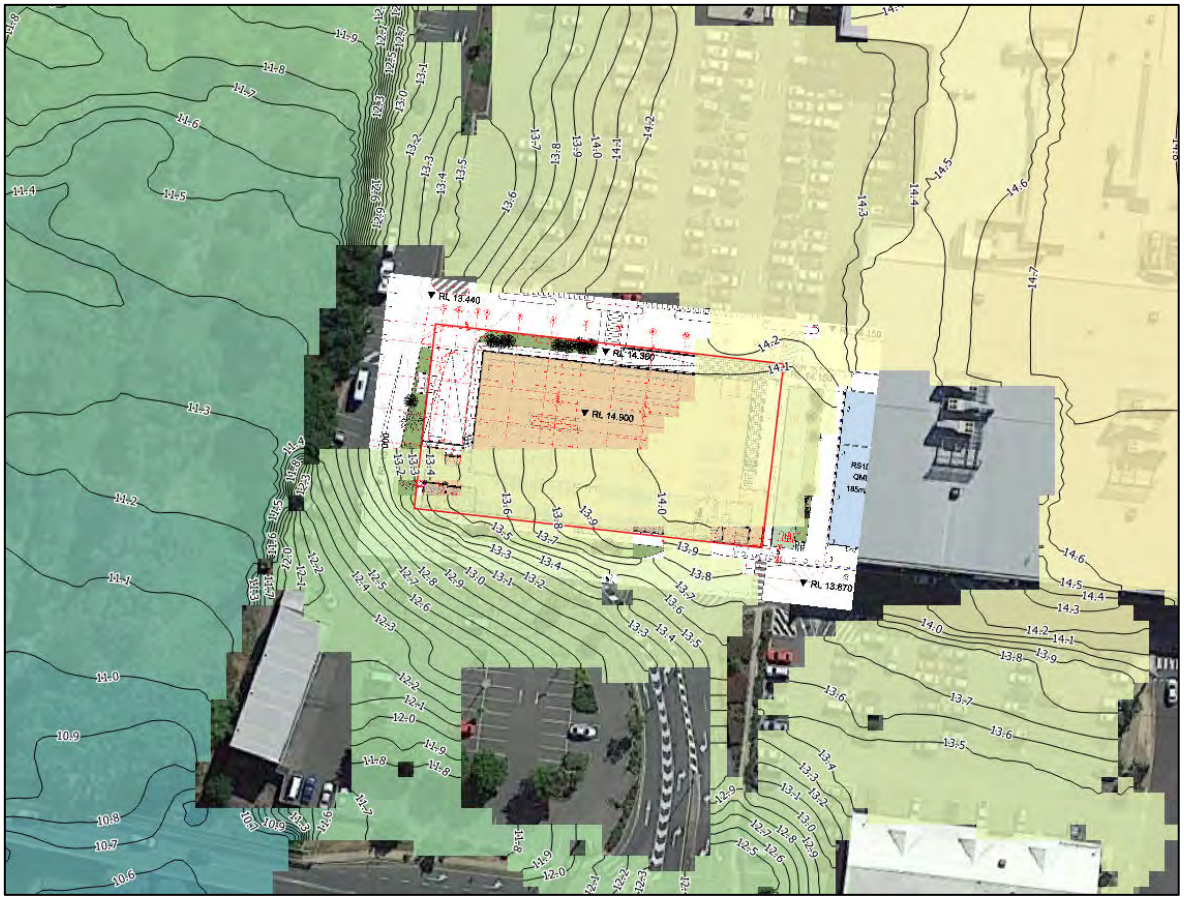


Figure 5.3 – Existing 1% AEP Inundation Levels (metres AHD)

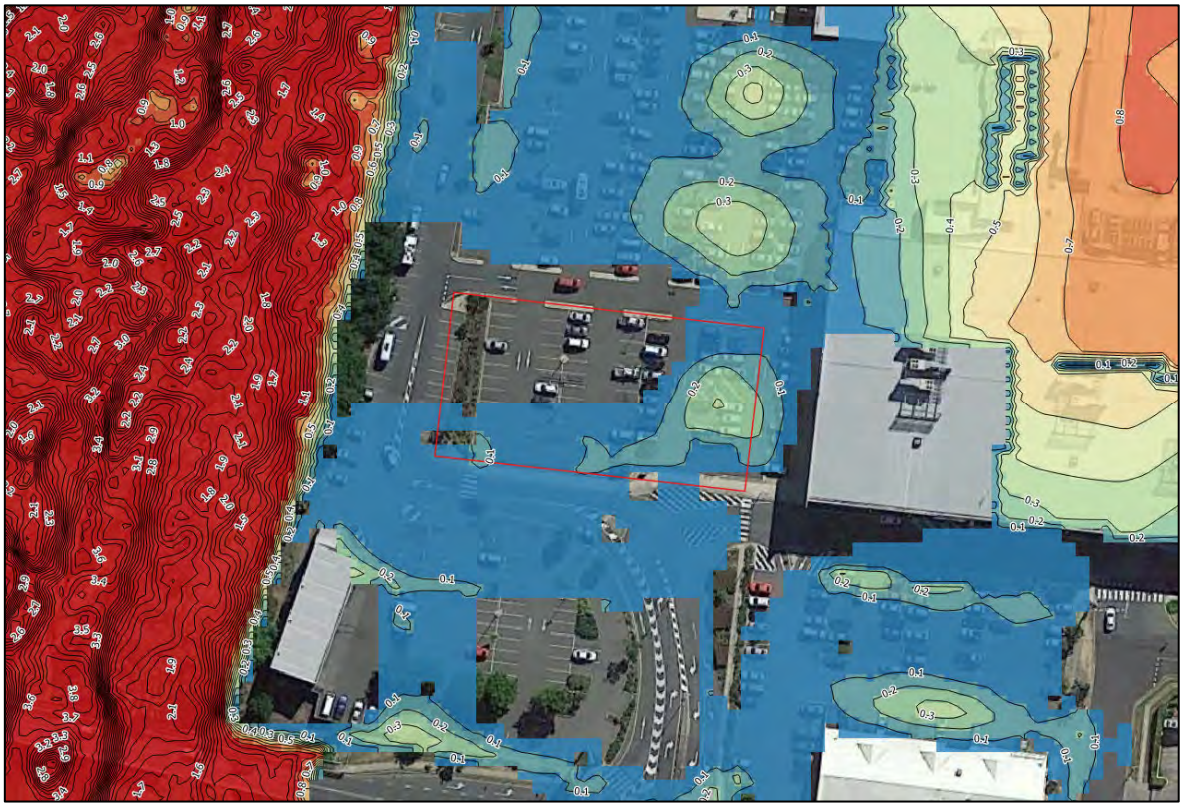


Figure 5.4 – Existing 1% AEP Inundation Depths (metres)

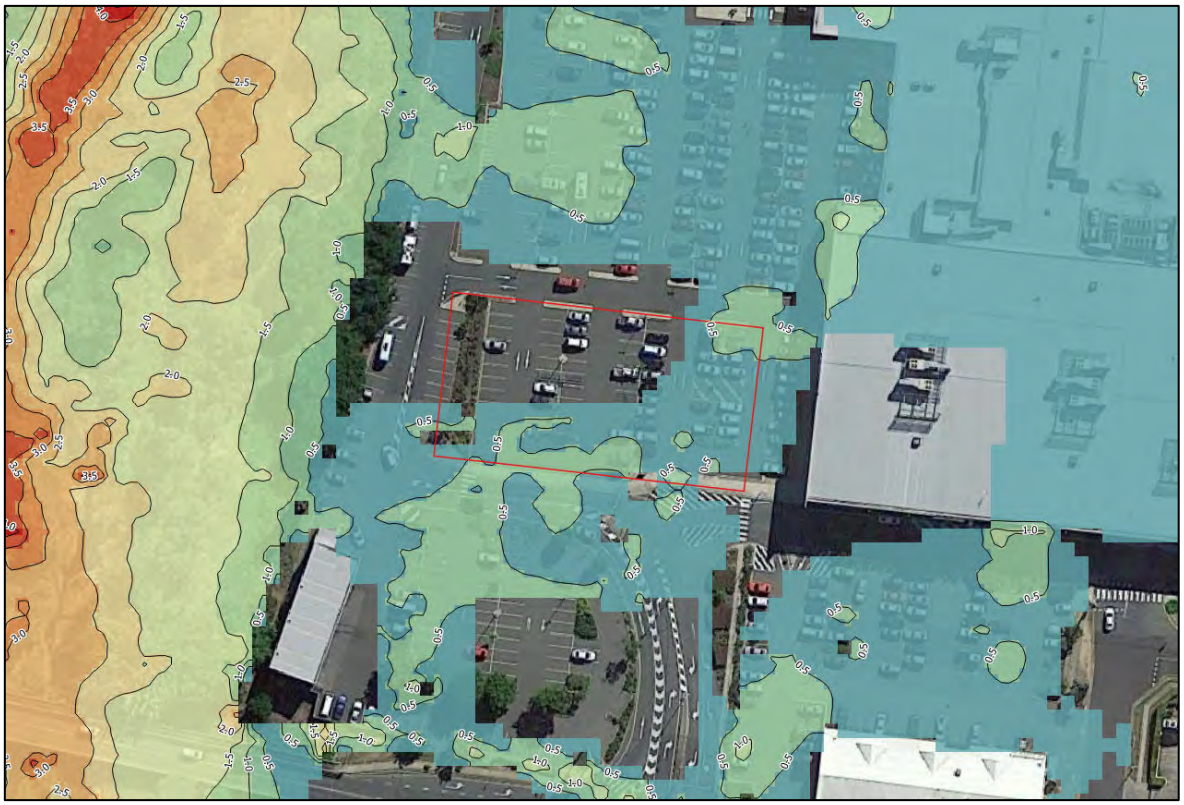


Figure 5.5 – Existing 1% AEP Velocities (m/s)

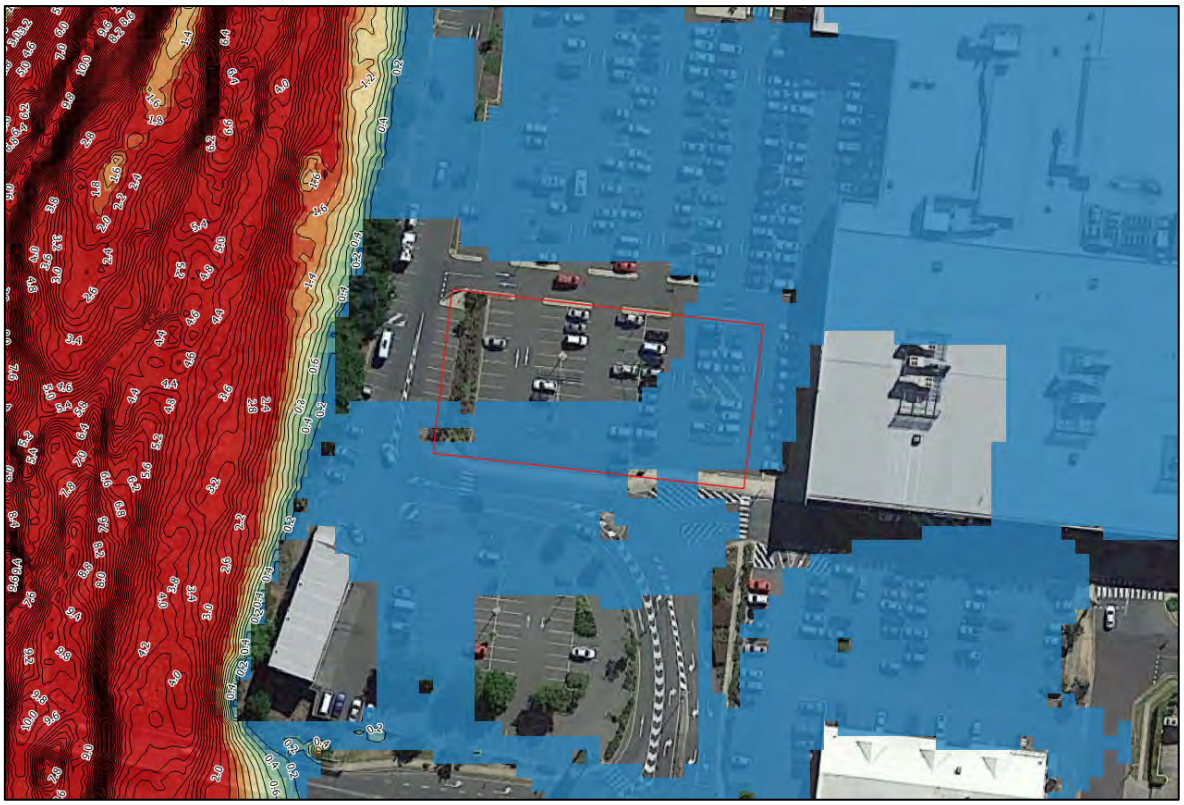


Figure 5.6 – Existing 1% AEP Velocity-Depth (VD) Products (m^2/s)

5.3 TUFLOW Model Setup – Developed

The existing TUFLOW model was modified to include the design surface DEM. The supermarket building is proposed with a finished floor level of 14.9 m AHD. The DEM also incorporates the proposed ramps and stairs around the supermarket building. Figure 5.7 below presents the DEM as included in the developed TUFLOW model.

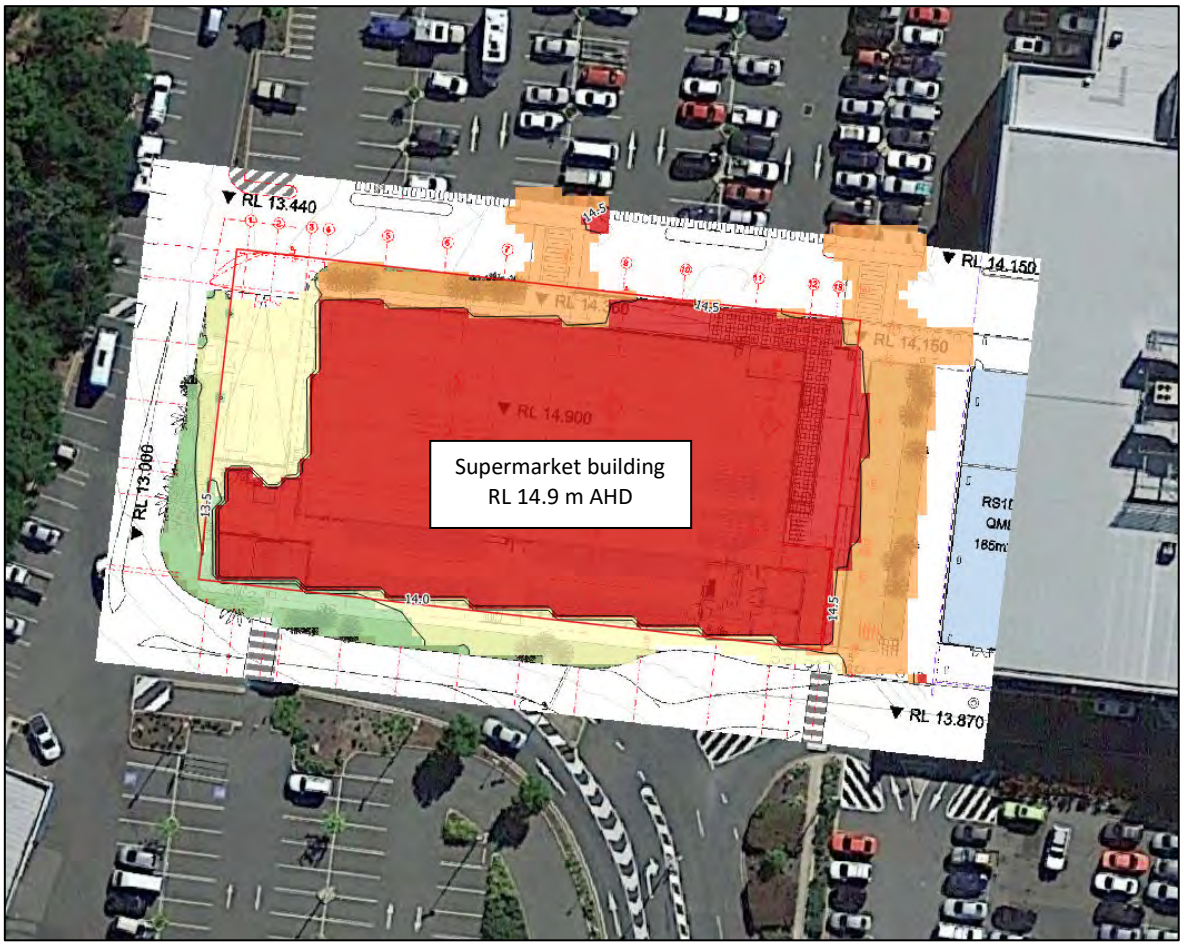


Figure 5.7 – Developed Model Setup

All other model parameters remain the same as the existing model. The developed model was run with a timestep of 1 seconds for a period of 9 hours. The results of the developed TUFLOW model are presented in the following section, as well as in Figures 8 to 11, Appendix A.

5.4 TUFLOW Model Results – Developed

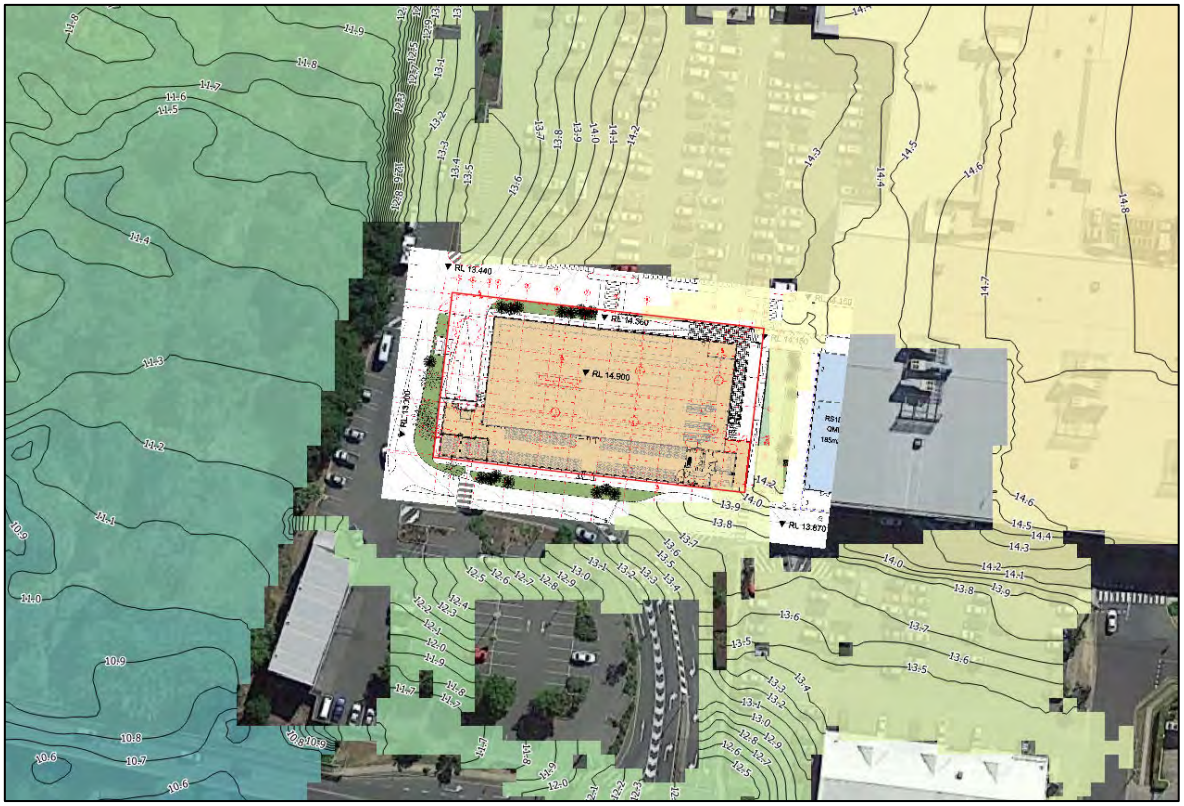


Figure 5.8 – Developed 1% AEP Inundation Levels (metres AHD)

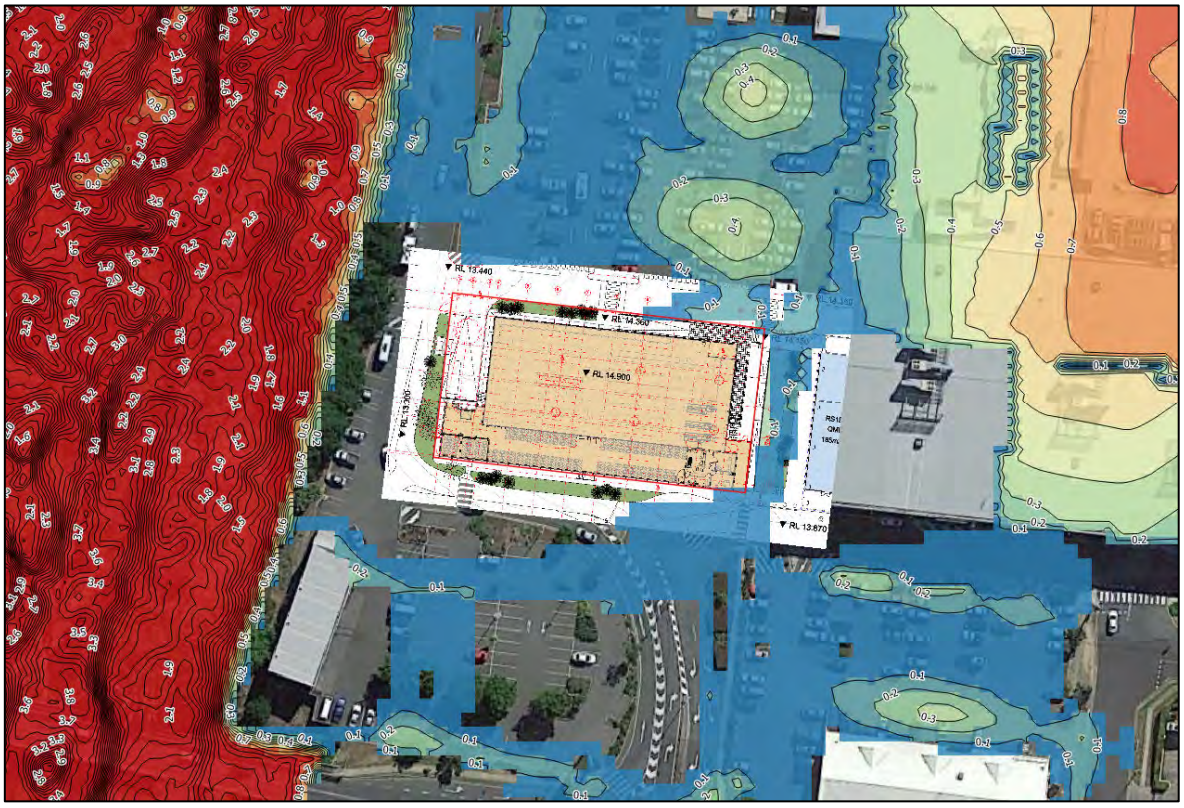


Figure 5.9 – Developed 1 % AEP Inundation Depths (metres)

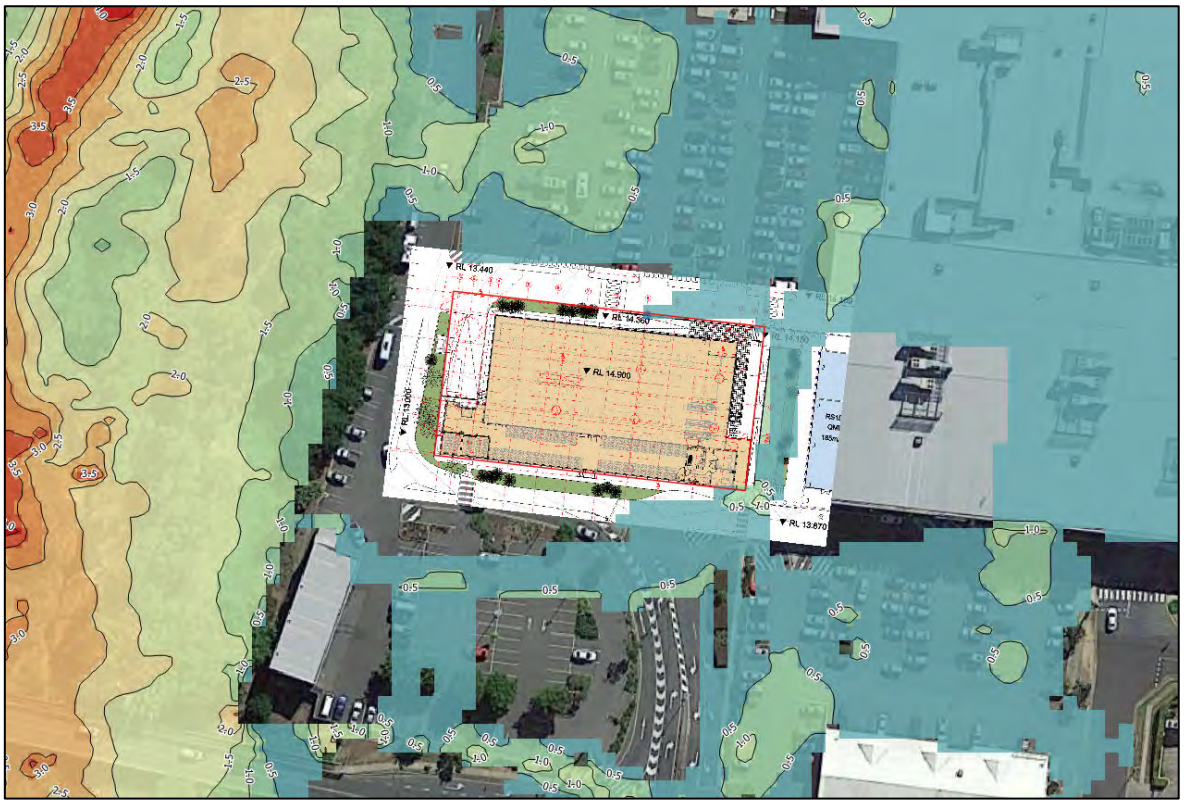


Figure 5.10 – Developed 1% AEP Velocities (m/s)

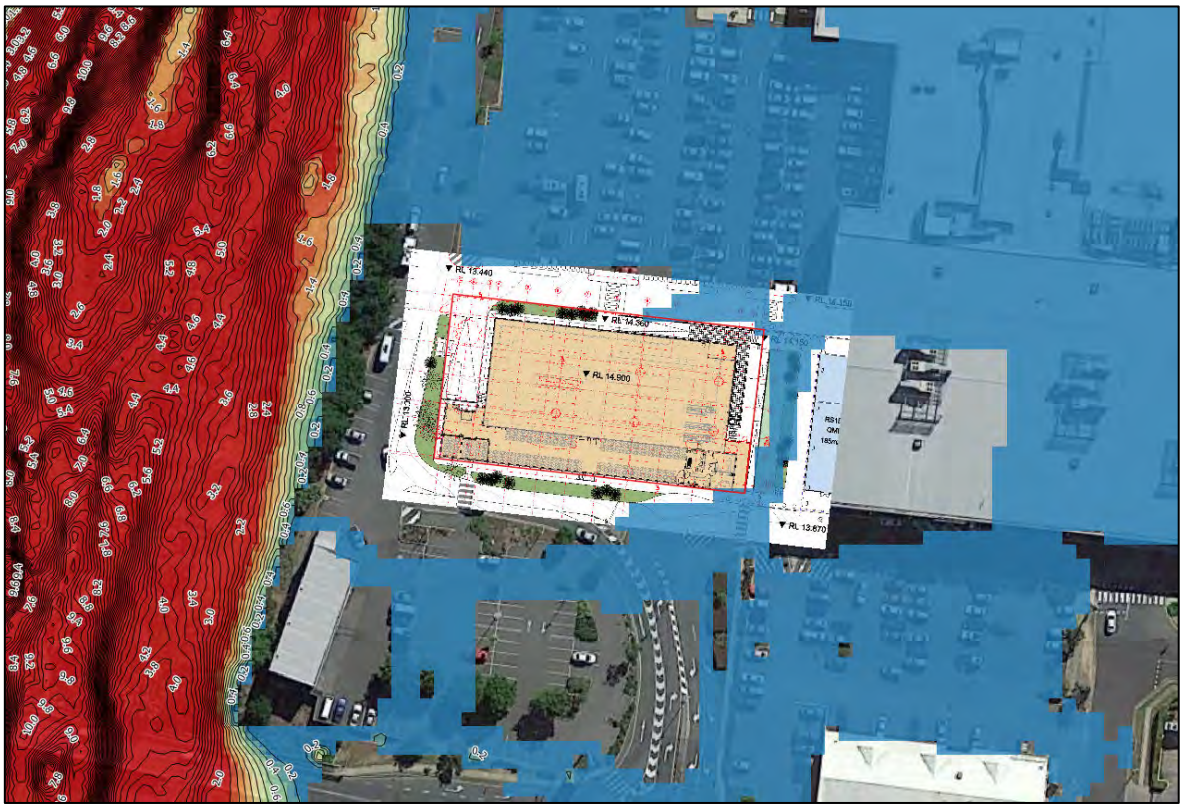


Figure 5.11 – Developed 1% AEP Velocity-Depth (VD) Products (m²/s)

5.5 Flood Impacts

The afflux impacts of the proposed development were assessed and are presented below, as well as in Figure 12, Appendix A.

Figure 5.12 – Afflux Impacts Plot (metres)

The above results show that the majority of the minor hydraulic impacts are contained within the Stockland Shopping Centre land, within Moores Creek or within the road reserve. The proposed development is not anticipated to create any material worsening on upstream, downstream or adjoining properties.

The maximum flow depths reach 0.24 metres and the maximum velocity-depth products reach 0.2 m²/s around the proposed supermarket, as well as along the footpath/driveway between the supermarket and High Street to the south. The supermarket is therefore considered to achieve safe trafficable pedestrian and vehicular access during flood events up to and including the 1% AEP storm event.

5.6 Minimum Design Levels

The defined flood level for setting minimum design levels is 14.4 m AHD, which is the highest 1% AEP flood level impacting the supermarket. The Flood Hazard Overlay Code recommends a minimum freeboard of 500 mm to be incorporated above the defined flood level. As such, the minimum design level for the supermarket is 14.9 m AHD. This requirement is summarised in Table 5.1 below.

Table 5.1 – Minimum Design Level

Flooding Type	Minimum Design Level
	metres AHD
Moores Creek Flood	14.9 m AHD

6.0 CONCLUSIONS

This Flood Hazard Overlay Code Assessment Report was prepared for the proposed supermarket development at Stockland Rockhampton (120-331 Yaamba Road, North Rockhampton).

TUFLOW hydrodynamic modelling was completed for the existing and developed site conditions. The model results show that the majority of the minor hydraulic impacts are contained within the Stockland Shopping Centre land, within Moores Creek or within the road reserve. The proposed development is not anticipated to create any material worsening on upstream, downstream or adjoining properties. The supermarket is also considered to achieve safe trafficable pedestrian and vehicular access during flood events up to and including the 1% AEP storm event.

The minimum design level for the supermarket is 14.9 m AHD. This level incorporates 500 mm of freeboard above the highest 1% AEP flood level impacting the proposed supermarket.

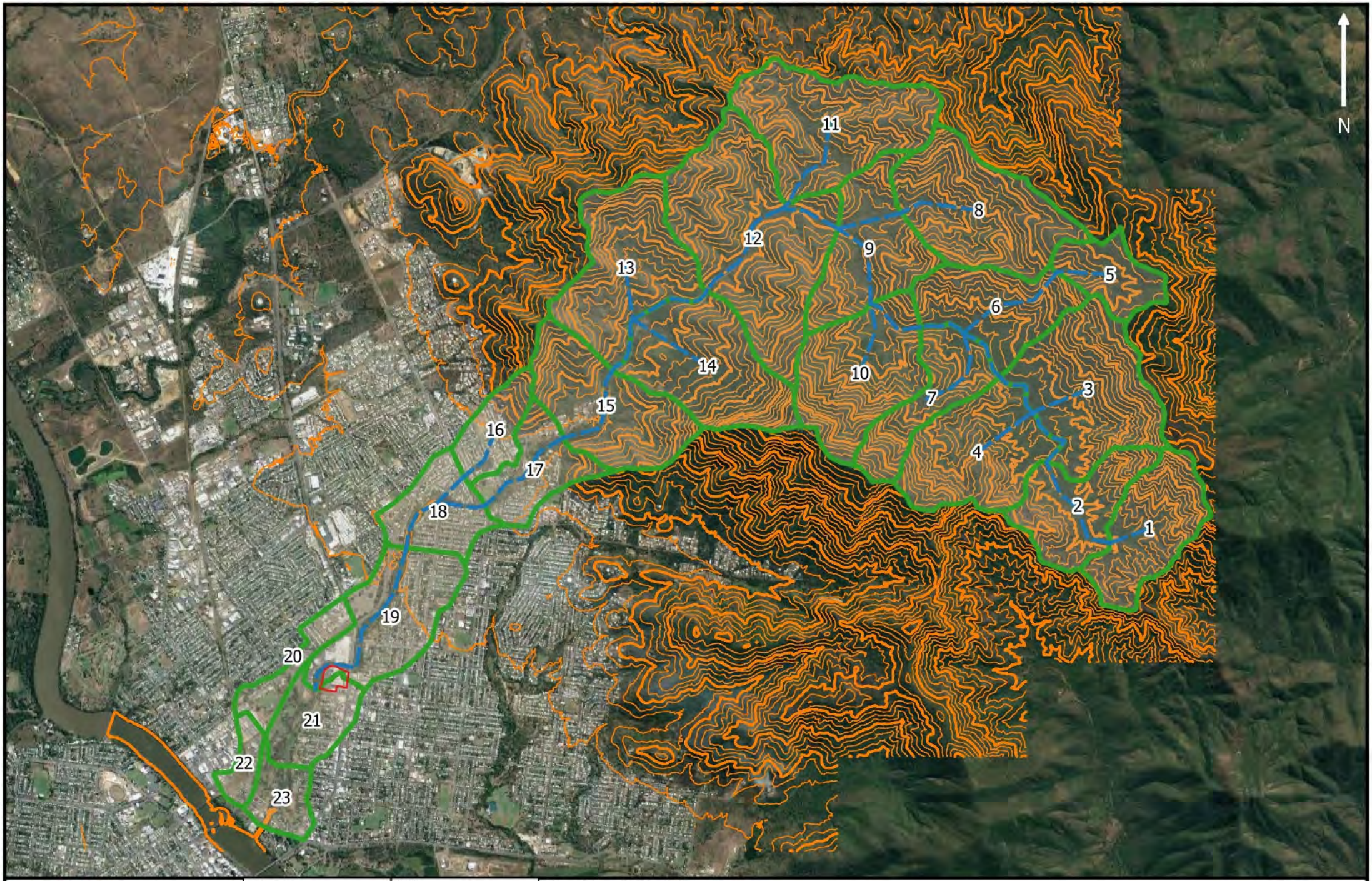
A response to the relevant sections of the Flood Hazard Overlay Code is presented in Appendix E.

Darren Rogers
BE Civil (Hons), MIE Aust, RPEQ 5016
Director

LIST OF APPENDICIES

APPENDIX A

Figures



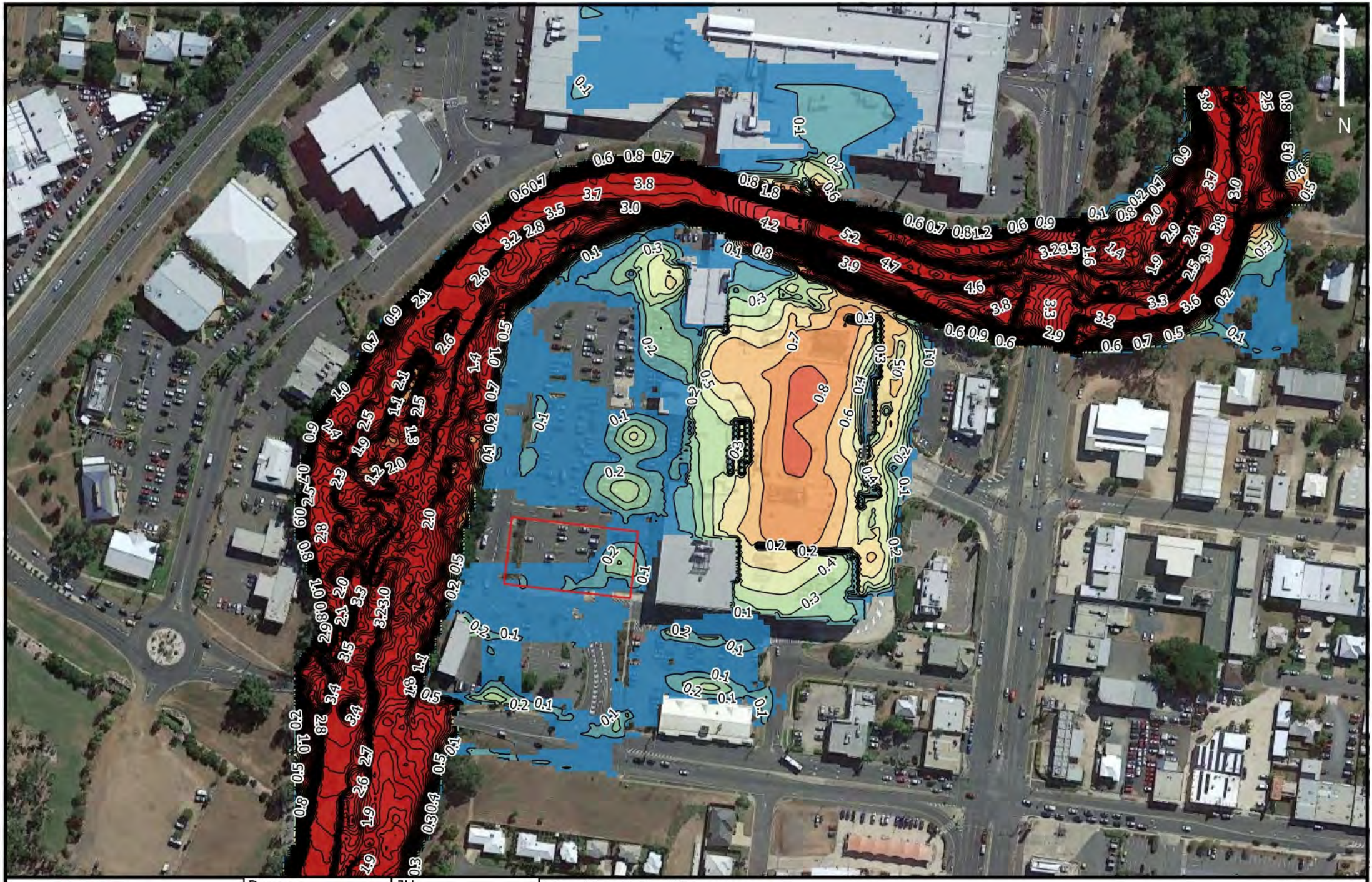
STORM Water Consulting
5/541 Old Cleveland Rd, Camp Hill QLD 4152
Phone: (07) 3899 7482

Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 1 URBS Sub-Catchment Plan
Checked	DWR		
Date	02/03/22		
Scale	1:50,000 (A4)	Job No.	J8700

STORM Water Consulting
5/541 Old Cleveland Rd, Camp Hill QLD 4152
Phone: 0435 917 982

Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 2 Existing TUFLOW Model Setup
Checked	DWR		
Date	02/03/22		
Scale	1:5,000 (A4)	Job No. J8700	

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435917482	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 3 Existing 1% AEP Flood Contours (m AHD)
	Checked	DWR		
	Date	02/03/22		
	Scale	1:2,500 (A4)	Job No. J8700	



STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435 917 982	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 4 Existing 1% AEP Flood Depths (metres)
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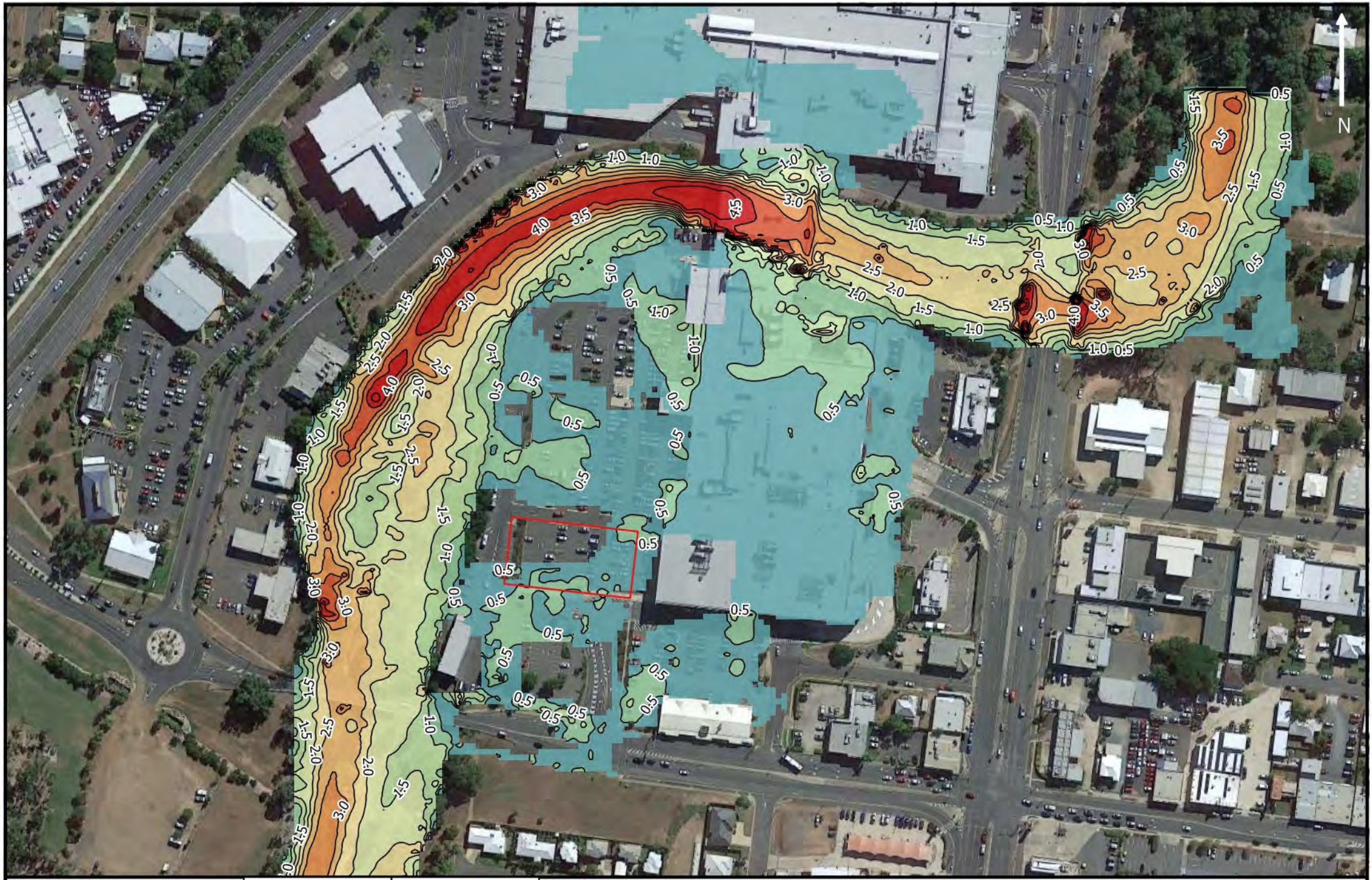
	Date	02/03/22		
	Scale	1:2,500 (A4)	Job No. J8700	

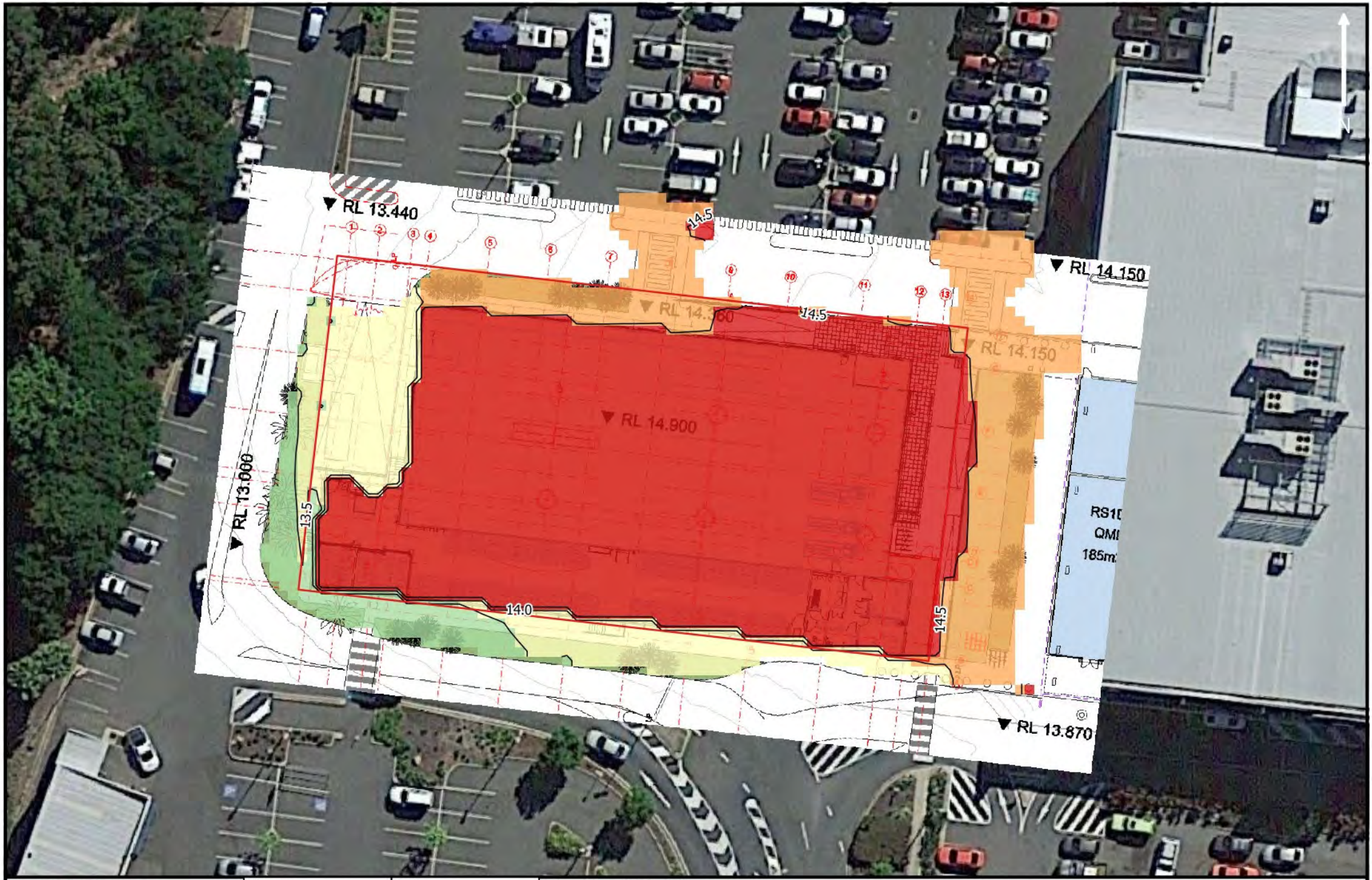


STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: (07) 3899 7482	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton
	Checked	DWR	
	Date	02/03/22	
	Scale	1:2,500 (A4)	Job No. J8700

Figure 5

Existing 1% AEP Flood Velocities (m/s)

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435917488	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 6
	Checked	DWR		
	Date	02/03/22		
	Scale	1:2,500 (A4)	Job No. J8700	Existing 1% AEP Flood VD Products (m^2/s)



STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Ph: 0[illegible]	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 7 Developed TUFLOW Model Modifications
	Checked	DWR		
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STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Ph: 0435 917 782	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 8 Dev 1% AEP Flood Contours (m AHD)
	Checked	DWR		
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	Scale	1:2,500 (A4)	Job No. J8700	

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435 917 982	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 9 Dev 1% AEP Flood Depths (metres)
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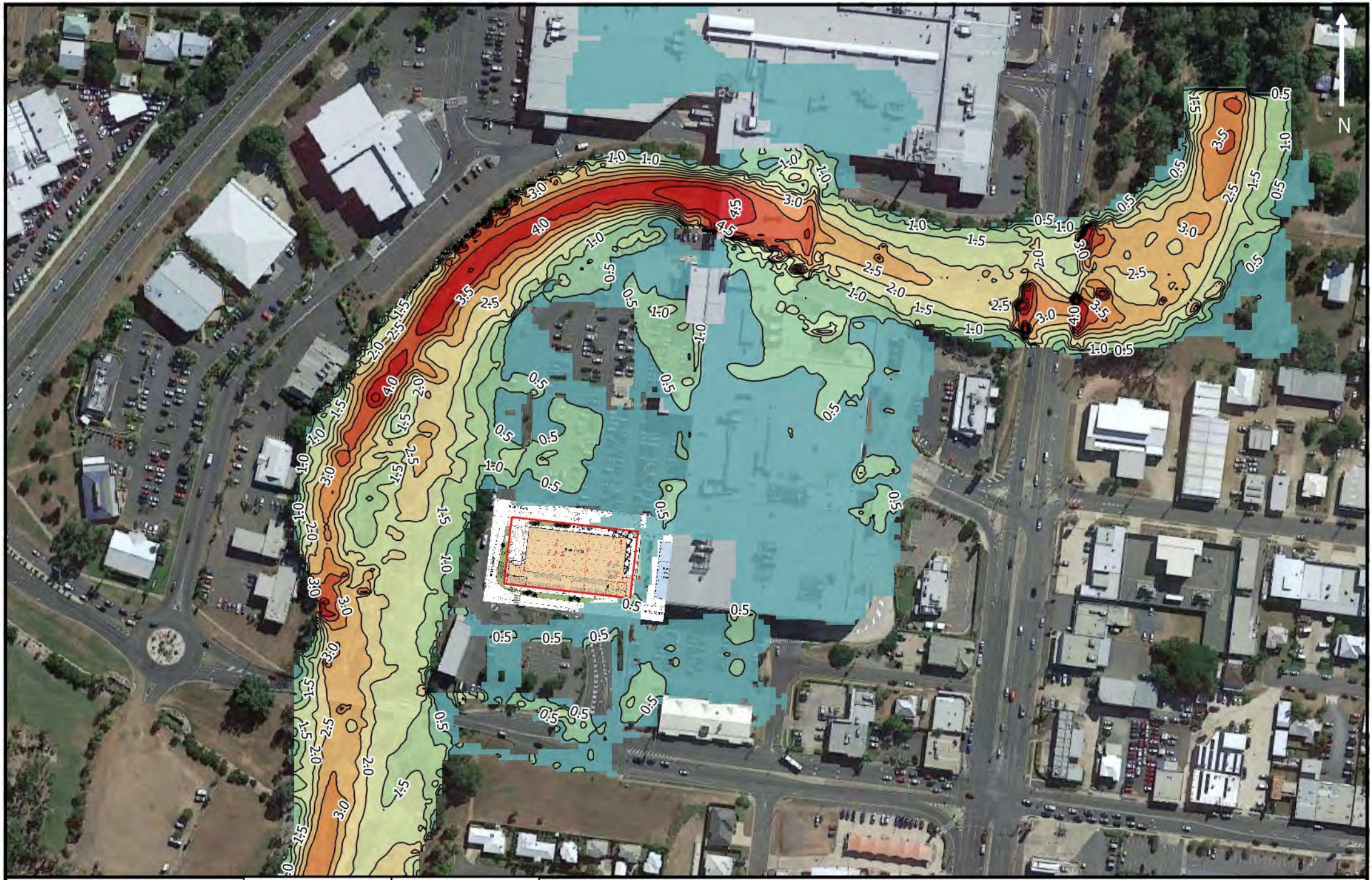

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435 917 982	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton
	Checked	DWR	
	Date	02/03/22	
	Scale	1:2,500 (A4)	Job No. J8700

Figure 10

Dev 1% AEP Flood Velocities (m/s)

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Ph: 0[illegible]	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton	Figure 11 Dev 1% AEP Flood VD Products (m^2/s)
	Checked	DWR		
	Date	02/03/22		
	Scale	1:2,500 (A4)	Job No. J8700	

STORM Water Consulting 5/541 Old Cleveland Rd, Camp Hill QLD 4152 Phone: 0435 917 982	Drawn	JH	Stockland Rockhampton 120-331 Yaamba Rd, North Rockhampton
	Checked	DWR	
	Date	02/03/22	
	Scale	1:2,500 (A4)	Job No. J8700

Figure 12

Afflux Impacts Plot (metres)

APPENDIX B

Photographs

Photograph 1 – Location of proposed supermarket (looking north-east)

Photograph 2 – Location of proposed supermarket (looking south)

Photograph 3 – Moores Creek below shopping centre crossing/connection (looking south)

Photograph 4 – Moores Creek at High Street bridge crossing

APPENDIX C

Development Plans

Stockland	Commercial Design Group Level 25 Castlereagh Street Sydney NSW 2000 Ph : 02 9035 2000 Fax: 02 8988 2000		REVISION: A FOR INFORMATION 14.01.22 B MINOR AMENDMENTS 14.02.22	STATUS: For Information SCALE: 1:1000 @ A1	AUTHOR: MB 0m 20m 40m 60m 80m	DATE: 14.01.22	PROJECT: **Stockland ROCKHAMPTON** 120-331 Yaamba Road, North Rockhampton QLD 4701 TITLE: **Overall Site Plan - OPTION 14**	PROJECT NUMBER: **20-05-12-RO ALDI** DRAWING NUMBER: **14_SK2_B**

RL 13.440

RL 14.150

RL 14.360

RL 14.150

RL 14.900

RL 13.000

RL 13.870

RS1D
QML
185m2

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D D1 E F G

LP

Stockland

Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A FOR INFORMATION 12.01.22
B FOR INFORMATION 14.02.22

STATUS: For Information
AUTHOR: MB
DATE: 12.01.22

SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **Ground Floor Plan - OPTION 14**

PROJECT NUMBER: 20-05-12-RO
SUPERMARKET
DRAWING NUMBER: 14_SK1_B

APPENDIX D

URBS Model Files

8700_Ex.DAT – Catchment Parameters

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#7,0.93565,1.00,0.00,0.00,0.00
#8,1.85409,1.00,0.00,0.00,0.00
#9,1.36000,1.00,0.00,0.00,0.00
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8700_Ex.U – Routing

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USES: L, U
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Catchment File=8700_Ex.dat

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Route thru      #2      L=0.589
Add Rain        #2      L=0.583
Route thru      #3      L=0.797
Store.
Rain    #3      L=0.647
Store.
Rain    #4      L=0.724
Get.
Get.
Route thru      #4      L=0.615
Route thru      #6      L=0.648
Store.
Rain    #5      L=0.566
Route thru      #6      L=0.776
Add Rain        #6      L=0.461
Store.
Rain    #7      L=0.947
Get.
Get.
Route thru      #7      L=0.498
Route thru      #10     L=0.645
Store.
Rain    #10     L=0.765
Get.
Route thru      #9      L=0.586
Add Rain        #9      L=0.379
Store.
Rain    #8      L=0.850
Route thru      #9      L=0.695
Get.
Route thru      #12     L=0.639
Store.
Rain    #11     L=1.007
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Get.
Route thru      #12     L=0.508
Add Rain        #12     L=0.750
Route thru      #13     L=0.894
Store.
Rain    #13     L=0.548
Store.
Rain    #14     L=0.928
Get.
Get.
Route thru      #14     L=0.622
Route thru      #15     L=0.405
Add Rain        #15     L=0.633
Route thru      #17     L=0.501
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Route thru     #18     L=0.504
Store.
Rain    #16     L=0.632
Route thru     #18     L=0.385
Get.
Add Rain       #18     L=0.634
Route thru     #19     L=0.696
Add Rain       #19     L=1.335
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end of catchment details.
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APPENDIX E

Flood Hazard Overlay Code Response

Table 8.2.8.3.1 Development outcomes for assessable development and requirements for accepted development

Fitzroy River – H1 or H2 or North Rockhampton flood management area or Creek catchment planning area 2

Performance outcomes	Acceptable outcomes	Response
Development in Fitzroy River flood areas – H1 (low hazard area) or H2 (medium hazard area) or North Rockhampton flood management area or Creek catchment flood - planning area 2 Editor's note—Refer to overlay maps OM-8A and OM-8C		
PO1 Development (including extensions) for non-residential purposes is able to provide a safe refuge for people and for the storage of goods during times of flood inundation.	**AO1.1** For non-residential development, at least thirty (30) per cent of the gross floor area of all new buildings and structures is located a minimum of 500 millimetres above the defined flood level. Editor's note—Areas less than those nominated above may be supported where accompanied by a flood impact report in accordance with SC6.10— Flood hazard planning scheme policy.	**Minimum design level recommended is 14.9 m AHD. This level provides 500 mm of freeboard above the 1% AEP flood level.**
	AO1.2 A report from a registered professional engineer of Queensland certifies that the development in the flood area will not result in a material increase in flood level or flood hazard on upstream, downstream or adjacent properties.	**The proposed development would not result in any material worsening on adjoining properties.**
PO2 Development is located to minimise susceptibility to and potential impacts of flooding.	**AO2.1** For residential uses the finished floor levels of all habitable rooms shall be constructed a minimum of 500 millimetres above the defined flood level.	**Not applicable.**
	AO2.2 A report from a registered professional engineer of Queensland certifies that the development in the flood area will not result in a material increase in flood level or flood hazard on upstream,	**Refer AO1.2 response.**

	downstream or adjacent properties. Editor's note—Report to be prepared in accordance with SC6.10—Flood hazard planning scheme policy.	
PO3 Development avoids the release of hazardous materials into floodwaters.	**AO3.1** All hazardous materials and hazardous manufacturing equipment and hazardous containers are located and stored a minimum of 500 millimetres above the defined flood level. Editor's note—Refer to the *Work Health and Safety Act 2011* and associated regulation, the *Environmental Protection Act 1994* and the relevant building assessment provisions under the *Building Act 1975* for requirements related to the manufacture and storage of hazardous substances.	**Not applicable.**

Table 8.2.8.3.2 Development outcomes for assessable development

Fitzroy River – all hazard areas, North Rockhampton flood management area or Creek catchment – all planning areas

Performance outcomes	Acceptable outcomes	Response
Development in Fitzroy River flood area – all hazard areas, North Rockhampton flood management area or Creek catchment flood – all planning areas Editor's note—Refer to overlay maps OM-8A and OM-8C		
PO8 Development is located to minimise susceptibility to and potential impacts of flooding.	No acceptable outcome is nominated.	**The development is located to minimise susceptibility to and potential impacts of flooding by maintaining the overland flow path through the development and designing the development around the overland flow path.**
PO9 Underground car parks are designed to prevent the intrusion of floodwaters.	**AO9.1** Development with underground car parking is designed to prevent the intrusion of floodwaters by the incorporation of a bund or similar barrier a minimum of 500 millimetres above the defined flood level..	**Not applicable.**
PO10 Development: 1. does not result in any reduction of onsite flood storage capacity; or 2. does not result in any change to depth, duration or velocity of floodwaters within the premises; and 3. does not change flood characteristics outside the premises, including but not limited to causing: 1. loss of flood storage; or 2. loss of or changes to flow paths; or 3. acceleration or retardation of flows; or	No acceptable outcome is nominated.	**The location of the proposed supermarket building is in a flood conveyance area and not a storage area, as identified by the TUFLOW model results presented in the report. The proposed works would not create any material worsening on properties external to the site.**

4. any reduction in flood warning times elsewhere on the floodplain. Editor's note—Council may require the applicant to submit a site-based flood study that investigates the impact of the development on the floodplain and demonstrates compliance with the relevant performance outcome.		
PO11 Essential community infrastructure and community facilities are protected from, and able to function effectively during and immediately after, a defined flood event.	**AO11.1** A use for a purpose listed in Table 8.2.8.3.3: 1. is not located within the flood hazard area; and 2. has at least one (1) flood free access road.	**The proposed development is not located within the flood hazard area and only within the creek catchment area as denoted in the Flood Hazard overlay. There is at least 1 flood free access road.**
PO12 Development provides safe and trafficable access to the local evacuation centres and evacuation services and have regard to: 1. evacuation time; 2. number of persons affected; 3. types of vehicles necessary for evacuation purposes; 4. the distance to flood free land; and 5. the evacuation route.	**AO12.1** Trafficable access to and from the development complies with the Capricorn Municipal Guidelines.	**The development maintains the same entrance and exit for the site. This access would be safe during the 1% AEP flood event and would provide a safe point of egress for vehicles and pedestrians.**
	AO12.2 Trafficable access to and from the development within the creek catchment planning areas are in accordance with the Queensland Urban Drainage Manual. Note—Trafficable access for emergency services or community related uses is obtained from at least one (1) route (minor collector or higher) for emergency services purposes. The development is to ensure that safe	**The development maintains the same entrance and exit for the site. This access would be safe during the 1% AEP flood event and would provide a safe point of egress for vehicles and pedestrians.**

	access, to the road network between the development site and the closest centre zone, is provided. Editor's note—Trafficable access requirements for creek catchment planning areas has not been identified and reference has been made to the provisions under the Queensland Urban Drainage Manual. This is due to the short period that property may be isolated.	

Table 8.2.8.3.3 Essential community infrastructure and community facilities and public assets

Use	Flood event level per cent annual exceedance probability
Emergency services	0.2
Emergency/evacuation shelters	0.5
Fire and police stations	0.5
Hospitals and associated facilities	0.2
Stores of valuable record or items of historic/cultural significance	0.2
Air services	0.5
Telecommunications facilities	0.5
Power stations	0.2
Major electricity infrastructure	0.2
Substations	0.5
Sewage treatment plants	1.0
Water treatment plants	0.2
Retirement facility, residential care facility and community residence	0.5
Community related uses (including child care centres and educational establishments)	0.5
Regional fuel storage	0.5
Food storage warehouse	0.5

STORMWATER MANAGEMENT PLAN

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/66-2022

Dated: 2 November 2022

STOCKLAND ROCKHAMPTON SUPERMARKET
120-331 YAAMBA ROAD, NORTH ROCKHAMPTON

Prepared By:

MPN CONSULTING PTY LTD
Level 5
39 Sherwood Road
Toowong
Queensland
4066 • Australia

24 March 2022

REVISION STATUS

MPN Reference No:	9180
Client:	Stockland
Site Address:	120-331 Yaamba Road, North Rockhampton
Report Title:	Stormwater Management Plan

DOCUMENT CONTROL

Version	Date	Author	Reviewer	Approved	RPEQ
Draft	11/02/2022	Ben Tarrant	Lachlan Stephenson		16903
Issue A	25/03/2022	Ben Tarrant	Lachlan Stephenson		16903

EXECUTIVE SUMMARY

This report has been commissioned by Stockland in support of the Development Application for the proposed supermarket development at the existing shopping centre on land located at 120-331 Yaamba Road, North Rockhampton.

This report addresses the following Engineering aspects of the proposed development:

- Topography
- Flooding
- Stormwater Quality Management
- Stormwater Quantity Management
- Erosion and Sediment Control.

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1 PURPOSE

This Stormwater Management Plan has been prepared in support of the Development Application for the proposed supermarket development at the existing shopping centre on land located at 120-331 Yaamba Road, North Rockhampton.

2 INTRODUCTION

2.1 Project description

The current proposal involves the demolition of the existing carpark occupying the site west of the existing shopping centre, and the construction of a new, single-storey supermarket. The development will include landscaping, loading and service dock, and interface pedestrian access to the existing Stockland shopping centre's open-air carpark to the north.

As part of the development works, adjacent open-air carpark will include proposed shade sails, loading standby zone, and a traffic access reconfiguration from High Street into the Stockland shopping centre internal carpark. This access point will be modified for improved vehicle manoeuvrability.

The proposed development is depicted on the architectural plans prepared by Stockland, attached in Appendix 1, with excerpt below.

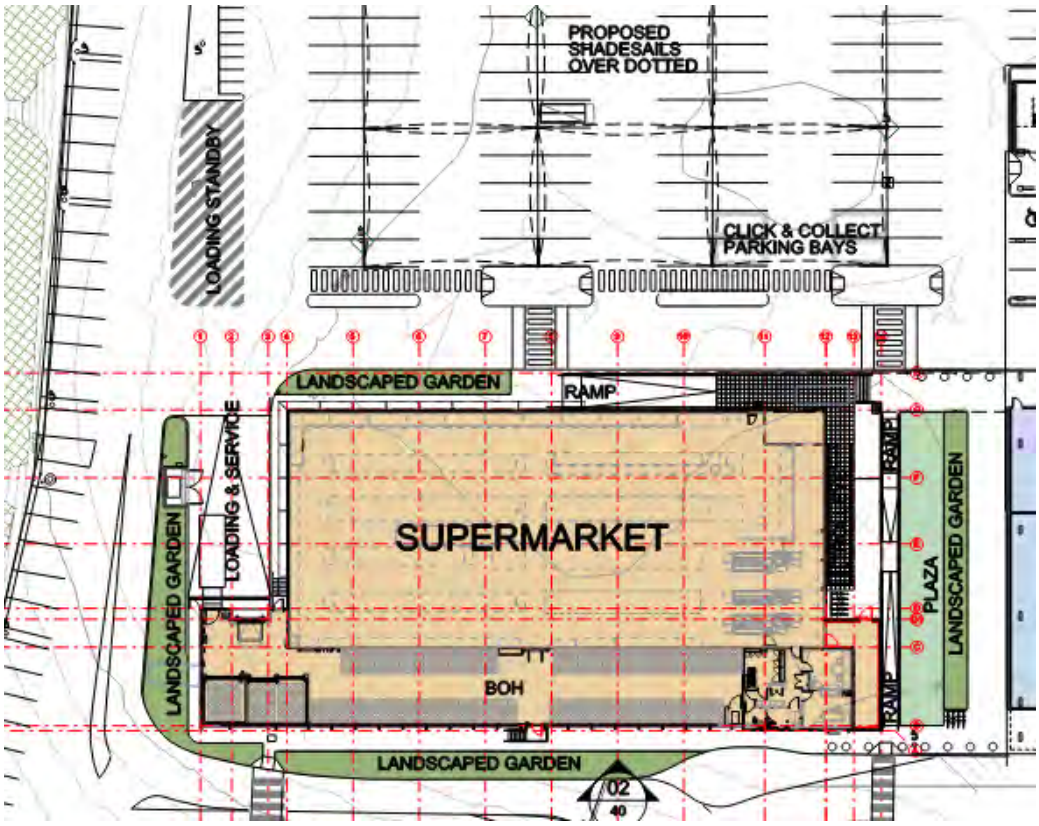

Figure 1 – Proposed Development

3 SITE CHARACTERISTICS

3.1 Site Location

The site is located at the southern perimeter of property 331 Yaamba Road, North Rockhampton, and is formally known to be part of Lot 201 on SP236447.

The site fronts Stockland shopping centre to the East, and internal carparking in each surrounding direction. High Street is the primary access point to the south, and Moores Creek is situated to the west.

Figure 2 – Site Location

3.2 Topography and Existing Site Drainage

The site is currently occupied by on grade car parking and generally slopes from the North-East with a high point of RL14.40m, to the South West with a low point of RL13.2m. See Figure **3** for general existing site topography.

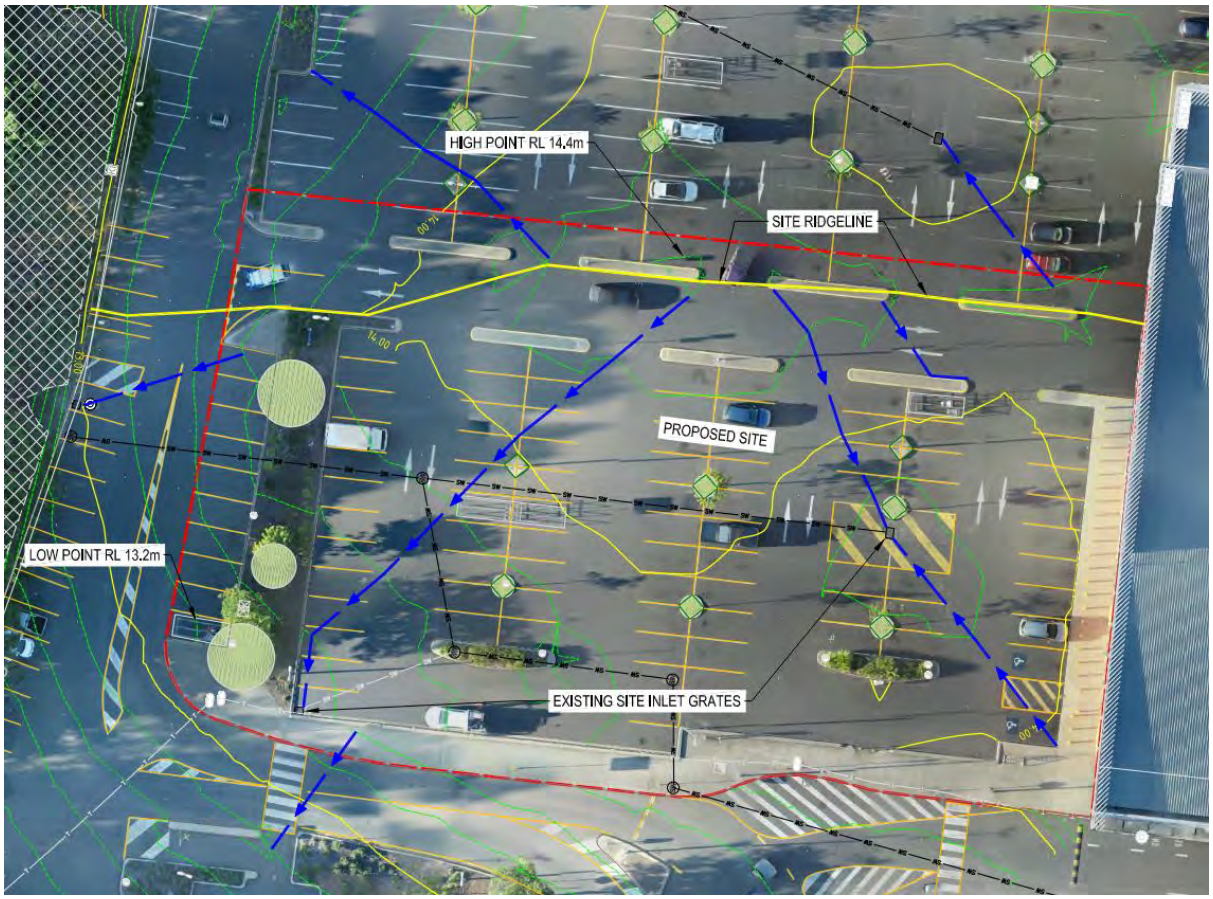

Figure 3 – Existing site topography

The balance of the site runoff is collected by field inlet pits throughout the carpark and the shopping centre road network. The runoff is then collected and conveyed by a network of pipes running East to West along the existing site, eventually discharging into Moores Creek, West of the site.

A copy of a survey plan for the site prepared by Vision Surveys (QLD) is attached in Appendix 2.

4 SITE DATA

Site data has been obtained from the following sources of information:

- Dial Before You Dig (DBYD)
- Discussions with relevant authorities
- Relevant reports
- Rockhampton Regional Council
- Rockhampton Regional Council Interactive Mapping
- Satellite imagery
- Site survey

5 STORMWATER

5.1 Lawful Point of Discharge

The lawful point of discharge for the site is the stormwater network within the internal carpark discharge point into Moores Creek.

5.2 Flooding

The flooding related aspects of the proposed development are addressed in the flood investigation prepared by Storm Water Consulting under separate cover.

The building floor level has been set at 14.9m AHD with the appropriate immunity from the designated flood level of 14.4m AHD.

5.3 Site Based Stormwater Management Plan

The aim of the Stormwater Management Plan outlined below is to:

- Prevent or minimise adverse social or environmental impacts from stormwater runoff originating from the proposed development.
- Achieve acceptable levels of stormwater runoff quality and quantity.

The Stormwater Management Plan aims to identify Stormwater Quantity and Quality Best Management Practice for the site and demonstrate that water quantity and quality impacts will be minimised in receiving waters.

The Stormwater Management Plan outlines the site in two sections; the operational phase and the construction phase. The operational phase addresses treatment of contaminated runoff from the developed site by mechanical methods before discharging into receiving waters, whilst the construction phase of the Stormwater Management Plan addresses erosion and sediment control to prevent contamination of water sources by stormwater runoff during construction of the site.

5.4 Operational Phase

5.4.1 Proposed Site Drainage

Stormwater runoff from the proposed development roof, landscape and pavement areas will be collected and conveyed in a new internal pit and pipe network. The site runoff will be directed through an Ocean Protect Jellyfish manhole for site stormwater quality treatment. The Jellyfish Filter will be located in an offline arrangement from the main drainage line and will be situated across the internal road to the west of the site. The existing drainage line which currently runs under the location of the proposed building will be diverted around the location of the new building via a new stormwater line.

Treated stormwater and bypass flows will discharge from site via a new piped connection to the existing manhole along the western kerb line fronting Moores Creek, which is the site's designated Lawful Point of Discharge.

Ocean Protect OceanGuards will also be fitted to each stormwater pit within the car park and landscape areas to capture gross pollutants.

Roofwater will outlet to the underground Jellyfish Filter manhole via a connection depicted on MPN Plan 9180-DA.01. The design of the roof drainage system will be undertaken as part of the hydraulic detailed design.

Major design storm flows will be conveyed through the site as per the existing condition. When the capacity of the stormwater network in Stockland carpark is exceeded, stormwater will enter the site via north-east corner of the site, overland flow through the landscaped strip, toward the car park and into the drainage network in the internal road to the South of the site. Refer to the Flood Hazard Overlay Report prepared by Storm Water Consulting, lodged under separate cover, for further information on the major storm overland flow through the site.

The proposed stormwater infrastructure is shown on MPN Plan 9180-DA.01 attached in Appendix 3.

5.4.2 Stormwater Quantity Management Strategy

The existing site is fully developed and largely impervious with the existing car parking area.

The proposed development will incorporate landscape areas which will increase the site's pervious area.

A Rational Method calculation was undertaken to compare the pre- and post-development discharge into the Stockland carpark stormwater network west of the site. The results are depicted below in Table **1** with the full calculations attached in Appendix 4.

ARI	Peak Discharge (m^3/s)		Change in Peak Flow (m^3/s)
	Pre-development	Post-development	
2	0.109	0.107	-0.002
5	0.163	0.159	-0.004
10	0.201	0.196	-0.005
20	0.242	0.237	-0.005
50	0.301	0.301	0.000
100	0.336	0.336	0.000

Table 1 – Rational Method Calculations

As can be seen in Table **1**, there is a reduction in peak flows in the post-development condition due to the reduction in impervious area.

As the proposed development provides a non-worsening effect to the existing stormwater infrastructure in Stockland carpark network, no further assessment of the network capacity has been undertaken as part of this report.

5.4.3 Stormwater Quality Management Strategy

In order to satisfy the requirements of the State Planning Policy July 2017 for the adequate treatment of stormwater runoff, mechanical treatment solutions have been provided to remove hydrocarbons, suspended solids and nutrients prior to being discharged from site.

5.4.3.1 Potential Pollutants Generated

The pollutants that could be potentially generated as a result of the development use are as follows:

- Litter
- Sediment
- Nutrients (Nitrogen and Phosphorous)
- Hydrocarbons (oils and grease)
- Surfactants
- Pathogens/Faecal Coliforms (bacteria and viruses).

The MUSIC computer modelling program developed by the Co-operative Research Centre for Catchment Hydrology was used to predict the performance of the proposed stormwater treatment train.

At this stage the pollutants modelled in MUSIC are Total Suspended Solids (TSS), Total Phosphorous (TP) and Total Nitrogen (TN).

5.4.3.2 Rainfall

The rainfall data used in the model was based on the Bureau of Meteorology data from rainfall station 039083 Rockhampton Aero. The model was run for a 10-year period from 1 January 1999 to 31 December 2008. The modelling time step was 6 minutes.

5.4.3.3 Rainfall Runoff Properties

In accordance with the recommendations of Water By Design's MUSIC Modelling Guidelines for South East Queensland rainfall runoff properties for commercial areas have been used. These are listed in Table 2 below.

Parameter	Value
Rainfall Threshold (mm)	1
Soil Storage Capacity (mm)	18
Initial Storage (% of capacity)	10
Field Capacity (mm)	80
Infiltration Capacity Co-efficient a	243
Infiltration Capacity Co-efficient b	0.6
Initial Depth (mm)	50
Daily Recharge Rate (%)	0
Daily Base Flow Rate (%)	31
Deep Seepage (%)	0

Table 2 – MUSIC Rainfall Runoff Parameters (Commercial)

5.4.3.4 Pollutant Export Parameters

Specific Pollutant Export Parameters must be applied to each node type as cited in the Water By Design MUSIC Modelling Guidelines. The values shown in Table 3 are for split catchment commercial areas.

Runoff pollutant concentrations are generated stochastically from the defined mean and standard deviation.

Land Use – Commercial		Log10 TSS (mg/L)		Log10 TP (mg/L)		Log10 TN (mg/L)	
		Base Flow	Storm Flow	Base Flow	Storm Flow	Base Flow	Storm Flow
Roof	Mean	0	1.30	0	-0.89	0	0.37
	Std. Dev.	0	0.38	0	0.31	0	0.34
Roads	Mean	0.78	2.43	-0.60	-0.30	0.32	0.37
	Std. Dev.	0.39	0.38	0.50	0.34	0.30	0.34
Landscaping	Mean	0.78	2.16	-0.60	-0.39	0.32	0.37
	Std. Dev.	0.39	0.38	0.50	0.34	0.30	0.34

Table 3 – Pollutant Export Parameters (Commercial)

5.4.3.5 Water Quality Objectives

The Water Quality Objectives of the receiving waters for the proposed development have been obtained from State Planning Policy July 2017. The State Planning Policy load reduction targets are summarised in Table 4 below.

WATER QUALITY OBJECTIVES				
Total Suspended Solids (TSS) % Reduction	**Total Nitrogen (TN) % Reduction**	**Total Phosphorous (TP) % Reduction**	**Litter/ Gross Pollutants % Reduction**	**Oils/ Grease**
85	45	60	90	No visible films or odours

Table 4 – Water Quality Objectives

5.4.3.6 Treatment Plan

To achieve the pollutant load reduction targets for the development, it is proposed to use mechanical treatment methods to treat the runoff prior to discharge from the site.

Stormwater runoff from the site will be treated in a Jellyfish Filter manhole located under the Stockland internal road on the Western perimeter of the site.

OceanGuards will be fitted to each stormwater pit in the car park and landscape areas.

The treatment plan for the site is depicted on MPN Plan 9180-DA.01 attached in Appendix 3, with MUSIC excerpt shown below.

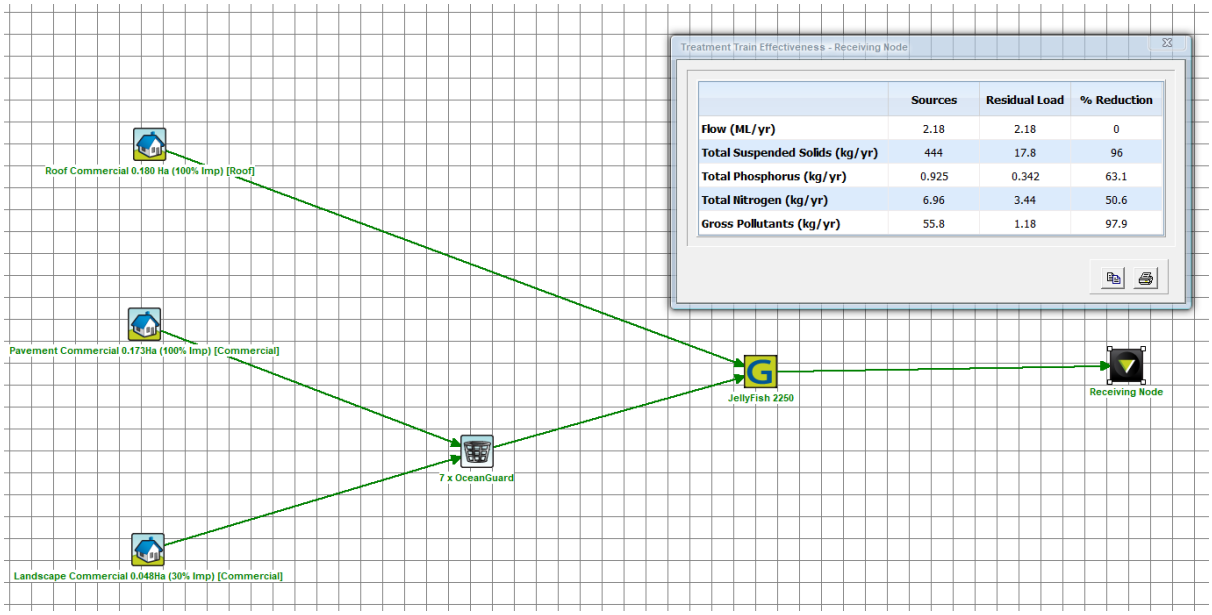

Figure 4 – Treatment Plan

5.4.3.7 MUSIC Results

The resulting percentage-based load reductions at the site outlet are shown in Table 5 below, together with the Water Quality Objectives for the receiving waters.

	Sources	Residual Load	% Reduction	Target %
Total Suspended Solids (kg/yr)	444	17.8	96	85
Total Phosphorous (kg/yr)	0.925	0.342	63.1	60
Total Nitrogen (kg/yr)	6.96	3.44	50.6	45
Gross Pollutants (kg/yr)	55.8	1.18	97.9	90

Table 5 – Percentage Based Load Reduction Results

5.4.3.8 POD Pollutant Reduction

5.4.3.8.1 Litter
Rubbish bins will be located within the shopping centre for use by staff and customers. As a result of this and with the installation of the Ocean Protect OceanGuards and the Jellyfish Filter, levels of litter exiting the site via stormwater are expected to be negligible.

5.4.3.8.2 Sediment
The TSS outflow is identified in Table **5** above. As can be seen the pollutant load reduction achieves the Water Quality Objectives. The TSS level is therefore considered acceptable.

5.4.3.8.3 Nitrogen and Phosphorous
The TN and TP loads are identified in the above Table **5**. As can be seen the TN and TP loads leaving the site achieve the Water Quality Objectives. Significant reductions in Nitrogen and Phosphorous have been achieved. The Nitrogen and Phosphorous residual loads are therefore considered acceptable.

5.4.3.8.4 Hydrocarbons
Hydrocarbons will become trapped within the Ocean Protect OceanGuards and the Jellyfish Filter.

When there is a build-up of hydrocarbons within the Ocean Protect OceanGuards and the Jellyfish Filter, the oils can be vacuumed, ensuring that no hydrocarbons are discharged from the site.

5.4.3.8.5 Surfactants
If car or truck washing occurs on site it will be within a bunded area where surfactants will be captured and treated prior to discharging into the stormwater network.

5.4.3.8.6 Heavy Metals
Heavy metals in stormwater runoff generally become attached to fine sediment. The Ocean Protect OceanGuards and the Jellyfish Filter will remove the majority of this fine sediment. The removal of the fine sediment should effectively remove most of the heavy metals in the runoff.

5.4.3.8.7 Pathogen/ Faecal Coliforms
Domestic animals within the development will be under the control of their owners at all times and the owners will be expected to clean up after them.

5.5 Proposed Stormwater Quality Treatment Devices

5.5.1 Locations

The location of the proposed stormwater quality treatment device is shown on MPN Plan 9180-DA.01 attached in Appendix 3.

5.5.2 Device and Size

The device type and sizes are shown on MPN Plan 9180-DA.01 attached in Appendix 3.

General arrangement plans for the Ocean Protect OceanGuards and the Jellyfish Filter are attached in Appendix 5.

5.5.3 Operation

The Ocean Protect Jellyfish Filters operate by using a high flow membrane cartridge filtration at low driving head with a large surface area to effectively filter stormwater. As the stormwater percolates through the cartridges, pollutants, particulates, surface scums and floating oil and greases are captured within the filter media. Once filtered through the media, the treated stormwater is directed to a collection pipe.

The Ocean Protect OceanGuards consist of a screening bag supported by a filter box and structural cage. Modular plastic deflector panels attach to the filter box and guide the flow of water to the screening bag. The screening bag captures pollutants and allows water to pass through to the outlet pipe. Openings in the filter box allow water to bypass the screening bag during high flow conditions.

5.5.4 Maintenance

For the OceanGuards and the Jellyfish Filter, maintenance can be performed with a vacuum truck to remove captured soil, sediment and floatables. Detailed maintenance techniques can be found in the Ocean Protect Operations and Maintenance Manual attached in Appendix 5.

5.6 Construction Phase (Sediment and Erosion Control)

5.6.1 Intent of Erosion and Sediment Control Management Plan

To prevent stormwater contamination (of watercourses) and the release of contaminated stormwater and wastewater by ensuring compliance with the Environmental Protection Act 1994 and Environmental Protection (Water) Policy 2009.

5.6.2 Implementation Strategy

Establish control measures and best practice approaches to prevent stormwater contamination and minimise the risk and adverse effects of erosion and sedimentation. All Erosion and Sediment Control measures must be designed, constructed and maintained in a manner that is commensurate with the site's erosion risk.

5.6.3 Erosion and Sediment Control Measures

- Obtain a license or approval to operate activities that are classed as environmental relevant activities (i.e. they have the potential to cause environmental harm).
- Implement and maintain appropriate control measures to prevent sediment laden wastewater and other potential pollutants such as oil, paint and wet concrete from entering the stormwater system via stormwater drains and gullies. The control measures which must be considered to be adopted are:
    - Limitation of site access during construction to minimise disruption to traffic. Install a temporary construction entry/ exit sediment trap at all site accesses to minimise mud and sediment from the site being tracked onto public road, particularly during wet weather or when the site is muddy.
    - Install and maintain appropriate sediment fences around construction areas.
    - Divert clean stormwater runoff, using catch drains, around construction areas to existing or new stormwater drainage system.
    - Install sandbags and other pollution containment devices around stormwater drains and any other locations where required to prevent sediment entering the trunk stormwater system.
    - Cover open earth/ soil areas progressively (with concrete slabs and pavements or mulch) to minimise areas of bare earth/ soil.
    - Any stockpiles of excavated soil and demolition/ construction waste must be located where risk of erosion and sedimentation is minimal, and must be protected from wind and water erosion.
    - Implement and maintain appropriate control measures such as catch drains and sediment fences to prevent ponding of stormwater or discharge of stormwater from the site to adjacent properties.
    - Provision of spill/ pollution control equipment that is readily accessible to clean up spills and leaks.
    - Ensure spill/ pollution control measures are available and maintained in working condition.
    - Sediment contained by the sediment control devices such as sandbags, sediment fences and containment bunds must be frequently removed and placed in a controlled area.
    - Implement an inspection schedule for any spill or leaks of any potential polluting areas or activities.

5.6.4 Erosion and Sediment Control Management Goals

- Licenses, approvals, permits and inspection reports are in order.
- Sediment or pollution control devices such as sandbags, sediment fences and containment bunds are in place, maintained and effective.
- Spill/ pollution control equipment is readily accessible at designated locations.
- No accumulated sediment is contained by the sediment control devices such as hay bales, sediment fences and containment bunds.
- No sediment exceeding a depth of 300mm in the pollution control devices (e.g. silt trap).

5.6.5 Erosion and Sediment Control Implementation Program

- Licenses, permits or approvals for each environmentally relevant activity must be obtained prior to the commencement of the particular activity.
- Appropriate control measures such as sediment fences, temporary construction entry/ exit sediment traps, pollution containment devices (e.g. sandbags), stormwater diversion and administrative controls must be installed and established prior to commencement of the earthworks and construction activities.
- Pollution control devices such as spill control equipment must be inspected on a regular basis (at least weekly).
- Other sediment and pollution control equipment such as containment bunds, hay bales and sediment fences must be inspected on a regular basis (at least daily).
- Inspection for any leaks, spills or potential contaminating activity must be performed on a regular basis (at least daily).
- Remove accumulated sediment or other contaminants from sediment/ pollution control devices on a regular basis.
- All erosion and sediment control measures must be inspected within 24 hours of expected rain and within 18 hours of a rainfall event.

5.6.6 Responsible Person or Organisation

The contractor shall be responsible for the implementation and maintenance of the Erosion and Sediment Control Measures.

5.6.7 Reporting/ Review

Records such as licenses, approvals, permits and inspection reports must be reviewed on a regular basis (e.g. at least monthly) to ensure that legal compliance is met, complaints are reviewed and systems are working to prevent contamination.

5.6.8 Corrective Actions

- Perform clean-up of any spills immediately.
- Any mud or sediment which is tracked onto public roads is to be immediately removed using dry clean-up methods (i.e. shovel and broom).
- Remove or relocate any stockpiles of waste where there is a reasonable risk of erosion and sedimentation.
- Replace or repair sediment or pollution control devices if they are not maintained in good working condition.

6 CONCLUSION

This Stormwater Management Plan demonstrates that under the proposed concept plan, stormwater quality and quantity treatment is achievable to the levels required by State Planning Policy July 2017.

The development site runoff will discharge to the existing stormwater network within the Stockland internal carpark stormwater network, which is considered the site's lawful point of discharge. The existing internal drainage network will be diverted around the location of the new building with the new supermarket drainage connecting to the diverted line.

No stormwater detention or rainwater tanks are proposed on site as the development will slightly reduce the site's imperviousness and peak stormwater discharge, with the increase in site landscape areas. This is considered a no worsening impact on the site peak discharge when compared to the existing runoff flows.

Stormwater runoff quality from the site will be improved by the stormwater treatment train for the site which will include Ocean Protect OceanGuards fitted to the field inlets and a treatment precast manhole fitted with Jellyfish filters. These treatment devices will ensure compliance with the requirements of the State Planning Policy.

The site flood assessment will be lodged under separate cover, with the building floor levels set to ensure immunity from the sites Designated Flood Level.

7 LIMITATIONS OF REPORT

MPN have prepared this report for the proposed shopping centre development at 331 Yaamba Road, North Rockhampton in accordance with MPN's proposal to Stockland Development Pty Ltd. This report is provided for the exclusive use of Stockland Development Pty Ltd for this specific project and its requirements. It should not be used or relied upon by a third party and MPN accept no responsibility for the use of this report by any party other than Stockland Development Pty Ltd.

Appendix 1
Architectural Plans

STOCKLAND ROCKHAMPTON

PROPOSED SUPERMARKET DEVELOPMENT APPLICATION

DRAWING SCHEDULE

	Document Title
DA000	COVER SHEET
DA001	EXISTING OVERALL SITE PLAN
DA002	OVERALL SITE PLAN
DA003	GROUND FLOOR PLAN
DA004	ROOF PLAN
DA005	DETAIL FLOOR PLAN
DA020	LANDSCAPING PLAN
DA030	SUNSHADING DIAGRAM PLAN
DA031	MATERIALS PALETTE
DA040	ELEVATIONS
DA041	ELEVATIONS
DA042	SECTION
DA050	PERSPECTIVES
DA051	PERSPECTIVES
DA052	PERSPECTIVES
DA053	PERSPECTIVES
DA054	PERSPECTIVES
DA055	PERSPECTIVES
DA056	PERSPECTIVES

PRELIMINARY

Stockland
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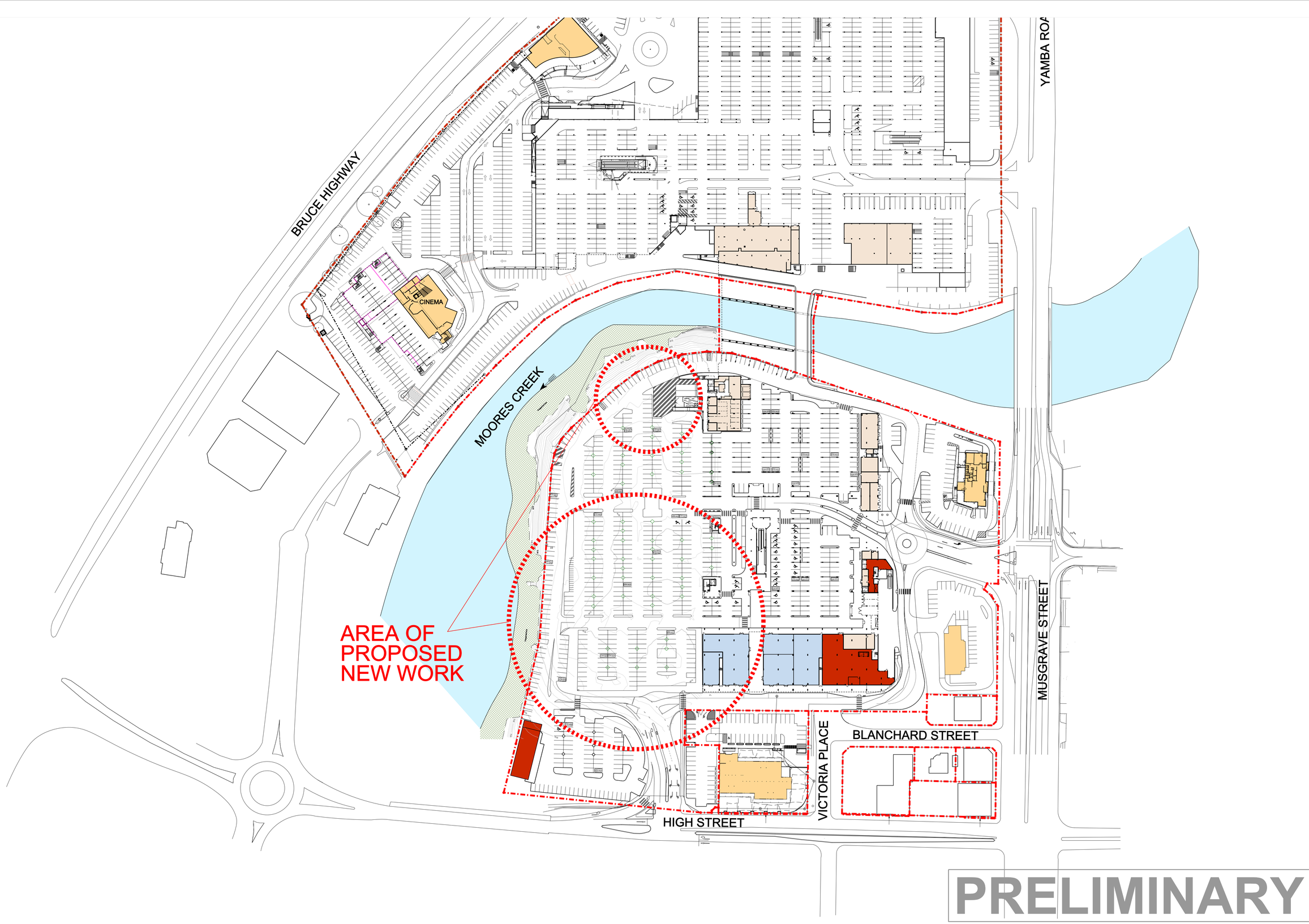
REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: Sketch
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **COVER SHEET**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_000_A_3



PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

SCALE: 1:1000 @ A1
0m 20m 40m 60m 80m

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
EXISTING OVERALL SITE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_001_A_3

BRUCE HIGHWAY

YAMBA ROAD

MOORES CREEK

MUSGRAVE STREET

BLANCHARD STREET

VICTORIA PLACE

HIGH STREET

CINEMA

AREA OF PROPOSED NEW WORK

PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA

AUTHOR: MB

DATE: 15.02.22

SCALE: 1:1000 @ A1

0m 20m 40m 60m 80m

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
OVERALL SITE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_002_A_3

Document Set ID: 35351741
Version: 1, Version Date: 19/05/2022

SCHEDULE OF AREAS

EXISTING GLA:	58,397 m²
EXISTING CARPARKING:	2,807 CARS
NEW SUPERMARKET GLA	+1725 m²
TOTAL CENTRE GLA:	60,122 m²
CARPARKING LOST:	-120 CARS
TOTAL CARPARKING:	2,687 CARS

PROPOSED SHADESAILS OVER DOTTED

CLICK & COLLECT PARKING BAYS

LOADING STANDBY

LANDSCAPED GARDEN

RAMP

LOADING & SERVICE

SUPERMARKET

TROLLEYS

PLAZA

BOH

LANDSCAPED GARDEN

LANDSCAPED GARDEN

RAMP

RAMP

LANDSCAPED GARDEN

01 / 40

01 / 42

02 / 41

01 / 41

02 / 40

Roof Line

Roof Line

34862

3600 6620 6440 6237 3782 7660 480

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670

66292

PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

SCALE: 1:500 @ A3
0m 5m 10m 15m 20m

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
GROUND FLOOR PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_003_A_3

PROPOSED NEW SHADE SAILS

SUN SHADES

BOX GUTTER

FASCIA GUTTER

ROOF PLANT ENCLOSURE

3600 6620 6440 6237 3782 7660 480 = 34862

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670 = 66292

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D D1 E F G

PRELIMINARY

Stockland
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REVISION:
A PRELIMINARY ISSUE 17.12.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:500 @ A3
0m 5m 10m 15m 20m

PROJECT: Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: ROOF PLAN

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_004_A_3

LOADING STANDBY

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

RAISED CROSSING

RAISED CROSSING

NEW COVERED LINK ROOF OVER DOTTED

800 DIA CONC BOLLARDS

02 / 41

01 / 40

RL 13.440

RL 13.480

RL 13.430

RL 14.170
LANDSCAPED GARDEN

RL 14.390

RL 14.360

1:20 RAMP

RL 14.190

RL 14.150

RL 14.150

1 2 3 4 5 6 7 8 9 10 11 12 13 14

H G F E D D1 C B A

3600 6620 6483 34862 6237 3782 7660 480

SUPERMARKET

RETAIL FLOOR AREA

RL 14.900

AIR LOCK

TROLLEY STORE

1:14 RAMP

1:14 RAMP

PLAZA

LANDSCAPED GARDEN

BIN STORE

SERVICE ZONE

COMPACTOR

RL -13.550

LOADING ZONE

LANDSCAPED GARDEN

LOADING DOCK

BIKE RACKS

1:20 RAMP

RL 13.000

FREEZER

CHILLER

WAREHOUSE

SWITCH ROOM

OFFICE

STAFF ROOM

AMB

PWD

CLICK & COLLECT STORE

EXISTING RETAIL

RL 14.320

800 DIA CONC BOLLARDS

LP

LANDSCAPED GARDEN

RL 13.170

RL 13.460

RL 13.790

RL 13.870

02 / 40

01 / 42

3050 3560 1820 6430 6440 6440 6440 6440 6440 6440 7888 5954 2720 2670

66292

LP

LP

LP

FH

PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
SUPERMARKET DETAIL PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_005_A_3

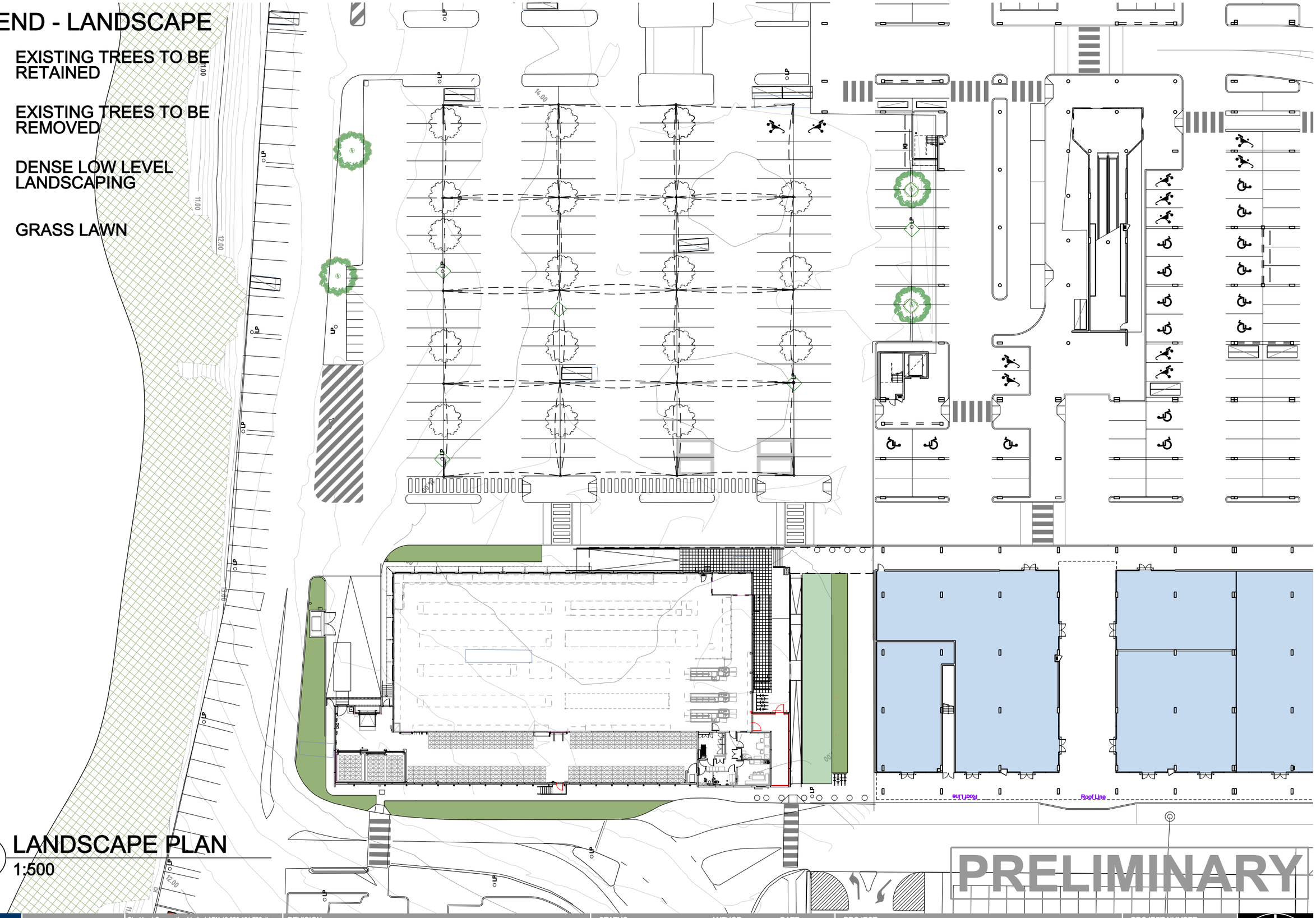
LEGEND - LANDSCAPE

EXISTING TREES TO BE RETAINED

EXISTING TREES TO BE REMOVED

DENSE LOW LEVEL LANDSCAPING

GRASS LAWN



01 LANDSCAPE PLAN

1:500

PRELIMINARY

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Level 25 Castlereagh Street
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Ph : 02 9035 2000
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REVISION:
A PRELIMINARY ISSUE

STATUS: DA

AUTHOR: MB

DATE: 15.02.22

SCALE: 1:500 @ A3

0m 5m 10m 15m 20m

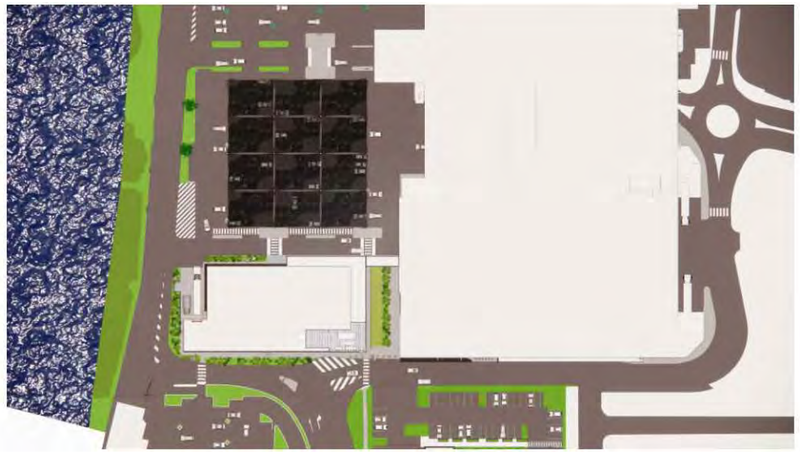
PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
LANDSCAPE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_020_A_3

01 SUMMER 9.00AM



02 SUMMER 12.00PM

03 SUMMER 3.00PM

04 WINTER 9.00AM

05 WINTER 12.00PM

06 WINTER 3.00PM

PRELIMINARY

Stockland

Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.20

STATUS: DA
AUTHOR: MB
DATE: 15.02.20

SCALE: NTS @ A3

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **SUNSHADING DIAGRAMS**

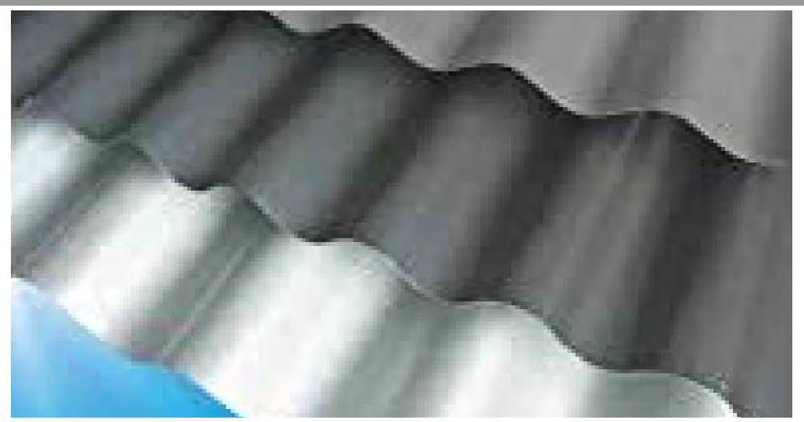
PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_030_A_3

LANDSCAPED PLAZA

PAINTED PRECAST PANELS

CUSTOM ORB



GRASS LAWN

CLIMBING PLANTS

DEEP LANDSCAPING

PRELIMINARY

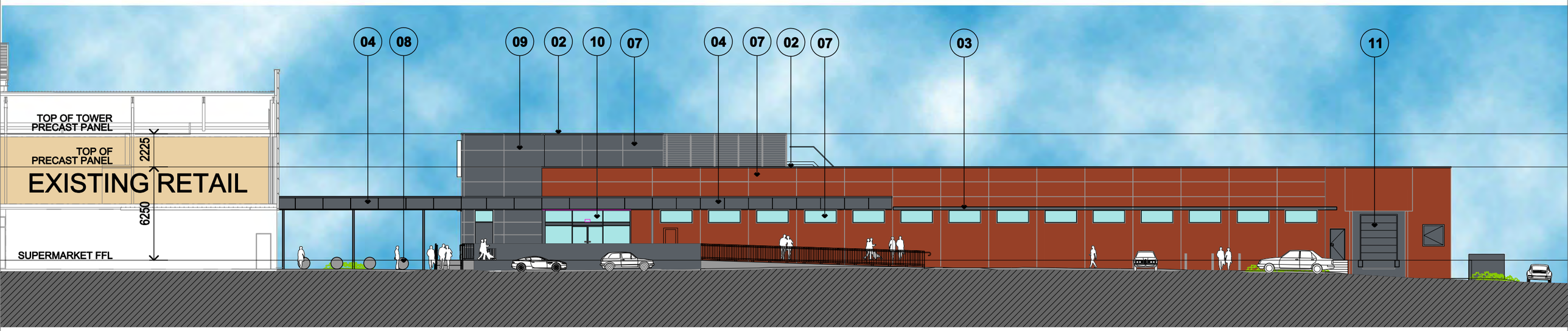
Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

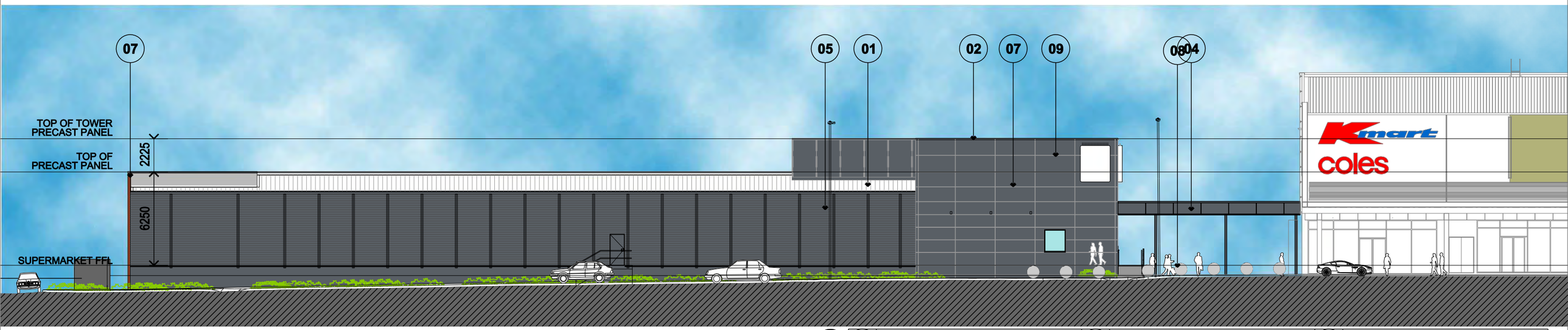
STATUS: DA
AUTHOR: MB
DATE: 15.02.20
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
MATERIAL PALETTE

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_031_A_3



01 NORTH ELEVATION
1:250



02 SOUTH ELEVATION
1:250

LEGEND

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

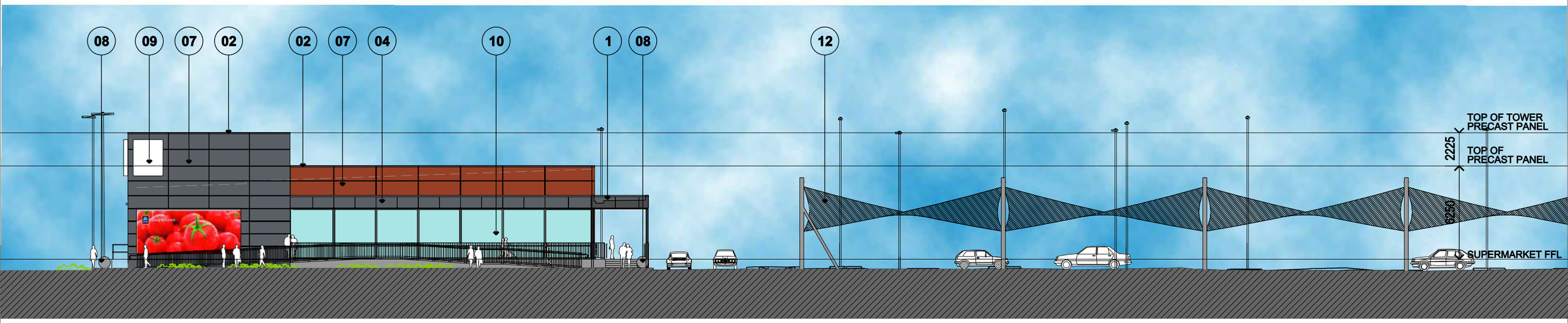
Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

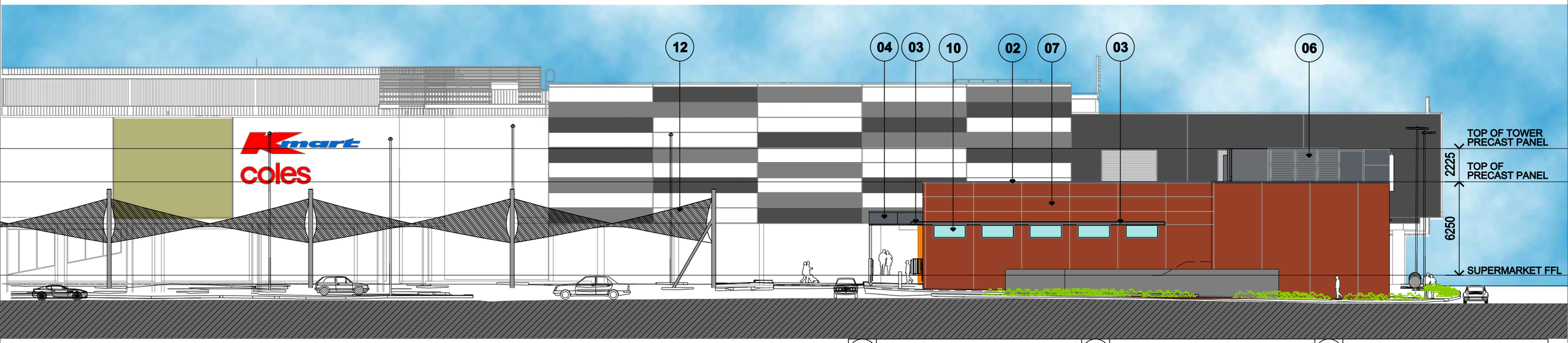
STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_040_A_3



01 EAST ELEVATION
1:250



02 WEST ELEVATION
1:250

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

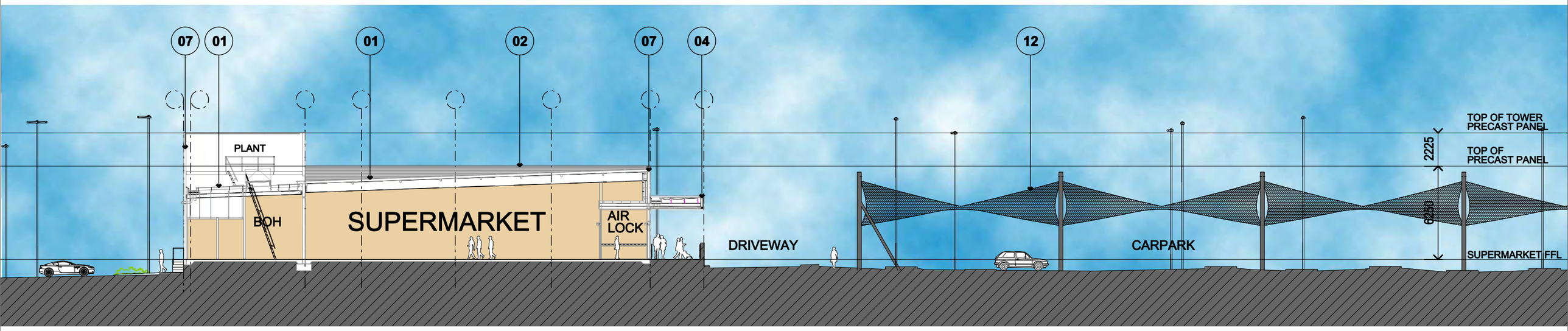
Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_041_A_3



01 SECTION A

1:250

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 11.10.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: SECTION

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_042_A

01 AERIAL VEIW FROM SOUTH

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_050_3

01 VEIW FROM EARLY LEARNING CENTRE CROSSING

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_051_A_3

01 VEIW FROM EARLY LEARNING CENTRE CROSSING

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_052_A_3

01 VEIW FROM ENTRY DRIVEWAY

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_053_A_3

01 VEIW FROM MOORES CREEK

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 17.12.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_054_A_3

01 VEIW FROM NORTHERN CARPARK

PRELIMINARY

Stockland

Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_055_A_3

01 AERIAL VEIW FROM SOUTH WEST

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

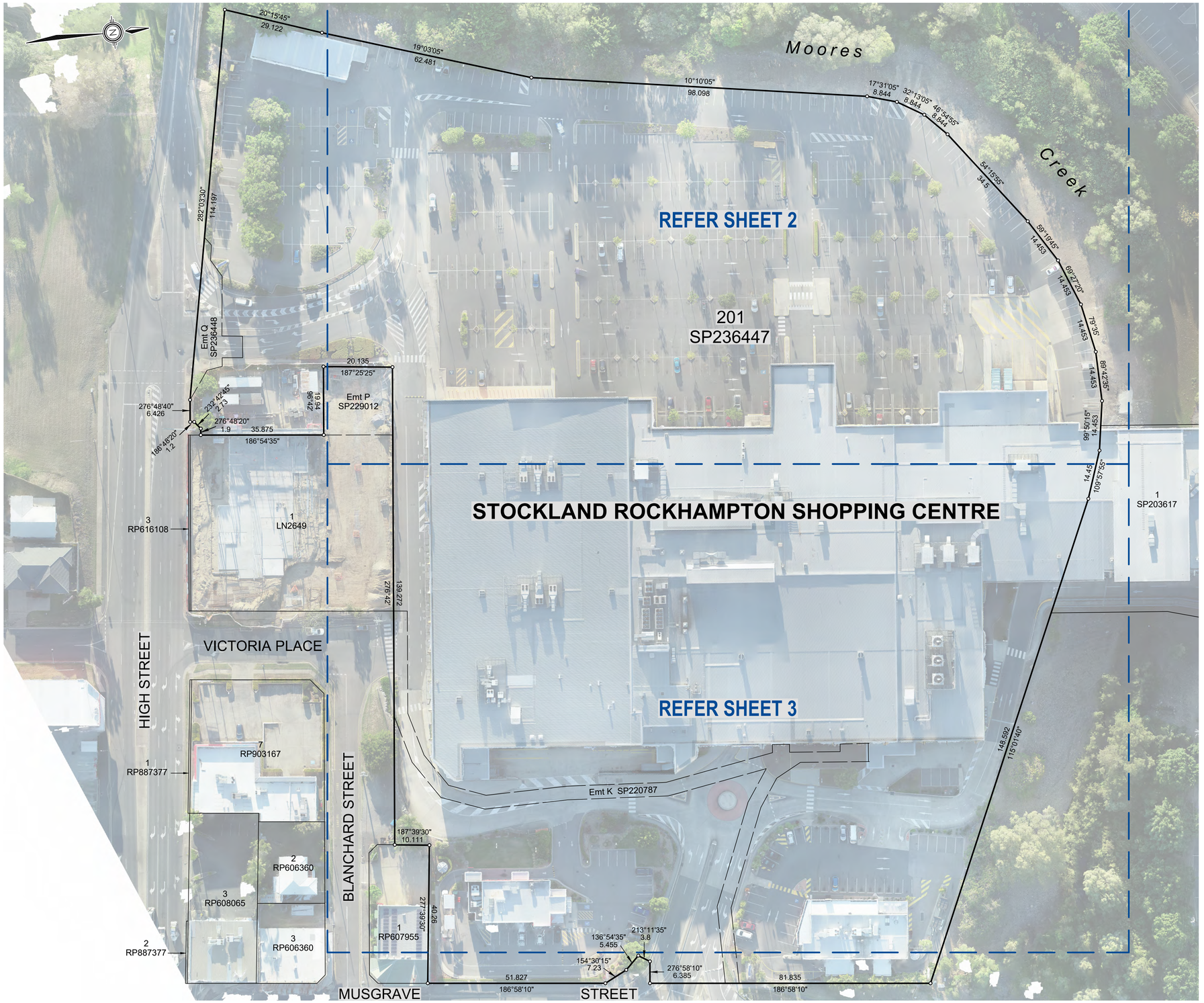
PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_056_A_3

Appendix 2
Survey Plan



Scale 1:600 - Lengths are in Metres.

10 0 10 20 30 40 50 60

SURVEY CONTROL				
Station No.	Easting	Northing	Elevation	Description
STN1	246593.917	7414769.301	13.650	Nail in Concrete
STN2	246624.895	7414870.874	14.432	Nail in Concrete
STN3	246778.040	7414852.225	14.702	Nail in Concrete

LEGEND

- Major Contour (1m Interval) (16.00)
- Minor Contour (0.25m Interval)
- Retaining Wall
- Kerb Invert (KI)
- Road Line Marking
- Roof Line
- Building Edge
- Stormwater Line (SW)
- Communications Line (T)
- Underground Electrical (UE)
- Vegetation
- STN1 Survey Station, ID
- SW Stormwater Manhole
- Humeceptor Pit
- Sewer manhole
- Communications Pit
- Inspection Opening
- SV Sluice Valve
- FH Fire Hydrant
- LP Light Pole
- Electrical Pit
- Irrigation Control Box
- Tree with Approx Canopy Spread

FL	Floor Level
IL	Invert Level
CL	Cover Level
E/PIT	Electrical Pit
GT	Gully Trap
KI	Kerb Invert
RCP	Reinforced Concrete Pipe
TW	Top of Wall

NOTES

1. The title boundaries shown hereon were not marked at the time of survey, and have been determined by plan dimensions only and not by field measurement.
2. No Service As-Constructed information was received for this plan at time of survey. Services shown hereon have been located where possible by field survey.
3. Some underground services have also been plotted utilising GPR or Potholing techniques provided by Vac Group. Vision Surveys (QLD) accepts no responsibility for the searching, accuracy or locations of these services. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services prior to construction on this site.
4. For presentation purposes some information has not been represented on this plan. For complete information refer to digital CAD (*dwg*) file.

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PLAN OF CONTOUR AND DETAIL SURVEY

PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

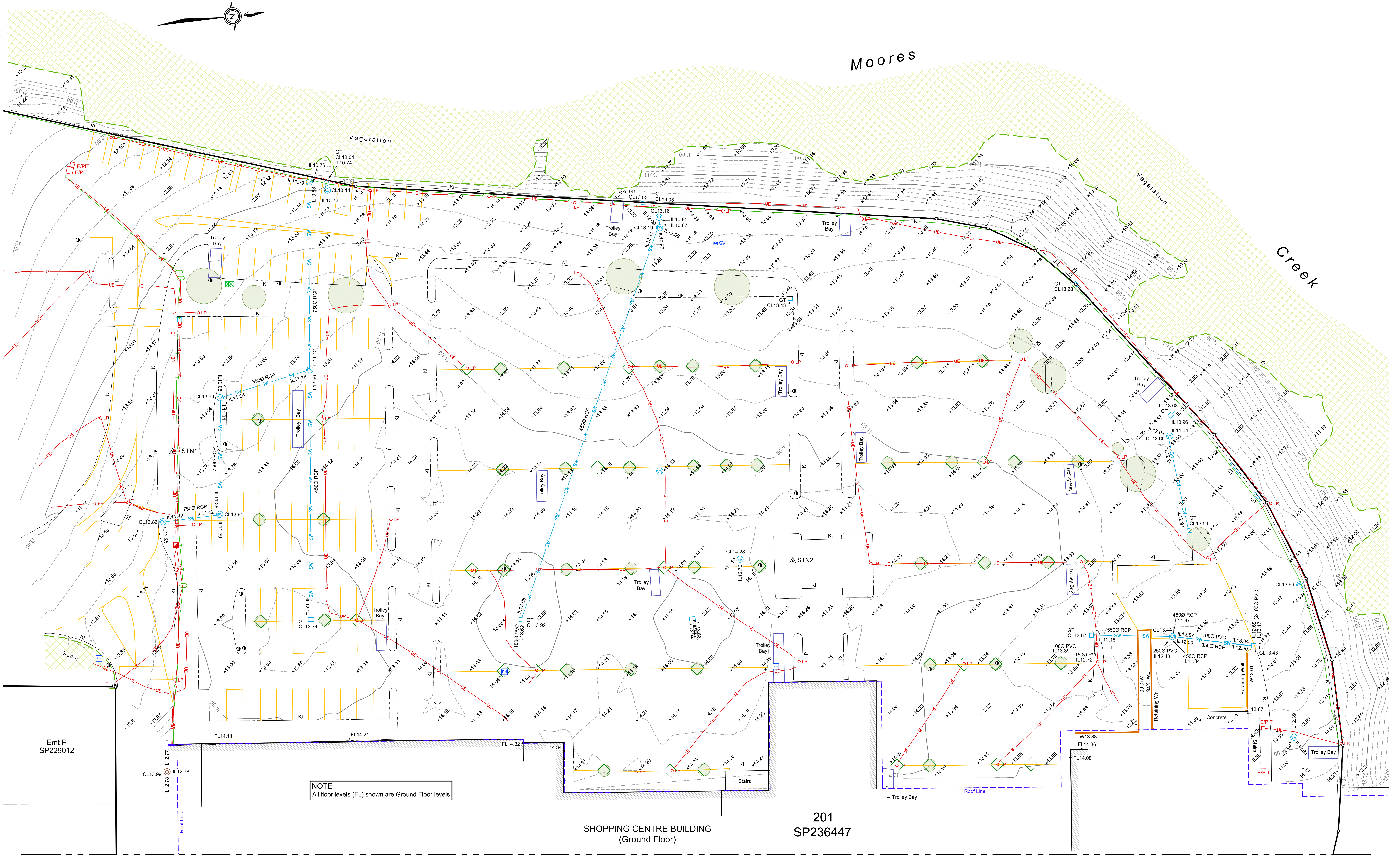
LOCATION: 331 YAAMBA ROAD, BERSERKER

Real Property Description: LOT 201 ON SP236447

CLIENT: STOCKLAND

Horizontal Datum:	MGA (GDA94) ZONE 56	Scale:	1:600 @ A1
Vertical Datum:	AHD	Drawn:	AD
Local Authority:	ROCKHAMPTON REGIONAL COUNCIL	Surveyed:	JS
		Drawing No:	21765-CD-01
		Sheet:	1 OF 3
		Revision:	A

VISION
Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD
E : admin@visionsurveysqld.com.au P : 13000VISION



ADJOINS SHEET 3

Scale 1:300 - Lengths are in Metres.
5 0 5 10 15 20 25 30

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PLAN OF CONTOUR AND DETAIL SURVEY

PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

LOCATION: 331 YAAMBA ROAD, BERSERKER

Real Property Description: LOT 201 ON SP236447

CLIENT: STOCKLAND

Horizontal Datum: MGA (GDA94) ZONE 56

Vertical Datum: AHD

Local Authority: ROCKHAMPTON REGIONAL COUNCIL

VISION

Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD

E : admin@visionsurveysqld.com.au P : 13000VISION

Scale:	1:300 @ A1	Drawing No:	21765-CD-01
Drawn:	AD	Sheet:	2 OF 3
Surveyed:	JS	Revision:	A

ADJOINS SHEET 2

1
LN2649

Roof Line

FL14.38

201
SP236447

SHOPPING CENTRE BUILDING
(Ground Floor)

NOTE
All floor levels (FL) shown are Ground Floor levels

FL14.35

FL14.34

FL14.28

Stairs

FL14.72

FL14.32

FL15.46

15.28

Roof Line

FL15.31

FL14.56

FL14.37

FL14.41

Emt K SP220787

STN3

Creek

Moores

BLANCHARD STREET

1
RP607955

Scale 1:300 - Lengths are in Metres.

5 0 5 10 15 20 25 30

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PLAN OF CONTOUR AND DETAIL SURVEY

PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

LOCATION: 331 YAAMBA ROAD, BERSERKER
Real Property Description: LOT 201 ON SP236447

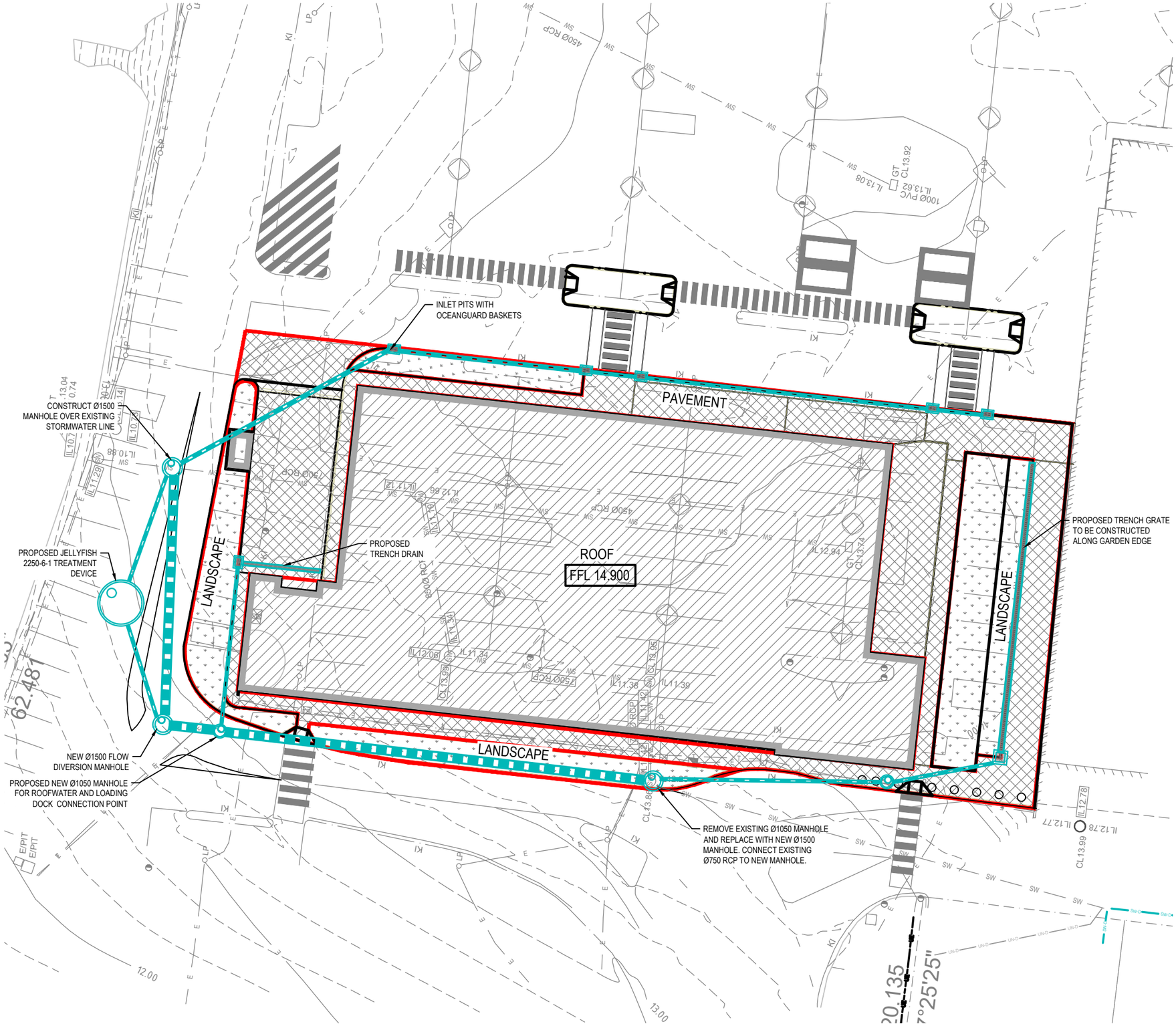
CLIENT: STOCKLAND

Horizontal Datum: MGA (GDA94) ZONE 56
Vertical Datum: AHD
Local Authority: ROCKHAMPTON REGIONAL COUNCIL

VISION
Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD
E : admin@visionsurveysqld.com.au P : 13000VISION

Scale: 1:300 @ A1
Drawn: AD
Surveyed: JS
Drawing No: 21765-CD-01
Sheet: 3 OF 3
Revision: A

Appendix 3
MPN Plans



LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
	FLUSH KERB	
	KERB RAMP	
SW	STORM WATER MAIN	
W	WATER MAIN	
S	SEWER MAIN	
G	GAS MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	LINE OF SAW CUT	LINE OF SAW CUT
	FINISHED SURFACE LEVEL	FSL 22.22
	ROOF AREA	
	ROAD AREA	
	LANDSCAPE AREA	

TREATMENT TABLE

CATCHMENT	TREATMENT TYPE	CATCHMENT AREA (Ha)	IMPERVIOUS AREA (%)
ROOF	JF2250-6-1	0.070	100
PAVEMENT	JF2250-6-1 OCEANGUARD	0.180	100
LANDSCAPE	JF2250-6-1 OCEANGUARD	0.120	30
TOTAL		0.3700	

NOTE:
ALL FIELD INLETS TO BE FITTED WITH OCEANGUARDS

0 2 4 6 8 10
SCALE 1:200 (A1) 1:400 (A3)

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

mpn consulting
ABN: 39 062 191 799
39 Sherwood Road, Toowong, Qld, 4066
P: 61 7 3335 4555
E: solutions@mpnc.net.au

CLIENT:
STOCKLAND

ROCKHAMPTON
ALDI
120-331 YAAMBA ROAD
NORTH ROCKHAMPTON, QLD 4701

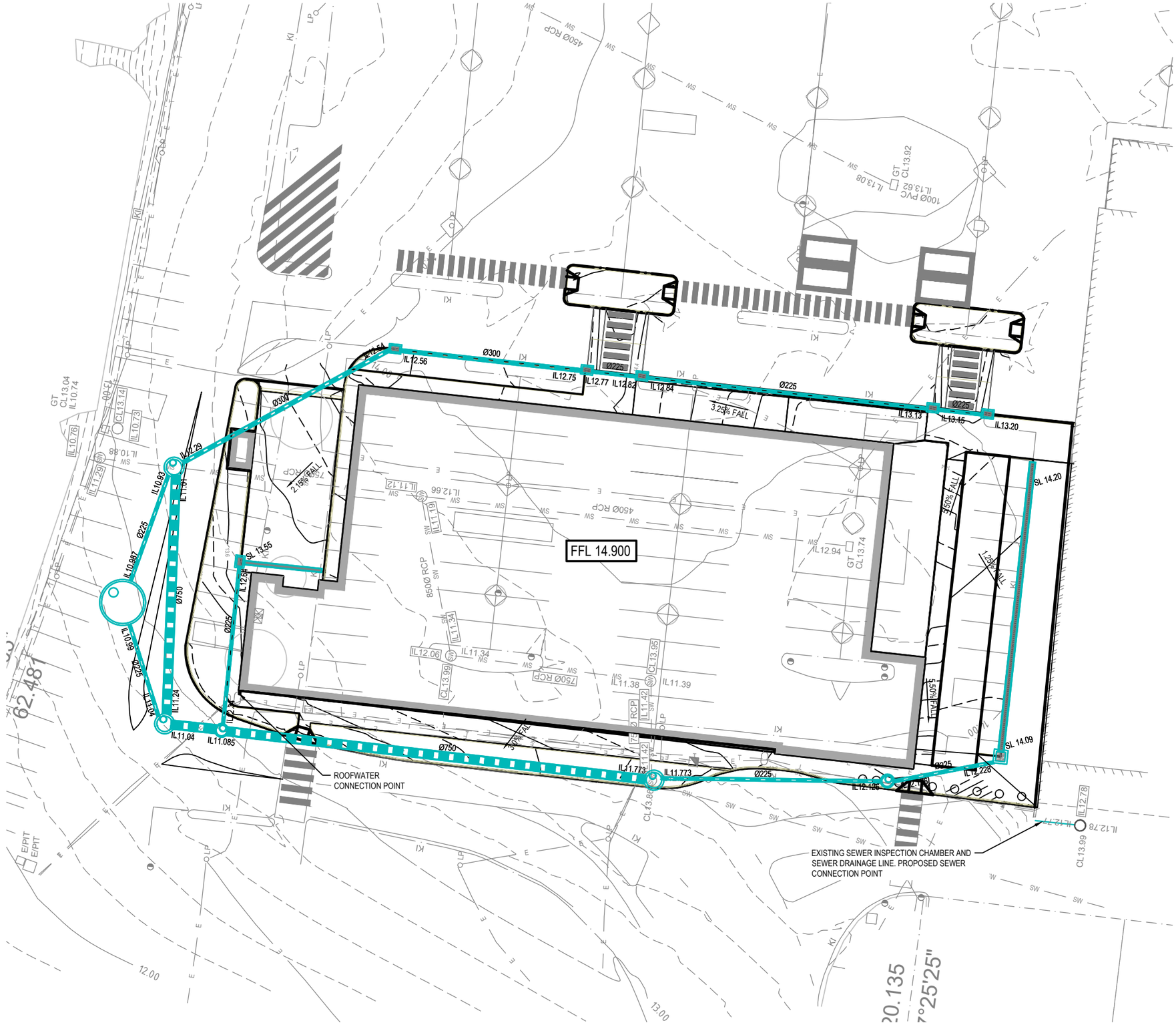
STORMWATER TREATMENT PLAN

DESIGN: BT	DRAWN: BT	SCALES: AS SHOWN
CHKD: LS	APPRD: LS	DATE:

mpn JOB	DRAWING No.	REV
9180	DA.01	A

NOT FOR CONSTRUCTION

FOR APPROVAL



LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
	FLUSH KERB	
	KERB RAMP	
SW	STORM WATER MAIN	
W	WATER MAIN	W
S	SEWER MAIN	S
G	GAS MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	LINE OF SAW CUT	LINE OF SAW CUT
	FINISHED SURFACE LEVEL	FSL 22.22

NOTE:
DEVELOPMENT TO CONNECT TO EXISTING SHOPPING CENTRE WATER RETICULATION SYSTEM.

0 2 4 6 8 10
SCALE 1:200 (A1) 1:400 (A3)

NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

mpn consulting
ABN: 39 062 191 799
39 Sherwood Road, Toowong, Qld, 4066
P: 61 7 3335 4555
E: solutions@mpnc.net.au

CLIENT:
STOCKLAND

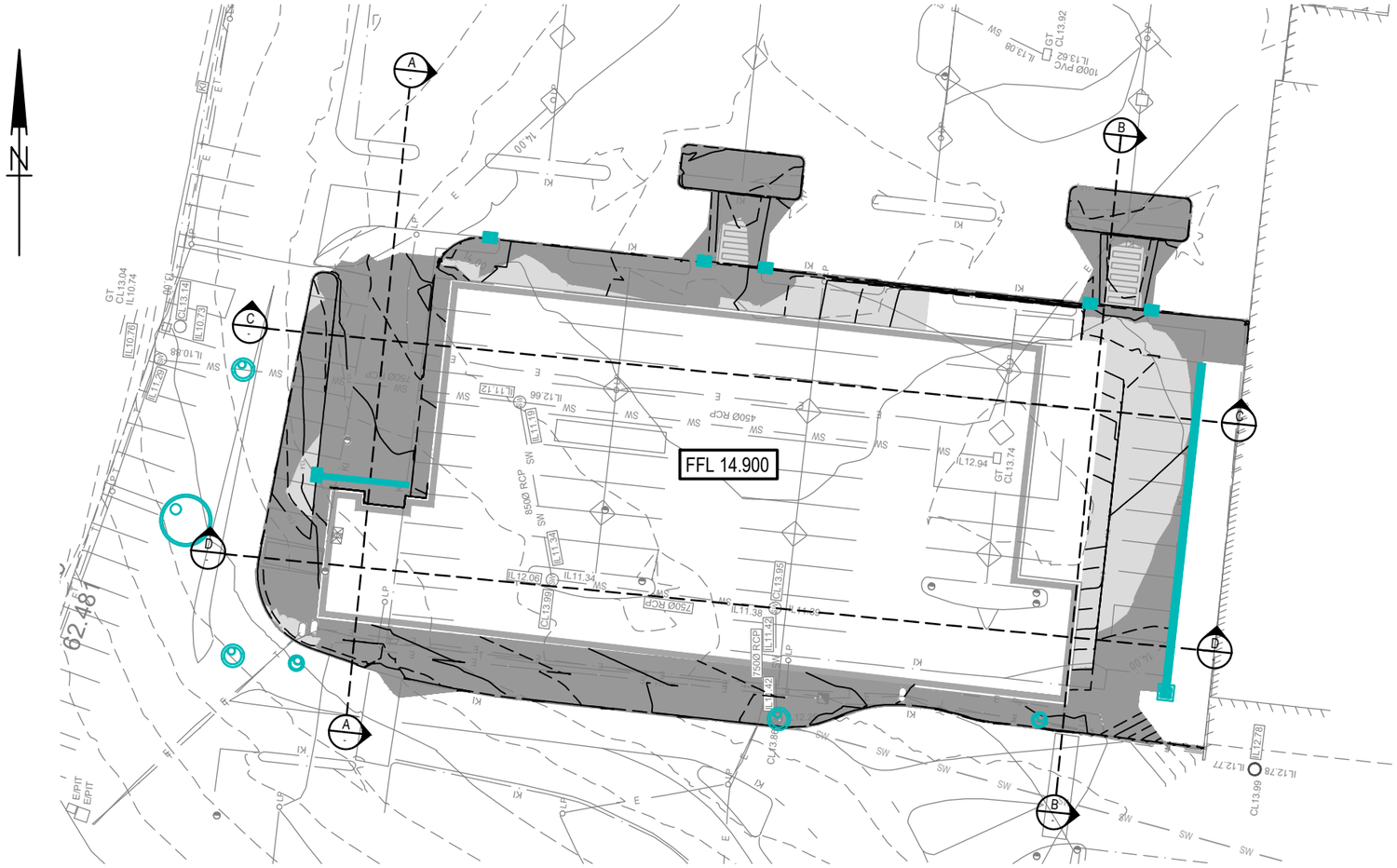
ROCKHAMPTON ALDI
120-331 YAAMBA ROAD
NORTH ROCKHAMPTON, QLD 4701

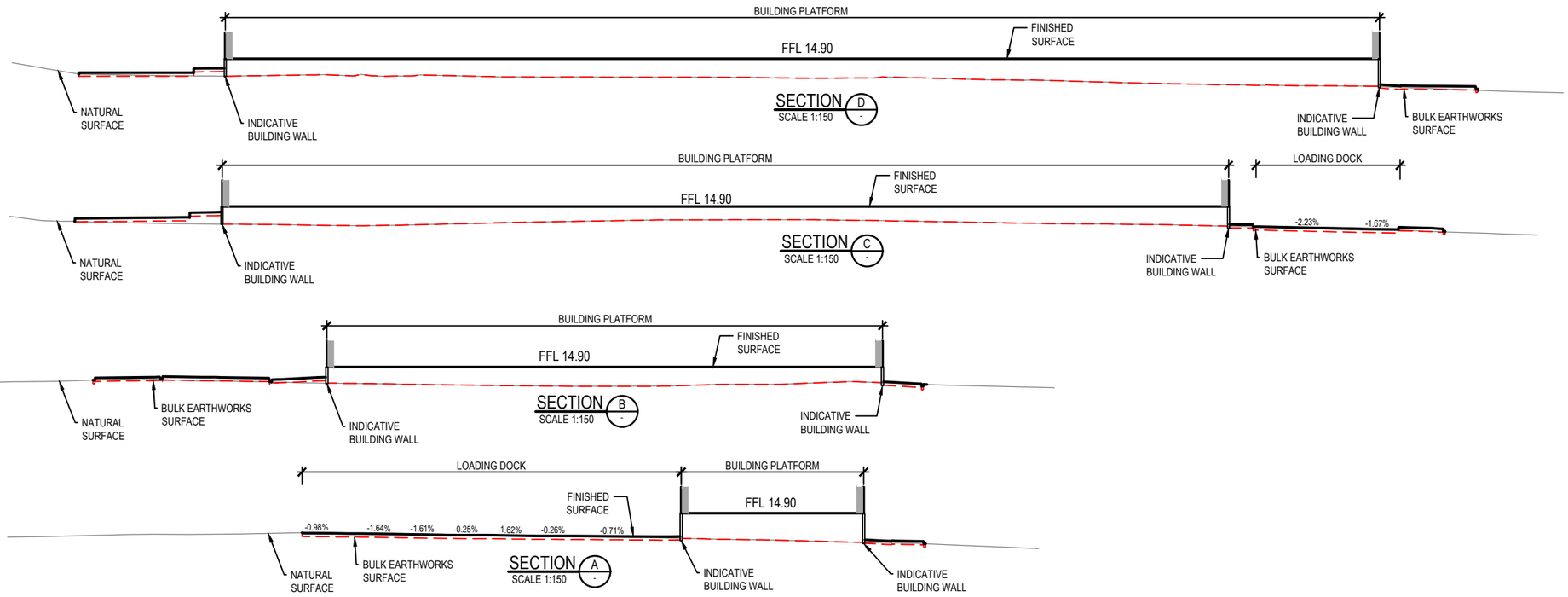
SERVICES CONNECTION AND PROPOSED LEVELS PLAN

DESIGN:	BT	DRAWN:	BT	SCALES:	AS SHOWN
CHKD:	LS	APPRD:	LS	DATE:	

mpn JOB	DRAWING No.	REV
9180	DA.02	A

FOR APPROVAL





LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
SW	STORM WATER MAIN	
RW	ROOFWATER	
W	WATER MAIN	
S	SEWER MAIN	
RM	RISING MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	BUILDING WALL	
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	CONCRETE CHANNEL	
	BULK EARTHWORKS LEVEL	BE 22.22
	TREE	
	CUT AREA	
	FILL AREA	

EARTHWORKS TABLE

SITE	CUT (m³)	FILL (m³)	BALANCE (m³)
BULK EARTHWORKS	-139.0660	52.188	-86.8780

0 1 2 3 4 5 6 7.5
SCALE 1:150 (A1) 1:300 (A3)

0 5 10 12.5
SCALE 1:250 (A1) 1:500 (A3)

NOTE:
BUILDING TO BE ON SUSPENDED PLATFORM OVER EXISTING ASPHALT CAR PARK.

NOT FOR CONSTRUCTION

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

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ALDI
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BULK EARTHWORKS PLAN AND SECTIONS

DESIGN: BT	DRAWN: BT	SCALES: AS SHOWN
CHKD: LS	APPRD: LS	DATE:

mpn JOB	DRAWING No.	REV
9180	DA.03	A

FOR APPROVAL

Appendix 4
Rational Method Calculations

120-331 Yaamba Rd, North Rockhampton
Rational Method Calculations
File: 9180
Date: 11/02/2022

Stormwater Drainage Runoff - Calculations	Unit	Value						Reference / Comments
Existing condition								
Average Recurrence Interval (ARI)	Years	2	5	10	20	50	100	
Area	ha	0.40	0.40	0.40	0.40	0.40	0.40	
f_i		0.94	0.94	0.94	0.94	0.94	0.94	
C_{10}		0.90	0.90	0.90	0.90	0.90	0.90	QUDM Table 4.5.3
F_y		0.85	0.95	1.00	1.05	1.15	1.20	QUDM Table 4.5.2
$C_y = F_y * C_{10}$		0.77	0.86	0.90	0.95	1.00	1.00	
Time of Concentration ($t_{c)}$	mins	5.00	5.00	5.00	5.00	5.00	5.00	QUDM Section 4.6.4
Rainfall Intensity (I)	mm / hr	128.00	171.00	200.00	230.00	270.00	301.00	
Q_{pre}(Peak Runoff) = (C*I*A)/360	m^3 / s	0.109	0.163	0.201	0.242	0.301	0.336	

Stormwater Drainage Runoff - Calculations	Unit	Value						Reference / Comments
Developed Condition								
Average Recurrence Interval (ARI)	Years	2	5	10	20	50	100	
Area	ha	0.40	0.40	0.40	0.40	0.40	0.40	
f_i		0.88	0.88	0.88	0.88	0.88	0.88	
C_{10}		0.88	0.88	0.88	0.88	0.88	0.88	QUDM Table 4.5.3
F_y		0.85	0.95	1.00	1.05	1.15	1.20	QUDM Table 4.5.2
$C_y = F_y * C_{10}$		0.75	0.84	0.88	0.92	1.00	1.00	
Time of Concentration ($t_{c)}$	mins	5.00	5.00	5.00	5.00	5.00	5.00	QUDM Section 4.6.4
Rainfall Intensity (I)	mm / hr	128.00	171.00	200.00	230.00	270.00	301.00	
Q_{post} (Peak Runoff) = (C*I*A)/360	m^3 / s	0.107	0.159	0.196	0.237	0.301	0.336	

Appendix 5
Ocean Protect General Arrangement Plans and Maintenance Manuals

Jellyfish Filter

Operations & Maintenance Manual

Document Set ID: 35351741
Version: 1, Version Date: 19/05/2022

Table of Contents

Introduction

The primary purpose of stormwater treatment devices is to capture and prevent pollutants from entering waterways, maintenance is a critical component of ensuring the ongoing effectiveness of this process. The specific requirements and frequency for maintenance depends on the treatment device and pollutant load characteristics of each site. This manual has been designed to provide details on the cleaning and maintenance processes for the Jellyfish Filter as recommended by the manufacturer.

The Jellyfish Filter is a stormwater quality treatment technology featuring high surface area and high flow rate membrane filtration at low driving head. By incorporating pre-treatment with light-weight membrane filtration, the Jellyfish Filter removes floatables, trash, oil, debris, TSS and a high percentage of particulate-bound pollutants; including phosphorus and nitrogen, metals and hydrocarbons.

Why do I need to perform maintenance?

Adhering to the maintenance schedule of each stormwater treatment device is essential to ensuring that it functions properly throughout its design life.

During each inspection and clean, details of the mass, volume and type of material that has been collected by the device should be recorded. This data will assist with the revision of future management plans and help determine maintenance interval frequency. It is also essential that suitably qualified and experienced personnel carry out all maintenance (including inspections, recording and reporting) in a systematic manner.

Maintenance of your stormwater management system is essential to ensuring ongoing at-source control of stormwater pollution. Maintenance also helps prevent structural failures (e.g. prevents blocked outlets) and aesthetic failures (e.g. debris build up), but most of all ensures the long term effective operation of the Jellyfish.

Health and Safety

Access to a Jellyfish unit requires removing heavy access covers/grates, and entry into a confined space. Pollutants collected by the Jellyfish will vary depending on the nature of your site. There is potential for these materials to be harmful. For example, sediments may contain heavy metals, carcinogenic substances or objects such as broken glass and syringes. For these reasons, all aspects of maintaining and cleaning your Jellyfish require careful adherence to Occupational Health and Safety (OH&S) guidelines.

It is important to note that the same level of care needs to be taken to ensure the safety of non-work personnel. As a result, it may be necessary to employ traffic/pedestrian control measures when the device is situated in, or near areas with high vehicular/pedestrian activity.

Personnel health and safety

Whilst performing maintenance on the Jellyfish, precautions should be taken in order to minimise (or, if possible, prevent) contact with sediment and other captured pollutants by maintenance personnel. The following personal protective equipment (PPE) is subsequently recommended:

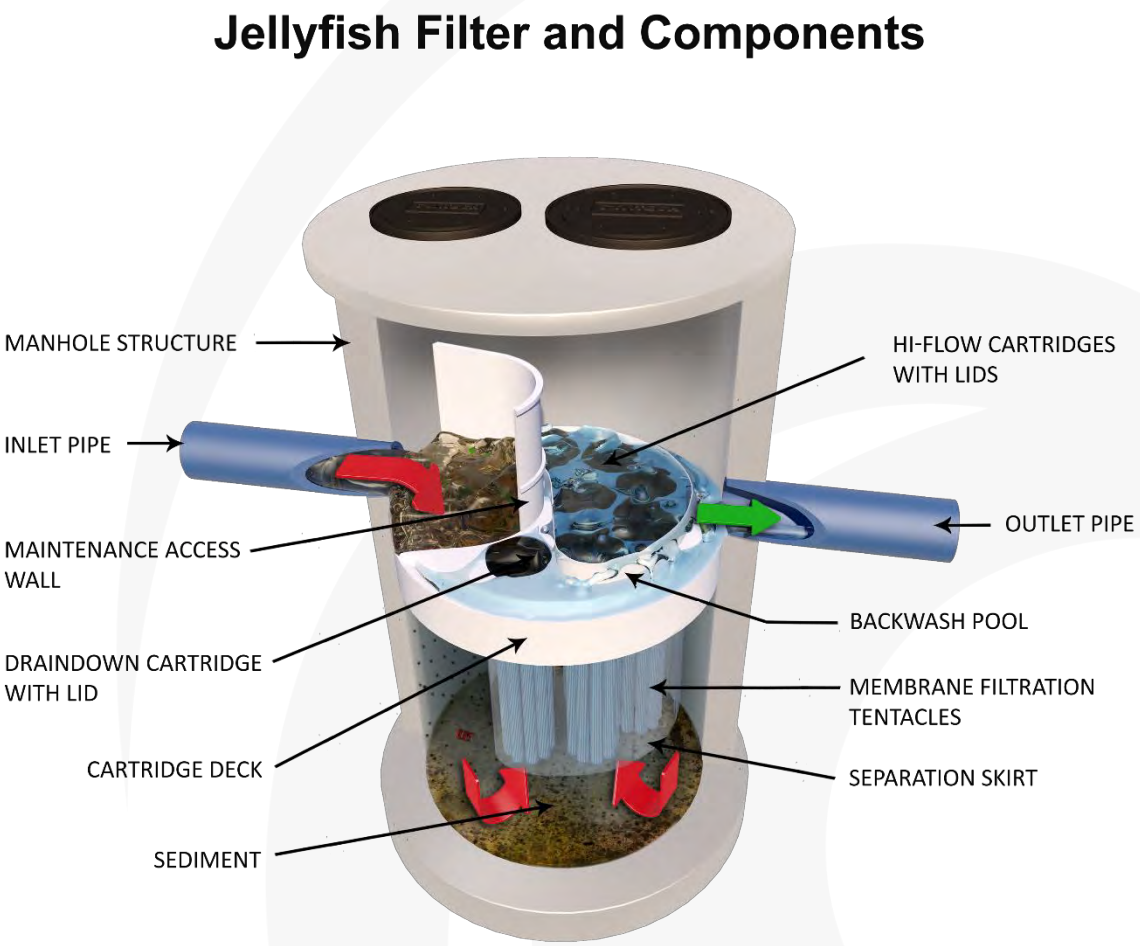
- Puncture resistant gloves
- Steel capped safety boots
- Long sleeve clothing, overalls or similar skin protection
- Eye protection
- High visibility clothing or vest

During maintenance activities, it may be necessary to implement traffic control measures. Ocean Protect recommend that a separate site-specific traffic control plan is implemented as required to meet the relevant governing authority guidelines.

Whilst some aspects of Jellyfish maintenance can be performed from surface level, there will be a need to enter the Jellyfish pit (confined space) for both minor and major services. It is recommended that all maintenance personnel evaluate their own needs for confined space entry and compliance with relevant industry regulations and guidelines. Ocean Protect maintenance personnel are fully trained and carry certification for confined space entry applications.

How does it Work?

Stormwater enters the Jellyfish system through the inlet pipe where floatable pollutants are captured behind the maintenance access wall. As stormwater enters the treatment chamber a separation skirt ensures the retention of oils whilst simultaneously protecting the filtration cartridges and allowing coarse particles to settle below on the chamber floor. Stormwater then passes through the Jellyfish cartridges and onto the Jellyfish deck, at this point the backwash pool will fill and overflow allowing treated stormwater to exit via the outlet pipe.



As the storm event subsides, the treated water held in the backwash pool passes back through the high flow cartridges into the treatment chamber. This passive backwash helps to clear the cartridge surface by dislodging sediment onto the chamber floor. The drain down cartridge(s) located outside the backwash pool enables water levels to balance, leaving the cartridge deck level free of standing water.

Maintenance Procedures

To ensure optimal performance, it is advisable that regular maintenance is performed. Typically the Jellyfish requires a service every 6 months, additionally as the Jellyfish cartridges capture pollutants they will need to be replaced (expected cartridge life is 2-5 years with a maximum cartridge life of 5 years).

Primary Types of Maintenance

The table below outlines the primary types of maintenance activities that typically take place as part of an ongoing maintenance schedule for the Jellyfish.

	Description of Typical Activities	Frequency
Minor Service	Removal & rinsing of cartridges Wash down of deck level Removal of large floatable pollutants Removal of accumulated sediment (if required)	Every 6 Months
Major Service	Replacement of Jellyfish cartridges	As required

Maintenance requirements and frequencies are dependent on the pollutant load characteristics of each site. The frequencies provided in this document represent what the manufacturer considers to be best practice to ensure the continuing operation of the device is in line with the original design specification.

Minor Service

This service is designed to assess the condition of the Jellyfish cartridges and record necessary information that will establish whether a major service is required.

1. Establish a safe working area around the access point
2. Remove access covers
3. Using a vacuum unit or net remove any floatable gross pollutants contained behind the maintenance access wall
4. Using a vacuum unit decant the water until the level drops below the base of the cartridges
5. Remove Jellyfish cartridges*
    a. Remove cartridge lid
    b. Remove cartridges vertically from chamber, lifting from eye nut lifting points only
    c. Replace and secure cartridge lid back into deck to reduce trip hazards during maintenance
6. Unscrew all 11 tentacles from the cartridge head plate, keep all components for reassembly*
7. Rinse each tentacle individually NOTE: excessive water pressure may damage the tentacles
    a. Position tentacle in a container (to capture runoff) with the open end facing down
    b. Rinse entire length of cartridge using only low pressure water source (e.g. garden hose).
    c. Evaluate and note the condition of the tentacles
    d. Ensure runoff is disposed appropriately
    e. Re-assemble cartridges ready for reinstallation*
8. Wash down deck level to remove any built up sediment (if required)
9. Measure the level of accumulated sediment in the chamber if depth is greater than 300mm use vacuum unit to remove sediment.
10. Re-install Jellyfish cartridges
    a. Remove cartridge lid
    b. Lower cartridge into chamber, lifting from eye nut lifting points only
    c. Insert cartridge vertically into cartridge receptacle, and secure cartridge lid back in place
11. Replace access covers

**Refer appendix 1 for Jellyfish Cartridge Schematic*

Major Service (Filter Cartridge Replacement)

For the Jellyfish system a major service is a reactionary process based on the outcomes from the minor service.

Trigger Event	Maintenance Action
Rinsing does not remove accumulated sediment from the tentacles	Replace Jellyfish tentacles[1]
Jellyfish tentacles are damaged	Replace Jellyfish tentacles[1]
Jellyfish cartridges have been in operation for 5 years	Replace Jellyfish tentacles[1]

[1] Replacement filter tentacles and components are available for purchase from Ocean Protect.

This service is designed to return the Jellyfish device back to optimal operating performance

1. Establish a safe working area around the access point
2. Remove access covers
3. Using a vacuum unit or net remove any floatable gross pollutants contained behind the maintenance access wall
4. Using a vacuum unit decant the water until the level drops below the base of the cartridges
5. Remove Jellyfish cartridges*
    a. Remove cartridge lid
    b. Remove cartridges vertically from chamber, lifting from eye nut lifting points only
    c. Replace and secure cartridge lid back into deck to reduce trip hazards during maintenance
6. Unscrew all 11 tentacles from the cartridge head plate for disposal, keep all components for fixing of new tentacles to existing head plate*
7. Wash down deck level to remove any built up sediment (if required)
8. Use vacuum unit to remove accumulated sediment and pollutants in the chamber
9. Install replacement tentacles into each head plate*
10. Install Jellyfish cartridges
    a. Remove cartridge lid
    b. Lower cartridge into chamber, lifting from eye nut lifting points only
    c. Insert cartridge vertically into cartridge receptacle, and secure cartridge lid back in place
11. Replace access covers

**Refer appendix 1 for Jellyfish Cartridge Schematic*

Additional Types of Maintenance

Occasionally events on site can make it necessary to perform additional maintenance to ensure the continuing performance of the device.

Hazardous Material Spill

If there is a spill event on site, the Jellyfish unit should be inspected and serviced accordingly. Specifically, all captured pollutants and liquids from within the unit should be removed and disposed in accordance with any additional requirements that may relate to the type of spill event. Additionally, it will be necessary to inspect the filter cartridges and assess their contamination, depending on the type of spill event it may be necessary to replace the filtration cartridges.

Blockages

The Jellyfish treatment system is designed to operate in an offline arrangement, where an upstream high flow bypass structure is in used. In the unlikely event that flooding occurs upstream of the Jellyfish system, the following steps should be undertaken to assist in diagnosing the issue and determining the appropriate response.

1. Inspect the upstream diversion structure to ensure that it is free of debris and pollutants
2. Inspect the Jellyfish unit checking both the inlet and outlet pipes for obstructions (e.g. pollutant build-up, blockage), which if present, should be removed.

Major Storms and Flooding

In addition to the scheduled activities, it is important to inspect the condition of the Jellyfish after a major storm event. The focus is to inspect for damage and higher than normal sediment accumulation that may result from localised erosion. Where necessary, damaged components should be replaced and accumulated pollutants should be removed and disposed.

Disposal of Waste Materials

The accumulated pollutants found in the Jellyfish must be handled and disposed of in a manner that is in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. If the filter cartridges have been contaminated with any unusual substance, there may be additional special handling and disposal methods required to comply with relevant government/authority/industry regulations.

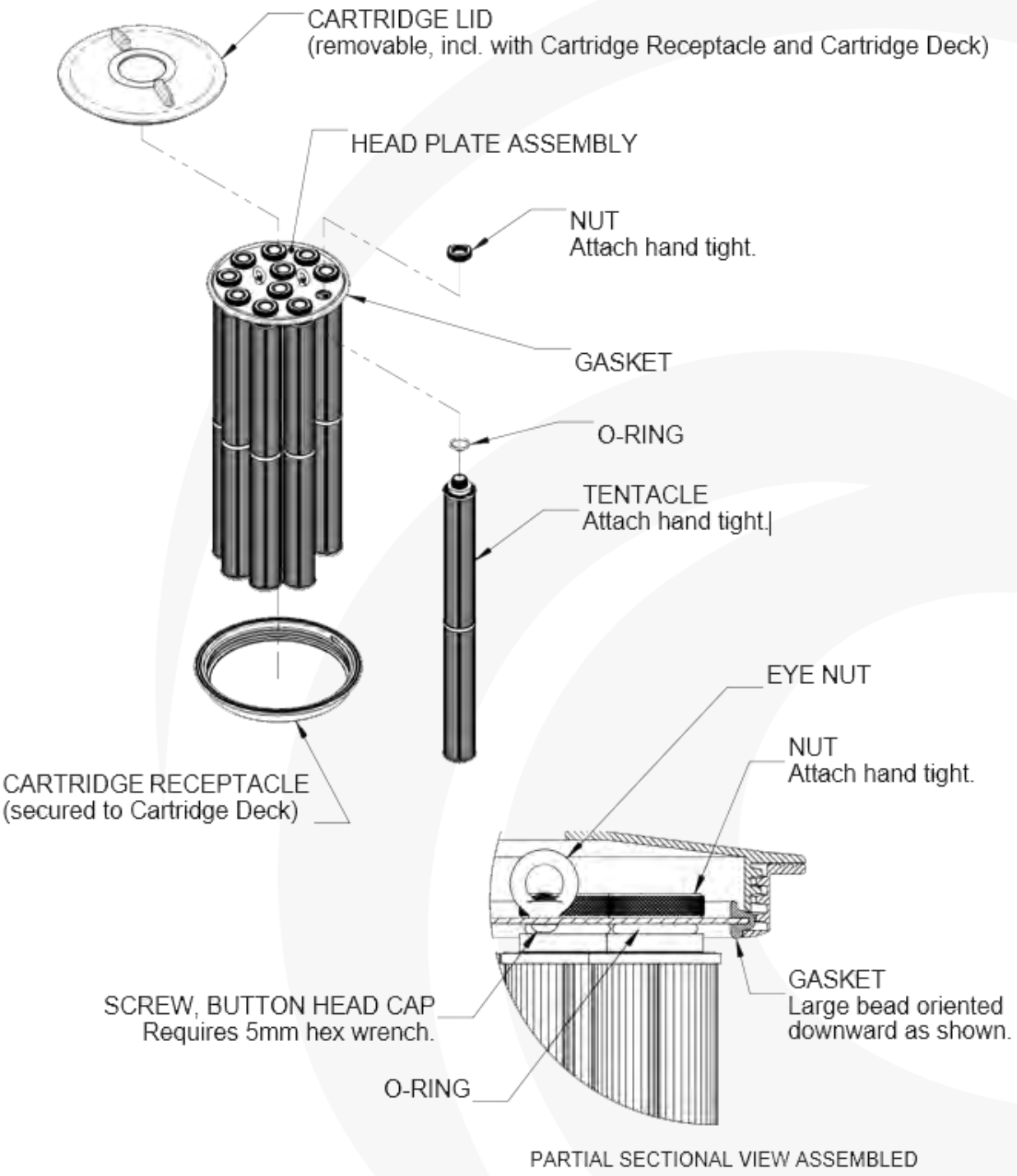
Maintenance Services

With over a decade and a half of maintenance experience Ocean Protect has developed a systematic approach to inspecting, cleaning and maintaining a wide variety of stormwater treatment devices. Our fully trained and professional staff are familiar with the characteristics of each type of system, and the processes required to ensure its optimal performance.

Ocean Protect has several stormwater maintenance service options available to help ensure that your stormwater device functions properly throughout its design life. In the case of our Jellyfish system we offer long term pay-as-you-go contracts, pre-paid once off servicing and replacement cartridges.

For more information please visit www.OceanProtect.com.au

Appendix 1 – Jellyfish Cartridge Schematic



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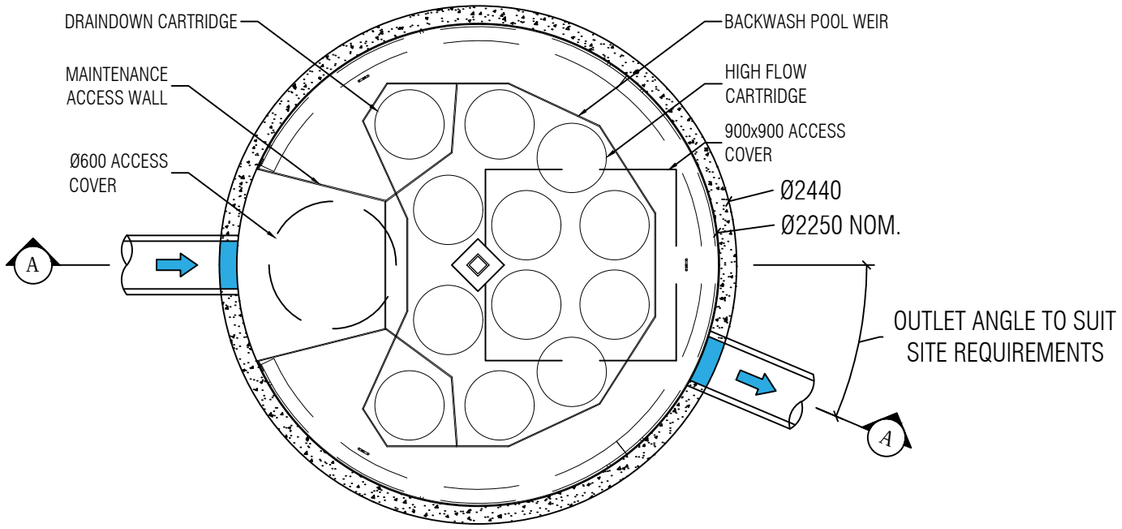
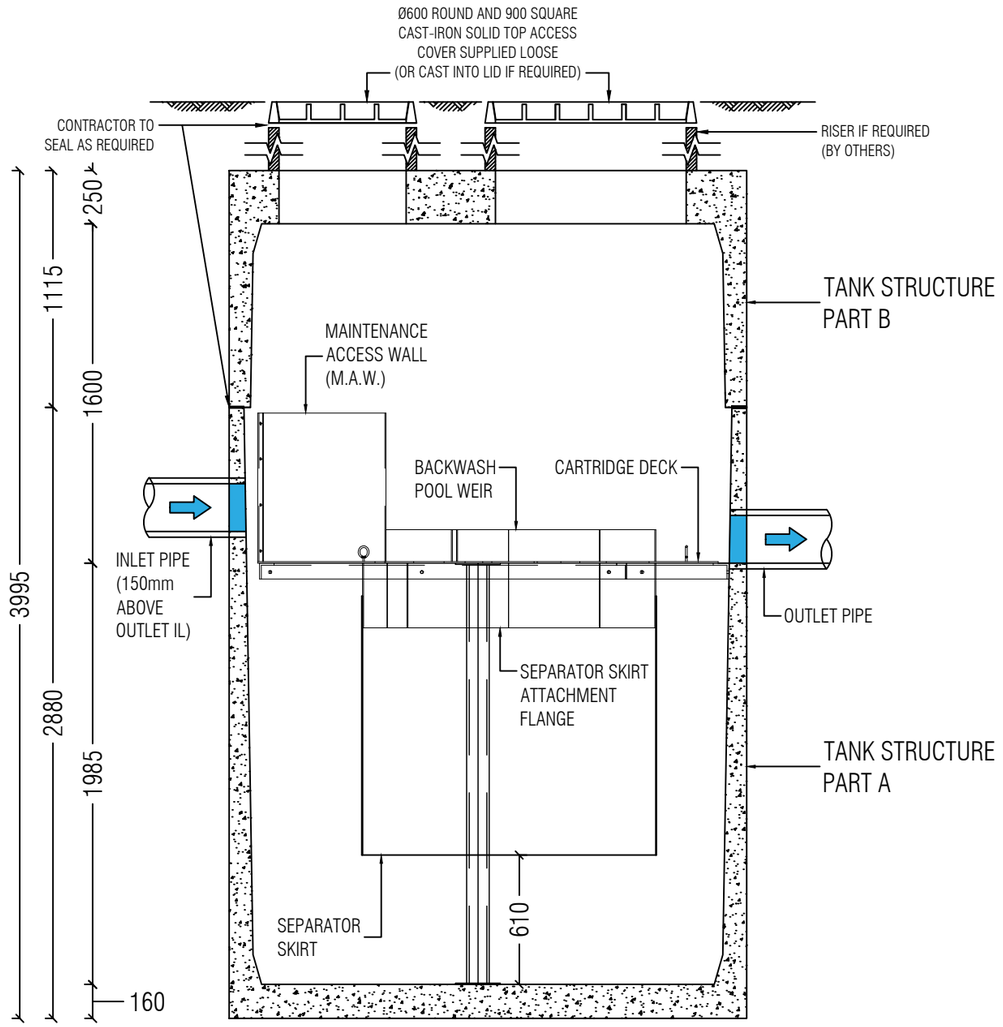


JELLYFISH PLAN



JELLYFISH SECTION

JELLYFISH DESIGN TABLE

JELLYFISH TREATMENT FLOW IS A FUNCTION OF THE NUMBER OF CARTRIDGES AND THE DEVICE TOTAL HEAD DIFFERENTIAL. IF THE PIPE FLOW EXCEEDS THE TREATMENT FLOW THEN AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

REQUIRED DEVICE TOTAL HEAD DIFFERENTIAL [mm]	460	230
CARTRIDGE FLOW RATE FOR HIGH-FLOW / DRAINDOWN [L/s]	5 / 2.5	2.5 / 1.25
CARTRIDGE LENGTH [mm]	1375	1375
OUTLET INVERT TO STRUCTURE INVERT [mm])	1985	1985

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	[ ]
WATER QUALITY FLOW RATE (L/S)	[ ]
# OF CARTRIDGES REQUIRED (HF - DD)	[-]
CARTRIDGE SIZE	1375

PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE	[ ]	[ ]	[ ]
OUTLET PIPE	[ ]	[ ]	[ ]

UPPER TANK WEIGHT	4,050kg
LOWER TANK WEIGHT	6,350kg

NOTE: TANK SUPPLIED IN TWO PARTS; PARTS A & B TO BE JOINED ON SITE

GENERAL NOTES

1. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
2. PRECAST STRUCTURE SUPPLIED WITH CORE HOLES TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
3. PRECAST STRUCTURE SHALL MEET W80 WHEEL LOAD RATING ASSUMING A MAXIMUM EARTH COVER OF 2.0m AND A GROUND WATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION.PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
4. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE TREATMENT FLOW RATE OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRE.
5. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
6. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
7. DRAWING NOT TO SCALE.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATION AND SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER.

B. CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).

C. CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.

D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

E. CARTRIDGE INSTALLATION, BY OCEANPROTECT, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT OCEAN PROTECT TO COORDINATE CARTRIDGE INSTALLATION WITH SITE COMPLETION.

OCEAN PROTECT

PHONE: 1300 354 722 www.oceanprotect.com.au

OCEAN PROTECT

JELLYFISH 2250

STANDARD PRODUCT DRAWING

OceanGuard™

Operations & Maintenance Manual

Document Set ID: 35351741
Version: 1, Version Date: 19/05/2022

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Rev: *1* ***Last Updated:*** *March 2019*

Introduction

The primary purpose of stormwater treatment devices is to capture and prevent pollutants from entering waterways, maintenance is a critical component of ensuring the ongoing effectiveness of this process. The specific requirements and frequency for maintenance depends on the treatment device and pollutant load characteristics of each site. This manual has been designed to provide details on the cleaning and maintenance processes as recommended by the manufacturer.

The OceanGuard technology is a gully pit basket designed to fit within new and existing gully pits to remove pollution from stormwater runoff. The system has a choice of Filtration liners, designed to remove gross pollutants, total suspended solids and attached pollutants as either a standalone technology or as part of a treatment train with our StormFilter or Jellyfish Filtration products. OceanGuard pit baskets are highly effective, easy to install and simple to maintain.

Why do I need to perform maintenance?

Adhering to the maintenance schedule of each stormwater treatment device is essential to ensuring that it functions properly throughout its design life.

During each inspection and clean, details of the mass, volume and type of material that has been collected by the device should be recorded. This data will assist with the revision of future management plans and help determine maintenance interval frequency. It is also essential that qualified and experienced personnel carry out all maintenance (including inspections, recording and reporting) in a systematic manner.

Maintenance of your stormwater management system is essential to ensuring ongoing at-source control of stormwater pollution. Maintenance also helps prevent structural failures (e.g. prevents blocked outlets) and aesthetic failures (e.g. debris build up), but most of all ensures the long term effective operation of the OceanGuard.

Health and Safety

Access to pits containing an OceanGuard typically requires removing (heavy) access covers/grates, but typically it is not necessary to enter into a confined space. Pollutants collected by the OceanGuard will vary depending on the nature of your site. There is potential for these materials to be harmful. For example, sediments may contain heavy metals, carcinogenic substances or sharp objects such as broken glass and syringes. For these reasons, there should be no primary contact with the waste collect and all aspects of maintaining and cleaning your OceanGuard require careful adherence to Occupational Health and Safety (OH&S) guidelines.

It is important to note that the same level of care needs to be taken to ensure the safety of non-work personnel, as a result it may be necessary to employ traffic/pedestrian control measures when the device is situated in, or near areas with high vehicular/pedestrian activity.

Personnel health and safety

Whilst performing maintenance on the OceanGuard pit insert, precautions should be taken in order to minimise (or when possible prevent) contact with sediment and other captured pollutants by maintenance personnel. In order to achieve this the following personal protective equipment (PPE) is recommended:

- Puncture resistant gloves
- Steel capped safety boots,
- Long sleeve clothing, overalls or similar skin protection
- Eye protection
- High visibility clothing or vest

During maintenance activities it may be necessary to implement traffic control measures. Ocean Protect recommend that a separate site specific traffic control plan is implemented as required to meet the relevant governing authority guidelines.

The OceanGuard pit insert is designed to be maintained from surface level, without the need to enter the pit. However depending on the installation configuration, location and site specific maintenance requirements it may be necessary to enter a confined space occasionally. It is recommended that all maintenance personnel evaluate their own needs for confined space entry and compliance with relevant industry regulations and guidelines. Ocean Protect maintenance personnel are fully trained and carry certification for confined space entry.

How does it Work?

OceanGuard is designed to intercept stormwater as it enters the stormwater pits throughout a site. The OceanGuard has diversion panels that sit flush with the pit walls, this ensures that as stormwater enters at the top of the pit it is directed to the middle of the insert where the Filtration bag is situated. The filtration bag allows for screening to occur removing 100% of pollutants greater than the opening of the filtration material (200micron, 1600micron bags available).

During larger rain events the large flows overflow slots in the flow diverter of the OceanGuard ensure that the conveyance of stormwater is not impeded thus eliminating the potential for surface flooding. As the flow subsides, the captured pollutants are held in the OceanGuard Filtration bag dry. The waste then starts to dry which reduces the magnitude of organic material decomposition transitioning between maintenance intervals.

Maintenance Procedures

To ensure that each OceanGuard pit insert achieves optimal performance, it is advisable that regular maintenance is performed. Typically the OceanGuard requires 2-4 minor services annually, pending the outcome of these inspections additional maintenance servicing may be required.

Primary Types of Maintenance

The table below outlines the primary types of maintenance activities that typically take place as part of an ongoing maintenance schedule for the OceanGuard.

	Description of Typical Activities	Frequency
Minor Service	Filter bag inspection and evaluation Removal of capture pollutants Disposal of material	2-4 Times Annually
Major Service	Filter Bag Replacement Support frame rectification	As required

Maintenance requirements and frequencies are dependent on the pollutant load characteristics of each site. The frequencies provided in this document represent what the manufacturer considers to be best practice to ensure the continuing operation of the device is in line with the original design specification.

Minor Service

This service is designed to return the OceanGuard device back to optimal operating performance. This type of service can be undertaken either by hand or with the assistance of a Vacuum unit.

Hand Maintenance

1. Establish a safe working area around the pit insert
2. Remove access cover/grate
3. Use two lifting hooks to remove the filtration bag
4. Empty the contents of the filtration bag into a disposal container
5. Inspect and evaluate the filtration bag
6. Inspect and evaluate remaining OceanGuard components (i.e. flow diverter, filtration cage and supporting frame)
7. Rejuvenate filtration bag by removing pollutant build up with a stiff brush, additionally the filtration bag can be washed using high pressure water
8. Re-install filtration bag and replace access cover/grate

Vacuum Maintenance

1. Establish a safe working area around the pit insert
2. Remove access cover/grate
3. Vacuum captured pollutants from the filtration bag
4. Remove filtration bag
5. Inspect and evaluate the filtration bag
6. Inspect and evaluate remaining OceanGuard components (i.e. flow diverter, filtration cage and supporting frame)
7. Rejuvenate filtration bag by removing pollutant build up with a stiff brush, additionally the filtration bag can be washed using high pressure water
8. Re-install filtration bag and replace access cover/grate

Major Service (Filter Bag Replacement)

For the OceanGuard system, a major service is a reactionary process based on the outcomes from the minor service.

Trigger Event from Minor Service	Maintenance Action
Filtration bag inspection reveals damage	Replace the filtration bag[1]
Component inspection reveals damage	Perform rectification works and if necessary replace components[1]

[1] Replacement filtration bags and components are available for purchase from Ocean Protect.

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Additional Reasons of Maintenance

Occasionally, events on site can make it necessary to perform additional maintenance to ensure the continuing performance of the device.

Hazardous Material Spill

If there is a spill event on site, all OceanGuard pits that potentially received flow should be inspected and cleaned. Specifically all captured pollutants from within the filtration bag should be removed and disposed in accordance with any additional requirements that may relate to the type of spill event. All filtration bags should be rejuvenated (replaced if required) and re-installed.

Blockages

The OceanGuards internal high flow bypass functionality is designed to minimise the potential of blockages/flooding. In the unlikely event that flooding occurs around the stormwater pit the following steps should be undertaken to assist in diagnosing the issue and implementing the appropriate response.

1. Inspect the OceanGuard flow diverter, ensuring that they are free of debris and pollutants
2. Perform a minor service on the OceanGuard
3. Remove the OceanGuard insert to access the pit and inspect both the inlet and outlet pipes, ensuring they are free of debris and pollutants

Major Storms and Flooding

In addition to the scheduled activities, it is important to inspect the condition of the OceanGuard pit insert after a major storm event. The inspection should focus on checking for damage and higher than normal sediment accumulation that may result from localised erosion. Where necessary damaged components should be replaced and accumulated pollutants disposed.

Disposal of Waste Materials

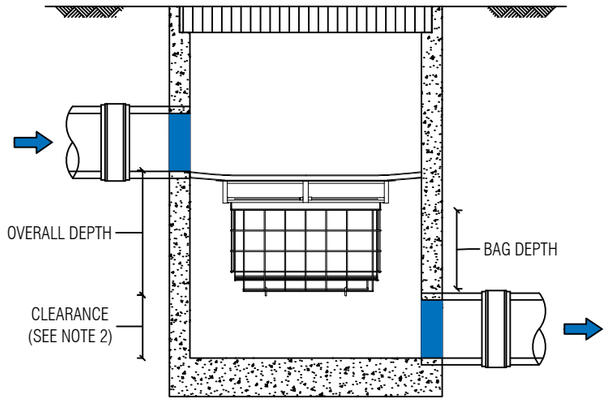
The accumulated pollutants found in the OceanGuard must be handled and disposed of in a manner that is in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. If the filtration bag has been contaminated with any unusual substance, there may be additional special handling and disposal methods required to comply with relevant government/authority/industry regulations.

Maintenance Services

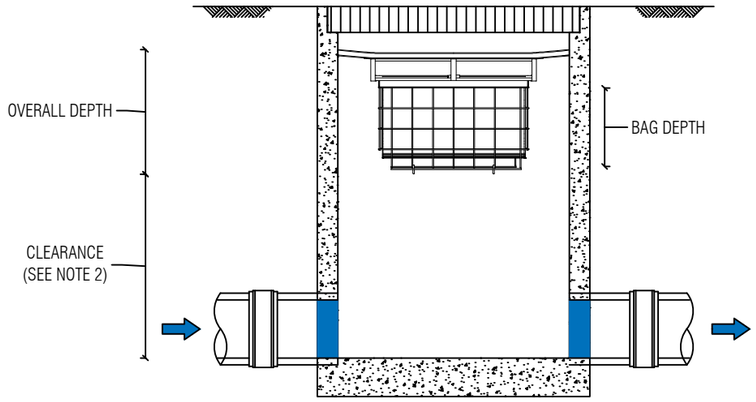
With over a decade and a half of maintenance experience Ocean Protect has developed a systematic approach to inspecting, cleaning and maintaining a wide variety of stormwater treatment devices. Our fully trained and professional staff are familiar with the characteristics of each type of system, and the processes required to ensure its optimal performance.

Ocean Protect has several stormwater maintenance service options available to help ensure that your stormwater device functions properly throughout its design life. In the case of our OceanGuard system we offer long term pay-as-you-go contracts, pre-paid once off servicing and replacement filter bags.

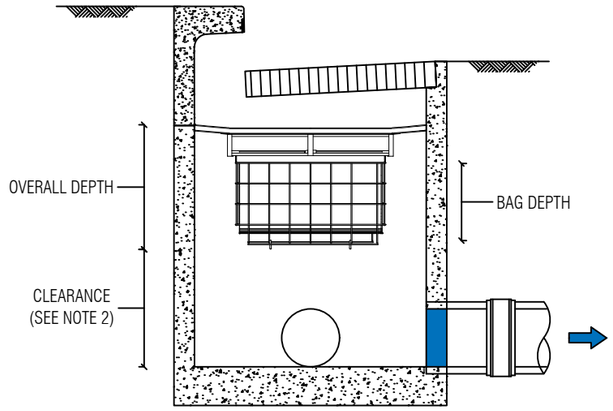
For more information please visit www.OceanProtect.com.au



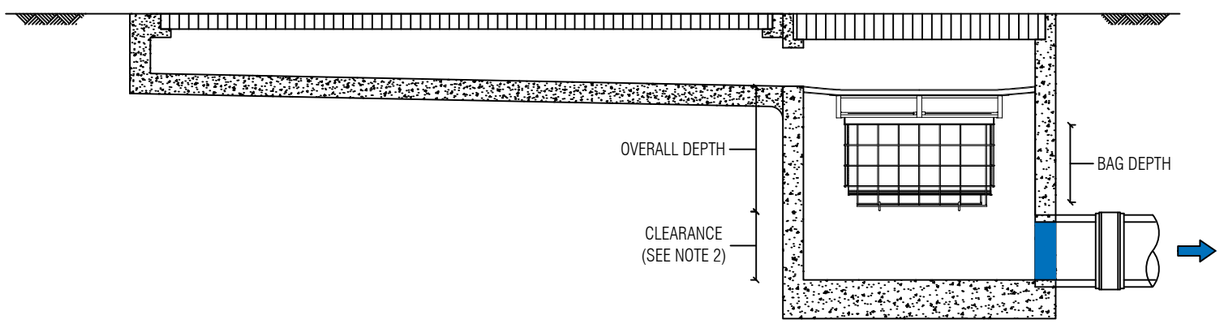
PIPE FLOW CONFIGURATION



SURFACE FLOW CONFIGURATION



SURFACE FLOW CONFIGURATION

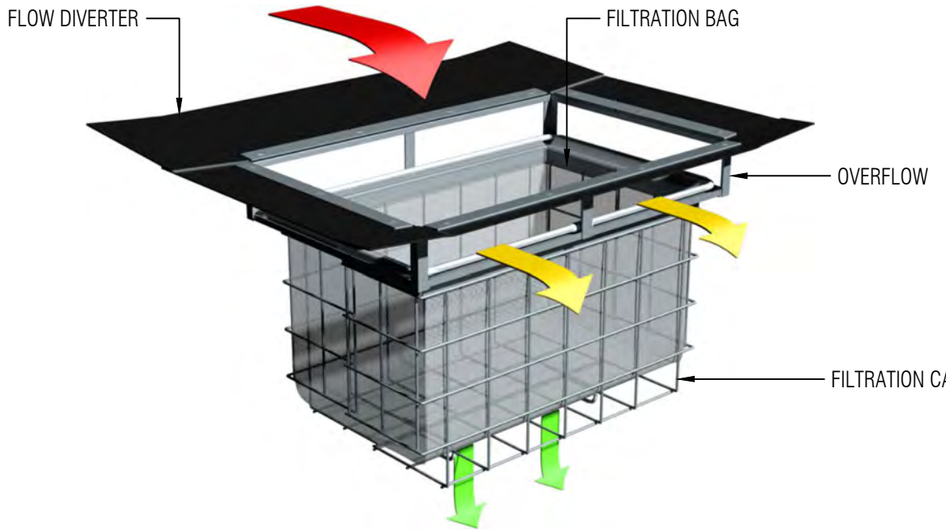


GRATED STRIP DRAIN CONFIGURATION

PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

DEPTH ID	BAG DEPTH	OVERALL DEPTH
1	170	270
2	300	450
3	600	700

PLAN ID	DEPTH ID 1	DEPTH ID 2	DEPTH ID 3
S	■		
M	■	■	
L	■	■	■
XL	■	■	■



GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.

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OCEAN PROTECT

OCEANGUARD
TYPCIAL ARRANGEMENTS
SPECIFICATION DRAWING

CIVIL ENGINEERING REPORT

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/66-2022

Dated: 2 November 2022

STOCKLAND ROCKHAMPTON SUPERMARKET
120-331 YAAMBA ROAD, NORTH ROCKHAMPTON

Prepared By:

MPN CONSULTING PTY LTD
Level 5
39 Sherwood Road
Toowong
Queensland
4066 • Australia

24 March 2022

REVISION STATUS

MPN Reference No:	9180
Client:	Stockland
Site Address:	120-331 Yaamba Road, North Rockhampton
Report Title:	Civil Engineering Report

DOCUMENT CONTROL

Version	Date	Author	Reviewer	Approved	RPEQ
Draft	11/02/2022	Ben Tarrant	Lachlan Stephenson		16903
Issue A	24/03/2022	Ben Tarrant	Lachlan Stephenson		16903

EXECUTIVE SUMMARY

This report has been commissioned by Stockland in support of the Development Application for the proposed supermarket development at the existing shopping centre on land located at 120-331 Yaamba Road, North Rockhampton.

This report addresses the following Engineering aspects of the proposed development:

- Topography
- Water
- Sewer
- Roadworks
- Earthworks
- Electricity and Telecommunications
- Gas
- Codes

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1 PURPOSE

This Civil Engineering Report has been prepared in support of the Development Application for the proposed supermarket development at the existing shopping centre on land located at 120-331 Yaamba Road, North Rockhampton.

2 INTRODUCTION

2.1 Project description

The current proposal involves the demolition of the existing carpark occupying the site west of the existing shopping centre, and the construction of a new, single-storey supermarket. The development will include landscaping, loading and service dock, and interface pedestrian access to the existing Stockland shopping centre's open-air carpark to the north.

As part of the development works, adjacent open-air carpark will include proposed shade sails, loading standby zone, and a traffic access reconfiguration from High Street into the Stockland shopping centre internal carpark. This access point will be modified for improved vehicle manoeuvrability.

The proposed development is depicted on the architectural plans prepared by Stockland, attached in Appendix 1, with excerpt below.

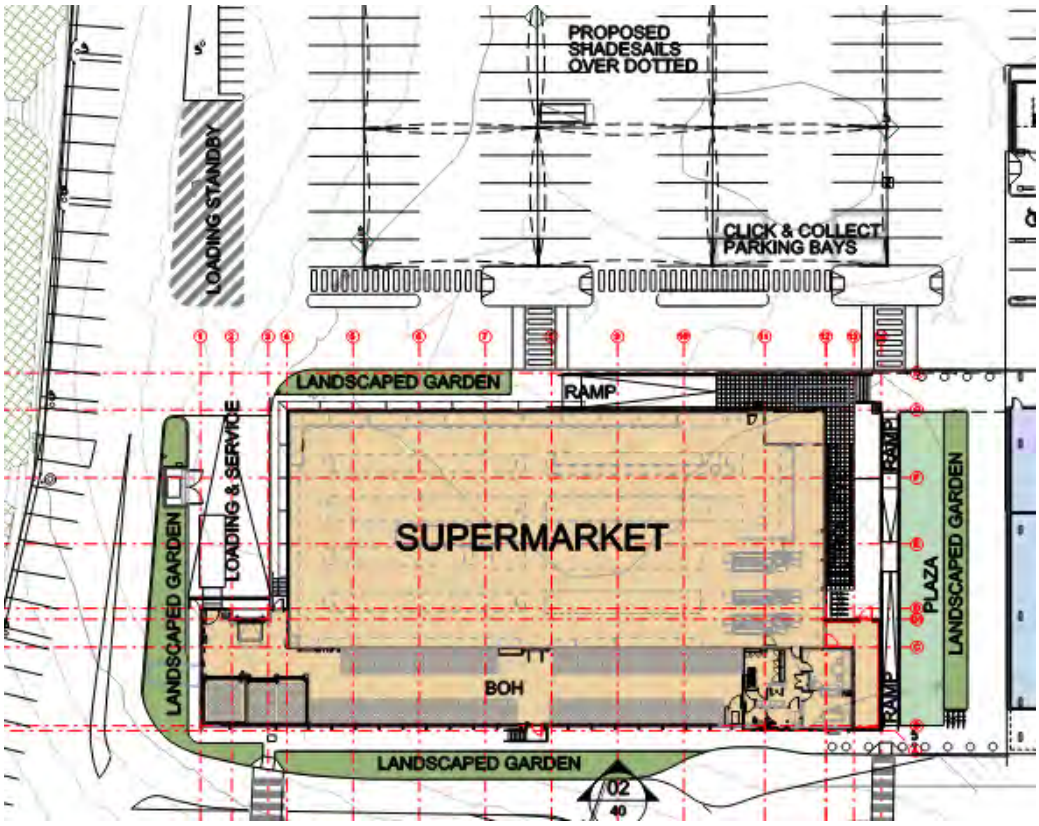

Figure 1 – Proposed Development

3 SITE CHARACTERISTICS

3.1 Site Location

The site is located at the southern perimeter of property 331 Yaamba Road, North Rockhampton, and is formally known to be part of Lot 201 on SP236447.

The site fronts Stockland shopping centre to the East, and internal carparking in each surrounding direction. High Street is the primary access point to the south, and Moores Creek is situated to the west.

Figure 2 – Site Location

3.2 Topography and Existing Site Drainage

The site is currently occupied by on grade car parking and generally slopes from the North-East with a high point of RL14.40m, to the South West with a low point of RL13.2m. See Figure **3** for general existing site topography.

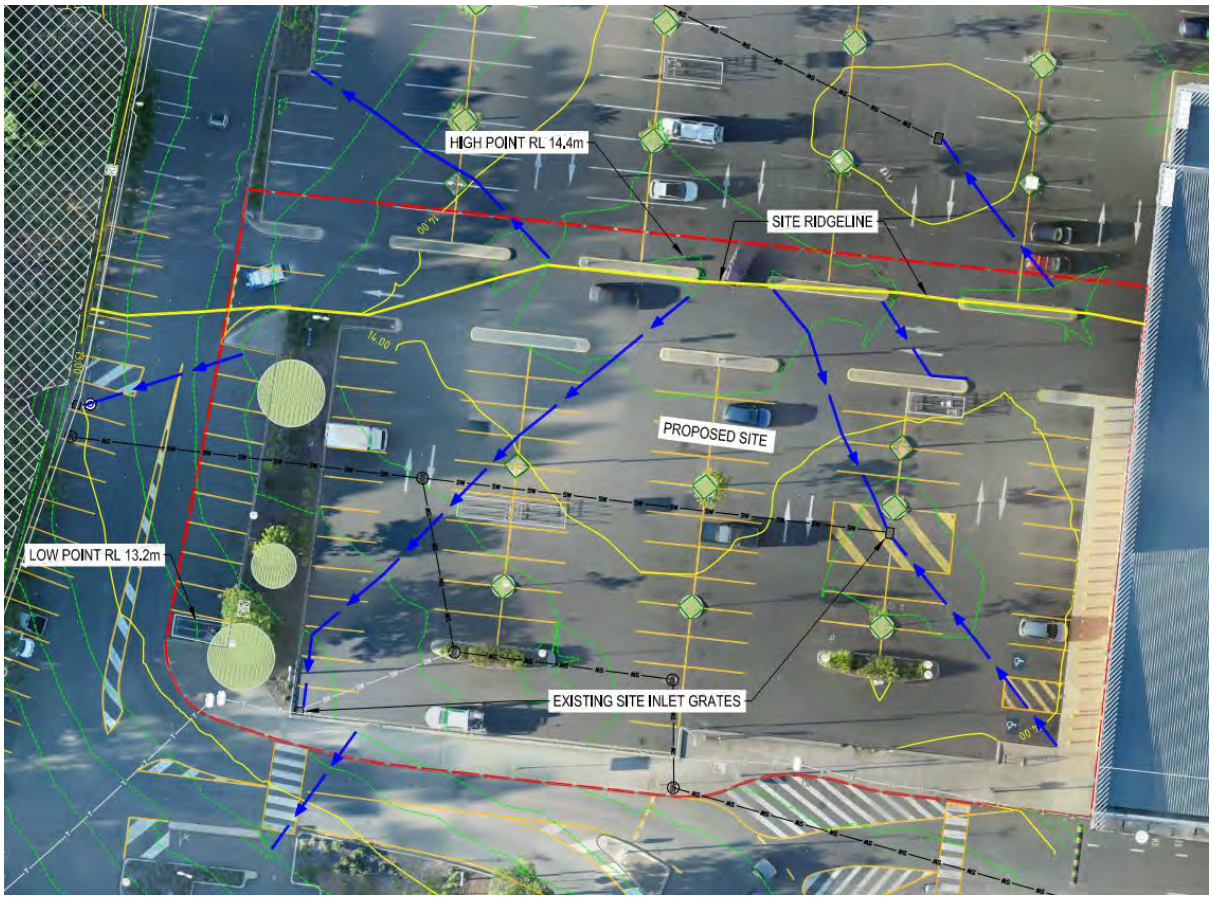

Figure 3 – Existing site topography

The balance of the site runoff is collected by field inlet pits throughout the carpark and the shopping centre road network. The runoff is then collected and conveyed by a network of pipes running East to West along the existing site, eventually discharging into Moores Creek, West of the site.

A copy of a survey plan for the site prepared by Vision Surveys (QLD) is attached in Appendix 2.

4 SITE DATA

Site data has been obtained from the following sources of information:

- Dial Before You Dig (DBYD)
- Discussions with relevant authorities
- Relevant reports
- Rockhampton Regional Council
- Rockhampton Regional Council Interactive Mapping
- Satellite imagery
- Site survey

5 STORMWATER

A site-based stormwater management plan has been completed for the development and will be lodged under separate cover.

6 WATER SUPPLY

Inspection of the water network from RRC GIS Mapping and the site survey indicate there are no reticulation water mains within proximity of the proposed site that are located outside of the main shopping centre footprint.

It is proposed to provide a new connection to the internal Stockland shopping centre reticulation water main. The connection will be sized by the hydraulic consultant during the detailed design stage.

The existing and proposed water infrastructure in the vicinity of the site is shown on MPN Plan 9180–DA.02 attached in Appendix 3. Additionally, refer to the Building Services Due Diligence Report prepared by WSP, lodged under separate cover, for further information on the water supply proposal.

7 SEWER

Inspection of the sewer network from RRC GIS Mapping and the site survey show the following services in the vicinity of the site:

- An existing 150mm dia earthenware reticulation sewer main running North to South starting on the southern boundary of Lot 201. This sewer main diverts south east across High Street and is not within the proposed site footprint.
- An existing internal connection to the sewer main outside the south-eastern corner of the proposed site.

It is proposed to provide a new connection to the Stockland private sewer manhole located at the south-east corner of the proposed site. The connection will be sized by the hydraulic consultant during the detailed design stage.

As the connection point is not within any proposed works, loading onto sewer main is not an assessment requirement.

The existing and proposed sewer infrastructure in the vicinity of the site is shown on MPN Plan 9180–DA.02 attached in Appendix 3. Additionally, refer to the Building Services Due Diligence Report prepared by WSP, lodged under separate cover, for further information on the sewer supply proposal.

8 ROADWORKS

The development will be accessed via the High Street intersection and the internal shopping centre road network surrounding the site.

The internal carpark road to the north of the site will include two raised pedestrian crossovers and a pedestrian walkway connection, which will interface into the existing asphalt surface. The proposed car park levels will be designed to ensure smooth transitions to the existing shopping centre car park.

The loading and service dock will be designed in accordance with the supermarket specifications, and will include a loading standby zone in the northern carpark area. The loading standby zone will involve the demolition of kerb and carparks, and the construction of new line marking set-out.

The proposed pedestrian and loading standby zone layout are shown on the Architectural Plans prepared by Stockland, attached in Appendix 1. Additionally, refer to the Traffic Assessment plans prepared by Cardno, lodged under separate cover, for further information on roadwork proposed set-out changes.

All roadworks and carparks will be designed and constructed in accordance with the relevant RRC and Australian Standards.

9 EARTHWORKS

The proposed development will involve earthworks to construct the building apron interface, loading dock and landscaped areas along with trenching for underground services and utilities.

The proposed building will be suspended with the undercroft enclosed. No filling operations are proposed on site under the building envelope.

The design and construction of the earthworks will be undertaken in accordance with the recommendations of AS 3798 – Guidelines on Earthworks for Commercial and Residential Developments.

Any excavated material not suitable for reuse as fill will be removed from the site and disposed of appropriately in an approved landfill.

All filling operations will be completed under level 1 geotechnical supervision.

A preliminary bulk earthworks layout and sections are shown on MPN Plans 9180–DA.03 attached in Appendix 3.

As no excavation is proposed to expose subsoil at or below RL 5.0m, the development would not be subject to the State Planning Policy July 2017 and consequently there is no requirement for an Acid Sulfate Soil investigation to be undertaken as part of the Development Application.

10 ELECTRICITY AND COMMUNICATIONS

The proposed development will be serviced for electricity and telecommunications from new connections to the existing underground infrastructure within the shopping centre internal road network. The electricity and telecommunications services will need to be connected to the internal network to provide the required level of service in accordance with the appropriate authority and Australian Standards.

Refer to the site survey for location of existing infrastructure, as well as the DBYD plans in Appendix 4, 5 and 6 for the existing Ergon Energy, Telstra and NBN underground infrastructure locations, respectively. Additionally, refer to the Building Services Due Diligence Report prepared by WSP, lodged under separate cover, for further information on the electricity and communications proposal.

11 GAS

If gas is required to service the development, APA will need to be contacted to confirm the connection is suitable or whether any upgrade works are required.

The existing APA infrastructure in the vicinity of the site is shown on the APA DBYD Plans attached in Appendix 7. Additionally, refer to the Building Services Due Diligence Report prepared by WSP, lodged under separate cover, for further information on gas supply proposals.

12 CODES

The following Rockhampton Regional Council Planning Codes have been addressed as part of this development. The code responses are attached in Appendix 8.

- Filling and Excavation Code
- Stormwater Management Code
- Water and Sewer Code

13 CONCLUSION

New sewer and water connections are proposed to internal Stockland reticulation mains to service the development. The connections will be sized by the hydraulic consultant during the detailed design stage.

The development will be accessed via the existing High Street intersection and the internal shopping centre road network surrounding the site.

Minor works are proposed to the adjacent shopping centre carpark. This will include raised pedestrian crossings and a loading standby zone to the north of the loading and service dock. The proposed site footpath crossings will be designed to ensure smooth transitions to the existing shopping centre car park road.

As no excavation is proposed to expose subsoil at or below RL 5.0m, the development would not be subject to the State Planning Policy July 2017 and consequently there is no requirement for an Acid Sulfate Soil investigation to be undertaken as part of the Development Application.

The development will be serviced for electricity and telecommunications via new connections to the existing overhead and underground infrastructure in the surrounding internal roads.

If gas is required to service the development, APA will need to be contacted to confirm the connection is suitable or whether any upgrade works are required.

14 LIMITATIONS OF REPORT

MPN have prepared this report for the proposed shopping centre development at 120-331 Yaamba Road, North Rockhampton in accordance with MPN's proposal to Stockland Development Pty Ltd. This report is provided for the exclusive use of Stockland Development Pty Ltd for this specific project and its requirements. It should not be used or relied upon by a third party and MPN accept no responsibility for the use of this report by any party other than Stockland Development Pty Ltd.

Appendix 1
Architectural Plans

STOCKLAND ROCKHAMPTON

PROPOSED SUPERMARKET DEVELOPMENT APPLICATION

DRAWING SCHEDULE

	Document Title
DA000	COVER SHEET
DA001	EXISTING OVERALL SITE PLAN
DA002	OVERALL SITE PLAN
DA003	GROUND FLOOR PLAN
DA004	ROOF PLAN
DA005	DETAIL FLOOR PLAN
DA020	LANDSCAPING PLAN
DA030	SUNSHADING DIAGRAM PLAN
DA031	MATERIALS PALETTE
DA040	ELEVATIONS
DA041	ELEVATIONS
DA042	SECTION
DA050	PERSPECTIVES
DA051	PERSPECTIVES
DA052	PERSPECTIVES
DA053	PERSPECTIVES
DA054	PERSPECTIVES
DA055	PERSPECTIVES
DA056	PERSPECTIVES

PRELIMINARY

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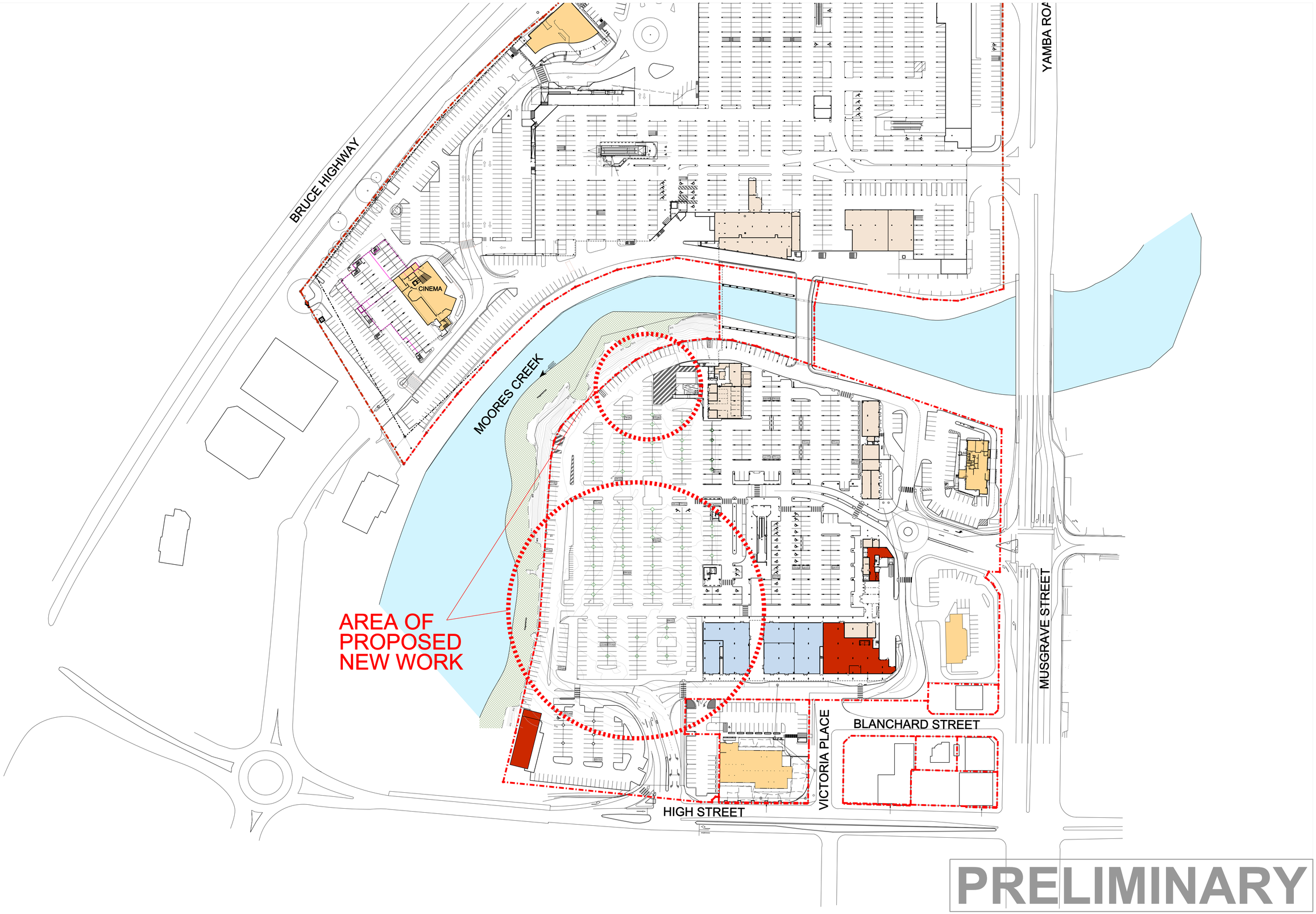
REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: Sketch
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **COVER SHEET**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_000_A_3



PRELIMINARY

Stockland

Commercial Design Group

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Ph : 02 9035 2000
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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

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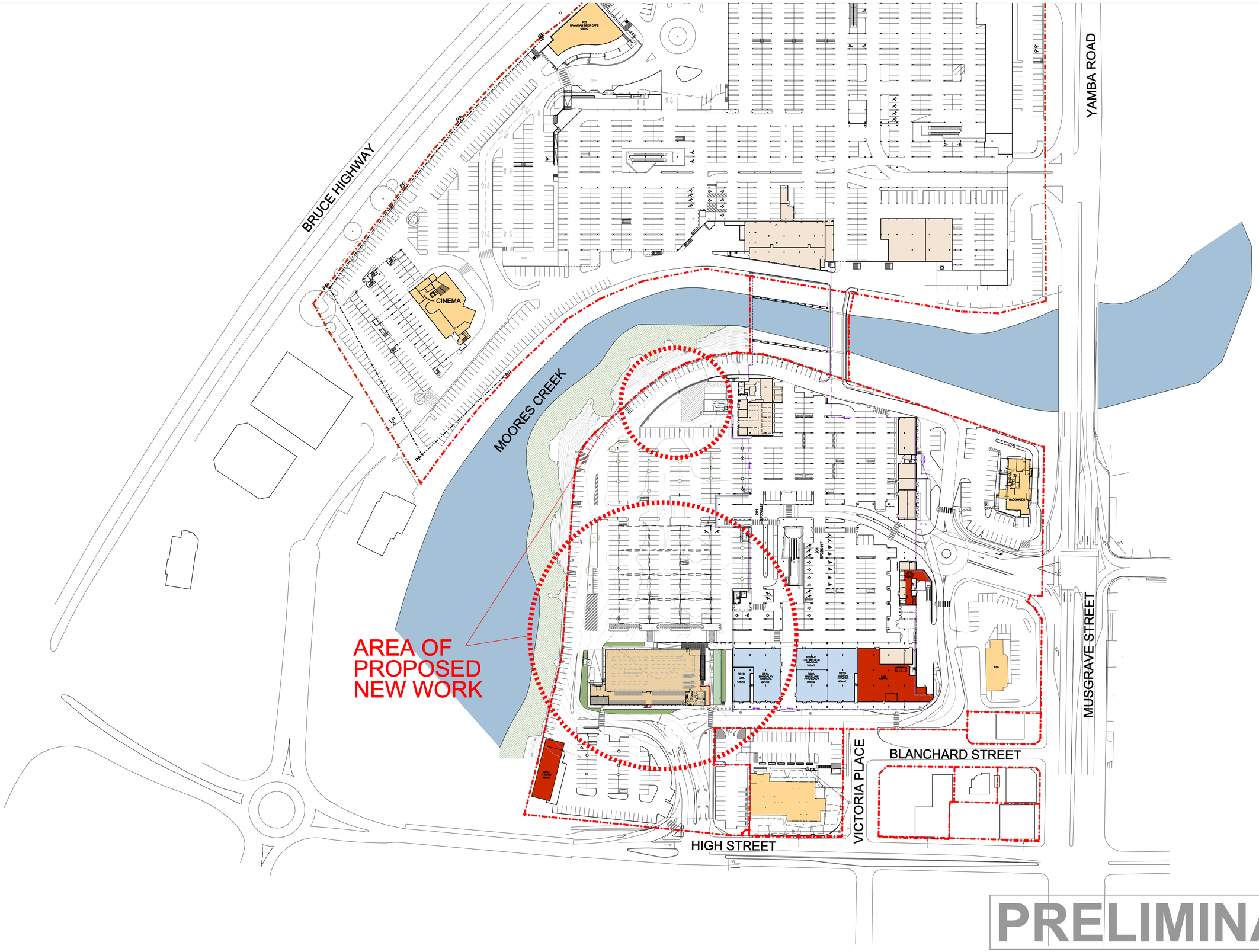
PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
EXISTING OVERALL SITE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_001_A_3



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A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:1000 @ A1
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PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
OVERALL SITE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_002_A_3

Document Set ID: 35351740
Version: 1, Version Date: 19/05/2022

SCHEDULE OF AREAS

EXISTING GLA:	58,397 m²
EXISTING CARPARKING:	2,807 CARS
NEW SUPERMARKET GLA	+1725 m²
TOTAL CENTRE GLA:	60,122 m²
CARPARKING LOST:	-120 CARS
TOTAL CARPARKING:	2,687 CARS

PROPOSED SHADESAILS OVER DOTTED

CLICK & COLLECT PARKING BAYS

LOADING STANDBY

LANDSCAPED GARDEN

RAMP

LOADING & SERVICE

SUPERMARKET

TROLLEYS

RAMP

PLAZA

LANDSCAPED GARDEN

BOH

RAMP

LANDSCAPED GARDEN

Roof Line

Roof Line

01 / 40

01 / 42

02 / 41

01 / 41

02 / 40

34862

3600 6620 6440 6237 3782 7660 480

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670

66292

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STATUS: DA
AUTHOR: MB
DATE: 15.02.22

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PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
GROUND FLOOR PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_003_A_3

PROPOSED NEW SHADE SAILS

SUN SHADES

BOX GUTTER

FASCIA GUTTER

ROOF PLANT ENCLOSURE

3600 6620 6440 6237 3782 7660 480 = 34862

3050 3560 1820 6430 6440 6440 6440 6440 6440 7888 5954 2720 2670 = 66292

PRELIMINARY

Stockland
Level 25 Castlereagh Street
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Ph : 02 9035 2000
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REVISION:
A PRELIMINARY ISSUE 17.12.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
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PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
ROOF PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_004_A_3

LOADING STANDBY

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

NEW PEDESTRIAN WALKWAY

NEW RAISED PLATFORM AND KERB RAMPS

RAISED CROSSING

RAISED CROSSING

NEW COVERED LINK ROOF OVER DOTTED

800 DIA CONC BOLLARDS

02 / 41

01 / 40

RL 13.440

RL 13.480

RL 13.430

RL 14.170
LANDSCAPED GARDEN

RL 14.390

RL 14.360

1:20 RAMP

RL 14.190

RL 14.150

RL 14.150

1 2 3 4 5 6 7 8 9 10 11 12 13 14

H G F E D D1 C B A

3600 6620 6483 34862 6237 3782 7660 480

SUPERMARKET

RETAIL FLOOR AREA

RL 14.900

AIR LOCK

TROLLEY STORE

1:14 RAMP

1:14 RAMP

PLAZA

LANDSCAPED GARDEN

BIN STORE

SERVICE ZONE

COMPACTOR

RL -13.550

LOADING ZONE

LANDSCAPED GARDEN

LOADING DOCK

BIKE RACKS

1:20 RAMP

RL 13.000

FREEZER

CHILLER

WAREHOUSE

SWITCH ROOM

OFFICE

STAFF ROOM

AMB

PWD

CLICK & COLLECT STORE

EXISTING RETAIL

RL 14.320

800 DIA CONC BOLLARDS

LP

LANDSCAPED GARDEN

RL 13.170

RL 13.460

RL 13.790

RL 13.870

02 / 40

01 / 42

3050 3560 1820 6430 6440 6440 6440 6440 6440 6440 7888 5954 2720 2670

66292

PRELIMINARY

FH

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

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PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
SUPERMARKET DETAIL PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_005_A_3

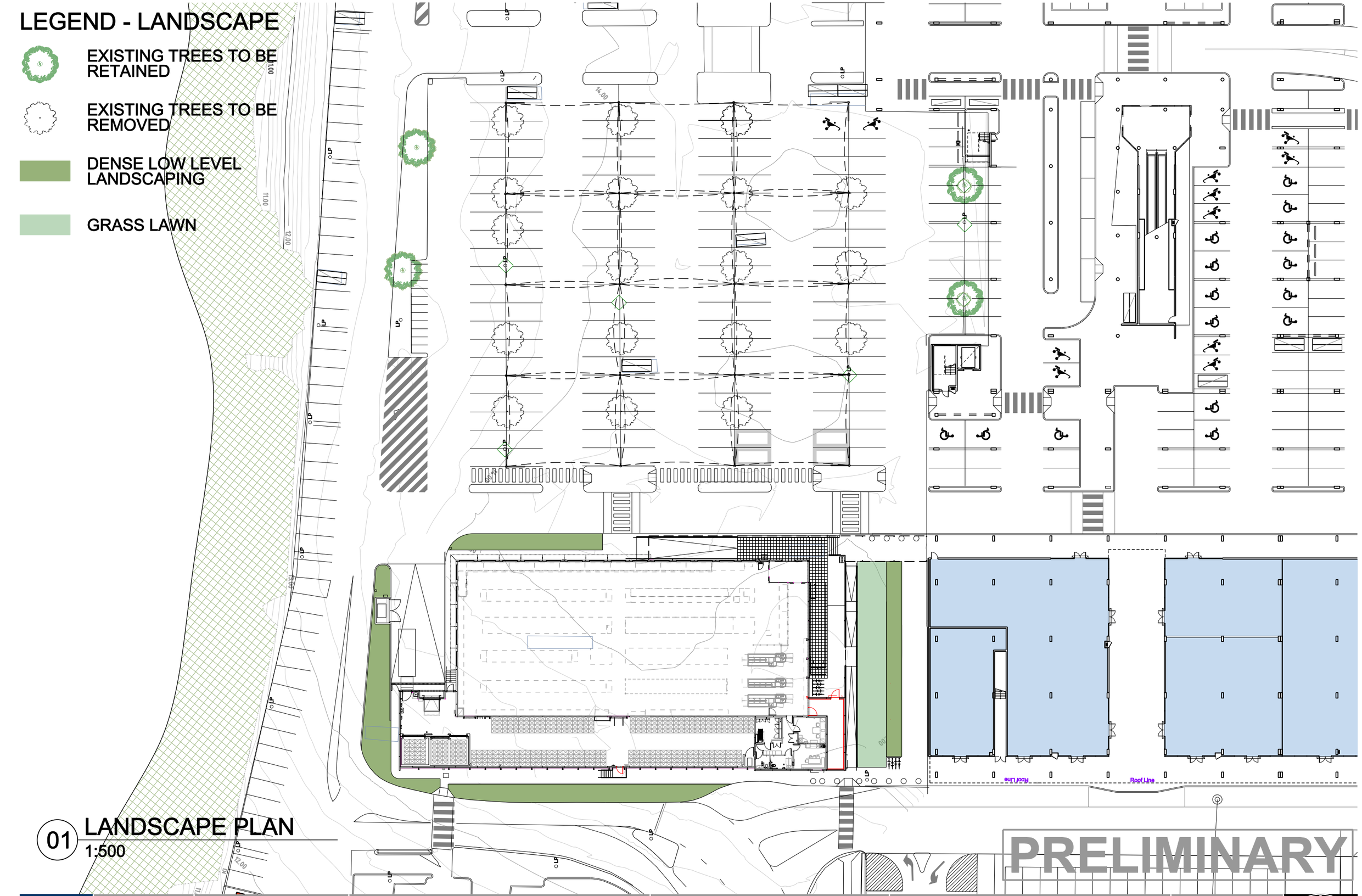
LEGEND - LANDSCAPE

EXISTING TREES TO BE RETAINED

EXISTING TREES TO BE REMOVED

DENSE LOW LEVEL LANDSCAPING

GRASS LAWN



01 LANDSCAPE PLAN

1:500

PRELIMINARY

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Ph : 02 9035 2000
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REVISION:
A PRELIMINARY ISSUE

STATUS: DA

AUTHOR: MB

DATE: 15.02.22

SCALE: 1:500 @ A3

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PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
LANDSCAPE PLAN

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
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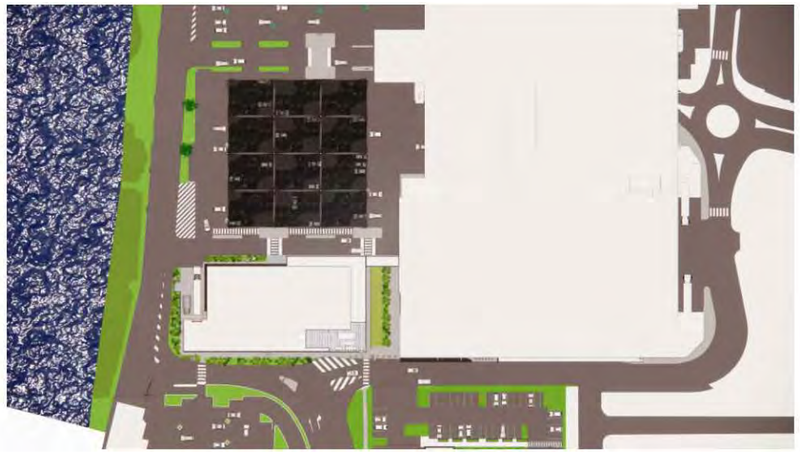
01 SUMMER 9.00AM



02 SUMMER 12.00PM

03 SUMMER 3.00PM

04 WINTER 9.00AM

05 WINTER 12.00PM

06 WINTER 3.00PM

PRELIMINARY

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STATUS: DA
AUTHOR: MB
DATE: 15.02.20
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
SUNSHADING DIAGRAMS

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_030_A_3

LANDSCAPED PLAZA

PAINTED PRECAST PANELS

CUSTOM ORB

GRASS LAWN

CLIMBING PLANTS

DEEP LANDSCAPING

PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.20
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
MATERIAL PALETTE

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
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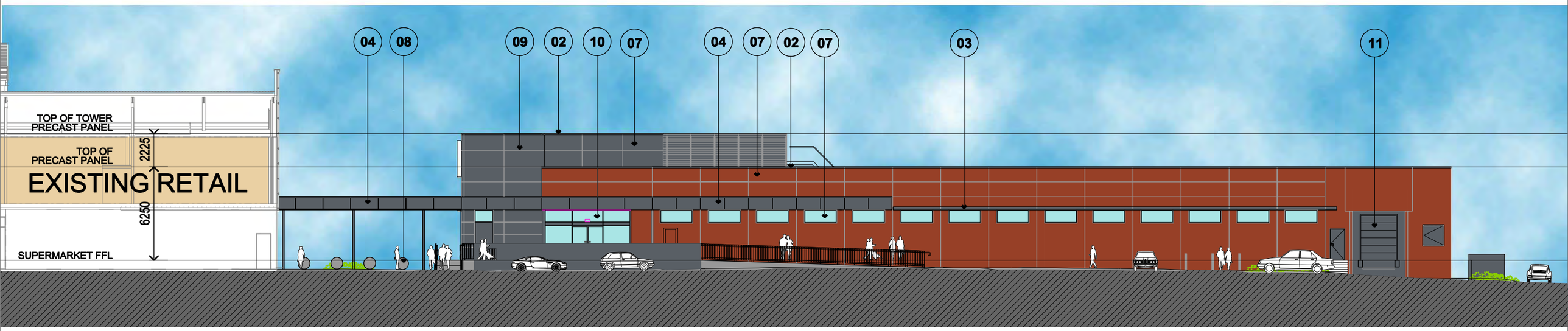

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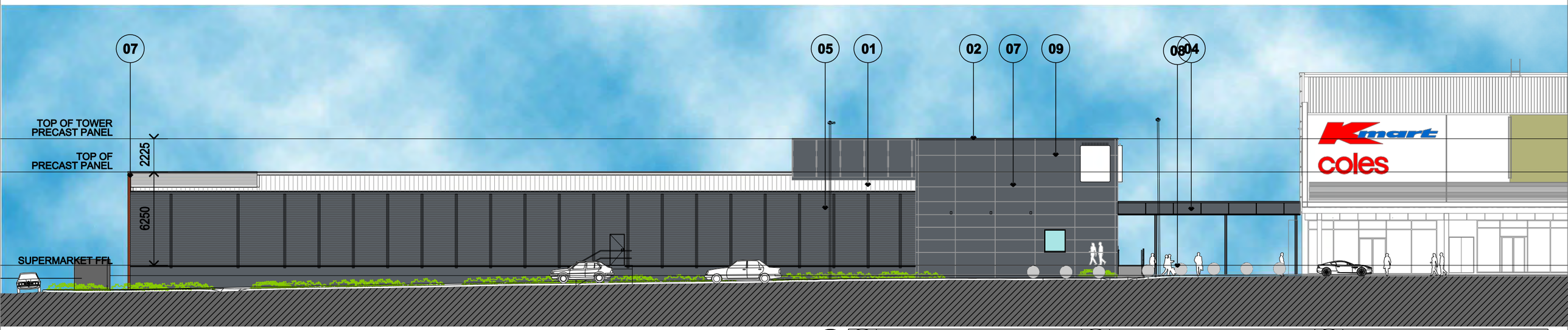

02 SOUTH ELEVATION
1:250

LEGEND

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02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

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REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
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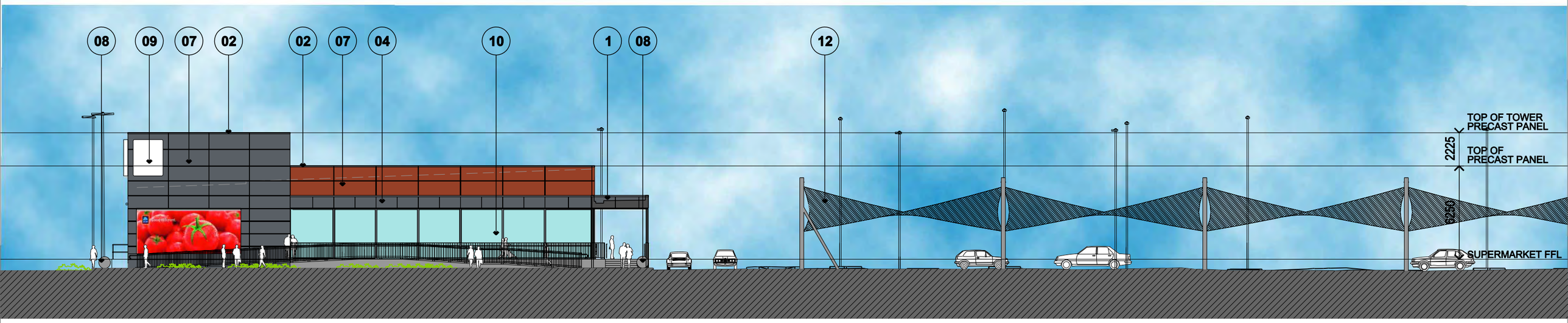
PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_040_A_3



01 EAST ELEVATION
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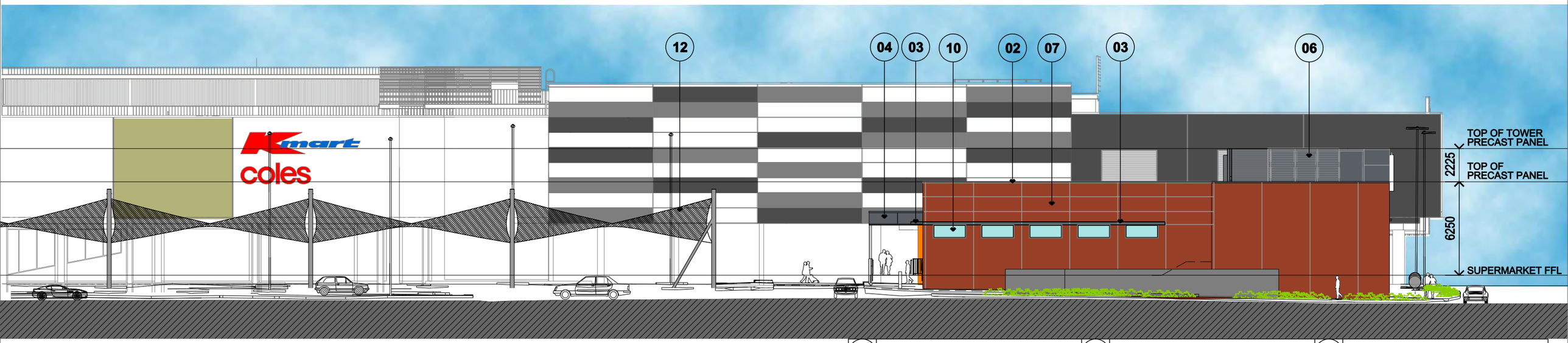

02 WEST ELEVATION
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01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

Stockland
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STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:250 @ A3
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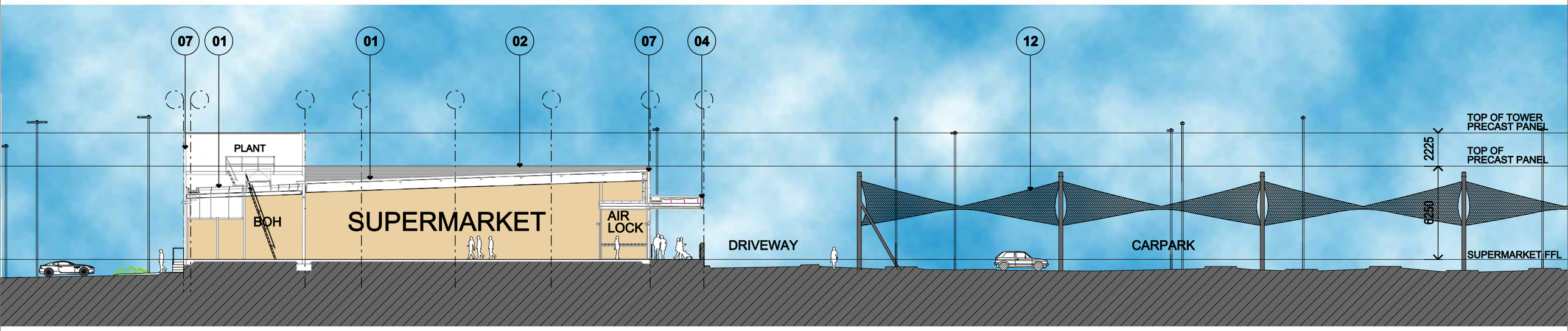
PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **ELEVATIONS**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_041_A_3



01 SECTION A

1:250

01	ROOF SHEETING - COULOURBOND SURFMIST	05	EXTERNAL WALL LINING (MINIORB) - PREFINISHED	09	SIGN PANEL
02	ROOF FLASHING/ CAPPING / GUTTERS/ DOWNPIPES / OVERFLOWS - PREFINISHED	06	LOUVRE SCREEN(S) & DOOR(S) - PREFINISHED	10	SHOPFRONT ENTRY / WINDOWS / GLAZING - PREFINISHED FRAMES
03	SUN SHADE AWNING - PREFINISHED	07	PRECAST CONCRETE PAINT FINISH	11	ROLLER SHUTTER - PREFINISHED
04	AWNING FACIA - FC PANEL PAINT FINISH	08	800 DIAMETER CONCRETE BOLLARDS	12	HYPER SHADE SAIL

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 11.10.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: **SECTION**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER: DA_042_A

01 AERIAL VEIW FROM SOUTH

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_050_3

01 VEIW FROM EARLY LEARNING CENTRE CROSSING

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_051_A_3

01 VEIW FROM EARLY LEARNING CENTRE CROSSING

PRELIMINARY

Stockland

Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22

SCALE: NTS @ A3

PROJECT: **Stockland ROCKHAMPTON**
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE: **PERSPECTIVES**

PROJECT NUMBER: 20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER: DA_052_A_3

01 VEIW FROM ENTRY DRIVEWAY

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION
DRAWING NUMBER:
DA_053_A_3

01 VEIW FROM MOORES CREEK

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 17.12.21

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_054_A_3

01 VEIW FROM NORTHERN CARPARK

PRELIMINARY

Stockland

Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_055_A_3

01 AERIAL VEIW FROM SOUTH WEST

PRELIMINARY

Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A PRELIMINARY ISSUE 15.02.22

STATUS: DA
AUTHOR: MB
DATE: 15.02.22
SCALE: NTS @ A3

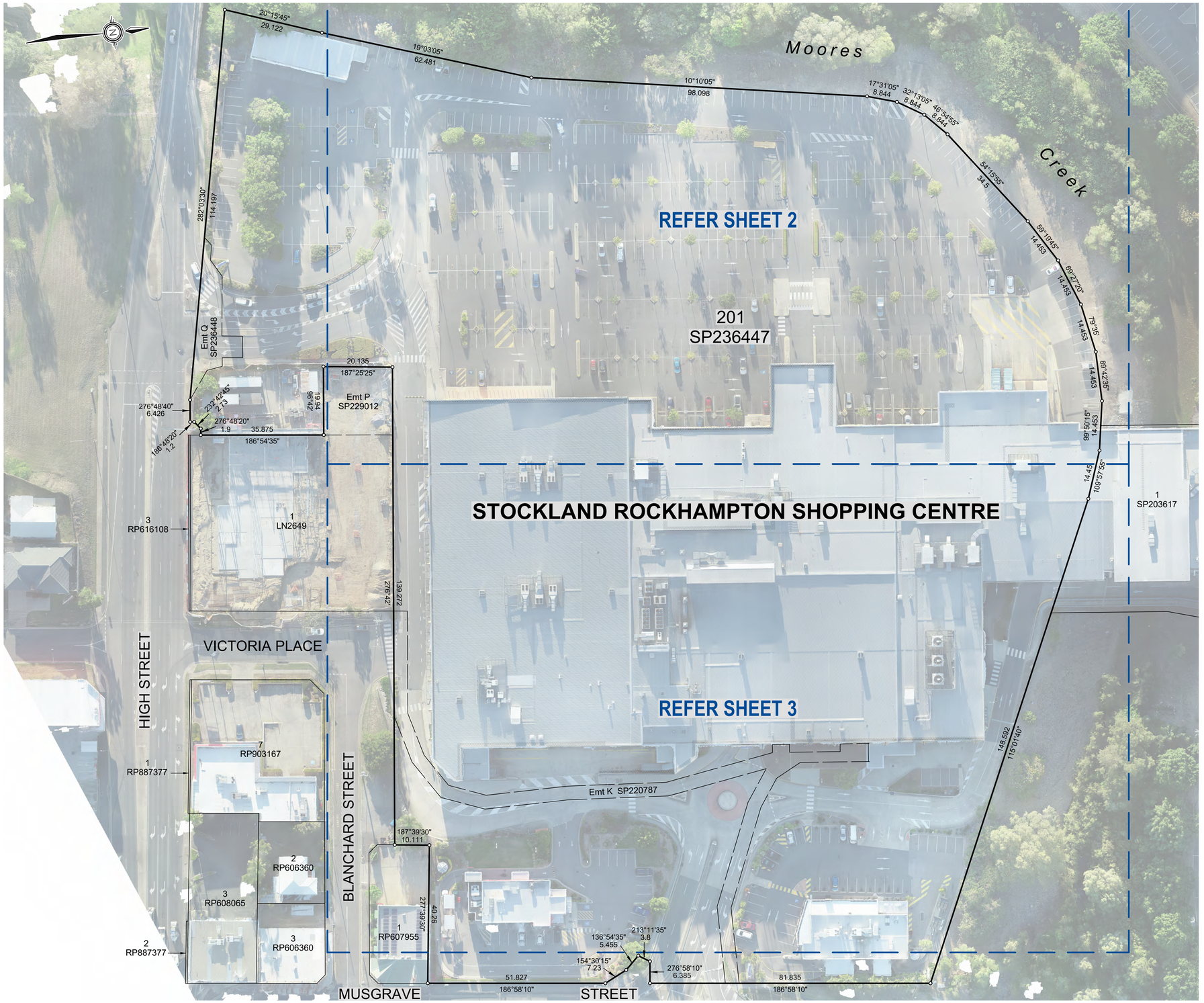
PROJECT:
Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701

TITLE:
PERSPECTIVES

PROJECT NUMBER:
20-05-12-RO
DEVELOPMENT APPLICATION

DRAWING NUMBER:
DA_056_A_3

Appendix 2
Survey Plan



SURVEY CONTROL

Station No.	Easting	Northing	Elevation	Description
STN1	246593.917	7414769.301	13.650	Nail in Concrete
STN2	246624.895	7414870.874	14.432	Nail in Concrete
STN3	246778.040	7414852.225	14.702	Nail in Concrete

LEGEND

- Major Contour (1m Interval) — 16.00
- Minor Contour (0.25m Interval)
- Retaining Wall
- Kerb Invert — KI
- Road Line Marking
- Roof Line
- Building Edge
- Stormwater Line — SW
- Communications Line — T
- Underground Electrical — UE
- Vegetation
- STN1 — Survey Station, ID
- SW — Stormwater Manhole
- Humeceptor Pit
- Sewer manhole
- Communications Pit
- Inspection Opening
- SV — Sluice Valve
- FH — Fire Hydrant
- LP — Light Pole
- Electrical Pit
- Irrigation Control Box
- Tree with Approx Canopy Spread

FL	Floor Level
IL	Invert Level
CL	Cover Level
E/PIT	Electrical Pit
GT	Gully Trap
KI	Kerb Invert
RCP	Reinforced Concrete Pipe
TW	Top of Wall

NOTES

1. The title boundaries shown hereon were not marked at the time of survey, and have been determined by plan dimensions only and not by field measurement.
2. No Service As-Constructed information was received for this plan at time of survey. Services shown hereon have been located where possible by field survey.
3. Some underground services have also been plotted utilising GPR or Potholing techniques provided by Vac Group. Vision Surveys (QLD) accepts no responsibility for the searching, accuracy or locations of these services. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services prior to construction on this site.
4. For presentation purposes some information has not been represented on this plan. For complete information refer to digital CAD (*dwg*) file.

Scale 1:600 - Lengths are in Metres.

10 0 10 20 30 40 50 60

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PLAN OF CONTOUR AND DETAIL SURVEY

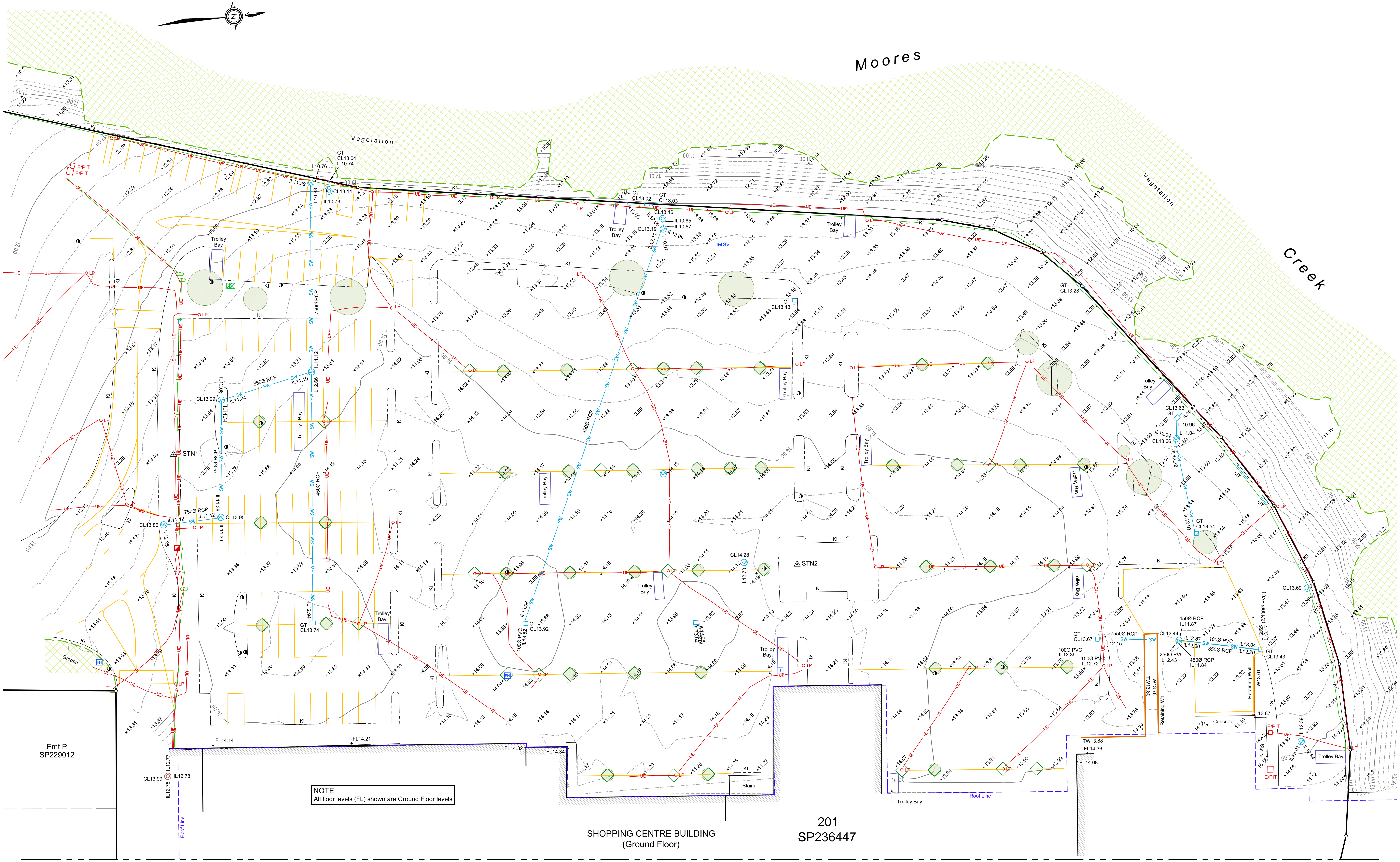
PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

LOCATION: 331 YAAMBA ROAD, BERSERKER
Real Property Description: LOT 201 ON SP236447

CLIENT: STOCKLAND

Horizontal Datum:	MGA (GDA94) ZONE 56	Scale:	1:600 @ A1
Vertical Datum:	AHD	Drawn:	AD
Local Authority:	ROCKHAMPTON REGIONAL COUNCIL	Surveyed:	JS
		Drawing No:	21765-CD-01
		Sheet:	1 OF 3
		Revision:	A

VISION
Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD
E : admin@visionsurveysqld.com.au P : 13000VISION



PLAN OF CONTOUR AND DETAIL SURVEY

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

LOCATION: 331 YAAMBA ROAD, BERSERKER

Real Property Description: LOT 201 ON SP236447

CLIENT: STOCKLAND

Horizontal Datum: MGA (GDA94) ZONE 56

Vertical Datum: AHD

Local Authority: ROCKHAMPTON REGIONAL COUNCIL

VISION

Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD

E : admin@visionsurveysqld.com.au P : 13000VISION

Scale:	1:300 @ A1	Drawing No:	21765-CD-01
Drawn:	AD	Sheet:	2 OF 3
Surveyed:	JS	Revision:	A

Scale 1:300 - Lengths are in Metres.

5 0 5 10 15 20 25 30

ADJOINS SHEET 2

1
LN2649

Roof Line

FL14.38

201
SP236447

SHOPPING CENTRE BUILDING
(Ground Floor)

NOTE
All floor levels (FL) shown are Ground Floor levels

FL14.35

FL14.34

FL14.28

Stairs

FL14.72

14.32

FL15.46

Roof Line

15.28

Roof Line

Creek

Moores

FL15.31

FL14.56

FL14.37

FL14.41

Emt K SP220787

STN3

BLANCHARD STREET

1
RP607955

Scale 1:300 - Lengths are in Metres.

5 0 5 10 15 20 25 30

Rev	Description	Drawn	Checked	Date
A	Original issue	AD	JS	29/10/2021

This plan is prepared from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement. Services shown hereon have been located where possible by field survey. If not able to be located, services may have been plotted from the records of relevant authorities where available. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of this plan.

PLAN OF CONTOUR AND DETAIL SURVEY

PROJECT: STOCKLAND ROCKHAMPTON SHOPPING CENTRE

LOCATION: 331 YAAMBA ROAD, BERSERKER
Real Property Description: LOT 201 ON SP236447

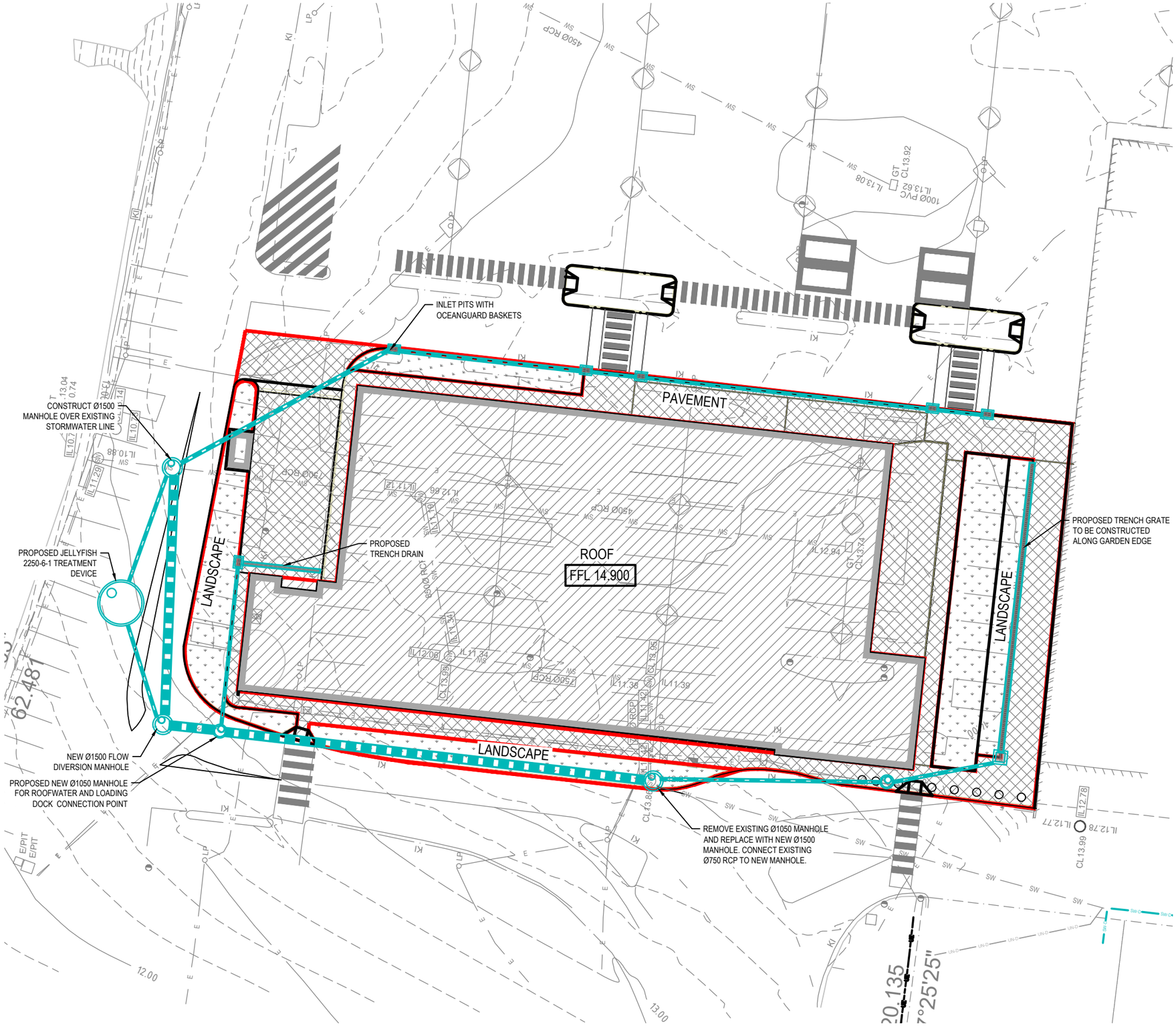
CLIENT: STOCKLAND

Horizontal Datum: MGA (GDA94) ZONE 56
Vertical Datum: AHD
Local Authority: ROCKHAMPTON REGIONAL COUNCIL

VISION
Airlie Beach | Mackay | Townsville | Rockhampton | SE QLD
E : admin@visionsurveysqld.com.au P : 13000VISION

Scale: 1:300 @ A1
Drawn: AD
Surveyed: JS
Drawing No: 21765-CD-01
Sheet: 3 OF 3
Revision: A

Appendix 3
MPN Plans



LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
	FLUSH KERB	
	KERB RAMP	
SW	STORM WATER MAIN	
W	WATER MAIN	
S	SEWER MAIN	
G	GAS MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	LINE OF SAW CUT	LINE OF SAW CUT
	FINISHED SURFACE LEVEL	FSL 22.22
	ROOF AREA	
	ROAD AREA	
	LANDSCAPE AREA	

TREATMENT TABLE

CATCHMENT	TREATMENT TYPE	CATCHMENT AREA (Ha)	IMPERVIOUS AREA (%)
ROOF	JF2250-6-1	0.070	100
PAVEMENT	JF2250-6-1 OCEANGUARD	0.180	100
LANDSCAPE	JF2250-6-1 OCEANGUARD	0.120	30
TOTAL		0.3700	

NOTE:
ALL FIELD INLETS TO BE FITTED WITH OCEANGUARDS

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

mpn consulting
ABN: 39 062 191 799
39 Sherwood Road, Toowong, Qld, 4066
P: 61 7 3335 4555
E: solutions@mpnc.net.au

CLIENT:
STOCKLAND

ROCKHAMPTON
ALDI
120-331 YAAMBA ROAD
NORTH ROCKHAMPTON, QLD 4701

STORMWATER TREATMENT PLAN

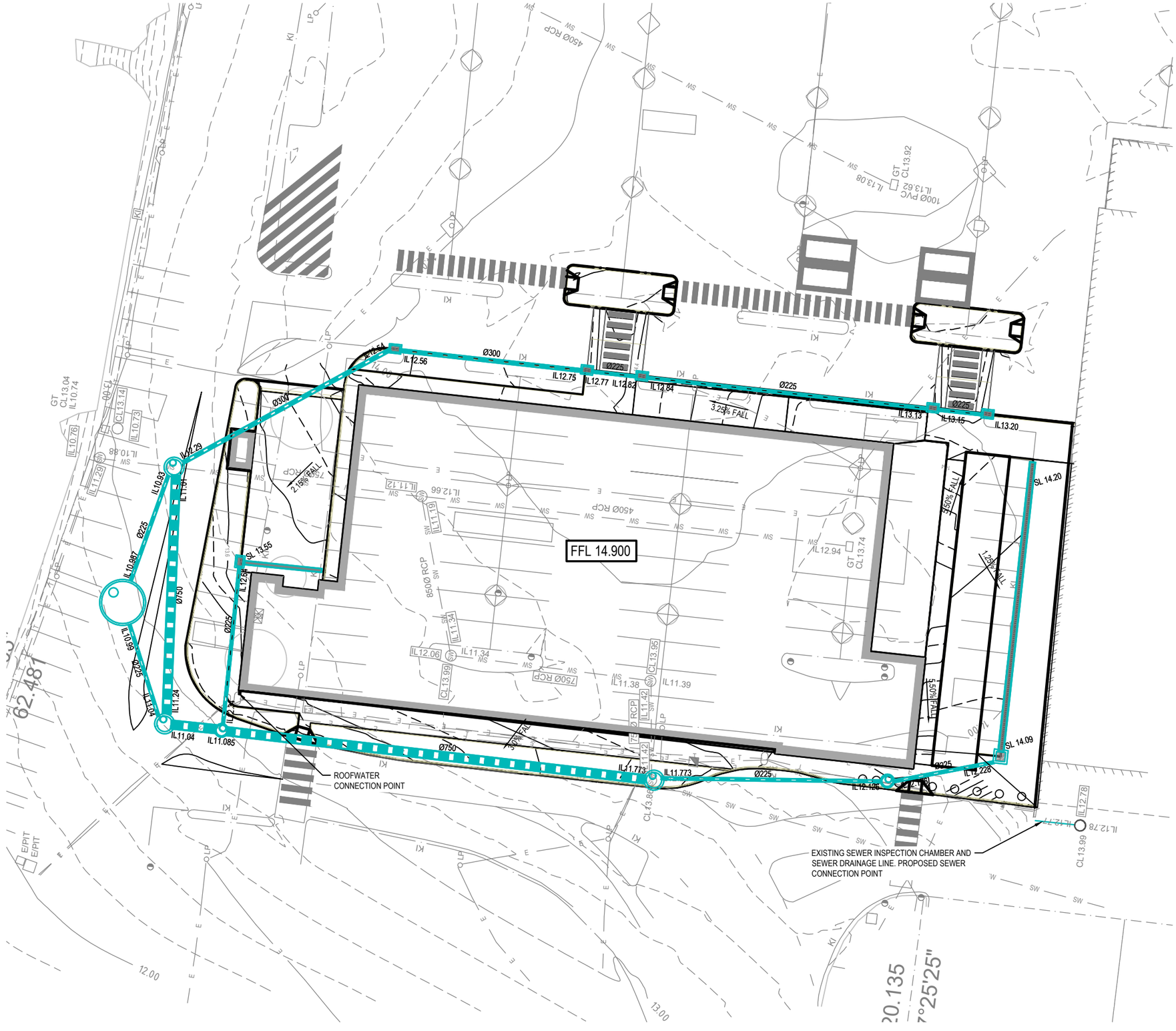
DESIGN:	DRAWN:	SCALES:
BT	BT	AS SHOWN
CHKD:	APPRD:	DATE:
LS	LS	

mpn JOB	DRAWING No.	REV
9180	DA.01	A

SCALE 1:200 (A1) 1:400 (A3)

NOT FOR CONSTRUCTION

FOR APPROVAL



LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
	FLUSH KERB	
	KERB RAMP	
SW	STORM WATER MAIN	
W	WATER MAIN	W
S	SEWER MAIN	S
G	GAS MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	LINE OF SAW CUT	LINE OF SAW CUT
	FINISHED SURFACE LEVEL	FSL 22.22

NOTE:
DEVELOPMENT TO CONNECT TO EXISTING SHOPPING CENTRE WATER RETICULATION SYSTEM.

SCALE 1:200 (A1) 1:400 (A3)

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

mpn consulting
ABN: 39 062 191 799
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CLIENT:
STOCKLAND

ROCKHAMPTON ALDI
120-331 YAAMBA ROAD
NORTH ROCKHAMPTON, QLD 4701

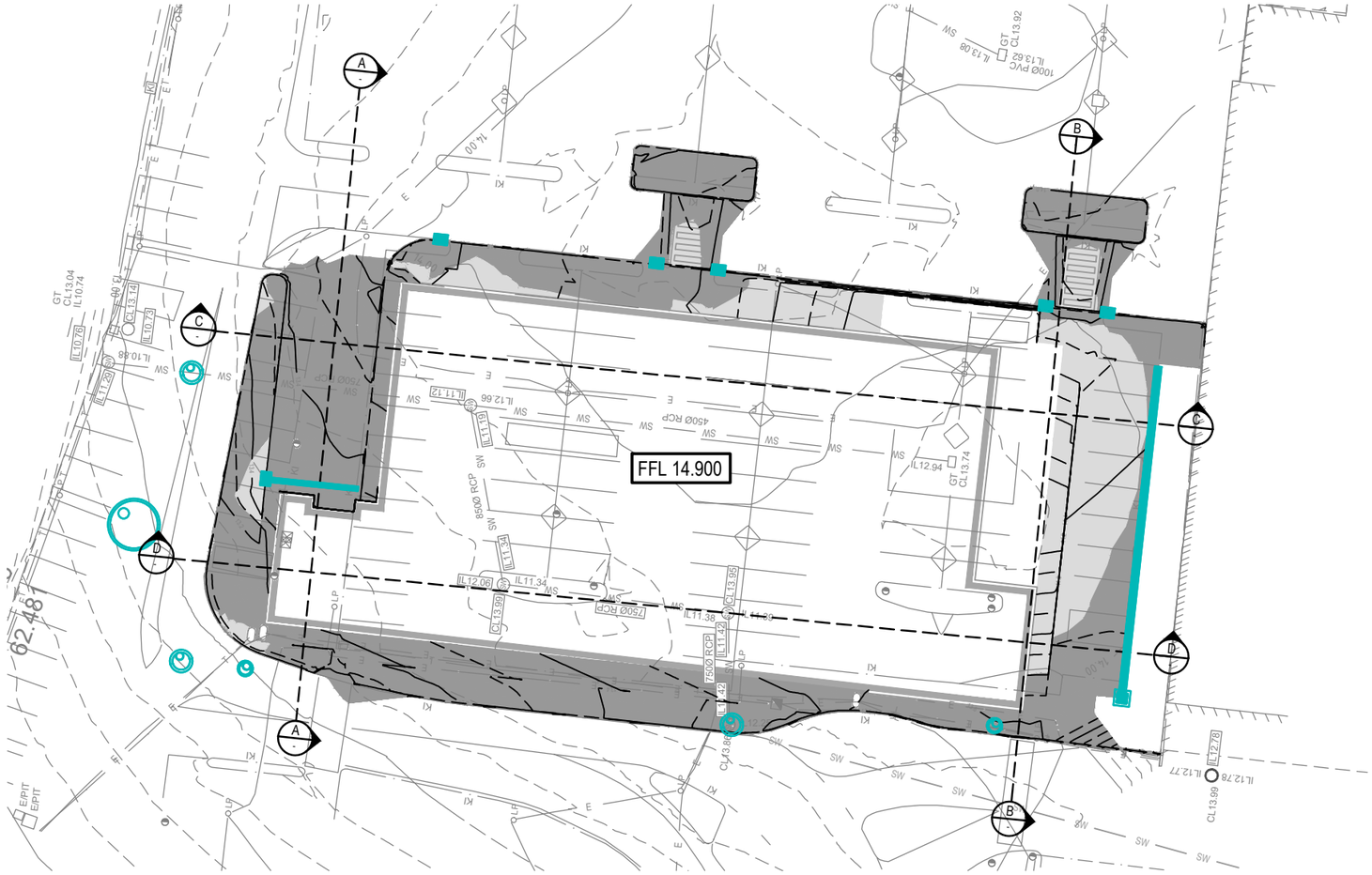
SERVICES CONNECTION AND PROPOSED LEVELS PLAN

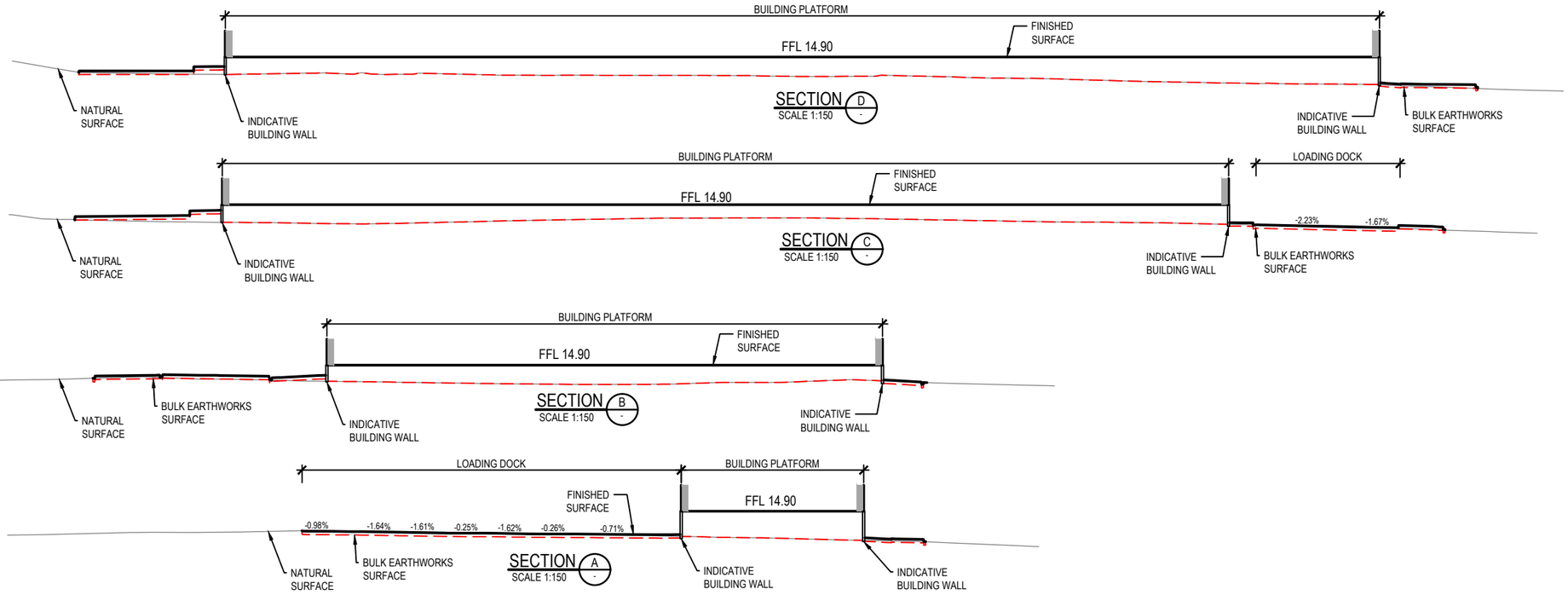
DESIGN:	BT	DRAWN:	BT	SCALES:	AS SHOWN
CHKD:	LS	APPRD:	LS	DATE:	

mpn JOB	DRAWING No.	REV
9180	DA.02	A

FOR APPROVAL

NOT FOR CONSTRUCTION





LEGEND

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
5.00	CONTOUR	5.00
	BUILDING	
	CONCRETE	
	EDGE OF BITUMEN	
	KERB	
	KERB AND CHANNEL	
SW	STORM WATER MAIN	
RW	ROOFWATER	
W	WATER MAIN	
S	SEWER MAIN	
RM	RISING MAIN	
T	TELECOMMUNICATIONS	
E	U/G ELECTRICITY	
	O/H ELECTRICITY	
	FENCE	
RET WALL	RETAINING WALL	RET WALL
	BUILDING WALL	
	TOP OF BATTER	
	FACE OF BATTER	
	TOE OF BATTER	
	SWALE DRAIN	
	CONCRETE CHANNEL	
	BULK EARTHWORKS LEVEL	BE 22.22
	TREE	
	CUT AREA	
	FILL AREA	

EARTHWORKS TABLE

SITE	CUT (m³)	FILL (m³)	BALANCE (m³)
BULK EARTHWORKS	-139.0660	52.188	-86.8780

0 1 2 3 4 5 6 7.5
SCALE 1:150 (A1) 1:300 (A3)

0 5 10 12.5
SCALE 1:250 (A1) 1:500 (A3)

NOTE:
BUILDING TO BE ON SUSPENDED PLATFORM OVER EXISTING ASPHALT CAR PARK.

ISSUE	DATE	AMENDMENT	BY	APP
A	25.03.22	PRELIMINARY ISSUE	BT	LS

mpn consulting
ABN: 39 062 191 799
39 Sherwood Road, Toowong, Qld, 4066
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E: solutions@mpnc.net.au

CLIENT:
STOCKLAND

ROCKHAMPTON
ALDI
120-331 YAAMBA ROAD
NORTH ROCKHAMPTON, QLD 4701

BULK EARTHWORKS PLAN AND SECTIONS

DESIGN: BT	DRAWN: BT	SCALES: AS SHOWN
CHKD: LS	APPRD: LS	DATE:

mpn JOB	DRAWING No.	REV
9180	DA.03	A

FOR APPROVAL

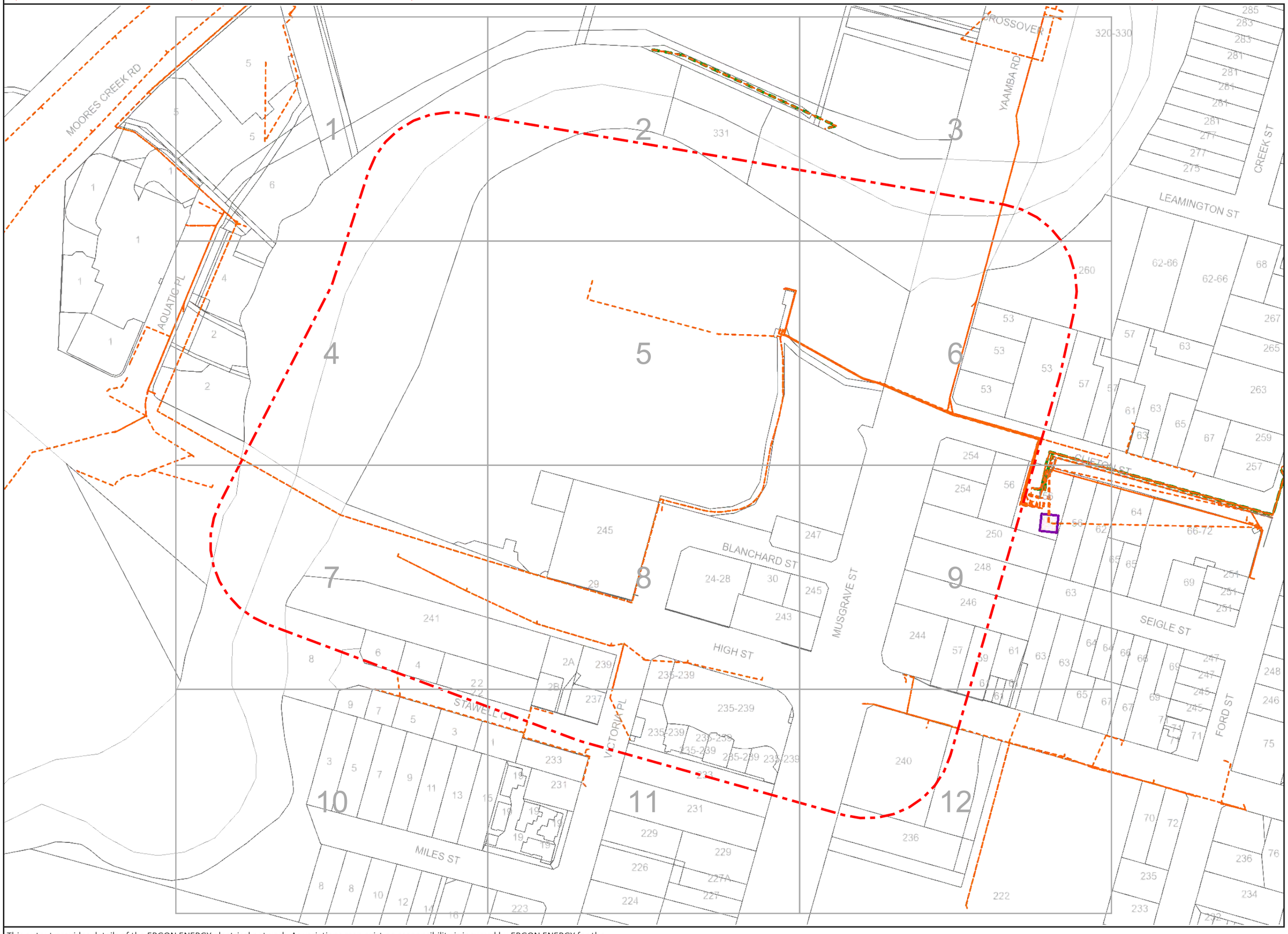
NOT FOR CONSTRUCTION

Appendix 4
Ergon DBYD Plans

Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

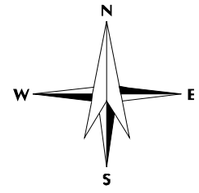
Sequence: 207977702
Date: 10/02/2022

Scale: 1:2050

OVERVIEW

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan



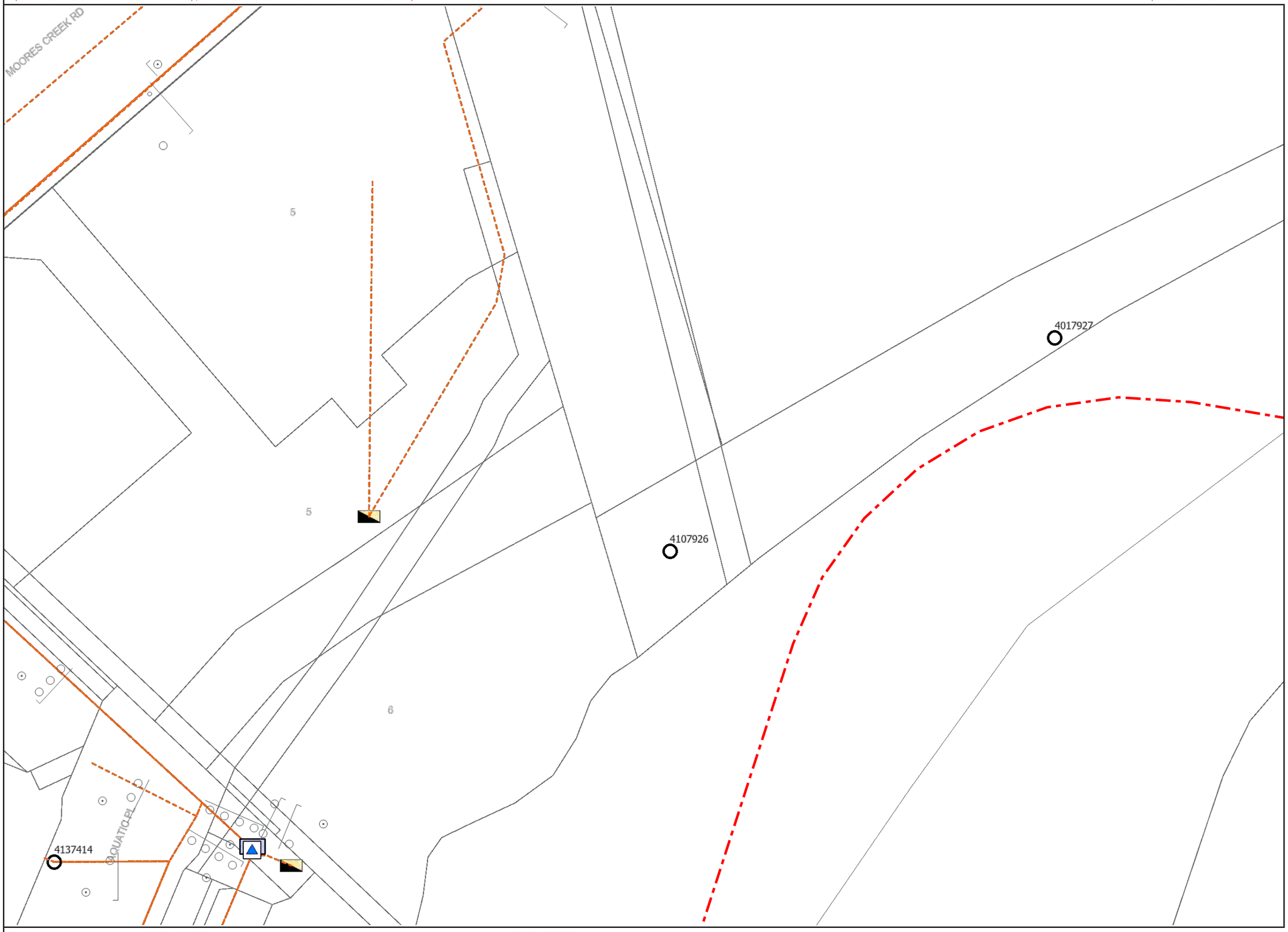
DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

This output provides details of the ERGON ENERGY electrical network. As variations map exist no responsibility is incurred by ERGON ENERGY for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 1

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

N
W
E
S

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This output provides details of the ERGON ENERGY electrical network. As variations map exist no responsibility is incurred by ERGON ENERGY for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

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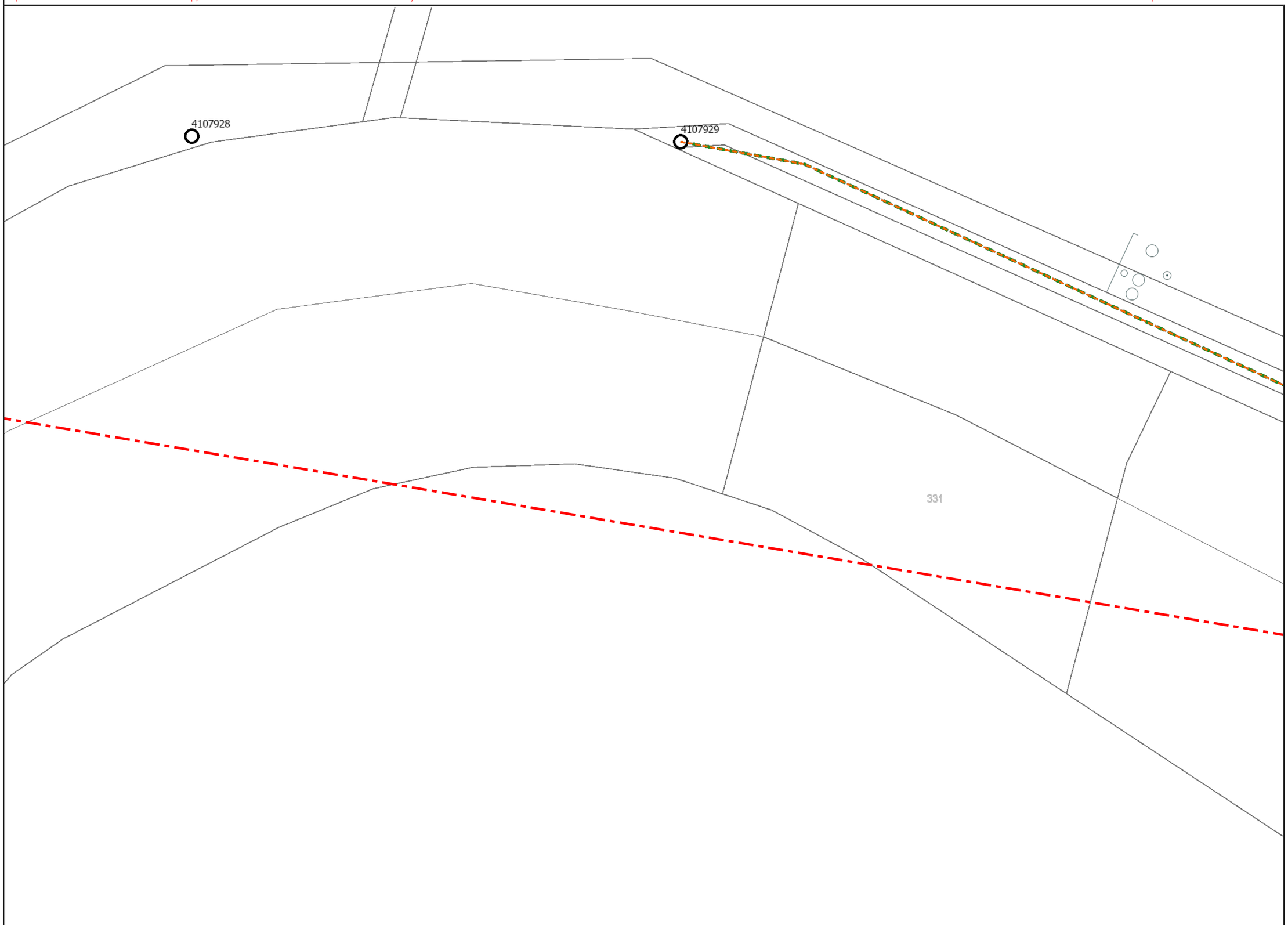


ERGON ENERGY NETWORK
Part of Energy Queensland

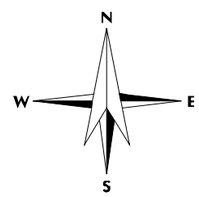
DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 2

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan



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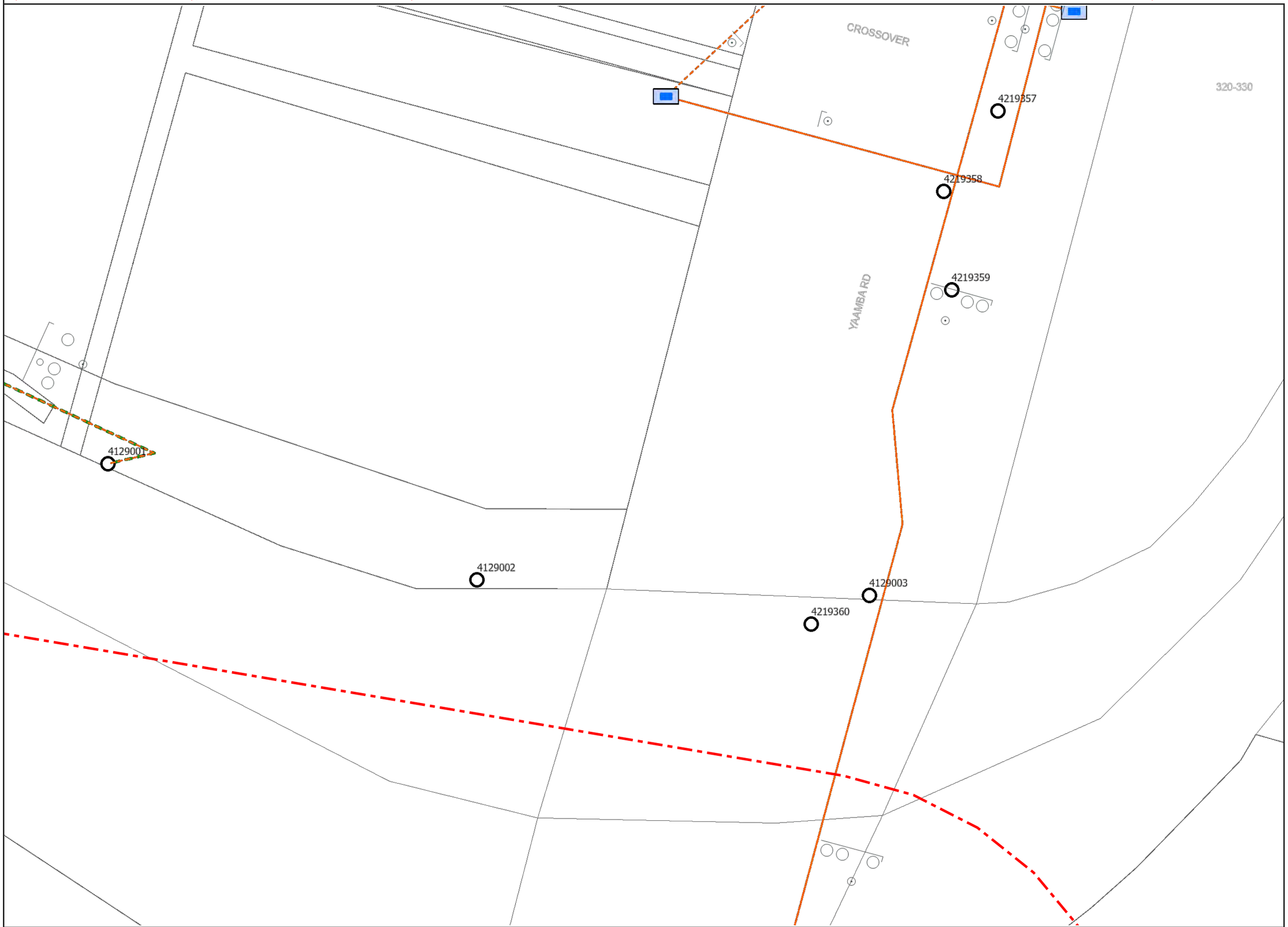
Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 3

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

N
W E
S

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

This output provides details of the ERGON ENERGY electrical network. As variations map exist no responsibility is incurred by ERGON ENERGY for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70

ERGON ENERGY NETWORK
Part of Energy Queensland

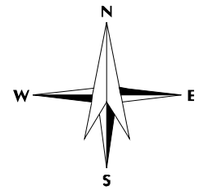
DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 4

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan



DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

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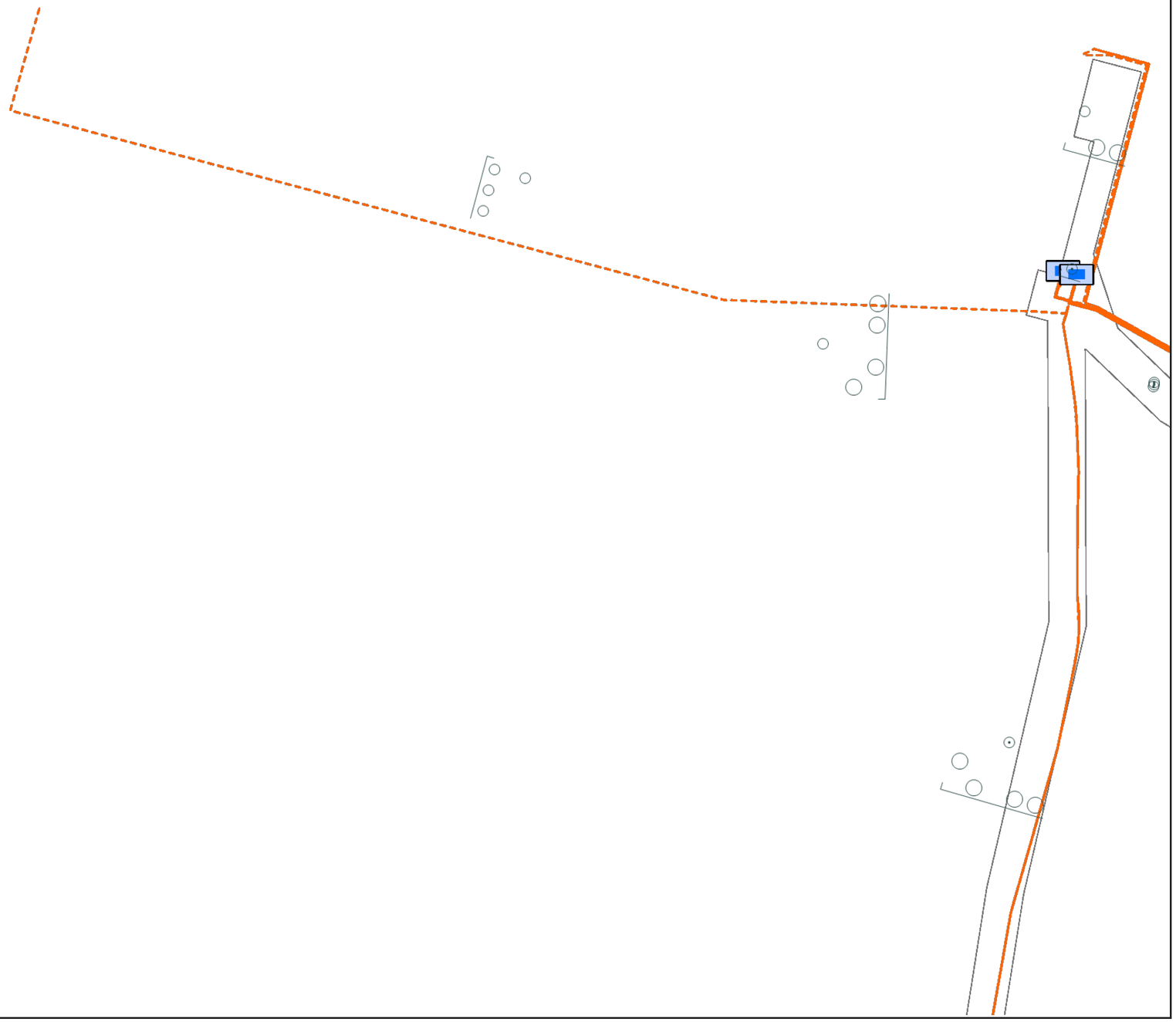
ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 5



For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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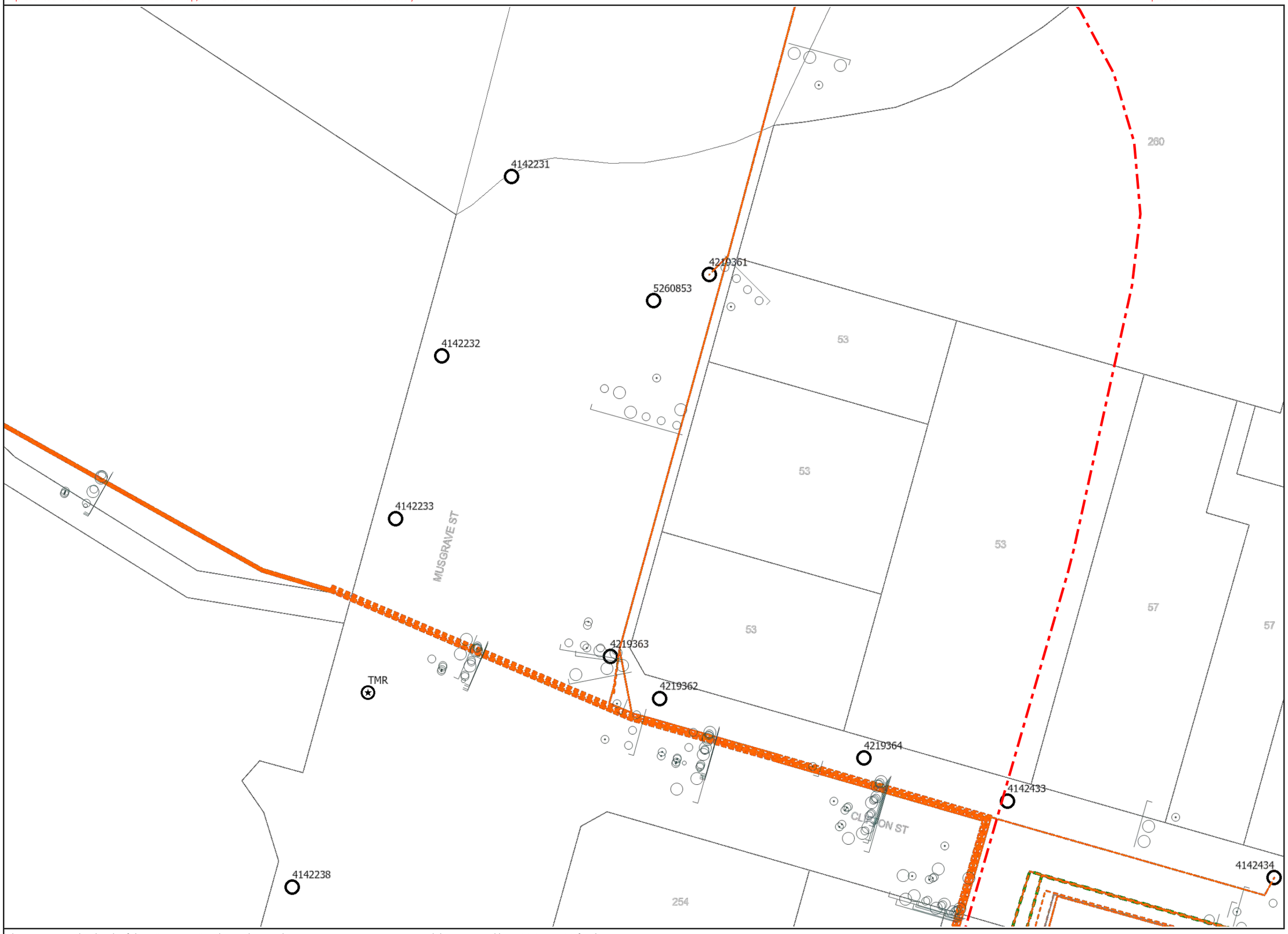
For Emergency Situations please call 13 16 70

ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 6



For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

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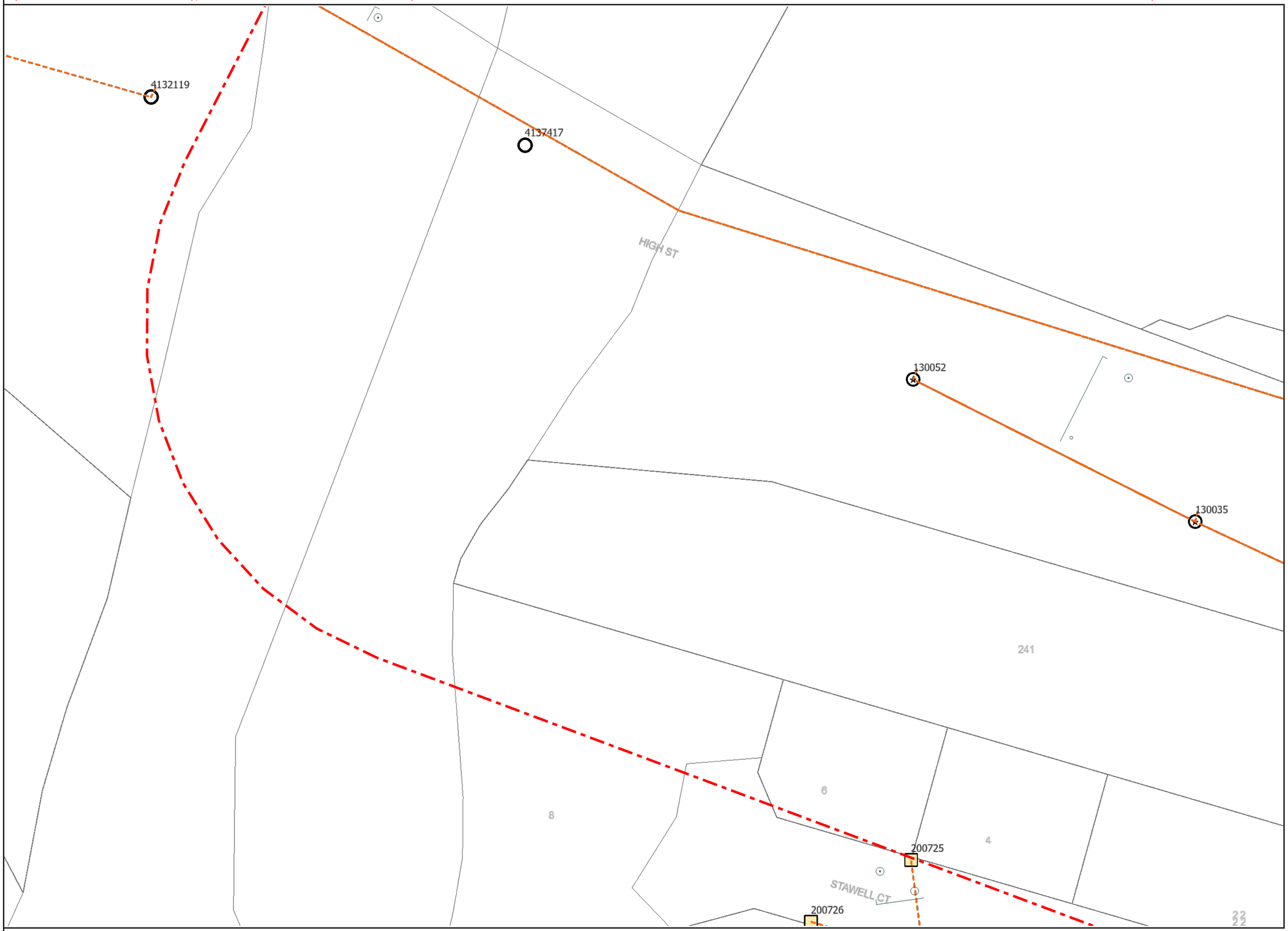
Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 7

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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S

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For Emergency Situations please call 13 16 70

ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 8

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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S

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Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

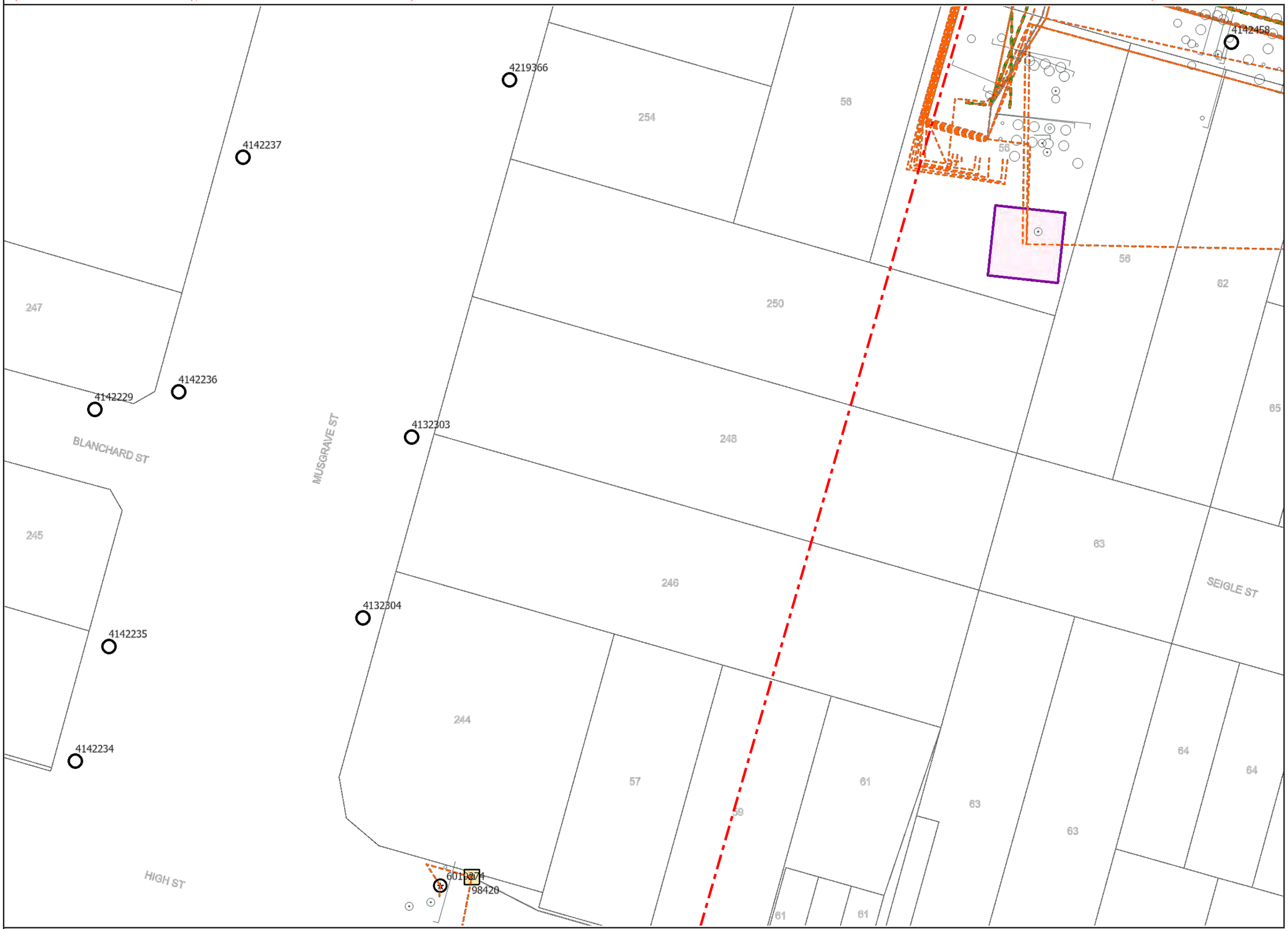
For Emergency Situations please call 13 16 70

ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 9



For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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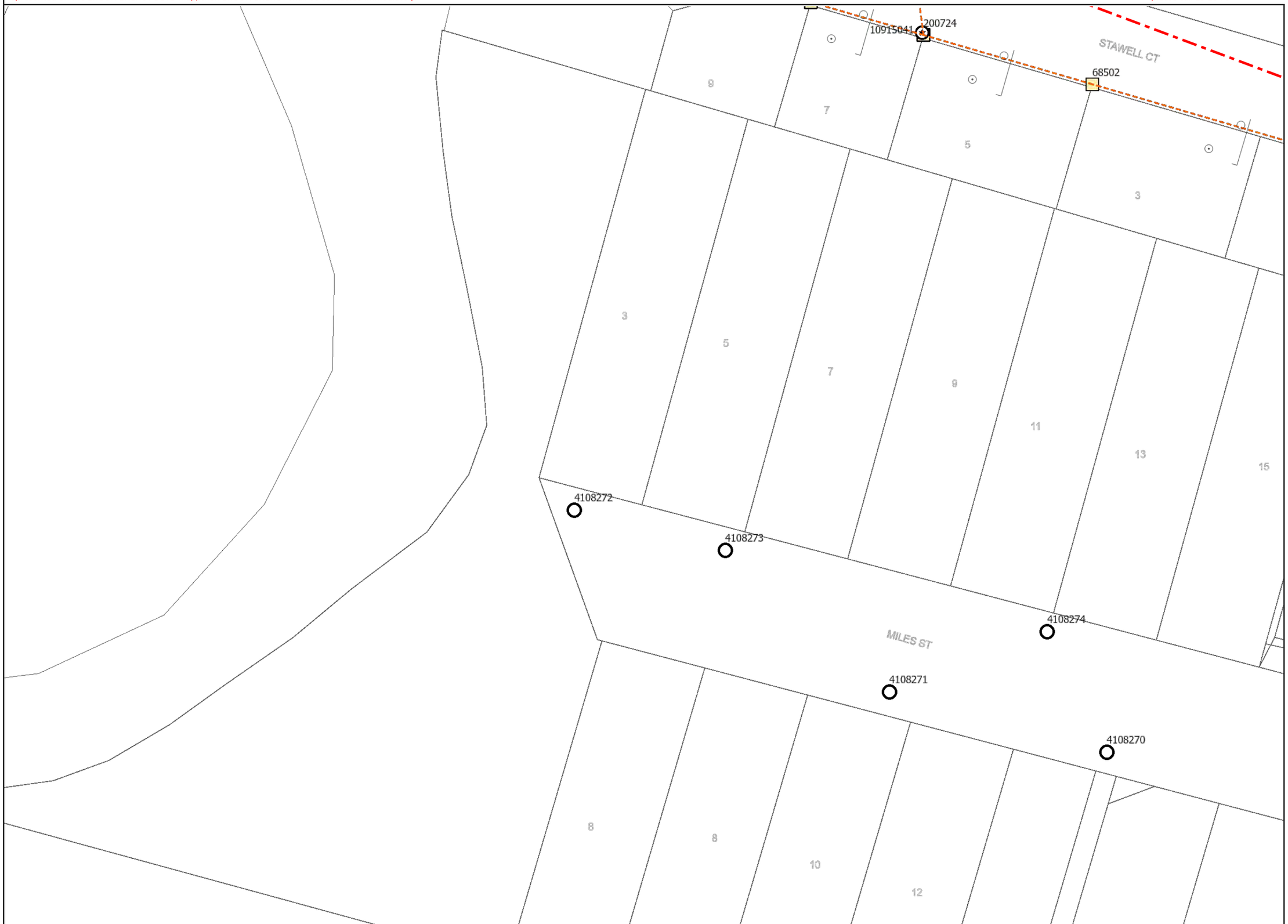


ERGON ENERGY NETWORK
Part of Energy Queensland

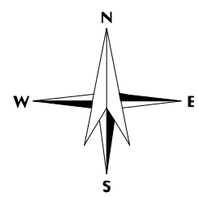
DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 10

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan



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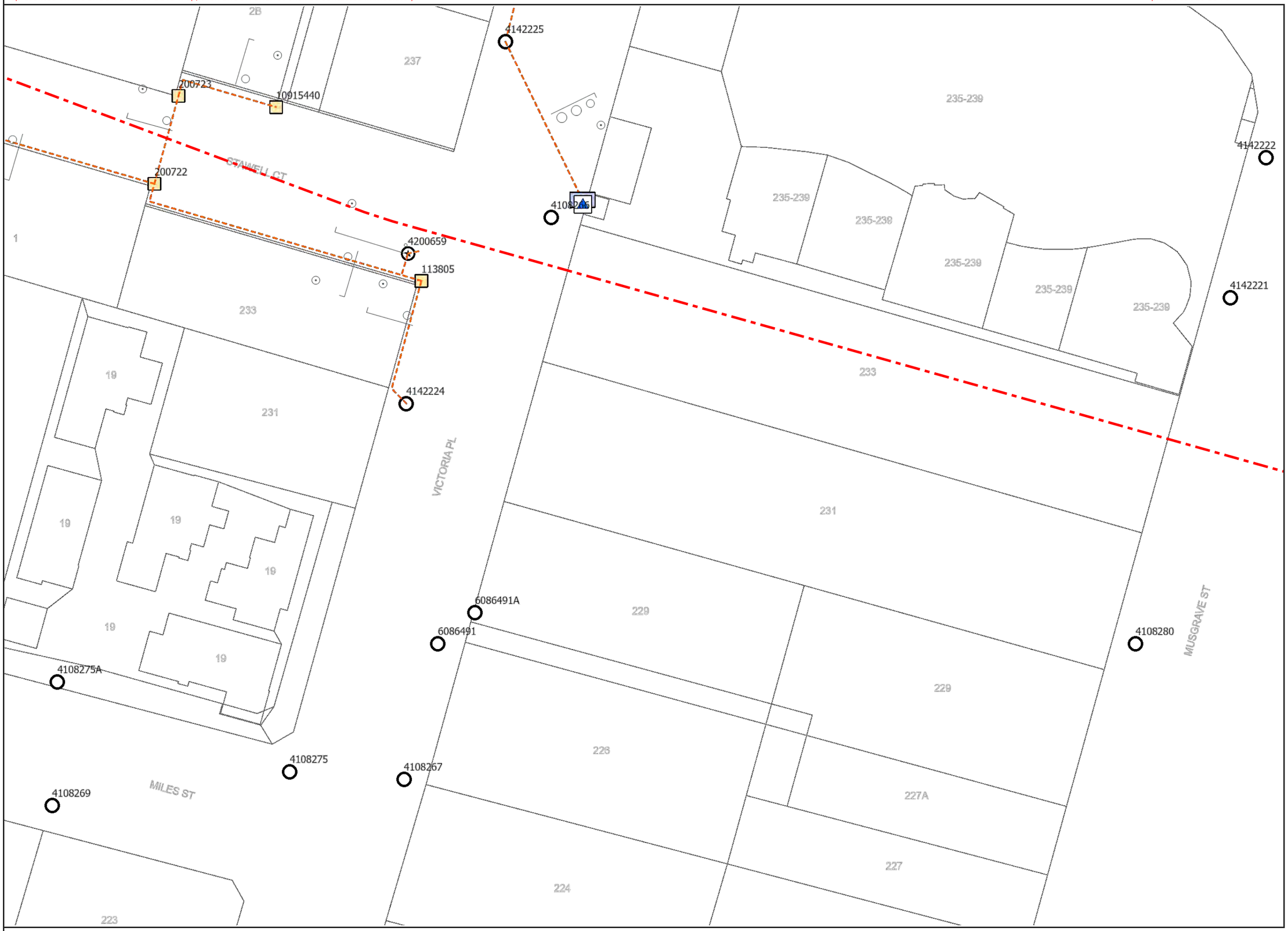
Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



This output provides details of the ERGON ENERGY electrical network. As variations map exist no responsibility is incurred by ERGON ENERGY for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

ERGON ENERGY NETWORK
Part of Energy Queensland

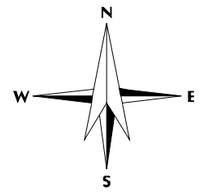
DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 11

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

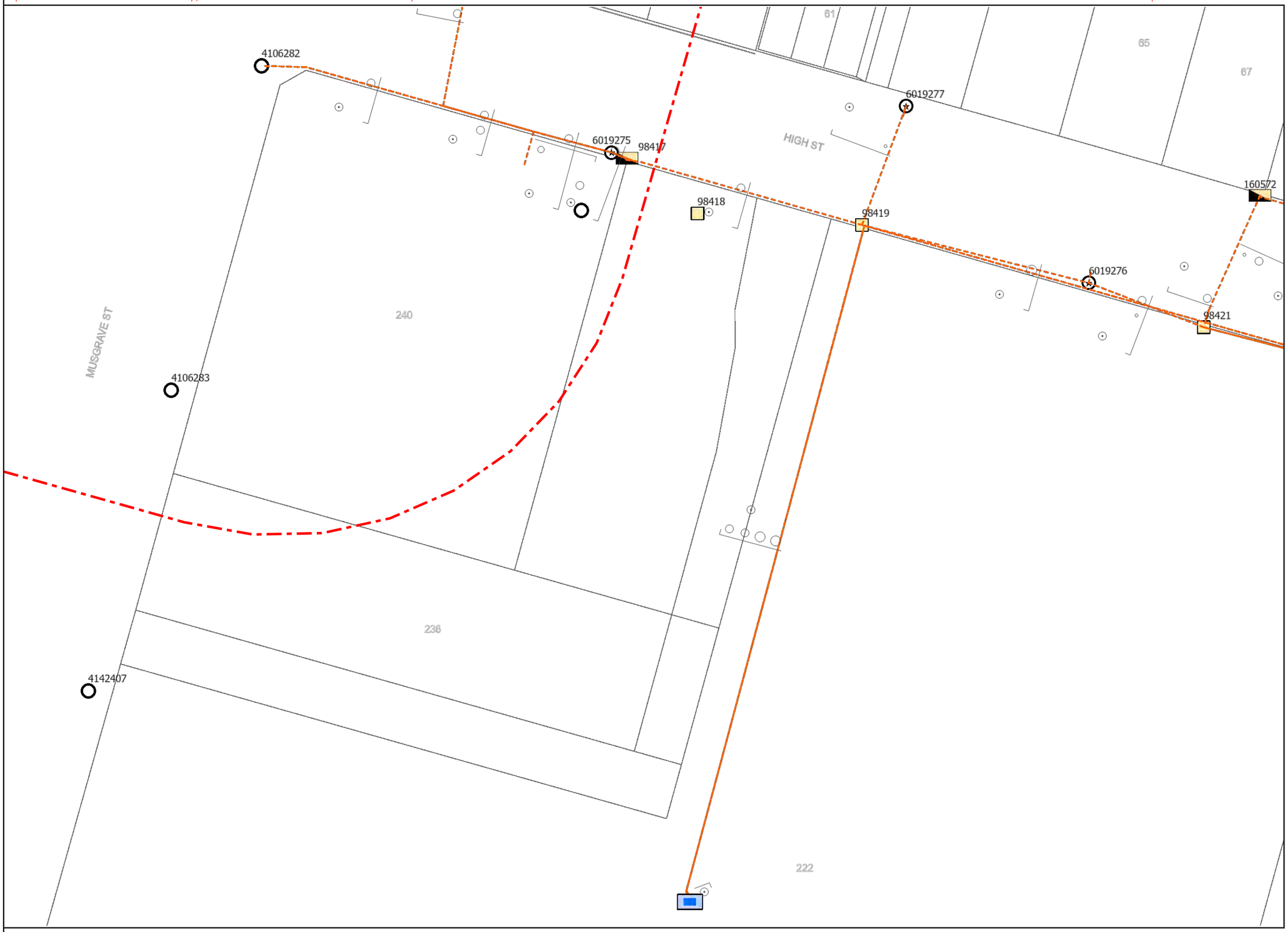


DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

Paper size A3 Map has been designed to be reproduced in colour

All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ERGON ENERGY DBYD map, then ERGON ENERGY shall be contacted immediately.

For Emergency Situations please call 13 16 70



ERGON ENERGY NETWORK
Part of Energy Queensland

DBYD

Sequence: 207977702
Date: 10/02/2022

Scale: 1:500
Tile No: 12

For a full list of Map Symbols, please refer to the supplied DBYD Symbology Legend page

AS5488 Category "D" Plan

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DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Ergon Energy nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

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Appendix 5
Telstra DBYD Plans

Cable Plan

Telstra	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	
Generated On 10/02/2022 13:03:20	Sequence Number: 207977703
	CAUTION: Critical Network Route in plot area. DO NOT PROCEED with any excavation prior to seeking advice from Telstra Plan Services on : 1800 653 935

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

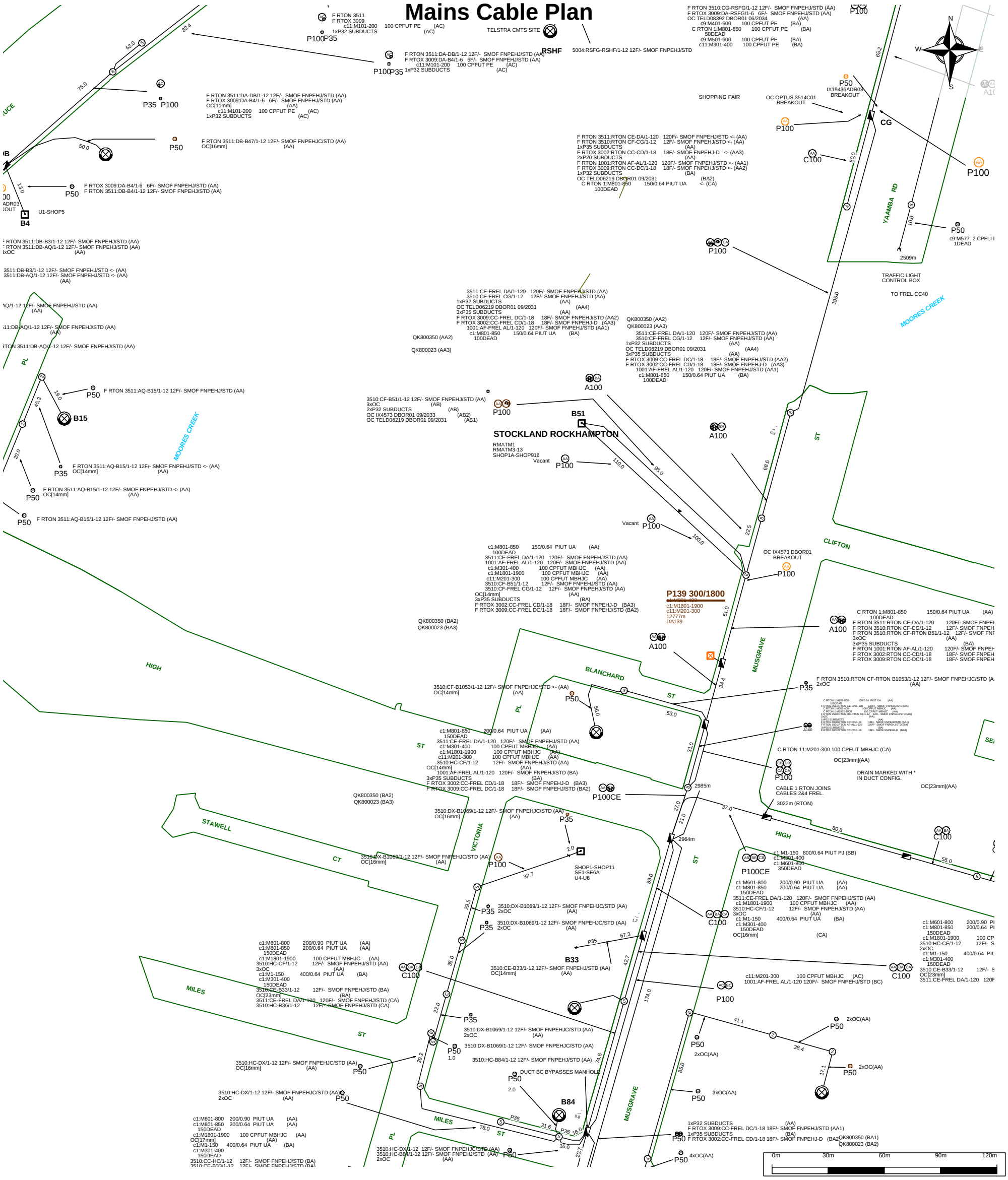
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 10/02/2022 13:03:25

Sequence Number: 207977703

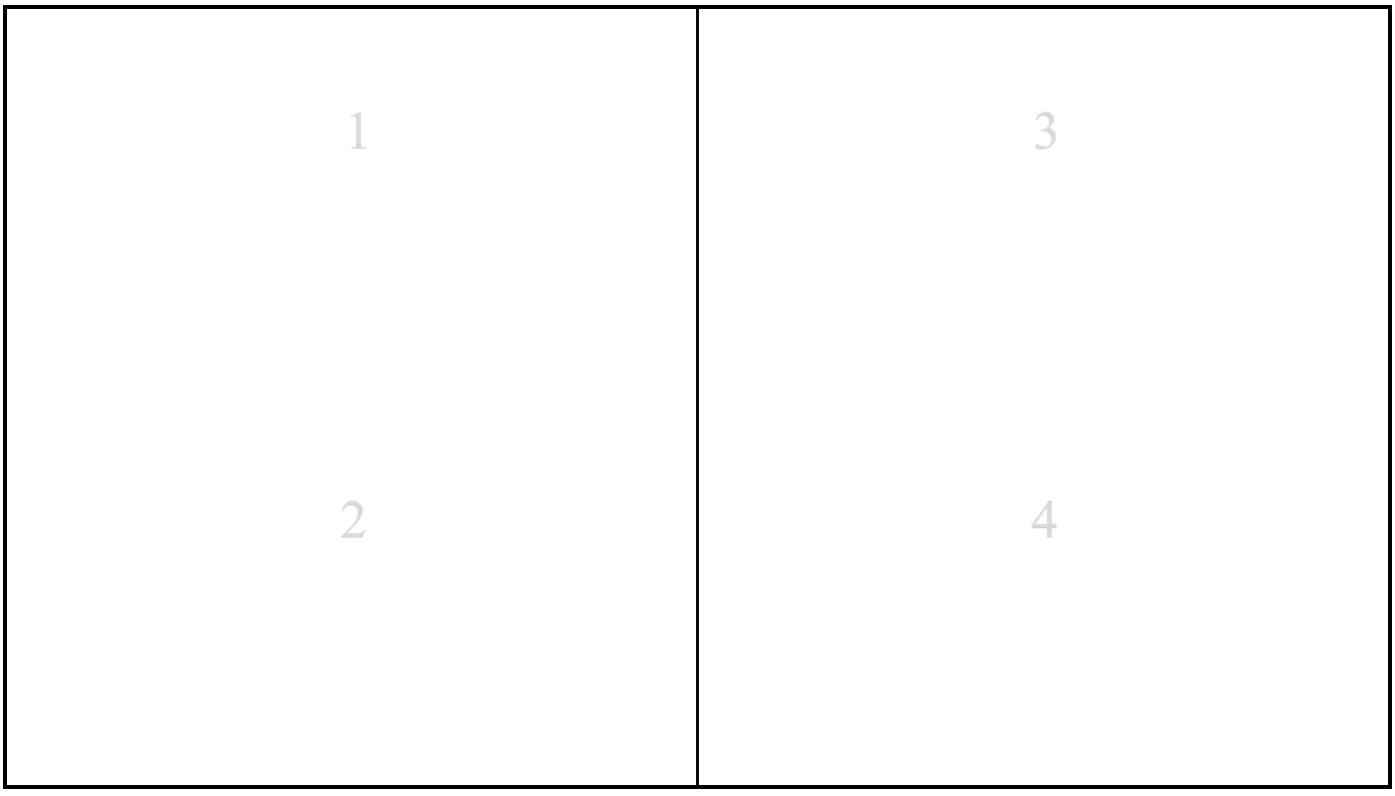
CAUTION: Critical Network Route in plot area.
DO NOT PROCEED with any excavation prior to seeking advice from Telstra Plan Services on : 1800 653 935

Appendix 6
NBN DBYD Plans

To:	Ben Tarrant
Phone:	Not Supplied
Fax:	Not Supplied
Email:	bentarrant@mpnc.net.au

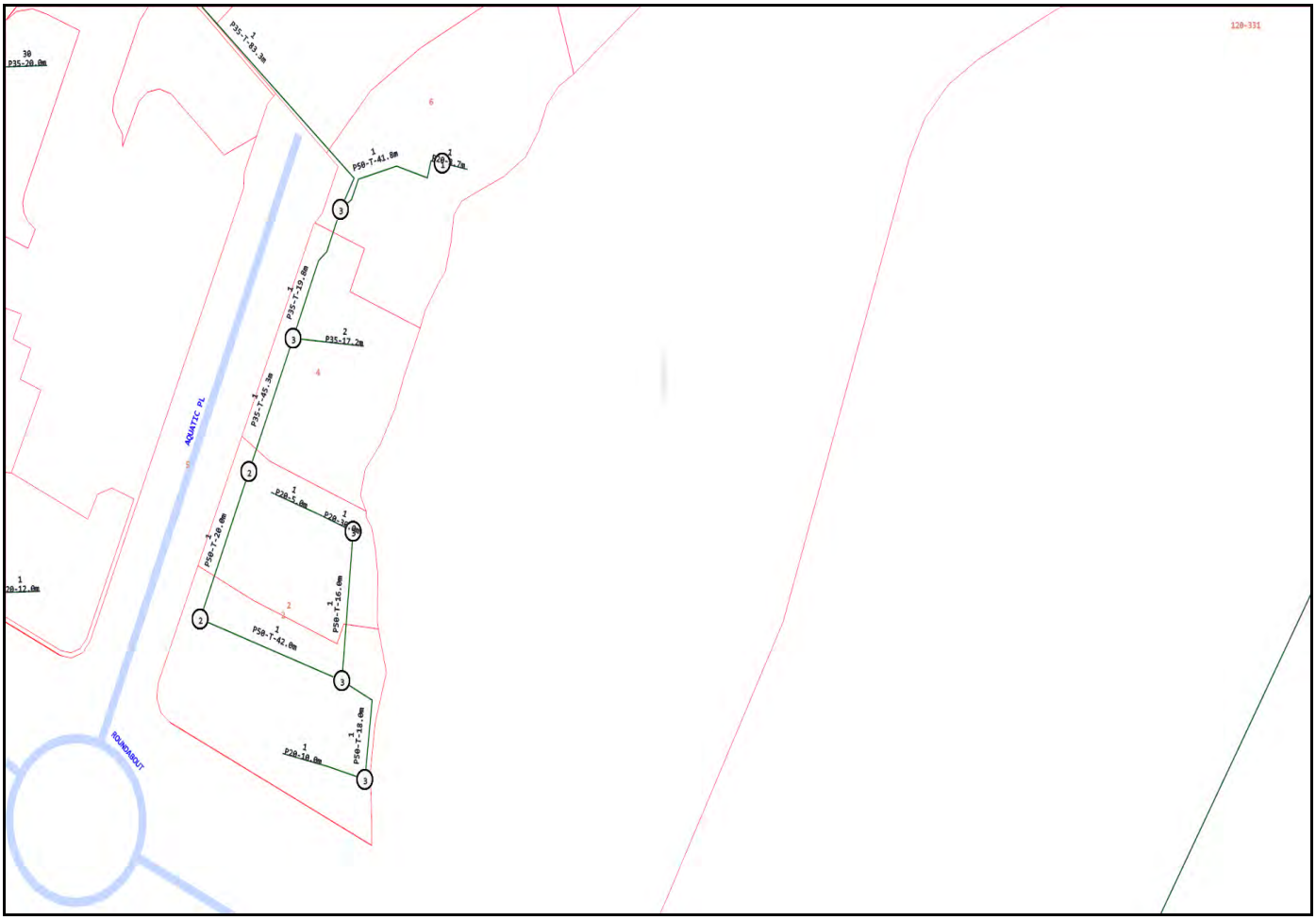
Dial before you dig Job #:	31366542
Sequence #	207977704
Issue Date:	10/02/2022
Location:	245 Victoria Place , Berserker , QLD , 4701

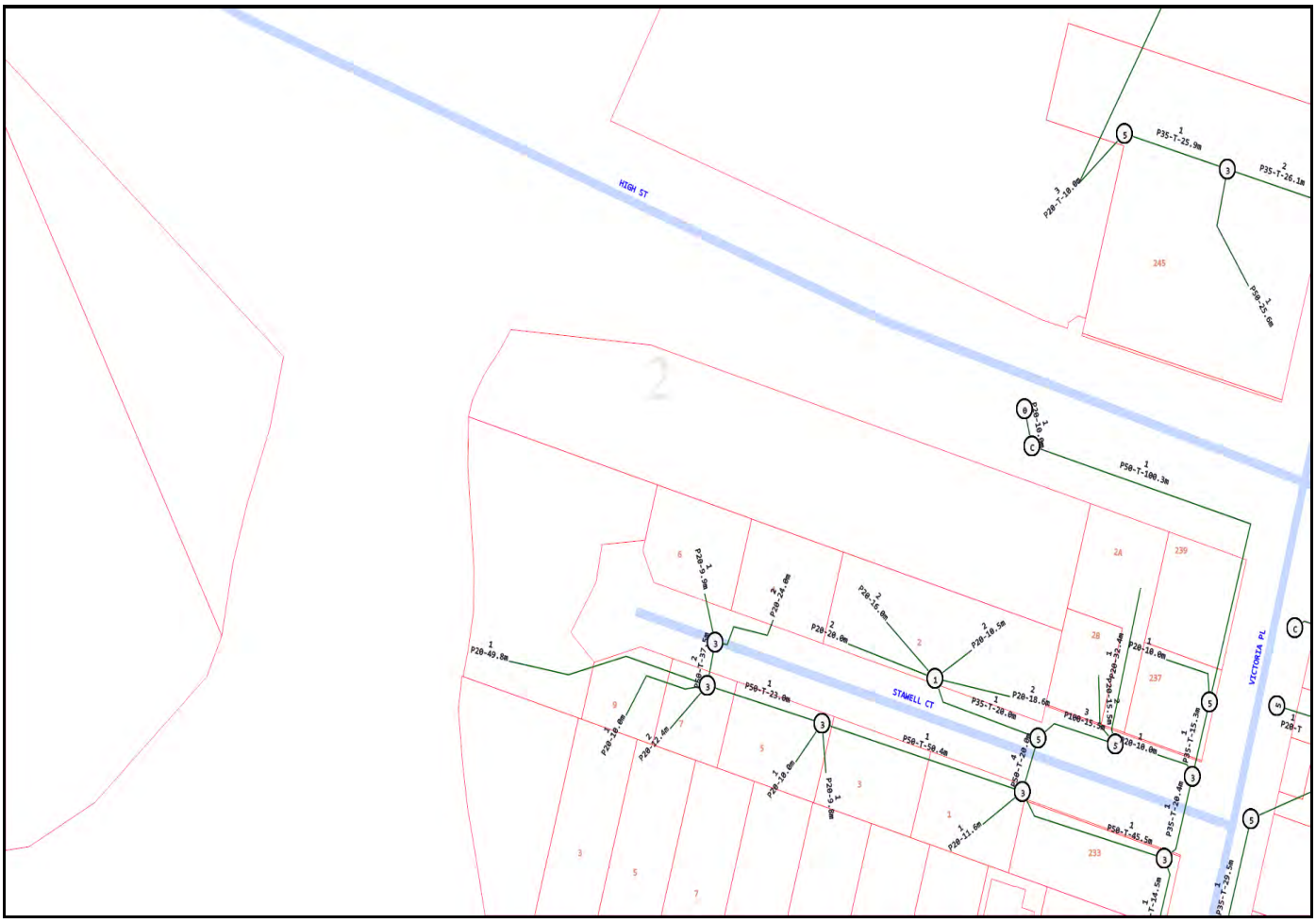
Indicative Plans

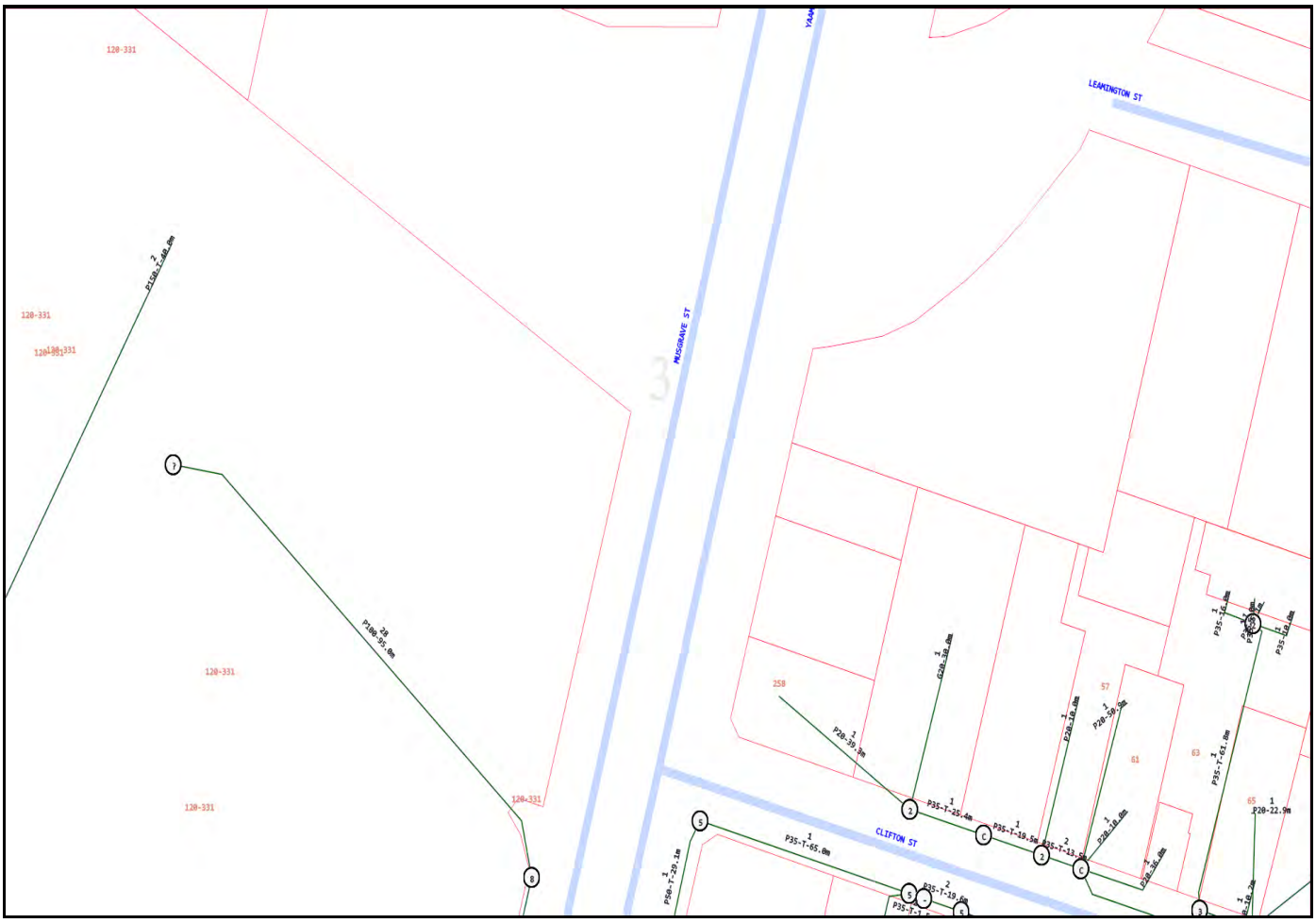


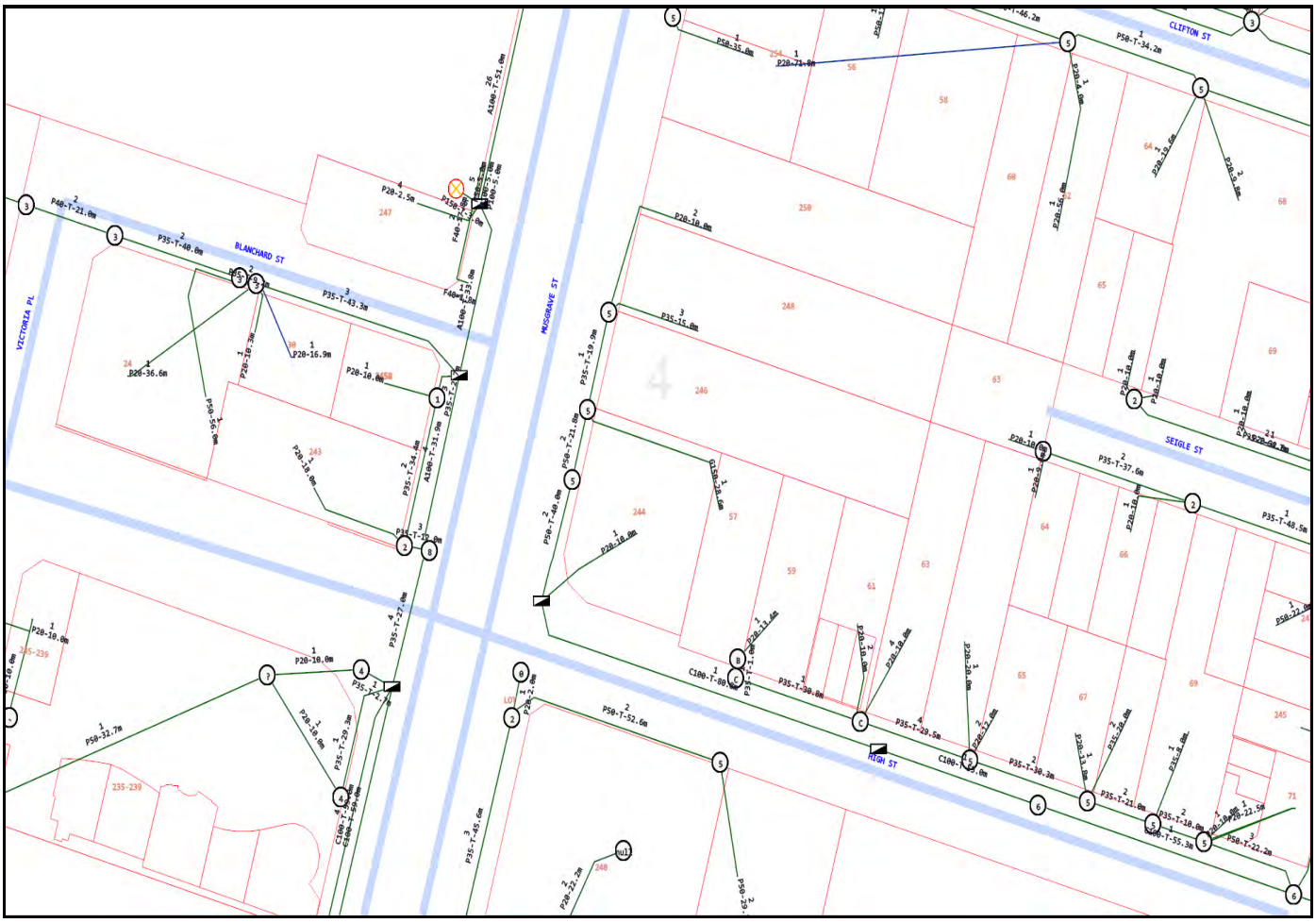
LEGEND

44	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m









Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

Appendix 7
APA DBYD Plans

APA Group
PO Box 6014 Halifax Street
South Australia 5000

For your immediate information THERE IS A CRITICAL GAS PIPELINE AND/OR ASSOCIATED INFRASTRUCTURE in the area of your works.

10/02/2022

Company:
Ben Tarrant
Level 5,39 Sherwood Road
Toowong
QLD 4066
bentarrant@mpnc.net.au

Dear Ben Tarrant

Sequence Number: 207977706
Worksite Address: 245 Victoria Place
Berserker
QLD 4701

Thank you for your Dial Before You Dig enquiry regarding the location of Gas Assets. We can confirm that the APA Group has **Critical Gas Assets** in the vicinity of the above location.

You are hereby notified that **before you commence any works** you are required to complete the attached '**Work In The Vicinity Of Critical Gas Assets**' request form and forward this to APA as soon as practicable.

As laid out in the **Duty of Care** requirements supplied, any activity in the vicinity of Critical Gas Assets operated by APA requires an Authority to Work Permit and potentially attendance on site by an APA representative during any work. Please ensure you read and comply with all the relevant requirements. Should you have any questions with regards to the attached information please contact our Qld Planning & Scheduling Officer - (07) 3215 6644.

Caution - Damage to gas assets could result in possible explosion and fire with the risk of personal injury.
For Gas Emergencies please call 1800 GAS LEAK (1800 427 532)

Please find enclosed the following information:-

- APA's Duty of Care, If you are unclear of your obligations under these requirements please contact the APA Representative listed above immediately
- An overview map with your requested area highlighted to assist in locating APA's Gas Assets
- A map(s) showing APA's Gas Assets in the requested area, this information is valid for 30 days from the date of this response, **please check this represents the area you requested**, if it does not, please contact the APA Representative listed above immediately
- A 'Work In The Vicinity Of Critical Gas Assets' request form, please complete and forward to APA as soon as practicable, via PermitsQld@apa.com.au, or the address above. *A minimum of **5 business days** advance notification is required to process Authority To Work Request applications*

The outcome of this request may be that a qualified APA Group Representative will be required on site when you undertake your proposed works, if this is the case, this will need to be arranged dependent on their availability. Whilst we will aim to facilitate this within 5 business days from a decision, **this cannot be guaranteed.**

Please Note: For some DBYD enquiries, you might receive 2 responses from the APA Group. Please read both responses carefully as they will relate to different assets. It is your responsibility to action all requirements set out in APA Group responses.

Please take some time to review the entire response document and check the information supplied and please let us have any feedback by sending an email to *DBYDNetworksAPA@apa.com.au* or contacting us direct on 1800 085 628.

Duty of Care - Working Around Gas Assets

General Conditions

- This location enquiry is valid for 30 days from the enquiry date
- Expired locations, i.e., over 30 days from the date of this response, require a new Dial Before You Dig request to validate location information
- The location information supplied in this document shall be used as a guide only. APA Group shall not be liable or responsible for the accuracy of any such information supplied pursuant to this request
- It is the responsibility of the excavator to expose all Gas Assets, including Gas Service pipes (see below), **by hand**. Gas Asset depths may vary according to ground conditions
- Gas Services (inlet service) connecting Gas Assets in the street to the gas meter on the property are typically **not** marked on the map
- Some Gas Assets are installed inside of a casing. The locations where a Gas Asset changes from inserted to direct burial are not marked on the map unless otherwise stated
- This information has been generated by an automated system based on the area highlighted in your DBYD request and has not been independently verified. It is your responsibility to ensure that the information supplied in this response matches the dig site you defined when submitting your Dial Before You Dig enquiry. If the information does not match the dig site or you have any question, please contact APA immediately using the details listed on the first page and / or please resubmit your enquiry
- For **Gas Emergencies** please call **1800 GAS LEAK (1800 427 532)**

Critical Gas Assets - Conditions

It is your responsibility to follow these important conditions when working in the vicinity of Critical Gas Assets

- A 'Work In The Vicinity Of Critical Gas Assets" request form must be submitted to APA Group PRIOR to any work commencing, a minimum of **5 business days** are required to arrange attendance by an APA Group representative
- Whilst we will aim to facilitate this within **5 business days** from a decision, **this cannot be guaranteed**. Charges for APA Group supervision may apply
- Any works in the vicinity of Critical Gas Assets requires approval from APA via **APA's 'Authority to work" permit** and supervision by an APA Group representative unless expressed otherwise on the "Authority to work" permit.
- Penalties apply to excavators commencing work in the vicinity of Critical Gas Assets **prior to receiving an APA Group 'Authority to Work' permit and an APA Group representative is present**.

Rates applicable to APA on-site representation for supervision or location

Item	Rate
Site Watch - Normal Hours	$143.42 (hr)
Site Watch - After Hours	$175.06 (hr)
Electronic Locate – Normal Hours	$143.42 (hr)
Electronic Locate – After Hours	$175.06 (hr)
Cancellation	2 hrs (where less than 1 business day notice is provided)
Mains Proving	As quoted by APA

Notes:

- All prices are exclusive of GST
- All partial hours will be charged at a full hour rate for the first hour, 1hr minimum charge.
- Cancellations must be received 1 business day prior to the booked supervision otherwise a 2hr charge will be incurred
- Contact us for State specific hours of business.

APA CHANGE NOTIFICATION

The map below may have different symbols to those you are familiar with.

APA recently upgraded the asset mapping software utilised for Dial Before You Dig requests.

To avoid confusion, please carefully review the legend along with the map.

Please direct any questions to DBYDNetworksAPA@apa.com.au

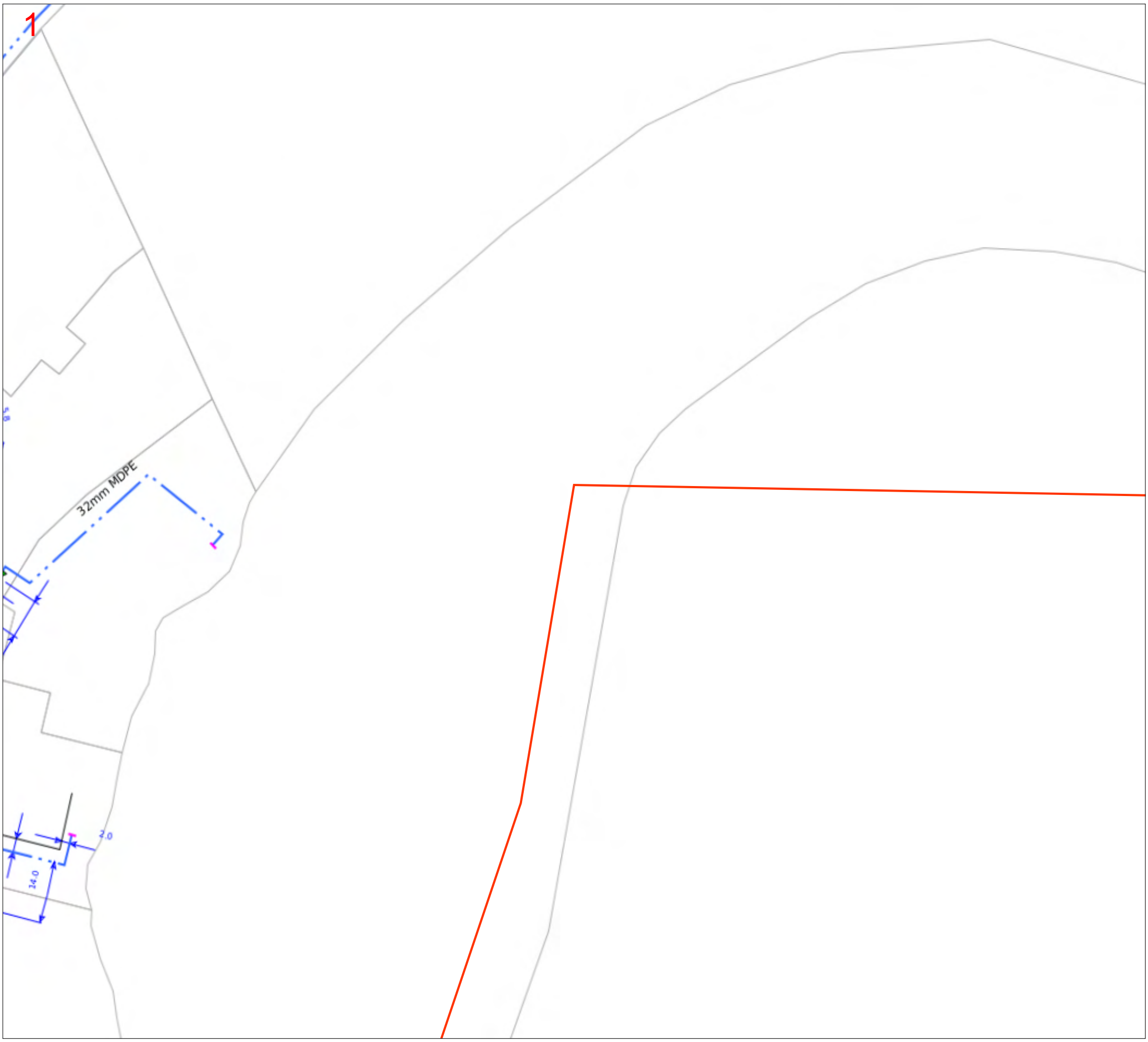
Site Address	245 Victoria Place Berserker 4701	**Sequence No**	207977706
Name	Ben Tarrant		
Email	bentarrant@mpnc.net.au		

Scale 1: 6000

Enquiry Area Map Key Area

Site Address	245 Victoria Place Berserker 4701	Sequence No	207977706

Before you commence any works you are required to complete the attached 'Work In The Vicinity Of Critical Gas Assets' request form and forward this to APA as soon as practicable.



PIPE AND BOUNDARIES	PIPE CODE / MATERIALS		OBJECTS or TERMS
SERVICE (COLOUR BY PRESSURE)	C2, CI	Cast Iron	VALVES
LOW PRESSURES	CU	Copper	BURIED VALVES
MEDIUM PRESSURES	N2, NY, NY11	Nylon	GATE / REGULATORS
HIGH PRESSURES	P# (e.g. P6)	Polyethylene (PE)	GAS SUPPLIED = YES
TRANSMISSION PRESSURES	P6,P7,P9-P12	Medium Density PE	CP RECTIFIER UNIT
PRIORITY MAIN (BEHIND PIPE)	P2,P4,P8	High Density PE	CP TEST POINT/ ANODE
PROPOSED (COLOUR BY PRESSURE)	ST or S#	Steel	SYPHON
LPG (COLOUR BY PRESSURE)	S6# (e.g. S61)	Steel Class 600	TRACE WIRE POINT
ABANDONED	S3# (e.g. S33)	Steel Class 300	PIPELINE MARKER
IDLE	W2 or GAL	Wrought Galv. Iron	NOT TIED IN N.T.I.
SLEEVE	W3 or PGAL	Poly Coat Wrought Galv. Iron	COUPLING & END CAP or
CASING / SPLIT (BEHIND PIPE)	*Pipe diameter in millimetres is shown before pipe code* *e.g. 40P6 = 40mm nominal diameter*		DEPTH OF COVER C
UNKNOWN			
EASEMENT/ JURISDICTION			

EXAMPLES

40P6 in 80C2 — 40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing

63S8 — 63mm Medium Pressure Steel

Line / Polygon Request

This map is created in colour and shall be printed in colour

Map Key

1	3
2	4

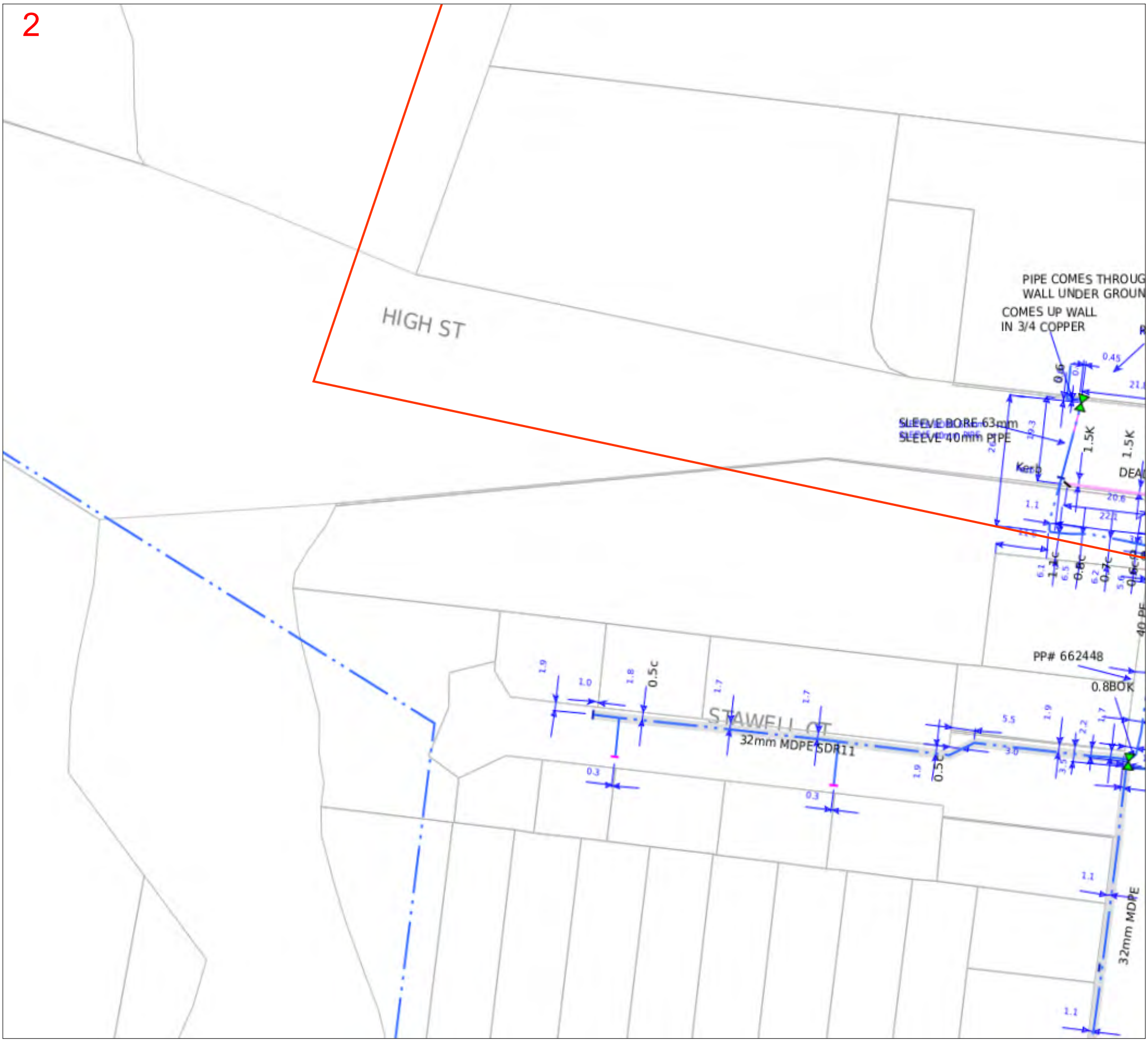
Scale 1:700

0 0.009km

N

Site Address	245 Victoria Place Berserker 4701	Sequence No	207977706

Before you commence any works you are required to complete the attached 'Work In The Vicinity Of Critical Gas Assets' request form and forward this to APA as soon as practicable.



PIPE AND BOUNDARIES

SERVICE (COLOUR BY PRESSURE)	
LOW PRESSURES	
MEDIUM PRESSURES	
HIGH PRESSURES	
TRANSMISSION PRESSURES	
PRIORITY MAIN (BEHIND PIPE)	
PROPOSED (COLOUR BY PRESSURE)	
LPG (COLOUR BY PRESSURE)	
ABANDONED	
IDLE	
SLEEVE	
CASING / SPLIT (BEHIND PIPE)	
UNKNOWN	
EASEMENT/ JURISDICTION	

PIPE CODE / MATERIALS

C2, CI	Cast Iron
CU	Copper
N2, NY, NY11	Nylon
P# *(e.g. P6)*	Polyethylene (PE)
P6,P7,P9-P12	Medium Density PE
P2,P4,P8	High Density PE
ST or S#	Steel
S6# (e.g. S61)	Steel Class 600
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W2 or GAL	Wrought Galv. Iron
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Pipe diameter in millimetres is shown before pipe code
e.g. 40P6 = 40mm nominal diameter

OBJECTS or TERMS

VALVES	
BURIED VALVES	
GATE / REGULATORS	R G R
GAS SUPPLIED = YES	
CP RECTIFIER UNIT	
CP TEST POINT/ ANODE	T / A
SYPHON	S
TRACE WIRE POINT	
PIPELINE MARKER	
NOT TIED IN	N.T.I.
COUPLING & END CAP	or
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DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step

operated by apa

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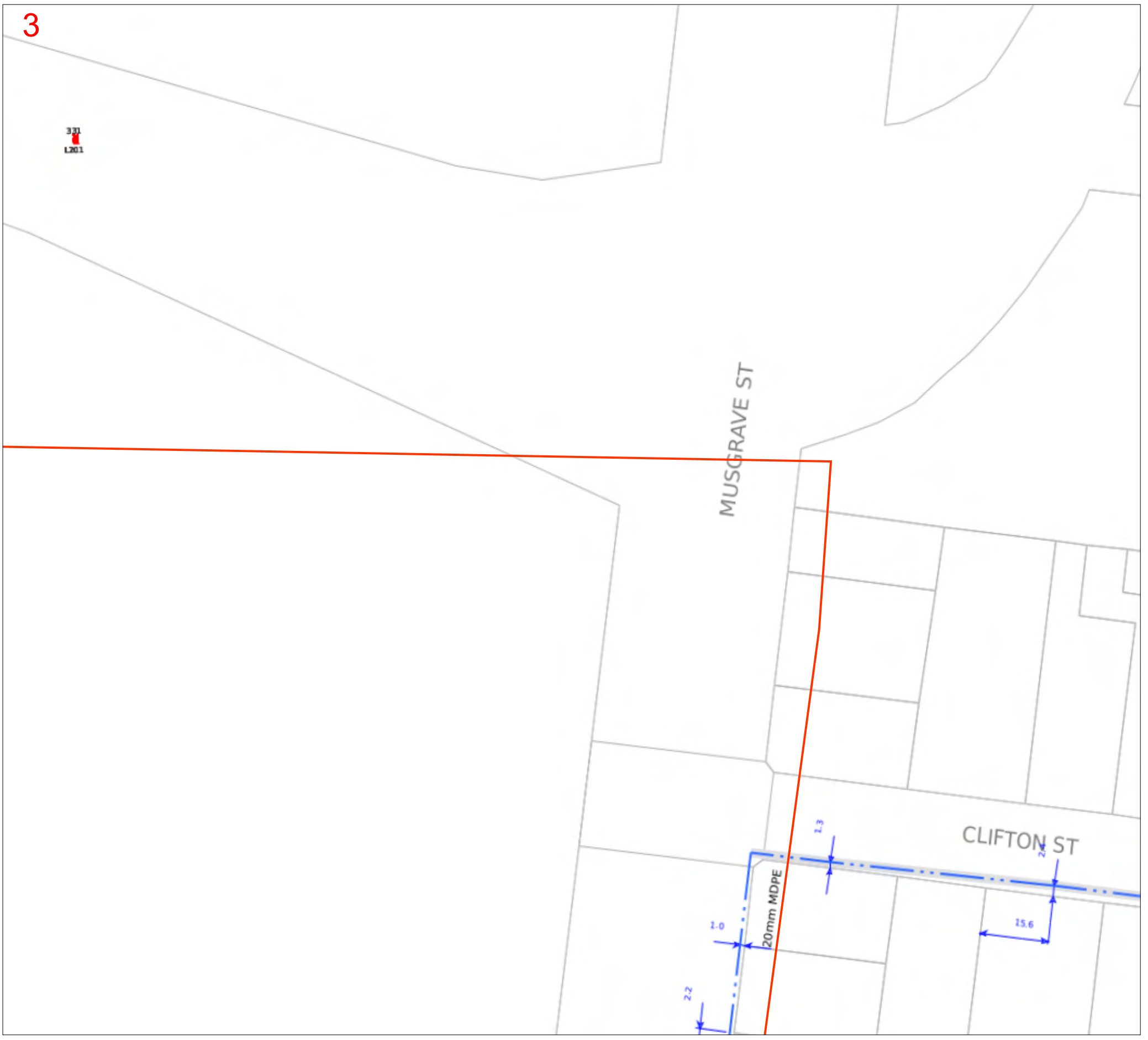
3



PIPE AND BOUNDARIES

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MEDIUM PRESSURES	
HIGH PRESSURES	
TRANSMISSION PRESSURES	
PRIORITY MAIN (BEHIND PIPE)	
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EASEMENT/ JURISDICTION	

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Pipe diameter in millimetres is shown before pipe code
e.g. 40P6 = 40mm nominal diameter

OBJECTS or TERMS

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BURIED VALVES	
GATE / REGULATORS	R G R
GAS SUPPLIED = YES	
CP RECTIFIER UNIT	
CP TEST POINT/ ANODE	T / A
SYPHON	S
TRACE WIRE POINT	
PIPELINE MARKER	
NOT TIED IN	N.T.I.
COUPLING & END CAP	or
DEPTH OF COVER	C

EXAMPLES

40P6 in 80C2 — 40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing

63S8 — 63mm Medium Pressure Steel

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PIPE AND BOUNDARIES		PIPE CODE / MATERIALS		OBJECTS or TERMS	
SERVICE (COLOUR BY PRESSURE)		C2, CI	Cast Iron	VALVES	
LOW PRESSURES		CU	Copper	BURIED VALVES	
MEDIUM PRESSURES		N2, NY, NY11	Nylon	GATE / REGULATORS	
HIGH PRESSURES		P# (e.g. P6)	Polyethylene (PE)	GAS SUPPLIED = YES	
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CASING / SPLIT (BEHIND PIPE)		*Pipe diameter in millimetres is shown before pipe code*		DEPTH OF COVER	C
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Map Key

1	3
2	4

Scale 1:700

0 0.009km

N

WORK IN THE VICINITY OF CRITICAL GAS ASSETS

It is your responsibility to read and complete this request form

1. This request form must be received by the APA Group via the options below at least **5 business days prior to excavation or site location work commencement**
2. Excavation / works must not commence on site until you have received a 'Authority to Work Permit' from the APA Group
3. This request form must be accompanied by a detailed schedule of works
4. Penalties apply to excavators commencing work in the vicinity of Critical Gas Assets **prior to receiving an APA Group 'Authority to Work Permit'**

   For further information refer to:-

   - NSW Gas Supply Act 1996 – Sec 64 C, Requirements in relation to carrying out of certain excavation work
   - Victoria: Pipelines Act 2005 – Section 118, Digging near pipelines and Section 119, Interference with pipeline
   - South Australia: Gas Industry Act 1997 – Section 83, Notice of work that may affect gas infrastructure.
   - Northern Territory: Energy Pipelines Act as in force at 8 March 2007 – Section 66, Threat to pipeline.

Return to: PermitsQld@apa.com.au

Enquiries:

Should you have any questions with regards to the attached information please contact our Qld Planning & Scheduling Officer - (07) 3215 6644.

Work / Excavation Site Details:

Number:	Street:
Suburb:	State:
Sequence Number: 207977706	
Requestors Name:	
Company Name:	
Name of Authorised Company Site Representative:	
Email:	
Phone:	Mobile:
Signature:	

Description of Work / Excavation:

Activity/Excavation Details:			
Tick Applicable Box			
Excavation		Change to surface level	
Service crossing		Boring	
Proving		Other *(provide details)*	
Earthworks			
Excavator Size, Tooth Type & Tooth Size *(provide details)*			

Work / Excavation Drawings Attached (circle): Yes No

Proposed Dates and Times:

	From		To	
Excavation	**Date**	**Time**	**Date**	**Time**
	/ /	am/pm	/ /	am/pm
Backfill	**Date**	**Time**	**Date**	**Time**
	/ /	am/pm	/ /	am/pm

Work is assessed as:	**Class 1** Works crossing a critical gas asset		**Class 2** Works within 3m of a critical gas asset		**Class 3** Works involving large excavations, vibrations or blasting beyond 3m of the critical gas asset	

Insurer and Policy Details

Policy Number		**Policy Expiry Date**	
Insurance Cover – Current Level ($amount)			

Third Party Works Authorisation requested by (mandatory fields required for invoicing):

Company/Biller Name:	
Billing Address:	
Purchase Order:	Billing Email:
Biller Phone:	
Requestors Name:	Requesters Signature:

NOTES

5. This Authority to Work applies only to work in the vicinity of the Gas Mains. It does not authorise work near or on the Gas Mains itself
6. A minimum of 2 business days must be allowed between receipt by APA Group of this Request and a response. However, more time for notification may be necessary
7. For any gas leak related work this application must be accompanied by a detailed sequence of events, outlining all aspects of work involved and work is not permitted until an Authority to Work is issued
8. For class 1 and 2 Dial Before You Dig, APA Group will arrange for an inspector to be on site as necessary during the work. An inspector must be present at all times for works involving excavation within 1m of the Gas Mains. APA Group will advise the requirement for an inspector for other works within 3m of the Gas Mains
9. The applicant is responsible for any damage resulting from the work and all consequential damages and losses arising from such damage and therefore must insure against every liability of the contractor in respect of or arising out of any loss of life, loss of or damage to property of person (both real and personal), arising out of or in any way connected to this permit.
10. Rates applicable to APA on-site representation for supervision or location exclude GST.

Appendix 8
Codes

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Retaining Walls		
PO1 The construction of retaining walls does not adversely impact upon the stability of land or existing structures.	**AO1.1** Retaining walls are set back at least half the height of the wall from any boundary of the site. AND	**RO1.1** Not applicable – No retaining walls are proposed as part of the development.
	AO1.2 Retaining walls over 1.5 metres are stepped 1.5 metres for every 1.5 metres in height, terraced and landscaped.	**RO1.2** Not applicable – No retaining walls are proposed as part of the development.
PO2 Excavation or filling or the construction of retaining walls does not adversely affect the visual character of the surrounding area and areas of high scenic amenity and visibility.	**AO2** No acceptable outcome is nominated.	**RO2** Complies – All excavation and filling will protect the visual amenity and visibility of the surrounding area.
PO3 Excavation or filling or the construction of retaining walls does not adversely affect the amenity of adjoining or nearby properties.	**AO3.1** No dust or other air emissions extend beyond the boundaries of the site. AND	**RO3.1** Complies – The erosion and sediment control program will control dust emissions such that they do not extend beyond the boundary of the site. Refer to the Stormwater Management Plan for further information.
	AO3.2 The total duration of filling or excavation operations does not exceed four (4) weeks. AND	**RO3.2** Performance criteria applies – Duration will be subject to weather conditions.
	AO3.3 Filling or excavation operations occur only between 07:00 to 18:00 Monday to Saturday. AND	**RO3.3** Complies – All filling and excavation activities will only be undertaken between the hours of 07:00 to 18:00 Monday to Saturday.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
	AO3.4 Excavation and filling operations are undertaken in accordance with the Capricorn Municipal Development Guidelines.	**RO3.4** Complies – All filling and excavation operations will be undertaken in accordance with the Capricorn Municipal Development Guidelines.
Environment		
PO4 Excavation or filling or the construction of retaining walls does not adversely affect the environmental values of the locality.	**AO4** No acceptable outcome is nominated.	**RO4** Complies – All filling and excavation will ensure the environmental values of the locality are upheld and protected.
PO5 Excavation or filling of land is carried out in such a way that it does not materially impede the flow of water through the site or worsen the flow of water external to the site. Editor's note—Excavation or filling is carried out in accordance with an approved hydrology and hydraulics report, prepared by a suitably qualified person. The report demonstrates that any proposed excavation or filling or structures will not adversely affect flows on the site, upstream of the site and downstream of the site.	**AO5.1** Excavation or filling does not increase, concentrate or divert stormwater into an adjoining site. AND	**RO5.1** Complies – No adverse effects on adjoining sites will be caused by excavation or filling. All runoff will be diverted to the lawful point of discharge.
	AO5.2 Excavation or filling does not cause or enable the ponding of water on the site or on any other adjoining land. AND	**RO5.2** Complies –Filling and excavation will not result in or enable ponding of water on the site or on any other adjoining lands.
	AO5.3 Excavation and filling is not located: (a) in any waterway corridor; and (b) in any wetland. Editor's note—Waterway corridors and wetlands are shown on the biodiversity areas overlay maps OM3A to OM3D. AND	**RO5.3** Complies –The site is not within a waterway corridor or wetland.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
	AO5.4 Filling or excavation does not adversely affect the level or flow of water in any overland flow path.	**RO5.4** Complies – The overland flow path through the site will be retained and its level and peak flow will be reduced post development external to the site.
PO6 Traffic generated by excavation and filling does not adversely impact on the amenity of the surrounding area.	**AO6.1** Haulage routes used for the transportation of fill to or from the site use major streets and only those minor streets that are necessary to provide direct access to the site. AND	**RO6.1** Complies – Haulage routes will be determined in the pre start meeting.
	AO6.2 Truck movements generated by excavation or filling, do not exceed twenty (20) truck movements per day. AND	**RO6.2** Complies – Truck movements for filling and excavation will not exceed 20 movements per day.
	AO6.3 Truck movements generated by excavation or filling, do not occur for longer than four (4) weeks within any three (3) month period.	**RO6.3** Complies – Truck movements generated by filling or excavation will not occur for longer than four weeks within any three month period.
PO7 Filling or excavation does not prevent or create difficult access to the property.	**AO7** No acceptable outcome is nominated.	**RO7** Complies – Access to the site will be as per the existing condition. Refer to bulk earthwork plans.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Infrastructure		
PO8 Excavation or filling or the construction of retaining walls is carried out in a manner that will not: (a) damage, or result in damage to existing infrastructure; or (b) compromise the safety of existing infrastructure. Editor's note—Development involving excavation or filling on land adjacent to electricity infrastructure should be referred to the relevant electricity entity to ensure there will be no electrical hazard created by the proposed development, before any application is lodged with Council.	**AO8** In respect to electricity works, unless an approval from the owner of the electricity works is granted stating otherwise, excavation and filling does not occur within: (a) twenty (20) metres of any tower, pole, foundation, ground anchorage or stay supporting electric lines or associated equipment; or (b) five (5) metres of a substation site boundary; or (c) two (2) metres of a pad mount substation; or (d) one (1) metre of a pad mount transformer or an underground cable.	**RO8** Performance criteria applies – Approval from the owner of the electricity works will be sought prior to lodgement of any application.
Erosion and sediment control		
PO9 Development ensures that all reasonable and practical measures are taken to manage the impact of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation clearing, earthworks, to protect water quality and environmental.	**AO9** Erosion and sediment control plan is to be designed and implemented in accordance with the Capricorn Municipal Development Guidelines.	**RO9** Complies – An erosion and sediment control plan has been completed for the site. Refer to the Stormwater Management Plan for further information.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Stormwater management - General		
PO1 Development provides a stormwater management system which achieves the integrated management of stormwater to: (a) ensure that flooding impacts do not increase, including upstream or downstream of the development site; (b) avoid net worsening of stormwater peak discharges and runoff volumes; (c) utilises the use of water sensitive urban design principles; and (d) ensure the site maximizes opportunities for capture and reuse. Editor's note—A stormwater management plan may be required to demonstrate compliance with the performance outcome.	**AO1.1** Development provides a stormwater management system which is designed in compliance with SC6.18— Stormwater management planning scheme policy, SC6.10 — Flood hazard planning scheme policy, Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff. AND	**RO1.1** Complies – The site-based stormwater management system has been designed in compliance with SC6.18 - Stormwater management planning scheme policy, SC6.10 — Flood hazard planning scheme policy, Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff. Refer to the Stormwater Management Plan for further information.
	AO1.2 Stormwater is conveyed to a lawful point of discharge in accordance with the Queensland Urban Drainage Manual.	**RO1.2** Complies – All site runoff will be conveyed to the lawful point of discharge. Refer to Stormwater Management Plan for further information.
PO2 Development provides a stormwater management system which: (a) has sufficient capacity to safely convey runoff taking into account increased runoff from impervious surfaces and flooding in local catchments; (b) maximises the use of natural waterway corridors and natural channel design principles; and (c) efficiently integrates with existing stormwater treatments upstream and downstream.	**AO2** Development provides a stormwater management system which is designed in compliance with SC6.18 — Stormwater management planning scheme policy, Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff.	**RO2** Complies – The site-based stormwater management system has been designed in compliance with SC6.18 - Stormwater management planning scheme policy, Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff. Refer to the Stormwater Management Plan for further information.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
PO3 Development ensures that the location and design of stormwater detention and water quality treatment facilities: (a) minimise risk to people and property; (b) provide for safe access and maintenance; and (c) provide for the safe recreational use of stormwater management features.	**AO3.1** Development provides for stormwater detention and water quality treatment facilities which are located outside of a waterway. AND	**RO3.1** Complies – As the development will reduce the site's impervious fraction, there is no requirement for on-site detention. Water quality treatment will be provided to ensure the runoff is of an acceptable quality prior to discharge from the site.
	AO3.2 Development provides for stormwater detention in accordance with SC6.18 — Stormwater management planning scheme policy, Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff. AND	**RO3.2** Complies – As the development will reduce the site's impervious fraction, there is no requirement for on-site detention.
	AO3.3 Development provides a stormwater quality treatment system which is designed in accordance with State Planning Policy Water Quality.	**RO3.3** Complies – Stormwater quality treatment will be provided on site in accordance with State Planning Policy Water Quality.
Environmental values		
PO4 Development and drainage works including stormwater channels, creek modification works, bridges, culverts and major drains, protect and enhance the environmental values of the waterway corridors and drainage paths and permit terrestrial and aquatic fauna movement. Editor's note—Compliance with the performance outcomes and acceptable outcomes should be demonstrated by the submission of a sitebased stormwater management plan for development.	**AO4.1** Development ensures natural waterway corridors and drainage paths are retained. AND	**RO4.1** Not applicable – No open drains are proposed as part of the development.
	AO4.2 Development incorporates the use of natural channel design principles in constructed components to maximise environmental benefits and waterway stability in accordance with the Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff.	**RO4.2** Not applicable – No open drains are proposed as part of the development.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
	AND	
	AO4.3 Development provides stormwater outlets into waterways, creeks, wetlands and overland flow paths with energy dissipation to minimise scour in accordance with the Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines and Australian Rainfall and Runoff.	**RO4.3** Not applicable – No outlets are proposed to any open drains as part of the development.
PO5 Development protects and enhances the environmental and water quality values of waterways, creeks and estuaries within or external to the site. Editor's note—The State Planning Policy Guideline Water Quality and Section 9 of the Environmental Protection Act 1994 define environmental values as 'a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety.'	**AO5** No acceptable outcome is nominated.	**RO5** Complies – The development will protect and enhance the environmental and water quality values of waterways, creeks and estuaries external to the site by improving the existing site's water quantity and quality management. Refer to the Stormwater Management Plan for further information.
Overland flow path tenure		
PO6 All overland flow paths are maintained under tenure arrangements that facilitate efficient infrastructure and enhance environmental sustainability. Editor's note—As a guide, Council prefers that the location of Council owned assets are contained within a road reserve, drainage system is contained within a road reserve, drainage easement, drainage reserve, public reserve, public pathway, park or waterway corridor.	**AO6** No acceptable outcome is nominated.	**RO6** Complies – The existing overland flow path will be maintained and improved such that efficient infrastructure and enhanced environmental sustainability is achieved. Refer to the Stormwater Management Plan for further information.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Detention Systems		
PO7 Detention basins are designed, located and constructed on land solely dedicated for stormwater management.	**AO7** Detention basins are designed in accordance with SC6.18 Stormwater management planning scheme policy.	**RO7** Not applicable – No detention basins are proposed for the development.
PO8 Development ensures that location and design of stormwater detention and water quality treatment: (a) minimises risk to people and property; (b) provides for safe access and maintenance; and (c) minimises ecological impacts to creeks and waterways.	**AO8** Development provides a stormwater management system designed in accordance with SC6.10 Flood hazard planning scheme policy and SC6.18 Stormwater management planning scheme policy.	**RO8** Complies – The stormwater management system has been designed in accordance with SC6.10 Flood Hazard planning scheme policy and SC6.18 Stormwater management planning scheme policy. Refer to the Stormwater Management Plan for further information.
PO9 Flood plain storage and function, and detention system functions are maintained. This shall include ensuring that: (a) detention system design does not remove floodplain storage; and (b) detention systems continue to operate effectively during a major storm event.	**AO9** No acceptable outcome is nominated.	**RO9** Complies – Flood plain storage and function, and detention system functions will be improved by the development. Refer to the Stormwater Management Plan for further information.
PO10 Detention basins shall not be provided in locations that prevent easy access to or maintenance of the detention basin.	**AO10** The location of detention basins are in accordance with SC6.18 Stormwater management planning scheme policy.	**RO10** Not applicable – No detention basins are proposed for the development.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Efficiency and whole of life cycle cost		
PO11 Development ensures that there is sufficient site area to accommodate an effective stormwater management system. Editor's note—Compliance with the performance outcome should be demonstrated by the submission of a sitebased stormwater management plan for development.	**AO11** No acceptable outcome is nominated.	**RO11** Complies – Refer to the Stormwater Management Plan.
PO12 Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the: (a) existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades; (b) safe management of stormwater discharge from existing and future upslope development; and (c) implications for adjacent and downslope development.	**AO12** No acceptable outcome is nominated.	**RO12** Complies – The proposed development's stormwater infrastructure will not exceed the existing capacity of stormwater infrastructure within and external to the site, or any planned stormwater infrastructure upgrades, will allow safe management of stormwater discharge from existing and future upstream developments, and will not produce implications for adjacent and downstream developments. Refer to the Stormwater Management Plan for further information.
PO13 Development provides proposed stormwater infrastructure which: (a) remains fit for purpose for the life of the development and maintains full functionality in the design storm event; and (b) can be safely accessed and maintained in a cost effective way.	**AO13** No acceptable outcome is nominated.	**RO13** Complies – All stormwater infrastructure will be fit for purpose for the life of the development, maintain full functionality in the design storm event, and accessible and maintained in a cost effective way.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Erosion and sediment control		
PO14 Development ensures that all reasonable and practicable measures are taken to manage the impacts of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation clearing, earthworks, civil construction, installation of services, rehabilitation, revegetation and landscaping to protect: (a) the environmental values and water quality objectives of waters; (b) waterway hydrology; and (c) the maintenance and serviceability of stormwater infrastructure.	**AO14** Erosion and sediment control plan is to be designed and implemented in accordance with the Capricorn Municipal Development Guidelines.	**RO14** Complies – An erosion and sediment control plan has been detailed for the site. Refer to the Stormwater Management Plan for further information.
Water quality within catchment areas		
PO15 For development proposals within the Fitzroy River subbasin, relevant environmental values are recognised and enhanced, and relevant water quality objectives are addressed. Editor's note—Section 3.2 of Queensland Water Quality Guidelines 2009 identifies values for water quality for waters in the Central Coast Queensland region.	**AO15.1** Development complies with the provisions of the State Planning Policy Guideline Water Quality. AND	**RO15.1** Complies – Stormwater runoff will be treated to ensure quality levels are within the acceptable limits outlined in State Planning Policy Guideline Water Quality. Refer to the Stormwater Management Plan for further information.
	AO15.2 Development adjoining the full supply height above the Fitzroy River Barrage includes the provision of an effective buffer that assists in filtering runoff, including: (a) a buffer distance of 100 metres to the water supply height of the barrage which excludes cropping or grazing of a low intensity nature; and (b) fencing and water troughs installed on the land to prevent encroachment of animals within 100 metres of the full supply height above the barrage.	**RO15.2** Not Applicable – The development does not adjoin the full supply height above the Fitzroy River Barrage.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Protecting water quality		
PO16 The development is compatible with the land use constraints of the site for: (a) achieving stormwater design objectives; and (b) avoiding or minimising the entry of contaminants into, and transport of contaminants in stormwater.	**AO16** Development is undertaken in accordance with a stormwater management plan that: (a) incorporates stormwater quality control measures to achieve the design objectives set out in the State Planning Policy – Guideline – Water Quality; (b) provides for achievable stormwater quality treatment measures reflecting land use constraints, such as soil type, landscape features (including landform), nutrient hazardous areas, acid sulfate soil and rainfall erosion potential; and (c) accounts for development type, construction phase, local landscape, climatic conditions and design objectives. Editor's note—A stormwater management plan includes the design, construction, operation, maintenance of the stormwater system. Editor's note—SC6.18 — Stormwater management planning scheme policy provides guidance on preparing a stormwater quality management plan.	**RO16** Complies – Refer to the Stormwater Management Plan for further information.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Protecting water quality in existing natural waterways		
PO17 The waterway is designed for stormwater flow management, stormwater quality management and the following end use purposes: (a) amenity including aesthetics, (b) landscaping and recreation; (c) flood management; (d) stormwater harvesting as part of an integrated water cycle management plan; (e) as a sustainable aquatic habitat; and (f) the protection of water environmental values.	**AO17** No acceptable outcome is nominated.	**RO17** Not applicable – There is no natural waterway in the proposed development.
PO18 The waterway is located in a way that is compatible with existing tidal waterways.	**AO18** Where the waterway is located adjacent to, or connected to, a tidal waterway by means of a weir, lock, pumping system or similar: (a) there is sufficient flushing or a tidal range of more than 0.3 metres; or (b) any tidal flow alteration does not adversely impact on the tidal waterway; or (c) there is no introduction of salt water into freshwater environments.	**RO18** Not applicable – There is no natural waterway in the proposed development.
PO19 The construction phase for the waterway is compatible with protecting water environmental values in existing natural waterways.	**AO19** Erosion and sediment control measures are incorporated during construction to achieve design objectives set out in State Planning Policy Guideline Water Quality. Editor's note—Erosion and sediment control is to be designed and implemented in accordance with the International Erosion Control Association Best Practice Erosion and Sediment Control Guidelines.	**RO19** Not applicable – There is no natural waterway in the proposed development.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
PO20 Stormwater overflows from the waterway do not result in lower water quality objectives in existing natural waterways.	**AO20** Stormwater runoff entering nontidal waterways is pretreated prior to release in accordance with the guideline design objectives, water quality objectives of local waterways, and any relevant local area stormwater management plan.	**RO20** Not applicable – There is no natural waterway in the proposed development.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Water		
PO1 A water supply is provided that is adequate for the current and future needs of the intended development.	**AO1** Where within a water supply planning area, the development is connected to Council's reticulated water supply system in accordance with SC6.21 — Water supply infrastructure planning scheme policy and the Capricorn Municipal Development Guidelines. Editor's note—A network analysis may be required to demonstrate compliance with this acceptable outcome. Editor's note—Where development is located outside of the water supply planning area to refer to the requirements under the Plumbing Code of Australia.	**RO1** Complies – The water supply will connect to the shopping centre's existing water main, pending further investigation within detailed design. Refer to the Civil Engineering Report for further information.
PO2 Reticulated water supply networks ensure that the installation is sustainable and minimises whole of life cycle costs.	**AO2.1** Where within a water supply planning area, water supply systems and connections are designed and constructed in accordance with SC6.21 — Water supply infrastructure planning scheme policy and the Capricorn Municipal Development Guidelines. Editor's note—A network analysis may be required to demonstrate compliance with this acceptable outcome. AND	**RO2.1** Complies – The water supply will connect to the shopping centre's existing water main, pending further investigation within detailed design. Refer to the Civil Engineering Report for further information.
	AO2.2 Where within a water supply planning area, staged developments are connected to the water supply network and operational prior to the commencement of the use or endorsement of the survey plan.	**RO2.2** Not applicable – The proposed development is not staged.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Water		
PO3 Sewerage treatment and disposal is provided that is appropriate for the level of demand generated, protects public health and avoids environmental harm.	**AO3** Where within a sewer planning area, the development is connected to Council's reticulated waste water system in accordance with SC6.17 — Sewerage infrastructure planning scheme policy and the Capricorn Municipal Development Guidelines. Editor's note—A network analysis may be required to demonstrate compliance with this acceptable outcome.3 Editor's note—Where development is located outside of the sewer planning area to refer to the requirements under the Plumbing Code of Australia.	**RO3** Complies – Sewer infrastructure to sufficiently service the development will be provided. Refer to the Civil Engineering Report for further information.
PO4 Reticulated sewer networks ensure that the installation of infrastructure assets is sustainable and minimises whole of life cycle costs.	**AO4.1** Where within a sewer planning area, waste water systems and connections are designed and constructed in accordance with SC6.17 — Sewerage infrastructure planning scheme policy and the Capricorn Municipal Development Guidelines. Editor's note—A network analysis may be required to demonstrate compliance with this acceptable outcome. AND	**RO4.1** Complies – Sewer infrastructure to sufficiently service the development will be provided. Refer to the Civil Engineering Report for further information.
	AO4.2 Where within a sewer planning area, staged developments are connected to the waste water network and operational prior to the commencement of the use or endorsement of the survey plan.	**RO4.2** Not applicable – The proposed development is not staged.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	RESPONSE
Point source waste water management		
PO5 The waste water management plan provides that waste water is managed in accordance with a waste management hierarchy that: (a) avoids waste water discharge to waterways; or (b) minimises waste water discharge to waterways by reuse, recycling, recovery and treatment for disposal to sewer, surface water and groundwater if it is agreed waste water discharge to waterways can not practically and reasonably be avoided.	**AO5** A waste water management plan (WWMP) is prepared by a suitably qualified person. The waste water management plan accounts for: (a) waste water type; (b) climatic conditions; (c) water quality objectives; and (d) best practice environmental management.	**RO5** Not applicable – All waste water from the site will discharge to sewer.

Traffic Impact Assessment

Stockland Rockhampton ALDI Expansion

CEB06360

Prepared for

Stockland

30 March 2022

Cardno

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Appendices

Tables

Figures

1 Introduction

1.1 Background

Cardno has been engaged by Stockland to undertake a Traffic Impact Assessment (TIA) for the proposed development of an ALDI supermarket at the Stockland Shopping Centre, located at 331 Yaamba Road, Berserker.

The updated plans of the proposed development can be found in **Appendix A**.

1.2 Scope

The objective of this Traffic Impact Assessment (TIA) is to understand the traffic and transport issues associated with the proposed ALDI shopping centre development. The TIA will support the Development Application (DA) process and provides the relevant approval authorities, including the Department of Transport and Main Roads (TMR) and Rockhampton Regional Council (RRC), the opportunity to adequately consider any traffic or transport related impacts.

The main aspects of this TIA relate to the following:

- Traffic impacts generated by the proposed development
- Impact on the external traffic and transport services

Cardno have been engaged to undertake the following tasks to complete this assessment:

- Review project background and previous related traffic assessment documentation
- Commission traffic counts at centre access intersections
- Determine current base traffic and projected traffic levels for the development
- Develop a desktop model of the local road network
- Assess the development traffic impacts at the key intersections
- Assess the impacts of the proposed development on the existing Public and Active Transport network

1.3 References

The following resources were referred to in the preparation of the report:

- *AS2890.1:2004 Parking Facilities Part 1: Off-street Car Parking,* Australian Standards, 2004
- *Rock e Plan: Rockhampton Region Planning Scheme,* Rockhampton Regional Council, 2015
- *Guide to Traffic Generating Developments: Updated Traffic Surveys,* Roads and Maritime Services (RMS), NSW Government, August 2013
- *Guideline for Assessment of Road Impacts of Developments,* Department of Transport and Main Roads, April 2006

2 Existing Situation

2.1 Rockhampton Centre

Rockhampton Centre is located in Rockhampton's north-eastern suburbs, and comprises 55,005 sq.m gross leasable area (GLA) of retail and 3,392 sq.m GLA of cinema for a total centre GLA of 58,397 sq.m.

Figure 2-1 Stockland Rockhampton Centre Location

Source: Nearmap

2.2 Local Road Network

The site has frontage along Musgrave Street to the east, High Street to the south and the Bruce Highway to the west. Table 2-1 report the key characteristics of the local road network.

Table 2-1 Local Road Network Hierarchy

Road	Authority	Classification	Speed Limit	Typical Form
Bruce Highway / Moores Creek Rd	TMR	Highway	70km/h	Four lane divided
High Street	RRC	Urban Arterial Road	60km/h	Two / Four lane divided
Musgrave Street	TMR	State Controlled Road	60km/h	Four lane divided
Aquatic Place	RRC	Urban Access Place	50km/h	Two lane undivided

2.3 Parking and Access

Access to the site is currently provided via eight locations around the perimeter of the site, each shown on Figure 2-2.

Figure 2-2 Access Locations to Site

Source: Nearmap

Table 2-2 describes the forms of these identified access points.

Table 2-2 Centre Access Intersections

ID	Location	Form
1	Aquatic Place/Stockland Access	Two way link section
2	High Street	Signalised three way
3	High Street/Victoria Place	Left in/Left out
4	Musgrave Street/Blanchard Street	Left in/Left out
5	Musgrave Street/Clifton Street	Signalised four way
6	Musgrave Street/Cowap Street	Signalised three way
7	Musgrave Street	Left in/Left out
8	Bruce Highway	Left in/Left out

2.4 Active Transport Connections

Figure 2-3 illustrates the active transport infrastructure surrounding the centre. External pathways connect the boundary of the site along the major roads. In addition, there are extensive pedestrian crossings through the site.

Figure 2-3 Active Transport Network Infrastructure

Source: Nearmap

2.5 Public Transport Connections

2.5.1 Public Bus Services

Stockland Rockhampton Centre provides a bus interchange on-site, located between the High Street signalised access and the Musgrave Street / Clifton Street signalised access intersection, as shown on Figure 2-4. Additional bus stops are provided on Musgrave Street.

Figure 2-4 Bus Interchange Location – Rockhampton Centre

Source: Nearmap

Table 2-3 summarises the current bus routes, frequencies, and major destinations.

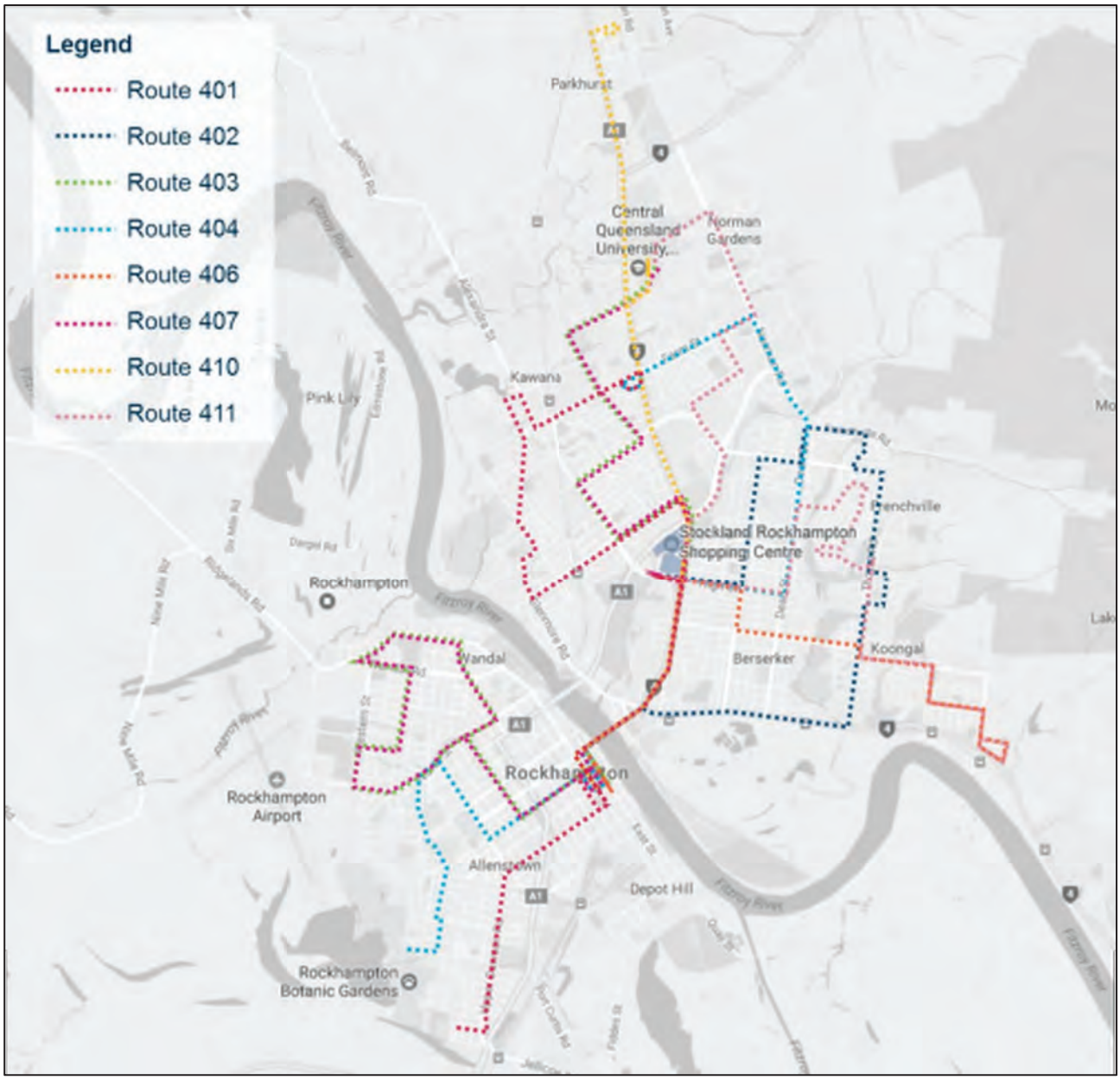
Table 2-3 Bus Routes that Operate To/From Stockland Rockhampton Centre

Route	Inbound		Outbound		Major Stops
	7-9am	3-6pm	7-9am	3-6pm	
401	30 mins	20-60 mins	30 mins	20-60 mins	Glenmore, City Centre, The Range
402	60 mins	60 mins	60 mins	60 mins	City Centre, Koongal, Frenchville
403	8:43am	60 mins	8:35am	45 – 60 mins	CQU, Park Avenue, City Centre, Base Hospital, Wandal
404	30 – 60 mins	30 – 60 mins	60 mins	30 – 45 mins	Glenmore, Base Hospital, City Centre, The Range, Norman Gardens
406	7:48am, 8:53am	3:38pm, 3:56pm	8:10am	60 mins	Lakes Creek, City Centre, Koongal
407	30 – 45 mins	3:13pm, 5:13pm	7:34am, 8:55am	3:55pm, 5:55pm	West Rockhampton, City Centre, CQU, Base Hospital, Park Avenue, Wandal
410	60 mins	60 mins	60 mins	60 mins	Parkhurst, CQU, City Centre
411	60 mins	60 mins	60 mins	60 mins	Lakes Creek, Koongal, Norman Gardens, CQU

There are 7 bus services which provide connections between Stockland Rockhampton and City Centre, with frequent services into the city during the AM peak, and arriving at Stockland Rockhampton during the PM peak.

Figure 2-5 illustrates the areas serviced by the bus routes, and subsequently the neighbourhoods connected to Stockland Rockhampton via a direct bus service.

Figure 2-5 Bus Route Network



Source: qconnect / Sunbus timetables

2.6 Rockhampton Ring Road

A 14.7km ring road around western side of Rockhampton is currently undergoing detailed design, and is scheduled to be built by TMR by 2026. Further information is shown below in Figure 2-6.

Figure 2-6 Rockhampton Ring Road layout

The Ring Road will provide a direct connection between the northern and southern aspects of Rockhampton while by-passing the town centre, and improve traffic flows and travel times for through traffic. The Ring Road also bypasses the subject site and will likely noticeably reduce volumes along the Bruce Highway and Musgrave Street.

As such, the Ring Road will likely significantly impact all future traffic investigations and will be discussed further below.

3 Development History

Cardno have previously completed Traffic Impact Assessments assessing the impact on the existing centre to accommodate:

> A cinema expansion with additional retail

> A discount department store (DDS) (mini-major retail) expansion,

The cinema expansion was approved in November 2017 under DA application D/69-2017-MCU, May 2018 under DA application D/29-2018-MCU, May 2020 under 'Other Change' Application D69-2017 and the DDS was approved in May 2018 under DA application D/29-2018-MCU, respectively. Only Stage 1 of the development approval D/29-2017 has been constructed, being the redevelopment of the Sizzler restaurant, which is now The Bavarian food and drink tenancy. Given that two elements of the approved centre expansions have not yet commenced construction, this assessment reviews the two listed baseline scenarios, as follows:

1. The existing shopping centre + Stage 1 Food and Drink Outlet
2. The existing shopping centre + approved Stage 2 cinema/retail development (application D/69-2017-MCU) + Mini-Major (DDS) retail expansion (application D/29-2018-MCU)

It is important to note that the DDS application and the cinema expansion have been included within the below retail land use yield. Also, the Food and Drink development had no overall change in yield as part of the application and thus has not been include in further discussions.

A summary of the existing shopping centre and the approved expansion is provided in Table 3-1.

Table 3-1 Existing and Approved Development Yields

Land Use	Existing Centre	Approved Expansion (Cinema and Retail), Mini-Major (DDS) and Food + Drink
Retail	55,005 sq.m	61,433 sq.m
Cinema	954 seats / 3,392 sq.m	1,169 seats / 3,993 sq.m
Food and Drink	-	0 sq.m*
Total	**58,397 sq.m**	**65,426 sq.m**

Note * net change in floor area for food and drink application was nil

Stockland have advised of following status with respect to the above approved developments, which are not yet constructed on the premises.

Firstly, the approved cinema/retail development (application D/69-2017-MCU) cannot be acted upon without further approval from Council due to the proposed cinema requiring redesign to avoid construction occurring over a third party (Ergon) easement. With this in mind, a change application to amend the approved development would require submission of an amended traffic assessment, including an assessment of car parking.

Secondly the Mini-Major (DDS) retail expansion (application D/29-2018-MCU) was proposed to accommodate a new tenant within the shopping centre. This development approval will not be enacted due to market conditions.

Regardless, the above approvals have been included as part of the traffic impact analysis noted in section 6, in accordance with matters that the Assessment Manger is required to consider. Specifically, an additional traffic scenario has been undertaken, detailing the potential impacts from the approved developments on the local network. The previous approvals will not be constructed due to the above reasons, but will provide a baseline comparison between the currently approved expansions and the proposed ALDI development. Notably, the approved development scenario does not include the proposed ALDI expansion.

4 Proposed Development

4.1 Proposed Development Expansion

The proposed expansion comprises of the following land uses:

> 1,725 sq.m GLA retail (supermarket)

The expansion is located on the south-western site of the existing site, which will be positioned over the existing car parking resulting in an overall removal of 123 spaces. Figure 4-1 illustrates the location of the proposed expansion and all previously approved expansions undertaken.

Figure 4-1 Proposed development expansion and previous approvals

Source: Nearmap

4.2 Active Transport Connections

The existing active transport infrastructure provides connections to the back of the proposed development. As such, additional provisions are proposed to service the front of the existing development as well, with this to service acks formal connections between the main centre and the cinema.

Figure 4-2 illustrates the both the existing and proposed pedestrian access routes between the centre, the development and the active transport network.

Figure 4-2 Pedestrian Access between Expansion Site and Active Transport Infrastructure

4.3 Public Transport Connections

The existing bus interchange on-site, located between the High Street signalised access and the Musgrave Street / Clifton Street signalised access intersection, will provide sufficient bus services to cater for the proposed expansion.

Pedestrian access from the bus interchange and external bus stops to the expansion will be provided through the centre, which will provide the most desirable route for pedestrians, as illustrated in Figure 4-3.

Figure 4-3 Pedestrian Access between Expansion Site and Bus Stops

5 Development Impact

5.1 Existing Traffic Movements

5.1.1 Background Traffic Surveys

Traffic surveys were carried out by Austraffic, on Thursday 4th May 2017 between 4:00pm and 7:00pm, and Saturday 6th May 2017 between 10:00am and 1:00pm, at the following twelve locations:

1. Bruce Highway / Musgrave Street - signalised intersection
2. Musgrave Street / Cowap Street - signalised access intersection
3. Musgrave Street / Clifton Street - signalised access
4. Musgrave Street / Blanchard Street - left in/left out access
5. Musgrave Street / High Street - signalised intersection
6. High Street / Site Access - left in/left out access
7. High Street/Site Access - signalised access
8. High Street / Aquatic Place - roundabout access
9. Bruce Highway / High Street - signalised intersection
10. Bruce Highway / Site Access - left in/left out access
11. Aquatic Place – entry and exit
12. Musgrave Street / Site Access - left in/left out access

These locations are shown in Figure 5-1.

Figure 5-1 Proposed Development Context

A review of the traffic surveys was undertaken, and the common peak hour period for the centre was identified for all surveyed intersections, as follows:

- Thursday Peak: 4:30 pm – 5:30 pm.
- Saturday Peak: 11:15 am – 12:15 pm.

5.1.2 Suitability of existing traffic surveys

There are two primary reasons to utilise the existing traffic intersection data. These are as follows:

- Intersection data collected now would likely be affected by COVID-19 impacts and would likely under-represent traffic impacts
- There is highly consistent traffic growth along the primary roadways and factoring up the intersection counts accordingly will provide suitable intersection data.

This is further discussed in section 5.3.

5.1.3 Peak (85th Percentile) Generation Assessment

In order to assess the peak demand scenario for Stockland Rockhampton Centre, annual daily door count data was used to illustrate the pedestrian flow at the centre and to identify the 85th percentile busiest shopping day of the week. Given that Thursdays and Saturdays are generally considered the busier days of the week, the 85th percentile Thursday and Saturday were both identified from the door count data. Raw patronage data has not been reported due to commercial sensitivities.

The 85th percentile Thursday or Saturday corresponds to the 85% busiest Thursday or Saturday of the annual profile of daily door count data, where the top 15% of the data has been excluded. This assessment approach is a standard traffic engineering approach which accounts for all, but the highest outliers of the busiest trading periods. These outliers generally occur over the week before Christmas or a public holiday where designing for these occurrences would mean a significant over supply the rest of the year.

Cardno has reviewed the Stockland Rockhampton door count data for May 2016 to May 2017. The door counts from the survey days were included in the data set to accurately capture the relationship between the survey day traffic generation and the 85th percentile busiest Thursday and Saturday for the centre.

Figure 5-2 and Figure 5-3 show the FY 2016/17 annual trading profile, along with the equivalent survey date trading volume, and the 85th percentile trading volume for the existing Rockhampton centre.

Figure 5-2 Existing Stockland Rockhampton Centre Patronage & 85th %ile (Thursday)

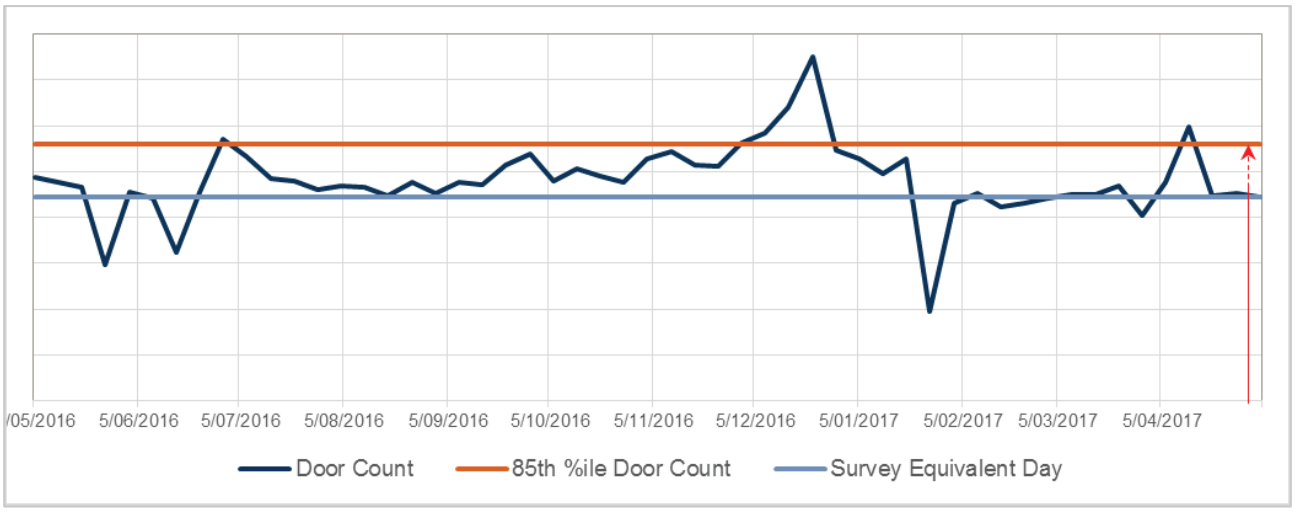
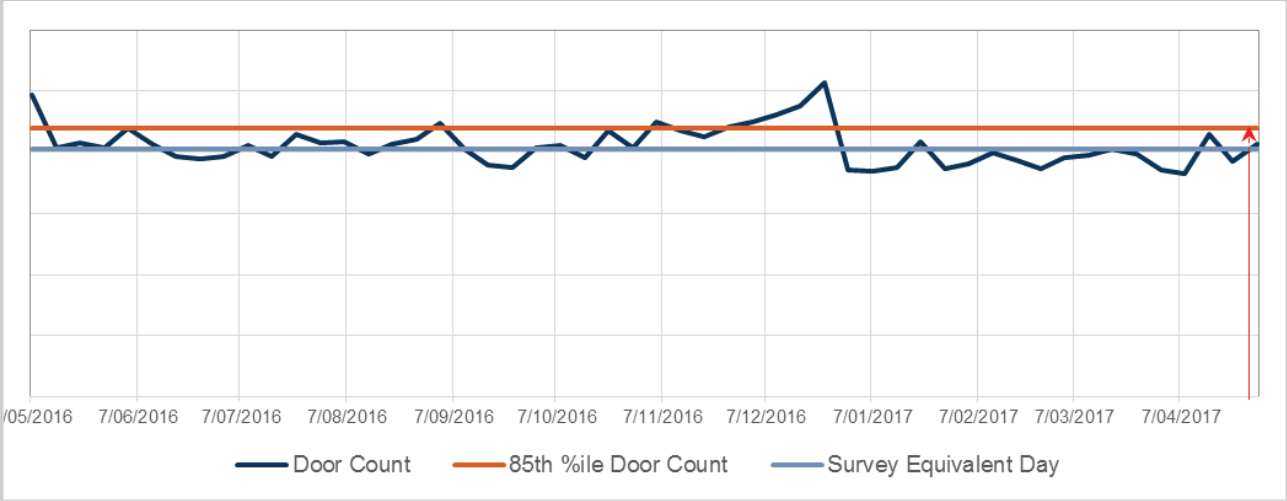


Figure 5-3 Existing Stockland Rockhampton Centre Patronage & 85th %ile (Saturday)



These figures illustrate and confirm that the 85th percentile Thursday and Saturday represent the busiest day over the year, with the exception of the peaks during the Easter and Christmas holidays.

The 85th percentile trading factor was estimated by comparing the patronage for the survey days to the relevant 85th percentile trading patronage. Therefore, the following factors were devised to apply to the traffic survey volumes, in order to determine an 85th percentile traffic generation for the existing centre:

- **1.26** for Thursday peak hour volumes.
- **1.09** for Saturday peak hour volumes.

By applying the 85th percentile factor to the traffic survey peak volumes, a baseline traffic generation rate for the existing centre was identified, as shown in Table 5-1.

As the surveys will have captured the trips for the retail and cinema combined, the assessment has separated the two uses. Trips for the existing cinema have been calculated from previous data received from Stockland on the operation of the site and has been suitably previously approved under DA application D/690-2017-MCU. Given the previous approval and lack of cinema expansion proposed as part of this development, no more discussion regarding the cinema traffic rate is considered warranted.

All uses have been factored for the 85th percentile trading.

Table 5-1 Centre Yields – Existing and Proposed Expansion

Scenario	Thursday Peak	Saturday Peak
Surveyed Site Traffic Generation – In	1,255 vph	1,831 vph
Surveyed Site Traffic Generation – Out	1,310 vph	1,645 vph
Surveyed Site Traffic Generation - Total	**2,565 vph**	**3,476 vph**
85th %ile Factor – Overall centre	1.2614	1.0863
85th %ile Centre Traffic Generation (Retail & Cinema uses)	**3,236 vph**	**3,776 vph**
Retail Only		
85th %ile Retail Only Traffic Generation	**3,105 vph**	**3,678 vph**
Existing Site GLA – Retail	55,005 sq.m	55,005 sq.m
85th %ile Retail Traffic Generation Rate	**5.64 vph / 100 sq.m**	**6.69 vph / 100 sq.m**

As reported, the existing retail trip generation for the centre is estimated at 5.64 vph/100sq.m for Thursday and 6.69 vph/100sq.m for Saturday.

5.2 Development Trip Generation

The traffic generation rate of a retail centre is significantly influenced by the operation and scale of the centre in question.

Therefore, the new retail precinct has been considered as a direct increase in GLA of the existing centre. This is a common assumption, which aligns with many expansions to shopping centres, providing activities other than solely retail.

As a result of the broader range of uses and activities at the centre, the duration of trips to the centre are extended, and trips with multiple purposes are combined into one trip. Therefore, this creates a phenomenon whereas the floor area expands, the generation rate, per square metre, reduces.

The NSW Roads and Maritime Services (RMS) *Guide to Traffic Generating Developments* (updated August 2013), provides a table of traffic generation rates for shopping centres dependant on the size of the centre. This data can be extrapolated into a curve to determine the traffic generation of a particular size centre.

To consider the variance in shopping centre trading patterns between NSW and Queensland, the 85th percentile traffic generation rate for the existing Stockland Rockhampton Centre (derived in Section 4.1.2), has been used to calibrate the generation curves specified in the RMS guide, to reflect the actual trading patterns identified for the Stockland Rockhampton Centre.

Using the calibrated curve, the traffic generation of the new retail precinct expansion has been determined by increasing the GLA along the calibrated curve.

Figure 5-4 and Figure 5-5 illustrate the actual and calibrated generation curves for the Thursday and Saturday trading respectively, and where the existing centre and proposed expansion lie on the calibrated curve. Additionally, the expected traffic generation from the previously approved expansions has been including to provide comparison with the proposed revised expansion.

Figure 5-4 Thursday Peak Generation Profile

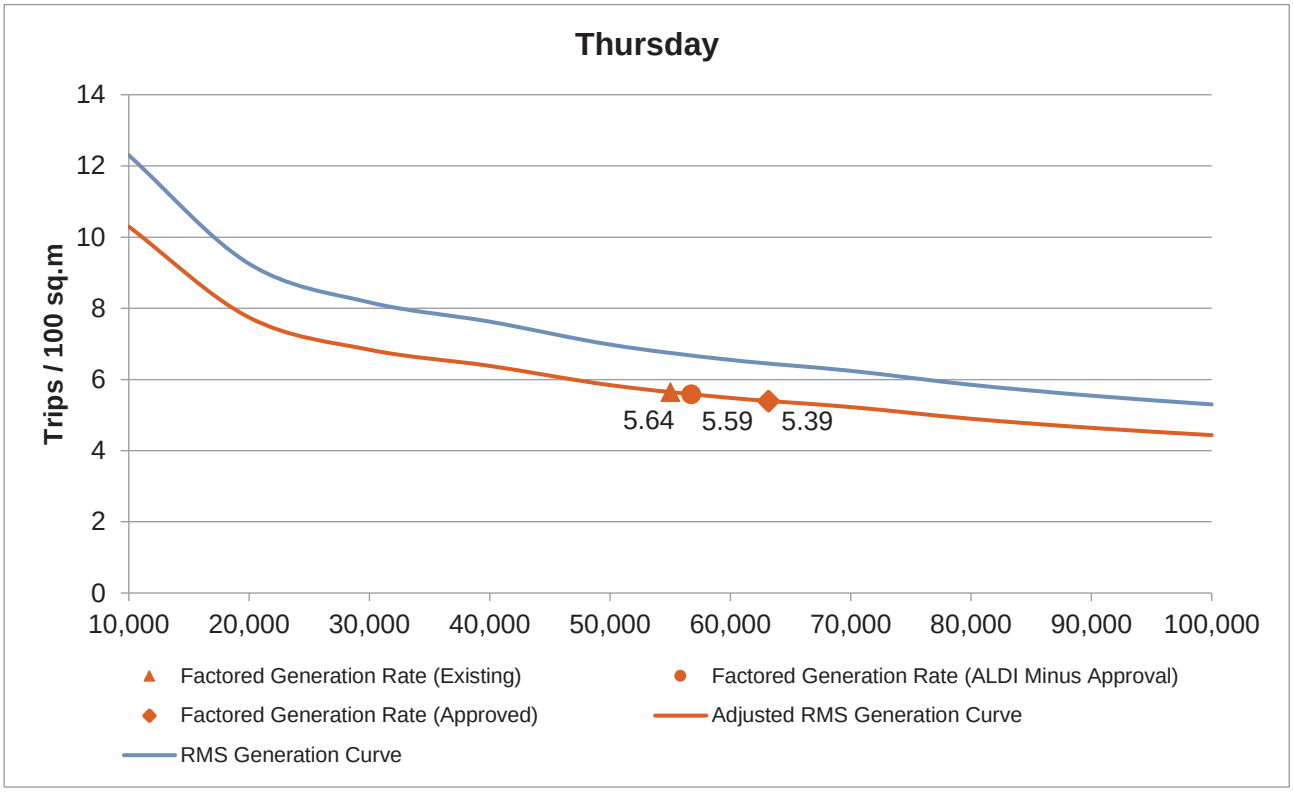
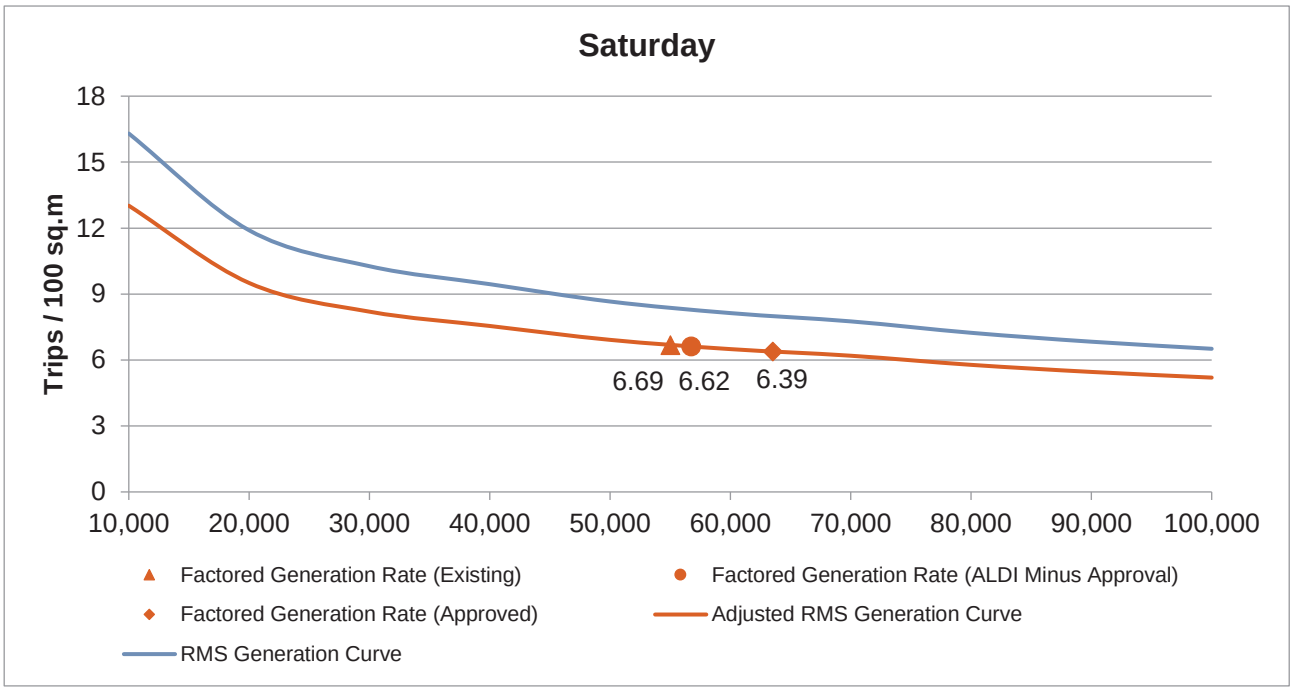


Figure 5-5 Saturday Peak Generation Profile



Given the above, Table 5-2 below details the expected trips generated by the proposed development.

Table 5-2 Trip Generation Estimation – Proposed Retail Expansion

Scenario	Thursday Peak	Saturday Peak
Existing 85th %ile Retail Traffic Generation (55,005 sq.m GLA)	3,105 vph	3,678 vph
85th %ile Retail Traffic Generation Rate (56,730 sq.m GLA)	5.59* vph / 100m^2	6.62* vph / 100m^2
85th %ile Retail Traffic Generation (56,730 sq.m GLA)	3,169 vph	3,754 vph
Additional Trips from Proposed Development (1,725 sq.m)	**64 vph**	**76 vph**

** Values have been rounded for ease of comprehension and express accurate final results.*

As such, the proposed expansion is expected to generate an additional 64 vph during the Thursday PM peak and 76 vph during the Saturday peak.

5.3 Previously Approved Trip Generation

Previously approvals also include traffic generation for a cinema expansion, which has been previously outlined in application D/69-2017-MCU. Table 5-3 details the trips generated by the previously approved developments, noting that the proposed ALDI development in not included.

Table 5-3 Trip Generation Estimation – Previously Approved Expansions

Scenario	Thursday Peak	Saturday Peak
Existing 85th %ile Retail Traffic Generation (55,005 sq.m GLA)	3,105 vph	3,678 vph
85th %ile Retail Traffic Generation Rate (61,433 sq.m GLA)	5.44* vph / 100m^2	6.45* vph / 100m^2
85th %ile Retail Traffic Generation (61,433 sq.m GLA)	3,342 vph	3,961 vph
Additional retail Trips from previous approvals (6,428 sq.m)	**237 vph**	**283 vph**
Existing 85th %ile Cinema Traffic Generation (954 seats)	131 vph	98 vph
85th %ile Cinema Traffic Generation Rate	0.137* vph / seat	0.103* vph / seat
85th %ile Cinema Traffic Generation (1,169 seats)	160 vph	120 vph
Additional Trips from approved cinema expansion (215 seats)	**29 vph**	**22 vph**
Total Additional Trips from previously Approved Developments	**267 vph**	**305 vph**

** Values have been rounded for ease of comprehension and express accurate final results*

As such, the previously approved expansions are expected to generate 267 vph during the Thursday PM peak and 305 vph during the Saturday peak.

5.4 Traffic Growth Rate

A traffic growth rate of 2.0% per annum has been adopted for the Bruce Highway (Moores Creek Road) and Musgrave Street. With regards to the lower-order roads (High Street, Clifton Street), it has been assumed that 1% per annum traffic growth will be representative of the future growth. This rate has been adopted for based on previous agreements with the Department of Transport and Main Roads in Rockhampton.

5.4.1 Historic Growth Rate

Cardno analysed TMR's historic AADT data for four sites near the development, as indicated on Figure 5-6.

Figure 5-6 AADT Survey Locations

Source: Nearmap

The available AADT data ranges from 1999 to 2019/2020. The average annual growth rate for each site has been calculated and is shown in Table 5-3. It is noted that the growth between the 1999-2018 period has been used as all sites show a dramatic decrease in AADT in 2019-2020 records.

Noticeably, this decrease in traffic volumes correlates with COVID-19 impact time frames and further justifies the use of the existing traffic counts to better estimate total possible intersection impacts, rather than undertaking additional current day traffic counts.

Table 5-4 TMR AADT Growth Rates

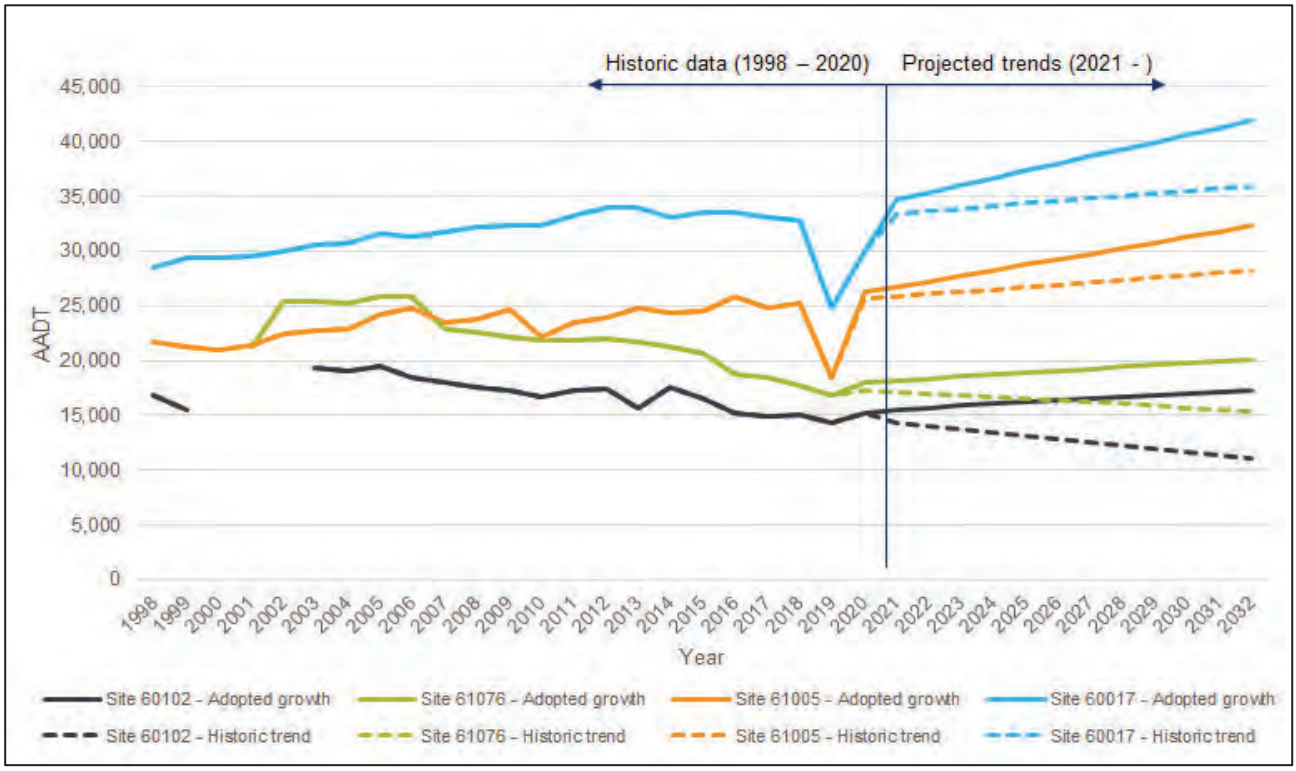
Site ID		Location	Average Annual Growth Rate (1999-2018)	Adopted Annual Growth Rate
A	61005	Bruce Highway: at Boland St	0.85%	2.00%
B	60017	Bruce Highway: 100m Sth Knight St	0.70%	2.00%
C	60102	Musgrave Street: Sth Moores Ck	-1.90%	1.00%
D	61076	Musgrave Street: at Elphinstone St	-0.92%	1.00%

The results above show that for the Bruce Highway (sites A and B), the average historic growth rate is less than 1%, while for Musgrave Street (sites C and D), the growth rate is generally negative, indicating a

decrease in background traffic. As such, a 1% growth rate will be adopted for all intersections along Musgrave Street and a 2% growth rate will be adopted for all other intersections.

Figure 5-7 presents a comparison to the future AADT volumes when adopting the average historic growth rate as per Table 5-3 against the adopted growth rates. It illustrates the vast overestimation of the adopted growth rate with significant inflation above the projected historic trend at the 2031 design horizon.

Figure 5-7 AADT Comparison – Historic Trend vs Adopted Growth Rate



As such, given the significant impact of COVID-19 on the accuracy of traffic survey data and the conservative background volume analysis, using the factored up existing 2017 traffic surveys is a suitable outcome from a traffic engineering perspective.

5.4.2 Rockhampton Ring Road

As noted previously, a ~14km Ring Road is proposed for the western side of Rockhampton and is expected to be delivered by 2026. Given that the Ring Road allows through traffic to bypass the town centre and the subject site, there is expected to be a significant decrease in traffic volumes along the Bruce Highway and Musgrave Street in particular. This expected additional decrease in traffic volumes has not been considered has part of the above traffic growth analysis, but is expected to impact all results after 2026.

5.5 Distribution

5.5.1 Access Distribution

The access distribution observed in the traffic surveys has generally been adopted to represent the distribution of the additional traffic associated with the proposed expansion. However, given the proposed expansion is located in the north-eastern corner of the site, it has been assumed that 50% of expansion traffic will utilise the two closest access points, being the left in/left out on the Bruce Hwy and Aquatic Place.

5.5.2 External Distribution

A review of the traffic survey data has been undertaken, in order to establish an approximate distribution of expansion traffic passing through the three external intersections:

1. Bruce Highway / Musgrave Street - signalised intersection
2. Musgrave Street / High Street - signalised intersection
3. Bruce Highway / High Street / Alexandra Street - signalised intersection

The following distribution assumptions, as illustrated on Figure 5-8, have been drawn from the traffic surveys and adopted for the assessment of the expansion traffic.

Figure 5-8 Expansion Traffic Distribution

Source: Nearmap

5.5.3 Directional Distribution

The arrival / departure splits for trips associated with the existing centre and proposed expansion have been adopted from the existing centre travel patterns, estimated from the survey data. The adopted rates are shown in Table 5-5.

Table 5-5 Adopted Direction In / Out Splits

Time Period	IN	OUT
Thursday	50%	50%
Saturday	50%	50%

6 Intersection Assessment

6.1 Assessed Intersections

For this assessment, the following intersections have been assessed and are illustrated on Figure 6-1:

1. Bruce Highway / Musgrave Street - signalised intersection
2. Musgrave Street / Cowap Street - signalised access intersection
3. Musgrave Street / Clifton Street - signalised access
5. Musgrave Street / High Street - signalised intersection
7. High Street / Site Access - signalised access
8. High Street / Aquatic Place - roundabout access
9. Bruce Highway / High Street / Alexandra Street - signalised intersection

Figure 6-1 SIDRA Assessment Locations

Source: Nearmap

It is noted that the minor access points (left in/left out, intersections 4 & 6) have not been analysed in SIDRA.

6.2 Assessment Scenarios

The following scenarios have been assessed for the proposed expansion development:

- 2022 Background Traffic
- 2024 Background Traffic
- 2024 Background Traffic with Development Expansion (Year of Opening)
- 2024 Background Traffic with Previously Approved Expansion (Hypothetical Year of Opening)

It is important to note that the approved expansion scenario will not be constructed at this time as per the reasons outlined in Section 3 above. These have been included entirely as a comparison between the previous approvals and the proposed development, and do not represent any actual real-world impacts. As such, the previously approved developments do not include GFA from the proposed development.

The background, development, and design traffic volumes have been included at **Appendix B**.

The SIDRA analysis files for all intersections are provided at a file share link, found at **Appendix C**.

As previously noted, the Rockhampton Ring Road is expected to significantly reduce traffic volumes along the Bruce Highway and Musgrave Street and is scheduled to be completed in 2026. As such, it is proposed that the ten-year design horizon (2033) traffic scenarios are not undertaken for this development as they are highly likely to overestimate the expected traffic impacts.

There are two primary reasons as to why the 10-year design horizon should be excluded from this analysis:

- There will be likely significant fluctuations in the traffic volumes along the Bruce Highway and Musgrave Street.
- The only practical way to measure the likely impacts on the Bruce Highway and Musgrave Street would be via traffic counts after the completion of the Ring Road.
- Any intersection upgrades resulting from the 10-year design horizon would likely become redundant upon the completion of the Rockhampton Ring Road and would likely not pass a cost-benefit analysis.

6.3 SIDRA Assessment Criteria

The performance of each study intersection was analysed using SIDRA Intersection 9 (SIDRA) which is an industry recognised analysis tool that estimates the capacity and performance of intersections based on input parameters, including geometry and traffic volumes, and provides estimates of an intersection's Degree of Saturation (DOS), queues and delays. The DOS is a measure of the proportion of traffic entering an intersection relative to the intersection's capacity.

Table 6-1 provides the defined DOS intervention thresholds for intersections.

Table 6-1 Thresholds for Intersection Performance

Intersection Control	DOS Threshold
Signals	less than or equal to 0.90
Roundabout	less than or equal to 0.85
Priority-controlled	less than or equal to 0.80

Source: TMR Guidelines for Assessment of Road Impacts of Development (2006)

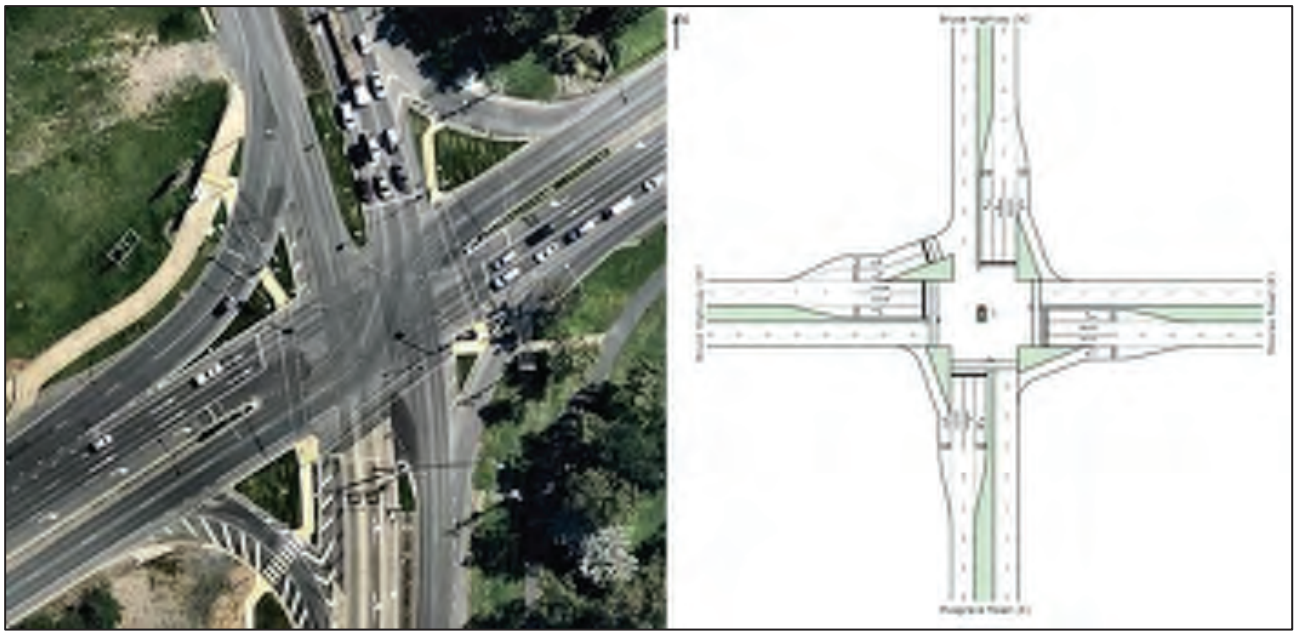
The guideline notes that a DOS exceeding the values indicated in Table 6-1 identifies that an intersection is nearing its practical capacity and upgrade works may be required. Above these threshold values, users of the intersection are likely to experience rapidly increasing delays and queuing.

6.4 Operational Assessment Results

6.4.1 Intersection 1: Bruce Highway / Musgrave Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-2.

Figure 6-2 Current and SIDRA Assessed Layout – Bruce Highway / Musgrave Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-2.

Table 6-2 SIDRA Outputs – Bruce Highway / Musgrave Street Intersection

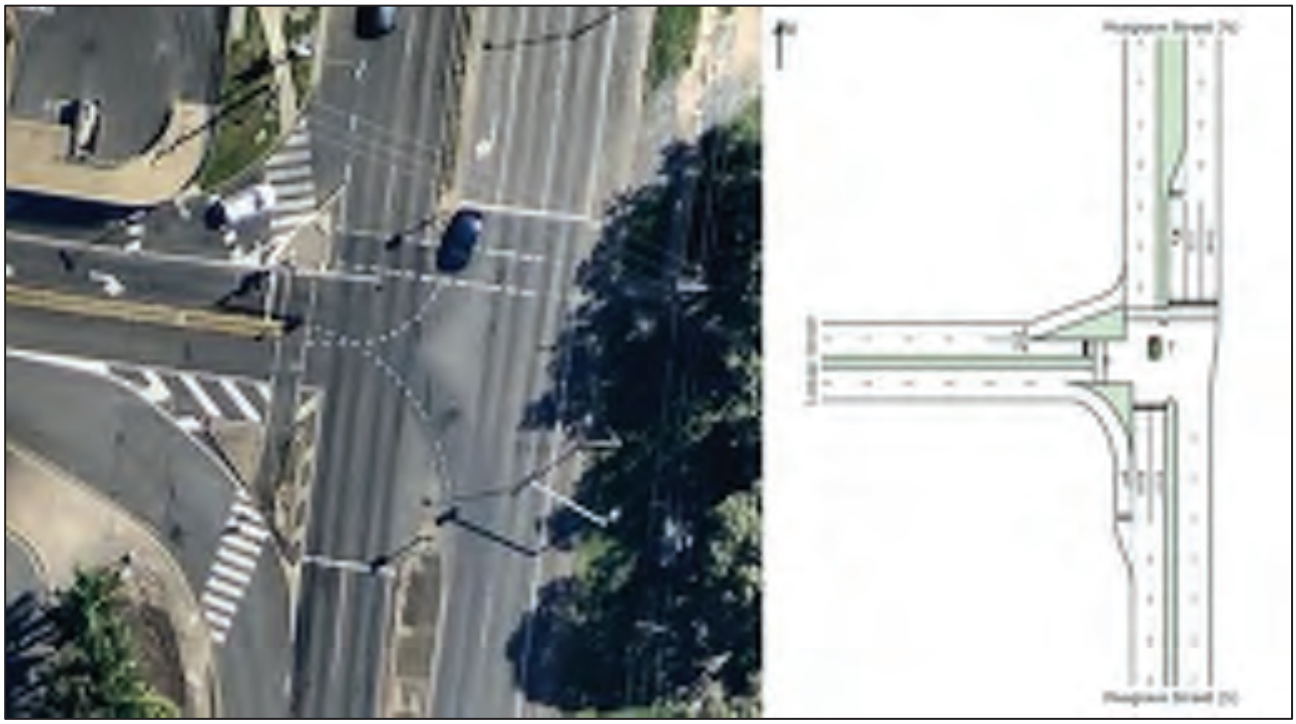
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.77	47.8 sec	162m	0.73	45.4 sec	141m
2024 Background	0.80	48.7 sec	172m	0.75	45.8 sec	149m
2024 Background + Committed Approval	0.81	49.0 sec	172m	0.76	46.2 sec	152m
2024 With Development (No Committed Approval)	0.80	48.7 sec	172m	0.75	45.9 sec	150m

The results of the analysis indicate that the four-way signalised arrangement operates within the typical performance thresholds (DOS ≤ 0.90 for signalised), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

6.4.2 Intersection 2: Musgrave Street / Cowap Street Intersection

The current configuration of this intersection is a three-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-3.

Figure 6-3 Current and SIDRA Assessed Layout – Musgrave Street / Cowap Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-3.

Table 6-3 SIDRA Outputs – Musgrave Street / Cowap Street Intersection

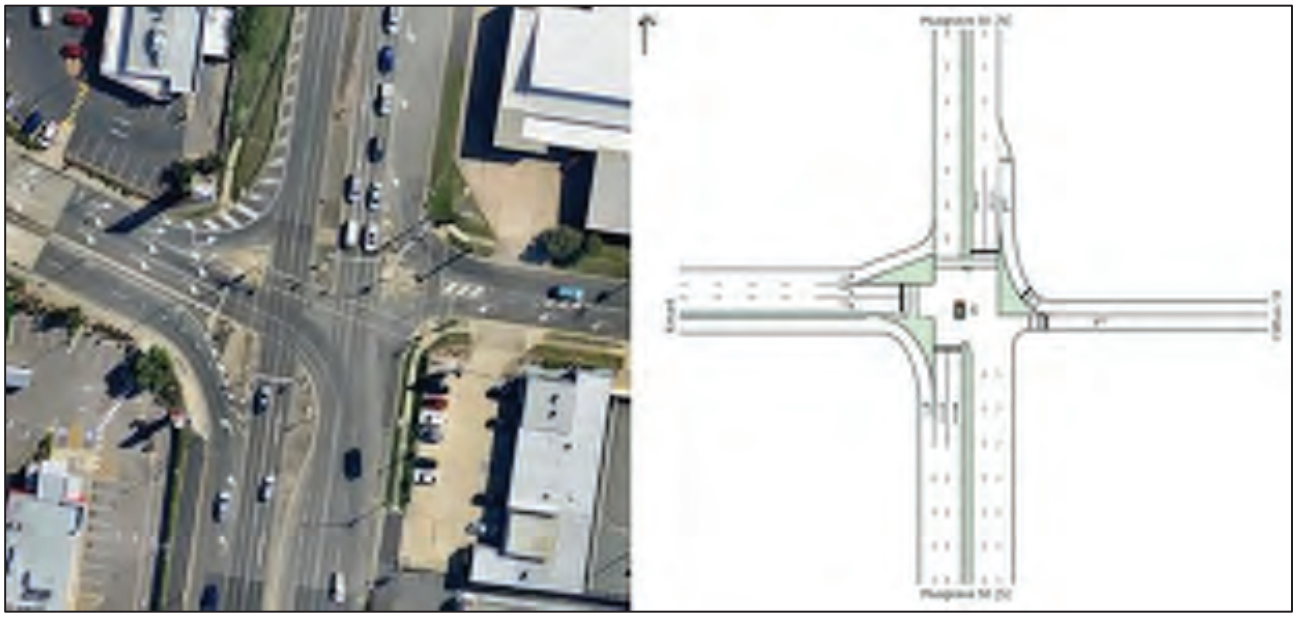
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.42	4.4 sec	26m	0.52	10.4 sec	76m
2024 Background	0.42	4.1 sec	26m	0.52	10.0 sec	75m
2024 Background + Committed Approval	0.44	4.5 sec	27m	0.55	10.3 sec	82m
2024 With Development (No Committed Approval)	0.43	4.4 sec	27m	0.53	10.1 sec	77m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queue are not significantly impacted, when compared to the background scenarios.

6.4.3 Intersection 3: Musgrave Street / Clifton Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-4.

Figure 6-4 Current and SIDRA Assessed Layout – Musgrave Street / Clifton Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-4.

Table 6-4 SIDRA Outputs – Musgrave Street / Clifton Street Intersection

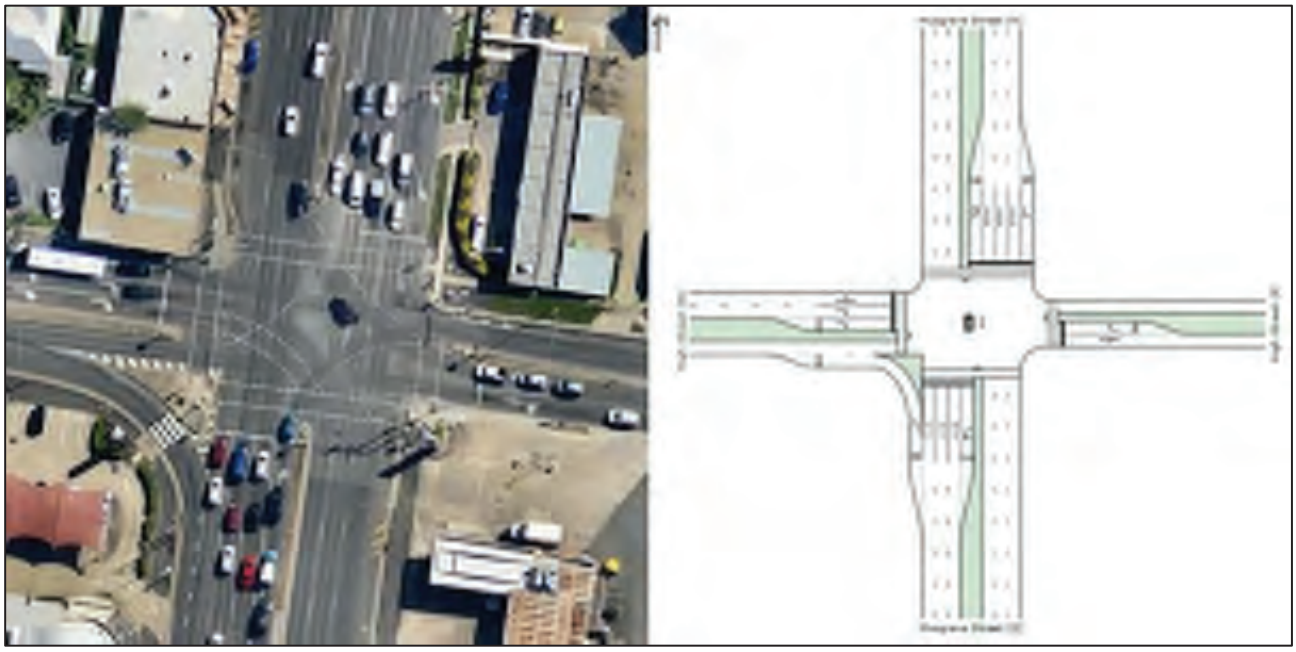
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.31	5.5 sec	21m	0.28	5.5 sec	22m
2024 Background	0.31	5.5 sec	21m	0.28	5.4 sec	22m
2024 Background + Committed Approval	0.31	5.8 sec	25m	0.29	5.8 sec	25m
2024 With Development (No Committed Approval)	0.31	5.5 sec	22m	0.28	5.5 sec	23m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

6.4.4 Intersection 5: Musgrave Street / High Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-5.

Figure 6-5 Current and SIDRA Assessed Layout – Musgrave Street / High Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-5.

Table 6-5 SIDRA Outputs – Musgrave Street / High Street Intersection

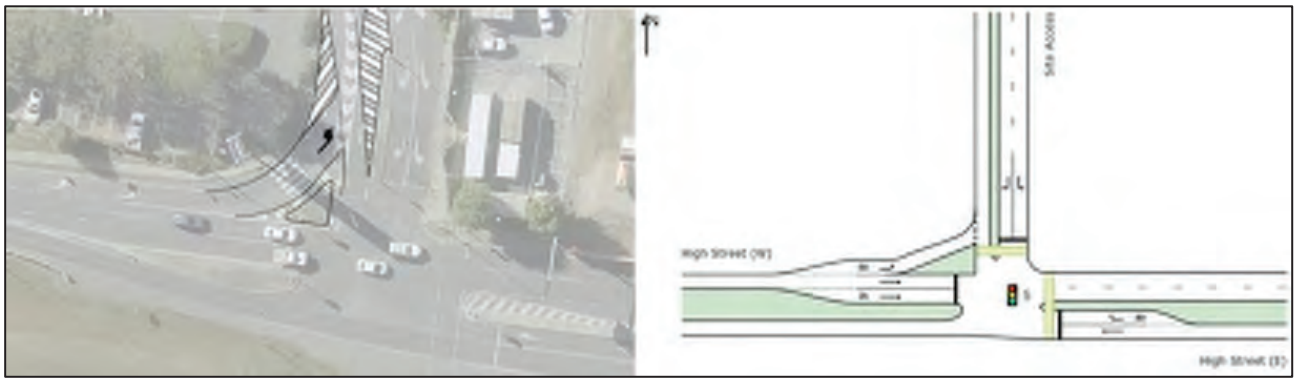
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.75	48.1 sec	114m	0.63	49.1 sec	101m
2024 Background	0.78	50.2 sec	126m	0.64	49.2 sec	105m
2024 Background + Committed Approval	0.80	50.3 sec	133m	0.67	49.1 sec	112m
2024 With Development (No Committed Approval)	0.78	50.3 sec	127m	0.65	49.2 sec	105m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

6.4.5 Intersection 7: High Street / Site Access Intersection

The current configuration of this intersection is a three-way signalised arrangement. As part of the proposed development, a revised intersection layout is proposed to help facilitate additional AV movements. The proposed and SIDRA assessed layout are illustrated on Figure 6-6.

Figure 6-6 Proposed and SIDRA Assessed Layout – High Street / Site Access Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-6.

Table 6-6 SIDRA Outputs – High Street / Site Access Intersection

Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95thou%tile Queue	DOS	Average Delay	95thou%tile Queue
2022 Background	0.49	13.6 sec	38m	0.42	13.9 sec	36m
2024 Background	0.50	14.1 sec	39m	0.43	13.9 sec	37m
2024 Background + Committed Approval	0.51	14.1 sec	40m	0.43	14.0 sec	41m
2024 With Development (No Committed Approval)	0.50	14.1 sec	39m	0.43	14.0 sec	37m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

6.4.6 Intersection 8: High Street / Aquatic Place Intersection

The current configuration of this intersection is a roundabout arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-7.

Figure 6-7 Current and SIDRA Assessed Layout – High Street / Aquatic Place Intersection

The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-7.

Table 6-7 SIDRA Outputs – High Street / Aquatic Place Intersection

Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95thO%tile Queue	DOS	Average Delay	95thO%tile Queue
2022 Background	0.34	5.1 sec	17m	0.50	5.4 sec	28m
2024 Background	0.35	5.1 sec	18m	0.51	5.4 sec	28m
2024 Background + Committed Approval	0.37	5.2 sec	20m	0.54	5.7 sec	34m
2024 With Development (No Committed Approval)	0.35	5.1 sec	18m	0.51	5.5 sec	30m

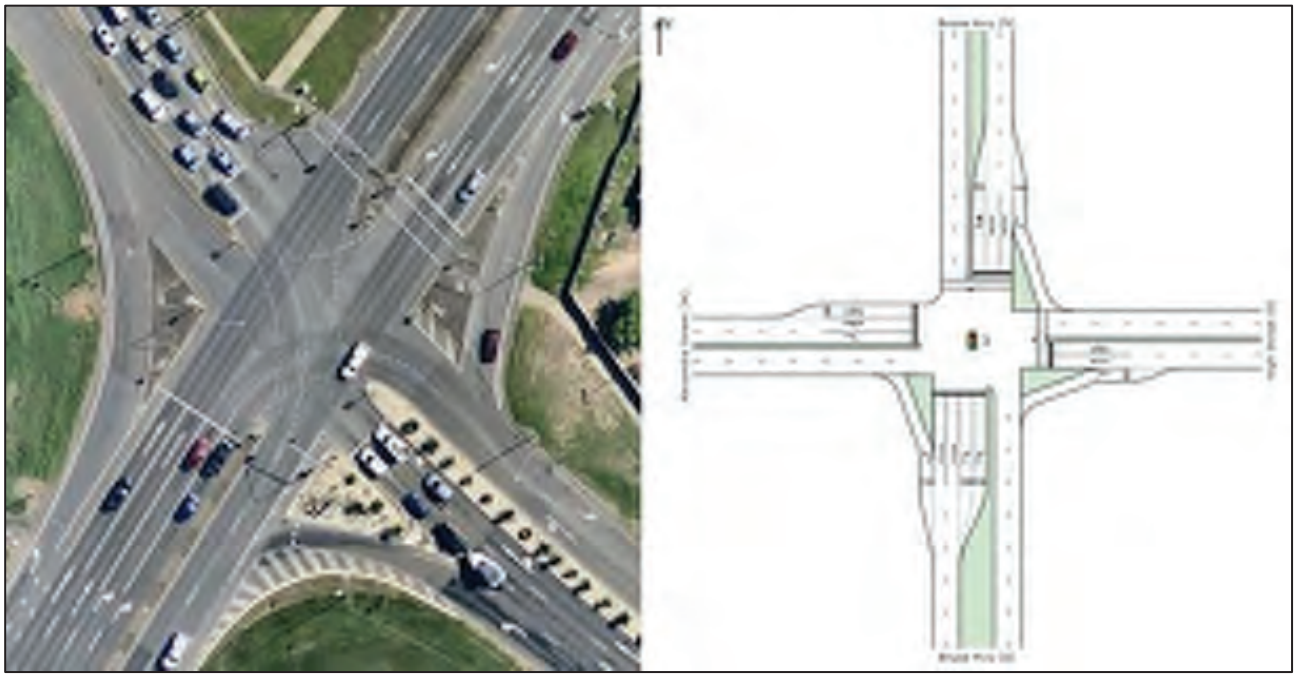
The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.85 for roundabouts), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

Although the SIDRA results suggest the intersection has capacity remaining, Council advised (advice from Stuart Harvey, email dated 24 May 2017) that the intersection has been identified in the Plans for Trunk Infrastructure as requiring an upgrade subject to future demand, in conjunction with a required duplication of the High Street bridge. The operational results of the roundabout indicate that the existing form will be suitable for the design horizon scenario.

6.4.7 Intersection 9: Bruce Highway / High Street / Alexandra Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 6-8.

Figure 6-8 Current and SIDRA Assessed Layout – Bruce Highway / High Street / Alexandra Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 6-8.

Table 6-8 SIDRA Outputs – Bruce Highway / High Street / Alexandra Street Intersection

Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95thO%tile Queue	DOS	Average Delay	95thO%tile Queue
2022 Background	0.78	45.4 sec	229m	0.76	46.3 sec	175m
2024 Background	0.82	46.3 sec	238m	0.77	47.1 sec	182m
2024 Background + Committed Approval	0.83	48.0 sec	245m	0.80	47.9 sec	185m
2024 With Development (No Committed Approval)	0.82	46.5 sec	236m	0.77	47.3 sec	183m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

6.5 GTIA Assessment

In accordance with the Guide to Traffic Impact Assessments (GTIA), the above intersections located along the state network (Intersections 1, 2, 3, 5 & 9) have been included in an assessment of intersection delay on the state-controlled road network.

Given that the previous approvals are relevant for the site, the background volumes and impacts for the delay assessment will be considered under the approved development scenario, instead of a usual background scenario. As such, given the overall reduction in GFA and subsequent traffic generation between the approved developments and the proposed development, all impact analysis outcomes will be negative, thereby showing a compliant outcome. Nevertheless, delay impacts have been undertaken for all state intersections as per GTIA guidelines.

The assessment is outlined below in Table 6-9.

Table 6-9 GTIA Delay Impact Analysis

Intersection	Scenario	APRV Total Delay Vehmin	DEV Total Delay Vehmin	DEV Delay Impact Vehmin	Impact
Int 1	2022 Thursday	231,035.0	229,620.5	-1,414.5	-0.61%
	2022 Saturday	204,065.4	202,740.3	-1,325.1	-0.65%
Int 2	2022 Thursday	8,500.5	8,311.6	-188.9	-2.22%
	2022 Saturday	22,227.4	21,795.8	-431.6	-1.94%
Int 3	2022 Thursday	12,035.0	11,412.5	-622.5	-5.17%
	2022 Saturday	12,800.6	12,138.5	-662.1	-5.17%
Int 5	2022 Thursday	161,161.2	161,161.2	-	0.00%
	2022 Saturday	154,566.8	154,881.6	314.8	0.20%
Int 9	2022 Thursday	226,128.0	219,061.5	-7,066.5	-3.13%
	2022 Saturday	195,911.0	193,457.0	-2,454.0	-1.25%
Total	**2022 Thursday**	**523,042.9**	**515,741.5**	**-7,301.4**	**-1.40%**
	2022 Saturday	**510,397.2**	**506,232.0**	**-4,165.2**	**-0.82%**
	Average	**516,768.8**	**511,061.4**	**-5,707.5**	**-1.10%**

It is important to note the above with regard the following:

- The % delay increase for the 2022 scenario is less than 5%, and thus is in accordance with the GTIA.
- As the % delay is lower than 5%, no mitigation measures are required due to capacity issues.
- All intersections operate within typical performance thresholds and do not require any additional works for capacity or operational reasons.

As such, the proposed development is expected to comply with the GTIA capacity assessment.

7 Car Parking Review

7.1 Parking Requirement

As per discussions in the pre-lodgement meeting with Council on 19th April 2017, the following minimum parking rates were agreed upon:

- Shopping Centre – 4.1 spaces per 100 sq.m of gross leasable floor area; and
- Cinema – one (1) space per five (5) seats; or one (1) space per fifteen (15) sq.m of gross floor area, whichever is greater.

7.2 Parking Provision

The centre currently provides for 2,810 spaces with a net centre GLA of 55,005 sq.m excluding the cinema. It is noted that this is a different parking value than previously noted on prior Development Applications. A recount of parking has culminated in the 2,810 spaces and as such is the agreed upon current parking provision.

An additional 19 spaces are also available and are located on the subject site, adjacent the nearby childcare centre. This leads to a total available parking provision of 2,829 spaces.

The proposed expansion is intended to comprise of an additional 1,725 sq.m GLA of retail. The development proposes a net decrease in parking supply of 123 spaces, with 104 spaces lost due to the expansion footprint and 19 spaces lost due to AV turnaround provisions. As such, the total parking provision post-expansion is 2,706 spaces.

Based on the proposed yield, Table 7-1 outlines the minimum parking requirement.

Table 7-1 SIDRA Outputs – High Street / Aquatic Place Intersection

Land Use	Yield	Parking Rate	Parking Requirement	Available Parking
Shopping Centre	55,005 + 1,725 = 56,730 sq.m	4.1 spaces per 100 sq.m	**2,326 spaces**	2,829 – 123 = **2,706 spaces**
Cinema	3,392 sq.m	1 space per 15 sq.m	**226 spaces**	
Total	**60,122 sq.m**	**-**	**2,552 spaces**	**2,706 spaces (+154)**

The minimum parking required for the expanded centre is 2,552 spaces. The post expansion provision is 2,706 spaces, providing an overall surplus of 154 spaces as indicated in Table 7-1, and exceeds the minimum parking rate of 4.1 spaces per 100 sq.m. Therefore, the proposed plans are deemed to provide sufficient parking for the overall centre post expansion.

8 Servicing Provision

8.1 Overview

Servicing will be provided as part of the expansion area, with a loading area to be located within proposed expansion north of High Street. This loading area will service the ALDI expansion only.

The loading area has been designed to be separate from the main parking area, with a wall enclosing the space on the eastern and western sides. Access by service vehicles will be via High Street. A swept path assessment has indicated that servicing will be achieved for the following vehicles:

- Heavy rigid vehicle (HRV)
- 19.0m Articulated Vehicle (AV)

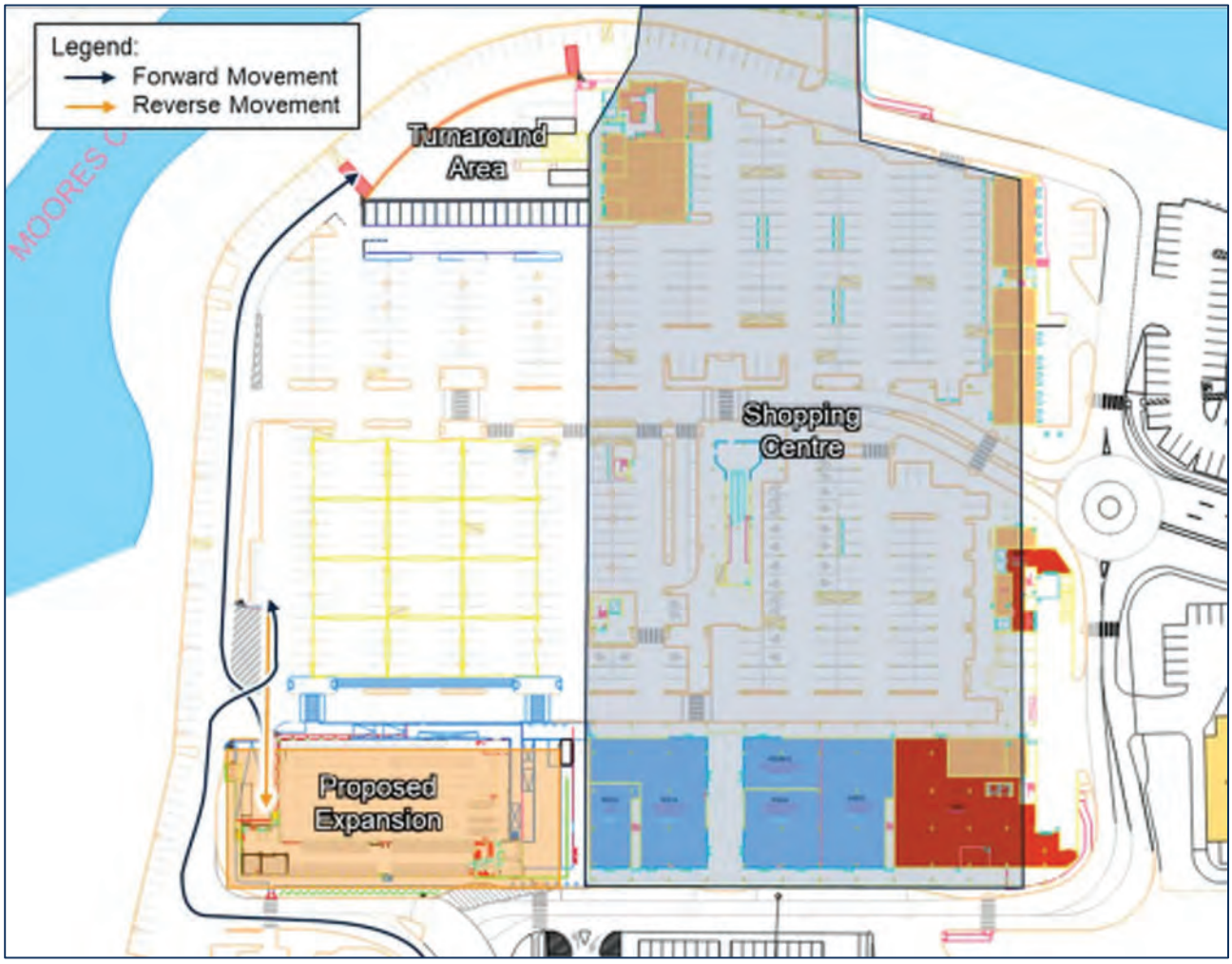
Swept paths have been provided in **Appendix D**.

Several changes to the surrounding car parking layout have been made to facilitate the AV swept paths, including the provision of an additional turnaround area north of the propose development, which is further discussed below.

8.2 AV Route

Figure 8-1 below shows the route taken by heavy vehicles to access the proposed expansions

Figure 8-1 AV servicing route



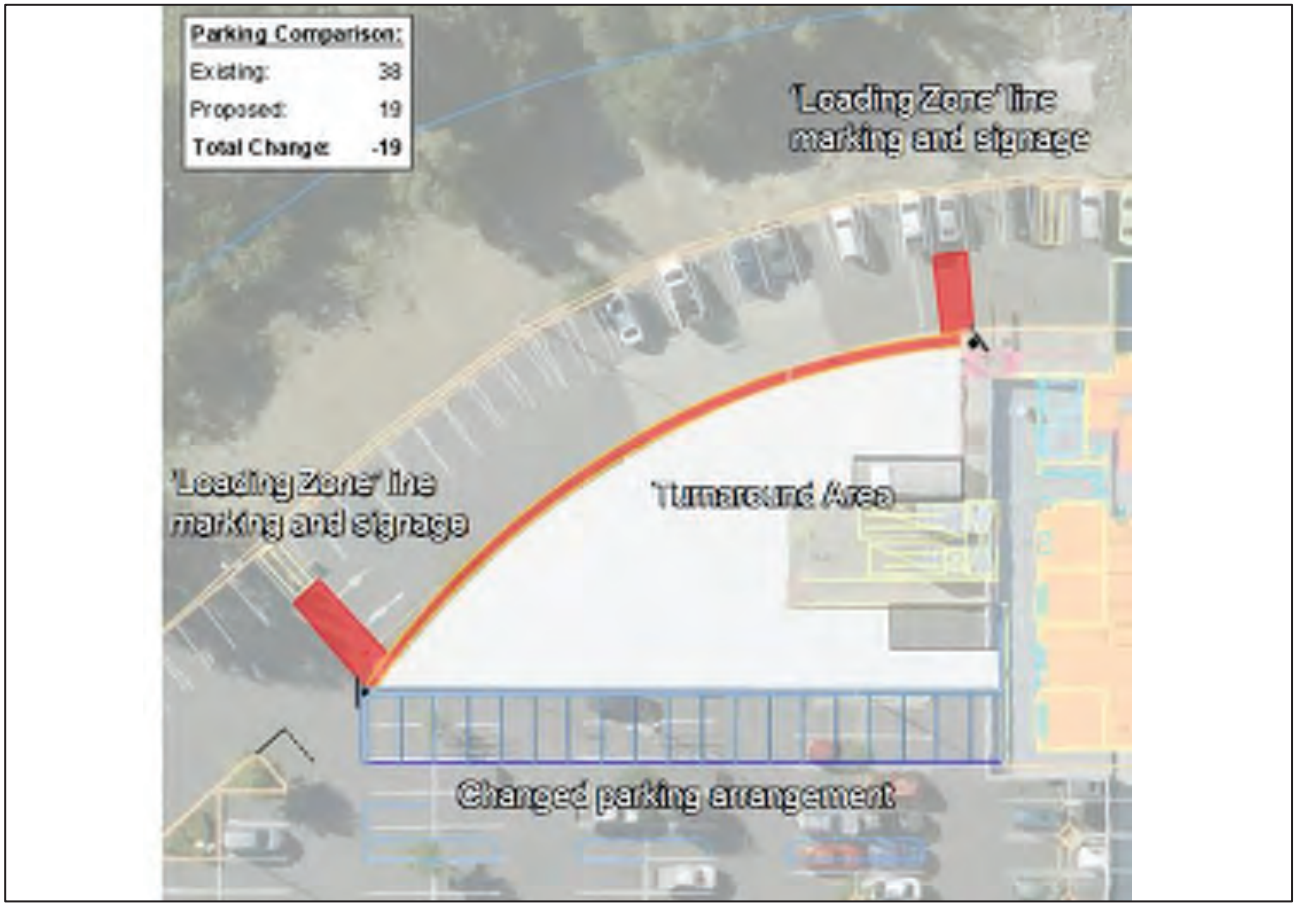
Source: Stockland

As shown, service vehicles will drive forwards to the loading area, reverse into the loading dock, then drive forwards out of the dock to the turnaround area. There, vehicles will turn around and drive forwards out of the car park and onto the local network via High Street.

8.3 Turnaround Provision

The turnaround area is designed to minimise conflicts with other motorists. As Figure 8-2 below provides additional detail.

Figure 8-2 AV turnaround provision



Source: Stockland

The AV turnaround swept path is attached at **Appendix D**.

Recommended signage and line marking provisions have been provided in **Appendix E**.

Swept paths indicate that heavy vehicles will be able to access the loading area and exit the site without impacting on parking spaces. Service vehicles will be primarily enclosed within the loading dock and turnaround area, therefore all parking aisle will be kept predominately clear of heavy vehicles for customer vehicle movements.

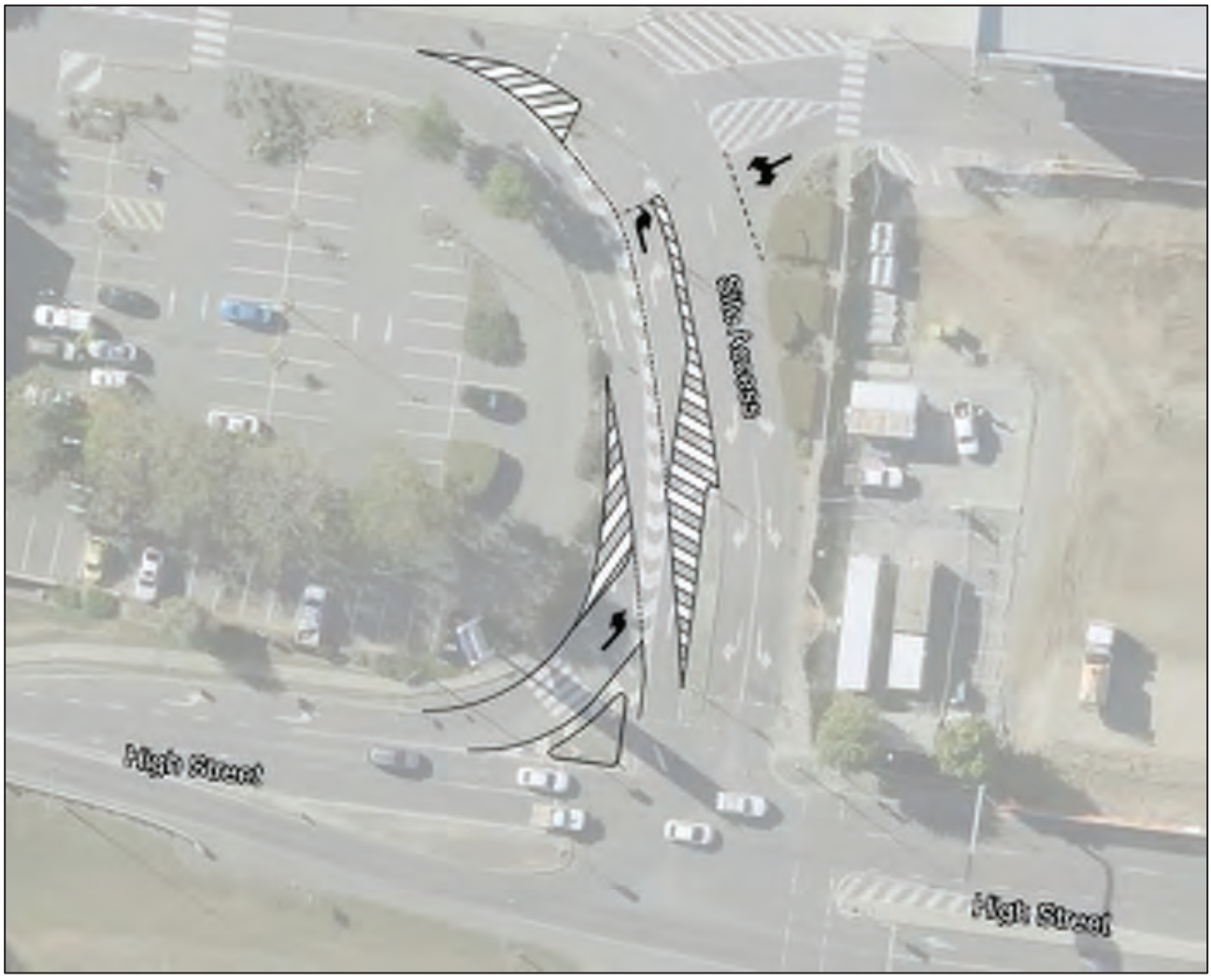
The parking area to the immediate south of the turnaround area has been amended to ensure the service vehicle movements do not impact on parking.

8.4 Access Amendment

As part of the proposed development, an updated access arrangement is proposed for intersection 7 to assist with the facilitation of AV movements. These changes primarily consist of changing the High Street low-angle exit to a high angle exit, and can be achieved via line marking works only and do not require any significant works or treatments.

Figure 8-3 details the proposed revised intersection arrangement.

Figure 8-3 AV turnaround provision



The swept paths for the proposed access arrangement are attached at **Appendix D** and as such, the proposed access does not impact the safety and efficiency of the intersection.

9 Summary

Cardno has been engaged by Stockland to undertake a Traffic Impact Assessment (TIA) for the proposed expansion of Stockland Rockhampton Centre, located 3km north-east of Rockhampton City. The expansion comprises of a new ALDI supermarket and 1,725sq.m of additional retail. The expansion is located on the south-western side of the existing site, and will be positioned over the existing car park.

Analysis was carried out to determine the existing centre generation and anticipated increase in generation as a result of the proposed expansion. The potential impact on the centre has been reviewed, with a focus on the operation of the access intersections and the parking provision.

9.1 Development Impact

The existing and proposed development has been assessed during a peak period, considered as the 85th percentile period which matches the top 15% busiest time period of the shopping year. The following conclusions have been made from the assessment:

- The existing traffic survey data indicates the Thursday and Saturday peak generation volumes for the centre are 2,565 vph and 3,476 vph, respectively.
- By applying the 85th percentile factor, the Thursday and Saturday peak generation volumes for the centre become 3,236 vph and 3,776 vph.
- Regarding the retail component, the 85th percentile factor was used to calibrate the standard RMS generation curves for a shopping centre. The existing retail trip generation of 3,105 vph and 3,678 vph for the Thursday and Saturday peak periods, respectively, will be increased to 3,169 vph and 3,755 vph. This equates to an additional 65 vph and 77 vph for the Thursday and Saturday peak periods, respectively

9.2 Traffic Impact

The intersection assessment was undertaken for seven key intersections including four external intersections and three signalised site access intersections during the Thursday and Saturday peak periods. The following conclusions have been made from the assessment:

- The assessment adopted a 1-2% p.a. growth rate for the state-controlled road network which is considered conservative but requested by TMR
- The site access intersections operate within acceptable capacity thresholds with the expansion traffic
- The external intersections operate within acceptable capacity thresholds with the expansion traffic
- The ten-year design horizon traffic scenarios are not considered suitable given that the Rockhampton Ring Road is expected to be completed by 2026. Once completed, the Ring Road is expected to significantly reduce traffic volumes and render future traffic generation obsolete.

Overall, the assessment indicates that the access intersections operate sufficiently with the inclusion of the proposed expansion and do not cause a significantly detrimental impact to the existing road network.

9.3 Parking Impact

The centre currently provides 2,829 spaces. The 2,829-space provision has been recently confirmed via a recount of the available centre parking. Plans for the expansion indicate a net loss of 123 spaces. This brings the total provision post-expansion to 2,706 spaces.

This is in excess of the minimum parking rates outlined by Council which results in a parking requirement of at least 2,552 spaces. Therefore, the proposed parking provision is considered sufficient for the expansion.

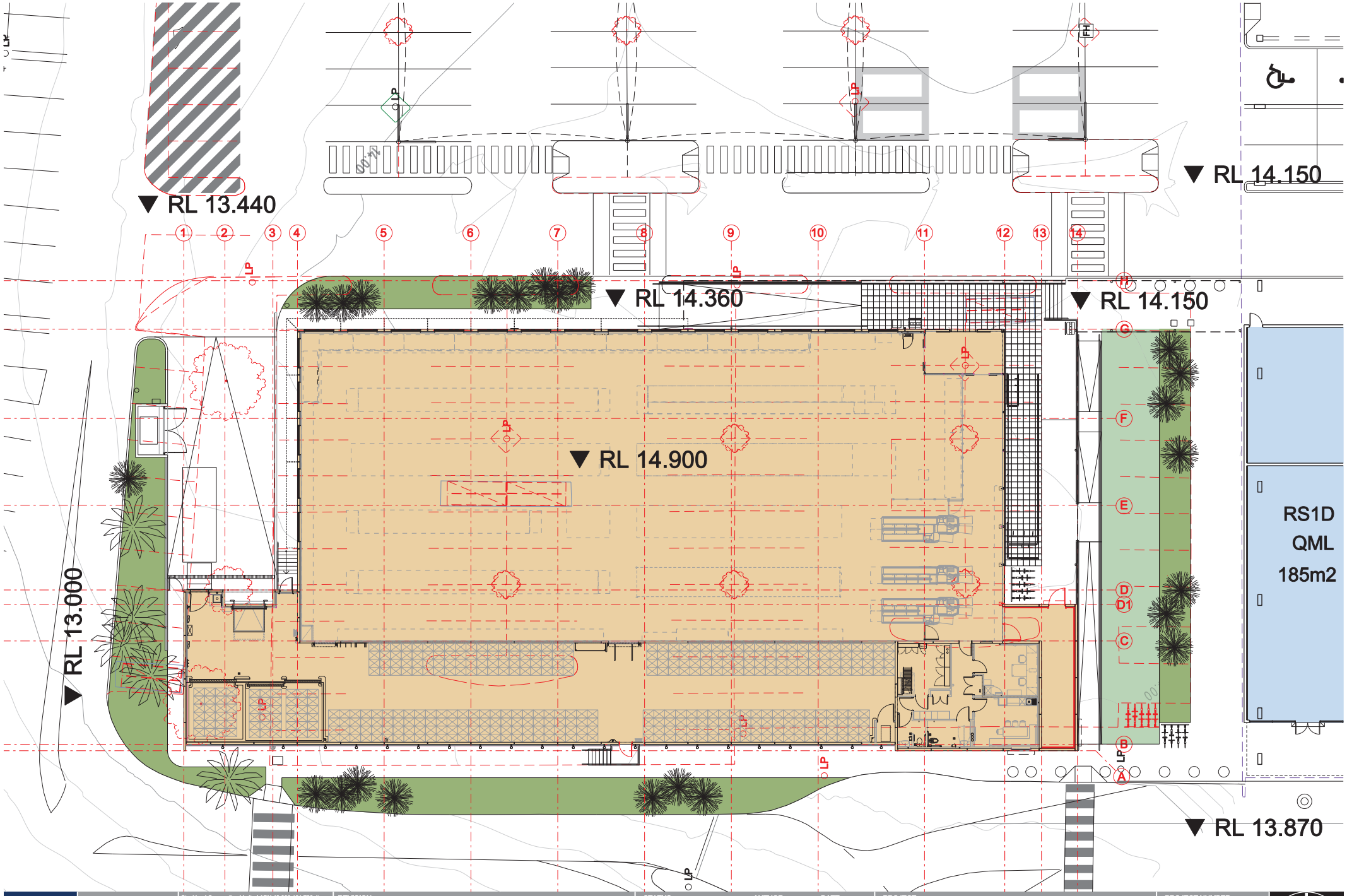
9.4 Servicing Impact

Swept paths have been prepared showing that service vehicles are able to suitably navigate the development. This includes the provision of an additional turnaround area north of the expansion site and the revised intersection access arrangement. Accordingly, suitable signage and line marking have been outlined to assist with assuring safe and efficient traffic operations within the car park resulting from the expansion.

Stockland Rockhampton ALDI Expansion

APPENDIX A

DEVELOPMENT PLANS



Stockland
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A FOR INFORMATION 12.01.22
B FOR INFORMATION 14.02.22

STATUS: For Information
AUTHOR: MB
DATE: 12.01.22
SCALE: 1:250 @ A3
0m 2.5m 5m 7.5m 10m

PROJECT: Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: Ground Floor Plan - OPTION 14

PROJECT NUMBER: 20-05-12-RO
SUPERMARKET
DRAWING NUMBER: 14_SK1_B

Stockland
Commercial Design Group
Level 25 Castlereagh Street
Sydney NSW 2000
Ph : 02 9035 2000
Fax: 02 8988 2000

REVISION:
A FOR INFORMATION 14.01.22
B MINOR AMENDMENTS 14.02.22

STATUS: For Information
AUTHOR: MB
DATE: 14.01.22
SCALE: 1:1000 @ A1
0m 20m 40m 60m 80m

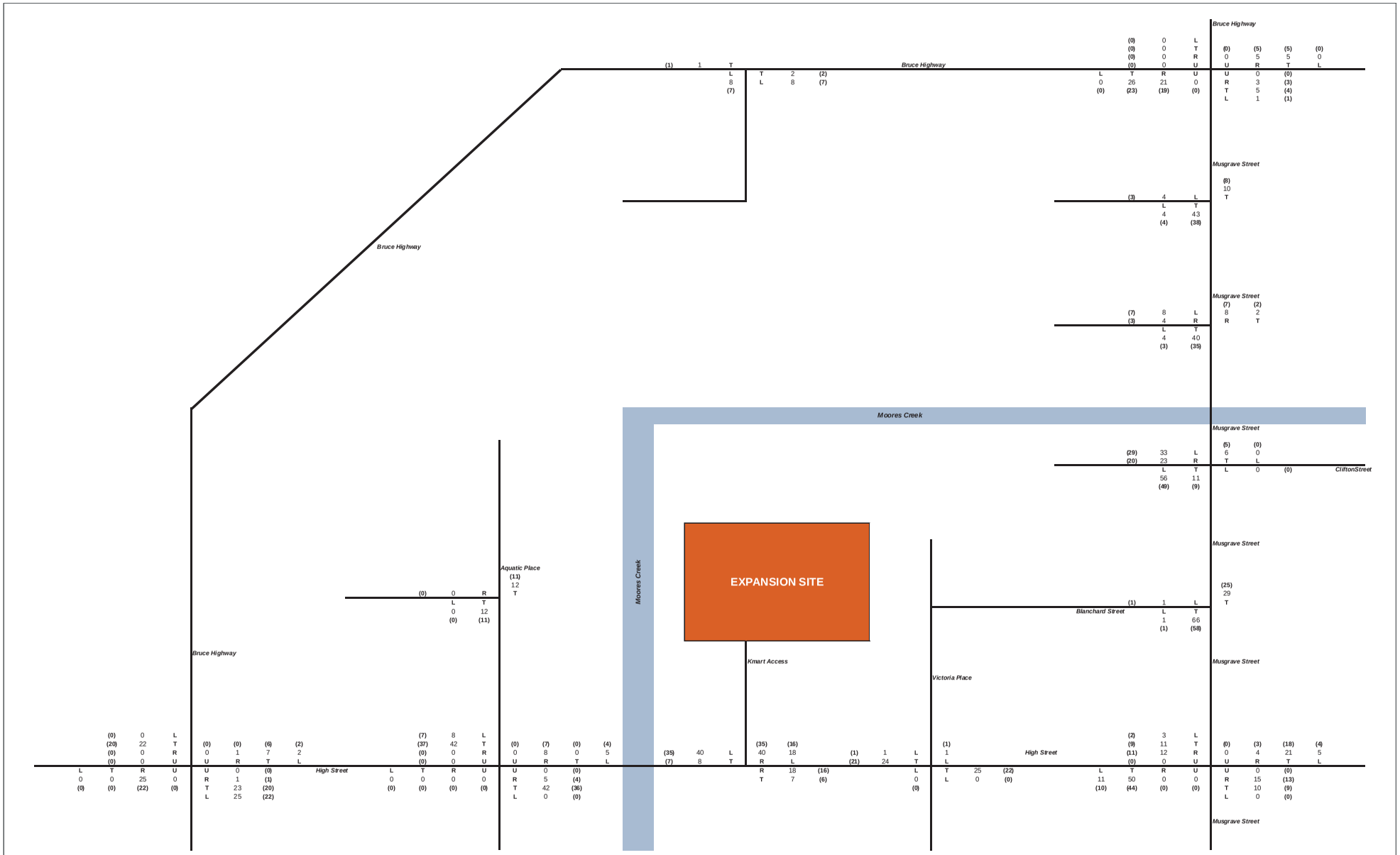
PROJECT: Stockland ROCKHAMPTON
120-331 Yaamba Road, North Rockhampton QLD 4701
TITLE: Overall Site Plan - OPTION 14

PROJECT NUMBER: 20-05-12-RO ALDI
DRAWING NUMBER: 14_SK2_B

Stockland Rockhampton ALDI Expansion

APPENDIX B

TRAFFIC GENERATION



Cardno
Shaping the Future

Figure 4

Previously Approved Traffic (Does not include proposed deveopment)

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\knt8\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation (with cinema expansion)1..xlsx]Dev Gen

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

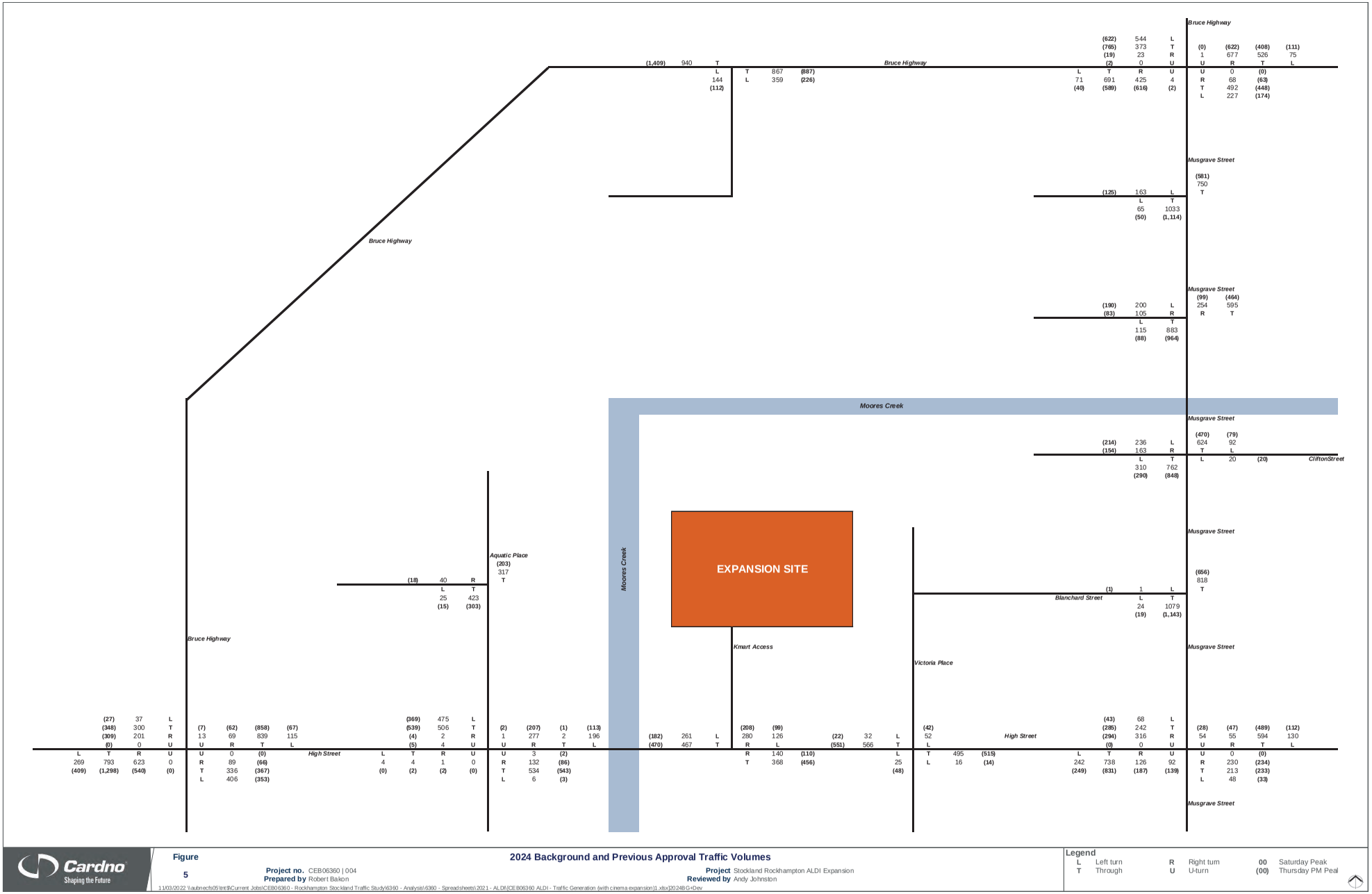


Figure 5

2024 Background and Previous Approval Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation (with cinema expansion)1.xlsx]2024BG+Dev

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peal

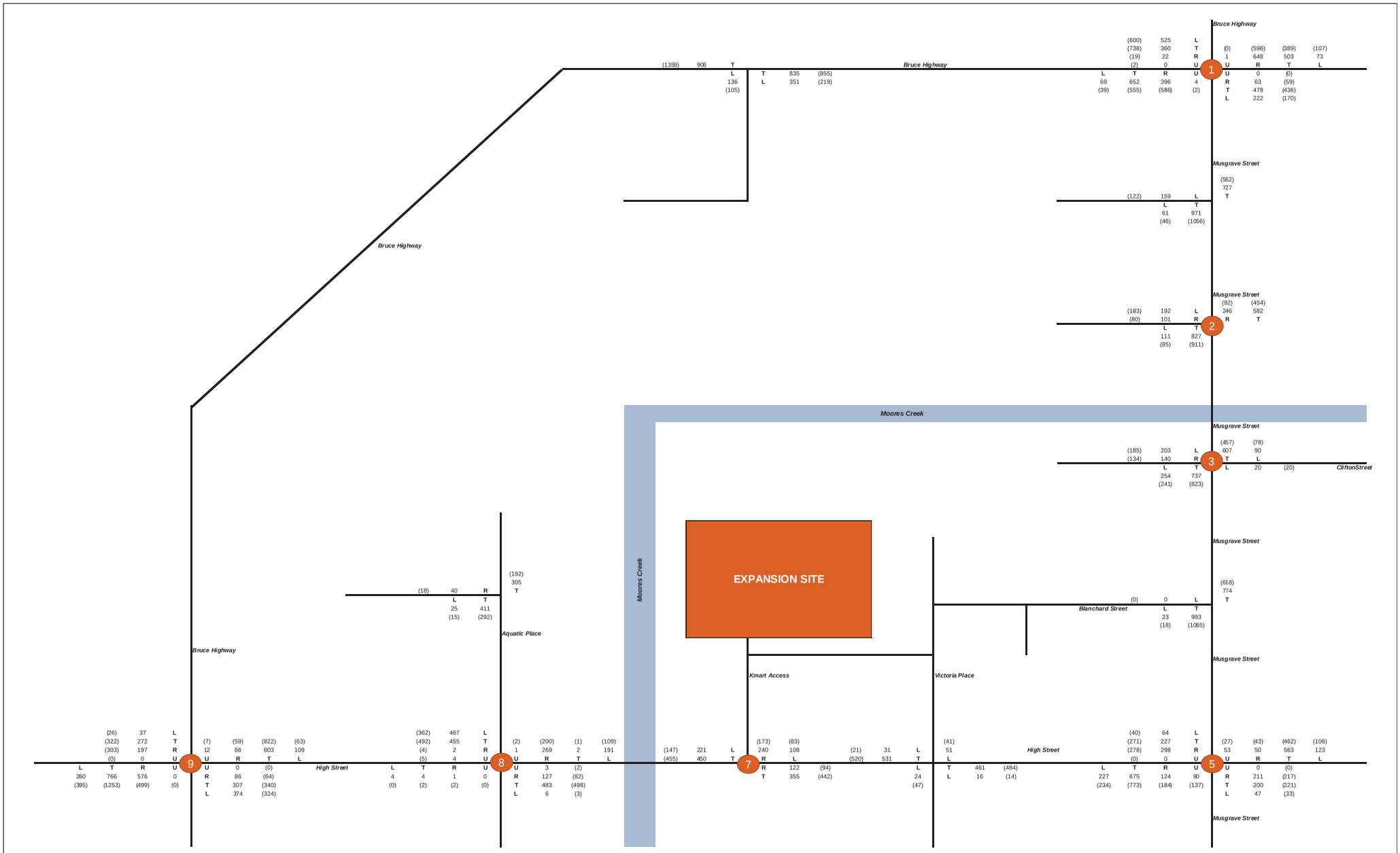


Figure 2

2022 Factored Background Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\int$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation.xlsx]2022BG

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

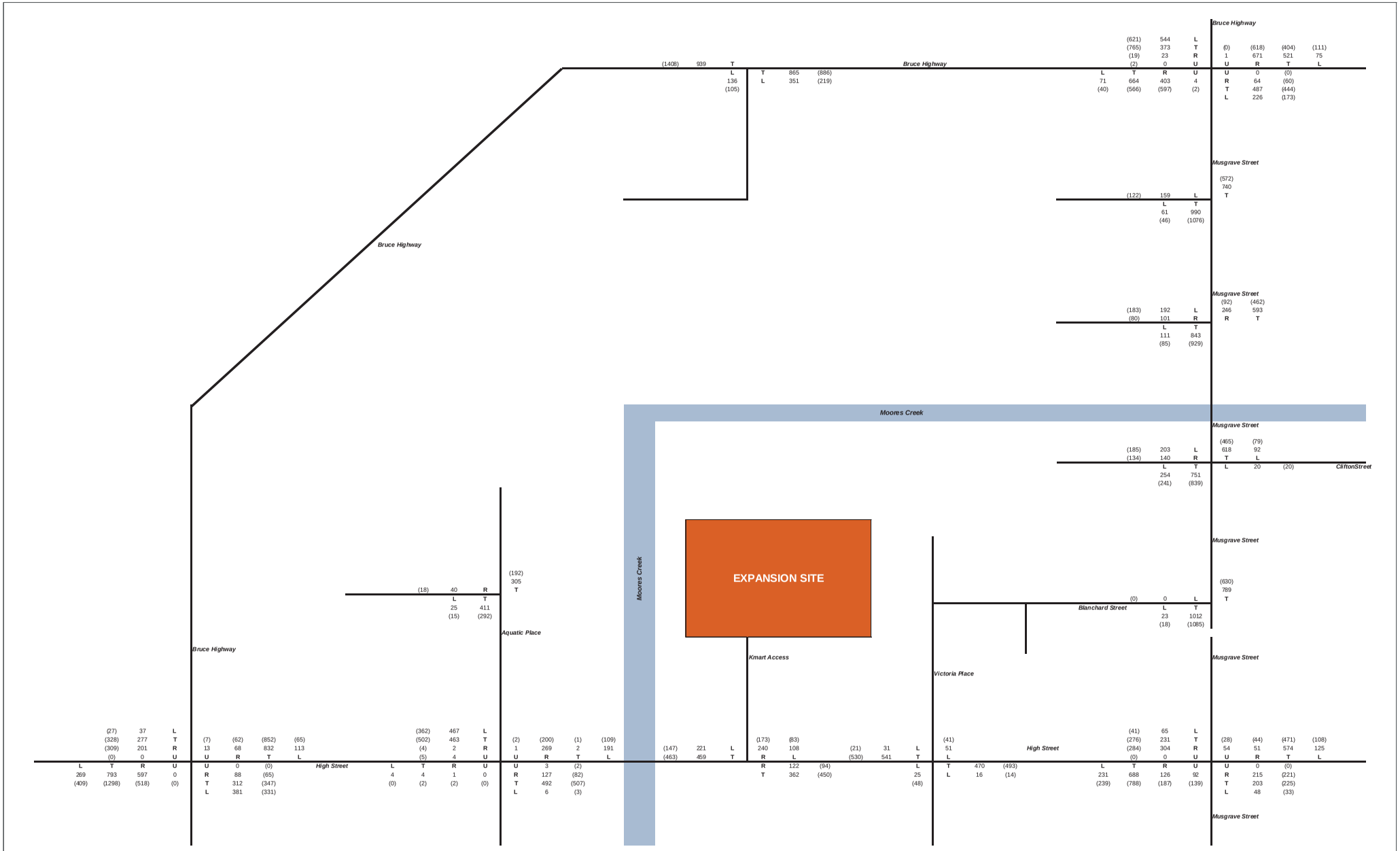


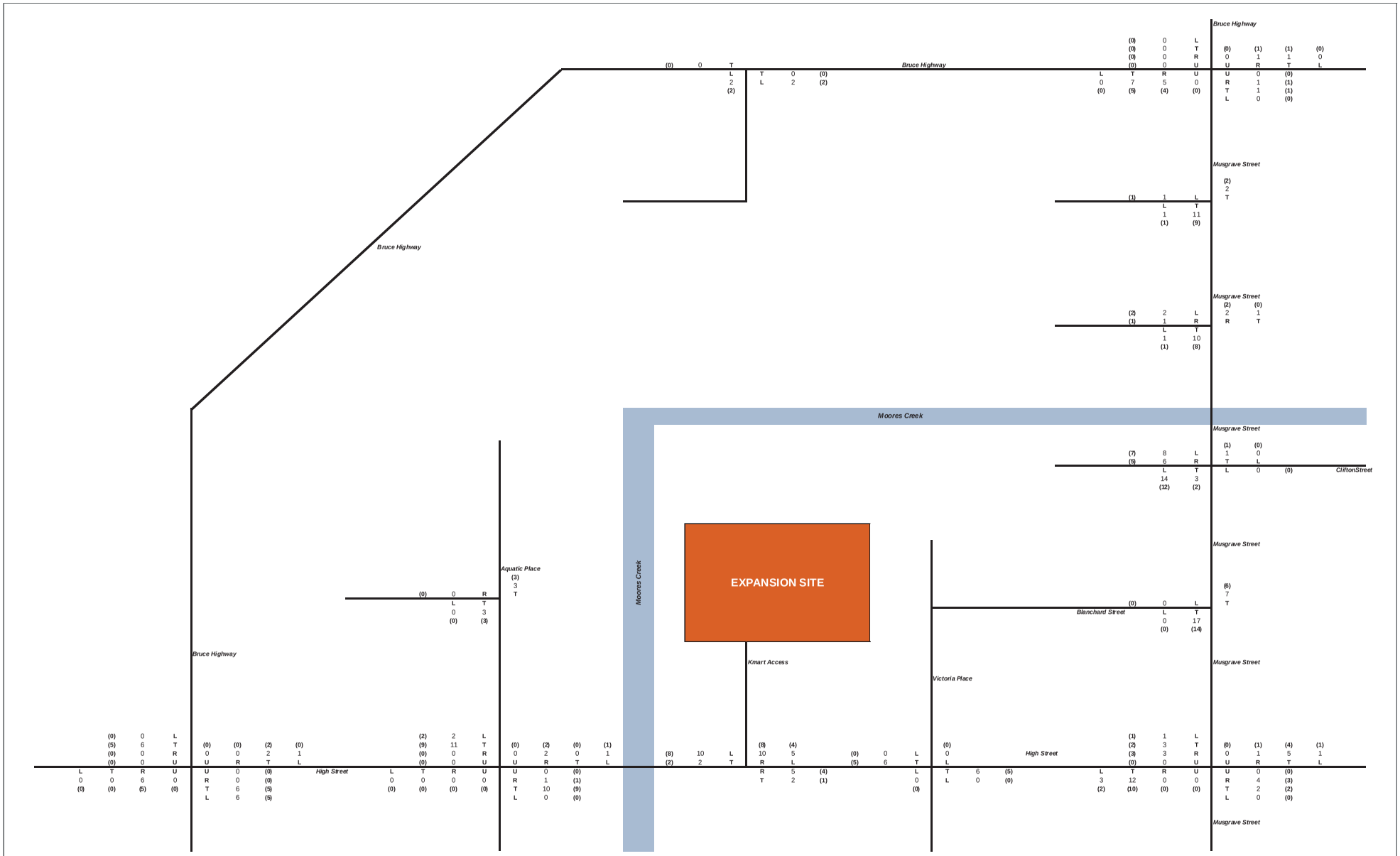
Figure 3

2024 Factored Background Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation.xlsx]2024BG

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak



Cardno
Shaping the Future

Figure 4

Expected Development Traffic

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\knt8\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation.xlsx]Dev Gen

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

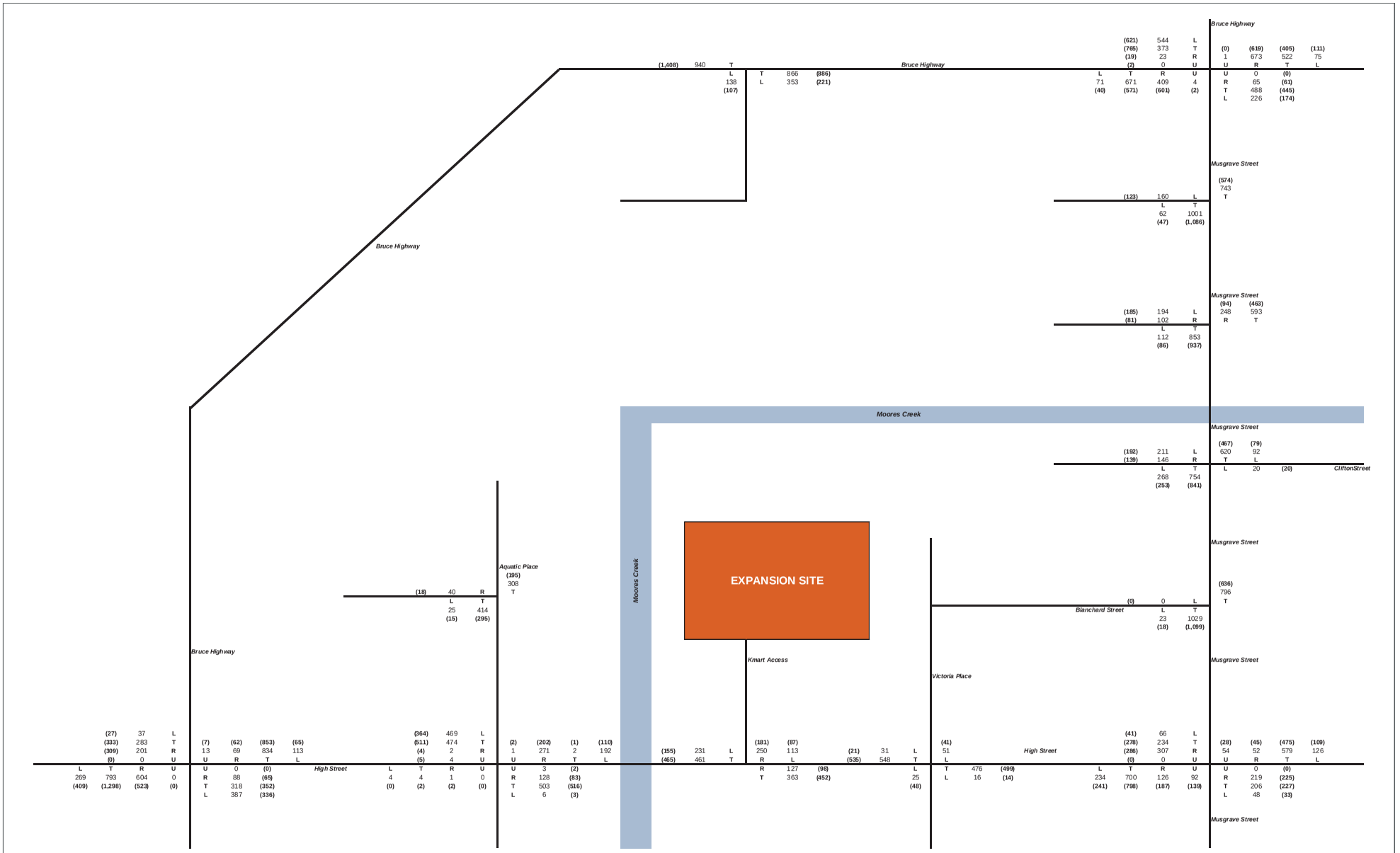


Figure 5

2024 Background and Development Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

11/03/2022 \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\202.1 - ALDI\[CEB06360 ALDI - Traffic Generation.xlsx]2024BG+Dev

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peal

Stockland Rockhampton ALDI Expansion

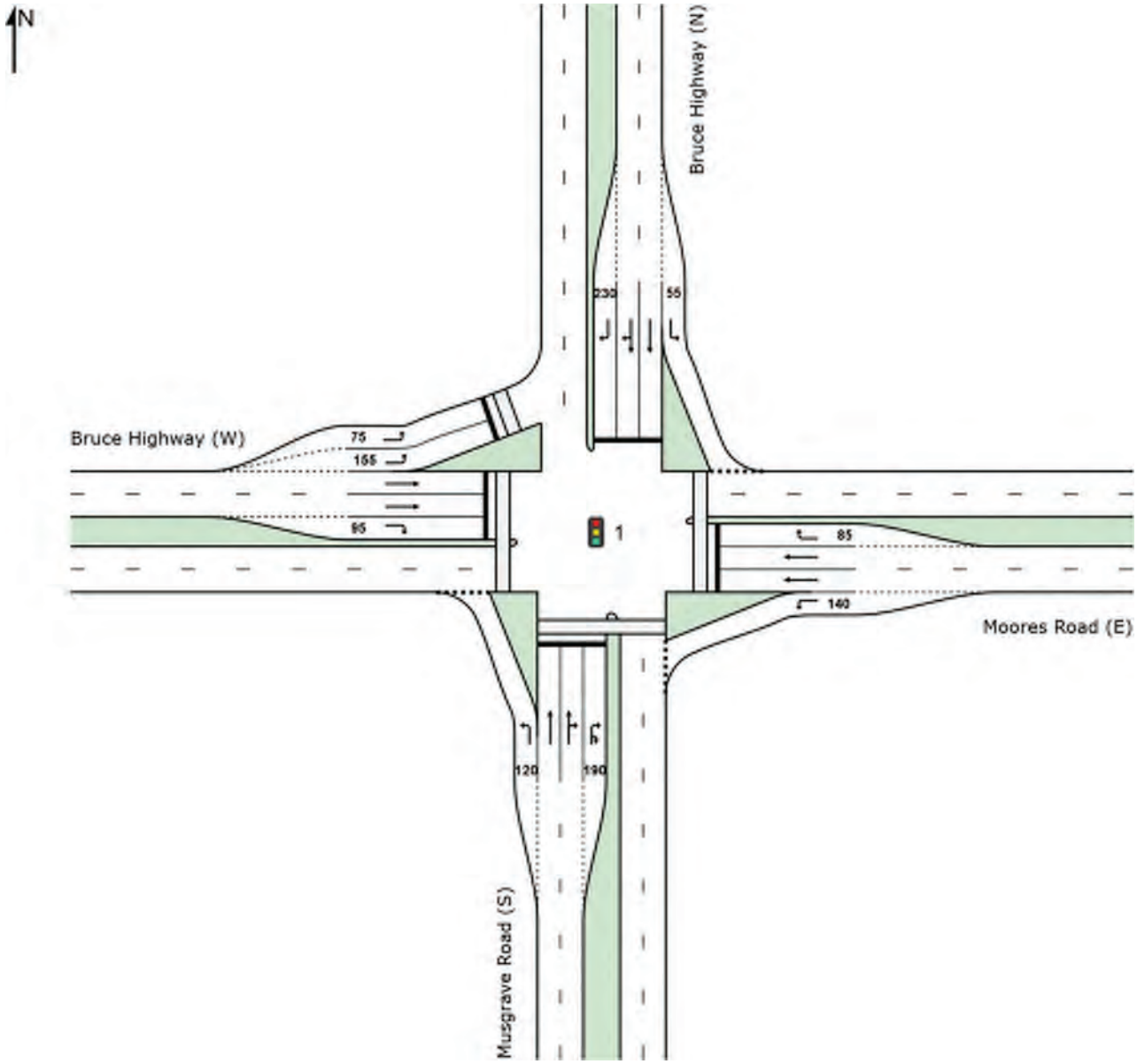
APPENDIX C

SIDRA ANALYSIS

SITE LAYOUT

Site: 1 [2022 BG Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated



Organisation: CARDNO PTY LTD | Created: Friday, 11 March 2022 3:50:06 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2022 BG Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	73	6.0	0.074	7.1	LOS A	0.1	0.6	0.02	0.59	0.02	56.2
2	T1	686	1.0	0.729	40.7	LOS C	22.6	136.9	0.88	0.77	0.88	30.7
3	R2	417	1.0	0.729	47.3	LOS D	22.4	135.8	0.88	0.82	0.88	32.8
3u	U	4	0.0	0.729	47.5	LOS D	21.5	130.0	0.88	0.83	0.88	27.3
Approach		1180	1.3	0.729	41.0	LOS C	22.6	136.9	0.83	0.78	0.83	32.6
East: Moores Road (E)												
4	L2	234	0.0	0.187	11.0	LOS A	4.0	24.1	0.34	0.68	0.34	54.0
5	T1	503	0.0	0.605	57.5	LOS E	16.7	100.0	0.96	0.81	0.96	33.5
6	R2	66	0.0	0.670	86.9	LOS F	5.1	30.6	1.00	0.79	1.11	22.3
Approach		803	0.0	0.670	46.4	LOS D	16.7	100.0	0.78	0.77	0.79	35.7
North: Bruce Highway (N)												
7	L2	77	0.0	0.064	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	529	1.0	0.718	34.4	LOS C	22.9	140.9	0.81	0.72	0.81	33.3
9	R2	682	3.0	0.718	41.5	LOS C	22.9	140.9	0.83	0.81	0.83	34.3
Approach		1288	2.0	0.718	36.6	LOS C	22.9	140.9	0.77	0.76	0.77	34.9
West: Bruce Highway (W)												
10	L2	553	2.0	0.707	65.9	LOS E	18.9	115.6	0.99	0.85	0.99	26.5
11	T1	379	1.0	0.458	55.4	LOS D	12.1	73.3	0.92	0.76	0.92	34.1
12	R2	23	0.0	0.234	83.2	LOS F	1.7	10.2	0.99	0.71	0.99	23.5
Approach		955	1.6	0.707	62.2	LOS E	18.9	115.6	0.96	0.81	0.96	29.4
All Vehicles		4226	1.3	0.729	45.4	LOS D	22.9	140.9	0.83	0.78	0.83	33.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	68.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	50	50.5	LOS E	0.2	0.2	0.82	0.82
P4	West Full Crossing	50	55.6	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	48.1	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.5	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2022 BG Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

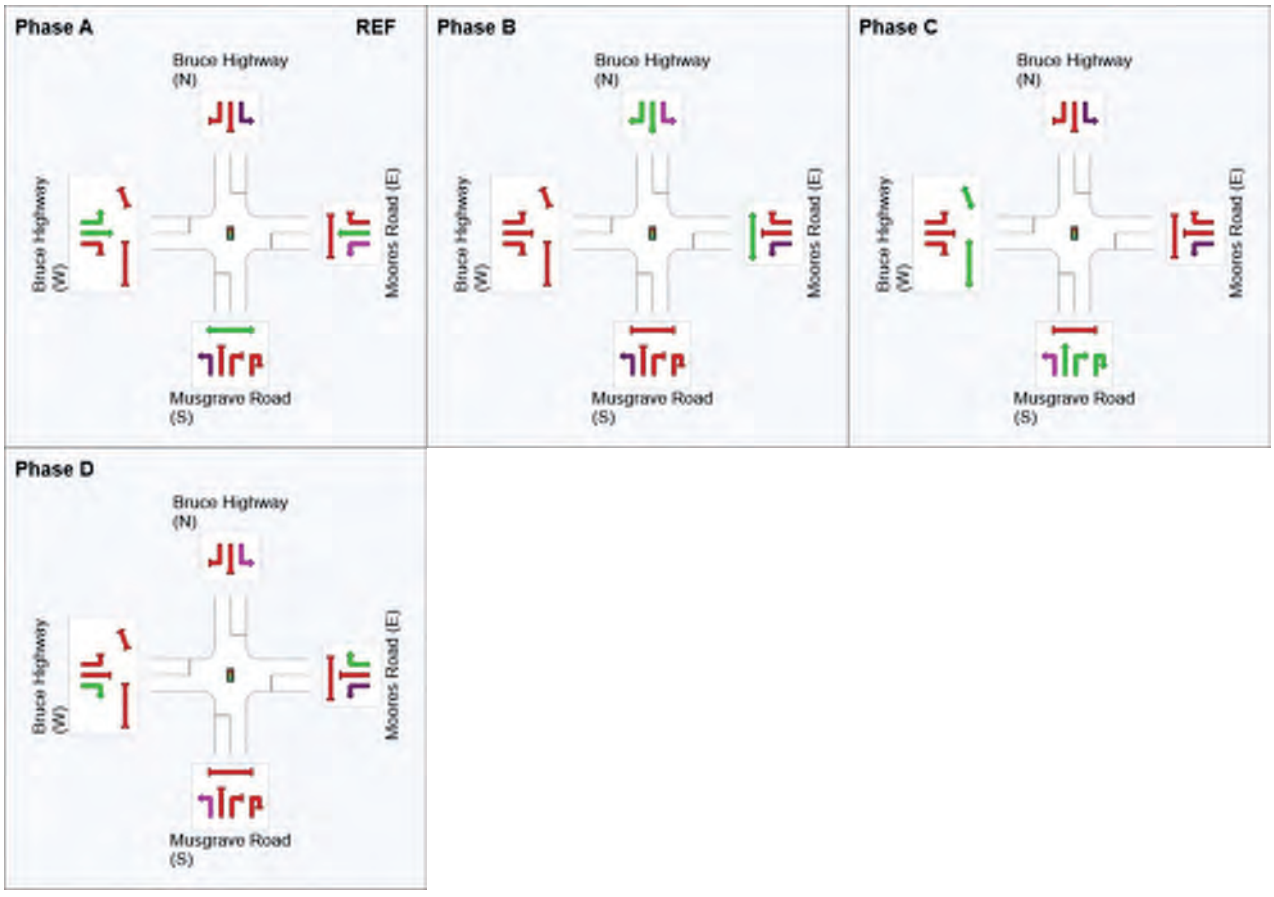
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	38	90	136
Green Time (sec)	32	46	40	8
Phase Time (sec)	38	52	46	14
Phase Split	25%	35%	31%	9%

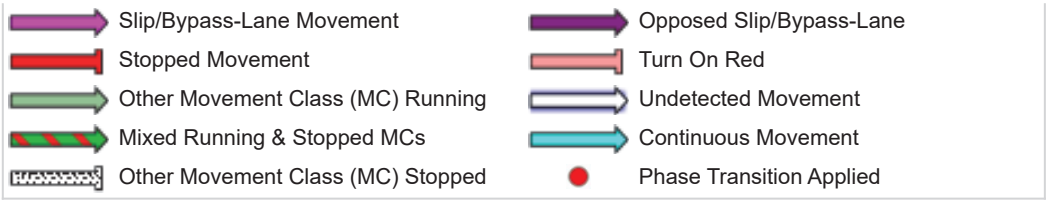
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



Organisation: CARDNO PTY LTD | Processed: Tuesday, 8 March 2022 10:05:45 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2022 BG Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	41	0.0	0.037	7.0	LOS A	0.0	0.3	0.02	0.59	0.02	58.1
2	T1	584	1.0	0.756	39.4	LOS C	24.7	149.7	0.88	0.78	0.89	31.0
3	R2	617	0.0	0.756	46.0	LOS D	24.2	145.6	0.88	0.83	0.89	33.5
3u	U	2	0.0	0.756	46.2	LOS D	23.7	142.3	0.88	0.84	0.89	27.7
Approach		1244	0.5	0.756	41.6	LOS C	24.7	149.7	0.85	0.80	0.86	32.9
East: Moores Road (E)												
4	L2	179	0.0	0.137	10.3	LOS A	2.8	16.6	0.32	0.67	0.32	54.6
5	T1	459	1.0	0.456	49.9	LOS D	14.0	85.0	0.89	0.75	0.89	35.9
6	R2	62	0.0	0.717	89.0	LOS F	4.9	29.1	1.00	0.81	1.17	21.9
Approach		700	0.7	0.717	43.2	LOS D	14.0	85.0	0.75	0.73	0.77	37.0
North: Bruce Highway (N)												
7	L2	113	1.0	0.115	8.3	LOS A	0.5	2.8	0.07	0.60	0.07	56.0
8	T1	409	4.0	0.769	43.4	LOS D	22.3	141.1	0.88	0.78	0.90	29.5
9	R2	627	6.0	0.769	50.8	LOS D	22.3	141.1	0.91	0.84	0.93	30.6
Approach		1149	4.8	0.769	44.0	LOS D	22.3	141.1	0.82	0.80	0.84	31.8
West: Bruce Highway (W)												
10	L2	632	4.0	0.673	60.2	LOS E	20.7	129.3	0.96	0.85	0.96	27.9
11	T1	777	1.0	0.771	56.4	LOS D	26.7	161.8	0.99	0.88	1.02	33.8
12	R2	20	0.0	0.231	84.7	LOS F	1.5	8.9	0.99	0.70	0.99	23.2
Approach		1428	2.3	0.771	58.5	LOS E	26.7	161.8	0.97	0.86	0.99	31.1
All Vehicles		4522	2.2	0.771	47.8	LOS D	26.7	161.8	0.87	0.81	0.88	32.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	61.8	LOS F	0.2	0.2	0.91	0.91
P2	East Full Crossing	50	57.3	LOS E	0.2	0.2	0.88	0.88
P4	West Full Crossing	50	53.9	LOS E	0.2	0.2	0.85	0.85
P4S	West Slip/Bypass Lane Crossing	53	46.5	LOS E	0.2	0.2	0.79	0.79
All Pedestrians		203	54.8	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2022 BG Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

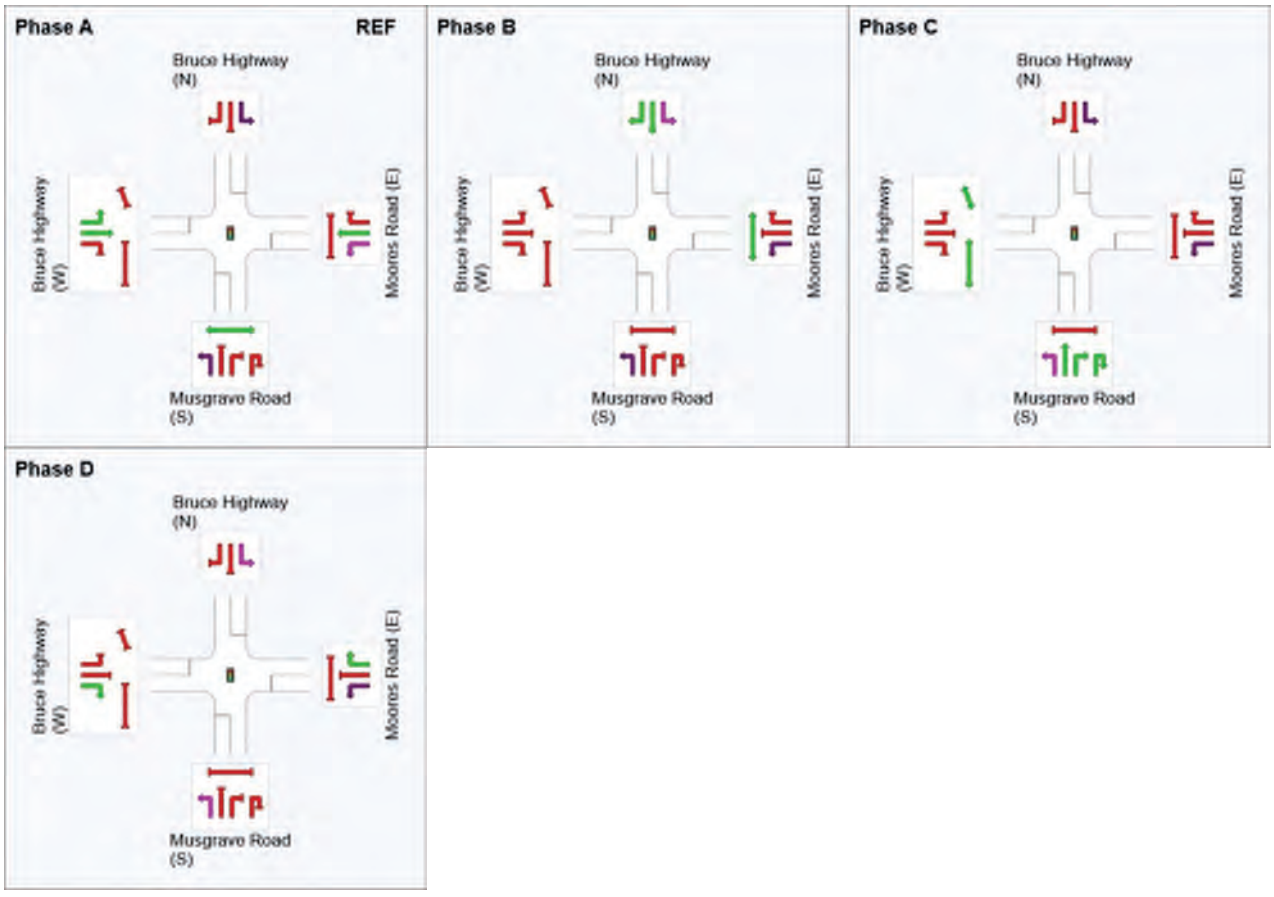
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	45	89	137
Green Time (sec)	39	38	42	7
Phase Time (sec)	45	44	48	13
Phase Split	30%	29%	32%	9%

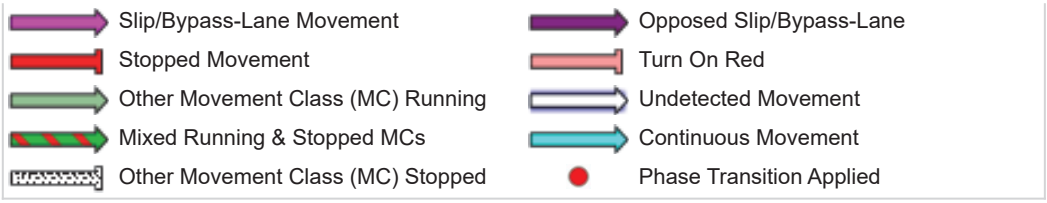
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



Organisation: CARDNO PTY LTD | Processed: Tuesday, 8 March 2022 10:05:45 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 BG Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	75	6.0	0.077	7.1	LOS A	0.1	0.6	0.02	0.59	0.02	56.1
2	T1	699	1.0	0.742	40.9	LOS C	23.2	140.7	0.89	0.78	0.89	30.6
3	R2	424	1.0	0.742	47.6	LOS D	23.0	139.6	0.89	0.83	0.89	32.7
3u	U	4	0.0	0.742	47.8	LOS D	22.1	133.9	0.89	0.84	0.89	27.2
Approach		1202	1.3	0.742	41.2	LOS C	23.2	140.7	0.83	0.78	0.83	32.5
East: Moores Road (E)												
4	L2	238	0.0	0.193	11.3	LOS A	4.2	25.4	0.35	0.68	0.35	53.7
5	T1	513	0.0	0.616	57.6	LOS E	17.0	102.1	0.96	0.81	0.96	33.4
6	R2	67	0.0	0.680	87.1	LOS F	5.2	31.1	1.00	0.80	1.12	22.2
Approach		818	0.0	0.680	46.6	LOS D	17.0	102.1	0.79	0.77	0.80	35.6
North: Bruce Highway (N)												
7	L2	79	0.0	0.066	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	548	1.0	0.745	34.8	LOS C	24.4	149.6	0.82	0.73	0.82	33.1
9	R2	706	3.0	0.745	41.9	LOS C	24.4	149.6	0.85	0.82	0.85	34.2
Approach		1334	2.0	0.745	36.9	LOS C	24.4	149.6	0.79	0.77	0.79	34.7
West: Bruce Highway (W)												
10	L2	573	2.0	0.733	67.0	LOS E	19.9	121.6	0.99	0.86	1.02	26.3
11	T1	393	1.0	0.475	55.6	LOS D	12.6	76.2	0.93	0.77	0.93	34.0
12	R2	24	0.0	0.244	83.3	LOS F	1.8	10.7	0.99	0.71	0.99	23.5
Approach		989	1.6	0.733	62.9	LOS E	19.9	121.6	0.97	0.82	0.98	29.2
All Vehicles		4343	1.3	0.745	45.8	LOS D	24.4	149.6	0.84	0.79	0.85	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	68.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	50	50.5	LOS E	0.2	0.2	0.82	0.82
P4	West Full Crossing	50	55.6	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	48.1	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.5	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 BG Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

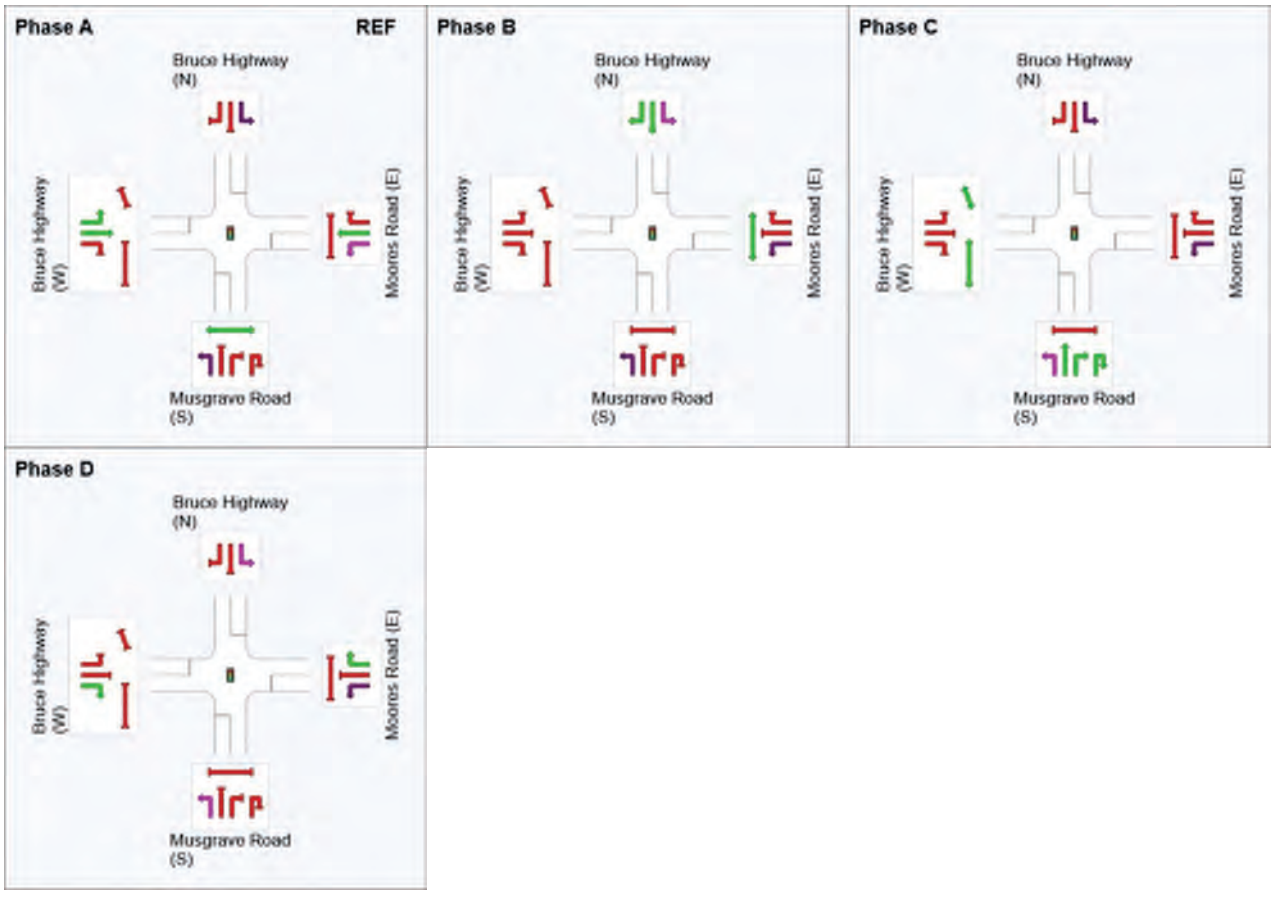
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	38	90	136
Green Time (sec)	32	46	40	8
Phase Time (sec)	38	52	46	14
Phase Split	25%	35%	31%	9%

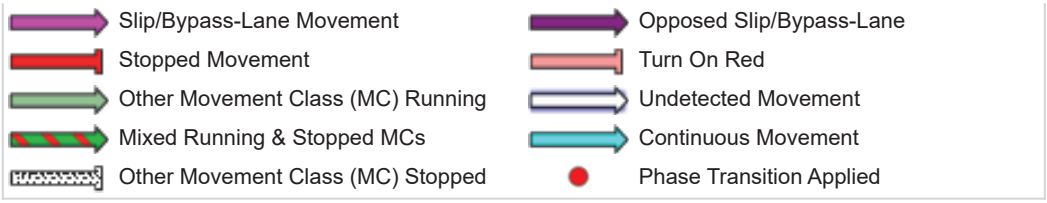
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



Organisation: CARDNO PTY LTD | Processed: Tuesday, 8 March 2022 10:05:46 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 BG Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	42	0.0	0.039	7.0	LOS A	0.1	0.3	0.02	0.59	0.02	58.1
2	T1	596	1.0	0.789	41.5	LOS C	26.3	159.3	0.91	0.82	0.93	30.1
3	R2	628	0.0	0.789	48.2	LOS D	25.7	154.9	0.91	0.85	0.93	32.7
3u	U	2	0.0	0.789	48.4	LOS D	25.2	151.4	0.91	0.86	0.93	27.0
Approach		1268	0.5	0.789	43.7	LOS D	26.3	159.3	0.88	0.82	0.90	32.1
East: Moores Road (E)												
4	L2	182	0.0	0.141	10.6	LOS A	2.9	17.5	0.32	0.67	0.32	54.4
5	T1	467	1.0	0.464	50.0	LOS D	14.3	86.8	0.89	0.75	0.89	35.9
6	R2	63	0.0	0.729	89.3	LOS F	4.9	29.7	1.00	0.81	1.18	21.9
Approach		713	0.7	0.729	43.4	LOS D	14.3	86.8	0.76	0.74	0.77	36.9
North: Bruce Highway (N)												
7	L2	117	1.0	0.122	9.5	LOS A	0.8	4.7	0.11	0.61	0.11	54.7
8	T1	425	4.0	0.779	42.7	LOS D	23.2	147.1	0.88	0.78	0.90	29.7
9	R2	651	6.0	0.779	50.1	LOS D	23.2	147.1	0.91	0.85	0.93	30.8
Approach		1193	4.8	0.779	43.5	LOS D	23.2	147.1	0.82	0.80	0.84	32.0
West: Bruce Highway (W)												
10	L2	654	4.0	0.717	60.6	LOS E	21.6	134.9	0.96	0.85	0.96	27.8
11	T1	805	1.0	0.799	58.2	LOS E	28.4	172.0	1.00	0.90	1.05	33.2
12	R2	20	0.0	0.231	84.7	LOS F	1.5	8.9	0.99	0.70	0.99	23.2
Approach		1479	2.3	0.799	59.6	LOS E	28.4	172.0	0.98	0.88	1.01	30.8
All Vehicles		4653	2.2	0.799	48.7	LOS D	28.4	172.0	0.88	0.82	0.90	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	61.8	LOS F	0.2	0.2	0.91	0.91
P2	East Full Crossing	50	56.5	LOS E	0.2	0.2	0.87	0.87
P4	West Full Crossing	50	54.7	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.0	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 BG Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

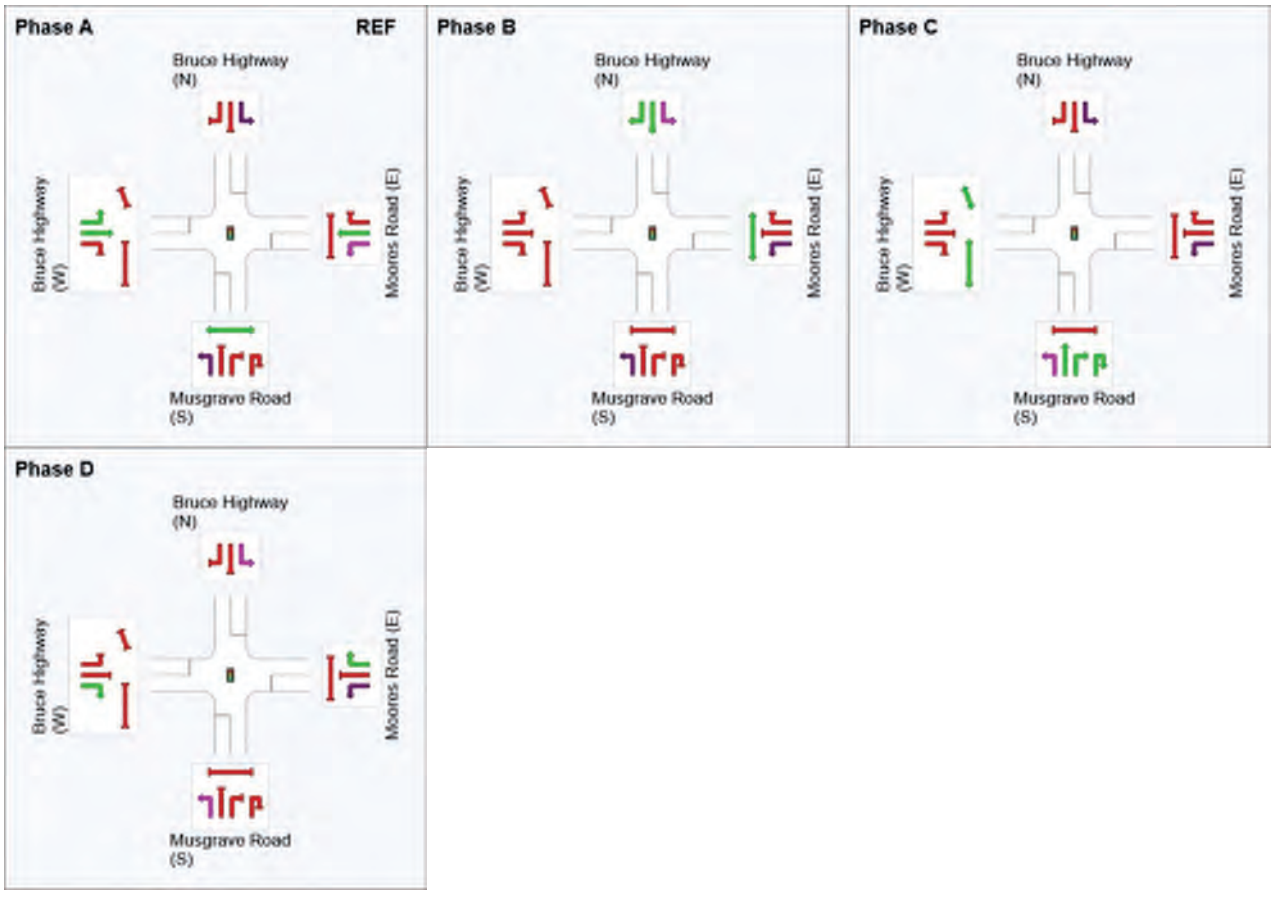
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	45	90	137
Green Time (sec)	39	39	41	7
Phase Time (sec)	45	45	47	13
Phase Split	30%	30%	31%	9%

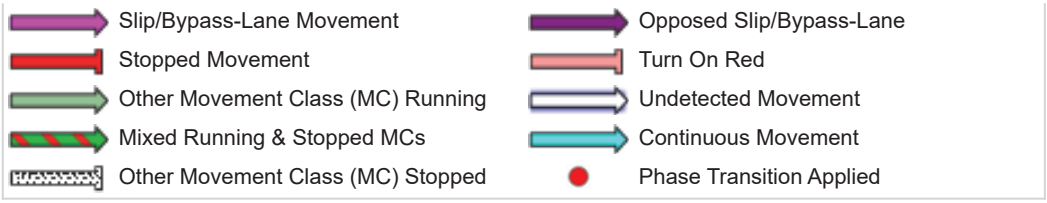
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



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Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 DEV Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	75	6.0	0.078	7.2	LOS A	0.1	0.7	0.03	0.59	0.03	56.1
2	T1	706	1.0	0.751	41.2	LOS C	23.7	143.6	0.89	0.78	0.90	30.5
3	R2	431	1.0	0.751	47.9	LOS D	23.5	142.4	0.89	0.83	0.90	32.6
3u	U	4	0.0	0.751	48.1	LOS D	22.6	136.7	0.89	0.84	0.90	27.1
Approach		1216	1.3	0.751	41.5	LOS C	23.7	143.6	0.84	0.79	0.84	32.4
East: Moores Road (E)												
4	L2	238	0.0	0.193	11.3	LOS A	4.2	25.4	0.35	0.68	0.35	53.7
5	T1	514	0.0	0.617	57.6	LOS E	17.1	102.4	0.96	0.81	0.96	33.4
6	R2	68	0.0	0.691	87.3	LOS F	5.3	31.7	1.00	0.80	1.13	22.2
Approach		820	0.0	0.691	46.7	LOS D	17.1	102.4	0.79	0.77	0.80	35.6
North: Bruce Highway (N)												
7	L2	79	0.0	0.067	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	549	1.0	0.747	34.8	LOS C	24.5	150.2	0.82	0.74	0.82	33.1
9	R2	708	3.0	0.747	41.9	LOS C	24.5	150.2	0.85	0.82	0.85	34.2
Approach		1337	2.0	0.747	36.9	LOS C	24.5	150.2	0.79	0.77	0.79	34.7
West: Bruce Highway (W)												
10	L2	573	2.0	0.733	67.0	LOS E	19.9	121.6	0.99	0.86	1.02	26.3
11	T1	393	1.0	0.475	55.6	LOS D	12.6	76.2	0.93	0.77	0.93	34.0
12	R2	24	0.0	0.244	83.3	LOS F	1.8	10.7	0.99	0.71	0.99	23.5
Approach		989	1.6	0.733	62.9	LOS E	19.9	121.6	0.97	0.82	0.98	29.2
All Vehicles		4362	1.3	0.751	45.9	LOS D	24.5	150.2	0.84	0.79	0.85	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	68.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	50	50.5	LOS E	0.2	0.2	0.82	0.82
P4	West Full Crossing	50	55.6	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	48.1	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.5	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 DEV Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

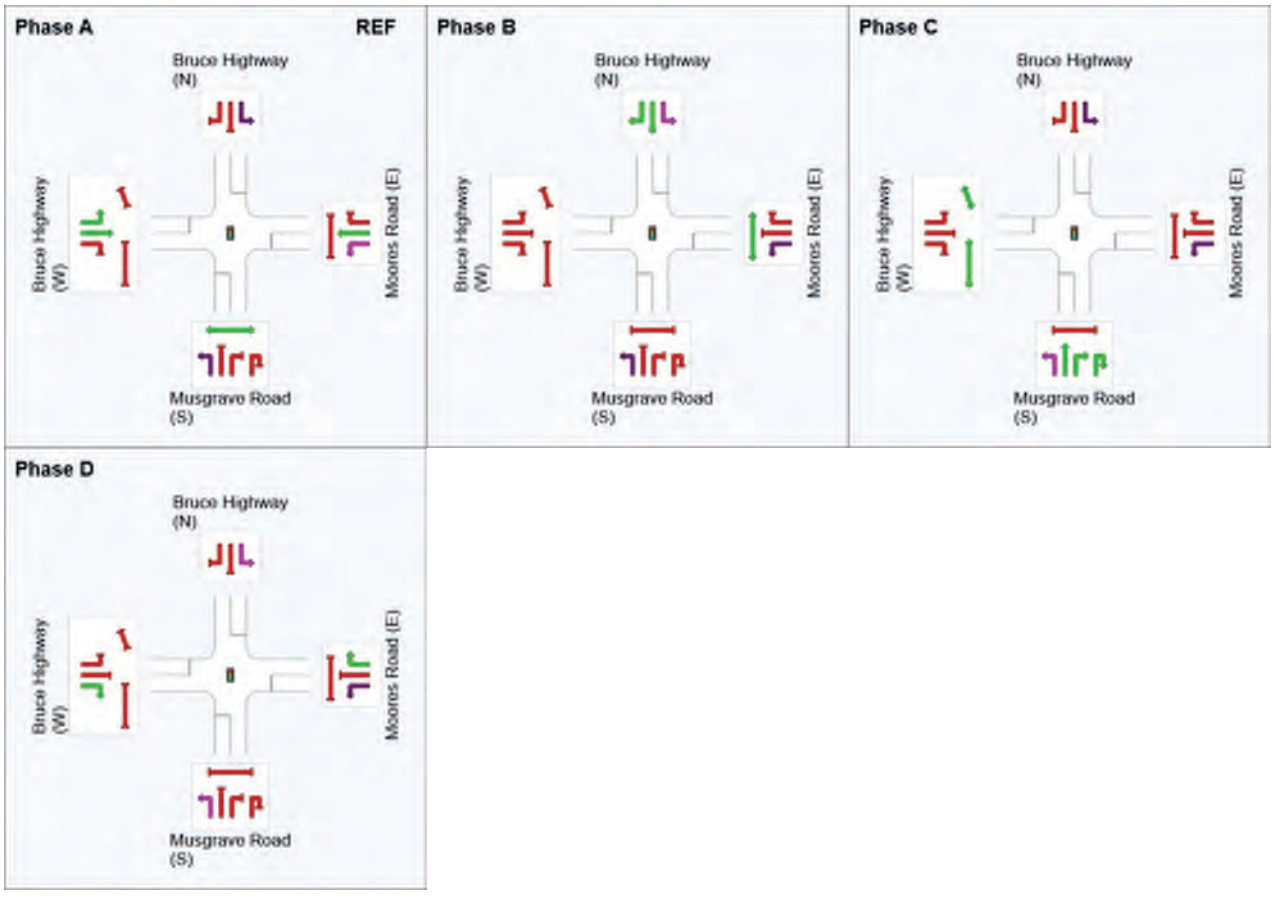
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	38	90	136
Green Time (sec)	32	46	40	8
Phase Time (sec)	38	52	46	14
Phase Split	25%	35%	31%	9%

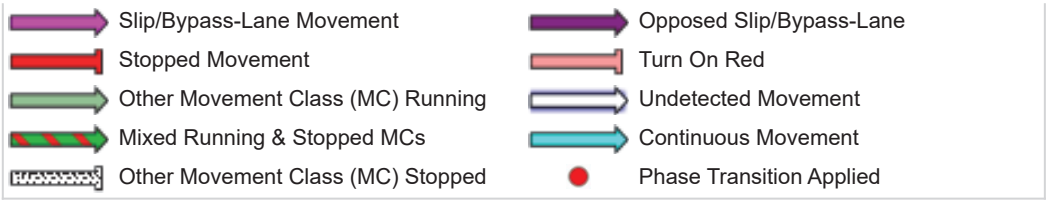
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



Organisation: CARDNO PTY LTD | Processed: Tuesday, 8 March 2022 10:05:46 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 DEV Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	42	0.0	0.039	7.0	LOS A	0.1	0.3	0.02	0.59	0.02	58.1
2	T1	601	1.0	0.796	41.8	LOS C	26.7	161.5	0.91	0.82	0.93	30.0
3	R2	633	0.0	0.796	48.4	LOS D	26.1	157.1	0.91	0.85	0.94	32.6
3u	U	2	0.0	0.796	48.7	LOS D	25.6	153.6	0.91	0.86	0.94	27.0
Approach		1278	0.5	0.796	43.9	LOS D	26.7	161.5	0.88	0.83	0.91	32.0
East: Moores Road (E)												
4	L2	183	0.0	0.142	10.6	LOS A	2.9	17.6	0.32	0.67	0.32	54.4
5	T1	468	1.0	0.465	50.0	LOS D	14.4	87.0	0.89	0.75	0.89	35.9
6	R2	64	0.0	0.741	89.5	LOS F	5.0	30.3	1.00	0.82	1.20	21.8
Approach		716	0.7	0.741	43.5	LOS D	14.4	87.0	0.76	0.74	0.78	36.9
North: Bruce Highway (N)												
7	L2	117	1.0	0.123	9.5	LOS A	0.8	4.7	0.11	0.61	0.11	54.7
8	T1	426	4.0	0.781	42.7	LOS D	23.3	147.6	0.88	0.78	0.90	29.7
9	R2	652	6.0	0.781	50.2	LOS D	23.3	147.6	0.91	0.85	0.94	30.8
Approach		1195	4.8	0.781	43.5	LOS D	23.3	147.6	0.82	0.80	0.84	31.9
West: Bruce Highway (W)												
10	L2	654	4.0	0.717	60.6	LOS E	21.6	134.9	0.96	0.85	0.96	27.8
11	T1	805	1.0	0.799	58.2	LOS E	28.4	172.0	1.00	0.90	1.05	33.2
12	R2	20	0.0	0.231	84.7	LOS F	1.5	8.9	0.99	0.70	0.99	23.2
Approach		1479	2.3	0.799	59.6	LOS E	28.4	172.0	0.98	0.88	1.01	30.8
All Vehicles		4667	2.2	0.799	48.7	LOS D	28.4	172.0	0.88	0.82	0.90	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	61.8	LOS F	0.2	0.2	0.91	0.91
P2	East Full Crossing	50	56.5	LOS E	0.2	0.2	0.87	0.87
P4	West Full Crossing	50	54.7	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.0	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 DEV Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

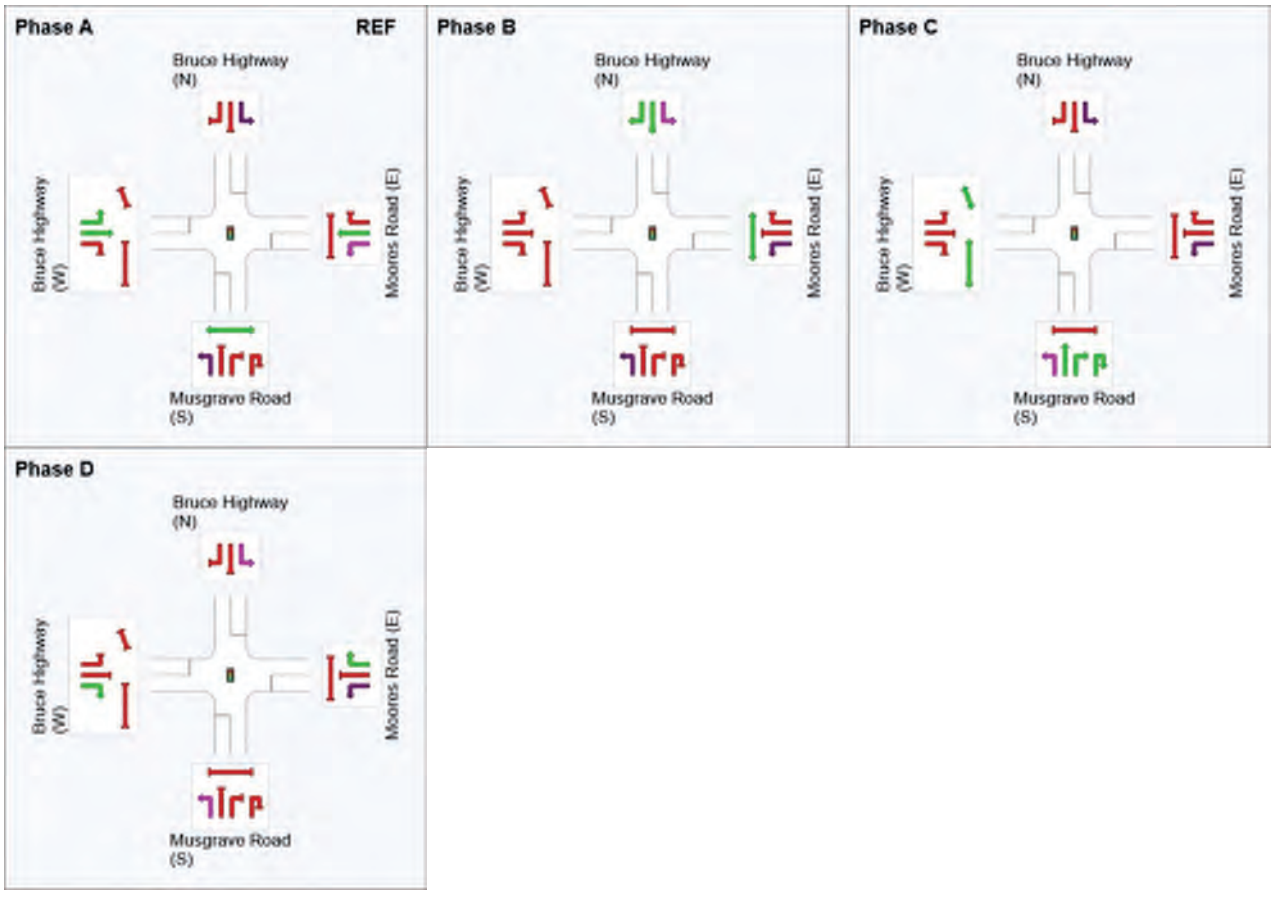
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	45	90	137
Green Time (sec)	39	39	41	7
Phase Time (sec)	45	45	47	13
Phase Split	30%	30%	31%	9%

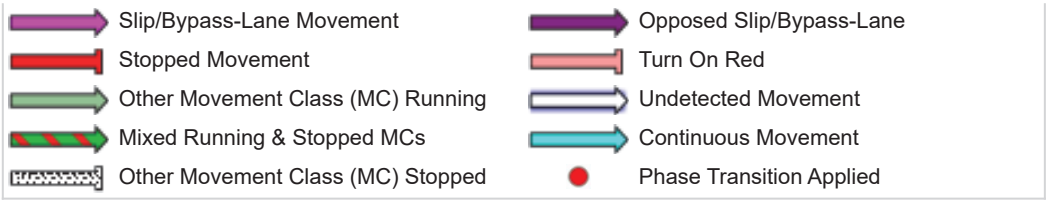
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



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Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 APRV Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	75	6.0	0.078	7.2	LOS A	0.1	0.7	0.03	0.59	0.03	56.1
2	T1	727	1.0	0.757	40.4	LOS C	24.4	147.9	0.89	0.78	0.89	30.8
3	R2	447	1.0	0.757	47.1	LOS D	24.2	146.7	0.89	0.83	0.90	32.9
3u	U	4	0.0	0.757	47.3	LOS D	23.2	140.8	0.89	0.84	0.90	27.4
Approach		1254	1.3	0.757	40.8	LOS C	24.4	147.9	0.84	0.79	0.84	32.7
East: Moores Road (E)												
4	L2	239	0.0	0.194	11.3	LOS A	4.3	25.5	0.35	0.68	0.35	53.7
5	T1	518	0.0	0.643	58.8	LOS E	17.4	104.4	0.97	0.82	0.97	33.1
6	R2	72	0.0	0.723	87.9	LOS F	5.6	33.4	1.00	0.82	1.16	22.1
Approach		828	0.0	0.723	47.6	LOS D	17.4	104.4	0.80	0.78	0.81	35.2
North: Bruce Highway (N)												
7	L2	79	0.0	0.067	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.7
8	T1	554	1.0	0.752	34.9	LOS C	24.7	152.0	0.83	0.74	0.83	33.1
9	R2	713	3.0	0.752	42.0	LOS C	24.7	152.0	0.85	0.82	0.85	34.1
Approach		1345	2.0	0.752	37.0	LOS C	24.7	152.0	0.79	0.78	0.79	34.7
West: Bruce Highway (W)												
10	L2	573	2.0	0.757	68.9	LOS E	20.3	124.0	1.00	0.87	1.05	25.9
11	T1	393	1.0	0.490	56.6	LOS E	12.7	77.0	0.93	0.78	0.93	33.7
12	R2	24	0.0	0.244	83.3	LOS F	1.8	10.7	0.99	0.71	0.99	23.5
Approach		989	1.6	0.757	64.4	LOS E	20.3	124.0	0.97	0.83	1.00	28.8
All Vehicles		4417	1.3	0.757	46.2	LOS D	24.7	152.0	0.85	0.79	0.86	32.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	69.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	50	50.5	LOS E	0.2	0.2	0.82	0.82
P4	West Full Crossing	50	54.7	LOS E	0.2	0.2	0.86	0.86
P4S	West Slip/Bypass Lane Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		203	55.4	LOS E			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 APRV Saturday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

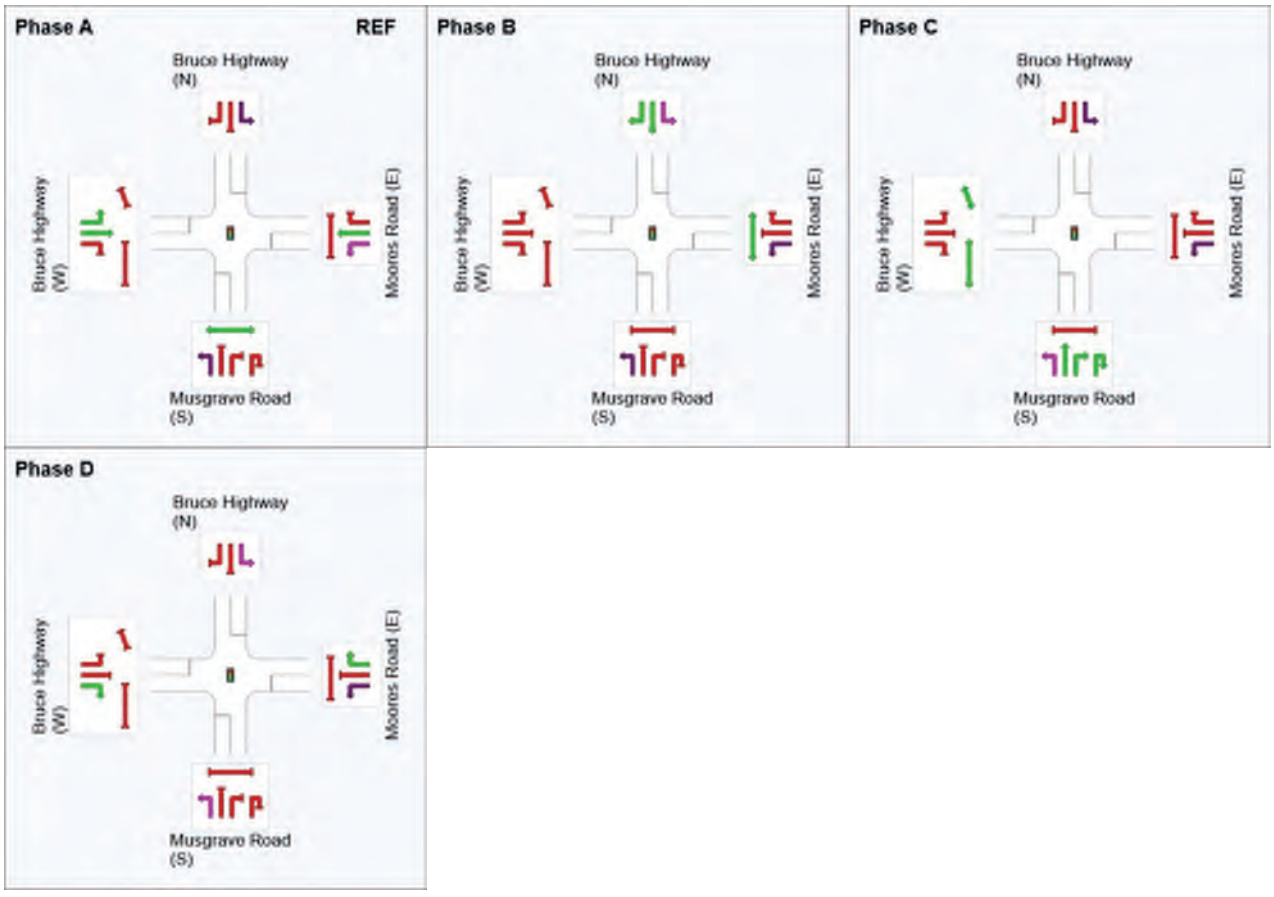
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	37	89	136
Green Time (sec)	31	46	41	8
Phase Time (sec)	37	52	47	14
Phase Split	25%	35%	31%	9%

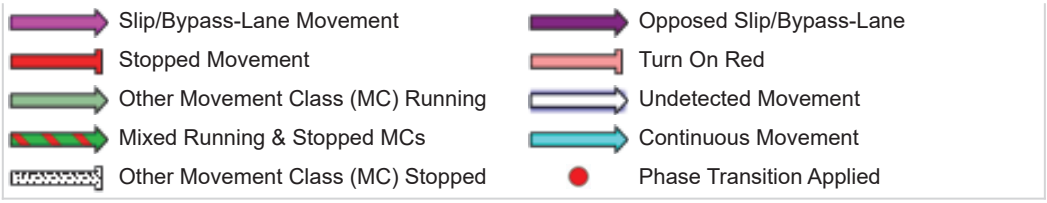
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed



Organisation: CARDNO PTY LTD | Processed: Wednesday, 9 March 2022 9:06:26 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

MOVEMENT SUMMARY

Site: 1 [2024 APRV Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Road (S)												
1	L2	42	0.0	0.039	7.0	LOS A	0.1	0.3	0.02	0.59	0.02	58.1
2	T1	620	1.0	0.798	40.9	LOS C	27.3	165.3	0.91	0.82	0.93	30.4
3	R2	648	0.0	0.798	47.6	LOS D	26.7	160.8	0.91	0.85	0.93	32.9
3u	U	2	0.0	0.798	47.8	LOS D	26.2	157.1	0.91	0.86	0.93	27.2
Approach		1313	0.5	0.798	43.1	LOS D	27.3	165.3	0.88	0.83	0.90	32.3
East: Moores Road (E)												
4	L2	183	0.0	0.142	10.6	LOS A	2.9	17.6	0.32	0.67	0.32	54.4
5	T1	472	1.0	0.468	50.1	LOS D	14.5	87.7	0.90	0.75	0.90	35.9
6	R2	66	0.0	0.765	90.1	LOS F	5.2	31.4	1.00	0.83	1.23	21.7
Approach		721	0.7	0.765	43.7	LOS D	14.5	87.7	0.76	0.74	0.78	36.8
North: Bruce Highway (N)												
7	L2	117	1.0	0.124	9.9	LOS A	0.9	5.3	0.12	0.61	0.12	54.3
8	T1	429	4.0	0.807	44.8	LOS D	24.3	153.8	0.90	0.81	0.94	28.9
9	R2	655	6.0	0.807	52.3	LOS D	24.3	153.8	0.94	0.86	0.97	30.1
Approach		1201	4.8	0.807	45.5	LOS D	24.3	153.8	0.84	0.82	0.88	31.2
West: Bruce Highway (W)												
10	L2	655	4.0	0.720	60.6	LOS E	21.7	135.1	0.96	0.85	0.96	27.8
11	T1	805	1.0	0.799	58.2	LOS E	28.4	172.0	1.00	0.90	1.05	33.2
12	R2	20	0.0	0.231	84.7	LOS F	1.5	8.9	0.99	0.70	0.99	23.2
Approach		1480	2.3	0.799	59.6	LOS E	28.4	172.0	0.98	0.88	1.01	30.8
All Vehicles		4715	2.2	0.807	49.0	LOS D	28.4	172.0	0.89	0.83	0.91	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	50	61.8	LOS F	0.2	0.2	0.91	0.91
P2	East Full Crossing	50	57.3	LOS E	0.2	0.2	0.88	0.88
P4	West Full Crossing	50	53.9	LOS E	0.2	0.2	0.85	0.85
P4S	West Slip/Bypass Lane Crossing	53	46.5	LOS E	0.2	0.2	0.79	0.79
All Pedestrians		203	54.8	LOS E			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: 1 [2024 APRV Thursday Peak]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Scenario: 2017 AM
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

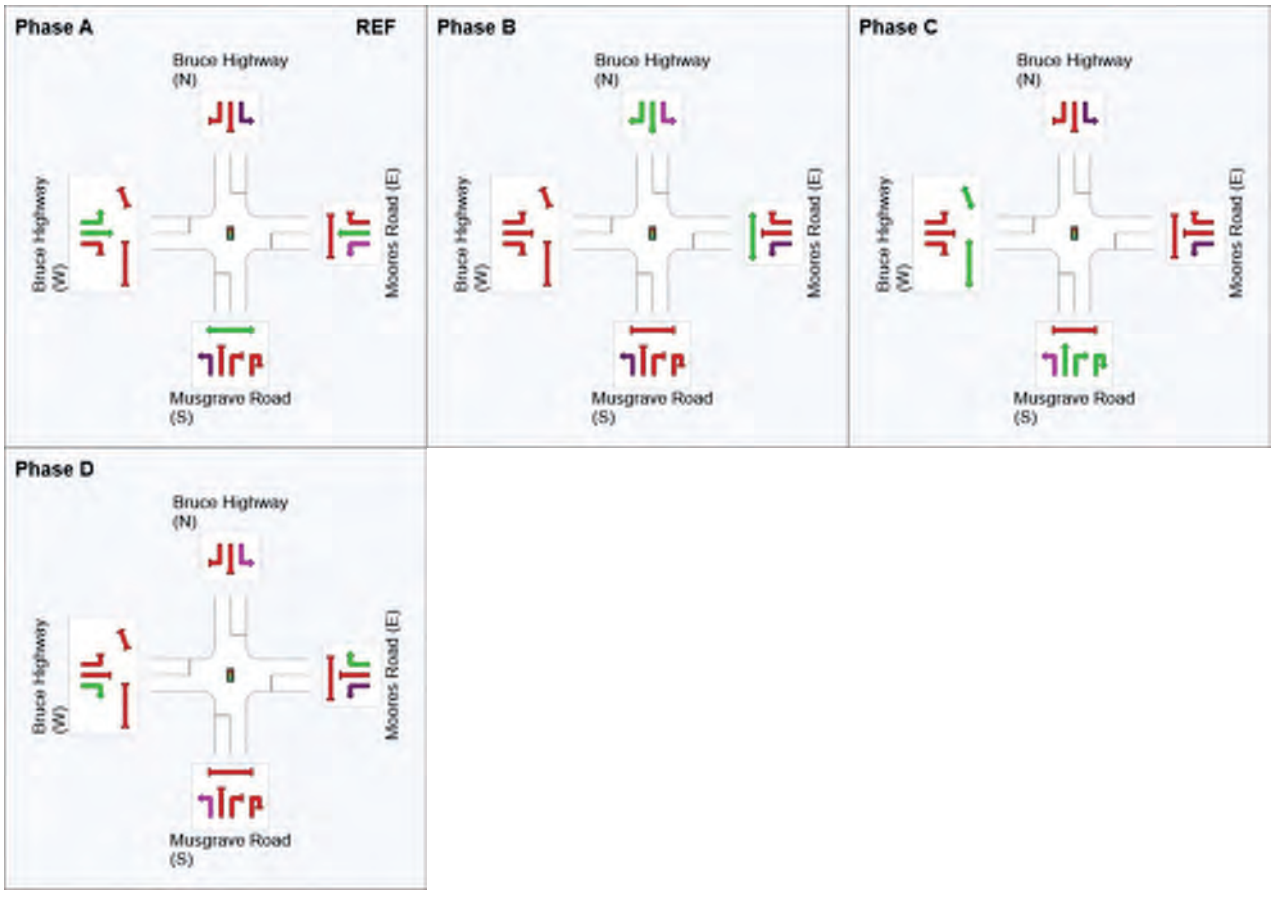
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	45	89	137
Green Time (sec)	39	38	42	7
Phase Time (sec)	45	44	48	13
Phase Split	30%	29%	32%	9%

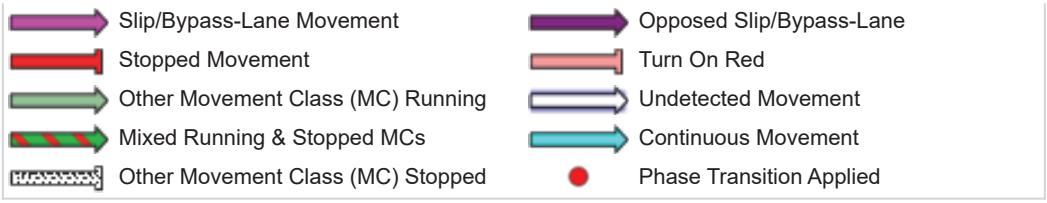
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement Permitted/Opposed

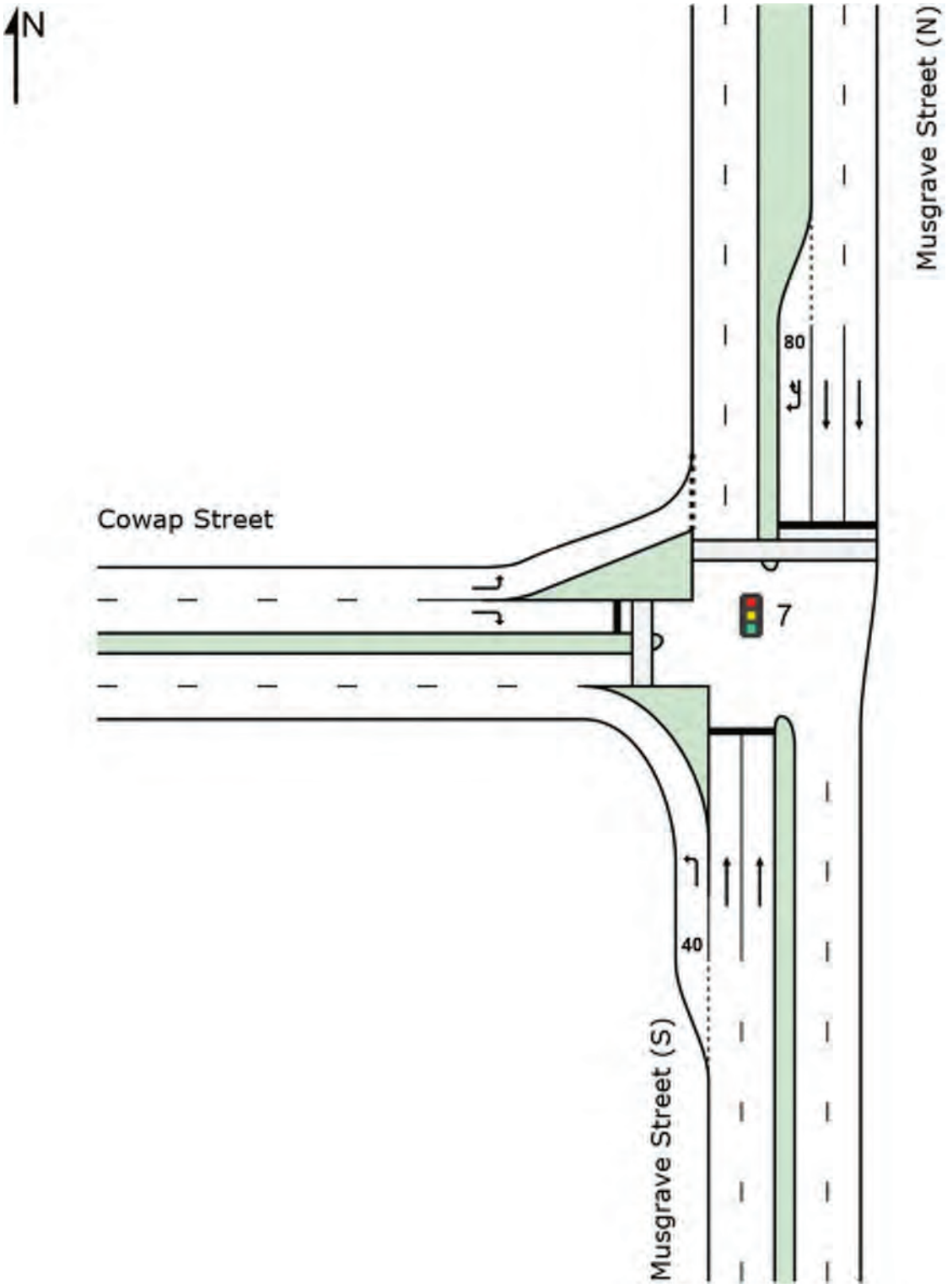


Organisation: CARDNO PTY LTD | Processed: Wednesday, 9 March 2022 9:06:26 AM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\1) Musgrave Rd-Bruce Hwy.sip8

SITE LAYOUT

Site: 7 [2022 BG Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 7 [2022 BG Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	111	0.0	0.060	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	827	1.0	0.520	15.8	LOS B	12.6	76.3	0.51	0.45	0.51	40.4
Approach		938	0.9	0.520	14.6	LOS B	12.6	76.3	0.45	0.46	0.45	40.4
North: Musgrave Street (N)												
8	T1	582	1.0	0.206	0.4	LOS A	0.4	2.7	0.03	0.02	0.03	59.2
9	R2	246	0.0	0.356	6.1	LOS A	0.4	2.2	0.04	0.59	0.04	45.9
9u	U	6	0.0	0.356	7.2	LOS A	0.4	2.2	0.04	0.59	0.04	49.6
Approach		834	0.7	0.356	2.1	LOS A	0.4	2.7	0.03	0.20	0.03	55.5
West: Cowap Street												
10	L2	192	0.0	0.180	3.4	LOS A	2.1	12.6	0.24	0.38	0.24	44.5
12	R2	101	0.0	0.307	52.4	LOS D	5.6	33.8	0.91	0.75	0.91	12.8
Approach		293	0.0	0.307	20.3	LOS B	5.6	33.8	0.47	0.51	0.47	27.1
All Vehicles		2065	0.7	0.520	10.4	LOS A	12.6	76.3	0.28	0.36	0.28	43.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	27.8	LOS C	0.1	0.1	0.66	0.66
All Pedestrians		100	43.6	LOS E			0.81	0.81

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.

PHASING SUMMARY

Site: 7 [2022 BG Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

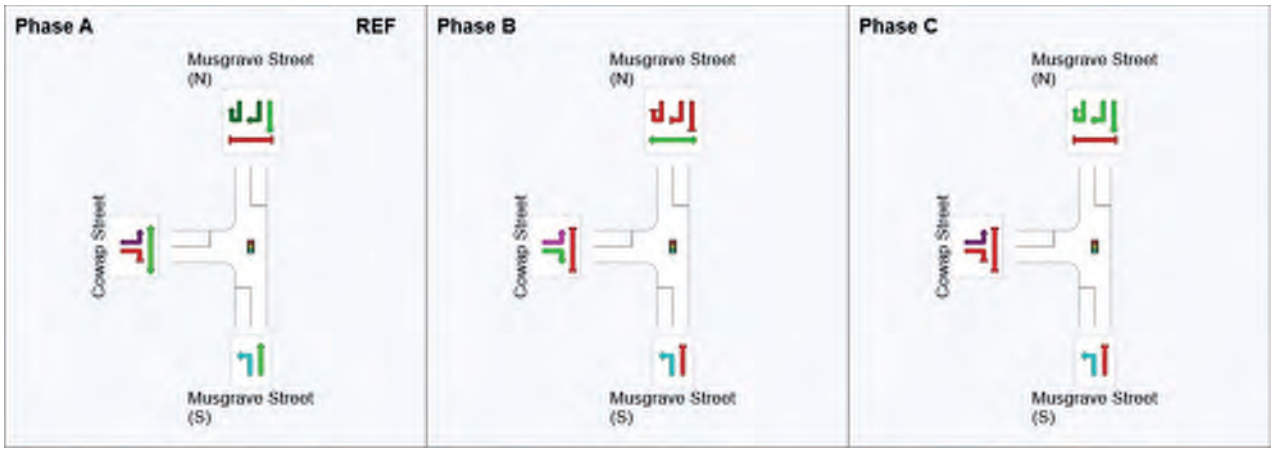
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	60	89
Green Time (sec)	54	23	35
Phase Time (sec)	60	29	41
Phase Split	46%	22%	32%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2022 BG Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	85	0.0	0.046	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	911	1.0	0.419	2.5	LOS A	3.0	18.0	0.11	0.10	0.11	55.7
Approach		996	0.9	0.419	2.8	LOS A	3.0	18.0	0.10	0.14	0.10	54.9
North: Musgrave Street (N)												
8	T1	454	3.0	0.162	0.4	LOS A	0.3	2.1	0.03	0.02	0.03	59.2
9	R2	92	0.0	0.179	5.9	LOS A	0.1	0.6	0.02	0.58	0.02	46.2
9u	U	1	0.0	0.179	7.1	LOS A	0.1	0.6	0.02	0.58	0.02	49.8
Approach		547	2.5	0.179	1.3	LOS A	0.3	2.1	0.03	0.12	0.03	57.2
West: Cowap Street												
10	L2	183	0.0	0.177	2.1	LOS A	1.1	6.5	0.15	0.33	0.15	46.4
12	R2	80	0.0	0.243	51.7	LOS D	4.4	26.4	0.90	0.73	0.90	12.9
Approach		263	0.0	0.243	17.2	LOS B	4.4	26.4	0.38	0.45	0.38	29.3
All Vehicles		1806	1.3	0.419	4.4	LOS A	4.4	26.4	0.12	0.18	0.12	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	16.8	LOS B	0.1	0.1	0.51	0.51
All Pedestrians		100	38.0	LOS D			0.73	0.73

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.

PHASING SUMMARY

Site: 7 [2022 BG Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

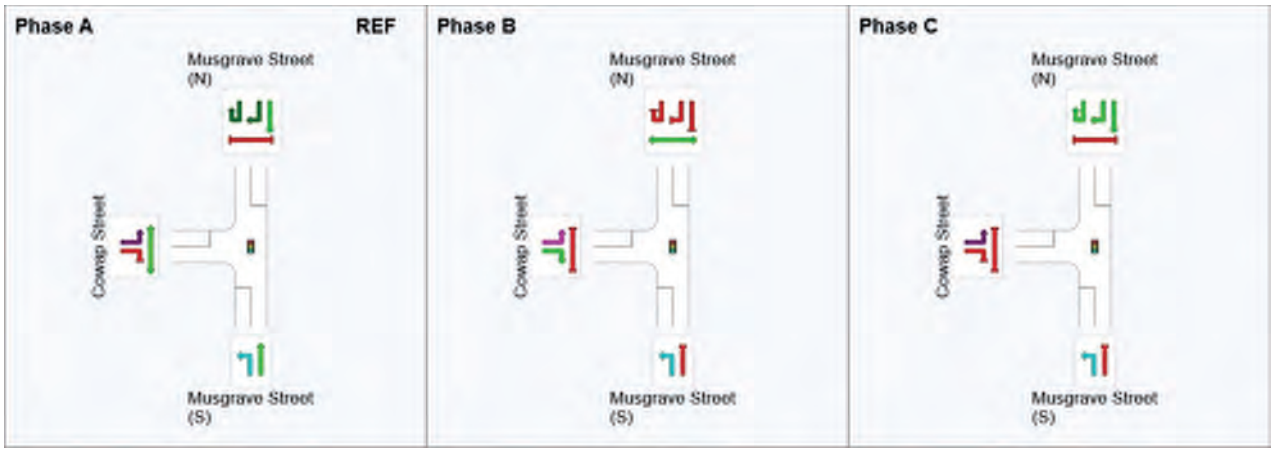
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 BG Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	111	0.0	0.060	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	843	1.0	0.519	15.0	LOS B	12.4	75.1	0.50	0.44	0.50	41.0
Approach		954	0.9	0.519	13.9	LOS A	12.4	75.1	0.44	0.45	0.44	41.1
North: Musgrave Street (N)												
8	T1	593	1.0	0.209	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	246	0.0	0.364	6.1	LOS A	0.4	2.2	0.04	0.59	0.04	45.9
9u	U	6	0.0	0.364	7.2	LOS A	0.4	2.2	0.04	0.59	0.04	49.6
Approach		845	0.7	0.364	2.1	LOS A	0.5	2.8	0.03	0.19	0.03	55.5
West: Cowap Street												
10	L2	192	0.0	0.182	3.4	LOS A	2.1	12.7	0.24	0.38	0.24	44.5
12	R2	101	0.0	0.307	52.4	LOS D	5.6	33.8	0.91	0.75	0.91	12.8
Approach		293	0.0	0.307	20.3	LOS B	5.6	33.8	0.47	0.51	0.47	27.1
All Vehicles		2092	0.7	0.519	10.0	LOS A	12.4	75.1	0.28	0.35	0.28	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	27.2	LOS C	0.1	0.1	0.65	0.65
All Pedestrians		100	43.2	LOS E			0.80	0.80

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.

PHASING SUMMARY

Site: 7 [2024 BG Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

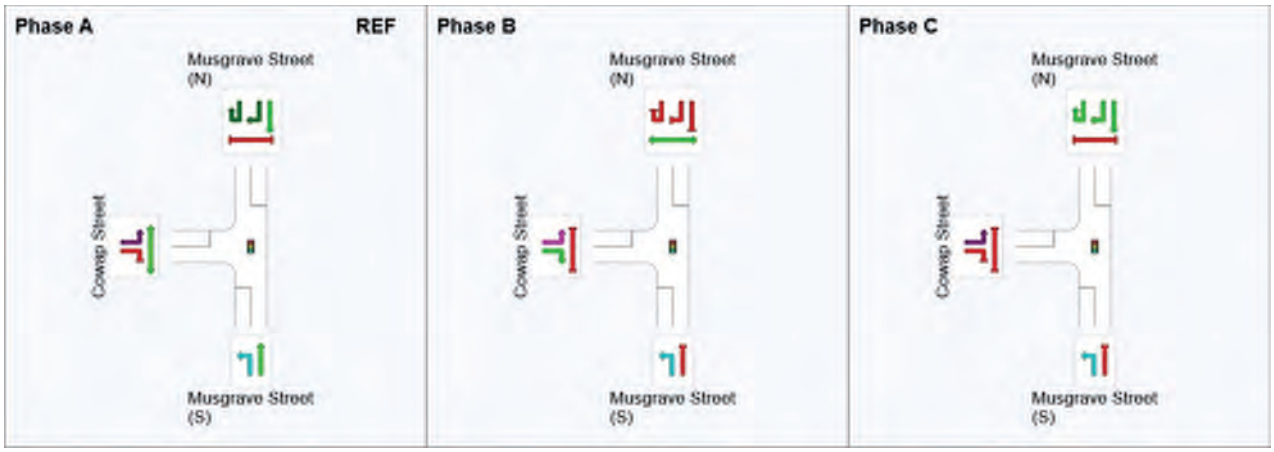
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	61	90
Green Time (sec)	55	23	34
Phase Time (sec)	61	29	40
Phase Split	47%	22%	31%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 BG Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	85	0.0	0.046	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	929	1.0	0.421	2.0	LOS A	2.5	14.9	0.09	0.08	0.09	56.5
Approach		1014	0.9	0.421	2.3	LOS A	2.5	14.9	0.08	0.12	0.08	55.7
North: Musgrave Street (N)												
8	T1	462	3.0	0.165	0.4	LOS A	0.3	2.1	0.03	0.02	0.03	59.2
9	R2	92	0.0	0.186	5.9	LOS A	0.1	0.6	0.02	0.58	0.02	46.2
9u	U	1	0.0	0.186	7.1	LOS A	0.1	0.6	0.02	0.58	0.02	49.8
Approach		555	2.5	0.186	1.3	LOS A	0.3	2.1	0.03	0.12	0.03	57.2
West: Cowap Street												
10	L2	183	0.0	0.179	2.1	LOS A	1.1	6.5	0.15	0.33	0.15	46.4
12	R2	80	0.0	0.243	51.7	LOS D	4.4	26.4	0.90	0.73	0.90	12.9
Approach		263	0.0	0.243	17.2	LOS B	4.4	26.4	0.38	0.45	0.38	29.3
All Vehicles		1832	1.3	0.421	4.1	LOS A	4.4	26.4	0.11	0.17	0.11	51.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	16.3	LOS B	0.1	0.1	0.50	0.50
All Pedestrians		100	37.8	LOS D			0.73	0.73

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.

PHASING SUMMARY

Site: 7 [2024 BG Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

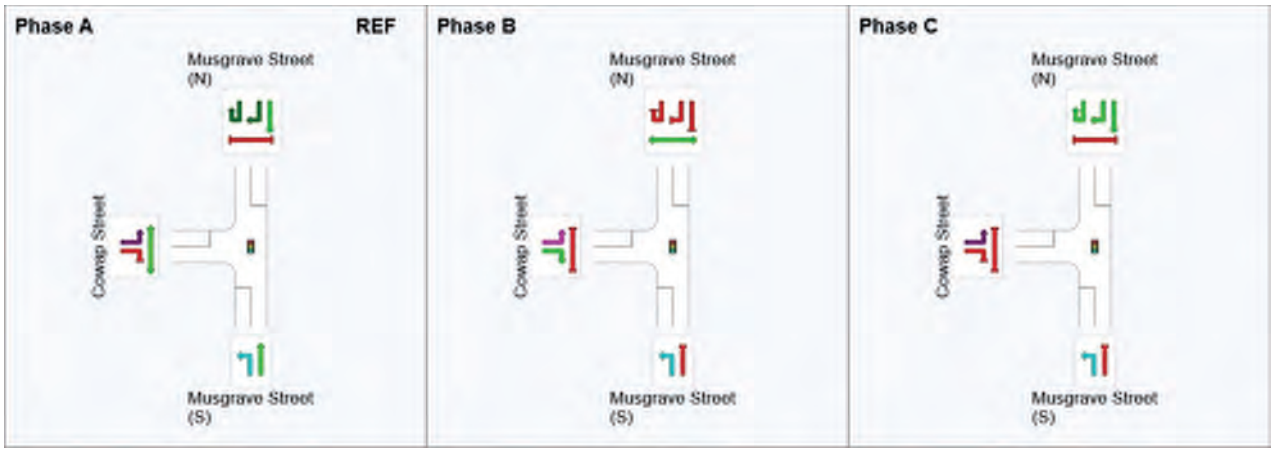
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	80	109
Green Time (sec)	74	23	15
Phase Time (sec)	80	29	21
Phase Split	62%	22%	16%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 W Dev Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	112	0.0	0.060	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	853	1.0	0.526	15.1	LOS B	12.7	76.8	0.50	0.44	0.50	41.0
Approach		965	0.9	0.526	14.0	LOS A	12.7	76.8	0.44	0.45	0.44	41.0
North: Musgrave Street (N)												
8	T1	593	1.0	0.209	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	248	0.0	0.367	6.1	LOS A	0.4	2.3	0.04	0.59	0.04	45.9
9u	U	6	0.0	0.367	7.2	LOS A	0.4	2.3	0.04	0.59	0.04	49.6
Approach		847	0.7	0.367	2.1	LOS A	0.5	2.8	0.03	0.19	0.03	55.5
West: Cowap Street												
10	L2	194	0.0	0.185	3.4	LOS A	2.1	12.9	0.24	0.39	0.24	44.5
12	R2	102	0.0	0.310	52.4	LOS D	5.7	34.1	0.91	0.75	0.91	12.8
Approach		296	0.0	0.310	20.3	LOS B	5.7	34.1	0.47	0.51	0.47	27.1
All Vehicles		2108	0.7	0.526	10.1	LOS A	12.7	76.8	0.28	0.36	0.28	43.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	27.2	LOS C	0.1	0.1	0.65	0.65
All Pedestrians		100	43.2	LOS E			0.80	0.80

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.

PHASING SUMMARY

Site: 7 [2024 W Dev Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

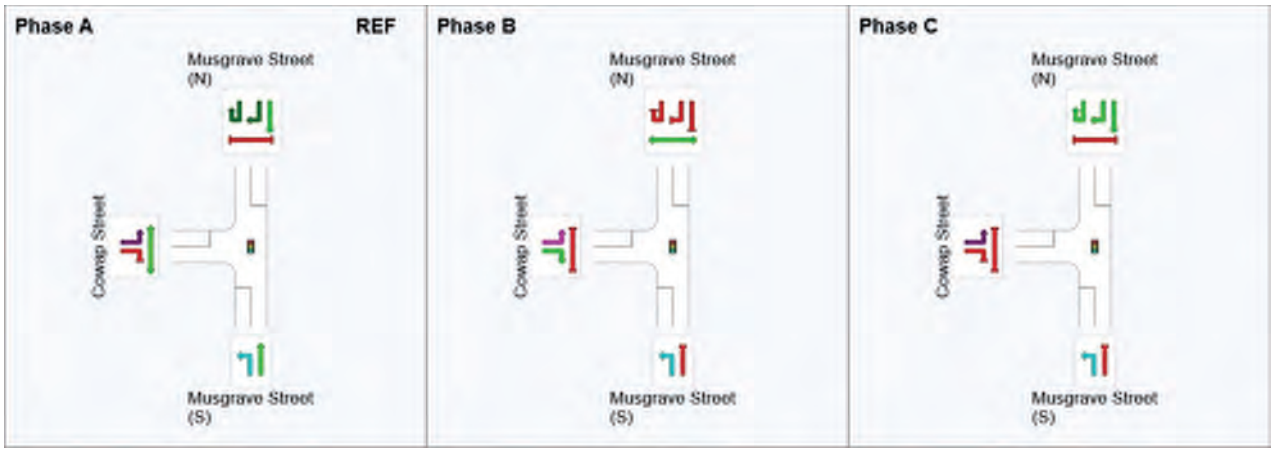
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	61	90
Green Time (sec)	55	23	34
Phase Time (sec)	61	29	40
Phase Split	47%	22%	31%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 W Dev Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	86	0.0	0.046	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	937	1.0	0.431	2.5	LOS A	3.1	18.9	0.12	0.10	0.12	55.7
Approach		1023	0.9	0.431	2.8	LOS A	3.1	18.9	0.11	0.14	0.11	54.8
North: Musgrave Street (N)												
8	T1	463	3.0	0.166	0.4	LOS A	0.3	2.1	0.03	0.02	0.03	59.2
9	R2	94	0.0	0.186	5.9	LOS A	0.1	0.7	0.02	0.58	0.02	46.2
9u	U	1	0.0	0.186	7.1	LOS A	0.1	0.7	0.02	0.58	0.02	49.8
Approach		558	2.5	0.186	1.3	LOS A	0.3	2.1	0.03	0.12	0.03	57.2
West: Cowap Street												
10	L2	185	0.0	0.181	2.1	LOS A	1.1	6.6	0.16	0.33	0.16	46.4
12	R2	81	0.0	0.247	51.7	LOS D	4.5	26.7	0.90	0.74	0.90	12.9
Approach		266	0.0	0.247	17.2	LOS B	4.5	26.7	0.38	0.45	0.38	29.2
All Vehicles		1847	1.3	0.431	4.4	LOS A	4.5	26.7	0.12	0.18	0.12	51.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	16.8	LOS B	0.1	0.1	0.51	0.51
All Pedestrians		100	38.0	LOS D			0.73	0.73

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.

PHASING SUMMARY

Site: 7 [2024 W Dev Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

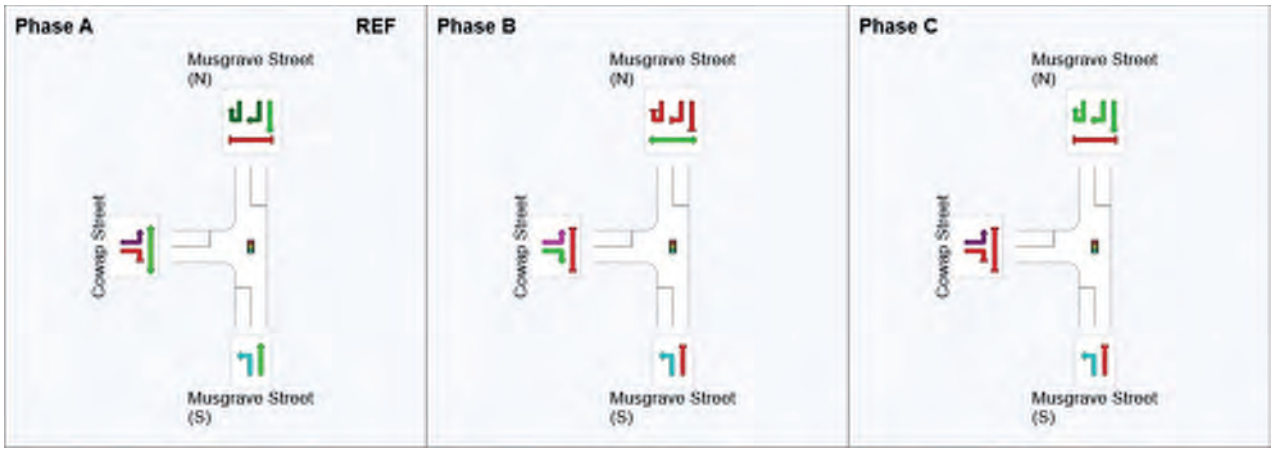
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 W Aprv Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	115	0.0	0.062	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	883	1.0	0.549	15.2	LOS B	13.6	82.2	0.51	0.45	0.51	40.9
Approach		998	0.9	0.549	14.1	LOS A	13.6	82.2	0.45	0.46	0.45	40.9
North: Musgrave Street (N)												
8	T1	595	1.0	0.210	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	254	0.0	0.382	6.3	LOS A	0.6	3.5	0.07	0.60	0.07	45.5
9u	U	6	0.0	0.382	7.5	LOS A	0.6	3.5	0.07	0.60	0.07	49.3
Approach		855	0.7	0.382	2.2	LOS A	0.6	3.5	0.04	0.20	0.04	55.3
West: Cowap Street												
10	L2	200	0.0	0.195	3.6	LOS A	2.4	14.1	0.25	0.39	0.25	44.2
12	R2	105	0.0	0.320	52.5	LOS D	5.9	35.2	0.92	0.75	0.92	12.8
Approach		305	0.0	0.320	20.5	LOS B	5.9	35.2	0.48	0.52	0.48	27.0
All Vehicles		2158	0.7	0.549	10.3	LOS A	13.6	82.2	0.29	0.36	0.29	43.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	27.2	LOS C	0.1	0.1	0.65	0.65
All Pedestrians		100	43.2	LOS E			0.80	0.80

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.

PHASING SUMMARY

Site: 7 [2024 W Aprv Saturday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

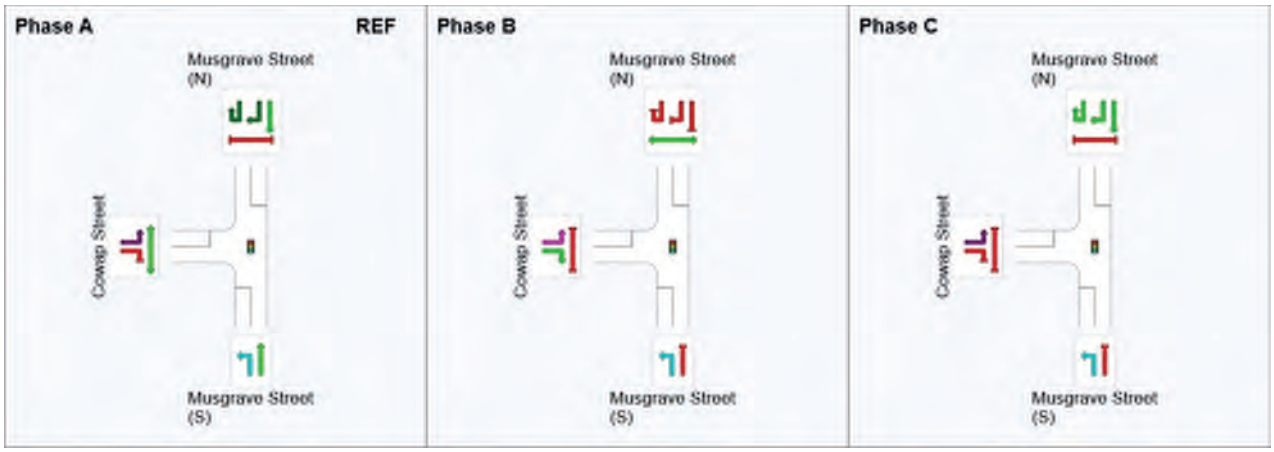
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	61	90
Green Time (sec)	55	23	34
Phase Time (sec)	61	29	40
Phase Split	47%	22%	31%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

MOVEMENT SUMMARY

Site: 7 [2024 W Aprv Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Musgrave Street (S)												
1	L2	88	0.0	0.047	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	964	1.0	0.443	2.6	LOS A	3.3	19.8	0.12	0.10	0.12	55.6
Approach		1052	0.9	0.443	2.8	LOS A	3.3	19.8	0.11	0.14	0.11	54.8
North: Musgrave Street (N)												
8	T1	464	3.0	0.166	0.4	LOS A	0.3	2.1	0.03	0.02	0.03	59.2
9	R2	99	0.0	0.199	5.9	LOS A	0.1	0.7	0.02	0.58	0.02	46.2
9u	U	1	0.0	0.199	7.1	LOS A	0.1	0.7	0.02	0.58	0.02	49.8
Approach		564	2.5	0.199	1.4	LOS A	0.3	2.1	0.03	0.12	0.03	57.1
West: Cowap Street												
10	L2	190	0.0	0.188	2.1	LOS A	1.1	6.9	0.16	0.33	0.16	46.3
12	R2	83	0.0	0.253	51.8	LOS D	4.6	27.4	0.90	0.74	0.90	12.9
Approach		273	0.0	0.253	17.2	LOS B	4.6	27.4	0.38	0.46	0.38	29.2
All Vehicles		1889	1.2	0.443	4.5	LOS A	4.6	27.4	0.12	0.18	0.12	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P3	North Full Crossing	50	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	16.8	LOS B	0.1	0.1	0.51	0.51
All Pedestrians		100	38.0	LOS D			0.73	0.73

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.

PHASING SUMMARY

Site: 7 [2024 W Aprv Thursday Peak]

Intersection: Musgrave Street/Cowap Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

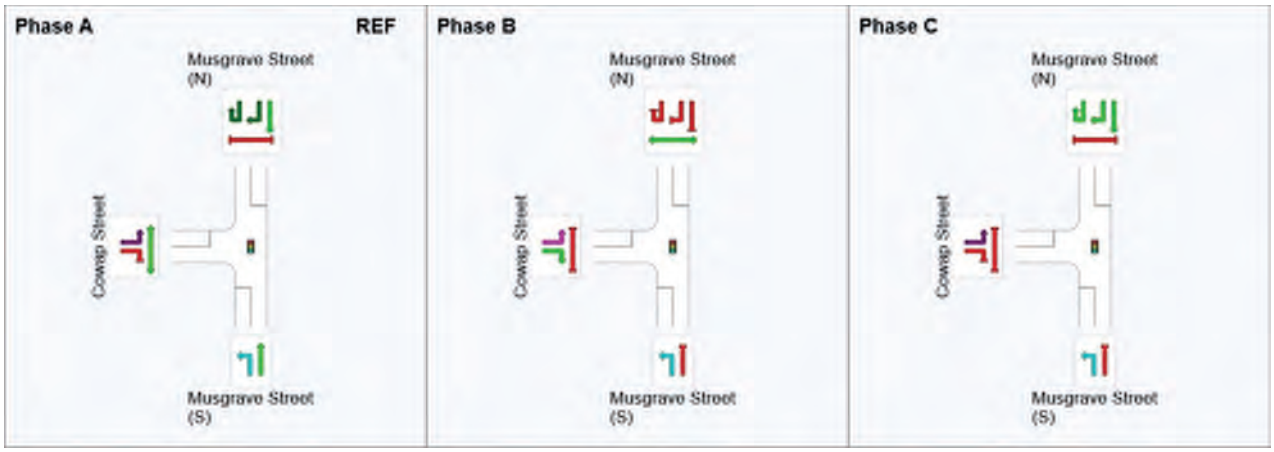
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

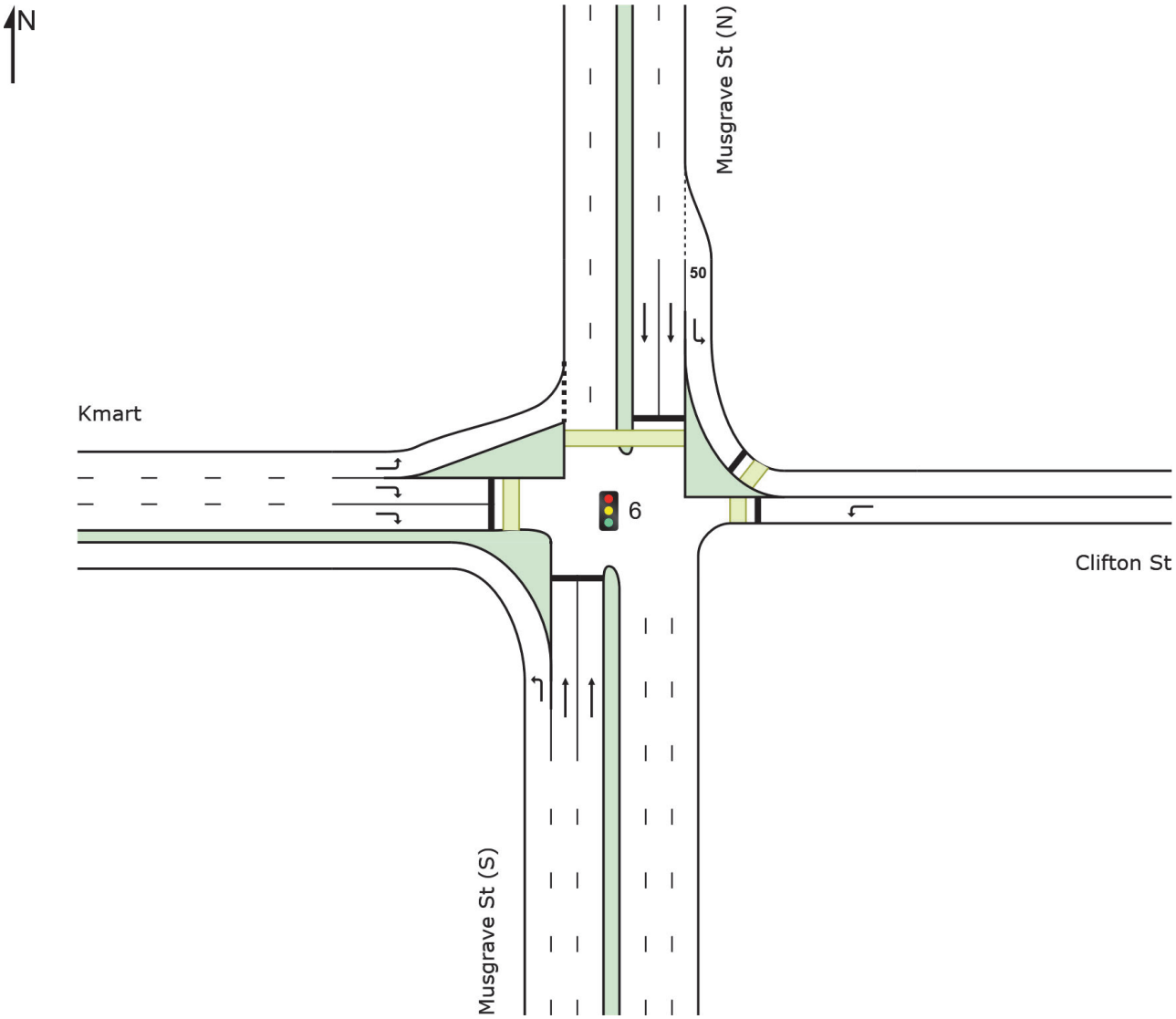
Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 6 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Created: Friday, 11 March 2022 4:00:45 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\3) Clifton-Musgrave Rd.sip9

MOVEMENT SUMMARY

Site: 6 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	737	1.0	737	1.0	0.275	0.5	LOS A	0.6	3.8	0.03	0.03	0.03	58.5
Approach		991	0.7	991	0.7	0.275	1.8	LOS A	0.6	3.8	0.02	0.15	0.02	53.3
East: Clifton St														
4	L2	20	0.0	20	0.0	*0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	90	1.0	90	1.0	0.070	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	607	1.0	607	1.0	*0.261	0.6	LOS A	0.5	3.1	0.03	0.02	0.03	58.1
Approach		697	1.0	697	1.0	0.261	1.5	LOS A	0.5	3.1	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	203	1.0	203	1.0	0.184	1.8	LOS A	0.7	4.5	0.12	0.30	0.12	30.6
12	R2	140	0.0	140	0.0	*0.175	46.7	LOS D	3.6	21.7	0.85	0.71	0.85	9.8
Approach		343	0.6	343	0.6	0.184	20.1	LOS B	3.6	21.7	0.42	0.47	0.42	18.3
All Vehicles		2051	0.8	2051	0.8	0.275	5.5	LOS A	3.6	21.7	0.10	0.19	0.10	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	823	0.0	823	0.0	* 0.305	0.5	LOS A	0.7	4.4	0.03	0.03	0.03	58.5
Approach		1077	0.0	1077	0.0	0.305	1.7	LOS A	0.7	4.4	0.02	0.15	0.02	53.7
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	78	1.0	78	1.0	0.061	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	457	3.0	457	3.0	0.202	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		535	2.7	535	2.7	0.202	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.5
West: Kmart														
10	L2	185	2.0	185	2.0	0.177	1.8	LOS A	0.7	4.1	0.12	0.30	0.12	30.6
12	R2	134	3.0	134	3.0	* 0.171	46.6	LOS D	3.5	21.4	0.85	0.71	0.85	9.8
Approach		319	2.4	319	2.4	0.177	20.6	LOS B	3.5	21.4	0.43	0.47	0.43	18.0
All Vehicles		1951	1.1	1951	1.1	0.305	5.5	LOS A	3.5	21.4	0.10	0.19	0.10	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	751	1.0	751	1.0	0.280	0.5	LOS A	0.6	3.9	0.03	0.03	0.03	58.5
Approach		1005	0.7	1005	0.7	0.280	1.8	LOS A	0.6	3.9	0.02	0.15	0.02	53.4
East: Clifton St														
4	L2	20	0.0	20	0.0	*0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	618	1.0	618	1.0	*0.266	0.7	LOS A	0.5	3.1	0.03	0.03	0.03	58.1
Approach		710	1.0	710	1.0	0.266	1.5	LOS A	0.5	3.1	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	203	1.0	203	1.0	0.186	1.8	LOS A	0.7	4.5	0.12	0.30	0.12	30.6
12	R2	140	0.0	140	0.0	*0.175	46.7	LOS D	3.6	21.7	0.85	0.71	0.85	9.8
Approach		343	0.6	343	0.6	0.186	20.1	LOS B	3.6	21.7	0.42	0.47	0.42	18.3
All Vehicles		2078	0.8	2078	0.8	0.280	5.4	LOS A	3.6	21.7	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	241	0.0	241	0.0	0.130	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	839	0.0	839	0.0	* 0.311	0.5	LOS A	0.7	4.5	0.03	0.03	0.03	58.5
Approach		1080	0.0	1080	0.0	0.311	1.7	LOS A	0.7	4.5	0.02	0.14	0.02	54.0
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	465	3.0	465	3.0	0.205	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		544	2.7	544	2.7	0.205	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	185	2.0	185	2.0	0.179	1.8	LOS A	0.7	4.1	0.12	0.30	0.12	30.6
12	R2	134	3.0	134	3.0	* 0.171	46.6	LOS D	3.5	21.4	0.85	0.71	0.85	9.8
Approach		319	2.4	319	2.4	0.179	20.6	LOS B	3.5	21.4	0.43	0.47	0.43	18.0
All Vehicles		1963	1.1	1963	1.1	0.311	5.5	LOS A	3.5	21.4	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	268	0.0	268	0.0	0.144	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	754	1.0	754	1.0	0.281	0.5	LOS A	0.6	3.9	0.03	0.03	0.03	58.5
Approach		1022	0.7	1022	0.7	0.281	1.9	LOS A	0.6	3.9	0.02	0.16	0.02	53.2
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	620	1.0	620	1.0	* 0.267	0.7	LOS A	0.5	3.2	0.03	0.03	0.03	58.1
Approach		712	1.0	712	1.0	0.267	1.5	LOS A	0.5	3.2	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	211	1.0	211	1.0	0.193	1.8	LOS A	0.8	4.7	0.12	0.30	0.12	30.6
12	R2	146	0.0	146	0.0	* 0.183	46.7	LOS D	3.8	22.7	0.86	0.71	0.86	9.8
Approach		357	0.6	357	0.6	0.193	20.2	LOS B	3.8	22.7	0.42	0.47	0.42	18.2
All Vehicles		2111	0.8	2111	0.8	0.281	5.5	LOS A	3.8	22.7	0.10	0.19	0.10	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	253	0.0	253	0.0	0.136	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	841	0.0	841	0.0	* 0.311	0.5	LOS A	0.7	4.5	0.03	0.03	0.03	58.5
Approach		1094	0.0	1094	0.0	0.311	1.7	LOS A	0.7	4.5	0.02	0.14	0.02	53.8
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	467	3.0	467	3.0	0.206	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		546	2.7	546	2.7	0.206	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	192	2.0	192	2.0	0.186	1.8	LOS A	0.7	4.3	0.12	0.30	0.12	30.6
12	R2	139	3.0	139	3.0	* 0.177	46.7	LOS D	3.6	22.2	0.85	0.71	0.85	9.8
Approach		331	2.4	331	2.4	0.186	20.7	LOS B	3.6	22.2	0.43	0.47	0.43	18.0
All Vehicles		1991	1.1	1991	1.1	0.311	5.5	LOS A	3.6	22.2	0.10	0.19	0.10	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	310	0.0	310	0.0	0.167	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	762	1.0	762	1.0	0.284	0.5	LOS A	0.7	4.0	0.03	0.03	0.03	58.5
Approach		1072	0.7	1072	0.7	0.284	2.0	LOS A	0.7	4.0	0.02	0.17	0.02	52.6
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	624	1.0	624	1.0	* 0.268	0.7	LOS A	0.5	3.2	0.03	0.03	0.03	58.1
Approach		716	1.0	716	1.0	0.268	1.5	LOS A	0.5	3.2	0.04	0.09	0.04	54.9
West: Kmart														
10	L2	236	1.0	236	1.0	0.217	1.8	LOS A	0.9	5.5	0.12	0.30	0.12	30.6
12	R2	163	0.0	163	0.0	* 0.204	47.0	LOS D	4.2	25.5	0.86	0.72	0.86	9.7
Approach		399	0.6	399	0.6	0.217	20.3	LOS B	4.2	25.5	0.42	0.47	0.42	18.2
All Vehicles		2207	0.8	2207	0.8	0.284	5.8	LOS A	4.2	25.5	0.11	0.21	0.11	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	290	0.0	290	0.0	0.156	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	848	0.0	848	0.0	* 0.314	0.5	LOS A	0.8	4.5	0.03	0.03	0.03	58.4
Approach		1138	0.0	1138	0.0	0.314	1.8	LOS A	0.8	4.5	0.02	0.16	0.02	53.3
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	470	3.0	470	3.0	0.207	0.6	LOS A	0.4	2.3	0.03	0.02	0.03	58.2
Approach		549	2.7	549	2.7	0.207	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	214	2.0	214	2.0	0.208	1.8	LOS A	0.8	5.0	0.12	0.30	0.12	30.6
12	R2	154	3.0	154	3.0	* 0.197	46.9	LOS D	4.0	24.8	0.86	0.72	0.86	9.7
Approach		368	2.4	368	2.4	0.208	20.7	LOS B	4.0	24.8	0.43	0.48	0.43	18.0
All Vehicles		2075	1.1	2075	1.1	0.314	5.8	LOS A	4.0	24.8	0.11	0.20	0.11	41.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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.

PHASING SUMMARY

Site: 6 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

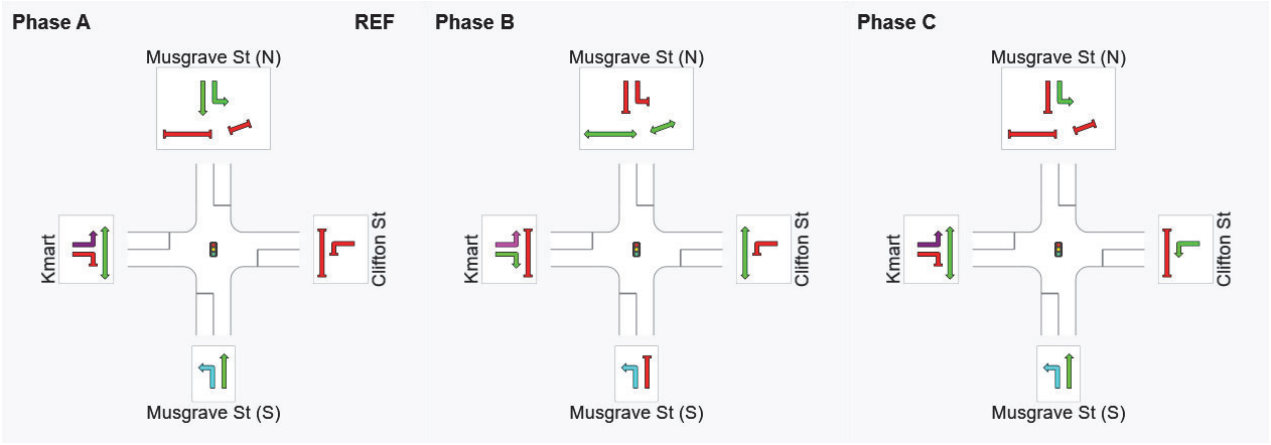
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

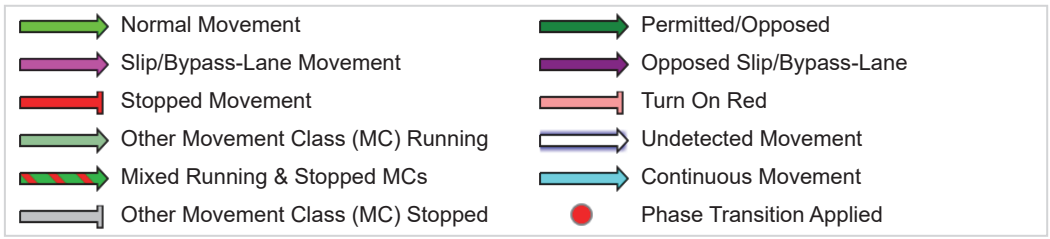
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

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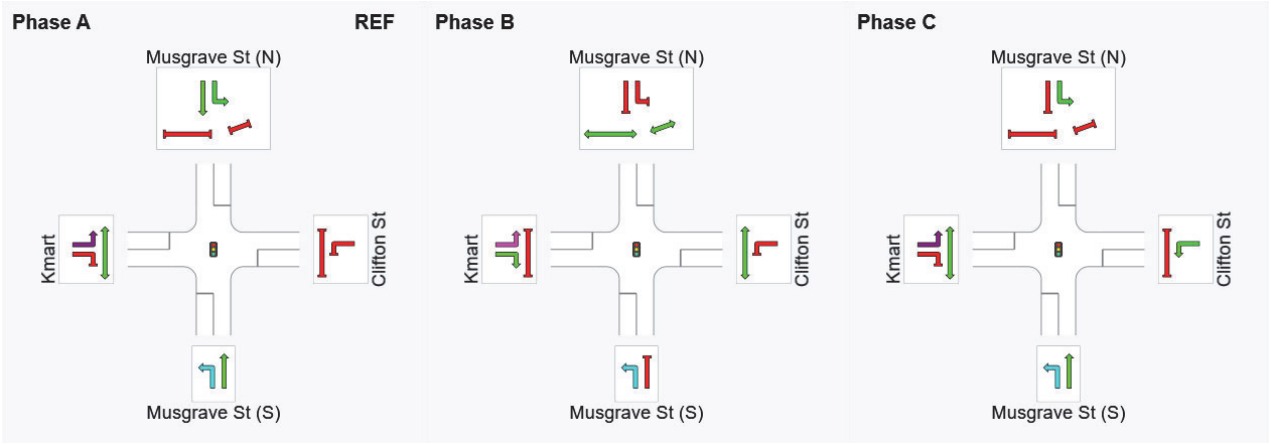
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	83	117
Green Time (sec)	77	28	7
Phase Time (sec)	83	34	13
Phase Split	64%	26%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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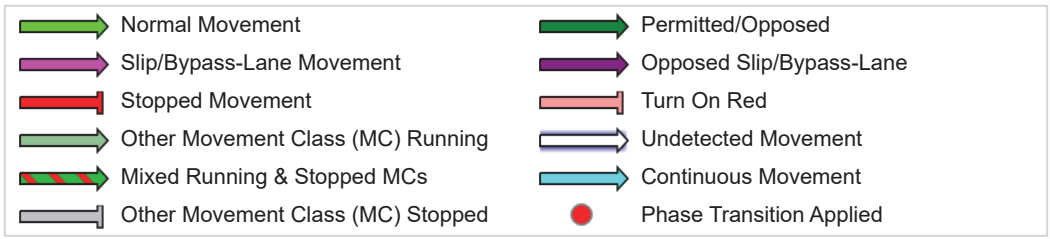

PHASING SUMMARY

Site: 6 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
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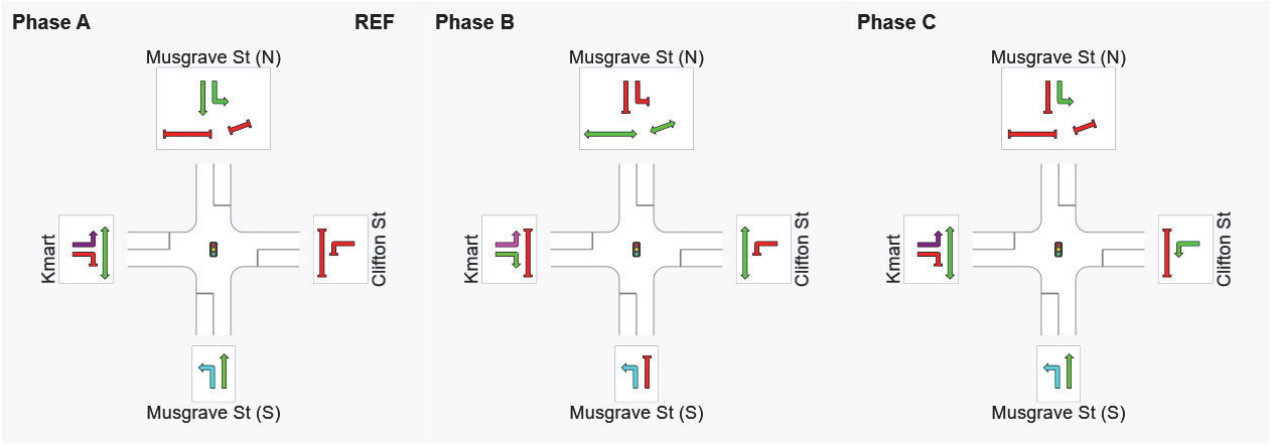

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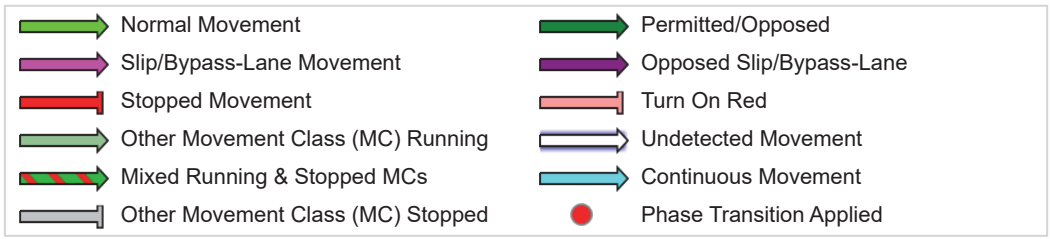

PHASING SUMMARY

Site: 6 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
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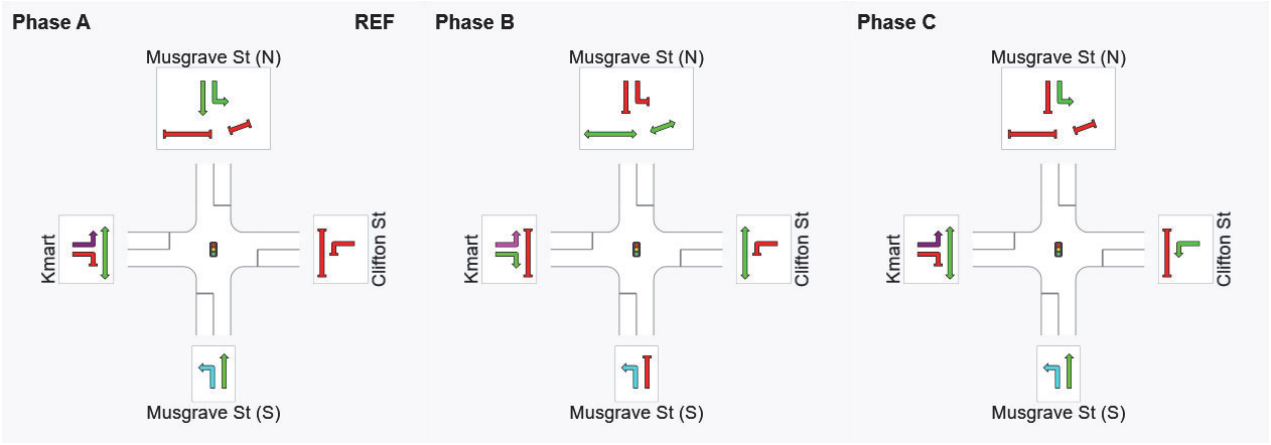

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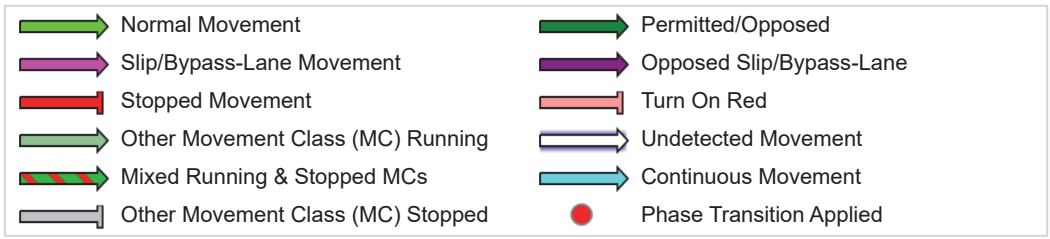

PHASING SUMMARY

Site: 6 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
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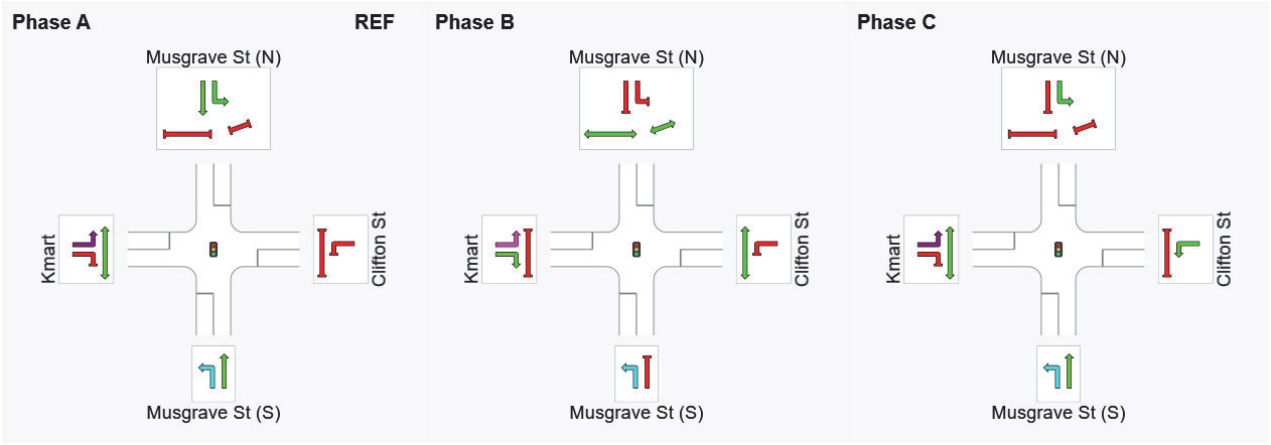
Output Phase Sequence



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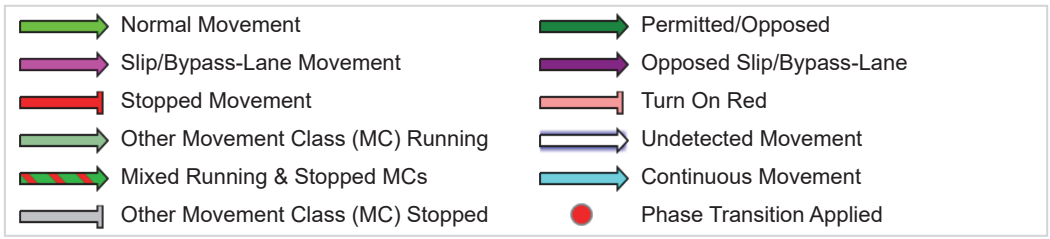

PHASING SUMMARY

Site: 6 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
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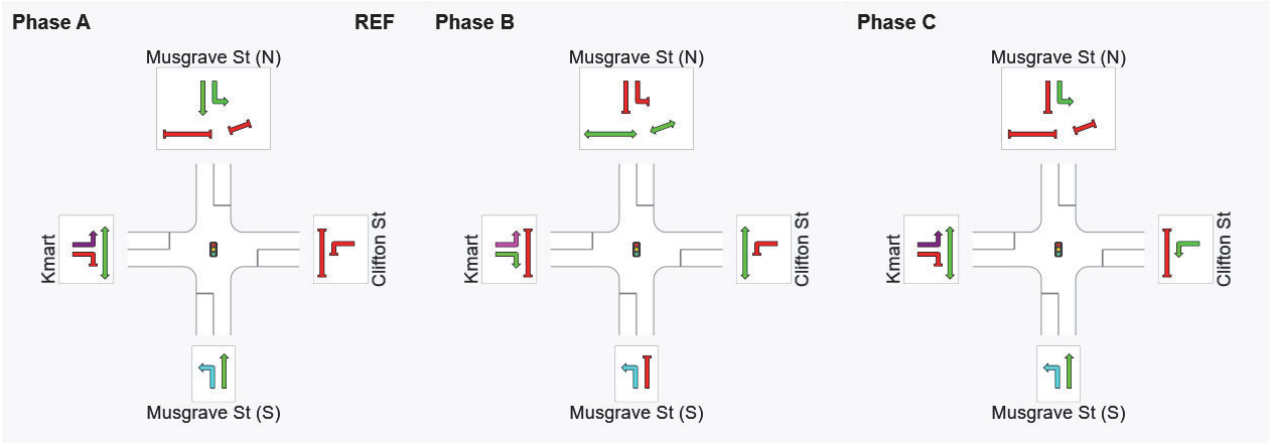
Output Phase Sequence



REF: Reference Phase
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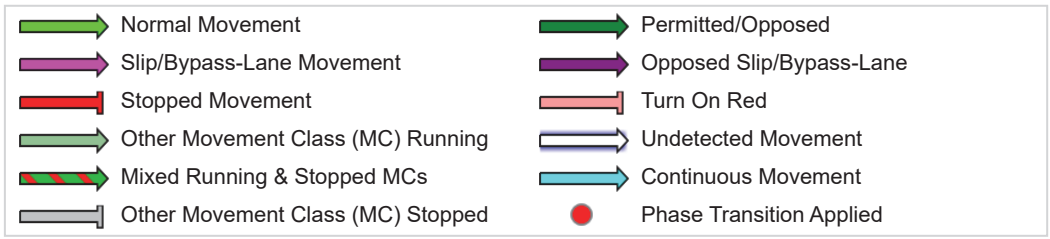

PHASING SUMMARY

Site: 6 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

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Phase Times determined by the program
Phase Sequence: Diamond 1
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Phase Timing Summary

Phase	A	B	C
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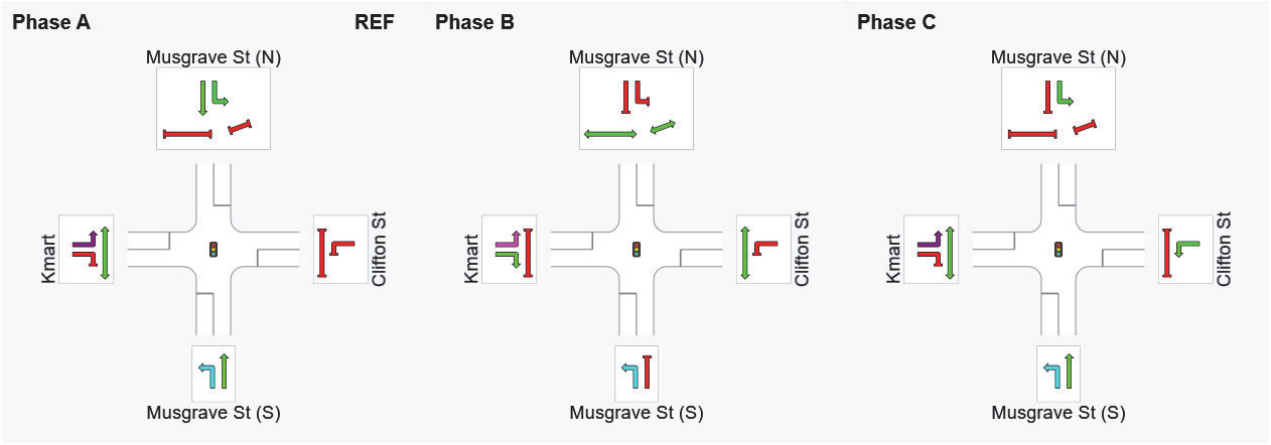
Output Phase Sequence



REF: Reference Phase
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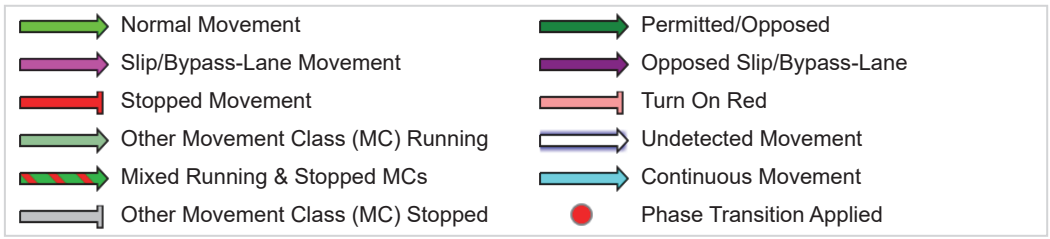

PHASING SUMMARY

Site: 6 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: Musgrave St/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

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Phase	A	B	C
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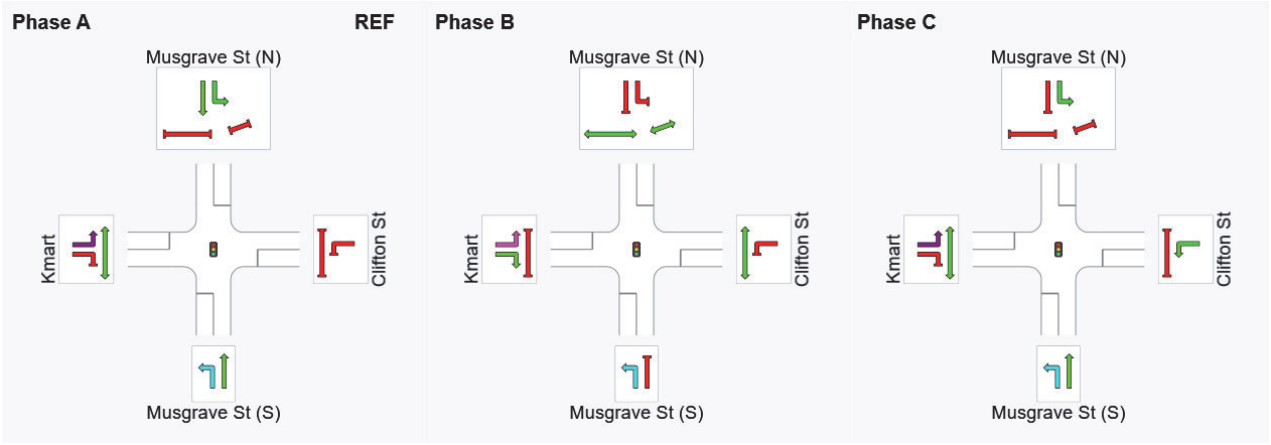
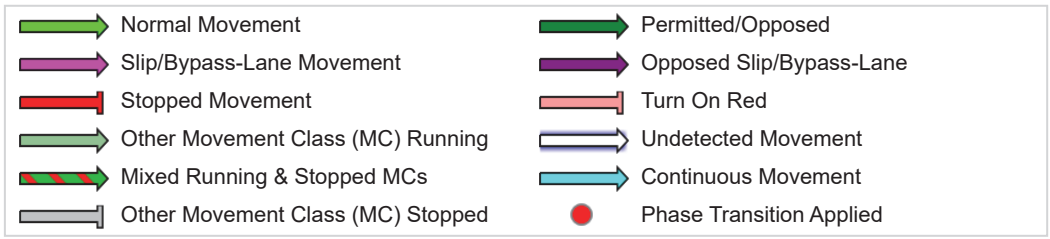
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

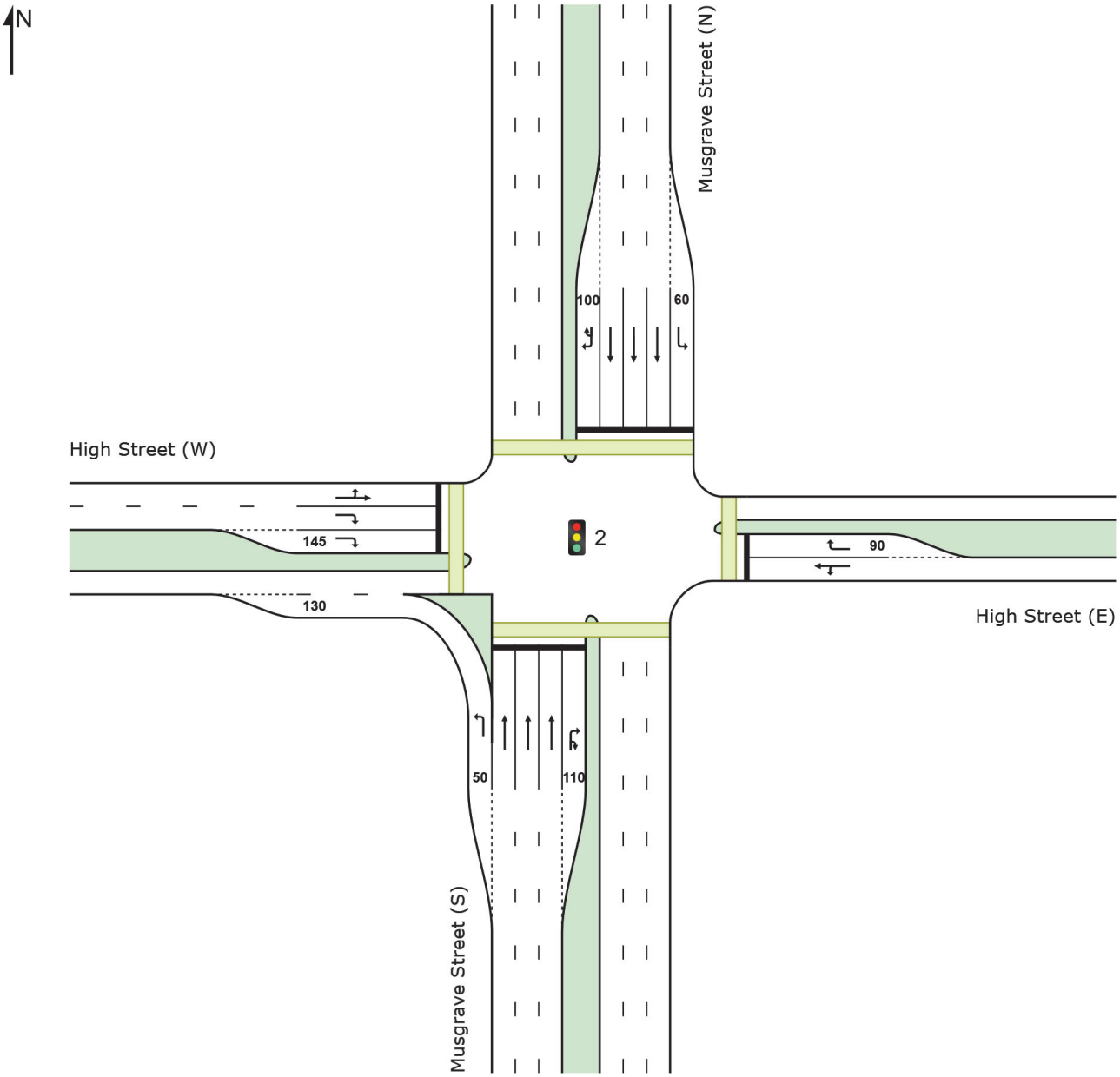


SITE LAYOUT

Site: 2 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Created: Friday, 11 March 2022 4:02:16 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	227	2.0	227	2.0	0.124	6.1	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	675	1.0	675	1.0	*0.622	51.5	LOS D	14.2	85.8	0.91	0.76	0.91	19.4
3	R2	124	0.0	124	0.0	*0.616	53.1	LOS D	13.0	78.2	0.88	0.81	0.88	20.4
3u	U	90	0.0	90	0.0	0.616	54.5	LOS D	13.0	78.2	0.88	0.81	0.88	22.6
Approach		1116	1.0	1116	1.0	0.622	42.7	LOS D	14.2	85.8	0.72	0.72	0.72	22.9
East: High Street (E)														
4	L2	47	0.0	47	0.0	0.517	57.2	LOS E	15.5	94.4	0.91	0.78	0.91	20.8
5	T1	200	2.0	200	2.0	0.517	51.6	LOS D	15.5	94.4	0.91	0.78	0.91	18.2
6	R2	211	0.0	211	0.0	*0.631	67.4	LOS E	14.4	86.5	0.98	0.83	0.98	13.4
Approach		458	0.9	458	0.9	0.631	59.5	LOS E	15.5	94.4	0.94	0.80	0.94	16.1
North: Musgrave Street (N)														
7	L2	123	0.0	123	0.0	0.432	60.6	LOS E	7.6	45.7	0.88	0.78	0.88	14.2
8	T1	563	1.0	563	1.0	0.519	50.3	LOS D	11.3	68.7	0.87	0.72	0.87	19.7
9	R2	50	4.0	50	4.0	0.308	49.6	LOS D	5.5	33.5	0.76	0.76	0.76	15.9
9u	U	53	0.0	53	0.0	0.308	51.0	LOS D	5.5	33.5	0.76	0.76	0.76	13.9
Approach		789	1.0	789	1.0	0.519	51.9	LOS D	11.3	68.7	0.86	0.73	0.86	18.2
West: High Street (W)														
10	L2	64	2.0	64	2.0	0.613	46.7	LOS D	16.6	100.6	0.83	0.73	0.83	18.0
11	T1	227	1.0	227	1.0	*0.613	41.1	LOS C	16.6	100.6	0.83	0.73	0.83	21.1
12	R2	298	2.0	298	2.0	0.452	56.4	LOS D	8.9	54.4	0.85	0.78	0.85	19.6
Approach		589	1.6	589	1.6	0.613	49.5	LOS D	16.6	100.6	0.84	0.75	0.84	19.9
All Vehicles		2952	1.1	2952	1.1	0.631	49.1	LOS D	16.6	100.6	0.81	0.74	0.81	19.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	100.9	52.0	0.52

East: High Street (E)												
P2	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	88.4	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	100.9	52.0	0.52
West: High Street (W)												
P4	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	90.9	39.0	0.43
All Pedestrians		200	200	60.7	LOS F	0.2	0.2	0.90	0.90	95.3	45.0	0.47

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

MOVEMENT SUMMARY

Site: 2 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	234	4.0	234	4.0	0.130	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	773	0.0	773	0.0	*0.748	51.5	LOS D	16.4	98.7	0.96	0.82	0.98	19.4
3	R2	184	2.0	184	2.0	*0.752	45.3	LOS D	18.7	113.5	0.89	0.84	0.91	22.5
3u	U	137	0.0	137	0.0	0.752	46.7	LOS D	18.7	113.5	0.89	0.84	0.91	24.8
Approach		1328	1.0	1328	1.0	0.752	42.2	LOS C	18.7	113.5	0.77	0.77	0.79	23.1
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.600	58.4	LOS E	15.6	95.5	0.95	0.81	0.95	20.6
5	T1	221	2.0	221	2.0	0.600	52.9	LOS D	15.6	95.5	0.95	0.81	0.95	18.0
6	R2	217	0.0	217	0.0	*0.744	69.1	LOS E	14.7	88.4	1.00	0.86	1.07	13.2
Approach		471	0.9	471	0.9	0.744	60.7	LOS E	15.6	95.5	0.97	0.83	1.01	15.8
North: Musgrave Street (N)														
7	L2	106	0.0	106	0.0	0.400	58.6	LOS E	6.2	37.2	0.88	0.77	0.88	14.5
8	T1	462	2.0	462	2.0	0.448	47.6	LOS D	8.6	52.6	0.85	0.70	0.85	20.4
9	R2	43	17.0	43	17.0	0.172	38.2	LOS C	2.9	19.1	0.64	0.72	0.64	18.6
9u	U	27	0.0	27	0.0	0.172	39.4	LOS C	2.9	19.1	0.64	0.72	0.64	16.8
Approach		638	2.6	638	2.6	0.448	48.5	LOS D	8.6	52.6	0.84	0.71	0.84	19.1
West: High Street (W)														
10	L2	40	3.0	40	3.0	0.737	50.5	LOS D	18.6	114.2	0.92	0.80	0.94	17.2
11	T1	271	2.0	271	2.0	*0.737	44.9	LOS D	18.6	114.2	0.92	0.80	0.94	20.1
12	R2	278	2.0	278	2.0	0.483	57.1	LOS E	8.1	49.8	0.89	0.78	0.89	19.4
Approach		589	2.1	589	2.1	0.737	51.0	LOS D	18.6	114.2	0.91	0.79	0.91	19.6
All Vehicles		3026	1.5	3026	1.5	0.752	48.1	LOS D	18.7	114.2	0.84	0.77	0.86	20.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	62.4	LOS F	0.2	0.2	0.94	0.94	102.4	52.0	0.51

East: High Street (E)												
P2	Full	50	50	57.7	LOS E	0.2	0.2	0.91	0.91	86.2	37.0	0.43
North: Musgrave Street (N)												
P3	Full	50	50	62.4	LOS F	0.2	0.2	0.94	0.94	102.4	52.0	0.51
West: High Street (W)												
P4	Full	50	50	58.6	LOS E	0.2	0.2	0.92	0.92	88.6	39.0	0.44
All Pedestrians		200	200	60.3	LOS F	0.2	0.2	0.93	0.93	94.9	45.0	0.47

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

MOVEMENT SUMMARY

Site: 2 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	231	2.0	231	2.0	0.126	6.1	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	688	1.0	688	1.0	*0.634	51.6	LOS D	14.5	87.8	0.91	0.76	0.91	19.4
3	R2	126	0.0	126	0.0	*0.628	53.2	LOS D	13.4	80.1	0.88	0.81	0.88	20.4
3u	U	92	0.0	92	0.0	0.628	54.7	LOS D	13.4	80.1	0.88	0.81	0.88	22.6
Approach		1137	1.0	1137	1.0	0.634	42.8	LOS D	14.5	87.8	0.72	0.72	0.72	22.9
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.540	58.3	LOS E	15.9	97.2	0.92	0.79	0.92	20.5
5	T1	203	2.0	203	2.0	0.540	52.8	LOS D	15.9	97.2	0.92	0.79	0.92	17.9
6	R2	215	0.0	215	0.0	*0.620	66.5	LOS E	14.6	87.5	0.97	0.83	0.97	13.6
Approach		466	0.9	466	0.9	0.620	59.7	LOS E	15.9	97.2	0.95	0.81	0.95	16.1
North: Musgrave Street (N)														
7	L2	125	0.0	125	0.0	0.439	60.7	LOS E	7.8	46.6	0.88	0.78	0.88	14.1
8	T1	574	1.0	574	1.0	0.529	50.4	LOS D	11.6	70.3	0.87	0.72	0.87	19.7
9	R2	51	4.0	51	4.0	0.314	49.7	LOS D	5.6	34.3	0.76	0.76	0.76	15.9
9u	U	54	0.0	54	0.0	0.314	51.1	LOS D	5.6	34.3	0.76	0.76	0.76	13.8
Approach		804	1.0	804	1.0	0.529	52.0	LOS D	11.6	70.3	0.86	0.74	0.86	18.2
West: High Street (W)														
10	L2	65	2.0	65	2.0	0.640	48.1	LOS D	17.3	105.1	0.85	0.75	0.85	17.7
11	T1	231	1.0	231	1.0	*0.640	42.5	LOS C	17.3	105.1	0.85	0.75	0.85	20.6
12	R2	304	2.0	304	2.0	0.445	55.2	LOS D	8.9	54.7	0.84	0.78	0.84	19.9
Approach		600	1.6	600	1.6	0.640	49.6	LOS D	17.3	105.1	0.85	0.76	0.85	19.9
All Vehicles		3007	1.1	3007	1.1	0.640	49.2	LOS D	17.3	105.1	0.82	0.75	0.82	19.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	61.8	LOS F	0.2	0.2	0.91	0.91	101.8	52.0	0.51

East: High Street (E)												
P2	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	88.4	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	61.8	LOS F	0.2	0.2	0.91	0.91	101.8	52.0	0.51
West: High Street (W)												
P4	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	90.9	39.0	0.43
All Pedestrians		200	200	61.1	LOS F	0.2	0.2	0.90	0.90	95.7	45.0	0.47

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

MOVEMENT SUMMARY

Site: 2 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	239	4.0	239	4.0	0.132	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	788	0.0	788	0.0	*0.746	52.1	LOS D	18.7	111.9	0.93	0.80	0.95	19.2
3	R2	187	2.0	187	2.0	*0.757	47.7	LOS D	20.3	123.1	0.89	0.85	0.91	21.8
3u	U	139	0.0	139	0.0	0.757	49.1	LOS D	20.3	123.1	0.89	0.85	0.91	24.1
Approach		1353	1.0	1353	1.0	0.757	43.1	LOS D	20.3	123.1	0.76	0.76	0.77	22.8
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.613	62.4	LOS E	17.1	104.1	0.96	0.81	0.96	19.7
5	T1	225	2.0	225	2.0	0.613	56.9	LOS E	17.1	104.1	0.96	0.81	0.96	17.1
6	R2	221	0.0	221	0.0	*0.776	75.2	LOS F	16.3	97.9	1.00	0.88	1.10	12.3
Approach		479	0.9	479	0.9	0.776	65.7	LOS E	17.1	104.1	0.98	0.84	1.02	14.9
North: Musgrave Street (N)														
7	L2	108	0.0	108	0.0	0.363	58.8	LOS E	6.5	38.8	0.85	0.77	0.85	14.5
8	T1	471	2.0	471	2.0	0.422	48.2	LOS D	9.0	55.3	0.83	0.68	0.83	20.3
9	R2	44	17.0	44	17.0	0.175	40.1	LOS C	3.2	20.9	0.63	0.72	0.63	18.1
9u	U	28	0.0	28	0.0	0.175	41.3	LOS C	3.2	20.9	0.63	0.72	0.63	16.2
Approach		651	2.6	651	2.6	0.422	49.1	LOS D	9.0	55.3	0.81	0.70	0.81	19.0
West: High Street (W)														
10	L2	41	3.0	41	3.0	0.756	54.2	LOS D	20.6	126.1	0.93	0.82	0.95	16.3
11	T1	276	2.0	276	2.0	*0.756	48.6	LOS D	20.6	126.1	0.93	0.82	0.95	19.1
12	R2	284	2.0	284	2.0	0.506	61.5	LOS E	9.0	55.1	0.90	0.78	0.90	18.5
Approach		601	2.1	601	2.1	0.756	55.1	LOS D	20.6	126.1	0.92	0.80	0.93	18.6
All Vehicles		3084	1.5	3084	1.5	0.776	50.2	LOS D	20.6	126.1	0.83	0.77	0.85	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49

East: High Street (E)												
P2	Full	50	50	59.1	LOS E	0.2	0.2	0.89	0.89	87.5	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49
West: High Street (W)												
P4	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	90.0	39.0	0.43
All Pedestrians		200	200	62.5	LOS F	0.2	0.2	0.91	0.91	97.1	45.0	0.46

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

MOVEMENT SUMMARY

Site: 2 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	234	2.0	234	2.0	0.128	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	700	1.0	700	1.0	*0.649	51.8	LOS D	14.9	90.5	0.91	0.76	0.91	19.3
3	R2	126	0.0	126	0.0	*0.648	54.5	LOS D	13.6	81.6	0.90	0.82	0.90	20.1
3u	U	92	0.0	92	0.0	0.648	56.0	LOS D	13.6	81.6	0.90	0.82	0.90	22.3
Approach		1152	1.0	1152	1.0	0.649	43.1	LOS D	14.9	90.5	0.72	0.73	0.72	22.7
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.532	57.4	LOS E	16.0	97.5	0.92	0.79	0.92	20.8
5	T1	206	2.0	206	2.0	0.532	51.9	LOS D	16.0	97.5	0.92	0.79	0.92	18.1
6	R2	219	0.0	219	0.0	*0.632	66.6	LOS E	14.9	89.4	0.98	0.83	0.98	13.5
Approach		473	0.9	473	0.9	0.632	59.3	LOS E	16.0	97.5	0.95	0.81	0.95	16.1
North: Musgrave Street (N)														
7	L2	126	0.0	126	0.0	0.442	60.8	LOS E	7.8	47.0	0.88	0.78	0.88	14.1
8	T1	579	1.0	579	1.0	0.534	50.5	LOS D	11.7	71.1	0.87	0.72	0.87	19.7
9	R2	52	4.0	52	4.0	0.327	50.9	LOS D	5.8	35.3	0.78	0.76	0.78	15.6
9u	U	54	0.0	54	0.0	0.327	52.3	LOS D	5.8	35.3	0.78	0.76	0.78	13.6
Approach		811	1.0	811	1.0	0.534	52.2	LOS D	11.7	71.1	0.86	0.74	0.86	18.1
West: High Street (W)														
10	L2	66	2.0	66	2.0	0.631	47.0	LOS D	17.3	104.9	0.84	0.74	0.84	18.0
11	T1	234	1.0	234	1.0	*0.631	41.4	LOS C	17.3	104.9	0.84	0.74	0.84	21.0
12	R2	307	2.0	307	2.0	0.449	55.3	LOS D	9.0	55.4	0.85	0.78	0.85	19.9
Approach		607	1.6	607	1.6	0.631	49.0	LOS D	17.3	104.9	0.84	0.76	0.84	20.1
All Vehicles		3043	1.1	3043	1.1	0.649	49.2	LOS D	17.3	104.9	0.82	0.75	0.82	19.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	100.9	52.0	0.52

East: High Street (E)												
P2	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	88.4	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	100.9	52.0	0.52
West: High Street (W)												
P4	Full	50	50	60.9	LOS F	0.2	0.2	0.90	0.90	90.9	39.0	0.43
All Pedestrians		200	200	60.7	LOS F	0.2	0.2	0.90	0.90	95.3	45.0	0.47

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

MOVEMENT SUMMARY

Site: 2 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	241	4.0	241	4.0	0.133	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	798	0.0	798	0.0	*0.756	52.4	LOS D	19.0	114.2	0.94	0.81	0.96	19.2
3	R2	187	2.0	187	2.0	*0.777	49.4	LOS D	20.8	126.4	0.91	0.85	0.94	21.3
3u	U	139	0.0	139	0.0	0.777	50.8	LOS D	20.8	126.4	0.91	0.85	0.94	23.6
Approach		1365	1.0	1365	1.0	0.777	43.7	LOS D	20.8	126.4	0.76	0.77	0.79	22.6
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.618	62.5	LOS E	17.2	105.1	0.96	0.81	0.96	19.7
5	T1	227	2.0	227	2.0	0.618	56.9	LOS E	17.2	105.1	0.96	0.81	0.96	17.1
6	R2	225	0.0	225	0.0	*0.757	73.4	LOS F	16.4	98.3	1.00	0.87	1.07	12.6
Approach		485	0.9	485	0.9	0.757	65.0	LOS E	17.2	105.1	0.98	0.84	1.01	15.0
North: Musgrave Street (N)														
7	L2	109	0.0	109	0.0	0.367	58.8	LOS E	6.5	39.2	0.85	0.77	0.85	14.5
8	T1	475	2.0	475	2.0	0.425	48.2	LOS D	9.1	55.8	0.83	0.68	0.83	20.3
9	R2	45	17.0	45	17.0	0.182	41.1	LOS C	3.3	21.7	0.65	0.72	0.65	17.8
9u	U	28	0.0	28	0.0	0.182	42.4	LOS C	3.3	21.7	0.65	0.72	0.65	15.9
Approach		657	2.6	657	2.6	0.425	49.2	LOS D	9.1	55.8	0.81	0.70	0.81	18.9
West: High Street (W)														
10	L2	41	3.0	41	3.0	0.761	54.4	LOS D	20.8	127.4	0.94	0.82	0.95	16.2
11	T1	278	2.0	278	2.0	*0.761	48.8	LOS D	20.8	127.4	0.94	0.82	0.95	19.0
12	R2	286	2.0	286	2.0	0.488	60.2	LOS E	8.9	54.6	0.89	0.78	0.89	18.8
Approach		605	2.1	605	2.1	0.761	54.5	LOS D	20.8	127.4	0.91	0.80	0.92	18.7
All Vehicles		3112	1.5	3112	1.5	0.777	50.3	LOS D	20.8	127.4	0.84	0.77	0.85	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49

East: High Street (E)												
P2	Full	50	50	59.1	LOS E	0.2	0.2	0.89	0.89	87.5	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49
West: High Street (W)												
P4	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	90.0	39.0	0.43
All Pedestrians		200	200	62.5	LOS F	0.2	0.2	0.91	0.91	97.1	45.0	0.46

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

MOVEMENT SUMMARY

Site: 2 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	242	2.0	242	2.0	0.132	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	738	1.0	738	1.0	* 0.663	50.8	LOS D	15.8	95.5	0.91	0.77	0.91	19.6
3	R2	126	0.0	126	0.0	* 0.648	54.5	LOS D	13.6	81.6	0.90	0.82	0.90	20.1
3u	U	92	0.0	92	0.0	0.648	56.0	LOS D	13.6	81.6	0.90	0.82	0.90	22.3
Approach		1198	1.0	1198	1.0	0.663	42.6	LOS D	15.8	95.5	0.72	0.73	0.72	22.9
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.561	58.6	LOS E	16.7	101.7	0.93	0.80	0.93	20.5
5	T1	213	2.0	213	2.0	0.561	53.1	LOS D	16.7	101.7	0.93	0.80	0.93	17.9
6	R2	230	0.0	230	0.0	* 0.663	67.1	LOS E	15.8	94.5	0.98	0.83	0.98	13.5
Approach		491	0.9	491	0.9	0.663	60.2	LOS E	16.7	101.7	0.96	0.81	0.96	15.9
North: Musgrave Street (N)														
7	L2	130	0.0	130	0.0	0.438	59.5	LOS E	8.0	47.9	0.87	0.78	0.87	14.3
8	T1	594	1.0	594	1.0	0.529	49.3	LOS D	11.9	72.0	0.86	0.72	0.86	20.0
9	R2	55	4.0	55	4.0	0.335	51.0	LOS D	5.9	36.4	0.78	0.77	0.78	15.6
9u	U	54	0.0	54	0.0	0.335	52.4	LOS D	5.9	36.4	0.78	0.77	0.78	13.6
Approach		833	1.0	833	1.0	0.529	51.2	LOS D	11.9	72.0	0.86	0.73	0.86	18.3
West: High Street (W)														
10	L2	68	2.0	68	2.0	0.670	48.5	LOS D	18.4	112.0	0.87	0.76	0.87	17.6
11	T1	242	1.0	242	1.0	* 0.670	42.9	LOS D	18.4	112.0	0.87	0.76	0.87	20.5
12	R2	316	2.0	316	2.0	0.462	55.4	LOS D	9.4	57.3	0.85	0.78	0.85	19.8
Approach		626	1.6	626	1.6	0.670	49.8	LOS D	18.4	112.0	0.86	0.77	0.86	19.9
All Vehicles		3148	1.1	3148	1.1	0.670	49.1	LOS D	18.4	112.0	0.82	0.75	0.82	19.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	61.8	LOS F	0.2	0.2	0.91	0.91	101.8	52.0	0.51

East: High Street (E)												
P2	Full	50	50	59.1	LOS E	0.2	0.2	0.89	0.89	87.5	37.0	0.42
North: Musgrave Street (N)												
P3	Full	50	50	61.8	LOS F	0.2	0.2	0.91	0.91	101.8	52.0	0.51
West: High Street (W)												
P4	Full	50	50	60.0	LOS E	0.2	0.2	0.90	0.90	90.0	39.0	0.43
All Pedestrians		200	200	60.7	LOS F	0.2	0.2	0.90	0.90	95.3	45.0	0.47

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

MOVEMENT SUMMARY

Site: 2 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	249	4.0	249	4.0	0.138	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	831	0.0	831	0.0	*0.757	51.4	LOS D	19.6	117.4	0.93	0.80	0.96	19.4
3	R2	187	2.0	187	2.0	*0.797	51.3	LOS D	21.4	130.0	0.93	0.86	0.97	20.8
3u	U	139	0.0	139	0.0	0.797	52.7	LOS D	21.4	130.0	0.93	0.86	0.97	23.1
Approach		1406	1.0	1406	1.0	0.797	43.5	LOS D	21.4	130.0	0.77	0.77	0.79	22.7
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.632	62.7	LOS E	17.7	107.9	0.96	0.82	0.96	19.6
5	T1	233	2.0	233	2.0	0.632	57.2	LOS E	17.7	107.9	0.96	0.82	0.96	17.1
6	R2	234	0.0	234	0.0	*0.787	75.0	LOS F	17.3	104.0	1.00	0.88	1.10	12.4
Approach		500	0.9	500	0.9	0.787	65.9	LOS E	17.7	107.9	0.98	0.85	1.03	14.8
North: Musgrave Street (N)														
7	L2	112	0.0	112	0.0	0.362	57.6	LOS E	6.6	39.8	0.84	0.77	0.84	14.7
8	T1	489	2.0	489	2.0	0.423	47.1	LOS D	9.3	56.8	0.82	0.67	0.82	20.6
9	R2	47	17.0	47	17.0	0.191	42.2	LOS C	3.4	22.8	0.66	0.73	0.66	17.5
9u	U	28	0.0	28	0.0	0.191	43.5	LOS D	3.4	22.8	0.66	0.73	0.66	15.6
Approach		676	2.6	676	2.6	0.423	48.4	LOS D	9.3	56.8	0.81	0.69	0.81	19.1
West: High Street (W)														
10	L2	43	3.0	43	3.0	*0.783	55.1	LOS D	21.7	133.2	0.95	0.84	0.98	16.1
11	T1	285	2.0	285	2.0	0.783	49.5	LOS D	21.7	133.2	0.95	0.84	0.98	18.8
12	R2	294	2.0	294	2.0	0.502	60.3	LOS E	9.2	56.4	0.89	0.78	0.89	18.7
Approach		622	2.1	622	2.1	0.783	55.0	LOS D	21.7	133.2	0.92	0.81	0.94	18.6
All Vehicles		3204	1.5	3204	1.5	0.797	50.3	LOS D	21.7	133.2	0.84	0.77	0.86	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49

East: High Street (E)												
P2	Full	50	50	58.2	LOS E	0.2	0.2	0.88	0.88	86.7	37.0	0.43
North: Musgrave Street (N)												
P3	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	105.5	52.0	0.49
West: High Street (W)												
P4	Full	50	50	59.1	LOS E	0.2	0.2	0.89	0.89	89.1	39.0	0.44
All Pedestrians		200	200	62.1	LOS F	0.2	0.2	0.91	0.91	96.7	45.0	0.47

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.

PHASING SUMMARY

Site: 2 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

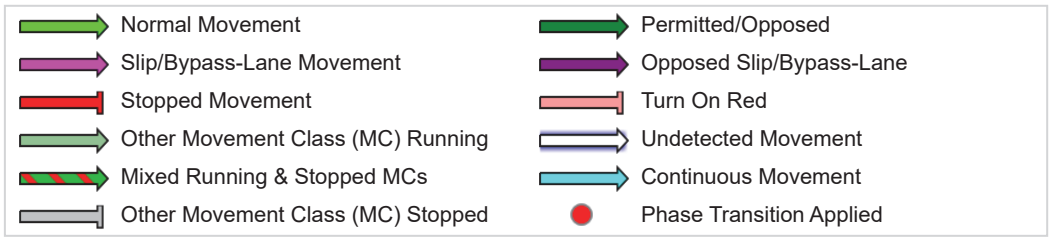
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	34	79	112
Green Time (sec)	28	39	27	32
Phase Time (sec)	34	45	33	38
Phase Split	23%	30%	22%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



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PHASING SUMMARY

Site: 2 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

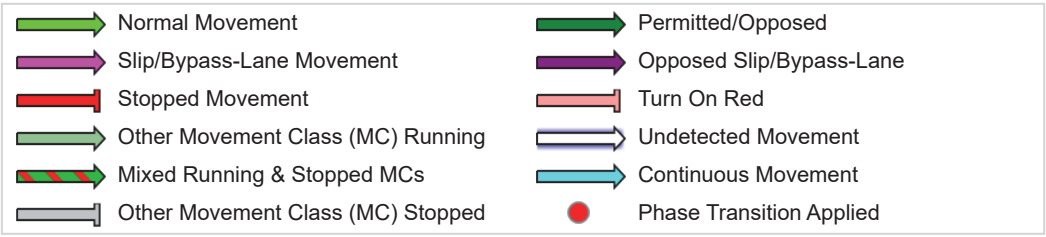
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	31	69	97
Green Time (sec)	25	32	22	37
Phase Time (sec)	31	38	28	43
Phase Split	22%	27%	20%	31%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:27 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

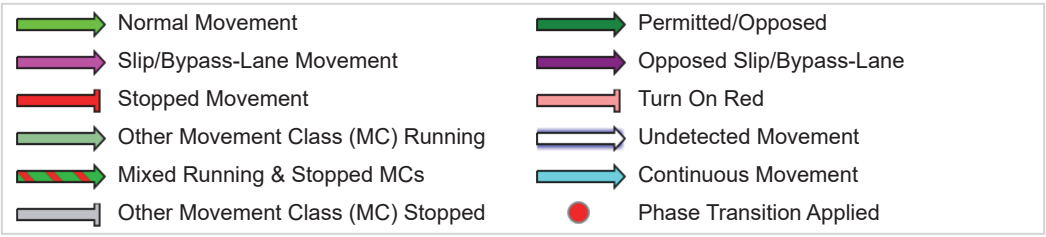
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	34	78	112
Green Time (sec)	28	38	28	32
Phase Time (sec)	34	44	34	38
Phase Split	23%	29%	23%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:27 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

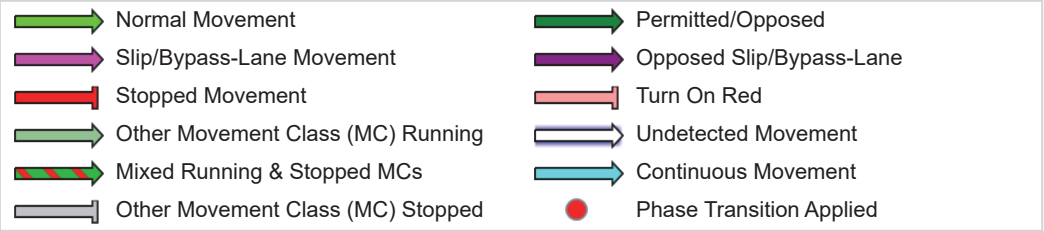
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	35	75	104
Green Time (sec)	29	34	23	40
Phase Time (sec)	35	40	29	46
Phase Split	23%	27%	19%	31%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:28 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

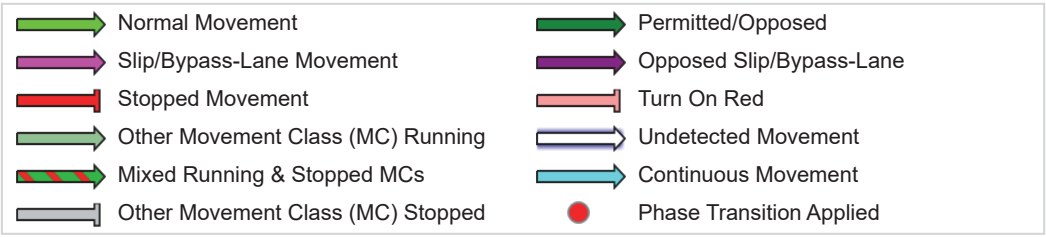
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	34	79	113
Green Time (sec)	28	39	28	31
Phase Time (sec)	34	45	34	37
Phase Split	23%	30%	23%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:29 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

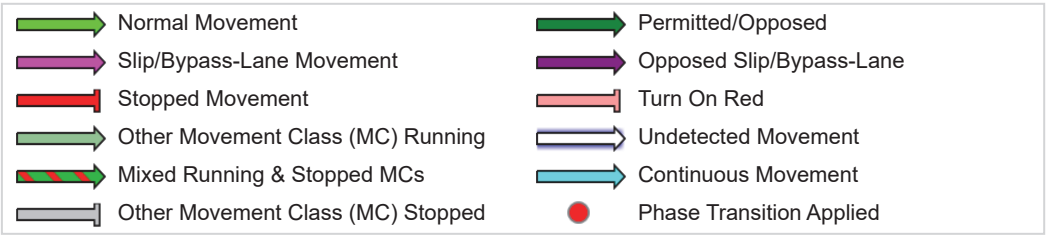
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	35	75	105
Green Time (sec)	29	34	24	39
Phase Time (sec)	35	40	30	45
Phase Split	23%	27%	20%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:29 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

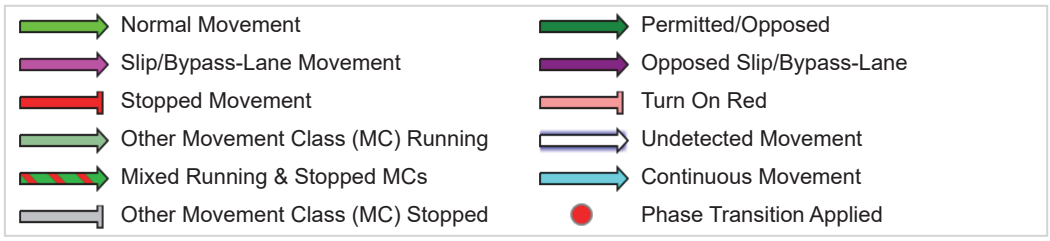
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	35	79	113
Green Time (sec)	29	38	28	31
Phase Time (sec)	35	44	34	37
Phase Split	23%	29%	23%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:30 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: Musgrave Street/High Street
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

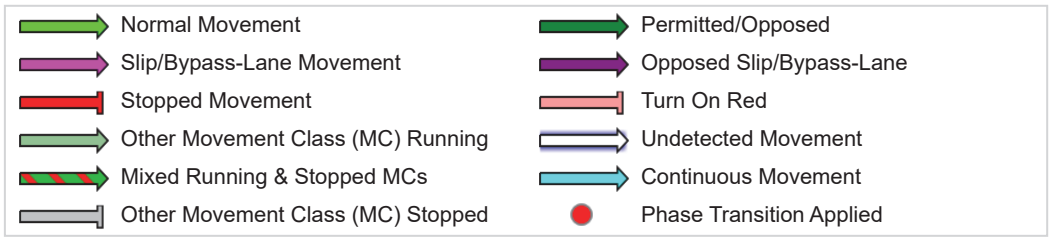
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	36	76	106
Green Time (sec)	30	34	24	38
Phase Time (sec)	36	40	30	44
Phase Split	24%	27%	20%	29%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

REF: Reference Phase
VAR: Variable Phase



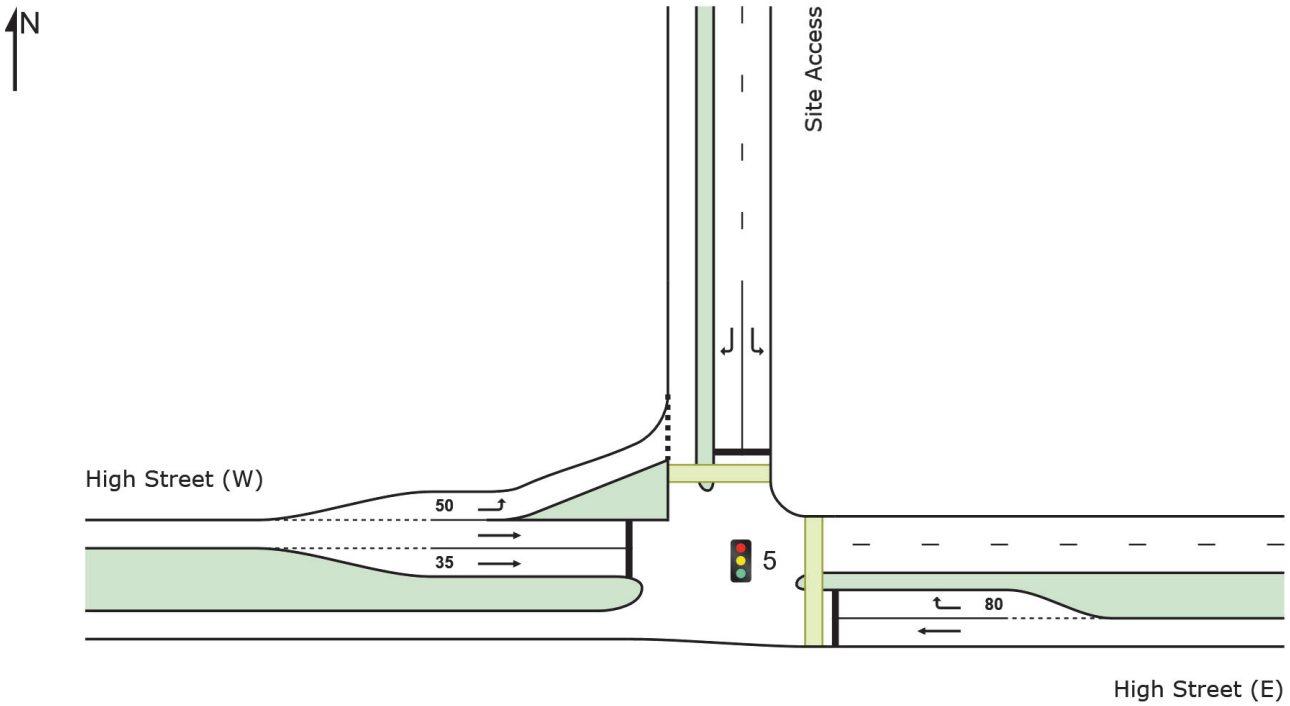
Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 1:35:31 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\5) Musgrave Rd-High St.sip9

SITE LAYOUT

Site: 5 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Created: Friday, 11 March 2022 4:03:58 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\7) High St-Site Access.sip9

MOVEMENT SUMMARY

Site: 5 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	355	1.0	355	1.0	0.397	5.4	LOS A	3.8	22.8	0.35	0.30	0.35	48.5
6	R2	122	7.0	122	7.0	* 0.324	18.4	LOS B	2.3	15.1	0.67	0.73	0.67	24.9
Approach		477	2.5	477	2.5	0.397	8.7	LOS A	3.8	22.8	0.44	0.41	0.44	41.4
North: Site Access														
7	L2	108	0.0	108	0.0	0.108	9.8	LOS A	1.7	10.0	0.52	0.57	0.52	28.4
9	R2	240	0.0	240	0.0	* 0.365	19.0	LOS B	5.7	34.5	0.79	0.73	0.79	23.9
Approach		348	0.0	348	0.0	0.365	16.1	LOS B	5.7	34.5	0.70	0.68	0.70	25.0
West: High Street (W)														
10	L2	221	0.0	221	0.0	0.174	6.8	LOS A	1.2	6.9	0.28	0.63	0.28	40.8
11	T1	450	0.0	450	0.0	* 0.417	21.2	LOS B	6.0	35.9	0.86	0.71	0.86	31.0
Approach		671	0.0	671	0.0	0.417	16.4	LOS B	6.0	35.9	0.67	0.69	0.67	33.2
All Vehicles		1496	0.8	1496	0.8	0.417	13.9	LOS A	6.0	35.9	0.60	0.60	0.60	33.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	25.0	LOS C	0.1	0.1	0.88	0.88	52.0	35.0	0.67
All Pedestrians		100	100	25.9	LOS C	0.1	0.1	0.89	0.89	56.3	39.5	0.70

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

MOVEMENT SUMMARY

Site: 5 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	442	0.0	442	0.0	0.491	5.7	LOS A	5.2	31.4	0.40	0.34	0.40	48.0
6	R2	94	19.0	94	19.0	*0.248	18.3	LOS B	1.7	12.5	0.64	0.71	0.64	25.0
Approach		536	3.3	536	3.3	0.491	7.9	LOS A	5.2	31.4	0.44	0.41	0.44	43.2
North: Site Access														
7	L2	83	2.0	83	2.0	0.080	8.7	LOS A	1.2	7.2	0.47	0.55	0.47	29.3
9	R2	173	0.0	173	0.0	*0.263	18.3	LOS B	4.0	23.8	0.75	0.70	0.75	24.3
Approach		256	0.6	256	0.6	0.263	15.2	LOS B	4.0	23.8	0.66	0.65	0.66	25.6
West: High Street (W)														
10	L2	147	1.0	147	1.0	0.114	2.4	LOS A	0.6	3.9	0.25	0.37	0.25	29.2
11	T1	455	0.0	455	0.0	*0.474	23.2	LOS B	6.3	38.1	0.90	0.74	0.90	29.7
Approach		602	0.2	602	0.2	0.474	18.1	LOS B	6.3	38.1	0.74	0.65	0.74	29.6
All Vehicles		1394	1.5	1394	1.5	0.491	13.6	LOS A	6.3	38.1	0.61	0.56	0.61	33.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	53.8	35.0	0.65
All Pedestrians		100	100	26.8	LOS C	0.1	0.1	0.91	0.91	57.2	39.5	0.69

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

MOVEMENT SUMMARY

Site: 5 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	362	1.0	362	1.0	0.405	5.4	LOS A	3.9	23.5	0.36	0.31	0.36	48.5
6	R2	122	7.0	122	7.0	* 0.326	18.4	LOS B	2.4	15.1	0.67	0.73	0.67	24.8
Approach		484	2.5	484	2.5	0.405	8.7	LOS A	3.9	23.5	0.44	0.41	0.44	41.4
North: Site Access														
7	L2	108	0.0	108	0.0	0.108	9.8	LOS A	1.7	10.0	0.52	0.57	0.52	28.4
9	R2	240	0.0	240	0.0	* 0.365	19.0	LOS B	5.7	34.5	0.79	0.73	0.79	23.9
Approach		348	0.0	348	0.0	0.365	16.1	LOS B	5.7	34.5	0.70	0.68	0.70	25.0
West: High Street (W)														
10	L2	221	0.0	221	0.0	0.174	6.8	LOS A	1.2	6.9	0.28	0.63	0.28	40.8
11	T1	459	0.0	459	0.0	* 0.425	21.3	LOS B	6.1	36.7	0.87	0.72	0.87	31.0
Approach		680	0.0	680	0.0	0.425	16.5	LOS B	6.1	36.7	0.68	0.69	0.68	33.1
All Vehicles		1512	0.8	1512	0.8	0.425	13.9	LOS A	6.1	36.7	0.61	0.60	0.61	33.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	25.0	LOS C	0.1	0.1	0.88	0.88	52.0	35.0	0.67
All Pedestrians		100	100	25.9	LOS C	0.1	0.1	0.89	0.89	56.3	39.5	0.70

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

MOVEMENT SUMMARY

Site: 5 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	450	0.0	450	0.0	0.500	5.7	LOS A	5.4	32.4	0.40	0.35	0.40	48.0
6	R2	94	19.0	94	19.0	* 0.249	18.3	LOS B	1.8	12.5	0.64	0.71	0.64	25.0
Approach		544	3.3	544	3.3	0.500	7.9	LOS A	5.4	32.4	0.44	0.41	0.44	43.2
North: Site Access														
7	L2	83	2.0	83	2.0	0.080	8.7	LOS A	1.2	7.2	0.47	0.55	0.47	29.3
9	R2	173	0.0	173	0.0	* 0.263	18.3	LOS B	4.0	23.8	0.75	0.70	0.75	24.3
Approach		256	0.6	256	0.6	0.263	15.2	LOS B	4.0	23.8	0.66	0.65	0.66	25.6
West: High Street (W)														
10	L2	147	1.0	147	1.0	0.114	6.5	LOS A	0.6	3.9	0.25	0.61	0.25	41.1
11	T1	463	0.0	463	0.0	* 0.482	23.3	LOS B	6.5	38.9	0.90	0.75	0.90	29.6
Approach		610	0.2	610	0.2	0.482	19.2	LOS B	6.5	38.9	0.75	0.72	0.75	31.3
All Vehicles		1410	1.5	1410	1.5	0.500	14.1	LOS A	6.5	38.9	0.61	0.59	0.61	34.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	53.8	35.0	0.65
All Pedestrians		100	100	26.8	LOS C	0.1	0.1	0.91	0.91	57.2	39.5	0.69

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

MOVEMENT SUMMARY

Site: 5 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	363	1.0	363	1.0	0.406	5.4	LOS A	3.9	23.6	0.36	0.31	0.36	48.5
6	R2	127	7.0	127	7.0	* 0.340	18.5	LOS B	2.5	15.9	0.68	0.73	0.68	24.8
Approach		490	2.6	490	2.6	0.406	8.8	LOS A	3.9	23.6	0.44	0.42	0.44	41.2
North: Site Access														
7	L2	113	0.0	113	0.0	0.113	9.9	LOS A	1.8	10.5	0.52	0.57	0.52	28.4
9	R2	250	0.0	250	0.0	* 0.380	19.1	LOS B	6.0	36.1	0.79	0.73	0.79	23.9
Approach		363	0.0	363	0.0	0.380	16.2	LOS B	6.0	36.1	0.71	0.68	0.71	25.0
West: High Street (W)														
10	L2	231	0.0	231	0.0	0.182	6.9	LOS A	1.3	8.0	0.30	0.63	0.30	40.5
11	T1	461	0.0	461	0.0	* 0.427	21.3	LOS B	6.1	36.9	0.87	0.72	0.87	31.0
Approach		692	0.0	692	0.0	0.427	16.5	LOS B	6.1	36.9	0.68	0.69	0.68	33.1
All Vehicles		1545	0.8	1545	0.8	0.427	14.0	LOS A	6.1	36.9	0.61	0.60	0.61	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	25.0	LOS C	0.1	0.1	0.88	0.88	52.0	35.0	0.67
All Pedestrians		100	100	25.9	LOS C	0.1	0.1	0.89	0.89	56.3	39.5	0.70

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

MOVEMENT SUMMARY

Site: 5 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	452	0.0	452	0.0	0.502	5.7	LOS A	5.4	32.6	0.40	0.35	0.40	47.9
6	R2	98	19.0	98	19.0	* 0.260	18.4	LOS B	1.8	13.1	0.65	0.72	0.65	24.9
Approach		550	3.4	550	3.4	0.502	8.0	LOS A	5.4	32.6	0.45	0.42	0.45	43.0
North: Site Access														
7	L2	87	2.0	87	2.0	0.083	8.7	LOS A	1.2	7.6	0.48	0.55	0.48	29.3
9	R2	181	0.0	181	0.0	* 0.275	18.3	LOS B	4.2	25.0	0.76	0.70	0.76	24.3
Approach		268	0.6	268	0.6	0.275	15.2	LOS B	4.2	25.0	0.67	0.65	0.67	25.6
West: High Street (W)														
10	L2	155	1.0	155	1.0	0.120	6.7	LOS A	0.8	4.7	0.27	0.62	0.27	40.9
11	T1	465	0.0	465	0.0	* 0.484	23.3	LOS B	6.5	39.0	0.90	0.75	0.90	29.6
Approach		620	0.3	620	0.3	0.484	19.1	LOS B	6.5	39.0	0.75	0.72	0.75	31.4
All Vehicles		1438	1.5	1438	1.5	0.502	14.1	LOS A	6.5	39.0	0.62	0.59	0.62	33.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	53.8	35.0	0.65
All Pedestrians		100	100	26.8	LOS C	0.1	0.1	0.91	0.91	57.2	39.5	0.69

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

MOVEMENT SUMMARY

Site: 5 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	368	1.0	368	1.0	0.412	5.4	LOS A	4.0	24.0	0.36	0.31	0.36	48.5
6	R2	140	7.0	140	7.0	* 0.376	18.7	LOS B	2.8	18.0	0.70	0.74	0.70	24.6
Approach		508	2.7	508	2.7	0.412	9.1	LOS A	4.0	24.0	0.45	0.43	0.45	40.7
North: Site Access														
7	L2	126	0.0	126	0.0	0.126	9.9	LOS A	2.0	11.8	0.52	0.58	0.52	28.3
9	R2	280	0.0	280	0.0	* 0.426	19.4	LOS B	6.9	41.3	0.81	0.74	0.81	23.7
Approach		406	0.0	406	0.0	0.426	16.5	LOS B	6.9	41.3	0.72	0.69	0.72	24.8
West: High Street (W)														
10	L2	261	0.0	261	0.0	0.208	7.0	LOS A	1.6	9.3	0.31	0.64	0.31	40.4
11	T1	467	0.0	467	0.0	* 0.432	21.3	LOS B	6.2	37.4	0.87	0.72	0.87	30.9
Approach		728	0.0	728	0.0	0.432	16.2	LOS B	6.2	37.4	0.67	0.69	0.67	33.3
All Vehicles		1642	0.8	1642	0.8	0.432	14.0	LOS A	6.9	41.3	0.61	0.61	0.61	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	25.0	LOS C	0.1	0.1	0.88	0.88	52.0	35.0	0.67
All Pedestrians		100	100	25.9	LOS C	0.1	0.1	0.89	0.89	56.3	39.5	0.70

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

MOVEMENT SUMMARY

Site: 5 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	456	0.0	456	0.0	0.507	5.7	LOS A	5.5	33.1	0.40	0.35	0.40	47.9
6	R2	110	19.0	110	19.0	* 0.293	18.6	LOS B	2.1	15.1	0.66	0.72	0.66	24.8
Approach		566	3.7	566	3.7	0.507	8.2	LOS A	5.5	33.1	0.45	0.42	0.45	42.6
North: Site Access														
7	L2	99	2.0	99	2.0	0.095	8.8	LOS A	1.4	8.7	0.48	0.55	0.48	29.2
9	R2	208	0.0	208	0.0	* 0.317	18.6	LOS B	4.9	29.3	0.77	0.71	0.77	24.1
Approach		307	0.6	307	0.6	0.317	15.4	LOS B	4.9	29.3	0.68	0.66	0.68	25.4
West: High Street (W)														
10	L2	182	1.0	182	1.0	0.143	6.7	LOS A	0.9	5.6	0.27	0.62	0.27	40.8
11	T1	470	0.0	470	0.0	* 0.490	23.3	LOS B	6.6	39.5	0.91	0.75	0.91	29.6
Approach		652	0.3	652	0.3	0.490	18.7	LOS B	6.6	39.5	0.73	0.71	0.73	31.6
All Vehicles		1525	1.6	1525	1.6	0.507	14.1	LOS A	6.6	39.5	0.62	0.60	0.62	33.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	60.7	44.0	0.73
North: Site Access												
P3	Full	50	50	26.8	LOS C	0.1	0.1	0.91	0.91	53.8	35.0	0.65
All Pedestrians		100	100	26.8	LOS C	0.1	0.1	0.91	0.91	57.2	39.5	0.69

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.

PHASING SUMMARY

Site: 5 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

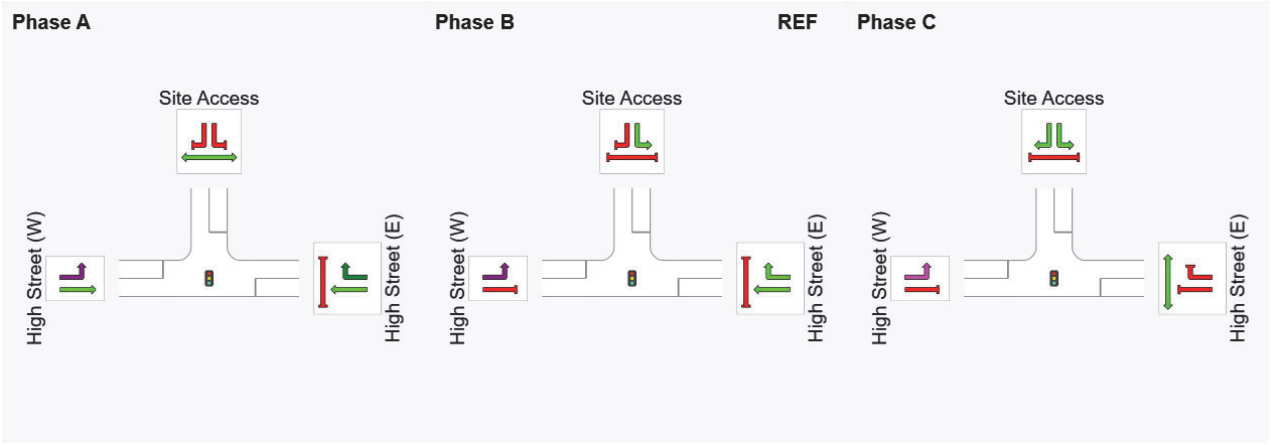
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

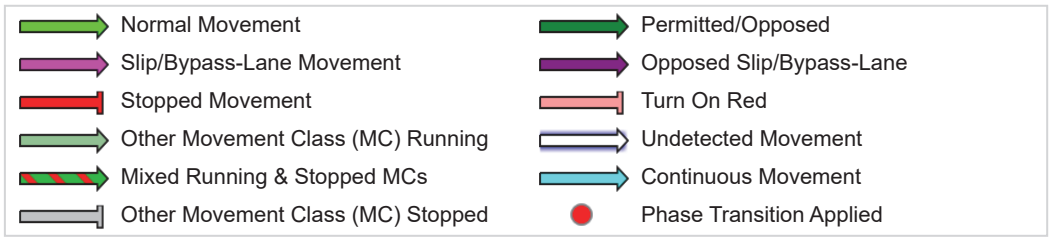
Phase	A	B	C
Phase Change Time (sec)	41	0	12
Green Time (sec)	18	6	23
Phase Time (sec)	24	12	29
Phase Split	37%	18%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

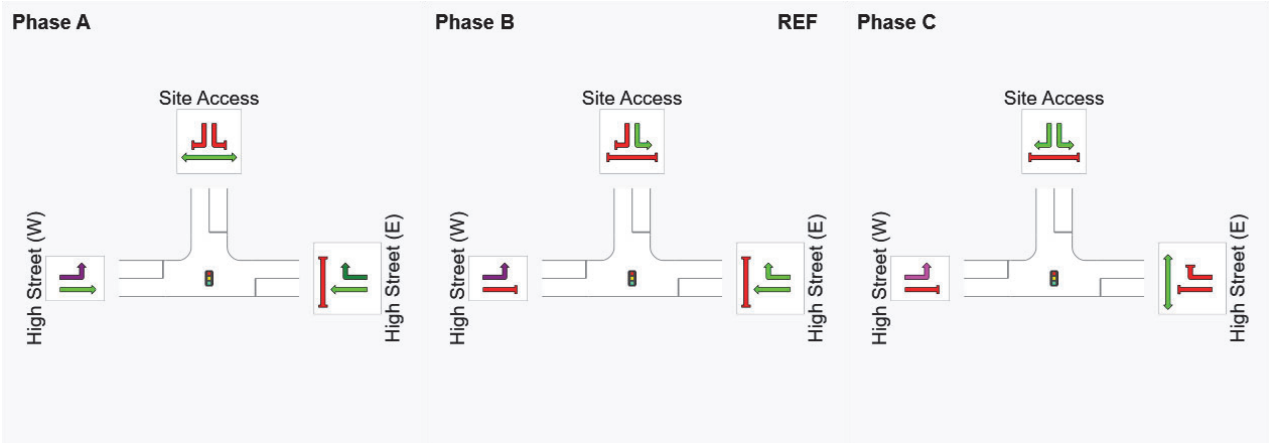
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

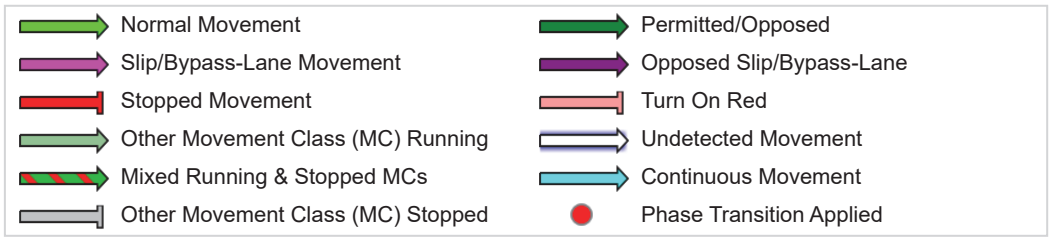
Phase	A	B	C
Phase Change Time (sec)	43	0	14
Green Time (sec)	16	8	23
Phase Time (sec)	22	14	29
Phase Split	34%	22%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

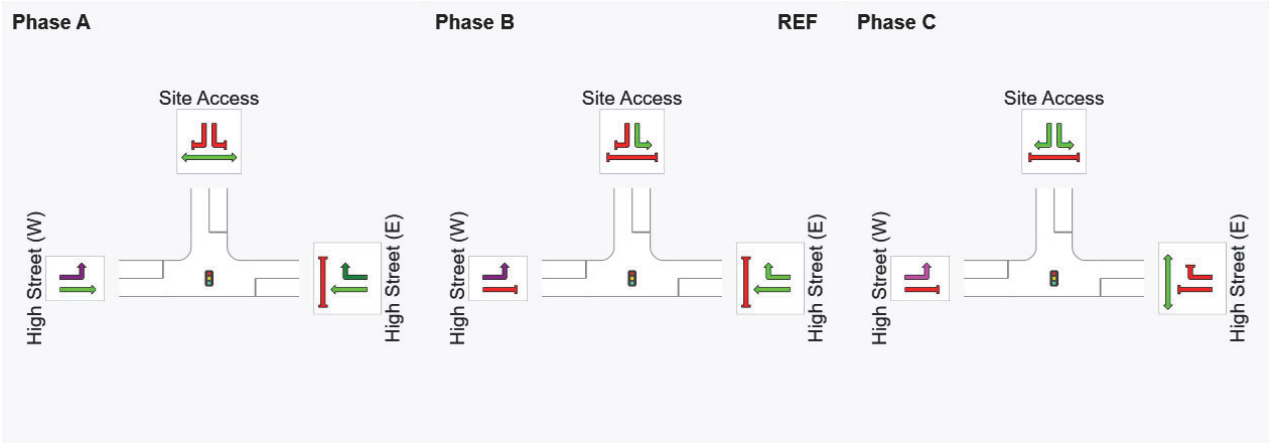
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

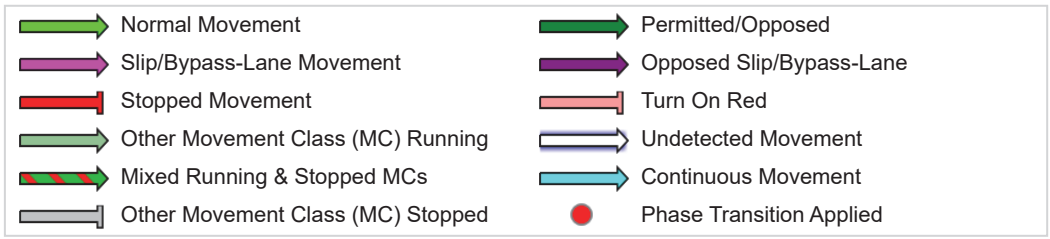
Phase	A	B	C
Phase Change Time (sec)	41	0	12
Green Time (sec)	18	6	23
Phase Time (sec)	24	12	29
Phase Split	37%	18%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

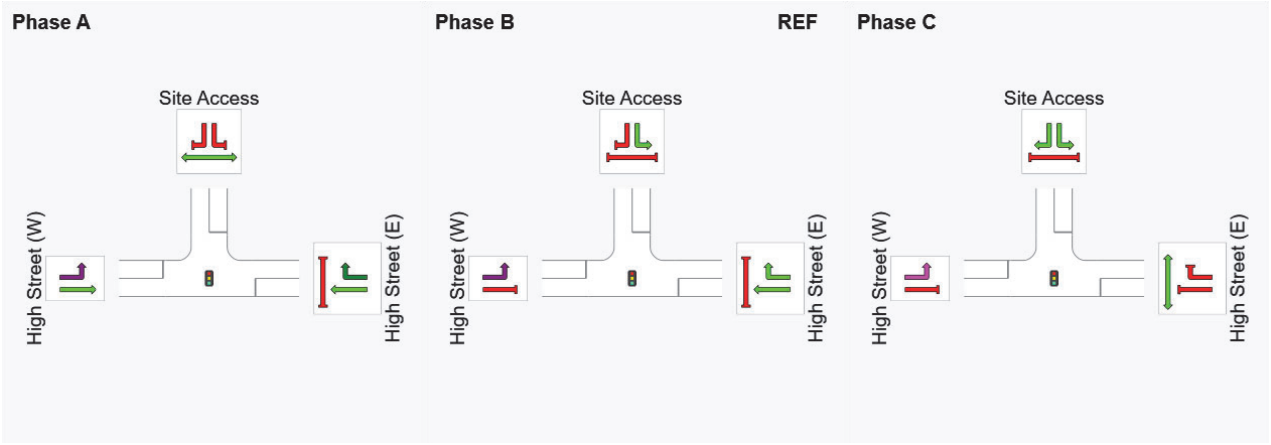
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

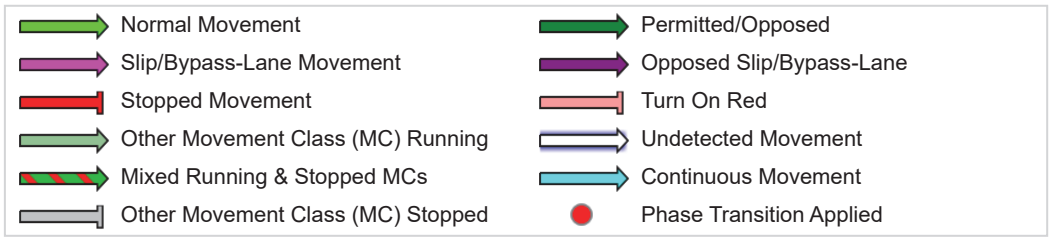
Phase	A	B	C
Phase Change Time (sec)	43	0	14
Green Time (sec)	16	8	23
Phase Time (sec)	22	14	29
Phase Split	34%	22%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

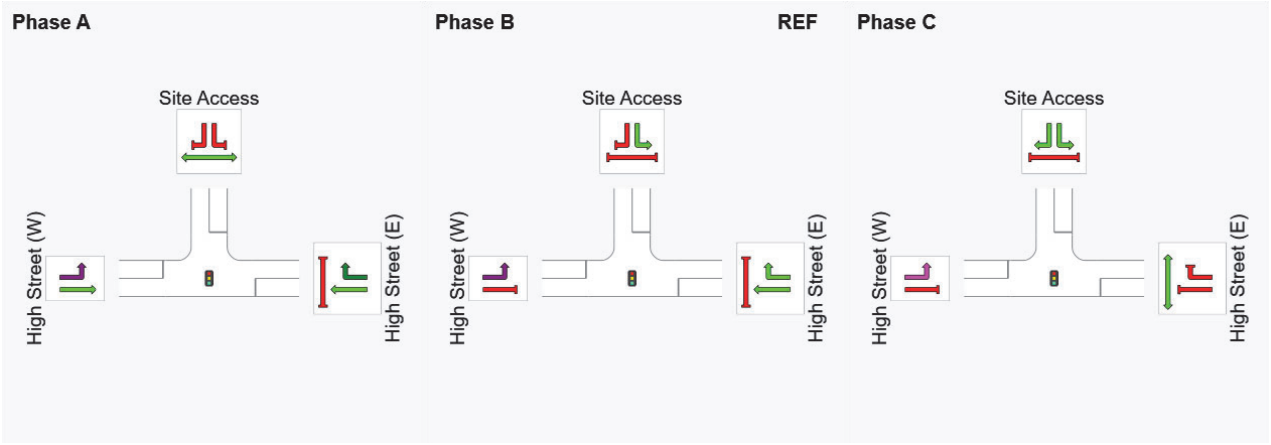
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

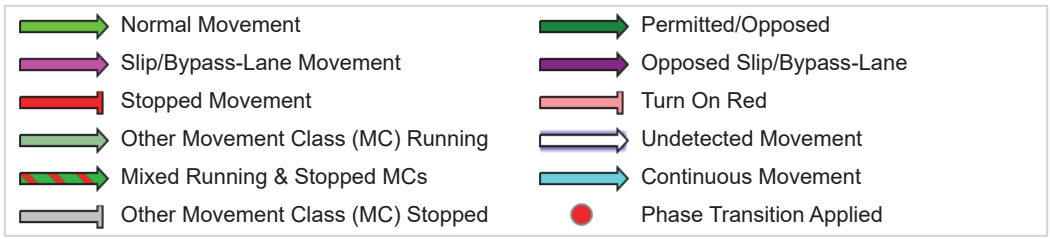
Phase	A	B	C
Phase Change Time (sec)	41	0	12
Green Time (sec)	18	6	23
Phase Time (sec)	24	12	29
Phase Split	37%	18%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

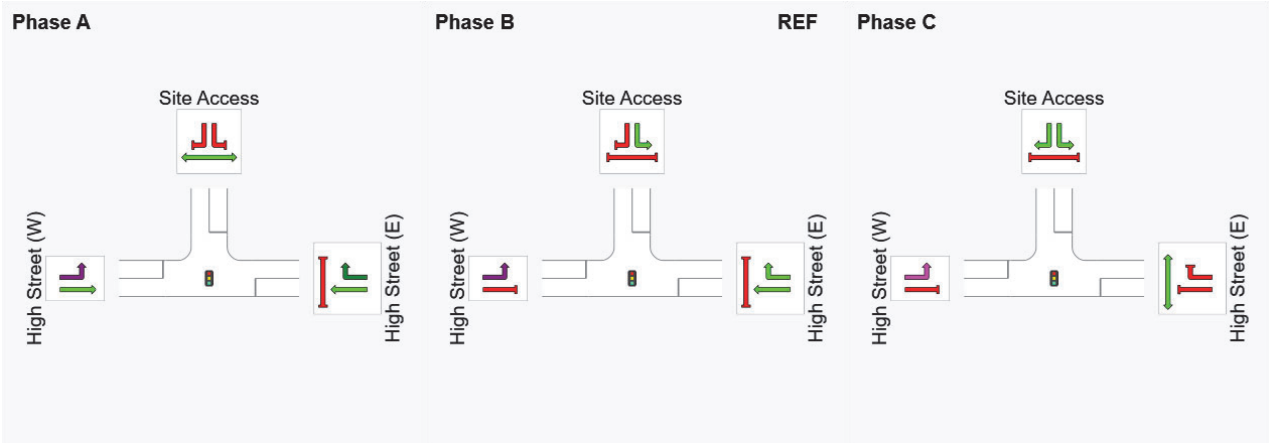
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

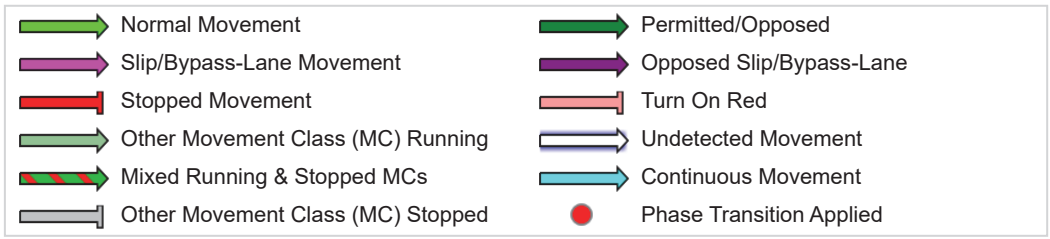
Phase	A	B	C
Phase Change Time (sec)	43	0	14
Green Time (sec)	16	8	23
Phase Time (sec)	22	14	29
Phase Split	34%	22%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

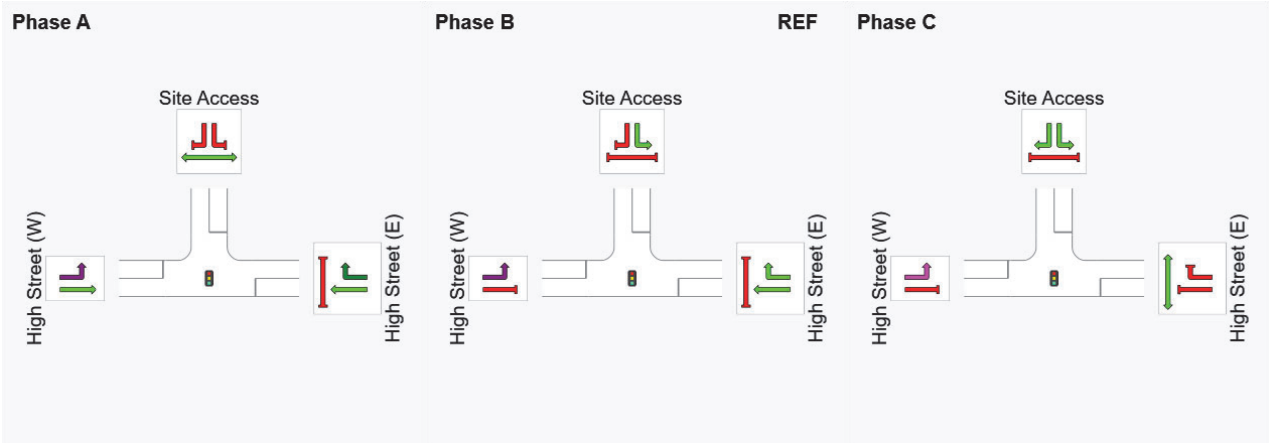
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

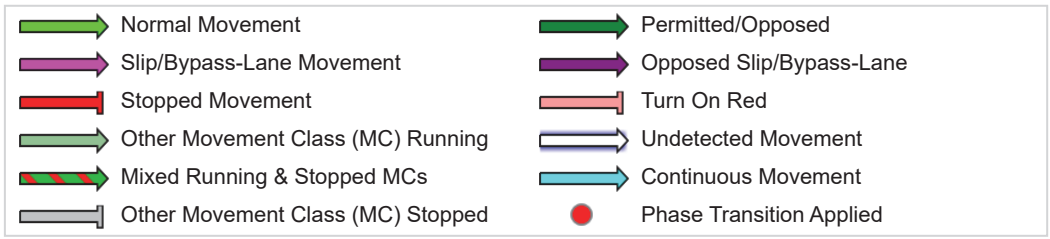
Phase	A	B	C
Phase Change Time (sec)	41	0	12
Green Time (sec)	18	6	23
Phase Time (sec)	24	12	29
Phase Split	37%	18%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: High Street/Kmart
2017 AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Site User-Given Cycle Time)

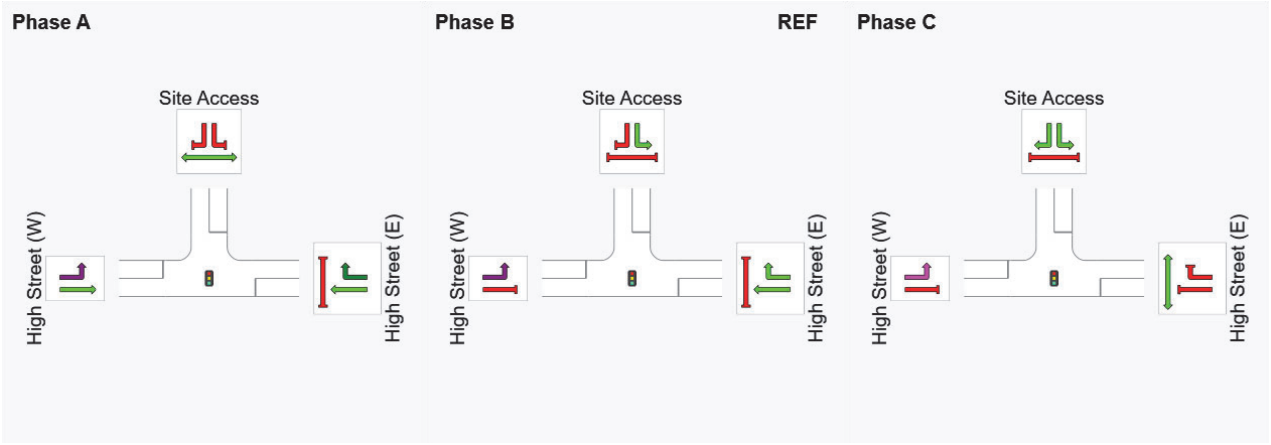
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

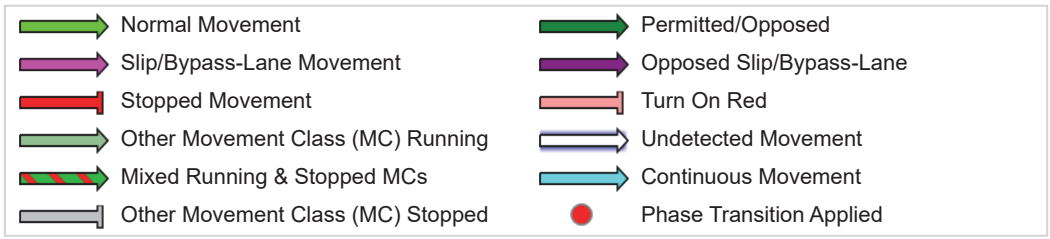
Phase	A	B	C
Phase Change Time (sec)	43	0	14
Green Time (sec)	16	8	23
Phase Time (sec)	22	14	29
Phase Split	34%	22%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 4 [2024 W Aprv Thursday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	33.1
2	T1	2	0.0	2	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	25.3
3	R2	2	0.0	2	0.0	0.007	5.1	LOS A	0.0	0.2	0.54	0.47	0.54	41.2
3u	U	1	0.0	1	0.0	0.007	5.9	LOS A	0.0	0.2	0.54	0.47	0.54	22.0
Approach		6	0.0	6	0.0	0.007	3.9	LOS A	0.0	0.2	0.54	0.47	0.54	31.6
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.263	5.6	LOS A	1.3	9.3	0.35	0.49	0.35	43.6
5	T1	543	0.0	543	0.0	0.263	5.1	LOS A	1.3	9.3	0.35	0.52	0.35	47.3
6	R2	86	0.0	86	0.0	0.263	9.7	LOS A	1.3	9.1	0.36	0.56	0.36	43.9
6u	U	2	0.0	2	0.0	0.263	11.9	LOS A	1.3	9.1	0.36	0.56	0.36	50.4
Approach		634	0.2	634	0.2	0.263	5.7	LOS A	1.3	9.3	0.35	0.52	0.35	46.8
North: Aquatic Street (N)														
7	L2	113	0.0	113	0.0	0.369	4.1	LOS A	2.8	19.5	0.70	0.64	0.70	34.4
8	T1	1	0.0	1	0.0	0.369	4.0	LOS A	2.8	19.5	0.70	0.64	0.70	23.6
9	R2	207	1.0	207	1.0	0.369	6.8	LOS A	2.8	19.5	0.70	0.64	0.70	26.5
9u	U	2	0.0	2	0.0	0.369	7.6	LOS A	2.8	19.5	0.70	0.64	0.70	33.2
Approach		323	0.6	323	0.6	0.369	5.9	LOS A	2.8	19.5	0.70	0.64	0.70	29.3
West: High Street (W)														
10	L2	369	0.0	369	0.0	0.291	4.6	LOS A	1.4	10.1	0.21	0.49	0.21	35.6
11	T1	539	0.0	539	0.0	0.371	4.6	LOS A	2.1	14.9	0.21	0.43	0.21	49.4
12	R2	4	0.0	4	0.0	0.371	9.2	LOS A	2.1	14.9	0.21	0.43	0.21	36.0
12u	U	5	0.0	5	0.0	0.371	11.3	LOS A	2.1	14.9	0.21	0.43	0.21	33.0
Approach		917	0.0	917	0.0	0.371	4.6	LOS A	2.1	14.9	0.21	0.45	0.21	43.8
All Vehicles		1880	0.2	1880	0.2	0.371	5.2	LOS A	2.8	19.5	0.35	0.51	0.35	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.56	0.45	0.56	34.5
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.56	0.45	0.56	25.7
3	R2	1	0.0	1	0.0	0.013	5.3	LOS A	0.1	0.4	0.56	0.45	0.56	43.2
3u	U	1	0.0	1	0.0	0.013	6.1	LOS A	0.1	0.4	0.56	0.45	0.56	22.2
Approach		10	0.0	10	0.0	0.013	3.2	LOS A	0.1	0.4	0.56	0.45	0.56	30.4
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.271	5.3	LOS A	1.4	9.8	0.40	0.52	0.40	43.0
5	T1	483	1.0	483	1.0	0.271	5.3	LOS A	1.4	9.8	0.40	0.55	0.40	46.5
6	R2	127	0.0	127	0.0	0.271	10.0	LOS A	1.4	9.6	0.40	0.61	0.40	42.8
6u	U	3	0.0	3	0.0	0.271	12.2	LOS A	1.4	9.6	0.40	0.61	0.40	49.2
Approach		619	0.8	619	0.8	0.271	6.3	LOS A	1.4	9.8	0.40	0.57	0.40	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.503	3.7	LOS A	4.0	28.0	0.72	0.65	0.72	34.9
8	T1	2	0.0	2	0.0	0.503	3.6	LOS A	4.0	28.0	0.72	0.65	0.72	24.1
9	R2	269	1.0	269	1.0	0.503	6.4	LOS A	4.0	28.0	0.72	0.65	0.72	26.9
9u	U	1	0.0	1	0.0	0.503	7.2	LOS A	4.0	28.0	0.72	0.65	0.72	34.0
Approach		463	1.0	463	1.0	0.503	5.3	LOS A	4.0	28.0	0.72	0.65	0.72	30.2
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.333	4.7	LOS A	1.8	12.7	0.26	0.50	0.26	35.3
11	T1	455	0.0	455	0.0	0.354	4.8	LOS A	1.9	13.6	0.27	0.45	0.27	48.8
12	R2	2	0.0	2	0.0	0.354	9.4	LOS A	1.9	13.6	0.27	0.45	0.27	35.3
12u	U	4	0.0	4	0.0	0.354	11.6	LOS A	1.9	13.6	0.27	0.45	0.27	32.7
Approach		928	0.0	928	0.0	0.354	4.8	LOS A	1.9	13.6	0.26	0.47	0.26	42.0
All Vehicles		2020	0.5	2020	0.5	0.503	5.4	LOS A	4.0	28.0	0.41	0.54	0.41	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.3	LOS A	0.0	0.2	0.52	0.46	0.52	33.3
2	T1	2	0.0	2	0.0	0.007	2.2	LOS A	0.0	0.2	0.52	0.46	0.52	25.5
3	R2	2	0.0	2	0.0	0.007	4.9	LOS A	0.0	0.2	0.52	0.46	0.52	41.5
3u	U	1	0.0	1	0.0	0.007	5.7	LOS A	0.0	0.2	0.52	0.46	0.52	22.2
Approach		6	0.0	6	0.0	0.007	3.7	LOS A	0.0	0.2	0.52	0.46	0.52	31.8
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.241	5.5	LOS A	1.2	8.3	0.33	0.48	0.33	43.8
5	T1	498	0.0	498	0.0	0.241	5.0	LOS A	1.2	8.3	0.34	0.51	0.34	47.5
6	R2	82	0.0	82	0.0	0.241	9.7	LOS A	1.2	8.1	0.34	0.56	0.34	44.0
6u	U	2	0.0	2	0.0	0.241	11.8	LOS A	1.2	8.1	0.34	0.56	0.34	50.5
Approach		585	0.2	585	0.2	0.241	5.7	LOS A	1.2	8.3	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.344	3.6	LOS A	2.5	17.3	0.66	0.60	0.66	34.9
8	T1	1	0.0	1	0.0	0.344	3.5	LOS A	2.5	17.3	0.66	0.60	0.66	24.1
9	R2	200	1.0	200	1.0	0.344	6.3	LOS A	2.5	17.3	0.66	0.60	0.66	26.9
9u	U	2	0.0	2	0.0	0.344	7.1	LOS A	2.5	17.3	0.66	0.60	0.66	33.9
Approach		312	0.6	312	0.6	0.344	5.3	LOS A	2.5	17.3	0.66	0.60	0.66	29.8
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.280	4.6	LOS A	1.4	9.6	0.20	0.48	0.20	35.6
11	T1	492	0.0	492	0.0	0.339	4.5	LOS A	1.8	12.9	0.20	0.42	0.20	49.5
12	R2	4	0.0	4	0.0	0.339	9.2	LOS A	1.8	12.9	0.20	0.42	0.20	36.1
12u	U	5	0.0	5	0.0	0.339	11.3	LOS A	1.8	12.9	0.20	0.42	0.20	33.1
Approach		863	0.0	863	0.0	0.339	4.6	LOS A	1.8	12.9	0.20	0.45	0.20	43.7
All Vehicles		1766	0.2	1766	0.2	0.344	5.1	LOS A	2.5	17.3	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.57	0.46	0.57	34.4
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.57	0.46	0.57	25.7
3	R2	1	0.0	1	0.0	0.013	5.3	LOS A	0.1	0.4	0.57	0.46	0.57	43.2
3u	U	1	0.0	1	0.0	0.013	6.1	LOS A	0.1	0.4	0.57	0.46	0.57	22.2
Approach		10	0.0	10	0.0	0.013	3.3	LOS A	0.1	0.4	0.57	0.46	0.57	30.4
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.275	5.3	LOS A	1.4	10.0	0.40	0.52	0.40	43.0
5	T1	492	1.0	492	1.0	0.275	5.3	LOS A	1.4	10.0	0.40	0.55	0.40	46.5
6	R2	127	0.0	127	0.0	0.275	10.0	LOS A	1.4	9.8	0.41	0.61	0.41	42.8
6u	U	3	0.0	3	0.0	0.275	12.2	LOS A	1.4	9.8	0.41	0.61	0.41	49.2
Approach		628	0.8	628	0.8	0.275	6.3	LOS A	1.4	10.0	0.40	0.57	0.40	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.505	3.8	LOS A	4.0	28.3	0.73	0.65	0.73	34.8
8	T1	2	0.0	2	0.0	0.505	3.7	LOS A	4.0	28.3	0.73	0.65	0.73	24.0
9	R2	269	1.0	269	1.0	0.505	6.5	LOS A	4.0	28.3	0.73	0.65	0.73	26.9
9u	U	1	0.0	1	0.0	0.505	7.3	LOS A	4.0	28.3	0.73	0.65	0.73	33.9
Approach		463	1.0	463	1.0	0.505	5.4	LOS A	4.0	28.3	0.73	0.65	0.73	30.2
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.359	4.8	LOS A	2.0	13.9	0.27	0.50	0.27	35.2
11	T1	463	0.0	463	0.0	0.335	4.7	LOS A	1.8	12.8	0.26	0.44	0.26	49.0
12	R2	2	0.0	2	0.0	0.335	9.4	LOS A	1.8	12.8	0.26	0.44	0.26	35.5
12u	U	4	0.0	4	0.0	0.335	11.5	LOS A	1.8	12.8	0.26	0.44	0.26	32.7
Approach		936	0.0	936	0.0	0.359	4.8	LOS A	2.0	13.9	0.26	0.47	0.26	42.1
All Vehicles		2037	0.5	2037	0.5	0.505	5.4	LOS A	4.0	28.3	0.41	0.54	0.41	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.3	LOS A	0.0	0.2	0.53	0.46	0.53	33.3
2	T1	2	0.0	2	0.0	0.007	2.2	LOS A	0.0	0.2	0.53	0.46	0.53	25.4
3	R2	2	0.0	2	0.0	0.007	4.9	LOS A	0.0	0.2	0.53	0.46	0.53	41.4
3u	U	1	0.0	1	0.0	0.007	5.8	LOS A	0.0	0.2	0.53	0.46	0.53	22.2
Approach		6	0.0	6	0.0	0.007	3.7	LOS A	0.0	0.2	0.53	0.46	0.53	31.8
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.244	5.5	LOS A	1.2	8.4	0.34	0.48	0.34	43.7
5	T1	507	0.0	507	0.0	0.244	5.0	LOS A	1.2	8.4	0.34	0.51	0.34	47.5
6	R2	82	0.0	82	0.0	0.244	9.7	LOS A	1.2	8.3	0.34	0.56	0.34	44.0
6u	U	2	0.0	2	0.0	0.244	11.8	LOS A	1.2	8.3	0.34	0.56	0.34	50.5
Approach		594	0.2	594	0.2	0.244	5.7	LOS A	1.2	8.4	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.347	3.7	LOS A	2.5	17.6	0.67	0.61	0.67	34.8
8	T1	1	0.0	1	0.0	0.347	3.6	LOS A	2.5	17.6	0.67	0.61	0.67	24.0
9	R2	200	1.0	200	1.0	0.347	6.4	LOS A	2.5	17.6	0.67	0.61	0.67	26.8
9u	U	2	0.0	2	0.0	0.347	7.2	LOS A	2.5	17.6	0.67	0.61	0.67	33.8
Approach		312	0.6	312	0.6	0.347	5.4	LOS A	2.5	17.6	0.67	0.61	0.67	29.7
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.281	4.6	LOS A	1.4	9.6	0.20	0.48	0.20	35.6
11	T1	502	0.0	502	0.0	0.345	4.5	LOS A	1.9	13.3	0.20	0.42	0.20	49.5
12	R2	4	0.0	4	0.0	0.345	9.2	LOS A	1.9	13.3	0.20	0.42	0.20	36.1
12u	U	5	0.0	5	0.0	0.345	11.3	LOS A	1.9	13.3	0.20	0.42	0.20	33.1
Approach		873	0.0	873	0.0	0.345	4.6	LOS A	1.9	13.3	0.20	0.45	0.20	43.7
All Vehicles		1785	0.2	1785	0.2	0.347	5.1	LOS A	2.5	17.6	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.9	LOS A	0.1	0.4	0.58	0.47	0.58	34.2
2	T1	4	0.0	4	0.0	0.013	2.8	LOS A	0.1	0.4	0.58	0.47	0.58	25.6
3	R2	1	0.0	1	0.0	0.013	5.5	LOS A	0.1	0.4	0.58	0.47	0.58	42.9
3u	U	1	0.0	1	0.0	0.013	6.3	LOS A	0.1	0.4	0.58	0.47	0.58	22.0
Approach		10	0.0	10	0.0	0.013	3.4	LOS A	0.1	0.4	0.58	0.47	0.58	30.2
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.299	5.3	LOS A	1.6	11.2	0.42	0.53	0.42	42.8
5	T1	534	1.0	534	1.0	0.299	5.4	LOS A	1.6	11.2	0.42	0.56	0.42	46.4
6	R2	132	0.0	132	0.0	0.299	10.1	LOS A	1.6	10.9	0.42	0.62	0.42	42.8
6u	U	3	0.0	3	0.0	0.299	12.2	LOS A	1.6	10.9	0.42	0.62	0.42	49.2
Approach		675	0.8	675	0.8	0.299	6.4	LOS A	1.6	11.2	0.42	0.57	0.42	45.6
North: Aquatic Street (N)														
7	L2	196	1.0	196	1.0	0.536	4.9	LOS A	4.8	33.7	0.78	0.73	0.82	33.8
8	T1	2	0.0	2	0.0	0.536	4.7	LOS A	4.8	33.7	0.78	0.73	0.82	23.1
9	R2	277	1.0	277	1.0	0.536	7.5	LOS A	4.8	33.7	0.78	0.73	0.82	26.1
9u	U	1	0.0	1	0.0	0.536	8.3	LOS A	4.8	33.7	0.78	0.73	0.82	32.6
Approach		476	1.0	476	1.0	0.536	6.4	LOS A	4.8	33.7	0.78	0.73	0.82	29.3
West: High Street (W)														
10	L2	475	0.0	475	0.0	0.370	4.9	LOS A	2.1	14.5	0.28	0.51	0.28	35.1
11	T1	506	0.0	506	0.0	0.366	4.8	LOS A	2.1	14.7	0.27	0.45	0.27	48.8
12	R2	2	0.0	2	0.0	0.366	9.4	LOS A	2.1	14.7	0.27	0.45	0.27	35.3
12u	U	4	0.0	4	0.0	0.366	11.5	LOS A	2.1	14.7	0.27	0.45	0.27	32.6
Approach		987	0.0	987	0.0	0.370	4.9	LOS A	2.1	14.7	0.28	0.48	0.28	42.2
All Vehicles		2148	0.5	2148	0.5	0.536	5.7	LOS A	4.8	33.7	0.43	0.56	0.44	39.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.57	0.46	0.57	34.4
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.57	0.46	0.57	25.7
3	R2	1	0.0	1	0.0	0.013	5.4	LOS A	0.1	0.4	0.57	0.46	0.57	43.1
3u	U	1	0.0	1	0.0	0.013	6.2	LOS A	0.1	0.4	0.57	0.46	0.57	22.1
Approach		10	0.0	10	0.0	0.013	3.3	LOS A	0.1	0.4	0.57	0.46	0.57	30.3
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.281	5.3	LOS A	1.5	10.3	0.40	0.52	0.40	42.9
5	T1	503	1.0	503	1.0	0.281	5.4	LOS A	1.5	10.3	0.41	0.55	0.41	46.5
6	R2	128	0.0	128	0.0	0.281	10.1	LOS A	1.4	10.1	0.41	0.61	0.41	42.8
6u	U	3	0.0	3	0.0	0.281	12.2	LOS A	1.4	10.1	0.41	0.61	0.41	49.2
Approach		640	0.8	640	0.8	0.281	6.3	LOS A	1.5	10.3	0.41	0.57	0.41	45.7
North: Aquatic Street (N)														
7	L2	192	1.0	192	1.0	0.512	4.0	LOS A	4.2	29.5	0.74	0.67	0.75	34.5
8	T1	2	0.0	2	0.0	0.512	3.9	LOS A	4.2	29.5	0.74	0.67	0.75	23.8
9	R2	271	1.0	271	1.0	0.512	6.7	LOS A	4.2	29.5	0.74	0.67	0.75	26.7
9u	U	1	0.0	1	0.0	0.512	7.5	LOS A	4.2	29.5	0.74	0.67	0.75	33.6
Approach		466	1.0	466	1.0	0.512	5.6	LOS A	4.2	29.5	0.74	0.67	0.75	30.0
West: High Street (W)														
10	L2	469	0.0	469	0.0	0.361	4.8	LOS A	2.0	14.0	0.27	0.51	0.27	35.2
11	T1	474	0.0	474	0.0	0.343	4.8	LOS A	1.9	13.3	0.26	0.45	0.26	48.9
12	R2	2	0.0	2	0.0	0.343	9.4	LOS A	1.9	13.3	0.26	0.45	0.26	35.4
12u	U	4	0.0	4	0.0	0.343	11.5	LOS A	1.9	13.3	0.26	0.45	0.26	32.7
Approach		949	0.0	949	0.0	0.361	4.8	LOS A	2.0	14.0	0.27	0.48	0.27	42.1
All Vehicles		2065	0.5	2065	0.5	0.512	5.5	LOS A	4.2	29.5	0.42	0.55	0.42	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W Dev Thursday Peak (Site Folder: General)]

Intersection: High Street/Acquatic Place
Scenario: 2017 AM Peak
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.53	0.46	0.53	33.2
2	T1	2	0.0	2	0.0	0.007	2.3	LOS A	0.0	0.2	0.53	0.46	0.53	25.4
3	R2	2	0.0	2	0.0	0.007	5.0	LOS A	0.0	0.2	0.53	0.46	0.53	41.4
3u	U	1	0.0	1	0.0	0.007	5.8	LOS A	0.0	0.2	0.53	0.46	0.53	22.1
Approach		6	0.0	6	0.0	0.007	3.8	LOS A	0.0	0.2	0.53	0.46	0.53	31.7
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.249	5.6	LOS A	1.2	8.6	0.34	0.49	0.34	43.7
5	T1	516	0.0	516	0.0	0.249	5.0	LOS A	1.2	8.6	0.34	0.51	0.34	47.4
6	R2	83	0.0	83	0.0	0.249	9.7	LOS A	1.2	8.5	0.35	0.56	0.35	44.0
6u	U	2	0.0	2	0.0	0.249	11.8	LOS A	1.2	8.5	0.35	0.56	0.35	50.5
Approach		604	0.2	604	0.2	0.249	5.7	LOS A	1.2	8.6	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	110	0.0	110	0.0	0.352	3.8	LOS A	2.6	18.0	0.68	0.62	0.68	34.7
8	T1	1	0.0	1	0.0	0.352	3.7	LOS A	2.6	18.0	0.68	0.62	0.68	23.9
9	R2	202	1.0	202	1.0	0.352	6.5	LOS A	2.6	18.0	0.68	0.62	0.68	26.8
9u	U	2	0.0	2	0.0	0.352	7.3	LOS A	2.6	18.0	0.68	0.62	0.68	33.6
Approach		315	0.6	315	0.6	0.352	5.5	LOS A	2.6	18.0	0.68	0.62	0.68	29.6
West: High Street (W)														
10	L2	364	0.0	364	0.0	0.284	4.6	LOS A	1.4	9.7	0.20	0.48	0.20	35.6
11	T1	511	0.0	511	0.0	0.352	4.6	LOS A	2.0	13.7	0.21	0.43	0.21	49.5
12	R2	4	0.0	4	0.0	0.352	9.2	LOS A	2.0	13.7	0.21	0.43	0.21	36.1
12u	U	5	0.0	5	0.0	0.352	11.3	LOS A	2.0	13.7	0.21	0.43	0.21	33.1
Approach		884	0.0	884	0.0	0.352	4.6	LOS A	2.0	13.7	0.21	0.45	0.21	43.7
All Vehicles		1809	0.2	1809	0.2	0.352	5.1	LOS A	2.6	18.0	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

PHASING SUMMARY

Site: 3 [2024 W Aprv Thusday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

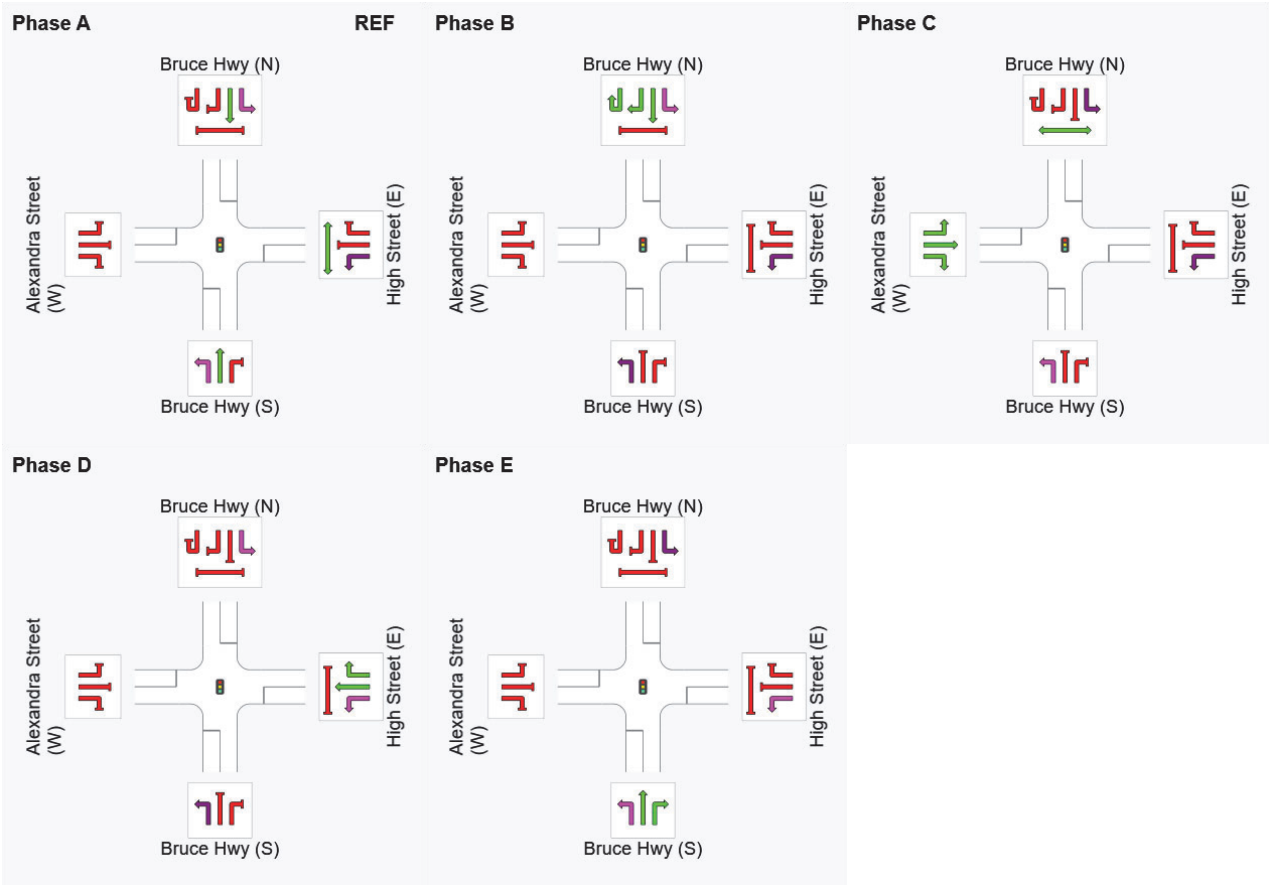
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

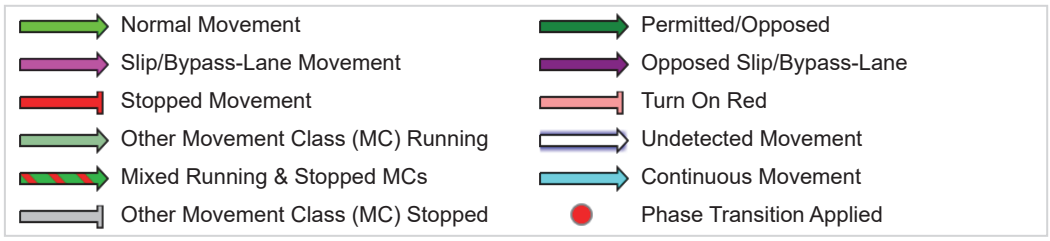
Phase	A	B	C	D	E
Phase Change Time (sec)	0	36	49	83	110
Green Time (sec)	30	7	28	21	34
Phase Time (sec)	36	13	34	27	40
Phase Split	24%	9%	23%	18%	27%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:36 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2021 Saturday Background Traffic
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	260	3.0	260	3.0	0.182	9.3	LOS A	3.7	22.7	0.26	0.66	0.26	55.7
2	T1	766	2.0	766	2.0	0.459	31.8	LOS C	19.5	119.3	0.76	0.67	0.76	43.6
3	R2	576	0.0	576	0.0	* 0.750	68.3	LOS E	20.3	121.7	1.00	0.86	1.04	21.8
Approach		1602	1.4	1602	1.4	0.750	41.3	LOS C	20.3	121.7	0.76	0.74	0.78	35.5
East: High Street (E)														
4	L2	374	0.0	374	0.0	0.319	16.3	LOS B	11.1	66.7	0.49	0.70	0.49	41.3
5	T1	307	2.0	307	2.0	* 0.672	65.6	LOS E	13.9	85.2	1.00	0.83	1.01	19.1
6	R2	86	1.0	86	1.0	0.672	71.2	LOS F	13.7	83.3	1.00	0.83	1.01	21.3
Approach		767	0.9	767	0.9	0.672	42.2	LOS C	13.9	85.2	0.75	0.77	0.75	27.1
North: Bruce Hwy (N)														
7	L2	109	0.0	109	0.0	0.099	12.2	LOS A	2.1	12.6	0.36	0.67	0.36	47.7
8	T1	803	3.0	803	3.0	0.759	51.4	LOS D	28.3	174.8	0.96	0.84	0.97	35.4
9	R2	66	0.0	66	0.0	* 0.662	84.7	LOS F	5.9	35.5	1.00	0.80	1.08	24.1
9u	U	12	0.0	12	0.0	0.662	84.9	LOS F	5.9	35.5	1.00	0.80	1.08	25.4
Approach		990	2.4	990	2.4	0.759	49.7	LOS D	28.3	174.8	0.90	0.82	0.91	34.8
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.490	65.5	LOS E	10.5	62.9	0.91	0.76	0.91	27.8
11	T1	272	0.0	272	0.0	* 0.490	59.5	LOS E	11.1	66.8	0.91	0.76	0.91	20.3
12	R2	197	4.0	197	4.0	0.490	64.8	LOS E	11.1	66.8	0.90	0.79	0.90	27.3
Approach		506	1.6	506	1.6	0.490	62.0	LOS E	11.1	66.8	0.91	0.77	0.91	24.0
All Vehicles		3865	1.6	3865	1.6	0.759	46.3	LOS D	28.3	174.8	0.81	0.77	0.82	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	65.5	LOS F	0.2	0.2	0.94	0.94	129.3	83.0	0.64
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	67.4	LOS F	0.2	0.2	0.95	0.95	118.1	66.0	0.56

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

MOVEMENT SUMMARY

Site: 3 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	395	5.0	395	5.0	0.279	9.7	LOS A	6.2	38.8	0.28	0.67	0.28	55.0
2	T1	1253	3.0	1253	3.0	* 0.760	33.6	LOS C	37.1	229.1	0.86	0.77	0.86	42.7
3	R2	499	0.0	499	0.0	0.611	63.4	LOS E	16.5	99.0	0.96	0.83	0.96	22.9
Approach		2147	2.7	2147	2.7	0.760	36.1	LOS C	37.1	229.1	0.78	0.77	0.78	38.8
East: High Street (E)														
4	L2	324	0.0	324	0.0	0.296	18.7	LOS B	10.6	63.4	0.52	0.71	0.52	39.6
5	T1	340	0.0	340	0.0	* 0.783	72.0	LOS F	15.2	91.2	1.00	0.89	1.11	17.9
6	R2	64	0.0	64	0.0	0.783	77.7	LOS F	15.0	89.9	1.00	0.89	1.11	20.2
Approach		728	0.0	728	0.0	0.783	48.8	LOS D	15.2	91.2	0.79	0.81	0.85	24.8
North: Bruce Hwy (N)														
7	L2	63	2.0	63	2.0	0.057	12.1	LOS A	1.2	7.1	0.35	0.66	0.35	47.8
8	T1	822	5.0	822	5.0	0.762	50.9	LOS D	28.6	180.5	0.96	0.85	0.97	35.5
9	R2	59	0.0	59	0.0	* 0.690	87.4	LOS F	5.1	30.6	1.00	0.80	1.13	23.7
9u	U	7	0.0	7	0.0	0.690	87.7	LOS F	5.1	30.6	1.00	0.80	1.13	25.0
Approach		951	4.5	951	4.5	0.762	50.9	LOS D	28.6	180.5	0.92	0.83	0.94	34.8
West: Alexandra Street (W)														
10	L2	26	0.0	26	0.0	0.693	67.2	LOS E	13.6	81.9	0.94	0.79	0.95	27.5
11	T1	322	0.0	322	0.0	* 0.693	61.3	LOS E	13.7	83.3	0.94	0.79	0.95	19.9
12	R2	303	4.0	303	4.0	0.693	67.5	LOS E	15.7	98.0	0.96	0.82	0.96	26.7
Approach		651	1.9	651	1.9	0.693	64.4	LOS E	15.7	98.0	0.95	0.81	0.96	23.8
All Vehicles		4477	2.5	4477	2.5	0.783	45.4	LOS D	37.1	229.1	0.83	0.79	0.85	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	62.7	LOS F	0.2	0.2	0.92	0.92	126.5	83.0	0.66
North: Bruce Hwy (N)												

P3	Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians		100	100	66.0	LOS F	0.2	0.2	0.94	0.94	116.7	66.0	0.57

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

MOVEMENT SUMMARY

Site: 3 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.190	9.6	LOS A	4.0	24.5	0.27	0.66	0.27	55.5
2	T1	793	2.0	793	2.0	0.498	34.4	LOS C	21.1	129.1	0.79	0.70	0.79	42.3
3	R2	597	0.0	597	0.0	* 0.753	67.7	LOS E	21.0	125.8	1.00	0.87	1.04	21.9
Approach		1659	1.4	1659	1.4	0.753	42.4	LOS C	21.1	129.1	0.78	0.75	0.79	35.1
East: High Street (E)														
4	L2	381	0.0	381	0.0	0.330	16.8	LOS B	11.7	69.9	0.50	0.71	0.50	40.9
5	T1	312	2.0	312	2.0	* 0.749	69.8	LOS E	14.8	90.4	1.00	0.87	1.08	18.3
6	R2	88	1.0	88	1.0	0.749	75.5	LOS F	14.5	88.5	1.00	0.87	1.08	20.5
Approach		781	0.9	781	0.9	0.749	44.6	LOS D	14.8	90.4	0.76	0.79	0.79	26.3
North: Bruce Hwy (N)														
7	L2	113	0.0	113	0.0	0.104	12.6	LOS A	2.2	13.4	0.37	0.67	0.37	47.4
8	T1	832	3.0	832	3.0	* 0.769	51.2	LOS D	29.5	182.2	0.96	0.85	0.98	35.4
9	R2	68	0.0	68	0.0	0.459	77.0	LOS F	5.8	34.6	0.99	0.78	0.99	25.6
9u	U	13	0.0	13	0.0	0.459	77.3	LOS F	5.8	34.6	0.99	0.78	0.99	26.8
Approach		1026	2.4	1026	2.4	0.769	49.0	LOS D	29.5	182.2	0.90	0.83	0.91	35.1
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.498	65.6	LOS E	10.7	64.2	0.91	0.76	0.91	27.8
11	T1	277	0.0	277	0.0	* 0.498	59.6	LOS E	11.3	68.2	0.91	0.76	0.91	20.2
12	R2	201	4.0	201	4.0	0.498	64.9	LOS E	11.3	68.2	0.91	0.79	0.91	27.3
Approach		515	1.6	515	1.6	0.498	62.1	LOS E	11.3	68.2	0.91	0.77	0.91	24.0
All Vehicles		3981	1.6	3981	1.6	0.769	47.1	LOS D	29.5	182.2	0.82	0.78	0.84	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	133.1	83.0	0.62
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	69.3	LOS F	0.2	0.2	0.96	0.96	120.0	66.0	0.55

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

MOVEMENT SUMMARY

Site: 3 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.289	9.9	LOS A	6.7	42.1	0.30	0.67	0.30	54.8
2	T1	1298	3.0	1298	3.0	*0.794	33.3	LOS C	38.4	237.5	0.86	0.78	0.86	42.8
3	R2	518	0.0	518	0.0	0.615	62.7	LOS E	17.1	102.4	0.96	0.84	0.96	23.0
Approach		2225	2.7	2225	2.7	0.794	35.9	LOS C	38.4	237.5	0.78	0.77	0.78	39.0
East: High Street (E)														
4	L2	331	0.0	331	0.0	0.310	20.2	LOS B	11.4	68.6	0.55	0.72	0.55	38.5
5	T1	347	0.0	347	0.0	*0.799	72.9	LOS F	15.6	93.8	1.00	0.90	1.13	17.8
6	R2	65	0.0	65	0.0	0.799	78.5	LOS F	15.4	92.4	1.00	0.90	1.13	20.1
Approach		743	0.0	743	0.0	0.799	49.9	LOS D	15.6	93.8	0.80	0.82	0.87	24.5
North: Bruce Hwy (N)														
7	L2	65	2.0	65	2.0	0.060	12.4	LOS A	1.2	7.6	0.36	0.66	0.36	47.5
8	T1	852	5.0	852	5.0	0.807	54.9	LOS D	31.2	196.7	0.98	0.89	1.03	34.2
9	R2	62	0.0	62	0.0	*0.823	92.3	LOS F	5.6	33.3	1.00	0.86	1.32	22.9
9u	U	7	0.0	7	0.0	0.823	92.5	LOS F	5.6	33.3	1.00	0.86	1.32	24.2
Approach		986	4.5	986	4.5	0.823	54.7	LOS D	31.2	196.7	0.94	0.88	1.01	33.6
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.713	67.7	LOS E	13.9	83.6	0.94	0.80	0.97	27.4
11	T1	328	0.0	328	0.0	*0.713	61.8	LOS E	14.0	85.3	0.94	0.80	0.97	19.8
12	R2	309	4.0	309	4.0	0.713	68.1	LOS E	16.3	102.0	0.96	0.83	0.98	26.6
Approach		664	1.9	664	1.9	0.713	64.9	LOS E	16.3	102.0	0.95	0.82	0.97	23.7
All Vehicles		4618	2.5	4618	2.5	0.823	46.3	LOS D	38.4	237.5	0.84	0.81	0.87	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	62.7	LOS F	0.2	0.2	0.92	0.92	126.5	83.0	0.66
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	66.0	LOS F	0.2	0.2	0.94	0.94	116.7	66.0	0.57

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

MOVEMENT SUMMARY

Site: 3 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.190	9.6	LOS A	4.0	24.6	0.27	0.66	0.27	55.5
2	T1	793	2.0	793	2.0	0.498	34.4	LOS C	21.1	129.1	0.79	0.70	0.79	42.3
3	R2	604	0.0	604	0.0	* 0.762	68.1	LOS E	21.3	128.0	1.00	0.87	1.04	21.8
Approach		1666	1.4	1666	1.4	0.762	42.6	LOS D	21.3	129.1	0.78	0.75	0.80	35.0
East: High Street (E)														
4	L2	387	0.0	387	0.0	0.336	16.9	LOS B	11.9	71.5	0.50	0.71	0.50	40.9
5	T1	318	2.0	318	2.0	* 0.760	70.3	LOS E	15.1	92.3	1.00	0.88	1.09	18.2
6	R2	88	1.0	88	1.0	0.760	75.9	LOS F	14.8	90.3	1.00	0.88	1.09	20.4
Approach		793	0.9	793	0.9	0.760	44.8	LOS D	15.1	92.3	0.76	0.80	0.80	26.2
North: Bruce Hwy (N)														
7	L2	113	0.0	113	0.0	0.104	12.9	LOS A	2.3	13.8	0.38	0.68	0.38	47.1
8	T1	834	3.0	834	3.0	* 0.772	51.3	LOS D	29.6	183.1	0.96	0.85	0.98	35.4
9	R2	69	0.0	69	0.0	0.465	77.1	LOS F	5.8	35.0	0.99	0.78	0.99	25.6
9u	U	13	0.0	13	0.0	0.465	77.3	LOS F	5.8	35.0	0.99	0.78	0.99	26.8
Approach		1029	2.4	1029	2.4	0.772	49.2	LOS D	29.6	183.1	0.90	0.83	0.91	35.0
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.504	65.7	LOS E	10.8	65.1	0.91	0.76	0.91	27.8
11	T1	283	0.0	283	0.0	* 0.504	59.6	LOS E	11.4	69.1	0.91	0.76	0.91	20.2
12	R2	201	4.0	201	4.0	0.504	65.0	LOS E	11.4	69.1	0.91	0.79	0.91	27.3
Approach		521	1.5	521	1.5	0.504	62.1	LOS E	11.4	69.1	0.91	0.77	0.91	23.9
All Vehicles		4009	1.6	4009	1.6	0.772	47.3	LOS D	29.6	183.1	0.82	0.78	0.84	31.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	133.1	83.0	0.62
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	69.3	LOS F	0.2	0.2	0.96	0.96	120.0	66.0	0.55

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

MOVEMENT SUMMARY

Site: 3 [2024 W Dev Thusday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.290	9.9	LOS A	6.7	42.1	0.30	0.67	0.30	54.8
2	T1	1298	3.0	1298	3.0	* 0.806	33.4	LOS C	38.1	235.5	0.86	0.78	0.86	42.8
3	R2	523	0.0	523	0.0	0.621	62.8	LOS E	17.3	103.6	0.96	0.84	0.96	23.0
Approach		2230	2.7	2230	2.7	0.806	36.0	LOS C	38.1	235.5	0.78	0.77	0.78	38.9
East: High Street (E)														
4	L2	336	0.0	336	0.0	0.316	20.3	LOS B	11.7	70.1	0.55	0.72	0.55	38.5
5	T1	352	0.0	352	0.0	* 0.808	73.4	LOS F	15.9	95.5	1.00	0.91	1.14	17.7
6	R2	65	0.0	65	0.0	0.808	79.1	LOS F	15.7	94.1	1.00	0.91	1.14	20.0
Approach		753	0.0	753	0.0	0.808	50.2	LOS D	15.9	95.5	0.80	0.82	0.88	24.4
North: Bruce Hwy (N)														
7	L2	65	2.0	65	2.0	0.060	12.4	LOS A	1.2	7.6	0.36	0.66	0.36	47.5
8	T1	853	5.0	853	5.0	0.808	54.9	LOS D	31.3	197.1	0.98	0.89	1.03	34.2
9	R2	62	0.0	62	0.0	* 0.823	92.3	LOS F	5.6	33.3	1.00	0.86	1.32	22.9
9u	U	7	0.0	7	0.0	0.823	92.5	LOS F	5.6	33.3	1.00	0.86	1.32	24.2
Approach		987	4.5	987	4.5	0.823	54.7	LOS D	31.3	197.1	0.94	0.88	1.01	33.5
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.721	67.9	LOS E	14.1	84.3	0.94	0.81	0.97	27.4
11	T1	333	0.0	333	0.0	* 0.721	62.0	LOS E	14.2	86.0	0.94	0.81	0.97	19.7
12	R2	309	4.0	309	4.0	0.721	68.3	LOS E	16.6	103.5	0.96	0.84	0.99	26.6
Approach		669	1.8	669	1.8	0.721	65.1	LOS E	16.6	103.5	0.95	0.82	0.98	23.6
All Vehicles		4639	2.5	4639	2.5	0.823	46.5	LOS D	38.1	235.5	0.84	0.81	0.87	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	62.7	LOS F	0.2	0.2	0.92	0.92	126.5	83.0	0.66
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	66.0	LOS F	0.2	0.2	0.94	0.94	116.7	66.0	0.57

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

MOVEMENT SUMMARY

Site: 3 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.192	9.8	LOS A	4.1	25.5	0.28	0.66	0.28	55.3
2	T1	793	2.0	793	2.0	0.498	34.4	LOS C	21.1	129.1	0.79	0.70	0.79	42.3
3	R2	623	0.0	623	0.0	* 0.786	69.5	LOS E	22.4	134.4	1.00	0.88	1.07	21.5
Approach		1685	1.4	1685	1.4	0.786	43.5	LOS D	22.4	134.4	0.79	0.76	0.81	34.6
East: High Street (E)														
4	L2	406	0.0	406	0.0	0.354	17.5	LOS B	12.9	77.5	0.52	0.71	0.52	40.4
5	T1	336	2.0	336	2.0	* 0.796	72.0	LOS F	16.1	98.4	1.00	0.90	1.12	17.9
6	R2	89	1.0	89	1.0	0.796	77.7	LOS F	15.8	96.4	1.00	0.90	1.13	20.1
Approach		831	0.9	831	0.9	0.796	46.0	LOS D	16.1	98.4	0.76	0.81	0.83	25.8
North: Bruce Hwy (N)														
7	L2	115	0.0	115	0.0	0.107	13.2	LOS A	2.4	14.4	0.39	0.68	0.39	46.8
8	T1	839	3.0	839	3.0	* 0.776	51.6	LOS D	29.9	184.9	0.96	0.86	0.98	35.3
9	R2	69	0.0	69	0.0	0.465	77.1	LOS F	5.8	35.0	0.99	0.78	0.99	25.6
9u	U	13	0.0	13	0.0	0.465	77.3	LOS F	5.8	35.0	0.99	0.78	0.99	26.8
Approach		1036	2.4	1036	2.4	0.776	49.4	LOS D	29.9	184.9	0.90	0.83	0.92	34.9
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.521	65.9	LOS E	11.3	67.8	0.92	0.77	0.92	27.7
11	T1	300	0.0	300	0.0	* 0.521	59.8	LOS E	11.8	71.2	0.91	0.76	0.91	20.2
12	R2	201	4.0	201	4.0	0.521	65.2	LOS E	11.8	71.2	0.91	0.80	0.91	27.2
Approach		538	1.5	538	1.5	0.521	62.3	LOS E	11.8	71.2	0.91	0.77	0.91	23.8
All Vehicles		4090	1.6	4090	1.6	0.796	47.9	LOS D	29.9	184.9	0.83	0.79	0.86	31.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	133.1	83.0	0.62
North: Bruce Hwy (N)												

P3 Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians	100	100	69.3	LOS F	0.2	0.2	0.96	0.96	120.0	66.0	0.55

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

MOVEMENT SUMMARY

Site: 3 [2024 W Aprv Thusday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.292	10.2	LOS A	6.9	43.7	0.31	0.67	0.31	54.6
2	T1	1298	3.0	1298	3.0	* 0.828	36.1	LOS C	39.6	244.9	0.87	0.81	0.89	41.4
3	R2	540	0.0	540	0.0	0.641	63.1	LOS E	17.9	107.5	0.96	0.84	0.96	22.9
Approach		2247	2.6	2247	2.6	0.828	37.9	LOS C	39.6	244.9	0.79	0.79	0.80	38.0
East: High Street (E)														
4	L2	353	0.0	353	0.0	0.335	21.1	LOS B	12.7	76.1	0.57	0.72	0.57	38.0
5	T1	367	0.0	367	0.0	* 0.799	72.1	LOS F	16.4	98.3	1.00	0.90	1.13	17.9
6	R2	66	0.0	66	0.0	0.799	77.8	LOS F	16.1	96.9	1.00	0.90	1.13	20.2
Approach		786	0.0	786	0.0	0.799	49.7	LOS D	16.4	98.3	0.81	0.82	0.87	24.5
North: Bruce Hwy (N)														
7	L2	67	2.0	67	2.0	0.063	12.7	LOS A	1.3	8.0	0.37	0.66	0.37	47.2
8	T1	858	5.0	858	5.0	0.831	57.8	LOS E	32.4	204.2	0.99	0.92	1.07	33.3
9	R2	62	0.0	62	0.0	* 0.823	92.3	LOS F	5.6	33.3	1.00	0.86	1.32	22.9
9u	U	7	0.0	7	0.0	0.823	92.5	LOS F	5.6	33.3	1.00	0.86	1.32	24.2
Approach		994	4.5	994	4.5	0.831	57.2	LOS E	32.4	204.2	0.95	0.90	1.04	32.8
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.743	68.5	LOS E	14.4	86.5	0.94	0.82	0.99	27.2
11	T1	348	0.0	348	0.0	* 0.743	62.6	LOS E	14.6	88.4	0.94	0.82	0.99	19.6
12	R2	309	4.0	309	4.0	0.743	69.1	LOS E	17.3	108.1	0.97	0.85	1.01	26.4
Approach		684	1.8	684	1.8	0.743	65.8	LOS E	17.3	108.1	0.96	0.83	1.00	23.4
All Vehicles		4711	2.5	4711	2.5	0.831	48.0	LOS D	39.6	244.9	0.85	0.82	0.89	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	63.6	LOS F	0.2	0.2	0.92	0.92	127.5	83.0	0.65
North: Bruce Hwy (N)												

P3	Full	50	50	69.3	LOS F	0.2	0.2	0.96	0.96	107.0	49.0	0.46
All Pedestrians		100	100	66.4	LOS F	0.2	0.2	0.94	0.94	117.2	66.0	0.56

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

PHASING SUMMARY

Site: 3 [2022 BG Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2021 Saturday Background Traffic
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

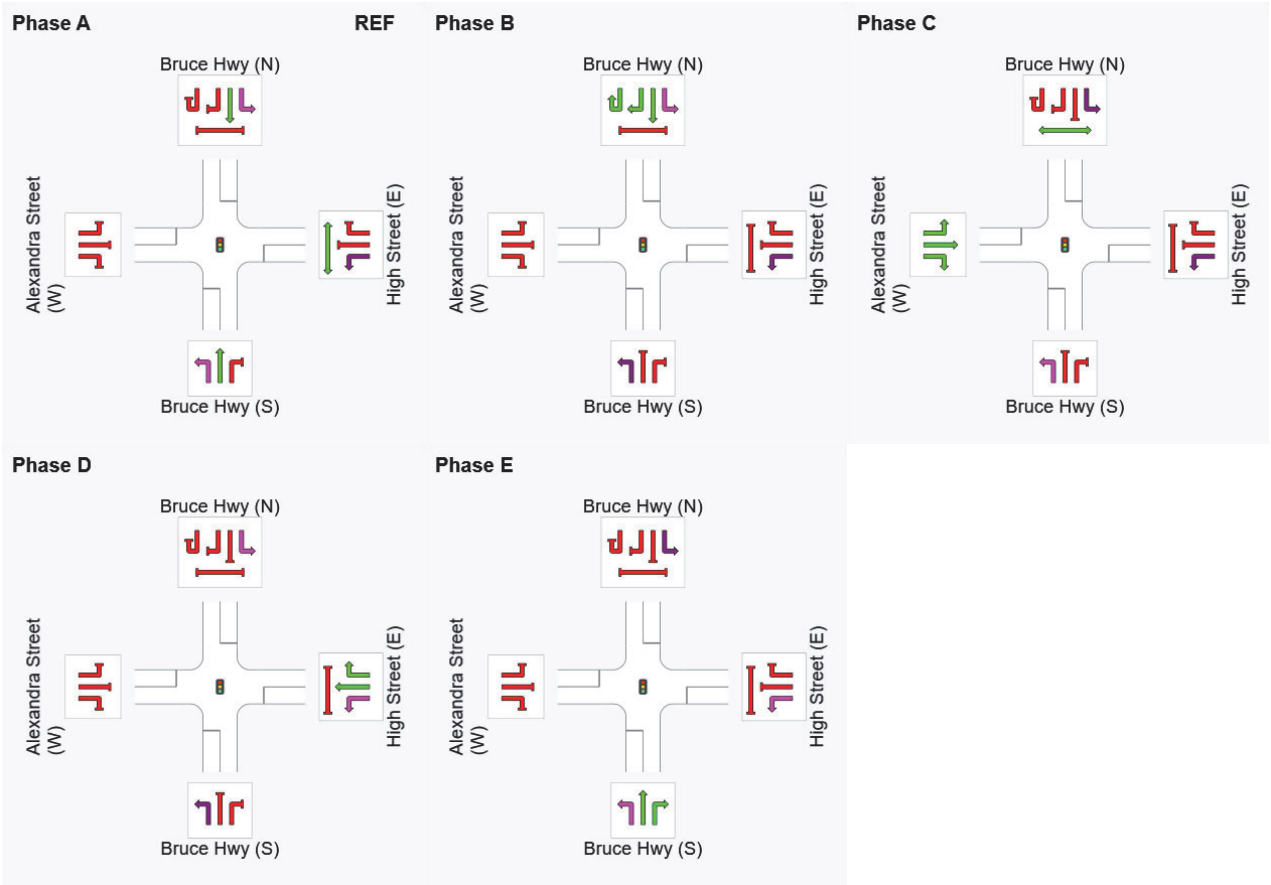
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

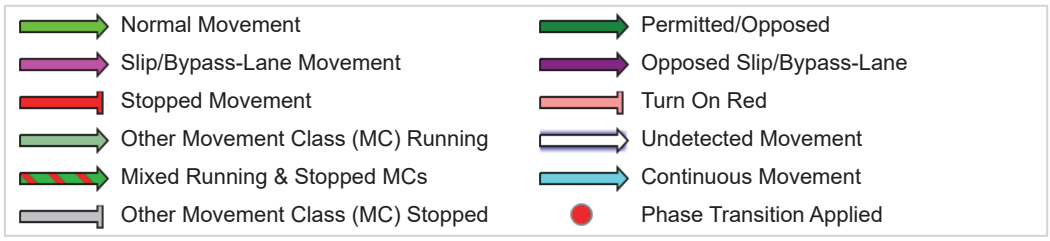
Phase	A	B	C	D	E
Phase Change Time (sec)	0	34	50	84	113
Green Time (sec)	28	10	28	23	31
Phase Time (sec)	34	16	34	29	37
Phase Split	23%	11%	23%	19%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:32 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2022 BG Thursday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

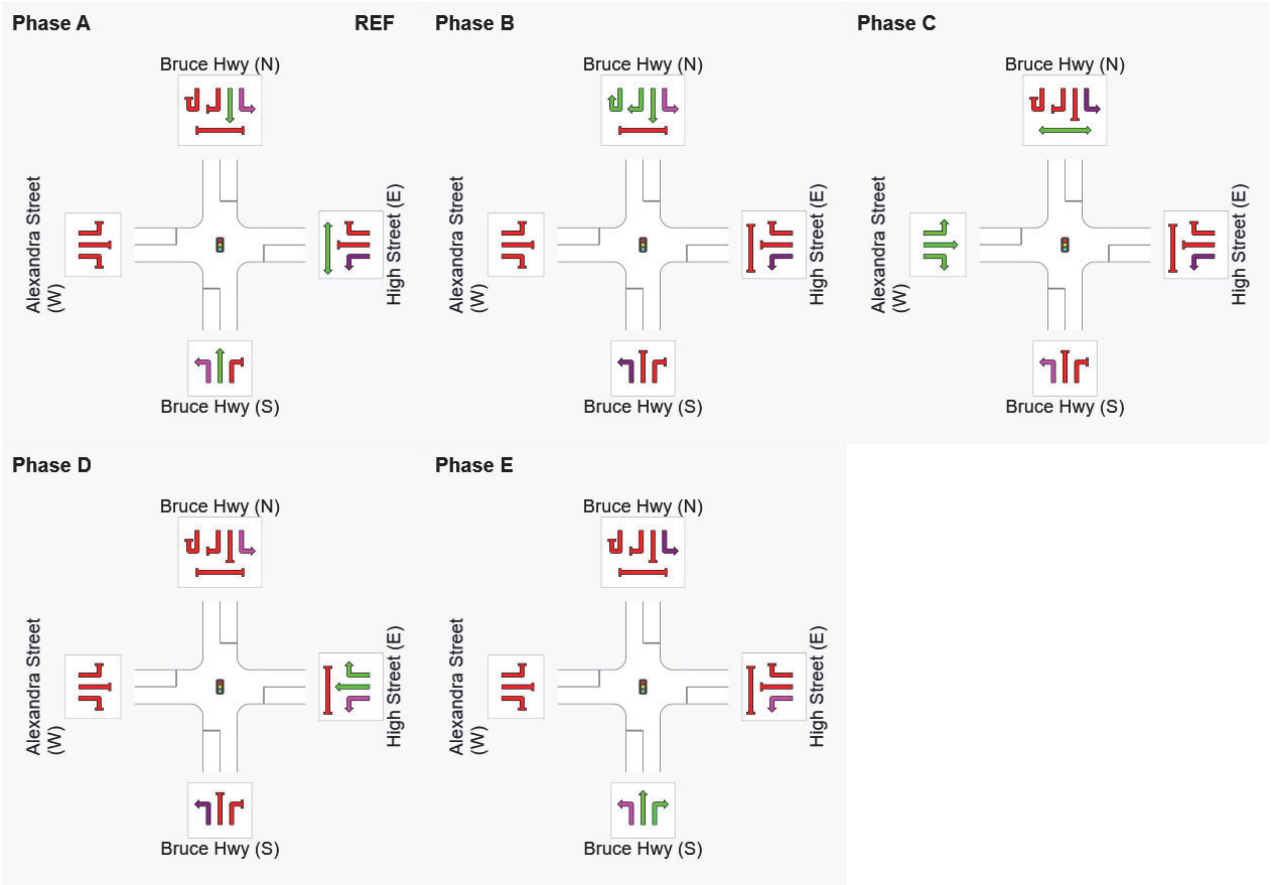
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

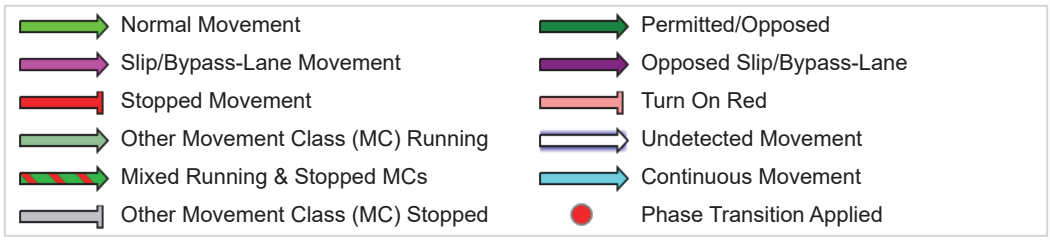
Phase	A	B	C	D	E
Phase Change Time (sec)	0	37	51	85	111
Green Time (sec)	31	8	28	20	33
Phase Time (sec)	37	14	34	26	39
Phase Split	25%	9%	23%	17%	26%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:33 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 BG Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

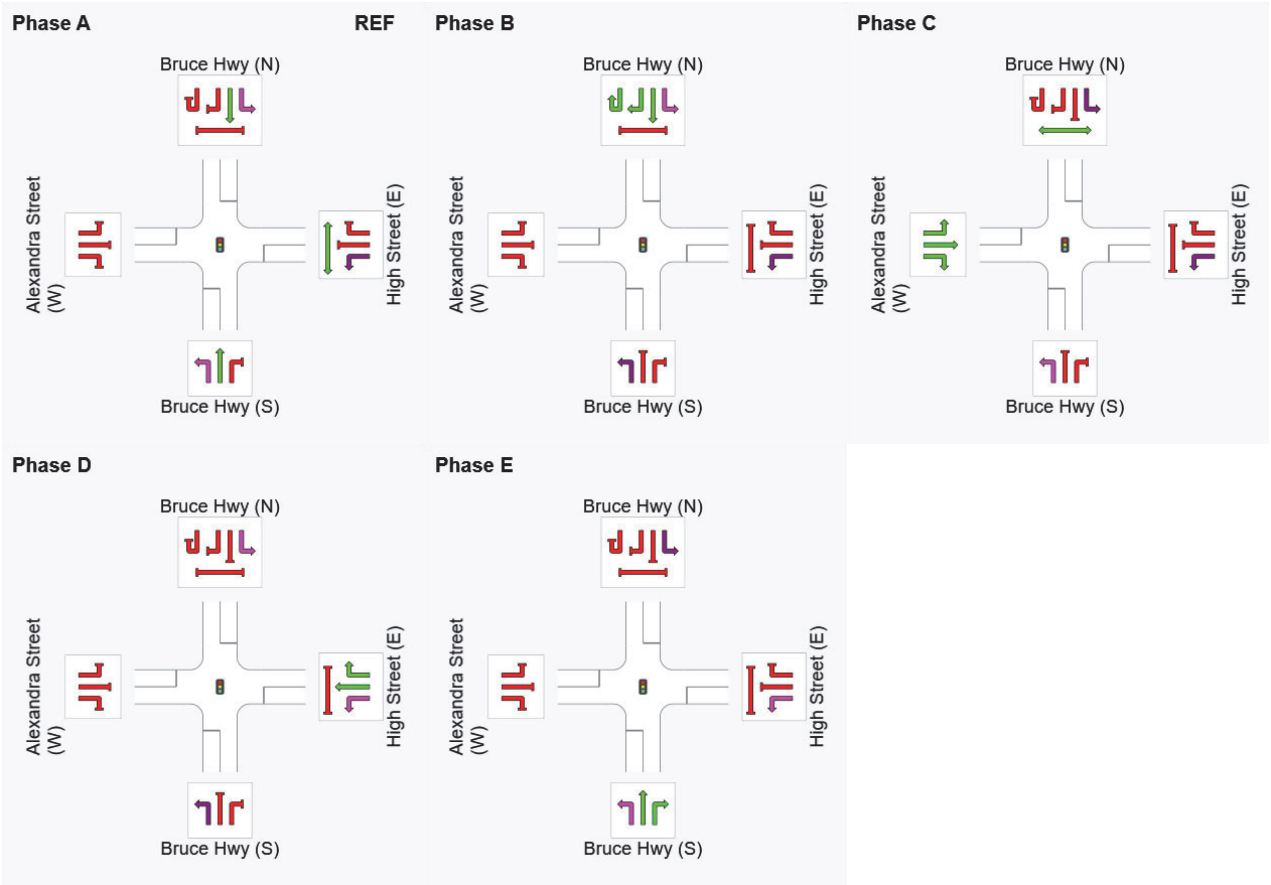
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

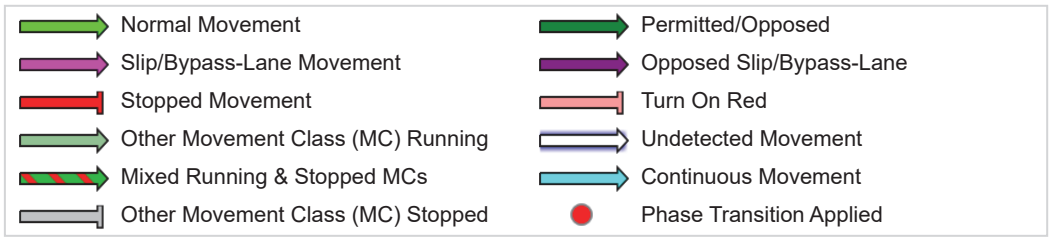
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	51	85	112
Green Time (sec)	24	15	28	21	32
Phase Time (sec)	30	21	34	27	38
Phase Split	20%	14%	23%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:33 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 BG Thursday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

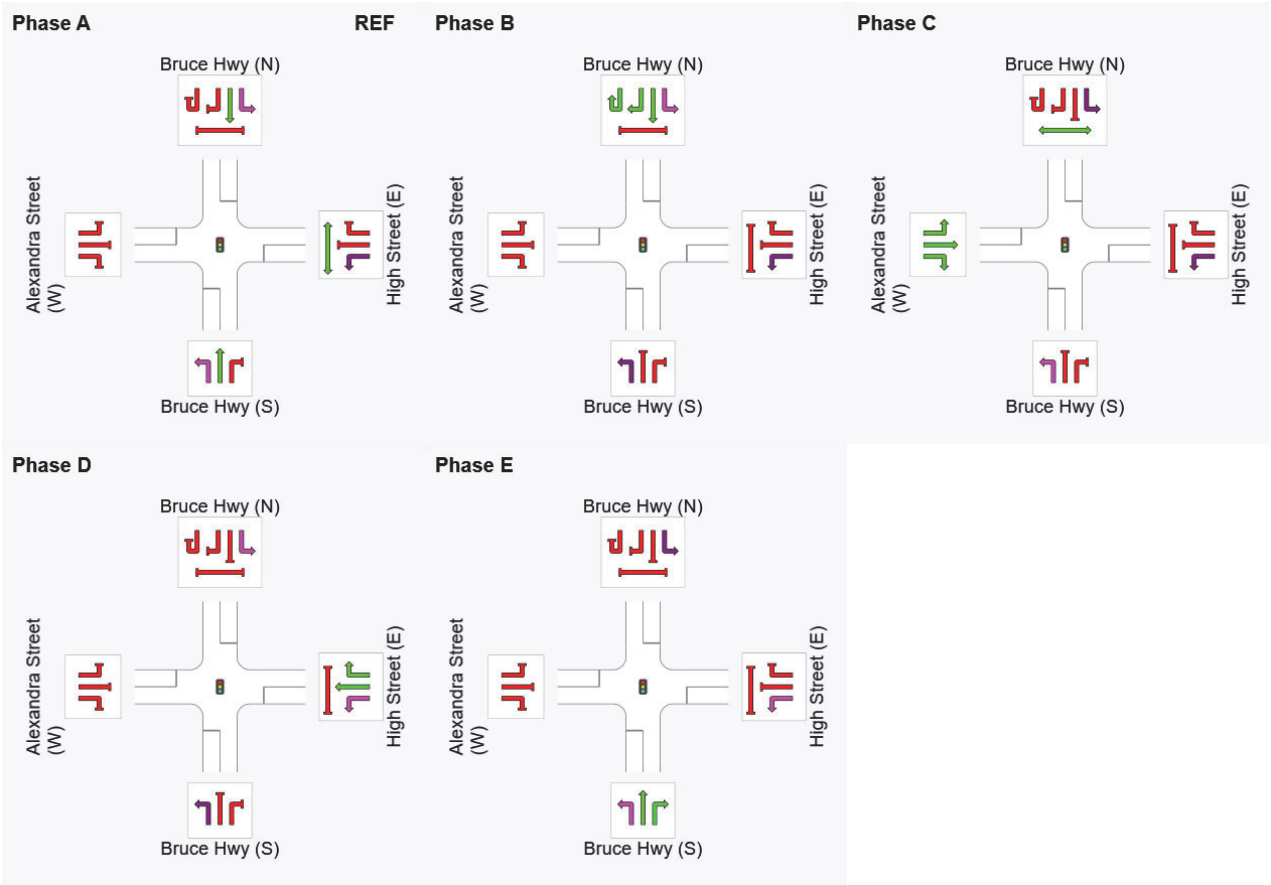
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

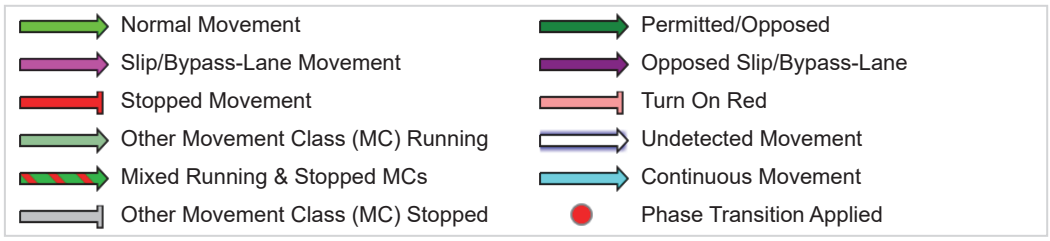
Phase	A	B	C	D	E
Phase Change Time (sec)	0	37	50	84	110
Green Time (sec)	31	7	28	20	34
Phase Time (sec)	37	13	34	26	40
Phase Split	25%	9%	23%	17%	27%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Dev Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

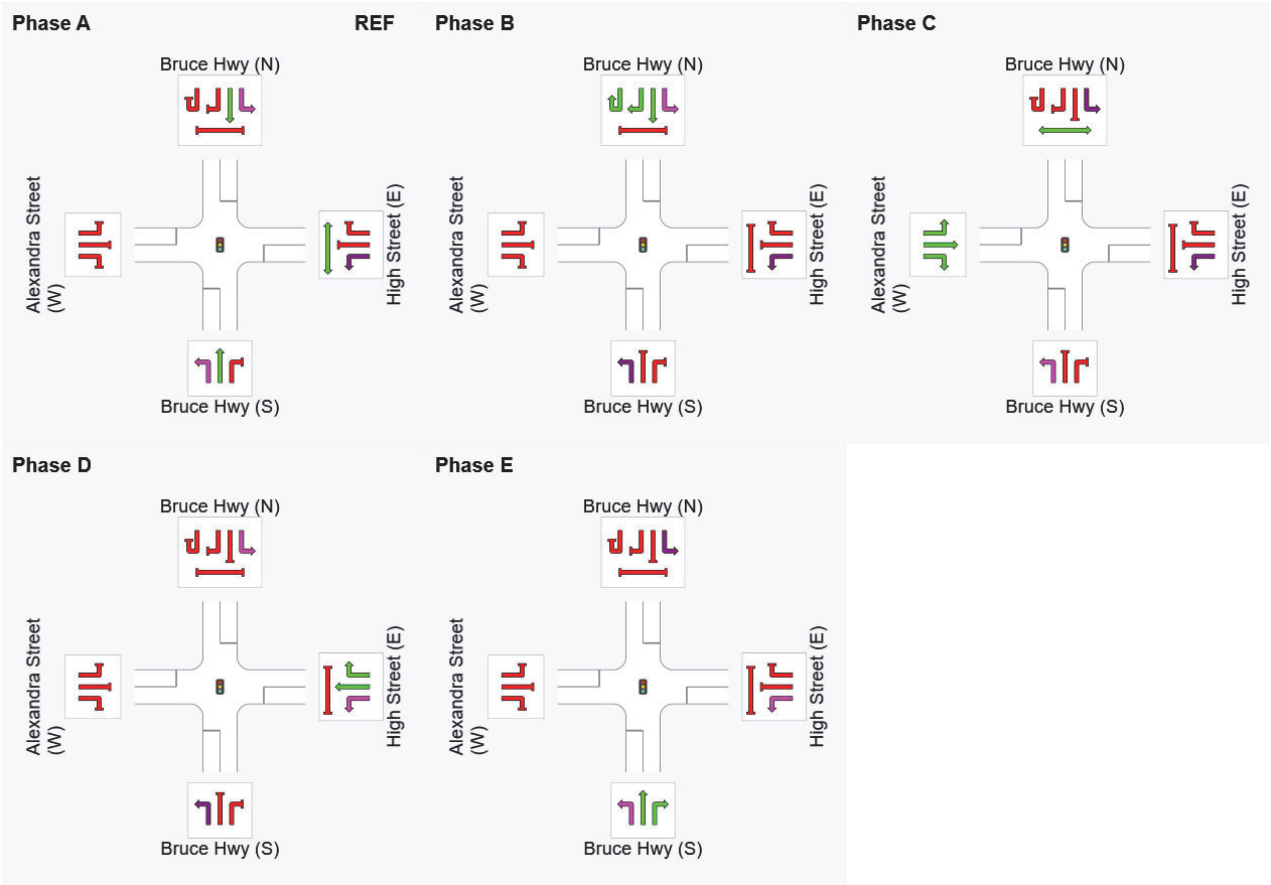
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

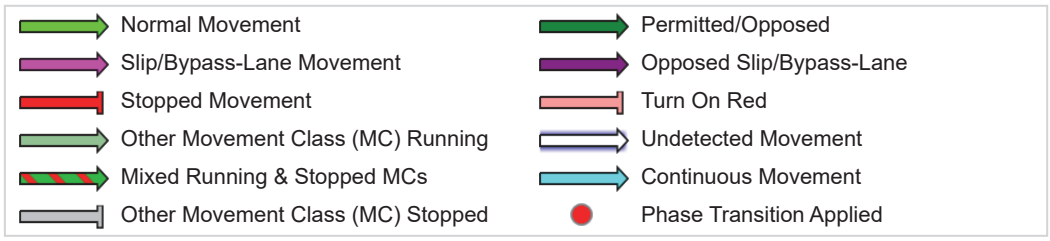
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	51	85	112
Green Time (sec)	24	15	28	21	32
Phase Time (sec)	30	21	34	27	38
Phase Split	20%	14%	23%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:35 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Dev Thusday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

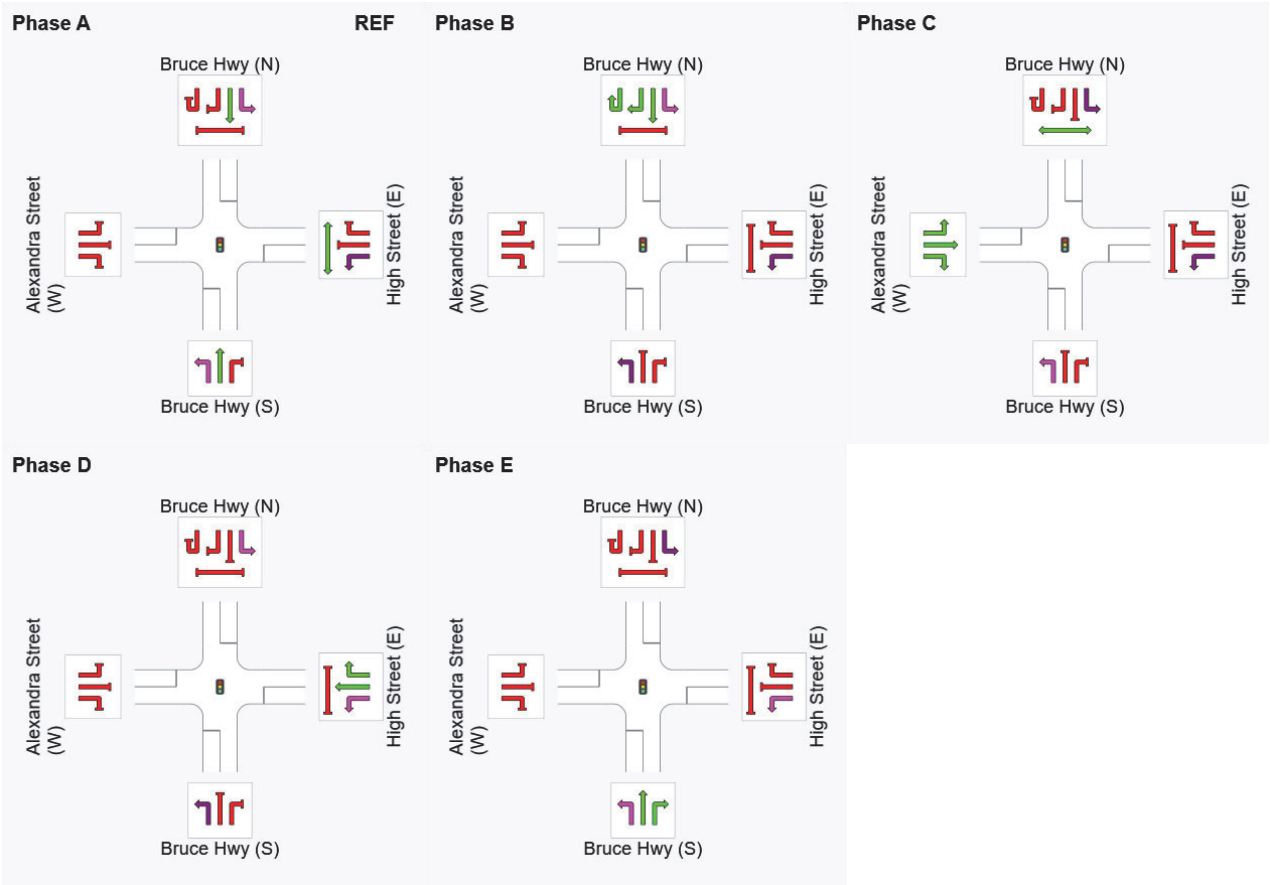
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

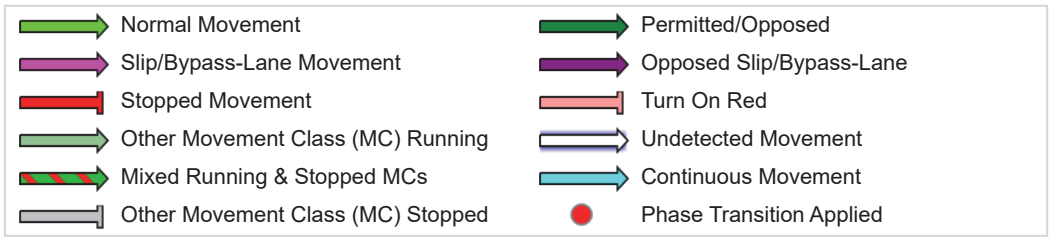
Phase	A	B	C	D	E
Phase Change Time (sec)	0	37	50	84	110
Green Time (sec)	31	7	28	20	34
Phase Time (sec)	37	13	34	26	40
Phase Split	25%	9%	23%	17%	27%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:35 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Aprv Saturday Peak (Site Folder: General)]

Intersection: Bruce Highway/Alexandra Street/High Street
Scenario: 2012 Saturday AM Background Traffic Only
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

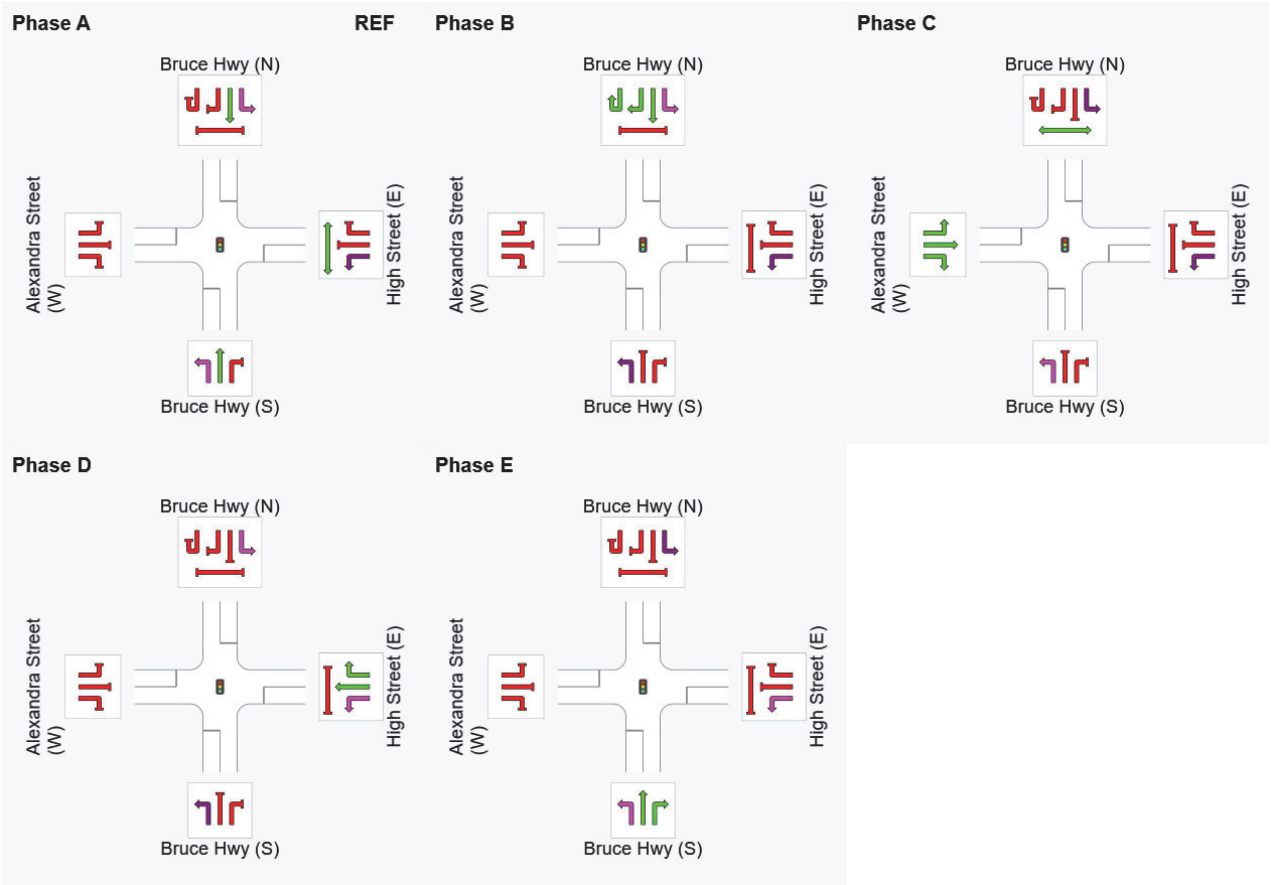
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

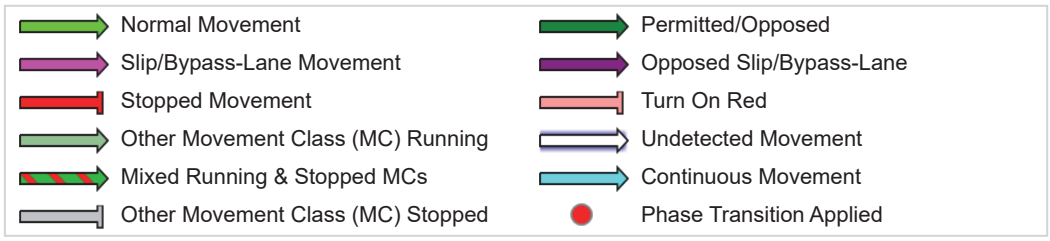
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	51	85	112
Green Time (sec)	24	15	28	21	32
Phase Time (sec)	30	21	34	27	38
Phase Split	20%	14%	23%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Wednesday, 9 March 2022 3:22:36 PM
Project: \\aubnecfs05\tnt$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\9) High St-Alexandra St.sip9

Stockland Rockhampton ALDI Expansion

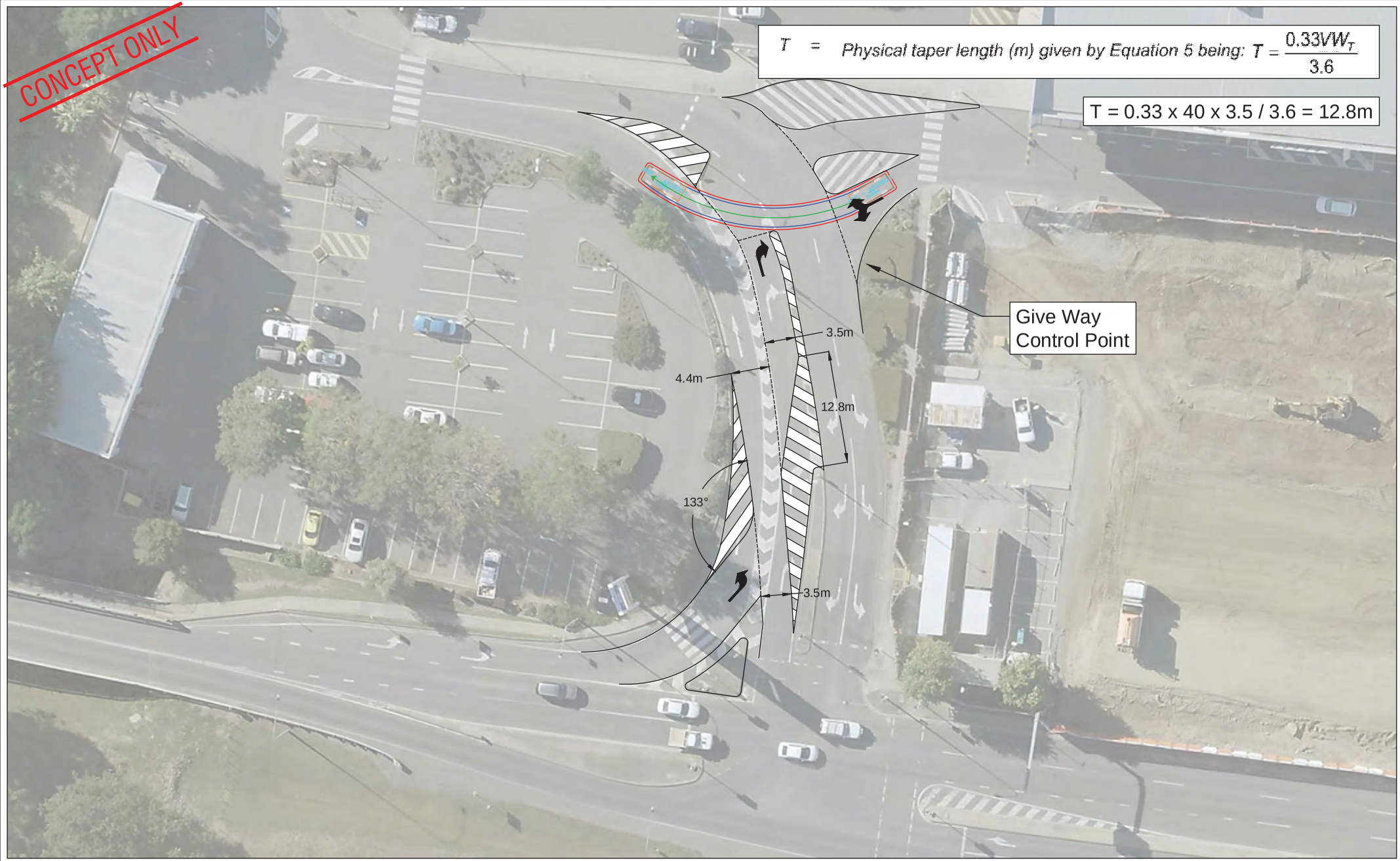
APPENDIX D

SWEPT PATHS

CONCEPT ONLY

T = Physical taper length (m) given by Equation 5 being: $T = \frac{0.33VW_T}{3.6}$

T = 0.33 x 40 x 3.5 / 3.6 = 12.8m



SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE

B85 - AS2890.1

	meters
Width	1.87
Track	1.77
Lock to Lock Time	6.0
Steering Angle	40.0

NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

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Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
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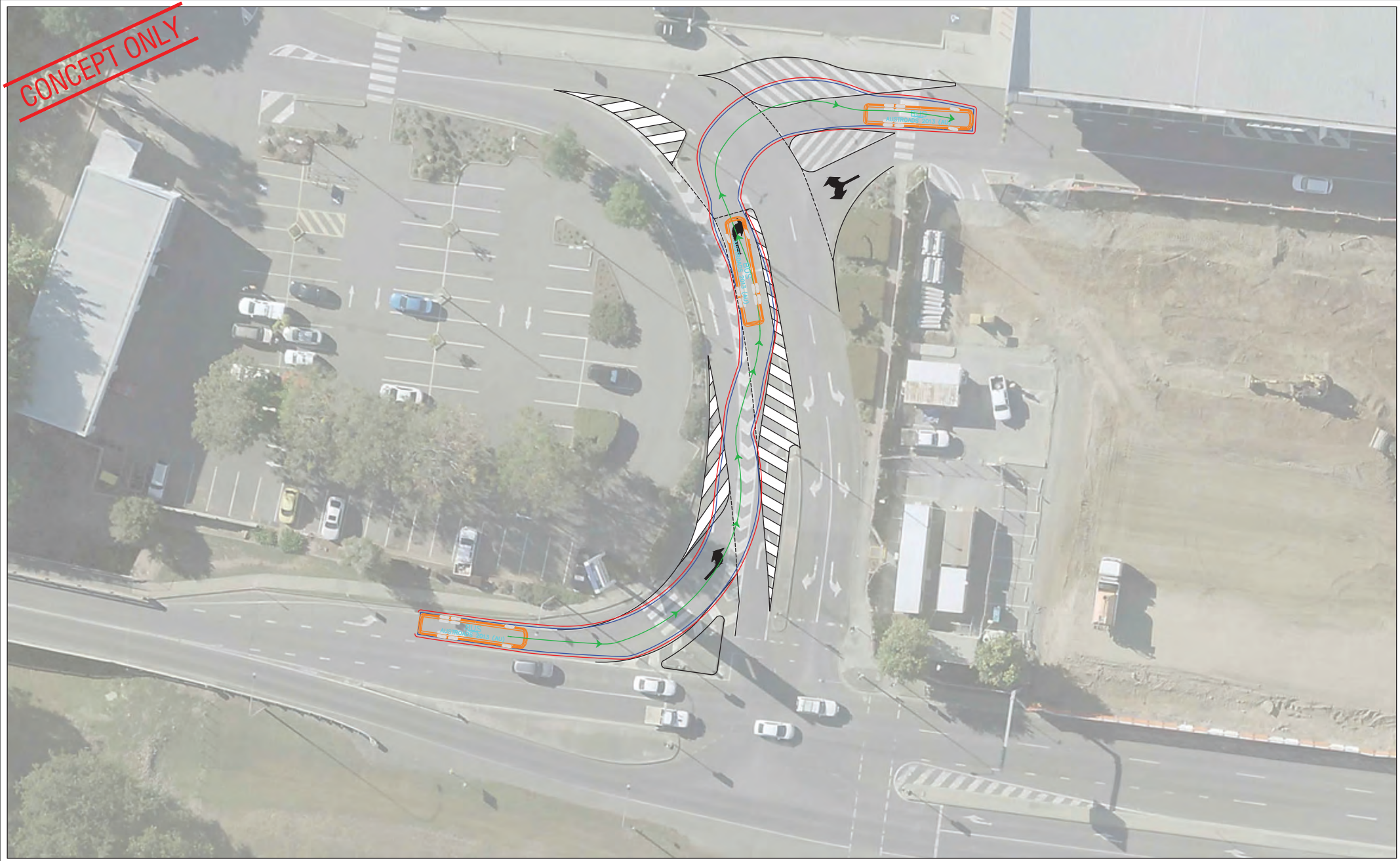
Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
B85 Swept Path

Drawn	Date	Scale	Size
R. Bakon	14/03/2022	1:400	A3

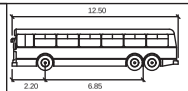
Drawing Number: CEB06360 - SK20
Revision: A

CONCEPT ONLY



SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

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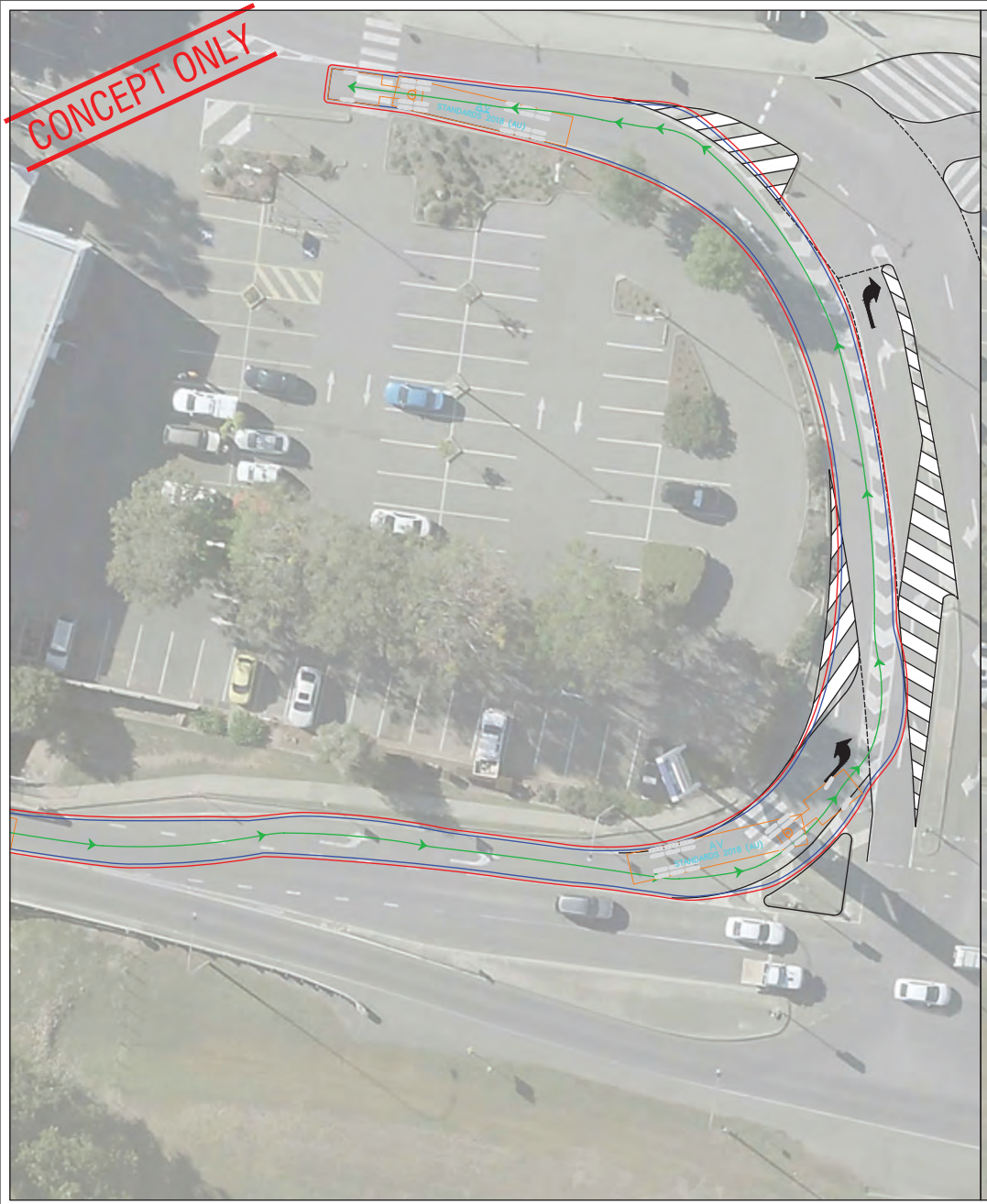
Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
BUS Swept Path

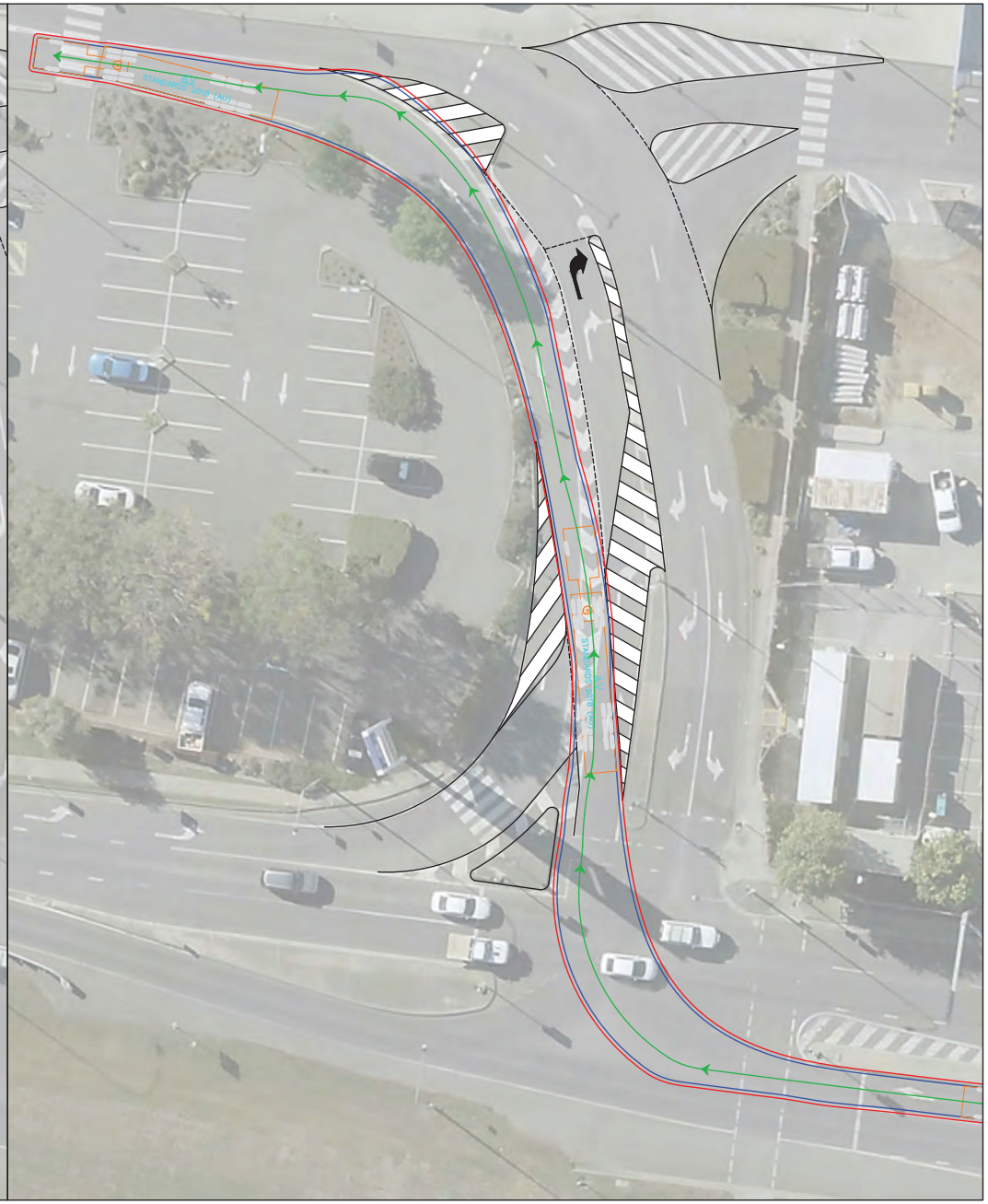
Drawn	Date	Scale	Size
R. Bakon	14/03/2022	1:400	A3

Drawing Number: CEB06360 - SK21
Revision: A

CAD File: \\aubrec\p5\Stnd5\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - ACAD\CEB06360 - SK20_SK22.dwg

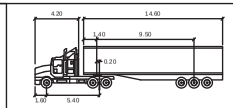
CONCEPT ONLY





SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



AV

meters			
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 38.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

NORTH

0 2 4 6 8 10 12 14 16 18 20m

4 3 2 1

SCALE 1:400 @ A3

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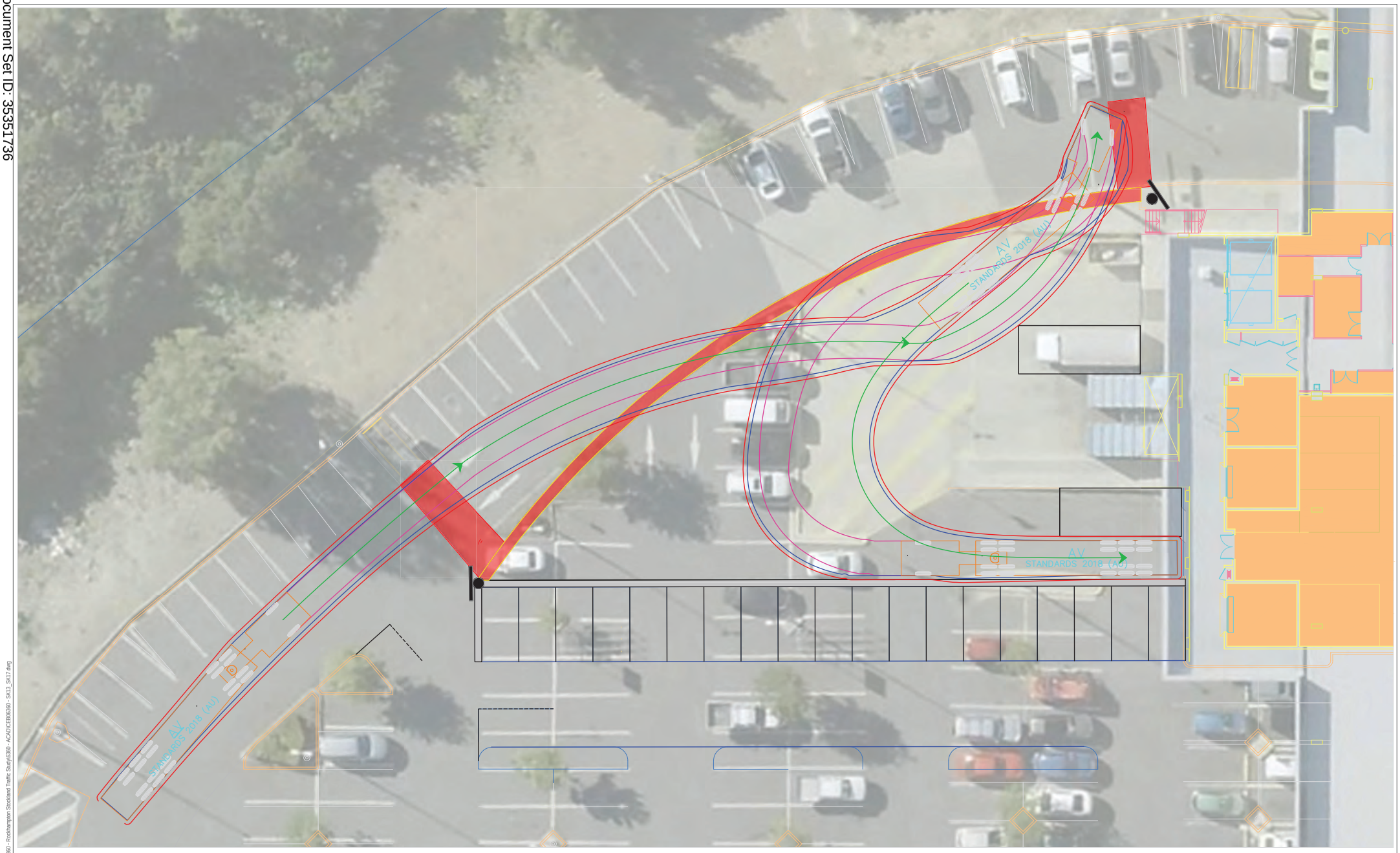
Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
AV Swept Paths

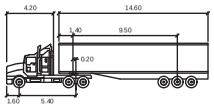
Drawn	Date	Scale	Size
R. Bakon	14/03/2022	1:400	A3

Drawing Number: CEB06360 - SK22
Revision: A



SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



AV

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

NORTH

0 2.5 5 7.5 10 12.5m

2.5 2 1.5 1 .5

SCALE 1:250 @ A3

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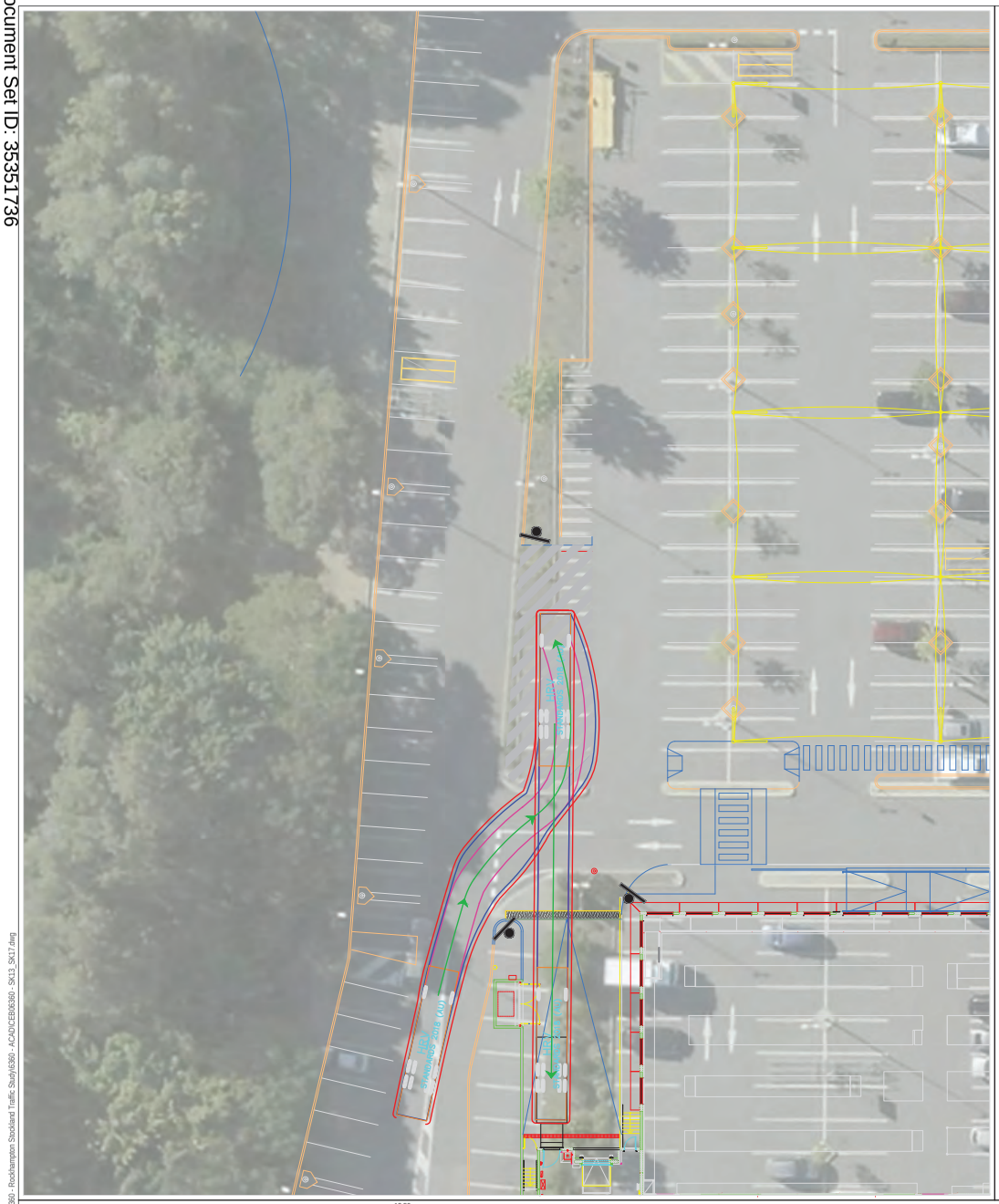
Web: www.cardno.com.au

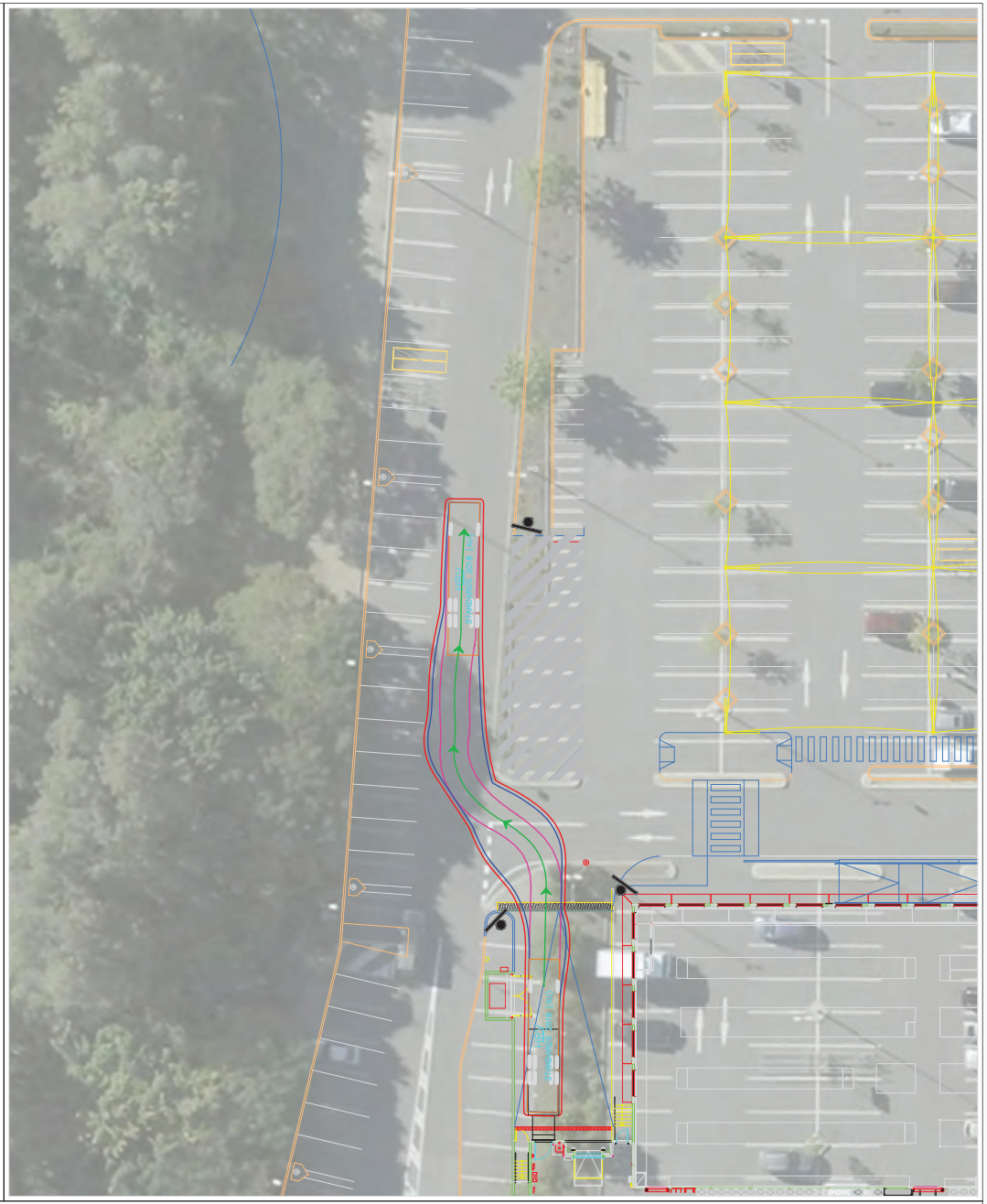
Stockland Rockhampton

120 - 331 Yaamba Road, North Rockhampton
AV Turnaround Swept Path

Drawn	Date	Scale	Size
R Bakon	16/03/2022	1:250	A3

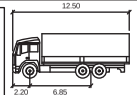
Drawing Number: CEB06360 - SK13
Revision: D





SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

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Level 11, 515 St Paul's Terrace
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Web: www.cardno.com.au

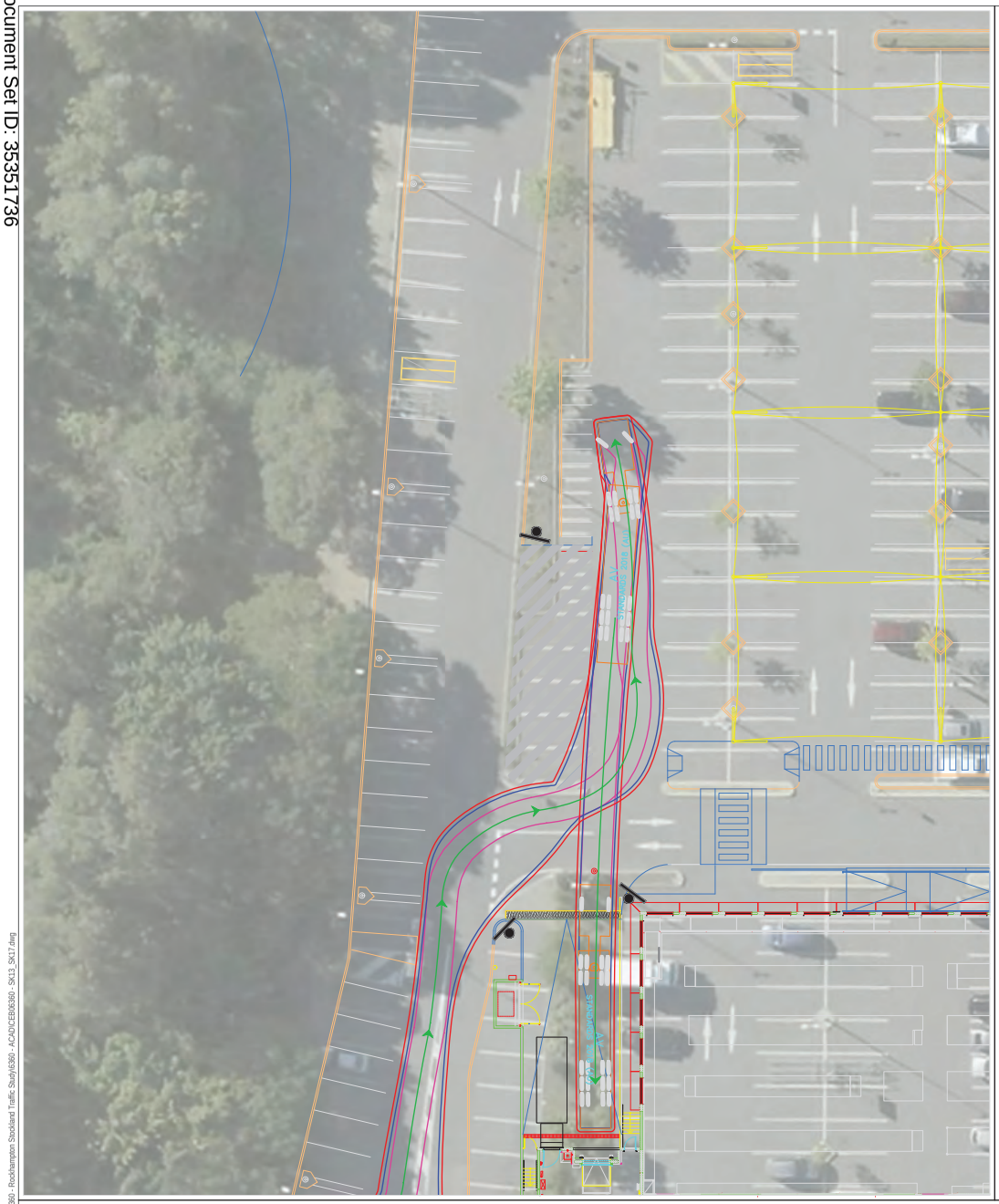
Stockland Rockhampton

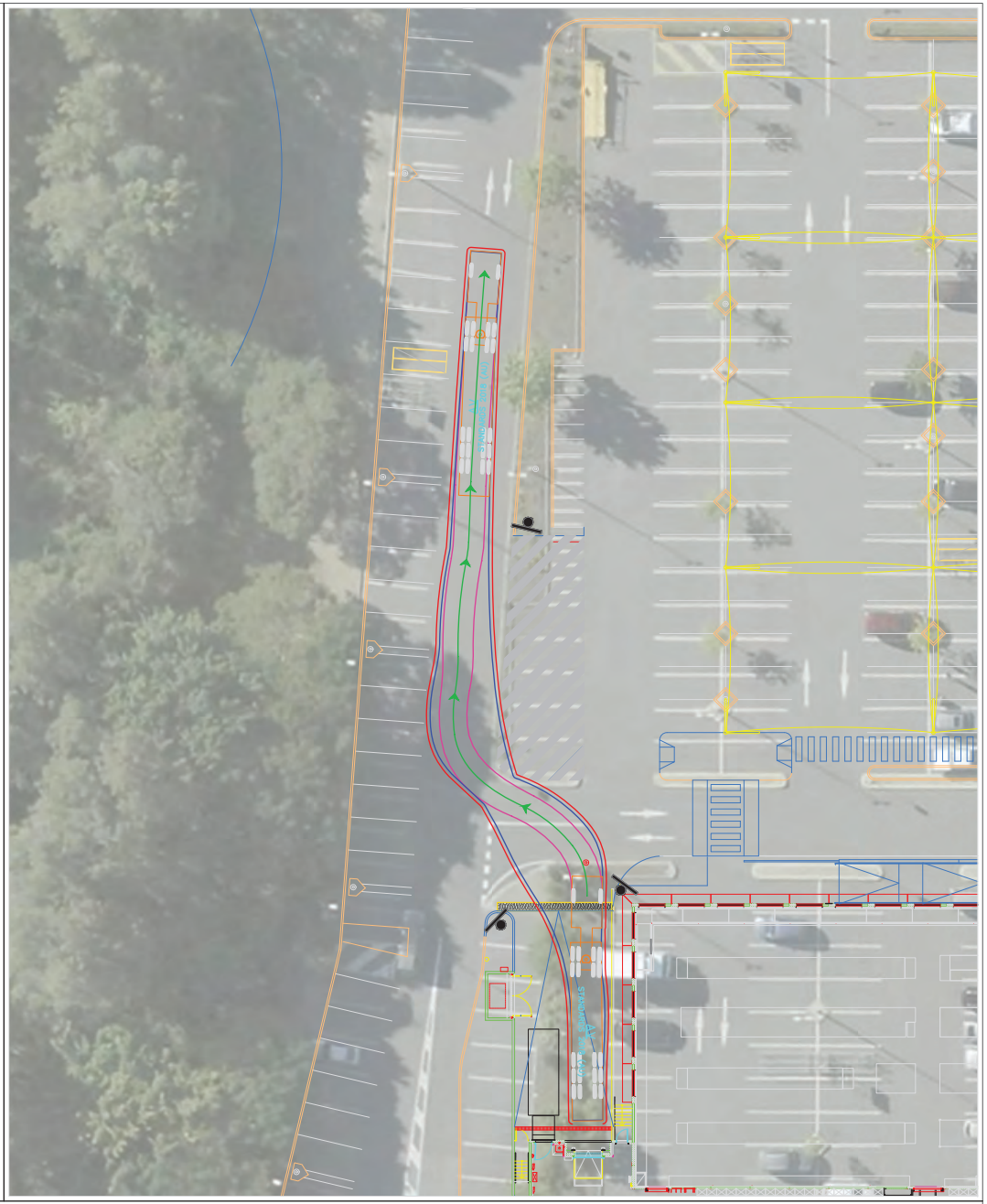
120 - 331 Yaamba Road, North Rockhampton
HRV Loading Dock Swept Paths

Drawn	Date	Scale	Size
R Bakon	16/03/2022	1:400	A3

Drawing Number: CEB06360 - SK15
Revision: A

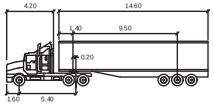
CAD File: \\aubrecfs05\Jobs$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - ACAD\CEB06360 - SK13_SK17.dwg





SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



AV

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

SCALE 1:400 @ A3

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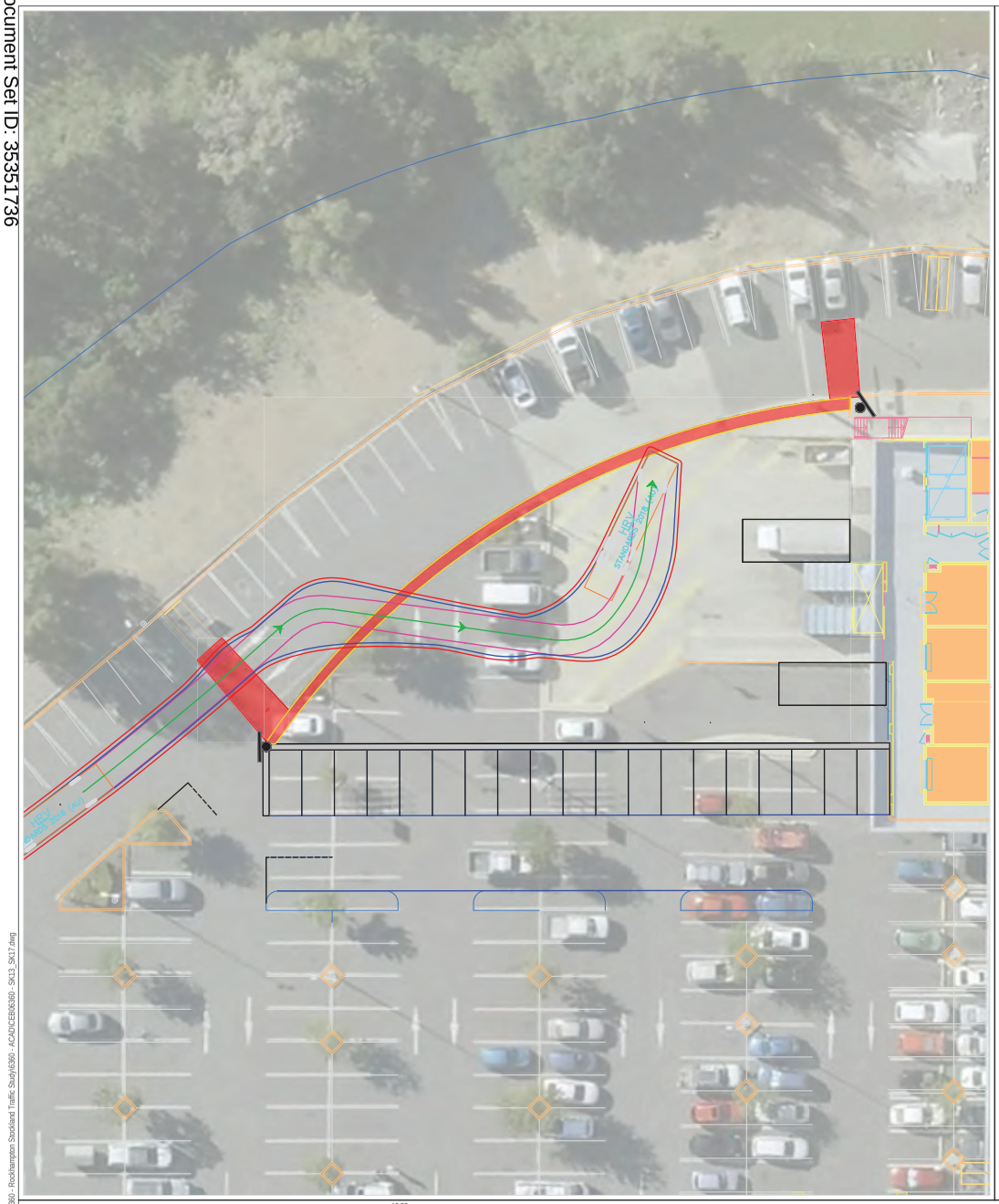
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

Stockland Rockhampton

120 - 331 Yaamba Road, North Rockhampton
AV Loading Dock Swept Paths

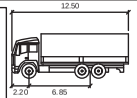
Drawn	Date	Scale	Size
R Bakon	16/03/2022	1:400	A3

Drawing Number: CEB06360 - SK16
Revision: A



SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

Stockland Rockhampton

120 - 331 Yaamba Road, North Rockhampton
HRV Turnaround Area Swept Paths

Drawn	Date	Scale	Size
R Bakon	16/03/2022	1:400	A3

Drawing Number: CEB06360 - SK17
Revision: A

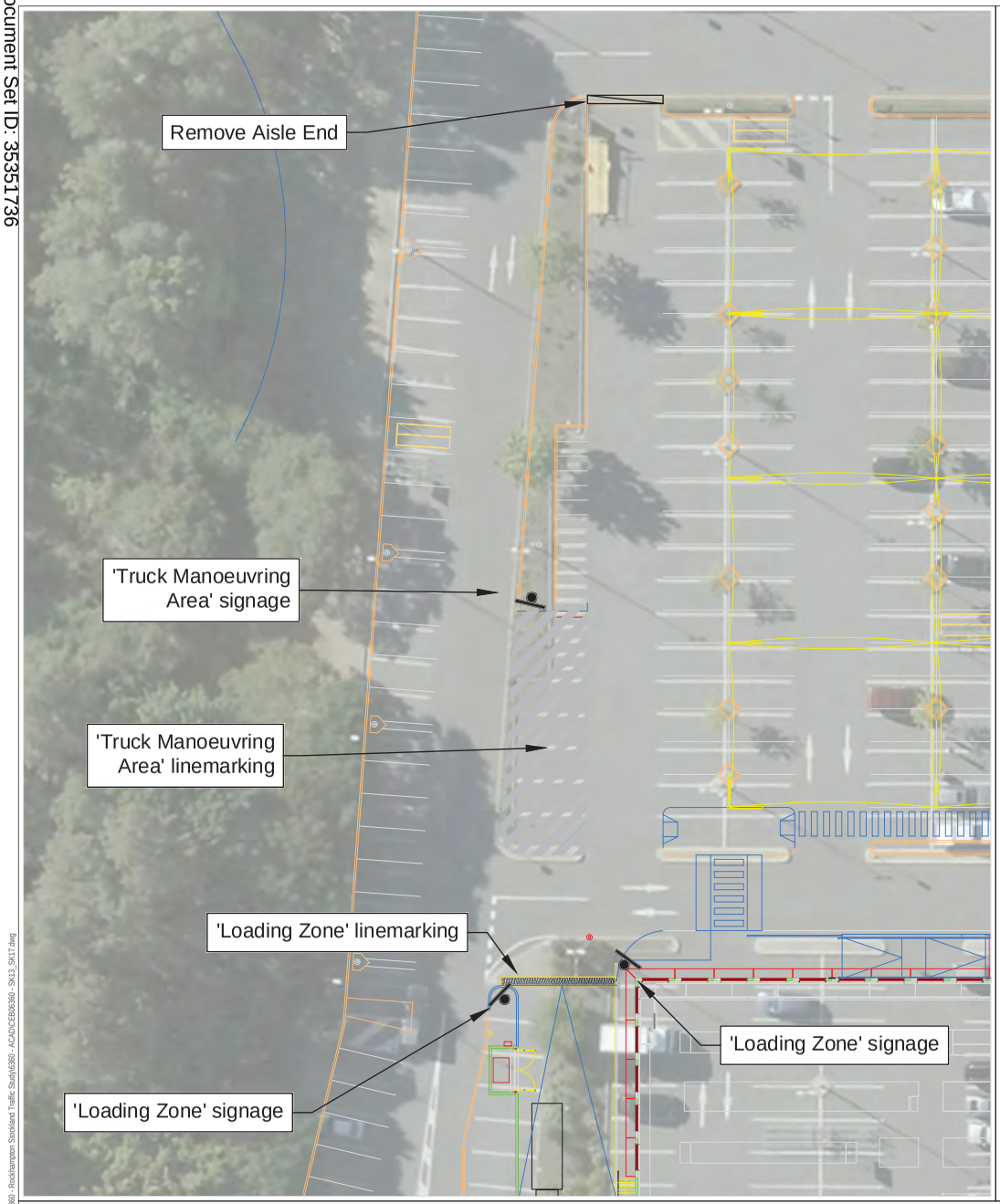
CAD File: \\au\brec\fs5\Jobs$\Current Jobs\CEB06360 - Rockhampton Stockland Traffic Study\6360 - ACAD\CEB06360 - SK13_SK17.dwg

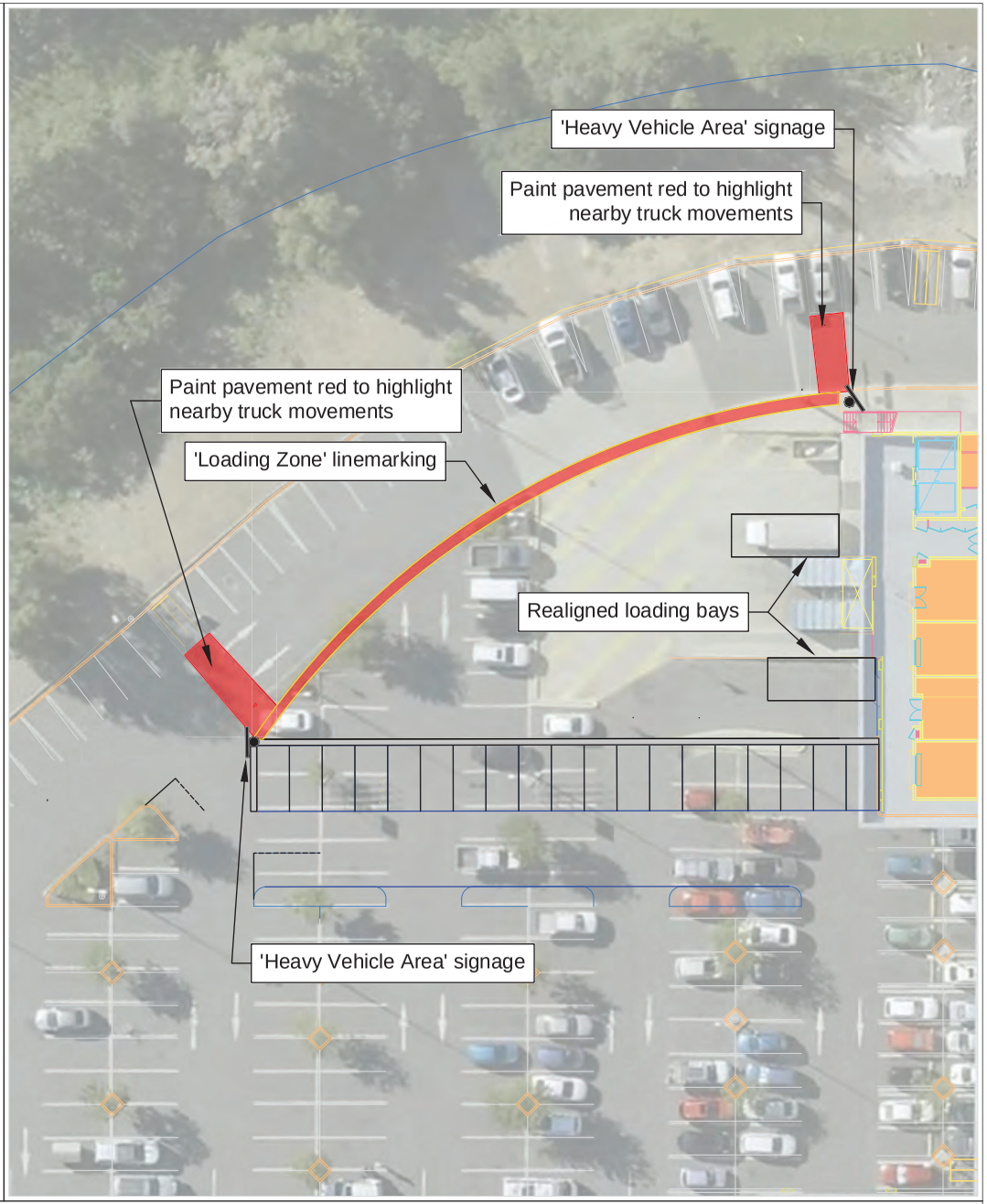
Stockland Rockhampton ALDI Expansion

APPENDIX

E

SIGNAGE AND LINE MARKING





NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
Service Vehicle Signage and Linemarking

Drawn	Date	Scale	Size
R Bakon	16/03/2022	NA	A3

Drawing Number: CEB06360 - SK14
Revision: A

sinclair planning

+61 413 626 694
leisa.sinclair@sinclairplanning.com.au
PO Box 130, Lutwyche Q 4030

Sinclair Planning Pty Ltd
ABN 17 639 191 503

Our Ref: SP21045.L07.001(RRC_IRR)
Your Ref: D/66-2022
Contact: Leisa Sinclair

1 August 2022

Chief Executive Officer
Rockhampton Regional Council
PO Box 1860
ROCKHAMPTON QLD 4700

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

Development Permit No.: D/66-2022

Dated: 2 November 2022

Att: Kathy McDonald, Planning Officer, Development Assessment
Via: developmentadvice@rrc.qld.gov.au

Dear Kathy,

APPLICANT RESPONDS TO ASSESSMENT MANAGER INFORMATION REQUEST– DAR s13
DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE – SHOPPING CENTRE EXTENSION AND SHOP
STOCKLAND ROCKHAMPTON SHOPPING CENTRE – LOT 201 ON SP236447 AND TERM LEASE OVER LOT 1 ON SP203617 – 331 YAAMBA ROAD, PARK AVENUE QLD 4701
ASSESSMENT MANAGER APPLICATION REFERENCE: D/66-2022

Sinclair Planning Pty Ltd acts for The Trust Company Limited ACN 004 027 749 (Applicant) in relation to the abovementioned development application.

Reference is made to the Rockhampton Regional Council (Council) Information Request, dated 14 June 2022 issued pursuant to section 12 of the Development Assessment Rules (DAR).

The information provided in the attached Stantec Council Information Request Response dated 29 July 2022 (Attachment A – Council Traffic Response) constitutes the Applicant's response pursuant to section 13.2(b) of the DAR.

Accordingly, the Applicant requests that Council assess and decide the development application pursuant to DAR section 22.1.

Please contact the undersigned if there are any queries in relation to the application.

Yours faithfully

Leisa Sinclair
Director

enc: Attachment A – Council Traffic Response
cc S.Paterson, Stockland, Applicant's Representative via shelbi.paterson@stockland.com.au

Attachment A

COUNCIL TRAFFIC RESPONSE

Our Ref: CEB06360:ASJ
Contact: Andy Johnston

29 July 2022

Stockland
Level 4, 99 Melbourne Street
South Brisbane QLD 4101

Attention: Shelbi Paterson

Dear Shelbi,

D/66-2022 – MCU FOR SHOPPING CENTRE EXTENSION
COUNCIL INFORMATION REQUEST RESPONSE

now Stantec

Cardno (Qld) Pty Ltd
ABN 57 051 074 992

Level 11
515 St Paul's Terrace
Fortitude Valley QLD 4006
Locked Bag 4006

Phone +61 7 3369 9822
Fax +61 7 3369 9722

www.cardno.com
www.stantec.com

Cardno (now Stantec) has been engaged by Stockland to provide traffic engineering advice in relation to the proposed Aldi extension development location at 331 Yaamba Road, Park Avenue, as a part of Stockland's Rockhampton Shopping Centre. In March 2022 Cardno (now Stantec) prepared a Material Change of Use (MCU) against the requirements of Council's Planning Scheme.

Following the submission Council prepared an Information Request, dated 14th June, 2022. Cardno has prepared this letter as a response to the traffic related items in this. For ease of reference, this letter reproduces Council's comments in italics and then responds to each item in normal text beneath that item.

Council's Information Request:

Issue 1.1 Survey Data:

- *It is noted that a traffic survey has been carried out in 2017 and those data has been used for the TIA. Please provide raw traffic survey data including intersection count data to Council for review. Note: please provide this raw data as individual intersections or summarised similar to the Appendix B traffic generation layouts.*

Issue 1.1 Response:

Traffic count data has been provided as per **Appendix A** of this IRR.

Issue 1.2 Childcare Volumes:

- *Please include recently approved childcare centre TIA into this traffic assessment. Childcare centre PM peaks typically 4.30-5:30 which coincides with shopping centre Thursday peak of 4:30-5:30pm. Childcare peak hour should be included into Thursday peak analysis at High Street signals.*

Issue 1.2 Response:

Childcare volumes have been included within our below sensitivity SIDRA analysis, undertaken in Issue 1.4. It is important to note that the childcare development is replacing the old Colonial Mart development that was originally included as part of the retain GFA. As such, given the reduction in retail GFA, the difference in trip generation and hours of operation between the two land uses, the expected trip volumes actually decrease for the Saturday AM peak. The overall difference in trip volumes is outlined below in Table 1-1.

Table 1-1 Difference in trip generation

Land Use	Thursday PM Peak			Saturday AM Peak		
	In	Out	Total	In	Out	Total
Child Care	+4 trips	+4 trips	+8 trips	-22 trips	-22 trips	-44 trips

Issue 1.3 Development Traffic Generation:

- *Council does not entirely agree with the development traffic generation. The proposed supermarket is on Stockland land however it is a free-standing building in the southwest corner and the proposed development is an attractor in its own right. Council accepts the methodology to adopt the calibrated generation curves however using trips/100m2 as a rate for a free-standing development with GLFA of 1725m2. Please amend the development traffic generation rate to satisfy this requirement.*

Issue 1.3 Response:

It is noted that Council and Cardno discussed this point on the 22nd of June, whereby Cardno proposed to undertake a sensitivity test. While Cardno do not agree with the suggested rate by Council, (we know from experience that shoppers at Regional Shopping centres such as Stockland Rockhampton will walk from one end of the centre to the other to visit the stores they want) Cardno does want to provide Council with comfort. This would include generating development trip rates for half of the proposed total GFA (i.e. 28,356 sq.m) instead of a free-standing development, which have been outlined below in Figures 1-2 & 1-3.

We note that the trip rates identified in this methodology are almost as high as the rates for a stand alone supermarket. With this in mind we would expect that this highly conservative assessment fully alleviates Council's concerns.

Figure 1-2 Thursday Revised Trip Generation

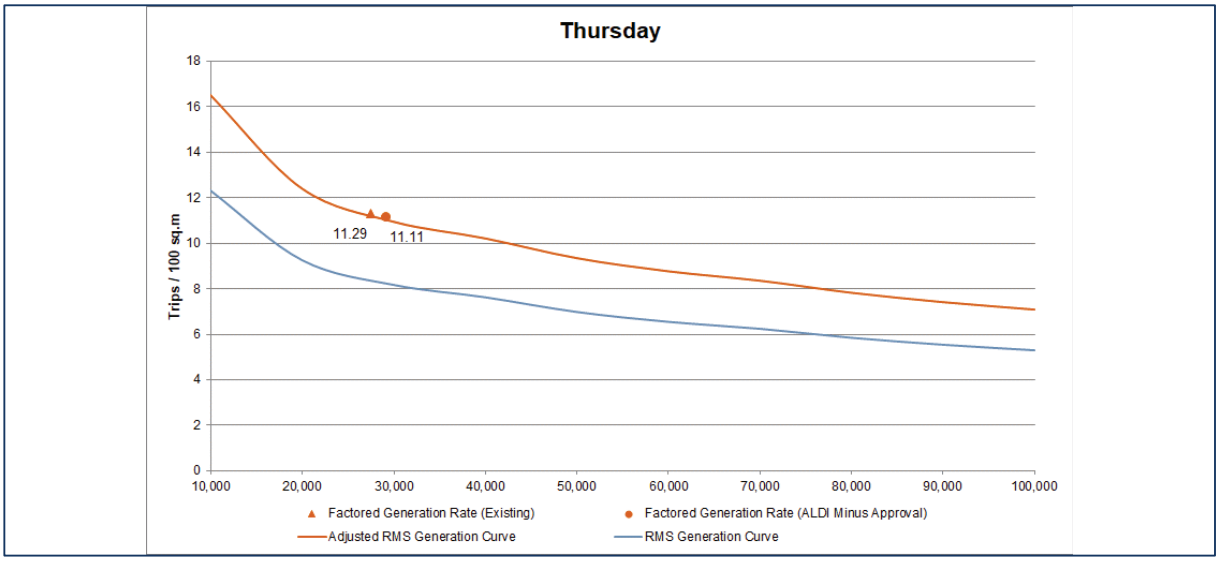
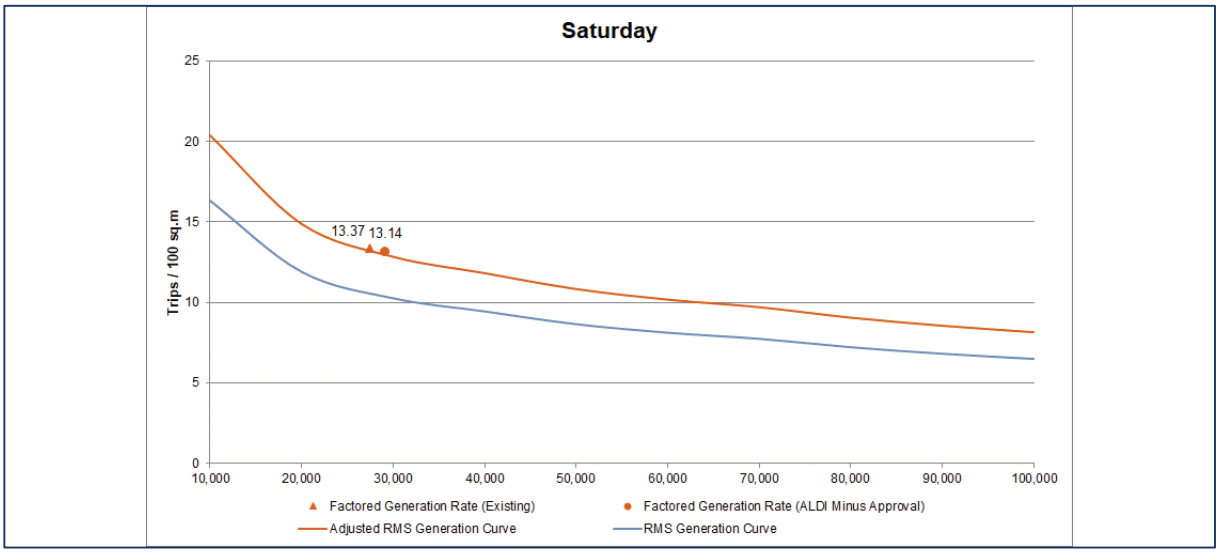


Figure 1-3 Saturday Revised Trip Generation



The revised SIDRAs based on the updated trip rate are included below in the Issue 1.4 Response.

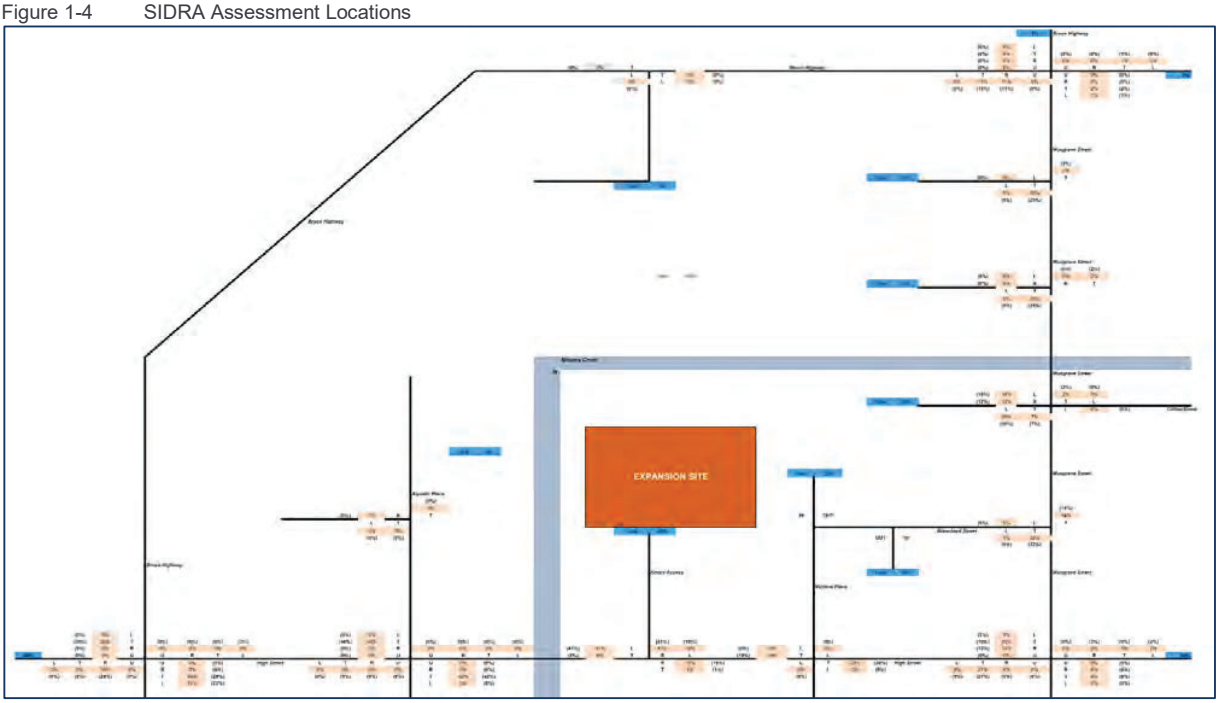
Issue 1.4 Traffic Distribution:

- *Council again does not entirely agree with the development traffic access distribution. The proposed supermarket is on Stockland land however it is a free-standing building in the southwest corner and the proposed development is an attractor in its own right. Council believes minimum of 60% traffic access to the proposed supermarket from High Street traffic signals, 30% from Musgrave Street traffic signals and remaining 10% from elsewhere.*

Issue 1.4 Response:

While Cardno do not agree with the suggestion by Council, Cardno does want to provide Council with comfort that the development is unlikely to result in a negative impact on the road network. Therefore, Cardno has undertaken a sensitivity assessment with Council's requested distribution, which is outlined below in Figure 1-4.

Figure 1-4 SIDRA Assessment Locations



Key intersections subjected to updated SIDRA analysis are shown below in Figure 1-5, noting that intersection 7 has been separately analysed in Issue 1.7 below.

Figure 1-5 SIDRA Assessment Locations

The network flow diagram outlining the Childcare Development volumes, the revised trip generation volumes and the revised distribution has been outlined in **Appendix B**, nothing that all three (3) of these elements are part of a sensitivity test, and do not represent Cardno's professional expectation for the traffic outcomes resulting from the development.

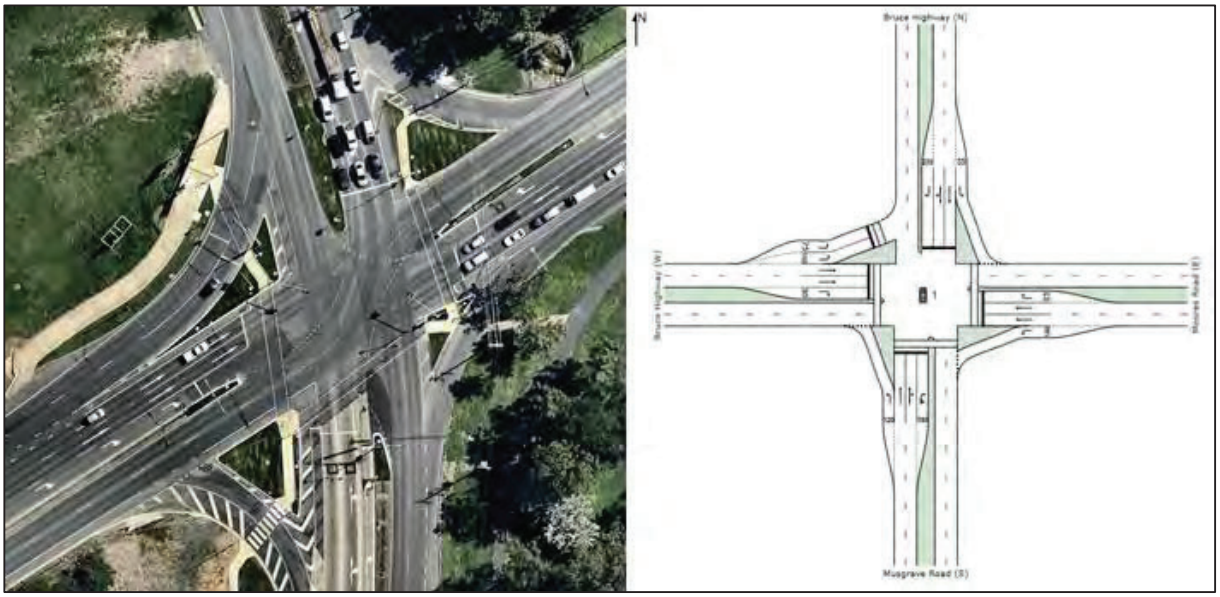
Detailed SIDRA results are included in **Appendix C**.

For ease of access the specific SIDRA files have been included in the below link:
https://fileshare.cardno.com/wl/?id=tpalyqxwl6b5OyF9wZGpDIlVNbv5VJfR

Intersection 1: Bruce Highway / Musgrave Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-6.

Figure 1-6 Current and SIDRA Assessed Layout – Bruce Highway / Musgrave Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-2. It should be noted that the sensitivity scenario outlined in Table 1-2 includes the childcare, revised distribution and trip generation.

Table 1-2 SIDRA Outputs – Bruce Highway / Musgrave Street Intersection

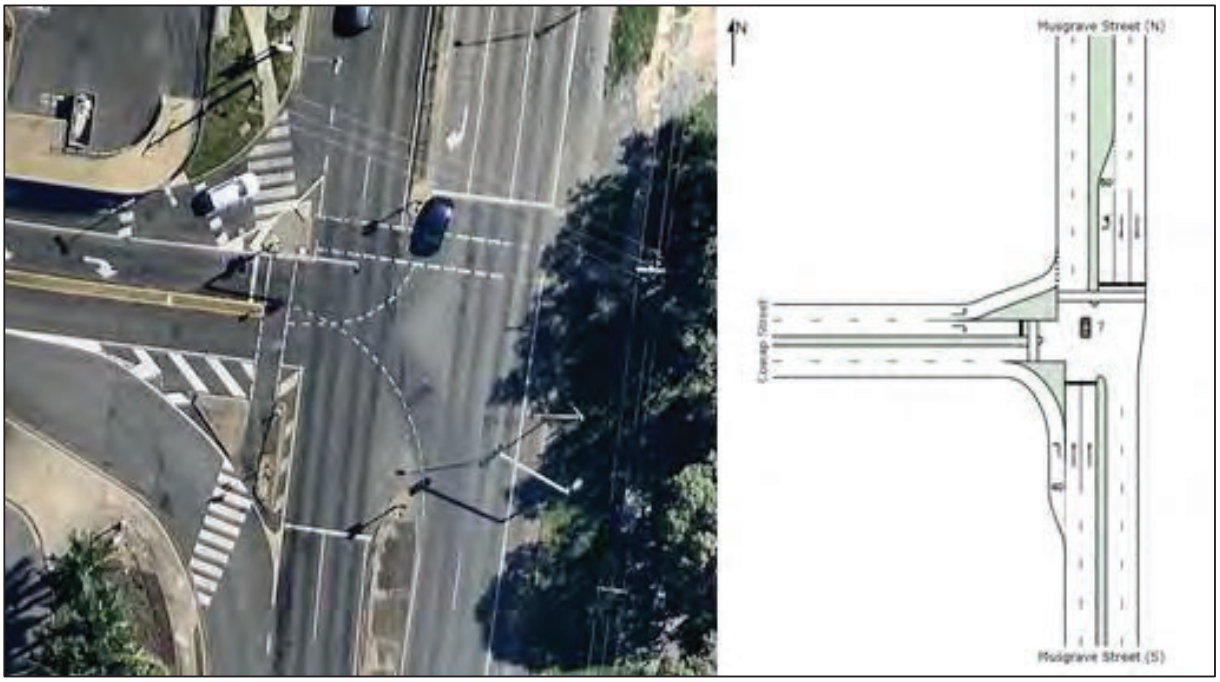
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.79	39.6 sec	145m	0.75	38.4 sec	139m
2024 Background	0.82	40.5 sec	155m	0.77	38.7 sec	144m
2024 Background + Committed Approval	0.83	41.0 sec	155m	0.79	39.3 sec	151m
2024 BG + Development (No Committed Approval)	0.82	40.6 sec	155m	0.78	38.8 sec	144m
2024 Background + Development (Sensitivity)	0.82	40.7 sec	155m	0.78	39.0 sec	149m
2034 Background	0.90	44.7 sec	186m	0.85	41.5 sec	179m
2034 Background + Committed Approval	0.90	45.8 sec	186m	0.86	41.7 sec	182m
2034 Background + Development (Sensitivity)	0.90	45.1 sec	186m	0.85	41.2 sec	179m

The results of the analysis indicate that the four-way signalised arrangement operates within the typical performance thresholds (DOS ≤ 0.90 for signalised), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

Intersection 2: Musgrave Street / Cowap Street Intersection

The current configuration of this intersection is a three-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-7.

Figure 1-7 Current and SIDRA Assessed Layout – Musgrave Street / Cowap Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-3.

Table 1-3 SIDRA Outputs – Musgrave Street / Cowap Street Intersection

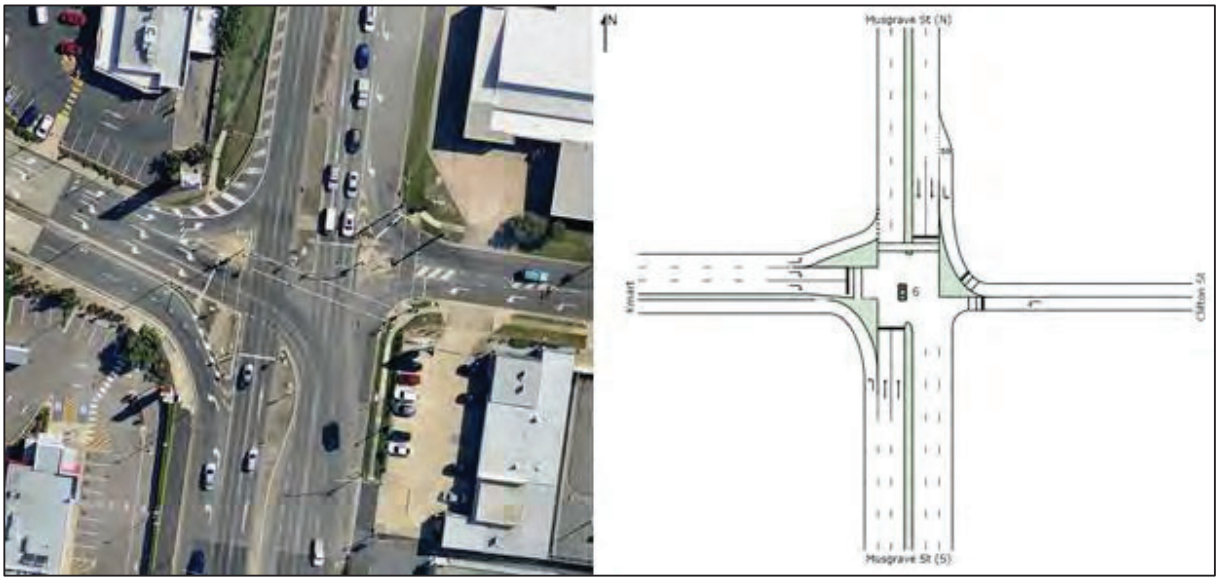
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.44	4.5 sec	28m	0.58	10.6 sec	85m
2024 Background	0.44	4.2 sec	28m	0.57	10.3 sec	83m
2024 Background + Committed Approval	0.47	4.5 sec	29m	0.61	10.6 sec	91m
2024 BG + Development (No Committed Approval)	0.45	4.5 sec	28m	0.58	10.4 sec	85m
2024 Background + Development (Sensitivity)	0.45	4.1 sec	28m	0.60	10.5 sec	89m
2034 Background	0.48	3.7 sec	28m	0.60	9.7 sec	89m
2034 Background + Committed Approval	0.50	4.1 sec	29m	0.65	10.5 sec	104m
2034 Background + Development (Sensitivity)	0.49	3.7 sec	28m	0.63	9.9 sec	95m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

Intersection 3: Musgrave Street / Clifton Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-8.

Figure 1-8 Current and SIDRA Assessed Layout – Musgrave Street / Clifton Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-4.

Table 1-4 SIDRA Outputs – Musgrave Street / Clifton Street Intersection

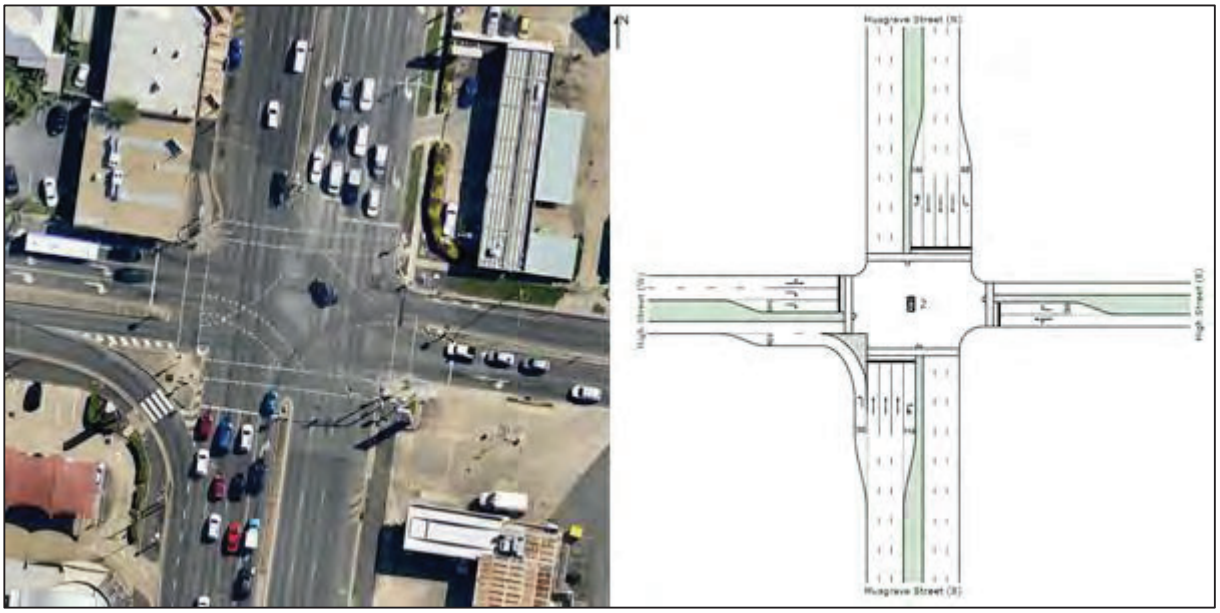
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.30	5.5 sec	21m	0.27	5.5 sec	22m
2024 Background	0.31	5.5 sec	21m	0.28	5.4 sec	22m
2024 Background + Committed Approval	0.31	5.8 sec	25m	0.28	5.8 sec	25m
2024 BG + Development (No Committed Approval)	0.31	5.5 sec	22m	0.28	5.5 sec	23m
2024 Background + Development (Sensitivity)	0.31	5.7 sec	23m	0.28	5.7 sec	24m
2034 Background	0.34	5.2 sec	21m	0.31	5.2 sec	22m
2034 Background + Committed Approval	0.34	5.6 sec	25m	0.31	5.6 sec	25m
2034 Background + Development (Sensitivity)	0.34	5.5 sec	23m	0.31	5.4 sec	24m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

Intersection 5: Musgrave Street / High Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-9.

Figure 1-9 Current and SIDRA Assessed Layout – Musgrave Street / High Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-5.

Table 1-5 SIDRA Outputs – Musgrave Street / High Street Intersection

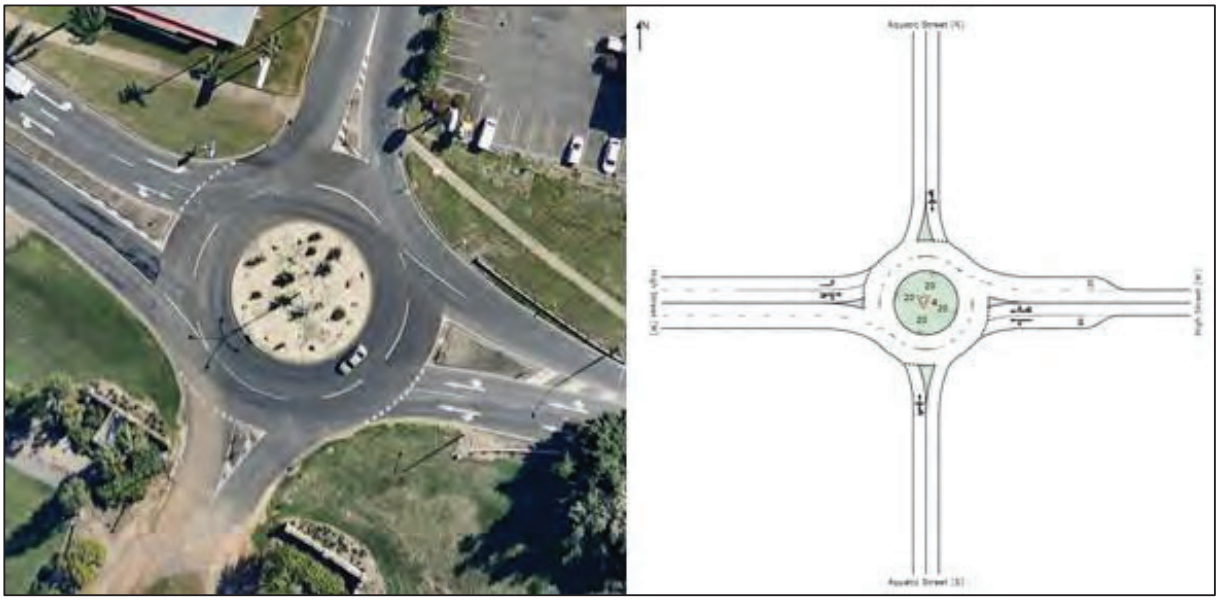
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.79	46.1 sec	107m	0.66	41.7 sec	84m
2024 Background	0.80	46.4 sec	110m	0.68	41.9 sec	86m
2024 Background + Committed Approval	0.82	46.1 sec	118m	0.71	41.7 sec	92m
2024 BG + Development (No Committed Approval)	0.80	46.0 sec	114m	0.69	42.0 sec	88m
2024 Background + Development (Sensitivity)	0.81	46.4 sec	116m	0.70	41.6 sec	90m
2034 Background	0.88	48.3 sec	136m	0.74	42.7 sec	98m
2034 Background + Committed Approval	0.90	49.2 sec	143m	0.77	42.6 sec	103m
2034 Background + Development (Sensitivity)	0.90	48.5 sec	143m	0.77	42.4 sec	103m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

1.1.2 Intersection 8: High Street / Aquatic Place Intersection

The current configuration of this intersection is a roundabout arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-10.

Figure 1-10 Current and SIDRA Assessed Layout – High Street / Aquatic Place Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-6.

Table 1-6 SIDRA Outputs – High Street / Aquatic Place Intersection

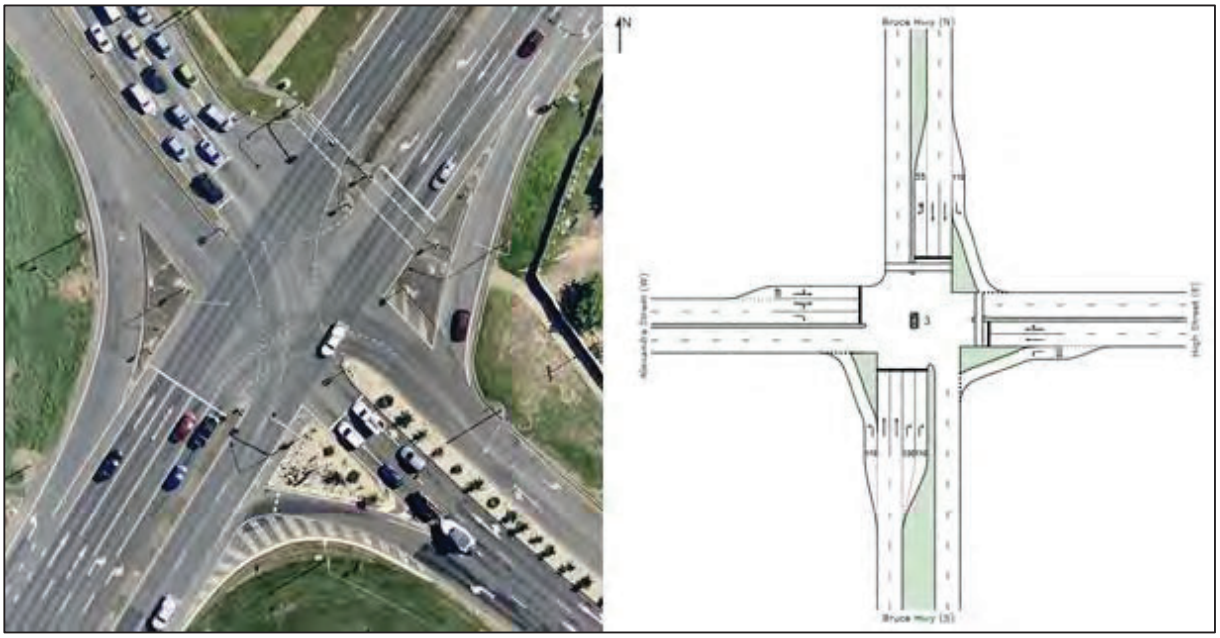
Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.34	5.7 sec	17m	0.50	6.3 sec	28m
2024 Background	0.35	5.7 sec	18m	0.51	6.3 sec	28m
2024 Background + Committed Approval	0.37	5.9 sec	19m	0.54	6.4 sec	34m
2024 BG + Development (No Committed Approval)	0.35	5.7 sec	18m	0.51	6.3 sec	30m
2024 Background + Development (Sensitivity)	0.37	5.9 sec	19m	0.52	6.4 sec	32m
2034 Background	0.38	6.0 sec	19m	0.52	6.3 sec	32m
2034 Background + Committed Approval	0.40	6.5 sec	21m	0.55	7.4 sec	38m
2034 Background + Development (Sensitivity)	0.40	6.5 sec	20m	0.54	7.4 sec	36m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.85 for roundabouts), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

1.1.3 Intersection 9: Bruce Highway / High Street / Alexandra Street Intersection

The current configuration of this intersection is a four-way signalised arrangement. The aerial and SIDRA assessed layout are illustrated on Figure 1-11.

Figure 1-11 Current and SIDRA Assessed Layout – Bruce Highway / High Street / Alexandra Street Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-7.

Table 1-7 SIDRA Outputs – Bruce Highway / High Street / Alexandra Street Intersection

Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.80	42.6 sec	218m	0.78	44.3 sec	167m
2024 Background	0.86	45.4 sec	263m	0.80	45.2 sec	178m
2024 Background + Committed Approval	0.86	45.5 sec	263m	0.83	46.5 sec	186m
2024 BG + Development (No Committed Approval)	0.86	46.2 sec	250m	0.81	45.5 sec	179m
2024 Background + Development (Sensitivity)	0.86	46.0 sec	250m	0.82	46.3 sec	183m
2034 Background	**0.97**	**59.2 sec**	**371m**	0.87	48.8 sec	213m
2034 Background + Committed Approval	**0.99**	**62.9 sec**	**397m**	0.88	50.0 sec	217m
2034 Background + Development (Sensitivity)	**0.99**	**61.2 sec**	**372m**	0.88	49.7 sec	213m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios with the exception of the design horizon. It is noted that the background design horizon exceeds performance thresholds and with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted. The queuing increases the delay increases by 2 seconds (3%) and the queue increases by 1m (0.2%). This impact however reduces from the current approval which results in a net benefit to the network.

Issue 1.5 Future Assessment:

- *Council does not entirely agree with the TIA Assessment Scenario. DTMR's Rockhampton Ring Road (RRR) modelling indicate that the current level of traffic will basically remain within the road network. Notwithstanding the above, Council believes the High Street traffic is local traffic and does not affect by the RRR opening post 2026. This development should assess at a minimum the High Street intersections with a 10-year design horizon from opening of development. Please amend the TIA to satisfy this requirement.*

Issue 1.5 Response:

As shown above in the Issue 1.4 response, 10-year design horizon traffic sensitivity analysis has been undertaken. Given this is a sensitivity test, this does not reflect the expected traffic outcomes resulting from the Rockhampton Ring Road development, the construction of what is an effective bypass of Rockhampton can only reduce the growth of traffic along Musgrave Street and the Bruce highway. However, a 1% growth rate per annum has been applied to all background volumes.

Issue 1.6 PM Peak Analysis:

- *SIDRA analysis has been carried out for AM peak only. Please carry out SIDRA analysis for PM peak and update the TIA accordingly. It is noted that the development PM peak traffic (especially for Thursdays) and childcare PM peak traffic are coinciding too*

Issue 1.6 Response:

Cardno has previously undertaken SIDRA analysis for the Thursday PM Peak Hour and the Saturday AM Peak Hour. This contradicts Council's assertion that only the AM peak hour has been analysed. For the sake of completion Cardno have assumed that Council is also requesting AM Peak analysis, given that the PM peak hour along with the Childcare centre have been appropriately responded to in Issue 1.2 above.

The Thursday PM Peak and the Saturday AM Peak were chosen as they correspond to the recommended peak hour times for shopping centres, as in accordance with the RTA's Guide to Traffic Generating Developments. To further show this, the network peak hour times have been generated from the following TMR AADT sites and outlined below in Table 1-8. The specific AADT reports have been included in **Appendix D**.

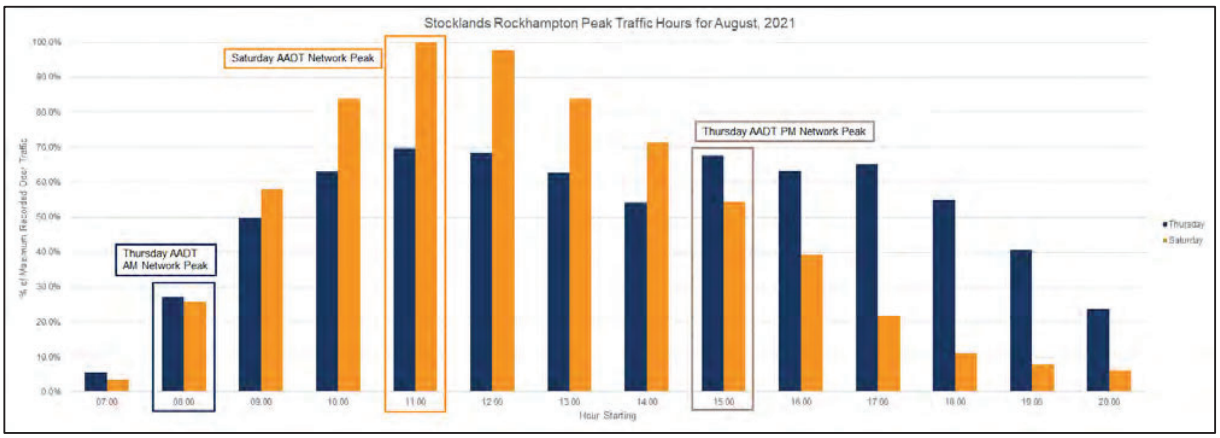
Table 1-8 AADT identified network peak hours

Road Segment	AADT Site	Identified Thursday Peak Hours	Identified Saturday Peak Hour(s)
196	60102	8am - 9am & 3pm - 4pm	11am – 12pm
196	61076	8am - 9am & 4pm - 5pm	11am – 12pm
10F	61005	8am - 9am & 3pm - 4pm	11am – 12pm
10F	60017	8am - 9am & 3pm - 4pm	11am – 12pm

As shown above, the network peak hours have been generally identified as 8-9am and 3-4pm for Thursday, and 11am-12pm for Saturday. Given these identified peak hours, it is expected that the AM peak hours for the local network and the proposed development will not coincide, hence the assessment of the Saturday AM and the Thursday PM peak hours.

As a further demonstration of this outcome, Stockland have provided confidential door count data for the purpose of identifying the centre peaks. For commercial reasons the raw values have not been provided, but have been modified to be a percentage of the maximum peak foot traffic. These values and how they interact with the network peak times have been outlined below in Figure 1-12.

Figure 1-12 Stockland Rockhampton Peak Foot Traffic Hourly comparison



As shown above, the Saturday AM and Thursday PM peaks are significantly larger than their associated counterpart. Only approximately 27% of the development traffic volumes occur during the Thursday AM network peak, however 100% of observed foot traffic occurs at the same time as the Saturday AM peak.

As such, given both the lack of crossover between the Thursday AM centre and network peaks, and the significant crossover between the Saturday development and network AM Peaks, undertaking further analysis for the Thursday AM Peak is not considered suitable nor necessary.

Issue 1.7 Cycle Times:

- *DTMR has confirmed the following cycle time for the existing traffic signal at High Street. Please update the SIDRA files accordingly.*
    - *M4516 High St/Kmart - 120 sec cycle time runs isolated no coordinated plan Max Green A40, B20 and C20 secs*

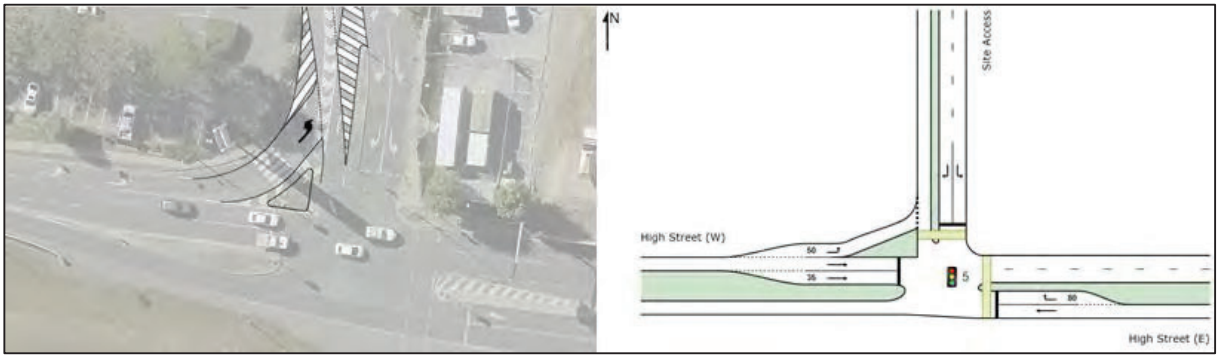
Issue 1.7 Response:

Cycle times for Intersection 7 have been suitably implemented, and corresponding SIDRA analysis, including the changes requested in Issues 1.3 & 1.4, has been undertaken below.

Intersection 7: High Street / Site Access Intersection

The current configuration of this intersection is a three-way signalised arrangement. As part of the proposed development, a revised intersection layout is proposed to help facilitate additional AV movements. The proposed and SIDRA assessed layout are illustrated on Figure 1-13.

Figure 1-13 Proposed and SIDRA Assessed Layout – High Street / Site Access Intersection



The results of the SIDRA assessment, for all assessed scenarios, are summarised in Table 1-10.

Table 1-9 SIDRA Outputs – High Street / Site Access Intersection

Scenario	Thursday PM Peak			Saturday AM Peak		
	DOS	Average Delay	95th%tile Queue	DOS	Average Delay	95th%tile Queue
2022 Background	0.40	12.9 sec	41m	0.42	15.5 sec	44m
2024 Background	0.41	13.4 sec	42m	0.37	14.8 sec	42m
2024 Background + Committed Approval	0.42	13.9 sec	43m	0.46	16.1 sec	52m
2024 BG + Development (No Committed Approval)	0.41	13.4 sec	42m	0.38	15.1 sec	44m
2024 Background + Development (Sensitivity)	0.41	14.0 sec	44m	0.39	15.4 sec	47m
2034 Background	0.45	12.8 sec	46m	0.40	14.7 sec	46m
2034 Background + Committed Approval	0.45	13.8 sec	47m	0.41	15.1 sec	48m
2034 Background + Development (Sensitivity)	0.45	13.8 sec	47m	0.46	15.7 sec	51m

The results of the analysis indicate that the current form of the intersection operates within the typical performance thresholds (DOS ≤ 0.90 for signals), for all assessed scenarios. It is noted that with the inclusion of the proposed expansion traffic, the average delay and 95th percentile queues are not significantly impacted, when compared to the background scenarios.

Issue 1.8 Swept Paths:

- *Please provide swept paths for the 19m articulated vehicle (AV) forward gear exist through High Street traffic signals.*

Issue 1.8 Response:

Swept paths have been provided in **Appendix E**.

Should you have any further queries or comments please do not hesitate to contact Andy Johnston on 07 3877 6931.

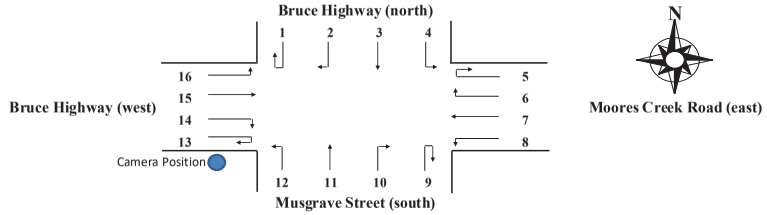
Yours sincerely,

Andy Johnston RPEQ: 24764
Technical Director - Transport Advisory
for Cardno
Direct Line: +61 7 3877 6931
Email: andrew.johnston@cardno.com.au

Enc: **Appendix A:** Traffic Surveys
Appendix B: Network Flow Diagram
Appendix C: Detailed SIDRA Results
Appendix D: AADT Outcomes
Appendix E: Swept Paths

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 1 **Weather:** Fine
Location: Musgrave Street/Moores Creek Road, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*

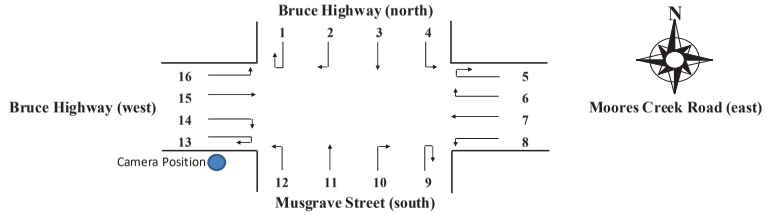


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	1	0	**1**	151	8	**159**	123	1	**124**	10	2	**12**	0	0	**0**	12	0	**12**	157	0	**157**	64	1	**65**
10:30 AM	0	0	**0**	144	7	**151**	112	2	**114**	19	1	**20**	0	0	**0**	13	1	**14**	92	1	**93**	72	1	**73**
10:45 AM	0	0	**0**	156	6	**162**	109	1	**110**	10	0	**10**	0	0	**0**	17	0	**17**	139	1	**140**	57	0	**57**
11:00 AM	1	0	**1**	161	8	**169**	146	1	**147**	14	0	**14**	0	0	**0**	16	0	**16**	113	0	**113**	76	0	**76**
11:15 AM	0	0	**0**	133	5	**138**	115	1	**116**	11	0	**11**	0	0	**0**	15	0	**15**	129	1	**130**	67	0	**67**
11:30 AM	1	0	**1**	151	5	**156**	117	1	**118**	12	0	**12**	0	0	**0**	16	0	**16**	92	1	**93**	55	0	**55**
11:45 AM	0	0	**0**	127	4	**131**	102	4	**106**	16	0	**16**	0	0	**0**	16	0	**16**	114	0	**114**	48	0	**48**
12:00 PM	0	0	**0**	161	7	**168**	120	0	**120**	19	0	**19**	0	0	**0**	12	0	**12**	133	0	**133**	56	0	**56**
12:15 PM	0	0	**0**	132	2	**134**	113	0	**113**	19	0	**19**	0	0	**0**	16	0	**16**	115	0	**115**	52	0	**52**
12:30 PM	0	0	**0**	137	4	**141**	94	0	**94**	15	1	**16**	0	0	**0**	12	1	**13**	92	1	**93**	47	0	**47**
12:45 PM	0	0	**0**	116	4	**120**	91	2	**93**	20	0	**20**	0	0	**0**	8	0	**8**	121	2	**123**	41	0	**41**
1:00 PM	0	0	**0**	122	6	**128**	107	2	**109**	15	0	**15**	0	0	**0**	12	1	**13**	105	0	**105**	46	1	**47**
3 hr Total	**3**	**0**	**3**	**1691**	**66**	**1757**	**1349**	**15**	**1364**	**180**	**4**	**184**	**0**	**0**	**0**	**165**	**3**	**168**	**1402**	**7**	**1409**	**681**	**3**	**684**
Peak	**1**	**0**	**1**	**571**	**18**	**589**	**452**	**5**	**457**	**66**	**0**	**66**	**0**	**0**	**0**	**60**	**0**	**60**	**454**	**1**	**455**	**211**	**0**	**211**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	2	0	**2**	54	0	**54**	120	2	**122**	8	0	**8**	0	0	**0**	1	0	**1**	66	1	**67**	119	5	**124**
10:30 AM	0	0	**0**	71	1	**72**	126	1	**127**	13	0	**13**	0	0	**0**	6	0	**6**	57	0	**57**	111	6	**117**
10:45 AM	0	0	**0**	62	0	**62**	130	2	**132**	9	2	**11**	1	0	**1**	3	0	**3**	69	1	**70**	123	3	**126**
11:00 AM	0	0	**0**	84	0	**84**	148	3	**151**	15	0	**15**	0	0	**0**	3	0	**3**	59	0	**59**	107	2	**109**
11:15 AM	0	0	**0**	73	0	**73**	136	0	**136**	29	1	**30**	1	0	**1**	5	0	**5**	84	0	**84**	124	1	**125**
11:30 AM	1	0	**1**	89	0	**89**	136	1	**137**	11	1	**12**	0	0	**0**	7	0	**7**	75	1	**76**	136	4	**140**
11:45 AM	2	0	**2**	84	1	**85**	152	2	**154**	17	2	**19**	0	0	**0**	4	0	**4**	69	1	**70**	100	2	**102**
12:00 PM	1	0	**1**	96	0	**96**	145	0	**145**	13	0	**13**	0	0	**0**	4	0	**4**	90	1	**91**	127	3	**130**
12:15 PM	0	0	**0**	105	2	**107**	182	3	**185**	21	1	**22**	0	0	**0**	5	0	**5**	89	1	**90**	103	2	**105**
12:30 PM	0	0	**0**	104	0	**104**	146	5	**151**	6	0	**6**	0	0	**0**	4	0	**4**	87	0	**87**	118	6	**124**
12:45 PM	0	0	**0**	84	0	**84**	128	1	**129**	8	1	**9**	0	0	**0**	5	0	**5**	87	0	**87**	113	2	**115**
1:00 PM	3	0	**3**	88	0	**88**	145	2	**147**	19	0	**19**	0	0	**0**	1	0	**1**	59	0	**59**	110	5	**115**
3 hr Total	**9**	**0**	**9**	**994**	**4**	**998**	**1694**	**22**	**1716**	**169**	**8**	**177**	**2**	**0**	**2**	**48**	**0**	**48**	**891**	**6**	**897**	**1391**	**41**	**1432**
Peak	**4**	**0**	**4**	**374**	**3**	**377**	**615**	**6**	**621**	**62**	**4**	**66**	**0**	**0**	**0**	**20**	**0**	**20**	**323**	**4**	**327**	**466**	**11**	**477**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 1 **Weather:** Fine
Location: Musgrave Street/Moores Creek Road, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:45 PM*

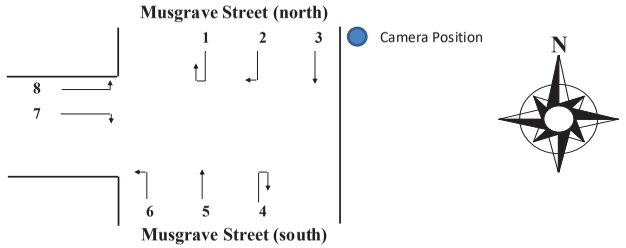


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	135	16	**151**	81	2	**83**	21	2	**23**	0	0	**0**	11	0	**11**	102	1	**103**	57	0	**57**
4:30 PM	0	0	**0**	129	6	**135**	100	4	**104**	34	1	**35**	0	0	**0**	13	0	**13**	97	5	**102**	45	1	**46**
4:45 PM	0	0	**0**	121	6	**127**	85	5	**90**	25	0	**25**	0	0	**0**	13	0	**13**	118	1	**119**	51	0	**51**
5:00 PM	0	0	**0**	141	4	**145**	89	4	**93**	26	1	**27**	0	0	**0**	19	0	**19**	119	0	**119**	37	0	**37**
5:15 PM	0	0	**0**	109	15	**124**	95	3	**98**	20	0	**20**	0	0	**0**	15	0	**15**	86	2	**88**	40	0	**40**
5:30 PM	0	0	**0**	136	10	**146**	71	2	**73**	25	0	**25**	0	0	**0**	9	0	**9**	88	1	**89**	34	0	**34**
5:45 PM	0	0	**0**	107	9	**116**	62	1	**63**	24	0	**24**	0	0	**0**	10	0	**10**	112	1	**113**	24	1	**25**
6:00 PM	0	0	**0**	87	8	**95**	70	0	**70**	13	0	**13**	0	0	**0**	12	1	**13**	129	1	**130**	55	0	**55**
6:15 PM	0	0	**0**	79	3	**82**	66	2	**68**	13	0	**13**	0	0	**0**	13	0	**13**	101	0	**101**	41	0	**41**
6:30 PM	0	0	**0**	73	2	**75**	49	1	**50**	16	0	**16**	0	0	**0**	8	0	**8**	118	1	**119**	47	0	**47**
6:45 PM	0	0	**0**	70	2	**72**	43	1	**44**	8	0	**8**	0	0	**0**	6	0	**6**	76	2	**78**	28	0	**28**
7:00 PM	1	0	**1**	65	7	**72**	64	1	**65**	9	0	**9**	0	0	**0**	7	0	**7**	58	0	**58**	21	0	**21**
3 hr Total	**1**	**0**	**1**	**1252**	**88**	**1340**	**875**	**26**	**901**	**234**	**4**	**238**	**0**	**0**	**0**	**136**	**1**	**137**	**1204**	**15**	**1219**	**480**	**2**	**482**
PM Peak	**0**	**0**	**0**	**493**	**38**	**531**	**317**	**10**	**327**	**95**	**1**	**96**	**0**	**0**	**0**	**53**	**0**	**53**	**405**	**4**	**409**	**135**	**1**	**136**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	1	0	**1**	108	0	**108**	125	5	**130**	8	0	**8**	0	0	**0**	1	1	**2**	128	4	**132**	93	6	**99**
4:30 PM	0	0	**0**	115	0	**115**	117	3	**120**	13	0	**13**	0	0	**0**	3	0	**3**	155	2	**157**	121	4	**125**
4:45 PM	0	0	**0**	116	0	**116**	116	3	**119**	10	0	**10**	1	0	**1**	9	0	**9**	133	2	**135**	118	4	**122**
5:00 PM	1	0	**1**	146	1	**147**	141	3	**144**	8	0	**8**	1	0	**1**	1	0	**1**	172	1	**173**	115	5	**120**
5:15 PM	1	0	**1**	143	0	**143**	125	0	**125**	8	0	**8**	0	0	**0**	4	0	**4**	184	2	**186**	142	4	**146**
5:30 PM	0	0	**0**	151	1	**152**	141	0	**141**	11	0	**11**	0	0	**0**	3	0	**3**	173	4	**177**	150	7	**157**
5:45 PM	0	0	**0**	141	0	**141**	152	2	**154**	13	0	**13**	0	0	**0**	0	0	**0**	170	3	**173**	127	5	**132**
6:00 PM	0	0	**0**	127	0	**127**	130	5	**135**	12	0	**12**	0	0	**0**	2	0	**2**	134	2	**136**	127	5	**132**
6:15 PM	0	0	**0**	106	1	**107**	92	1	**93**	6	0	**6**	0	0	**0**	1	0	**1**	80	0	**80**	75	4	**79**
6:30 PM	0	0	**0**	99	0	**99**	88	2	**90**	6	0	**6**	0	0	**0**	0	0	**0**	89	1	**90**	78	5	**83**
6:45 PM	2	0	**2**	101	0	**101**	74	1	**75**	10	0	**10**	0	0	**0**	2	0	**2**	64	0	**64**	49	6	**55**
7:00 PM	1	0	**1**	82	0	**82**	60	0	**60**	4	0	**4**	0	0	**0**	3	0	**3**	57	0	**57**	43	3	**46**
3 hr Total	**6**	**0**	**6**	**1435**	**3**	**1438**	**1361**	**25**	**1386**	**109**	**0**	**109**	**2**	**0**	**2**	**29**	**1**	**30**	**1539**	**21**	**1560**	**1238**	**58**	**1296**
PM Peak	**2**	**0**	**2**	**581**	**2**	**583**	**559**	**5**	**564**	**40**	**0**	**40**	**1**	**0**	**1**	**8**	**0**	**8**	**699**	**10**	**709**	**534**	**21**	**555**

AUSTRAFFIC VIDEO INTERSECTION COUNT

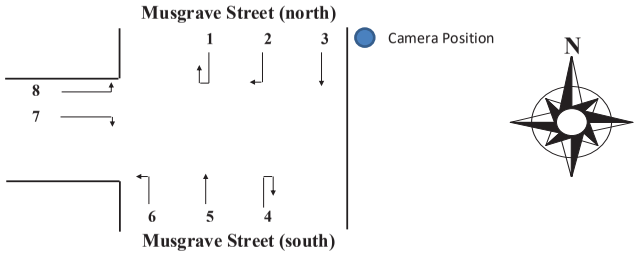
Site No.: 2 **Weather:** Fine
Location: Musgrave Street/Stockland Centre, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*



TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	30	0	**30**	148	1	**149**	0	0	**0**	143	3	**146**	24	0	**24**	8	0	**8**	30	0	**30**
10:30 AM	0	0	**0**	45	0	**45**	155	3	**158**	0	0	**0**	160	3	**163**	15	0	**15**	17	0	**17**	28	0	**28**
10:45 AM	2	0	**2**	35	0	**35**	131	1	**132**	0	0	**0**	160	4	**164**	26	0	**26**	19	0	**19**	40	0	**40**
11:00 AM	1	0	**1**	45	0	**45**	181	1	**182**	0	0	**0**	190	0	**190**	23	0	**23**	23	0	**23**	44	0	**44**
11:15 AM	2	0	**2**	44	0	**44**	134	1	**135**	0	0	**0**	167	3	**170**	30	0	**30**	29	0	**29**	42	0	**42**
11:30 AM	2	0	**2**	42	0	**42**	128	2	**130**	0	0	**0**	191	2	**193**	31	0	**31**	20	0	**20**	46	0	**46**
11:45 AM	1	0	**1**	34	0	**34**	126	4	**130**	0	0	**0**	186	5	**191**	29	0	**29**	24	0	**24**	49	0	**49**
12:00 PM	2	0	**2**	40	0	**40**	153	0	**153**	0	0	**0**	199	2	**201**	25	0	**25**	24	0	**24**	45	0	**45**
12:15 PM	1	0	**1**	30	0	**30**	141	0	**141**	0	0	**0**	201	2	**203**	26	0	**26**	33	0	**33**	52	0	**52**
12:30 PM	1	0	**1**	28	0	**28**	111	0	**111**	0	0	**0**	205	6	**211**	24	0	**24**	23	0	**23**	47	0	**47**
12:45 PM	0	0	**0**	30	0	**30**	104	2	**106**	0	0	**0**	162	2	**164**	21	0	**21**	26	0	**26**	51	0	**51**
1:00 PM	1	0	**1**	43	0	**43**	124	3	**127**	0	0	**0**	168	4	**172**	33	0	**33**	19	0	**19**	61	0	**61**
3 hr Total	**13**	**0**	**13**	**446**	**0**	**446**	**1636**	**18**	**1654**	**0**	**0**	**0**	**2132**	**36**	**2168**	**307**	**0**	**307**	**265**	**0**	**265**	**535**	**0**	**535**
Peak	**6**	**0**	**6**	**146**	**0**	**146**	**548**	**6**	**554**	**0**	**0**	**0**	**777**	**11**	**788**	**111**	**0**	**111**	**101**	**0**	**101**	**192**	**0**	**192**

AUSTRAFFIC VIDEO INTERSECTION COUNT

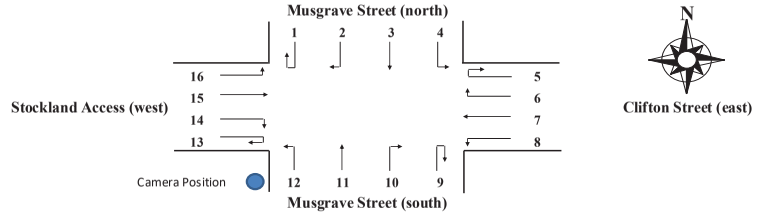
Site No.: 2 **Weather:** Fine
Location: Musgrave Street/Stockland Centre, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:30 PM*



TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	1	0	**1**	19	0	**19**	124	2	**126**	2	0	**2**	186	7	**193**	17	0	**17**	18	0	**18**	41	0	**41**
4:30 PM	2	0	**2**	29	0	**29**	109	6	**115**	0	0	**0**	194	1	**195**	23	0	**23**	22	0	**22**	36	0	**36**
4:45 PM	1	0	**1**	27	0	**27**	118	4	**122**	0	0	**0**	211	6	**217**	25	0	**25**	19	0	**19**	45	0	**45**
5:00 PM	0	0	**0**	27	0	**27**	99	5	**104**	0	0	**0**	185	1	**186**	18	0	**18**	18	0	**18**	33	0	**33**
5:15 PM	0	0	**0**	24	0	**24**	107	4	**111**	0	0	**0**	233	1	**234**	20	0	**20**	22	0	**22**	63	0	**63**
5:30 PM	0	0	**0**	14	0	**14**	94	1	**95**	1	0	**1**	231	0	**231**	22	0	**22**	21	0	**21**	42	0	**42**
5:45 PM	0	0	**0**	17	0	**17**	78	2	**80**	0	0	**0**	219	5	**224**	17	0	**17**	26	0	**26**	73	0	**73**
6:00 PM	2	0	**2**	22	0	**22**	99	0	**99**	0	0	**0**	179	3	**182**	15	0	**15**	15	0	**15**	46	0	**46**
6:15 PM	0	0	**0**	21	0	**21**	79	2	**81**	0	0	**0**	141	2	**143**	6	0	**6**	14	0	**14**	34	0	**34**
6:30 PM	2	0	**2**	20	0	**20**	74	1	**75**	0	0	**0**	127	0	**127**	5	0	**5**	18	0	**18**	36	0	**36**
6:45 PM	0	0	**0**	13	0	**13**	79	1	**80**	0	0	**0**	121	1	**122**	2	0	**2**	13	0	**13**	30	0	**30**
7:00 PM	0	0	**0**	13	0	**13**	59	1	**60**	0	0	**0**	93	0	**93**	4	0	**4**	17	0	**17**	24	0	**24**
3 hr Total	**8**	**0**	**8**	**246**	**0**	**246**	**1119**	**29**	**1148**	**3**	**0**	**3**	**2120**	**27**	**2147**	**174**	**0**	**174**	**223**	**0**	**223**	**503**	**0**	**503**
PM Peak	**1**	**0**	**1**	**92**	**0**	**92**	**418**	**14**	**432**	**1**	**0**	**1**	**860**	**8**	**868**	**85**	**0**	**85**	**80**	**0**	**80**	**183**	**0**	**183**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 3 **Weather:** Fine
Location: Musgrave Street/Clifton Street, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*

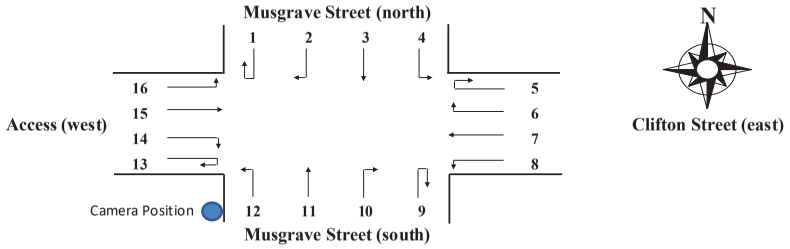


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	0	0	**0**	151	1	**152**	14	0	**14**	0	0	**0**	0	0	**0**	0	0	**0**	5	0	**5**
10:30 AM	0	0	**0**	0	0	**0**	146	3	**149**	16	0	**16**	0	0	**0**	0	0	**0**	0	0	**0**	10	1	**11**
10:45 AM	0	0	**0**	0	0	**0**	133	1	**134**	20	0	**20**	0	0	**0**	0	0	**0**	0	0	**0**	7	0	**7**
11:00 AM	0	0	**0**	0	0	**0**	182	1	**183**	26	0	**26**	0	0	**0**	0	0	**0**	0	0	**0**	13	0	**13**
11:15 AM	0	0	**0**	0	0	**0**	148	1	**149**	9	0	**9**	0	0	**0**	0	0	**0**	0	0	**0**	11	0	**11**
11:30 AM	0	0	**0**	0	0	**0**	135	3	**138**	20	0	**20**	0	0	**0**	0	0	**0**	0	0	**0**	6	0	**6**
11:45 AM	0	0	**0**	0	0	**0**	131	2	**133**	16	1	**17**	0	0	**0**	0	0	**0**	0	0	**0**	6	0	**6**
12:00 PM	0	0	**0**	0	0	**0**	150	0	**150**	25	0	**25**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**
12:15 PM	0	0	**0**	0	0	**0**	157	0	**157**	24	0	**24**	0	0	**0**	0	0	**0**	0	0	**0**	5	0	**5**
12:30 PM	0	0	**0**	0	0	**0**	99	0	**99**	21	0	**21**	0	0	**0**	0	0	**0**	0	0	**0**	5	0	**5**
12:45 PM	0	0	**0**	0	0	**0**	121	2	**123**	16	0	**16**	0	0	**0**	0	0	**0**	0	0	**0**	4	0	**4**
1:00 PM	0	0	**0**	0	0	**0**	127	3	**130**	15	0	**15**	0	0	**0**	0	0	**0**	0	0	**0**	5	0	**5**
3 hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**1680**	**17**	**1697**	**222**	**1**	**223**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**79**	**1**	**80**
Peak	**0**	**0**	**0**	**0**	**0**	**0**	**573**	**5**	**578**	**85**	**1**	**86**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**19**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	0	0	**0**	152	3	**155**	55	0	**55**	0	0	**0**	30	0	**30**	0	0	**0**	27	1	**28**
10:30 AM	0	0	**0**	0	0	**0**	143	2	**145**	61	0	**61**	0	0	**0**	25	0	**25**	0	0	**0**	24	0	**24**
10:45 AM	0	0	**0**	0	0	**0**	164	3	**167**	64	0	**64**	0	0	**0**	39	1	**40**	0	0	**0**	45	1	**46**
11:00 AM	0	0	**0**	0	0	**0**	152	0	**152**	67	0	**67**	0	0	**0**	21	0	**21**	0	0	**0**	27	0	**27**
11:15 AM	0	0	**0**	0	0	**0**	173	4	**177**	57	0	**57**	0	0	**0**	34	0	**34**	0	0	**0**	36	1	**37**
11:30 AM	0	0	**0**	0	0	**0**	163	1	**164**	67	0	**67**	0	0	**0**	30	0	**30**	0	0	**0**	46	0	**46**
11:45 AM	0	0	**0**	0	0	**0**	159	3	**162**	69	0	**69**	0	0	**0**	36	0	**36**	0	0	**0**	61	1	**62**
12:00 PM	0	0	**0**	0	0	**0**	173	2	**175**	55	0	**55**	0	0	**0**	29	0	**29**	0	0	**0**	42	0	**42**
12:15 PM	0	0	**0**	0	0	**0**	199	2	**201**	63	0	**63**	0	0	**0**	45	0	**45**	0	0	**0**	52	1	**53**
12:30 PM	0	0	**0**	0	0	**0**	162	5	**167**	52	0	**52**	0	0	**0**	38	0	**38**	0	0	**0**	38	0	**38**
12:45 PM	0	0	**0**	0	0	**0**	143	1	**144**	63	1	**64**	0	0	**0**	49	2	**51**	0	0	**0**	49	1	**50**
1:00 PM	0	0	**0**	0	0	**0**	161	4	**165**	56	1	**57**	0	0	**0**	41	0	**41**	0	0	**0**	48	1	**49**
3 hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**1944**	**30**	**1974**	**729**	**2**	**731**	**0**	**0**	**0**	**417**	**3**	**420**	**0**	**0**	**0**	**495**	**7**	**502**
Peak	**0**	**0**	**0**	**0**	**0**	**0**	**694**	**8**	**702**	**254**	**0**	**254**	**0**	**0**	**0**	**140**	**0**	**140**	**0**	**0**	**0**	**201**	**2**	**203**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 3 **Weather:** Fine
Location: Musgrave Street/Clifton Street, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:30 PM*



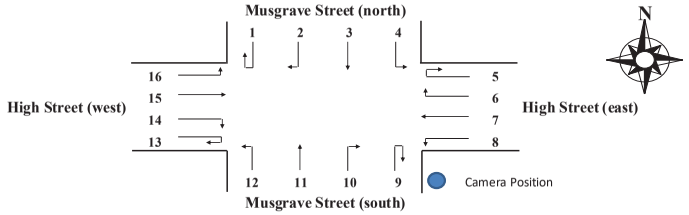
TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	0	0	**0**	141	1	**142**	17	0	**17**	0	0	**0**	0	0	**0**	0	0	**0**	4	1	**5**
4:30 PM	0	0	**0**	0	0	**0**	102	6	**108**	17	0	**17**	0	0	**0**	0	0	**0**	0	0	**0**	3	0	**3**
4:45 PM	0	0	**0**	0	0	**0**	114	4	**118**	21	0	**21**	0	0	**0**	0	0	**0**	0	0	**0**	4	0	**4**
5:00 PM	0	0	**0**	0	0	**0**	110	5	**115**	13	0	**13**	0	0	**0**	0	0	**0**	0	0	**0**	6	0	**6**
5:15 PM	0	0	**0**	0	0	**0**	107	3	**110**	24	1	**25**	0	0	**0**	0	0	**0**	0	0	**0**	4	0	**4**
5:30 PM	0	0	**0**	0	0	**0**	91	1	**92**	15	0	**15**	0	0	**0**	0	0	**0**	0	0	**0**	5	0	**5**
5:45 PM	0	0	**0**	0	0	**0**	89	2	**91**	15	0	**15**	0	0	**0**	0	0	**0**	0	0	**0**	6	1	**7**
6:00 PM	0	0	**0**	0	0	**0**	88	0	**88**	21	0	**21**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
6:15 PM	0	0	**0**	0	0	**0**	88	2	**90**	10	0	**10**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**
6:30 PM	0	0	**0**	0	0	**0**	82	0	**82**	11	1	**12**	0	0	**0**	0	0	**0**	0	0	**0**	4	0	**4**
6:45 PM	0	0	**0**	0	0	**0**	76	1	**77**	11	0	**11**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**
7:00 PM	0	0	**0**	0	0	**0**	69	1	**70**	9	0	**9**	0	0	**0**	0	0	**0**	0	0	**0**	4	0	**4**
3 hr Total	**0**	**0**	**0**	**0**	**0**	**0**	**1157**	**26**	**1183**	**184**	**2**	**186**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**2**	**45**
PM Peak	**0**	**0**	**0**	**0**	**0**	**0**	**422**	**13**	**435**	**73**	**1**	**74**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**19**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	0	0	**0**	191	5	**196**	61	0	**61**	0	0	**0**	36	0	**36**	0	0	**0**	42	2	**44**
4:30 PM	0	0	**0**	0	0	**0**	160	1	**161**	51	0	**51**	0	0	**0**	34	1	**35**	0	0	**0**	40	2	**42**
4:45 PM	1	0	**1**	0	0	**0**	177	3	**180**	51	0	**51**	0	0	**0**	40	2	**42**	0	0	**0**	54	2	**56**
5:00 PM	0	0	**0**	0	0	**0**	178	0	**178**	59	0	**59**	0	0	**0**	28	0	**28**	0	0	**0**	34	0	**34**
5:15 PM	0	0	**0**	0	0	**0**	219	0	**219**	65	0	**65**	0	0	**0**	30	2	**32**	0	0	**0**	44	1	**45**
5:30 PM	0	0	**0**	0	0	**0**	207	0	**207**	66	0	**66**	0	0	**0**	32	0	**32**	0	0	**0**	50	0	**50**
5:45 PM	0	0	**0**	0	0	**0**	177	2	**179**	69	1	**70**	0	0	**0**	39	1	**40**	0	0	**0**	49	5	**54**
6:00 PM	0	0	**0**	0	0	**0**	130	1	**131**	55	0	**55**	0	0	**0**	36	1	**37**	0	0	**0**	54	1	**55**
6:15 PM	0	0	**0**	0	0	**0**	99	1	**100**	61	0	**61**	0	0	**0**	42	0	**42**	0	0	**0**	44	1	**45**
6:30 PM	0	0	**0**	0	0	**0**	82	0	**82**	62	0	**62**	0	0	**0**	49	1	**50**	0	0	**0**	44	0	**44**

6:45 PM	0	0	**0**	0	0	**0**	70	0	**70**	41	0	**41**	0	0	**0**	25	0	**25**	0	0	**0**	49	1	**50**
7:00 PM	0	0	**0**	0	0	**0**	67	0	**67**	44	0	**44**	0	0	**0**	35	1	**36**	0	0	**0**	39	0	**39**
3 hr Total	**1**	**0**	**1**	**0**	**0**	**0**	**1757**	**13**	**1770**	**685**	**1**	**686**	**0**	**0**	**0**	**426**	**9**	**435**	**0**	**0**	**0**	**543**	**15**	**558**
PM Peak	**1**	**0**	**1**	**0**	**0**	**0**	**781**	**3**	**784**	**241**	**0**	**241**	**0**	**0**	**0**	**130**	**4**	**134**	**0**	**0**	**0**	**182**	**3**	**185**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 5 **Weather:** Fine
Location: Musgrave Street/High Street, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*

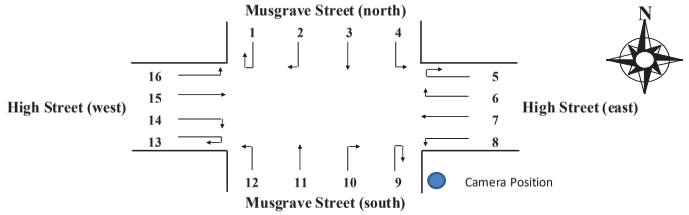


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	14	0	**14**	18	0	**18**	134	2	**136**	24	0	**24**	0	0	**0**	41	0	**41**	44	1	**45**	8	0	**8**
10:30 AM	15	0	**15**	14	2	**16**	127	2	**129**	22	0	**22**	0	0	**0**	56	0	**56**	53	0	**53**	10	0	**10**
10:45 AM	14	0	**14**	11	1	**12**	143	1	**144**	25	0	**25**	0	0	**0**	38	0	**38**	58	0	**58**	13	0	**13**
11:00 AM	11	0	**11**	8	0	**8**	170	1	**171**	27	0	**27**	0	0	**0**	50	0	**50**	49	0	**49**	10	0	**10**
11:15 AM	15	0	**15**	12	0	**12**	147	1	**148**	36	0	**36**	0	0	**0**	48	0	**48**	51	2	**53**	9	0	**9**
11:30 AM	8	0	**8**	9	0	**9**	120	1	**121**	29	0	**29**	0	0	**0**	53	0	**53**	52	1	**53**	11	0	**11**
11:45 AM	17	0	**17**	13	2	**15**	134	2	**136**	25	0	**25**	0	0	**0**	43	0	**43**	43	0	**43**	14	0	**14**
12:00 PM	11	0	**11**	14	0	**14**	134	0	**134**	24	0	**24**	0	0	**0**	47	0	**47**	47	0	**47**	14	0	**14**
12:15 PM	14	0	**14**	10	0	**10**	145	0	**145**	39	0	**39**	0	0	**0**	58	0	**58**	44	3	**47**	6	0	**6**
12:30 PM	6	0	**6**	7	0	**7**	102	0	**102**	29	0	**29**	0	0	**0**	49	1	**50**	37	0	**37**	10	0	**10**
12:45 PM	13	0	**13**	9	2	**11**	132	2	**134**	39	0	**39**	0	0	**0**	45	0	**45**	46	0	**46**	20	0	**20**
1:00 PM	12	0	**12**	5	0	**5**	133	2	**135**	24	1	**25**	0	0	**0**	42	0	**42**	48	0	**48**	15	0	**15**
3 hr Total	**150**	**0**	**150**	**130**	**7**	**137**	**1621**	**14**	**1635**	**343**	**1**	**344**	**0**	**0**	**0**	**570**	**1**	**571**	**572**	**7**	**579**	**140**	**0**	**140**
Peak	**50**	**0**	**50**	**46**	**2**	**48**	**533**	**3**	**536**	**117**	**0**	**117**	**0**	**0**	**0**	**201**	**0**	**201**	**186**	**4**	**190**	**45**	**0**	**45**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	16	0	**16**	30	0	**30**	144	2	**146**	44	2	**46**	0	0	**0**	56	0	**56**	32	2	**34**	10	0	**10**
10:30 AM	22	0	**22**	13	0	**13**	128	3	**131**	31	1	**32**	0	0	**0**	73	2	**75**	51	0	**51**	6	0	**6**
10:45 AM	19	0	**19**	25	0	**25**	152	2	**154**	37	1	**38**	0	0	**0**	55	1	**56**	45	1	**46**	15	1	**16**
11:00 AM	21	0	**21**	27	0	**27**	171	0	**171**	50	1	**51**	0	0	**0**	66	0	**66**	46	0	**46**	9	0	**9**
11:15 AM	16	0	**16**	30	0	**30**	159	3	**162**	53	1	**54**	0	0	**0**	68	1	**69**	49	1	**50**	10	0	**10**
11:30 AM	20	0	**20**	29	0	**29**	157	1	**158**	56	2	**58**	0	0	**0**	67	1	**68**	47	1	**48**	10	0	**10**
11:45 AM	18	0	**18**	37	0	**37**	147	3	**150**	59	1	**60**	0	0	**0**	62	2	**64**	57	0	**57**	17	1	**18**
12:00 PM	19	0	**19**	20	0	**20**	167	2	**169**	53	1	**54**	0	0	**0**	90	0	**90**	57	0	**57**	16	0	**16**
12:15 PM	29	0	**29**	32	0	**32**	164	2	**166**	43	1	**44**	0	0	**0**	60	2	**62**	52	2	**54**	17	0	**17**
12:30 PM	20	0	**20**	32	1	**33**	146	4	**150**	55	1	**56**	0	0	**0**	58	0	**58**	42	1	**43**	21	0	**21**
12:45 PM	7	0	**7**	31	0	**31**	135	2	**137**	35	1	**36**	0	0	**0**	44	1	**45**	46	0	**46**	7	0	**7**
1:00 PM	18	0	**18**	17	0	**17**	142	3	**145**	39	1	**40**	0	0	**0**	69	0	**69**	44	0	**44**	22	0	**22**
3 hr Total	**225**	**0**	**225**	**323**	**1**	**324**	**1812**	**27**	**1839**	**555**	**14**	**569**	**0**	**0**	**0**	**768**	**10**	**778**	**568**	**8**	**576**	**160**	**2**	**162**
Peak	**86**	**0**	**86**	**118**	**0**	**118**	**635**	**8**	**643**	**211**	**5**	**216**	**0**	**0**	**0**	**279**	**5**	**284**	**213**	**3**	**216**	**60**	**1**	**61**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 5 **Weather:** Fine
Location: Musgrave Street/High Street, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:15 PM*

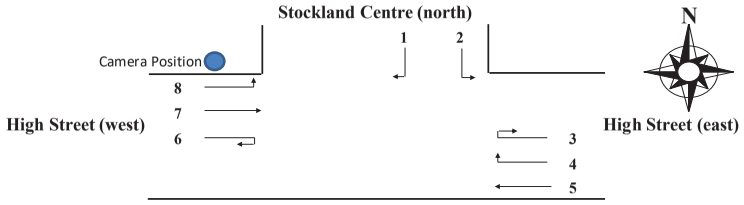


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*
4:15 PM	9	0	**9**	3	0	**3**	147	2	**149**	28	0	**28**	0	0	**0**	39	1	**40**	48	2	**50**	4	1	**5**
4:30 PM	12	0	**12**	4	3	**7**	101	4	**105**	32	0	**32**	0	0	**0**	48	0	**48**	58	0	**58**	16	0	**16**
4:45 PM	6	0	**6**	10	2	**12**	114	4	**118**	28	0	**28**	0	0	**0**	51	1	**52**	55	1	**56**	9	0	**9**
5:00 PM	8	0	**8**	10	2	**12**	108	2	**110**	29	0	**29**	0	0	**0**	54	0	**54**	46	0	**46**	6	0	**6**
5:15 PM	4	0	**4**	8	2	**10**	107	3	**110**	25	0	**25**	0	0	**0**	52	0	**52**	55	2	**57**	15	0	**15**
5:30 PM	8	0	**8**	6	1	**7**	101	1	**102**	19	0	**19**	0	0	**0**	49	0	**49**	50	1	**51**	1	0	**1**
5:45 PM	7	1	**8**	13	2	**15**	94	1	**95**	23	0	**23**	0	0	**0**	53	1	**54**	38	2	**40**	9	0	**9**
6:00 PM	10	0	**10**	14	0	**14**	102	0	**102**	21	1	**22**	0	0	**0**	37	0	**37**	53	0	**53**	16	0	**16**
6:15 PM	12	0	**12**	10	1	**11**	86	0	**86**	16	0	**16**	0	0	**0**	42	0	**42**	36	2	**38**	3	0	**3**
6:30 PM	13	0	**13**	11	1	**12**	82	1	**83**	25	0	**25**	0	0	**0**	32	0	**32**	42	0	**42**	1	0	**1**
6:45 PM	8	0	**8**	6	0	**6**	77	1	**78**	13	0	**13**	0	0	**0**	28	0	**28**	43	0	**43**	6	0	**6**
7:00 PM	10	0	**10**	4	0	**4**	91	2	**93**	19	0	**19**	0	0	**0**	22	0	**22**	21	0	**21**	5	0	**5**
3 hr Total	**107**	**1**	**108**	**99**	**14**	**113**	**1210**	**21**	**1231**	**278**	**1**	**279**	**0**	**0**	**0**	**507**	**3**	**510**	**545**	**10**	**555**	**91**	**1**	**92**
PM Peak	**30**	**0**	**30**	**32**	**9**	**41**	**430**	**13**	**443**	**114**	**0**	**114**	**0**	**0**	**0**	**205**	**1**	**206**	**214**	**3**	**217**	**46**	**0**	**46**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*	*Light Vehicles*	*Heavy Vehicles*	*Total*
4:15 PM	22	0	**22**	41	1	**42**	192	4	**196**	37	4	**41**	0	0	**0**	74	4	**78**	57	1	**58**	6	0	**6**
4:30 PM	23	0	**23**	36	0	**36**	137	1	**138**	41	4	**45**	0	0	**0**	88	1	**89**	54	1	**55**	9	0	**9**
4:45 PM	43	0	**43**	32	0	**32**	162	1	**163**	62	5	**67**	0	0	**0**	76	1	**77**	74	3	**77**	13	1	**14**
5:00 PM	31	0	**31**	42	0	**42**	153	0	**153**	59	1	**60**	0	0	**0**	68	2	**70**	60	0	**60**	10	0	**10**
5:15 PM	25	0	**25**	47	2	**49**	223	0	**223**	51	1	**52**	0	0	**0**	67	1	**68**	66	2	**68**	7	0	**7**
5:30 PM	31	0	**31**	51	1	**52**	197	0	**197**	42	2	**44**	0	0	**0**	48	2	**50**	52	1	**53**	7	0	**7**
5:45 PM	24	0	**24**	46	0	**46**	190	1	**191**	34	4	**38**	0	0	**0**	58	2	**60**	55	2	**57**	5	0	**5**
6:00 PM	20	0	**20**	30	0	**30**	137	1	**138**	28	3	**31**	0	0	**0**	83	1	**84**	56	0	**56**	12	0	**12**
6:15 PM	15	0	**15**	33	0	**33**	90	1	**91**	28	0	**28**	0	0	**0**	64	1	**65**	55	1	**56**	12	0	**12**
6:30 PM	15	0	**15**	24	0	**24**	102	0	**102**	30	0	**30**	0	0	**0**	42	0	**42**	42	0	**42**	7	0	**7**
6:45 PM	9	0	**9**	17	0	**17**	71	0	**71**	30	2	**32**	0	0	**0**	41	0	**41**	47	0	**47**	7	0	**7**
7:00 PM	13	0	**13**	17	0	**17**	76	0	**76**	23	0	**23**	0	0	**0**	36	0	**36**	38	0	**38**	5	0	**5**
3 hr Total	**271**	**0**	**271**	**416**	**4**	**420**	**1730**	**9**	**1739**	**465**	**26**	**491**	**0**	**0**	**0**	**745**	**15**	**760**	**656**	**11**	**667**	**100**	**1**	**101**
PM Peak	**122**	**0**	**122**	**157**	**2**	**159**	**675**	**2**	**677**	**213**	**11**	**224**	**0**	**0**	**0**	**299**	**5**	**304**	**254**	**6**	**260**	**39**	**1**	**40**

AUSTRAFFIC VIDEO INTERSECTION COUNT

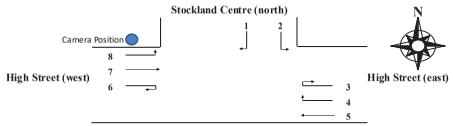
Site No.: 7 **Weather:** Fine
Location: High Street/Stockland Centre, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*



TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	25	1	**26**	22	0	**22**	1	0	**1**	26	3	**29**	68	0	**68**	0	0	**0**	81	0	**81**	45	0	**45**
10:30 AM	34	0	**34**	23	0	**23**	1	0	**1**	28	1	**29**	76	1	**77**	0	0	**0**	97	1	**98**	54	0	**54**
10:45 AM	37	0	**37**	19	0	**19**	0	0	**0**	29	3	**32**	93	0	**93**	0	0	**0**	91	1	**92**	43	0	**43**
11:00 AM	42	0	**42**	20	0	**20**	1	0	**1**	30	0	**30**	81	0	**81**	0	0	**0**	84	0	**84**	55	0	**55**
11:15 AM	49	0	**49**	29	0	**29**	0	0	**0**	29	4	**33**	90	0	**90**	0	0	**0**	92	0	**92**	69	0	**69**
11:30 AM	57	0	**57**	20	0	**20**	0	0	**0**	35	1	**36**	71	1	**72**	0	0	**0**	112	1	**113**	72	0	**72**
11:45 AM	49	1	**50**	24	0	**24**	1	0	**1**	22	3	**25**	109	1	**110**	0	0	**0**	101	0	**101**	50	0	**50**
12:00 PM	64	0	**64**	40	0	**40**	0	0	**0**	30	0	**30**	75	0	**75**	0	0	**0**	106	0	**106**	49	0	**49**
12:15 PM	69	0	**69**	24	0	**24**	0	0	**0**	27	4	**31**	80	1	**81**	0	0	**0**	108	1	**109**	50	0	**50**
12:30 PM	50	0	**50**	35	0	**35**	0	0	**0**	24	0	**24**	79	0	**79**	0	0	**0**	88	0	**88**	45	1	**46**
12:45 PM	42	0	**42**	24	0	**24**	0	0	**0**	26	4	**30**	70	0	**70**	0	0	**0**	79	0	**79**	41	0	**41**
1:00 PM	48	0	**48**	34	0	**34**	1	0	**1**	10	1	**11**	79	0	**79**	0	0	**0**	80	0	**80**	40	0	**40**
3 hr Total	**566**	**2**	**568**	**314**	**0**	**314**	**5**	**0**	**5**	**316**	**24**	**340**	**971**	**4**	**975**	**0**	**0**	**0**	**1119**	**4**	**1123**	**613**	**1**	**614**
Peak	**239**	**1**	**240**	**108**	**0**	**108**	**1**	**0**	**1**	**114**	**8**	**122**	**335**	**3**	**338**	**0**	**0**	**0**	**427**	**2**	**429**	**221**	**0**	**221**

AUSTRAFFIC VIDEO INTERSECTION COUNT

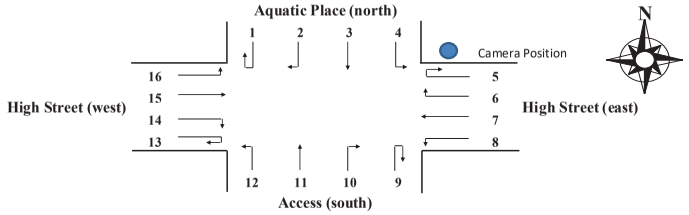
Site No.: 7 **Weather:** Fine
Location: High Street/Stockland Centre, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:15 PM*



TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total	Light Vehicles	Heavy Vehicles	Total
4:15 PM	44	0	**44**	22	0	**22**	0	0	**0**	11	5	**16**	87	2	**89**	0	0	**0**	119	2	**121**	36	0	**36**
4:30 PM	36	0	**36**	20	0	**20**	0	0	**0**	13	5	**18**	91	2	**93**	0	0	**0**	117	0	**117**	43	1	**44**
4:45 PM	45	0	**45**	27	1	**28**	1	0	**1**	20	8	**28**	112	1	**113**	0	0	**0**	141	1	**142**	42	0	**42**
5:00 PM	51	0	**51**	24	1	**25**	0	0	**0**	13	1	**14**	106	0	**106**	0	0	**0**	112	0	**112**	31	0	**31**
5:15 PM	28	0	**28**	17	0	**17**	0	0	**0**	22	6	**28**	112	0	**112**	0	0	**0**	120	0	**120**	31	1	**32**
5:30 PM	49	0	**49**	13	0	**13**	0	0	**0**	21	3	**24**	90	0	**90**	0	0	**0**	94	0	**94**	43	0	**43**
5:45 PM	29	0	**29**	11	0	**11**	1	0	**1**	20	9	**29**	65	1	**66**	0	0	**0**	101	0	**101**	42	0	**42**
6:00 PM	35	0	**35**	17	0	**17**	3	0	**3**	14	2	**16**	74	1	**75**	0	0	**0**	134	1	**135**	32	0	**32**
6:15 PM	39	0	**39**	18	0	**18**	0	0	**0**	9	2	**11**	66	0	**66**	0	0	**0**	103	0	**103**	30	0	**30**
6:30 PM	25	1	**26**	17	0	**17**	0	0	**0**	16	1	**17**	71	1	**72**	0	0	**0**	69	0	**69**	28	0	**28**
6:45 PM	21	0	**21**	20	0	**20**	0	0	**0**	13	1	**14**	65	1	**66**	1	0	**1**	70	0	**70**	22	0	**22**
7:00 PM	24	0	**24**	11	0	**11**	0	0	**0**	9	0	**9**	42	0	**42**	0	0	**0**	65	0	**65**	23	0	**23**
3 hr Total	**426**	**1**	**427**	**217**	**2**	**219**	**5**	**0**	**5**	**181**	**43**	**224**	**981**	**9**	**990**	**1**	**0**	**1**	**1245**	**4**	**1249**	**403**	**2**	**405**
PM Peak	**160**	**0**	**160**	**88**	**2**	**90**	**1**	**0**	**1**	**68**	**20**	**88**	**421**	**3**	**424**	**0**	**0**	**0**	**490**	**1**	**491**	**147**	**2**	**149**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 8 **Weather:** Fine
Location: High Street/Aquatic place, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:15 PM*

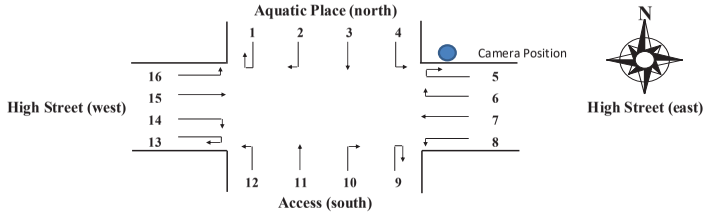


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	47	1	**48**	0	0	**0**	32	0	**32**	2	0	**2**	26	0	**26**	77	1	**78**	1	0	**1**
10:30 AM	1	0	**1**	56	1	**57**	0	0	**0**	40	0	**40**	0	0	**0**	22	0	**22**	86	1	**87**	1	0	**1**
10:45 AM	0	0	**0**	52	0	**52**	1	0	**1**	34	0	**34**	0	0	**0**	27	0	**27**	92	0	**92**	1	0	**1**
11:00 AM	0	0	**0**	45	0	**45**	0	0	**0**	26	0	**26**	0	0	**0**	31	0	**31**	98	0	**98**	1	0	**1**
11:15 AM	0	0	**0**	58	0	**58**	1	0	**1**	41	0	**41**	0	0	**0**	36	0	**36**	99	0	**99**	1	0	**1**
11:30 AM	0	0	**0**	47	0	**47**	0	0	**0**	37	0	**37**	1	0	**1**	31	0	**31**	108	3	**111**	2	0	**2**
11:45 AM	0	0	**0**	76	0	**76**	0	0	**0**	58	0	**58**	0	0	**0**	31	0	**31**	121	0	**121**	1	0	**1**
12:00 PM	1	0	**1**	71	3	**74**	2	0	**2**	59	0	**59**	1	0	**1**	33	0	**33**	110	0	**110**	1	0	**1**
12:15 PM	0	0	**0**	72	0	**72**	0	0	**0**	36	1	**37**	1	0	**1**	32	0	**32**	117	1	**118**	2	0	**2**
12:30 PM	0	0	**0**	80	0	**80**	2	0	**2**	39	0	**39**	1	0	**1**	24	0	**24**	83	0	**83**	0	0	**0**
12:45 PM	1	0	**1**	62	0	**62**	0	0	**0**	42	0	**42**	1	0	**1**	29	0	**29**	88	0	**88**	0	0	**0**
1:00 PM	0	0	**0**	73	0	**73**	0	0	**0**	39	0	**39**	3	0	**3**	34	0	**34**	84	0	**84**	0	0	**0**
3 hr Total	**3**	**0**	**3**	**739**	**5**	**744**	**6**	**0**	**6**	**483**	**1**	**484**	**10**	**0**	**10**	**356**	**0**	**356**	**1163**	**6**	**1169**	**11**	**0**	**11**
Peak	**1**	**0**	**1**	**266**	**3**	**269**	**2**	**0**	**2**	**190**	**1**	**191**	**3**	**0**	**3**	**127**	**0**	**127**	**456**	**4**	**460**	**6**	**0**	**6**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	98	1	**99**	121	1	**122**
10:30 AM	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	115	1	**116**	89	0	**89**
10:45 AM	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	2	0	**2**	1	0	**1**	95	0	**95**	105	1	**106**
11:00 AM	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	113	0	**113**	116	1	**117**
11:15 AM	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	140	1	**141**	120	1	**121**
11:30 AM	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	3	0	**3**	1	0	**1**	128	0	**128**	113	1	**114**
11:45 AM	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	85	0	**85**	109	0	**109**
12:00 PM	0	0	**0**	1	0	**1**	1	0	**1**	1	0	**1**	0	0	**0**	0	0	**0**	110	0	**110**	108	0	**108**
12:15 PM	0	0	**0**	0	0	**0**	2	0	**2**	1	0	**1**	0	0	**0**	1	0	**1**	109	1	**110**	136	0	**136**
12:30 PM	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	1	0	**1**	90	0	**90**	104	0	**104**
12:45 PM	0	0	**0**	0	0	**0**	0	0	**0**	6	0	**6**	0	0	**0**	4	0	**4**	85	0	**85**	91	0	**91**
1:00 PM	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	2	0	**2**	1	0	**1**	103	0	**103**	77	0	**77**
3 hr Total	**0**	**0**	**0**	**6**	**0**	**6**	**6**	**0**	**6**	**14**	**0**	**14**	**9**	**0**	**9**	**11**	**0**	**11**	**1271**	**4**	**1275**	**1289**	**5**	**1294**
Peak	**0**	**0**	**0**	**1**	**0**	**1**	**4**	**0**	**4**	**4**	**0**	**4**	**4**	**0**	**4**	**2**	**0**	**2**	**432**	**1**	**433**	**466**	**1**	**467**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 8 **Weather:** Fine
Location: High Street/Aquatic Place, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:00 PM*

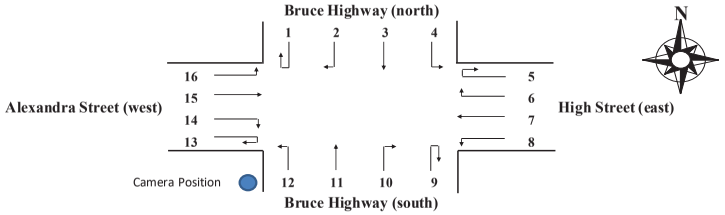


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	47	1	**48**	2	0	**2**	27	0	**27**	0	0	**0**	17	0	**17**	114	2	**116**	0	0	**0**
4:30 PM	1	0	**1**	56	1	**57**	0	0	**0**	39	0	**39**	1	0	**1**	20	0	**20**	121	2	**123**	1	0	**1**
4:45 PM	1	0	**1**	62	1	**63**	1	0	**1**	28	0	**28**	1	0	**1**	25	0	**25**	123	1	**124**	1	0	**1**
5:00 PM	1	0	**1**	54	0	**54**	0	0	**0**	27	0	**27**	0	0	**0**	22	0	**22**	127	0	**127**	1	0	**1**
5:15 PM	0	0	**0**	43	0	**43**	0	0	**0**	31	0	**31**	1	0	**1**	26	0	**26**	123	0	**123**	0	0	**0**
5:30 PM	0	0	**0**	40	0	**40**	0	0	**0**	23	0	**23**	0	0	**0**	9	0	**9**	100	0	**100**	0	1	**1**
5:45 PM	0	0	**0**	61	0	**61**	1	0	**1**	32	0	**32**	0	0	**0**	24	0	**24**	75	0	**75**	0	0	**0**
6:00 PM	0	0	**0**	51	1	**52**	0	0	**0**	23	0	**23**	0	0	**0**	16	0	**16**	102	1	**103**	0	0	**0**
6:15 PM	0	0	**0**	49	0	**49**	0	0	**0**	34	0	**34**	0	0	**0**	16	0	**16**	82	2	**84**	1	0	**1**
6:30 PM	0	0	**0**	58	0	**58**	0	0	**0**	35	0	**35**	0	0	**0**	19	0	**19**	65	0	**65**	1	0	**1**
6:45 PM	1	0	**1**	44	0	**44**	0	0	**0**	32	0	**32**	0	0	**0**	25	0	**25**	64	1	**65**	1	0	**1**
7:00 PM	0	0	**0**	28	0	**28**	0	0	**0**	31	0	**31**	1	0	**1**	12	0	**12**	55	0	**55**	0	0	**0**
3 hr Total	**4**	**0**	**4**	**593**	**4**	**597**	**4**	**0**	**4**	**362**	**0**	**362**	**4**	**0**	**4**	**231**	**0**	**231**	**1151**	**9**	**1160**	**6**	**1**	**7**
PM Peak	**3**	**0**	**3**	**219**	**3**	**222**	**3**	**0**	**3**	**121**	**0**	**121**	**2**	**0**	**2**	**84**	**0**	**84**	**485**	**5**	**490**	**3**	**0**	**3**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	1	0	**1**	1	0	**1**	140	2	**142**	85	0	**85**
4:30 PM	0	0	**0**	1	0	**1**	0	0	**0**	1	0	**1**	2	0	**2**	0	0	**0**	135	1	**136**	72	0	**72**
4:45 PM	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	0	0	**0**	2	0	**2**	128	1	**129**	96	0	**96**
5:00 PM	0	0	**0**	1	0	**1**	1	0	**1**	0	0	**0**	3	0	**3**	1	0	**1**	113	1	**114**	81	0	**81**
5:15 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	1	0	**1**	121	0	**121**	85	0	**85**
5:30 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	105	0	**105**	99	1	**100**
5:45 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	24	0	**24**	0	0	**0**	159	0	**159**	89	0	**89**
6:00 PM	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	25	0	**25**	1	0	**1**	106	1	**107**	72	1	**73**
6:15 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	3	0	**3**	1	0	**1**	80	0	**80**	79	0	**79**
6:30 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	71	0	**71**	55	0	**55**
6:45 PM	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	58	0	**58**	58	1	**59**
7:00 PM	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	0	1	**1**	1	0	**1**	57	0	**57**	39	0	**39**
3 hr Total	**0**	**0**	**0**	**4**	**0**	**4**	**3**	**0**	**3**	**2**	**0**	**2**	**62**	**1**	**63**	**9**	**0**	**9**	**1273**	**6**	**1279**	**910**	**3**	**913**
PM Peak	**0**	**0**	**0**	**4**	**0**	**4**	**2**	**0**	**2**	**1**	**0**	**1**	**6**	**0**	**6**	**4**	**0**	**4**	**516**	**5**	**521**	**334**	**0**	**334**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 9 **Weather:** Fine
Location: High Street/Moores Creek Road/Alexandra Street, Rockhampton
Day/Date: Saturday, 6 May 2017
Peak: *Hour ending - 12:00 PM*

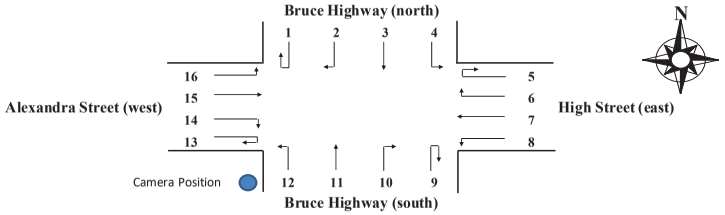


TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	4	0	**4**	20	0	**20**	191	5	**196**	26	0	**26**	0	0	**0**	9	0	**9**	41	1	**42**	65	1	**66**
10:30 AM	0	0	**0**	10	1	**11**	163	4	**167**	15	0	**15**	0	0	**0**	17	0	**17**	62	1	**63**	69	1	**70**
10:45 AM	4	0	**4**	9	0	**9**	209	6	**215**	22	1	**23**	0	0	**0**	15	0	**15**	60	0	**60**	73	0	**73**
11:00 AM	2	0	**2**	18	0	**18**	185	9	**194**	21	0	**21**	0	0	**0**	9	0	**9**	48	0	**48**	80	0	**80**
11:15 AM	1	0	**1**	20	0	**20**	163	3	**166**	23	2	**25**	0	0	**0**	19	0	**19**	69	0	**69**	73	0	**73**
11:30 AM	2	0	**2**	13	0	**13**	173	9	**182**	28	0	**28**	0	0	**0**	12	0	**12**	59	2	**61**	92	0	**92**
11:45 AM	4	0	**4**	24	0	**24**	165	7	**172**	19	0	**19**	0	0	**0**	24	0	**24**	92	1	**93**	83	0	**83**
12:00 PM	2	0	**2**	16	0	**16**	208	5	**213**	29	0	**29**	0	0	**0**	20	0	**20**	65	1	**66**	82	1	**83**
12:15 PM	3	0	**3**	7	0	**7**	161	2	**163**	23	0	**23**	0	0	**0**	25	1	**26**	71	1	**72**	98	0	**98**
12:30 PM	4	0	**4**	22	0	**22**	144	6	**150**	17	0	**17**	0	0	**0**	16	0	**16**	70	0	**70**	93	0	**93**
12:45 PM	4	0	**4**	15	0	**15**	188	8	**196**	11	0	**11**	0	0	**0**	17	0	**17**	55	0	**55**	75	0	**75**
1:00 PM	0	0	**0**	15	0	**15**	155	8	**163**	12	0	**12**	0	0	**0**	20	0	**20**	55	0	**55**	95	0	**95**
3 hr Total	**30**	**0**	**30**	**189**	**1**	**190**	**2105**	**72**	**2177**	**246**	**3**	**249**	**0**	**0**	**0**	**203**	**1**	**204**	**747**	**7**	**754**	**978**	**3**	**981**
Peak	**9**	**0**	**9**	**73**	**0**	**73**	**709**	**24**	**733**	**99**	**2**	**101**	**0**	**0**	**0**	**75**	**0**	**75**	**285**	**4**	**289**	**330**	**1**	**331**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
10:15 AM	0	0	**0**	126	0	**126**	180	4	**184**	66	2	**68**	0	0	**0**	51	0	**51**	52	2	**54**	2	0	**2**
10:30 AM	0	0	**0**	106	0	**106**	138	3	**141**	57	0	**57**	0	0	**0**	57	3	**60**	74	0	**74**	3	0	**3**
10:45 AM	0	0	**0**	120	1	**121**	175	5	**180**	40	1	**41**	0	0	**0**	45	2	**47**	65	0	**65**	8	0	**8**
11:00 AM	0	0	**0**	122	1	**123**	149	1	**150**	56	1	**57**	0	0	**0**	57	3	**60**	78	0	**78**	5	0	**5**
11:15 AM	0	0	**0**	164	0	**164**	215	5	**220**	69	2	**71**	0	0	**0**	58	0	**58**	68	0	**68**	5	0	**5**
11:30 AM	0	0	**0**	137	0	**137**	167	1	**168**	66	3	**69**	0	0	**0**	56	1	**57**	69	1	**70**	9	0	**9**
11:45 AM	0	0	**0**	116	0	**116**	169	3	**172**	61	1	**62**	0	0	**0**	46	2	**48**	60	0	**60**	8	0	**8**
12:00 PM	0	0	**0**	112	0	**112**	163	4	**167**	47	2	**49**	0	0	**0**	43	3	**46**	62	0	**62**	5	0	**5**
12:15 PM	0	0	**0**	158	1	**159**	186	3	**189**	54	2	**56**	0	0	**0**	35	2	**37**	67	0	**67**	13	0	**13**
12:30 PM	0	0	**0**	106	0	**106**	173	5	**178**	50	2	**52**	0	0	**0**	49	0	**49**	65	0	**65**	9	0	**9**
12:45 PM	0	0	**0**	115	0	**115**	139	5	**144**	56	1	**57**	0	0	**0**	56	4	**60**	45	0	**45**	6	0	**6**
1:00 PM	0	0	**0**	102	0	**102**	146	1	**147**	37	2	**39**	0	0	**0**	41	1	**42**	48	0	**48**	3	0	**3**
3 hr Total	**0**	**0**	**0**	**1484**	**3**	**1487**	**2000**	**40**	**2040**	**659**	**19**	**678**	**0**	**0**	**0**	**594**	**21**	**615**	**753**	**3**	**756**	**76**	**0**	**76**
Peak	**0**	**0**	**0**	**529**	**0**	**529**	**714**	**13**	**727**	**243**	**8**	**251**	**0**	**0**	**0**	**203**	**6**	**209**	**259**	**1**	**260**	**27**	**0**	**27**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 9 **Weather:** Fine
Location: High Street/Moores Creek Road/Alexandra Street, Rockhampton
Day/Date: Thursday, 4 May 2017
PM Peak: *Hour ending - 5:15 PM*



TIME (1/4 hr end)	Movement 1			Movement 2			Movement 3			Movement 4			Movement 5			Movement 6			Movement 7			Movement 8		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	2	0	**2**	20	0	**20**	204	15	**219**	12	0	**12**	0	0	**0**	10	0	**10**	59	1	**60**	74	2	**76**
4:30 PM	3	0	**3**	19	0	**19**	186	6	**192**	9	0	**9**	0	0	**0**	20	0	**20**	74	2	**76**	89	1	**90**
4:45 PM	0	0	**0**	11	0	**11**	186	7	**193**	20	0	**20**	0	0	**0**	17	0	**17**	82	1	**83**	86	1	**87**
5:00 PM	3	0	**3**	18	0	**18**	193	5	**198**	15	1	**16**	0	0	**0**	11	0	**11**	86	0	**86**	83	0	**83**
5:15 PM	1	0	**1**	10	0	**10**	170	15	**185**	10	0	**10**	0	0	**0**	15	0	**15**	84	0	**84**	67	0	**67**
5:30 PM	2	0	**2**	15	0	**15**	164	7	**171**	11	0	**11**	0	0	**0**	18	0	**18**	71	0	**71**	72	0	**72**
5:45 PM	1	0	**1**	8	0	**8**	95	9	**104**	59	0	**59**	0	0	**0**	10	0	**10**	44	0	**44**	89	0	**89**
6:00 PM	0	0	**0**	13	0	**13**	87	8	**95**	70	0	**70**	0	0	**0**	13	1	**14**	63	0	**63**	92	1	**93**
6:15 PM	0	0	**0**	15	0	**15**	126	4	**130**	36	0	**36**	0	0	**0**	10	0	**10**	55	2	**57**	79	0	**79**
6:30 PM	0	0	**0**	13	0	**13**	116	4	**120**	19	1	**20**	0	0	**0**	18	0	**18**	48	0	**48**	69	0	**69**
6:45 PM	2	0	**2**	9	0	**9**	93	2	**95**	8	0	**8**	0	0	**0**	6	0	**6**	54	0	**54**	43	1	**44**
7:00 PM	1	0	**1**	5	0	**5**	76	9	**85**	17	0	**17**	0	0	**0**	8	0	**8**	44	0	**44**	31	1	**32**
3 hr Total	**15**	**0**	**15**	**156**	**0**	**156**	**1696**	**91**	**1787**	**286**	**2**	**288**	**0**	**0**	**0**	**156**	**1**	**157**	**764**	**6**	**770**	**874**	**7**	**881**
PM Peak	**7**	**0**	**7**	**58**	**0**	**58**	**735**	**33**	**768**	**54**	**1**	**55**	**0**	**0**	**0**	**63**	**0**	**63**	**326**	**3**	**329**	**325**	**2**	**327**

TIME (1/4 hr end)	Movement 9			Movement 10			Movement 11			Movement 12			Movement 13			Movement 14			Movement 15			Movement 16		
	Light Vehicles	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Light Vehicles*	*Heavy Vehicles*	***Total***
4:15 PM	0	0	**0**	116	0	**116**	222	12	**234**	74	6	**80**	0	0	**0**	80	2	**82**	90	2	**92**	7	0	**7**
4:30 PM	0	0	**0**	118	0	**118**	256	3	**259**	67	7	**74**	0	0	**0**	76	2	**78**	89	1	**90**	11	0	**11**
4:45 PM	0	0	**0**	114	0	**114**	228	9	**237**	73	6	**79**	0	0	**0**	76	1	**77**	83	1	**84**	10	0	**10**
5:00 PM	0	0	**0**	109	0	**109**	293	6	**299**	102	6	**108**	0	0	**0**	63	5	**68**	70	0	**70**	4	0	**4**
5:15 PM	0	0	**0**	112	0	**112**	292	7	**299**	87	3	**90**	0	0	**0**	88	2	**90**	80	0	**80**	8	0	**8**
5:30 PM	0	0	**0**	119	0	**119**	295	9	**304**	80	2	**82**	0	0	**0**	50	4	**54**	73	0	**73**	3	0	**3**
5:45 PM	0	0	**0**	136	1	**137**	292	3	**295**	88	3	**91**	0	0	**0**	51	2	**53**	66	0	**66**	3	0	**3**
6:00 PM	0	0	**0**	99	1	**100**	172	5	**177**	53	2	**55**	0	0	**0**	37	2	**39**	38	1	**39**	1	0	**1**
6:15 PM	0	0	**0**	78	0	**78**	140	6	**146**	50	3	**53**	0	0	**0**	35	3	**38**	40	0	**40**	2	1	**3**
6:30 PM	0	0	**0**	58	0	**58**	124	5	**129**	36	0	**36**	0	0	**0**	35	1	**36**	47	0	**47**	3	0	**3**
6:45 PM	1	0	**1**	56	1	**57**	96	3	**99**	40	3	**43**	0	0	**0**	26	2	**28**	55	0	**55**	3	0	**3**
7:00 PM	0	0	**0**	51	1	**52**	94	4	**98**	29	1	**30**	0	0	**0**	32	1	**33**	30	0	**30**	2	0	**2**
3 hr Total	**1**	**0**	**1**	**1166**	**4**	**1170**	**2504**	**72**	**2576**	**779**	**42**	**821**	**0**	**0**	**0**	**649**	**27**	**676**	**761**	**5**	**766**	**57**	**1**	**58**
PM Peak	**0**	**0**	**0**	**453**	**0**	**453**	**1069**	**25**	**1094**	**329**	**22**	**351**	**0**	**0**	**0**	**303**	**10**	**313**	**322**	**2**	**324**	**33**	**0**	**33**

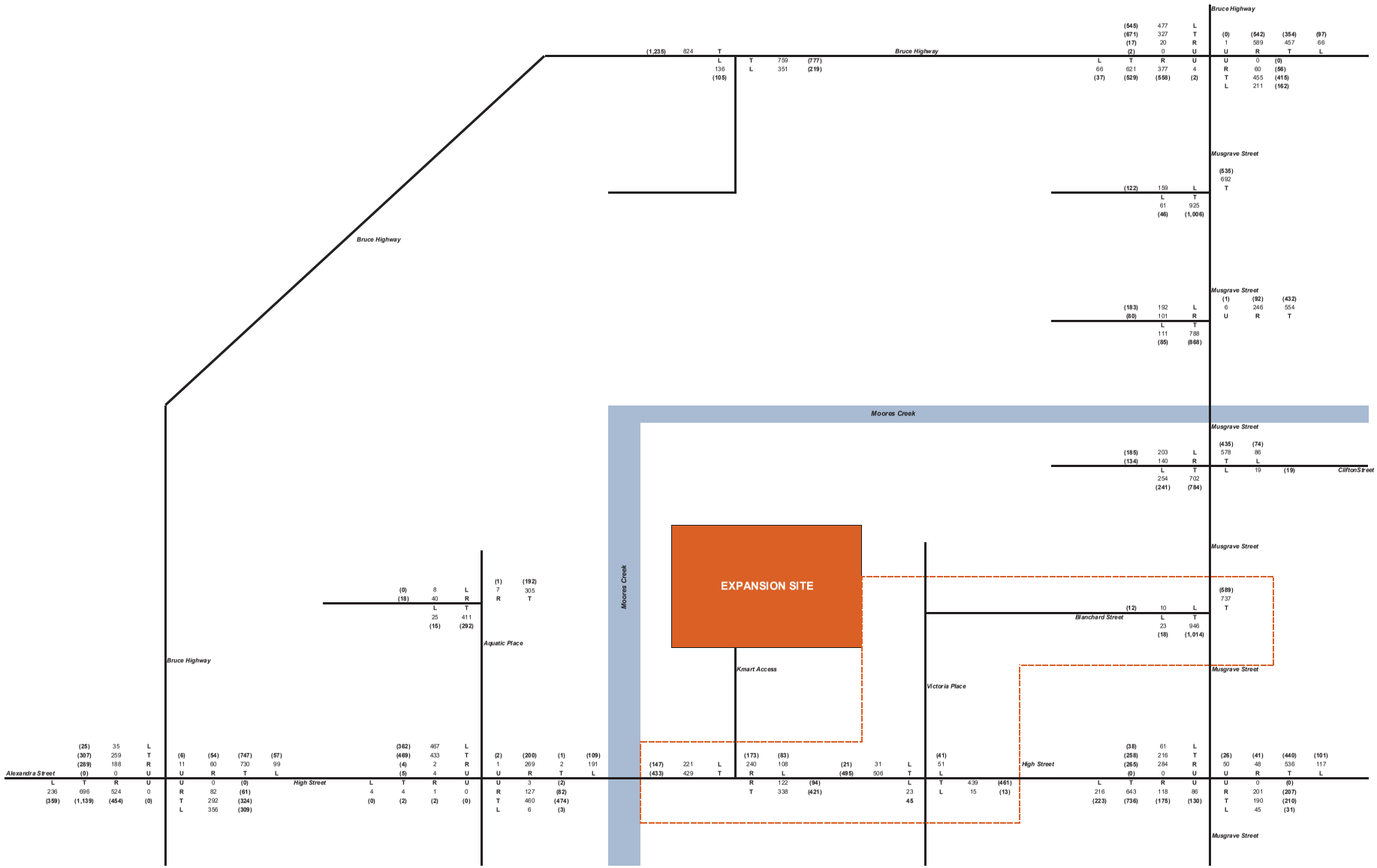


Figure 1

2017 Background Traffic Surveys

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2017BG - Surveys

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

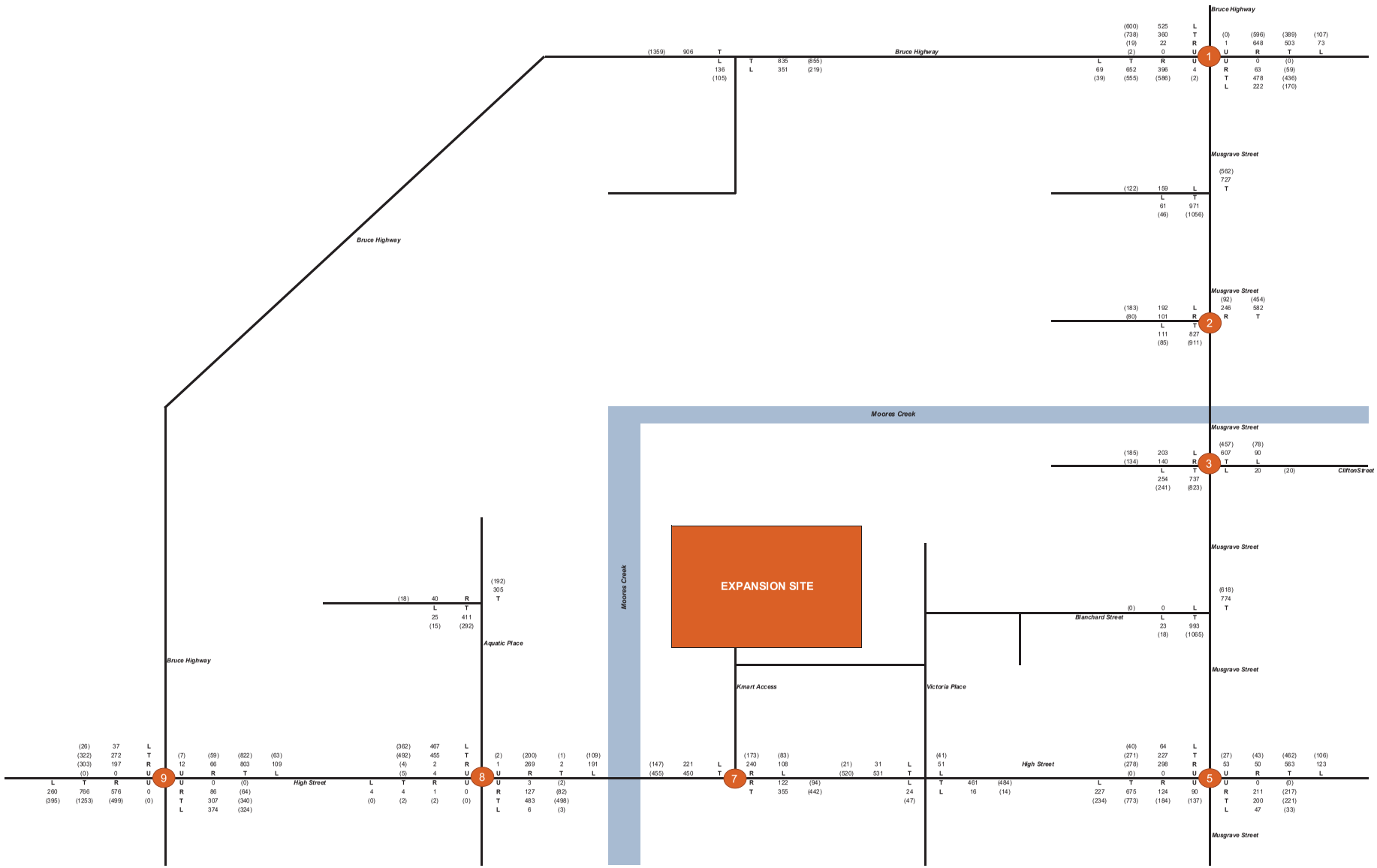


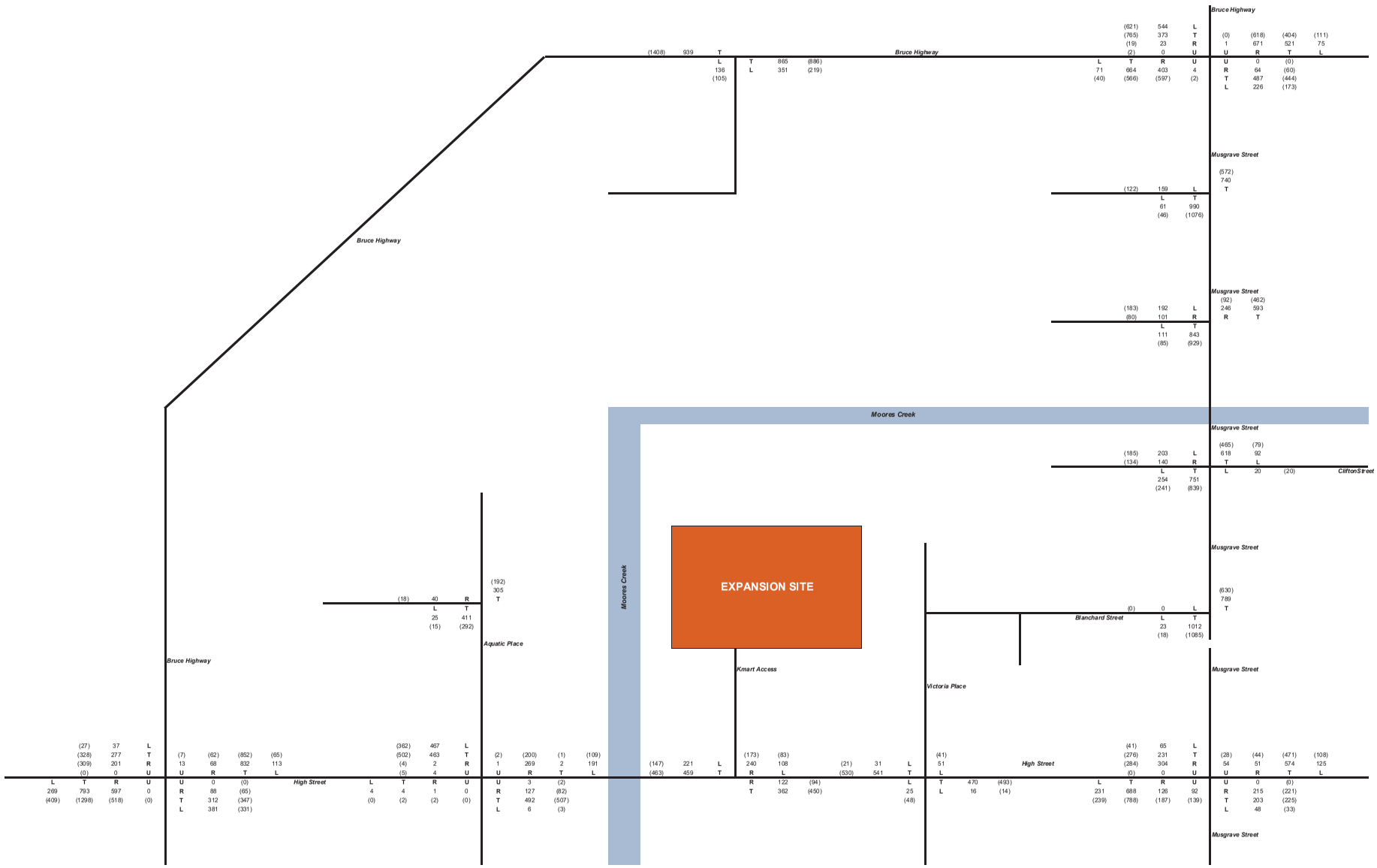
Figure 2

2022 Factored Background Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2022BG

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak



Cardno
Shaping the Future

Figure 3

2024 Factored Background Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2024BG

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

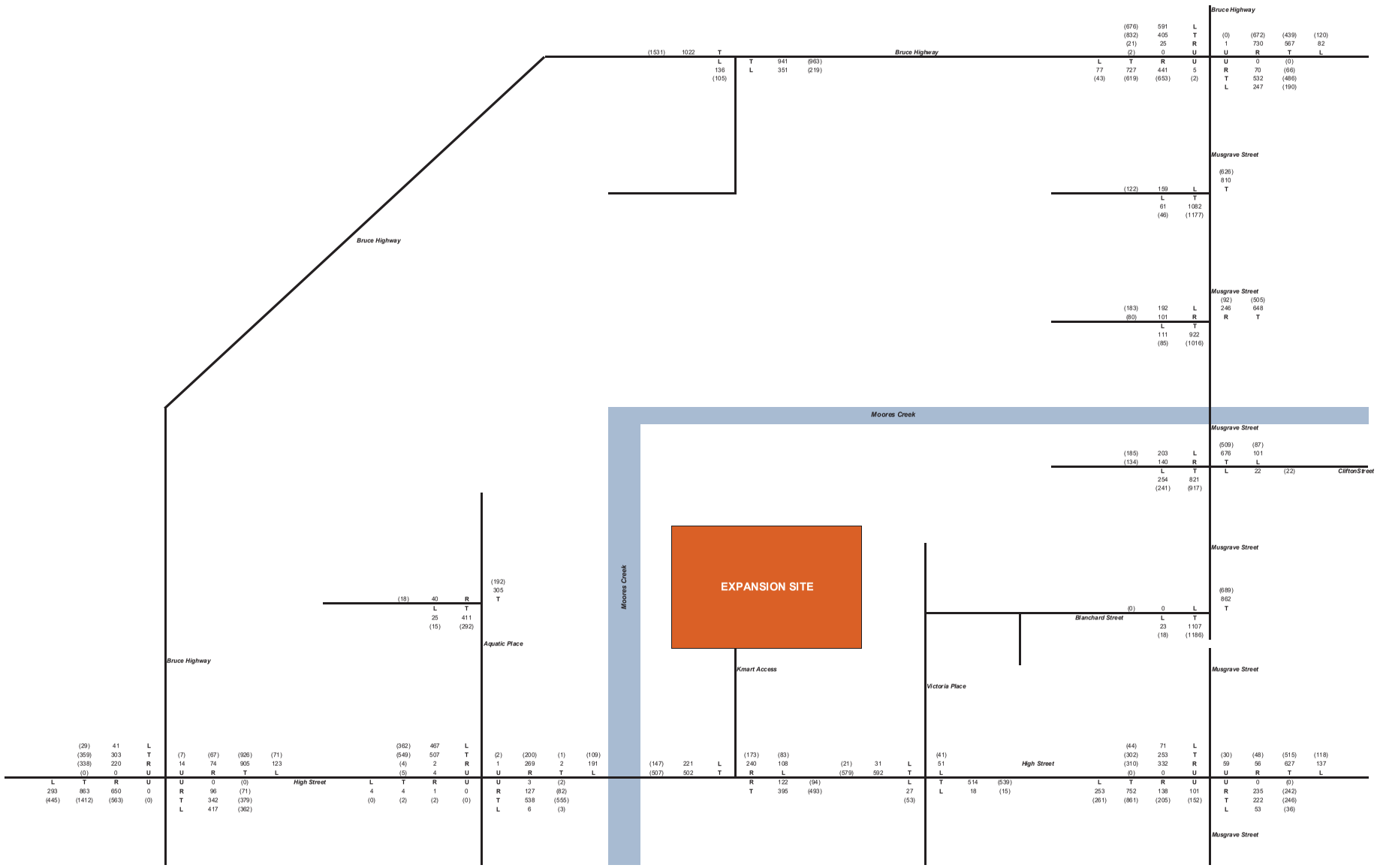


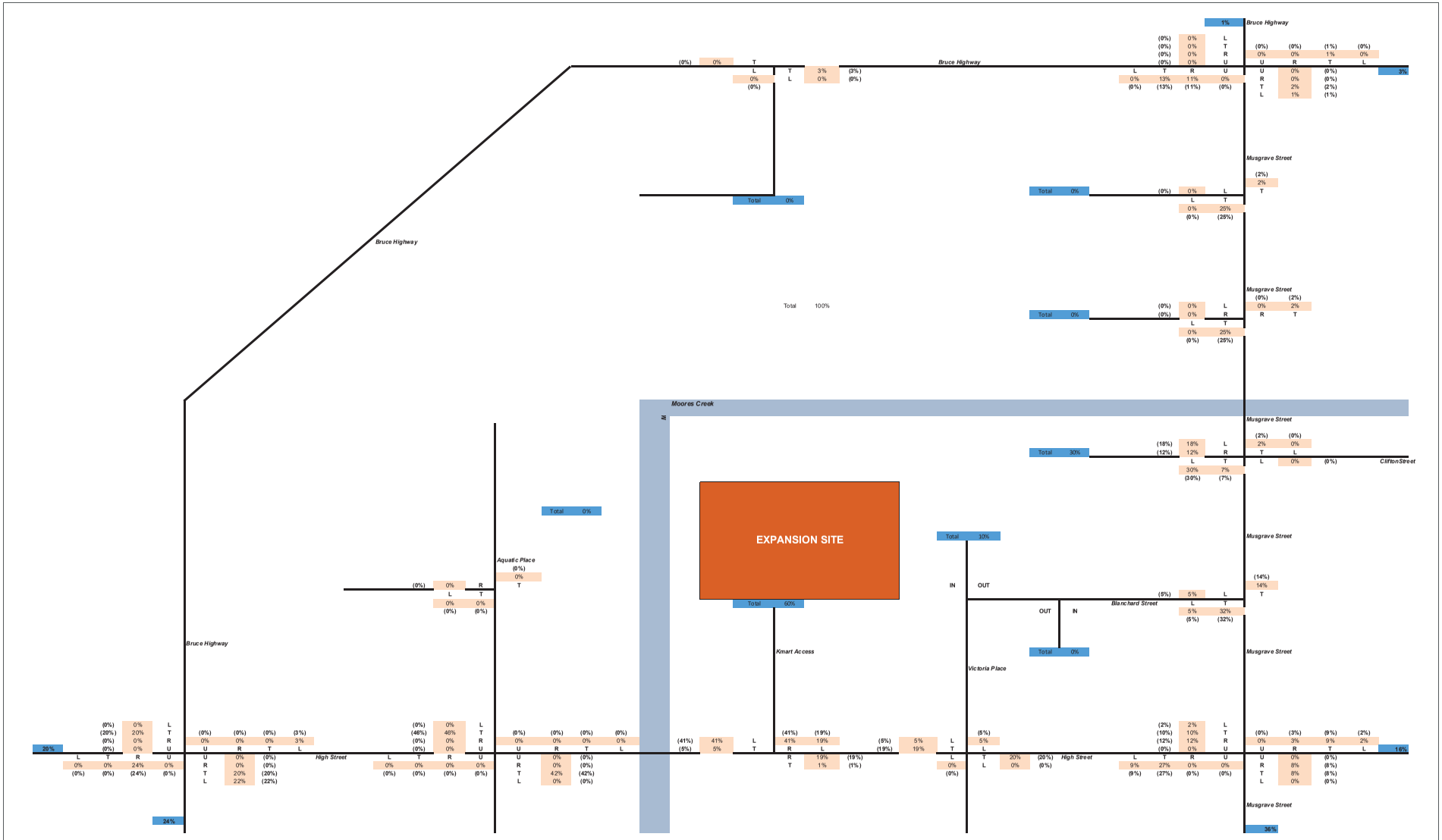
Figure 4

2034 Factored Background Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2034BG

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak



Cardno
Shaping the Future

Figure 5

Revised Development Traffic Distribution

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]Dev Dist (new)

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

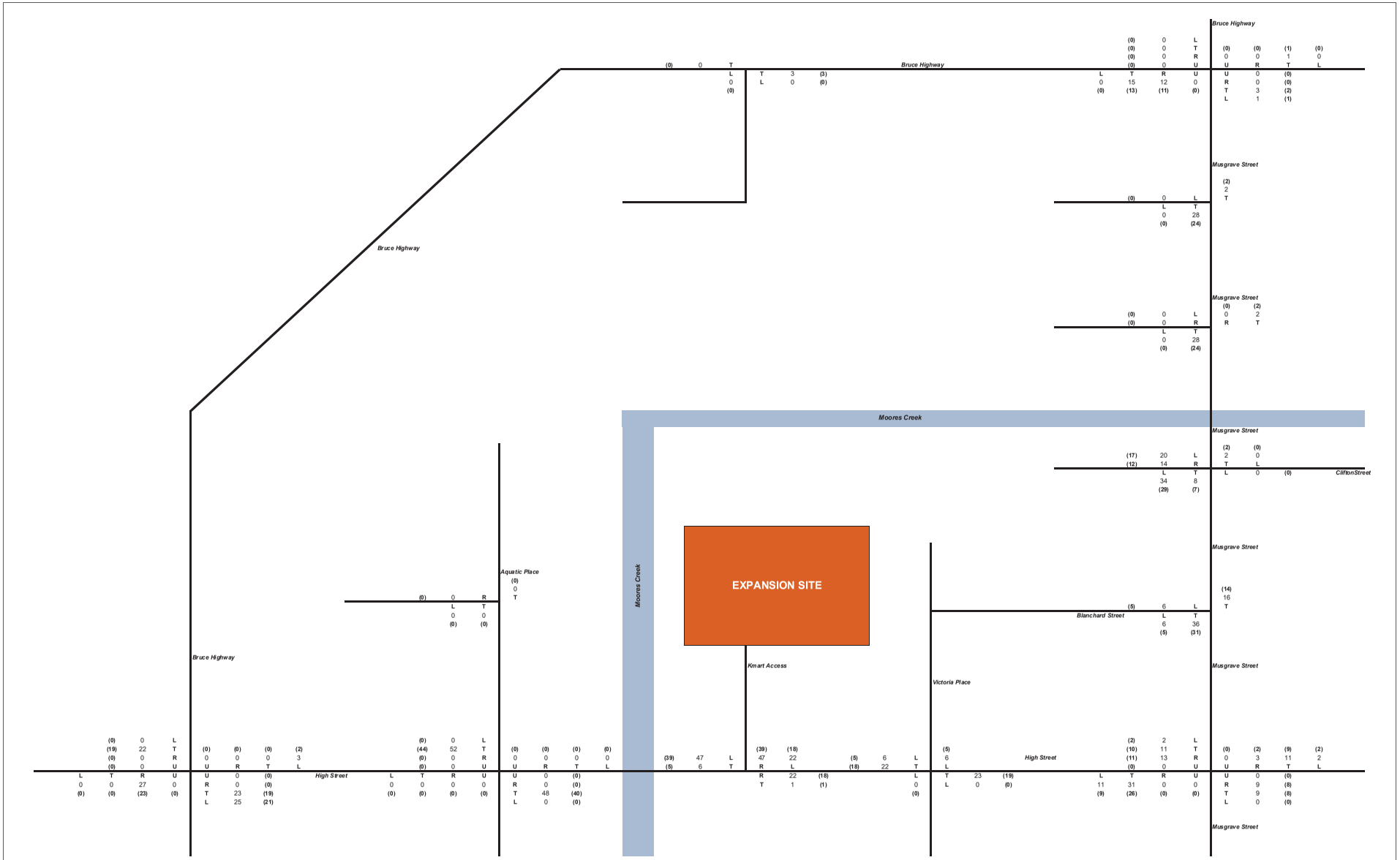


Figure 6

Expected Development Traffic

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]Dev Gen

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

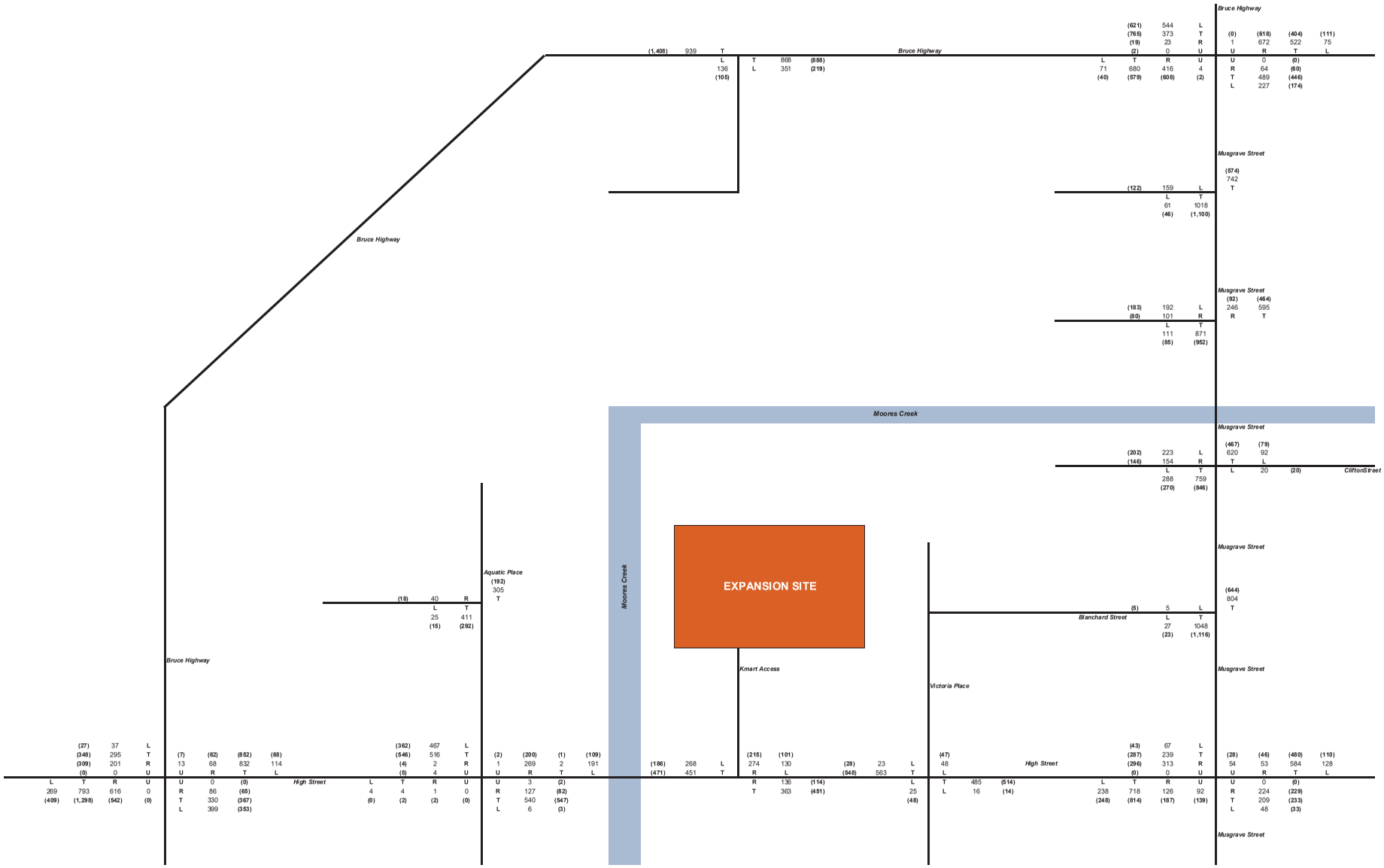


Figure 7

2024 Background and Development Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2024BG+Dev

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

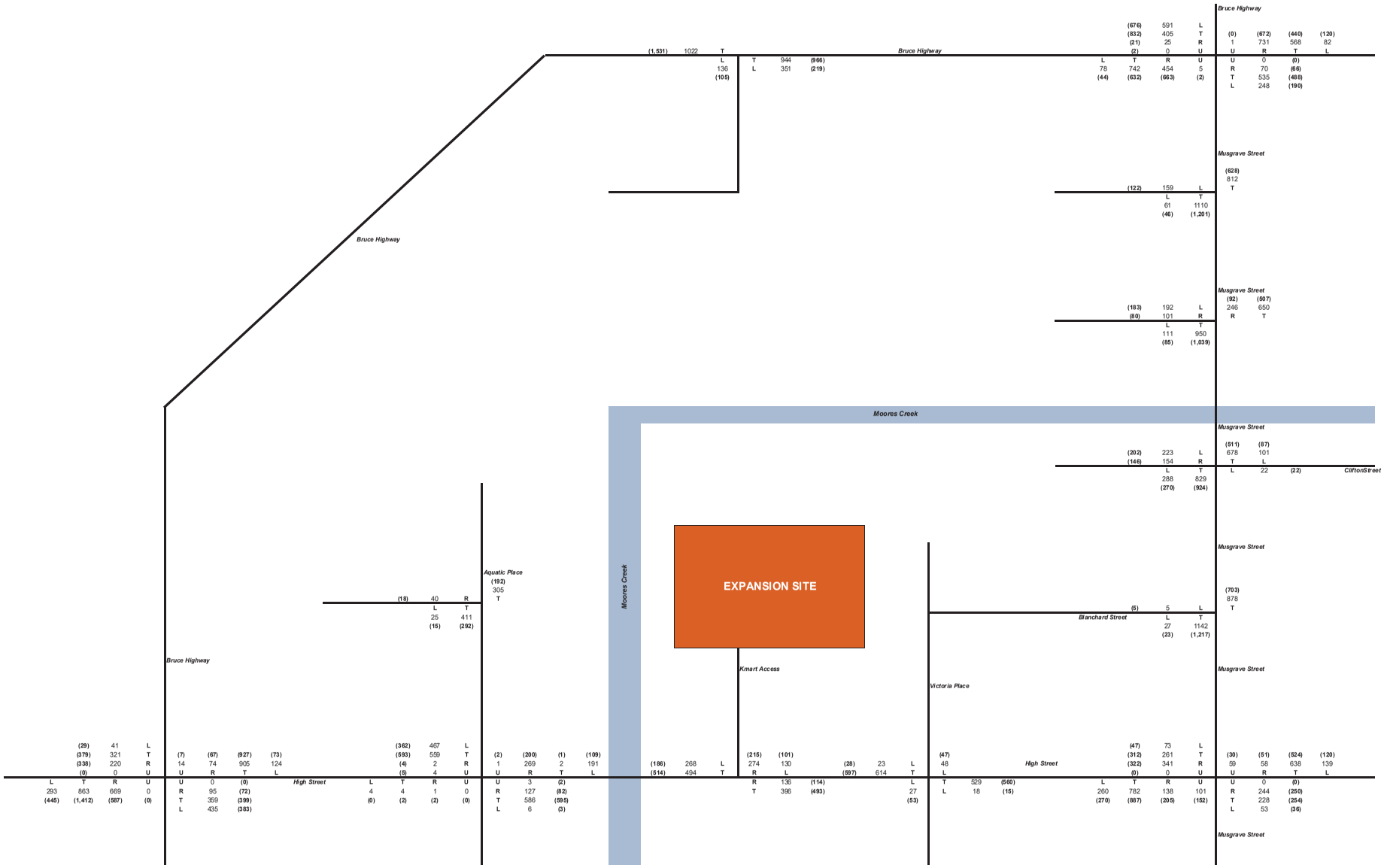


Figure 8

2034 Background and Development Traffic Volumes

Project no. CEB06360 | 004
Prepared by Robert Bakon
Project Stockland Rockhampton ALDI Expansion
Reviewed by Andy Johnston

22/07/2022 G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - Spreadsheets\2021 - ALDI\[CEB06360 ALDI - Traffic Generation - RRC Sensitivity1.xlsx]2034BG+Dev

Legend
L Left turn
T Through
R Right turn
U U-turn
00 Saturday Peak
(00) Thursday PM Peak

MOVEMENT SUMMARY

Site: 1 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	69	6.0	73	6.0	0.075	7.2	LOS A	0.1	0.7	0.03	0.59	0.03	56.1
2	T1	652	1.0	686	1.0	*0.736	38.6	LOS C	21.3	129.3	0.88	0.77	0.89	31.6
3	R2	396	1.0	417	1.0	0.736	45.3	LOS D	21.2	128.2	0.88	0.83	0.89	33.5
3u	U	4	0.0	4	0.0	0.736	45.5	LOS D	20.3	123.0	0.88	0.84	0.89	28.0
Approach		1121	1.3	1180	1.3	0.736	39.1	LOS C	21.3	129.3	0.83	0.78	0.83	33.4
East: Moores Road (E)														
4	L2	222	0.0	234	0.0	0.190	11.0	LOS A	3.9	23.3	0.36	0.68	0.36	53.9
5	T1	478	0.0	503	0.0	*0.583	52.6	LOS D	15.4	92.4	0.95	0.80	0.95	35.0
6	R2	63	0.0	66	0.0	*0.714	83.3	LOS F	4.8	29.0	1.00	0.81	1.17	22.9
Approach		763	0.0	803	0.0	0.714	43.0	LOS D	15.4	92.4	0.78	0.77	0.80	37.0
North: Bruce Highway (N)														
7	L2	73	0.0	77	0.0	0.065	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	503	1.0	529	1.0	*0.751	34.7	LOS C	22.6	138.6	0.85	0.75	0.85	33.1
9	R2	648	3.0	682	3.0	0.751	41.8	LOS C	22.6	138.6	0.86	0.83	0.87	34.2
Approach		1224	2.0	1288	2.0	0.751	36.8	LOS C	22.6	138.6	0.81	0.78	0.81	34.8
West: Bruce Highway (W)														
10	L2	525	2.0	553	2.0	0.271	23.6	LOS B	9.6	58.9	0.56	0.74	0.56	43.2
11	T1	360	1.0	379	1.0	0.442	50.7	LOS D	11.2	67.8	0.91	0.76	0.91	35.7
12	R2	22	0.0	23	0.0	0.249	79.2	LOS F	1.6	9.6	0.99	0.71	0.99	24.2
Approach		907	1.6	955	1.6	0.442	35.7	LOS C	11.2	67.8	0.71	0.75	0.71	38.8
All Vehicles		4015	1.3	4226	1.3	0.751	38.4	LOS C	22.6	138.6	0.79	0.77	0.79	35.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.8	LOS E	0.2	0.2	0.84	0.84	85.2	46.0	0.54

West: Bruce Highway (W)												
P4	Full	50	50	53.3	LOS E	0.2	0.2	0.87	0.87	88.7	46.0	0.52
P4S	Slip/ Bypass	50	53	35.8	LOS D	0.1	0.1	0.72	0.72	62.7	35.0	0.56
All Pedestrians		200	203	50.6	LOS E	0.2	0.2	0.85	0.85	85.1	44.9	0.53

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

MOVEMENT SUMMARY

Site: 1 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	71	6.0	75	6.0	0.078	7.5	LOS A	0.2	1.0	0.04	0.59	0.04	55.8
2	T1	664	1.0	699	1.0	*0.770	40.6	LOS C	22.6	137.0	0.91	0.80	0.93	30.7
3	R2	403	1.0	424	1.0	0.770	47.3	LOS D	22.4	135.9	0.91	0.84	0.93	32.8
3u	U	4	0.0	4	0.0	0.770	47.5	LOS D	21.5	130.4	0.91	0.85	0.93	27.3
Approach		1142	1.3	1202	1.3	0.770	41.0	LOS C	22.6	137.0	0.86	0.81	0.87	32.6
East: Moores Road (E)														
4	L2	226	0.0	238	0.0	0.195	11.3	LOS A	4.1	24.6	0.37	0.69	0.37	53.7
5	T1	487	0.0	513	0.0	*0.594	52.7	LOS D	15.7	94.5	0.95	0.80	0.95	35.0
6	R2	64	0.0	67	0.0	*0.726	83.5	LOS F	4.9	29.6	1.00	0.82	1.18	22.9
Approach		777	0.0	818	0.0	0.726	43.2	LOS D	15.7	94.5	0.79	0.77	0.80	36.9
North: Bruce Highway (N)														
7	L2	75	0.0	79	0.0	0.067	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	521	1.0	548	1.0	*0.760	34.0	LOS C	23.4	143.7	0.84	0.75	0.85	33.5
9	R2	671	3.0	706	3.0	0.760	41.1	LOS C	23.4	143.7	0.86	0.83	0.87	34.5
Approach		1267	2.0	1334	2.0	0.760	36.2	LOS C	23.4	143.7	0.80	0.78	0.81	35.1
West: Bruce Highway (W)														
10	L2	544	2.0	573	2.0	0.277	23.2	LOS B	9.9	60.4	0.55	0.74	0.55	43.5
11	T1	373	1.0	393	1.0	0.458	50.9	LOS D	11.6	70.5	0.92	0.76	0.92	35.6
12	R2	23	0.0	24	0.0	0.261	79.3	LOS F	1.7	10.1	0.99	0.71	0.99	24.2
Approach		940	1.6	989	1.6	0.458	35.5	LOS C	11.6	70.5	0.71	0.75	0.71	38.9
All Vehicles		4126	1.3	4343	1.3	0.770	38.7	LOS C	23.4	143.7	0.79	0.78	0.80	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.0	LOS E	0.2	0.2	0.84	0.84	84.4	46.0	0.55

West: Bruce Highway (W)												
P4	Full	50	50	54.1	LOS E	0.2	0.2	0.88	0.88	89.5	46.0	0.51
P4S	Slip/ Bypass	50	53	36.5	LOS D	0.2	0.2	0.72	0.72	63.4	35.0	0.55
All Pedestrians		200	203	50.8	LOS E	0.2	0.2	0.85	0.85	85.3	44.9	0.53

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

MOVEMENT SUMMARY

Site: 1 [2024 APRV Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	71	6.0	75	6.0	0.079	7.8	LOS A	0.2	1.4	0.05	0.60	0.05	55.5
2	T1	691	1.0	727	1.0	* 0.783	40.1	LOS C	23.8	144.0	0.91	0.81	0.93	31.0
3	R2	425	1.0	447	1.0	0.783	46.8	LOS D	23.6	142.8	0.91	0.85	0.94	33.0
3u	U	4	0.0	4	0.0	0.783	47.0	LOS D	22.6	137.1	0.91	0.85	0.94	27.5
Approach		1191	1.3	1254	1.3	0.783	40.6	LOS C	23.8	144.0	0.86	0.81	0.88	32.8
East: Moores Road (E)														
4	L2	227	0.0	239	0.0	0.196	11.6	LOS A	4.3	25.5	0.38	0.69	0.38	53.4
5	T1	492	0.0	518	0.0	* 0.600	52.8	LOS D	15.9	95.6	0.95	0.80	0.95	34.9
6	R2	68	0.0	72	0.0	* 0.771	84.6	LOS F	5.3	31.7	1.00	0.84	1.24	22.7
Approach		787	0.0	828	0.0	0.771	43.7	LOS D	15.9	95.6	0.79	0.77	0.81	36.7
North: Bruce Highway (N)														
7	L2	75	0.0	79	0.0	0.068	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	526	1.0	554	1.0	* 0.787	35.9	LOS C	24.6	151.2	0.87	0.78	0.89	32.6
9	R2	677	3.0	713	3.0	0.787	43.1	LOS D	24.6	151.2	0.89	0.85	0.91	33.7
Approach		1278	2.0	1345	2.0	0.787	38.0	LOS C	24.6	151.2	0.83	0.80	0.85	34.2
West: Bruce Highway (W)														
10	L2	544	2.0	573	2.0	0.281	23.7	LOS B	10.0	61.5	0.56	0.74	0.56	43.2
11	T1	373	1.0	393	1.0	0.458	50.9	LOS D	11.6	70.5	0.92	0.76	0.92	35.6
12	R2	23	0.0	24	0.0	0.261	79.3	LOS F	1.7	10.1	0.99	0.71	0.99	24.2
Approach		940	1.6	989	1.6	0.458	35.9	LOS C	11.6	70.5	0.71	0.75	0.71	38.7
All Vehicles		4196	1.3	4417	1.3	0.787	39.3	LOS C	24.6	151.2	0.81	0.79	0.82	35.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.8	LOS E	0.2	0.2	0.84	0.84	85.2	46.0	0.54

West: Bruce Highway (W)												
P4	Full	50	50	53.3	LOS E	0.2	0.2	0.87	0.87	88.7	46.0	0.52
P4S	Slip/ Bypass	50	53	35.8	LOS D	0.1	0.1	0.72	0.72	62.7	35.0	0.56
All Pedestrians		200	203	50.6	LOS E	0.2	0.2	0.85	0.85	85.1	44.9	0.53

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:48 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

MOVEMENT SUMMARY

Site: 1 [2024 DEV Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	71	6.0	75	6.0	0.078	7.5	LOS A	0.2	1.0	0.04	0.59	0.04	55.8
2	T1	671	1.0	706	1.0	*0.779	41.0	LOS C	23.1	139.9	0.92	0.81	0.94	30.6
3	R2	409	1.0	431	1.0	0.779	47.7	LOS D	22.9	138.8	0.92	0.85	0.94	32.7
3u	U	4	0.0	4	0.0	0.779	47.9	LOS D	22.0	133.2	0.92	0.85	0.94	27.2
Approach		1155	1.3	1216	1.3	0.779	41.3	LOS C	23.1	139.9	0.86	0.81	0.88	32.5
East: Moores Road (E)														
4	L2	226	0.0	238	0.0	0.195	11.3	LOS A	4.1	24.6	0.37	0.69	0.37	53.7
5	T1	488	0.0	514	0.0	*0.595	52.8	LOS D	15.8	94.7	0.95	0.80	0.95	35.0
6	R2	65	0.0	68	0.0	*0.737	83.7	LOS F	5.0	30.1	1.00	0.82	1.19	22.8
Approach		779	0.0	820	0.0	0.737	43.3	LOS D	15.8	94.7	0.79	0.77	0.80	36.8
North: Bruce Highway (N)														
7	L2	75	0.0	79	0.0	0.068	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	522	1.0	549	1.0	*0.762	34.1	LOS C	23.5	144.4	0.84	0.76	0.85	33.5
9	R2	673	3.0	708	3.0	0.762	41.2	LOS C	23.5	144.4	0.87	0.83	0.87	34.5
Approach		1270	2.0	1337	2.0	0.762	36.2	LOS C	23.5	144.4	0.81	0.79	0.81	35.0
West: Bruce Highway (W)														
10	L2	544	2.0	573	2.0	0.277	23.2	LOS B	9.9	60.4	0.55	0.74	0.55	43.5
11	T1	373	1.0	393	1.0	0.458	50.9	LOS D	11.6	70.5	0.92	0.76	0.92	35.6
12	R2	23	0.0	24	0.0	0.261	79.3	LOS F	1.7	10.1	0.99	0.71	0.99	24.2
Approach		940	1.6	989	1.6	0.458	35.5	LOS C	11.6	70.5	0.71	0.75	0.71	38.9
All Vehicles		4144	1.3	4362	1.3	0.779	38.8	LOS C	23.5	144.4	0.80	0.78	0.81	35.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.0	LOS E	0.2	0.2	0.84	0.84	84.4	46.0	0.55

West: Bruce Highway (W)												
P4	Full	50	50	54.1	LOS E	0.2	0.2	0.88	0.88	89.5	46.0	0.51
P4S	Slip/ Bypass	50	53	36.5	LOS D	0.2	0.2	0.72	0.72	63.4	35.0	0.55
All Pedestrians		200	203	50.8	LOS E	0.2	0.2	0.85	0.85	85.3	44.9	0.53

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:49 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

MOVEMENT SUMMARY

Site: 1 [2024 DEV + SEN Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	71	6.0	75	6.0	0.078	7.8	LOS A	0.2	1.4	0.05	0.60	0.05	55.5
2	T1	680	1.0	716	1.0	*0.769	39.6	LOS C	23.0	139.4	0.90	0.80	0.92	31.2
3	R2	416	1.0	438	1.0	0.769	46.3	LOS D	22.8	138.3	0.90	0.84	0.92	33.2
3u	U	4	0.0	4	0.0	0.769	46.5	LOS D	21.9	132.8	0.90	0.85	0.92	27.6
Approach		1171	1.3	1233	1.3	0.769	40.1	LOS C	23.0	139.4	0.85	0.80	0.87	33.0
East: Moores Road (E)														
4	L2	227	0.0	239	0.0	0.196	11.6	LOS A	4.3	25.5	0.38	0.69	0.38	53.4
5	T1	489	0.0	515	0.0	*0.596	52.8	LOS D	15.8	94.9	0.95	0.80	0.95	34.9
6	R2	64	0.0	67	0.0	*0.726	83.5	LOS F	4.9	29.6	1.00	0.82	1.18	22.9
Approach		780	0.0	821	0.0	0.726	43.3	LOS D	15.8	94.9	0.79	0.77	0.80	36.9
North: Bruce Highway (N)														
7	L2	75	0.0	79	0.0	0.068	7.0	LOS A	0.1	0.6	0.02	0.59	0.02	57.8
8	T1	522	1.0	549	1.0	*0.781	35.7	LOS C	24.3	149.0	0.86	0.78	0.88	32.7
9	R2	672	3.0	707	3.0	0.781	42.8	LOS D	24.3	149.0	0.89	0.84	0.90	33.8
Approach		1269	2.0	1336	2.0	0.781	37.8	LOS C	24.3	149.0	0.82	0.80	0.84	34.3
West: Bruce Highway (W)														
10	L2	544	2.0	573	2.0	0.281	23.7	LOS B	10.0	61.5	0.56	0.74	0.56	43.2
11	T1	373	1.0	393	1.0	0.458	50.9	LOS D	11.6	70.5	0.92	0.76	0.92	35.6
12	R2	23	0.0	24	0.0	0.261	79.3	LOS F	1.7	10.1	0.99	0.71	0.99	24.2
Approach		940	1.6	989	1.6	0.458	35.9	LOS C	11.6	70.5	0.71	0.75	0.71	38.7
All Vehicles		4160	1.3	4379	1.3	0.781	39.0	LOS C	24.3	149.0	0.80	0.78	0.81	35.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.8	LOS E	0.2	0.2	0.84	0.84	85.2	46.0	0.54

West: Bruce Highway (W)												
P4	Full	50	50	53.3	LOS E	0.2	0.2	0.87	0.87	88.7	46.0	0.52
P4S	Slip/ Bypass	50	53	35.8	LOS D	0.1	0.1	0.72	0.72	62.7	35.0	0.56
All Pedestrians		200	203	50.6	LOS E	0.2	0.2	0.85	0.85	85.1	44.9	0.53

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

MOVEMENT SUMMARY

Site: 1 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	77	6.0	81	6.0	0.090	9.5	LOS A	0.5	3.4	0.12	0.61	0.12	53.8
2	T1	727	1.0	765	1.0	* 0.843	43.9	LOS D	26.7	162.1	0.96	0.87	1.02	29.4
3	R2	441	1.0	464	1.0	0.843	50.7	LOS D	26.5	160.8	0.96	0.88	1.02	31.6
3u	U	5	0.0	5	0.0	0.843	50.9	LOS D	25.5	154.3	0.96	0.88	1.02	26.3
Approach		1250	1.3	1316	1.3	0.843	44.2	LOS D	26.7	162.1	0.91	0.86	0.96	31.3
East: Moores Road (E)														
4	L2	247	0.0	260	0.0	0.219	12.6	LOS A	5.1	30.8	0.41	0.70	0.41	52.5
5	T1	532	0.0	560	0.0	* 0.648	53.5	LOS D	17.5	104.7	0.97	0.82	0.97	34.7
6	R2	79	0.0	83	0.0	* 0.784	83.9	LOS F	6.1	36.8	1.00	0.85	1.24	22.8
Approach		858	0.0	903	0.0	0.784	44.5	LOS D	17.5	104.7	0.81	0.79	0.83	36.3
North: Bruce Highway (N)														
7	L2	82	0.0	86	0.0	0.078	7.0	LOS A	0.1	0.7	0.02	0.59	0.02	57.7
8	T1	567	1.0	597	1.0	* 0.853	39.2	LOS C	29.1	178.5	0.90	0.84	0.97	31.1
9	R2	730	3.0	768	3.0	0.853	46.5	LOS D	29.1	178.5	0.94	0.89	1.00	32.5
Approach		1379	2.0	1452	2.0	0.853	41.1	LOS C	29.1	178.5	0.87	0.85	0.93	32.9
West: Bruce Highway (W)														
10	L2	591	2.0	622	2.0	0.305	24.0	LOS B	11.1	67.9	0.57	0.75	0.57	43.0
11	T1	405	1.0	426	1.0	0.497	51.4	LOS D	12.8	77.4	0.93	0.77	0.93	35.4
12	R2	25	0.0	26	0.0	0.248	77.8	LOS F	1.8	10.8	0.99	0.72	0.99	24.5
Approach		1021	1.6	1075	1.6	0.497	36.2	LOS C	12.8	77.4	0.72	0.76	0.72	38.6
All Vehicles		4508	1.3	4745	1.3	0.853	41.5	LOS C	29.1	178.5	0.84	0.82	0.87	34.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.8	LOS E	0.2	0.2	0.84	0.84	85.2	46.0	0.54

West: Bruce Highway (W)												
P4	Full	50	50	54.1	LOS E	0.2	0.2	0.88	0.88	89.5	46.0	0.51
P4S	Slip/ Bypass	50	53	35.8	LOS D	0.1	0.1	0.72	0.72	62.7	35.0	0.56
All Pedestrians		200	203	50.8	LOS E	0.2	0.2	0.85	0.85	85.3	44.9	0.53

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

MOVEMENT SUMMARY

Site: 1 [2034 DEV+ SEN Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	78	6.0	82	6.0	0.091	9.9	LOS A	0.6	3.9	0.14	0.61	0.14	53.4
2	T1	742	1.0	781	1.0	* 0.839	42.6	LOS D	27.1	164.0	0.95	0.87	1.00	29.9
3	R2	454	1.0	478	1.0	0.839	49.4	LOS D	26.8	162.6	0.95	0.88	1.01	32.1
3u	U	4	0.0	4	0.0	0.839	49.6	LOS D	25.8	156.2	0.95	0.88	1.01	26.7
Approach		1278	1.3	1345	1.3	0.839	43.1	LOS D	27.1	164.0	0.90	0.86	0.95	31.8
East: Moores Road (E)														
4	L2	248	0.0	261	0.0	0.220	12.6	LOS A	5.2	30.9	0.41	0.70	0.41	52.5
5	T1	535	0.0	563	0.0	* 0.652	53.6	LOS D	17.6	105.4	0.97	0.82	0.97	34.7
6	R2	70	0.0	74	0.0	* 0.794	85.3	LOS F	5.5	32.9	1.00	0.85	1.27	22.5
Approach		853	0.0	898	0.0	0.794	44.3	LOS D	17.6	105.4	0.81	0.79	0.83	36.5
North: Bruce Highway (N)														
7	L2	82	0.0	86	0.0	0.078	7.0	LOS A	0.1	0.7	0.02	0.59	0.02	57.7
8	T1	568	1.0	598	1.0	* 0.854	39.3	LOS C	29.2	179.2	0.90	0.84	0.97	31.0
9	R2	731	3.0	769	3.0	0.854	46.6	LOS D	29.2	179.2	0.94	0.89	1.00	32.4
Approach		1381	2.0	1454	2.0	0.854	41.2	LOS C	29.2	179.2	0.87	0.85	0.93	32.8
West: Bruce Highway (W)														
10	L2	591	2.0	622	2.0	0.305	24.0	LOS B	11.1	67.9	0.57	0.75	0.57	43.0
11	T1	405	1.0	426	1.0	0.497	51.4	LOS D	12.8	77.4	0.93	0.77	0.93	35.4
12	R2	25	0.0	26	0.0	0.283	79.4	LOS F	1.8	11.0	1.00	0.71	1.00	24.2
Approach		1021	1.6	1075	1.6	0.497	36.2	LOS C	12.8	77.4	0.72	0.76	0.72	38.5
All Vehicles		4533	1.3	4771	1.3	0.854	41.2	LOS C	29.2	179.2	0.83	0.82	0.87	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	105.0	53.0	0.50
East: Moores Road (E)												
P2	Full	50	50	49.8	LOS E	0.2	0.2	0.84	0.84	85.2	46.0	0.54

West: Bruce Highway (W)												
P4	Full	50	50	53.3	LOS E	0.2	0.2	0.87	0.87	88.7	46.0	0.52
P4S	Slip/ Bypass	50	53	35.8	LOS D	0.1	0.1	0.72	0.72	62.7	35.0	0.56
All Pedestrians		200	203	50.6	LOS E	0.2	0.2	0.85	0.85	85.1	44.9	0.53

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

MOVEMENT SUMMARY

Site: 1 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	39	0.0	41	0.0	0.038	6.9	LOS A	0.0	0.3	0.02	0.59	0.02	58.2
2	T1	555	1.0	584	1.0	*0.786	37.0	LOS C	22.6	137.1	0.91	0.82	0.94	32.0
3	R2	586	0.0	617	0.0	0.786	43.6	LOS D	22.1	133.4	0.91	0.85	0.94	34.4
3u	U	2	0.0	2	0.0	0.786	43.8	LOS D	21.7	130.4	0.91	0.86	0.94	28.5
Approach		1182	0.5	1244	0.5	0.786	39.3	LOS C	22.6	137.1	0.88	0.83	0.91	33.9
East: Moores Road (E)														
4	L2	170	0.0	179	0.0	0.141	10.4	LOS A	2.6	15.5	0.34	0.67	0.34	54.5
5	T1	436	1.0	459	1.0	0.467	44.2	LOS D	12.3	74.7	0.90	0.75	0.90	38.0
6	R2	59	0.0	62	0.0	*0.725	79.1	LOS F	4.3	25.6	1.00	0.81	1.20	23.7
Approach		665	0.7	700	0.7	0.725	38.7	LOS C	12.3	74.7	0.77	0.74	0.78	38.9
North: Bruce Highway (N)														
7	L2	107	1.0	113	1.0	0.118	9.1	LOS A	0.6	3.9	0.11	0.61	0.11	55.2
8	T1	389	4.0	409	4.0	*0.784	39.7	LOS C	19.8	125.2	0.91	0.81	0.94	31.0
9	R2	596	6.0	627	6.0	0.784	46.9	LOS D	19.8	125.2	0.93	0.85	0.96	31.9
Approach		1092	4.8	1149	4.8	0.784	40.6	LOS C	19.8	125.2	0.84	0.81	0.87	33.1
West: Bruce Highway (W)														
10	L2	600	4.0	632	4.0	0.320	23.8	LOS B	10.8	67.5	0.59	0.75	0.59	42.9
11	T1	738	1.0	777	1.0	*0.790	51.5	LOS D	24.0	145.2	1.00	0.90	1.06	35.4
12	R2	19	0.0	20	0.0	0.233	74.9	LOS F	1.3	7.8	0.99	0.70	0.99	25.1
Approach		1357	2.3	1428	2.3	0.790	39.6	LOS C	24.0	145.2	0.82	0.83	0.85	37.7
All Vehicles		4296	2.2	4522	2.2	0.790	39.6	LOS C	24.0	145.2	0.83	0.81	0.86	35.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												
P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52

West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	40	0.0	42	0.0	0.040	7.0	LOS A	0.0	0.3	0.02	0.59	0.02	58.2
2	T1	566	1.0	596	1.0	* 0.802	37.6	LOS C	23.4	142.1	0.92	0.83	0.96	31.8
3	R2	597	0.0	628	0.0	0.802	44.2	LOS D	22.9	138.2	0.92	0.86	0.96	34.1
3u	U	2	0.0	2	0.0	0.802	44.4	LOS D	22.5	135.1	0.92	0.86	0.96	28.3
Approach		1205	0.5	1268	0.5	0.802	39.9	LOS C	23.4	142.1	0.89	0.84	0.93	33.7
East: Moores Road (E)														
4	L2	173	0.0	182	0.0	0.145	10.7	LOS A	2.7	16.3	0.35	0.68	0.35	54.3
5	T1	444	1.0	467	1.0	0.475	44.3	LOS D	12.6	76.3	0.90	0.76	0.90	38.0
6	R2	60	0.0	63	0.0	* 0.737	79.3	LOS F	4.3	26.1	1.00	0.82	1.22	23.6
Approach		677	0.7	713	0.7	0.737	38.8	LOS C	12.6	76.3	0.77	0.74	0.79	38.8
North: Bruce Highway (N)														
7	L2	111	1.0	117	1.0	0.124	9.9	LOS A	0.9	5.2	0.14	0.62	0.14	54.3
8	T1	404	4.0	425	4.0	* 0.817	41.0	LOS C	21.3	134.8	0.92	0.83	0.98	30.4
9	R2	618	6.0	651	6.0	0.817	48.3	LOS D	21.3	134.8	0.95	0.87	1.00	31.4
Approach		1133	4.8	1193	4.8	0.817	41.9	LOS C	21.3	134.8	0.86	0.83	0.91	32.6
West: Bruce Highway (W)														
10	L2	621	4.0	654	4.0	0.331	23.9	LOS B	11.3	70.4	0.59	0.76	0.59	42.9
11	T1	765	1.0	805	1.0	* 0.819	53.6	LOS D	25.6	155.0	1.00	0.93	1.09	34.7
12	R2	19	0.0	20	0.0	0.233	74.9	LOS F	1.3	7.8	0.99	0.70	0.99	25.1
Approach		1405	2.3	1479	2.3	0.819	40.7	LOS C	25.6	155.0	0.82	0.85	0.87	37.3
All Vehicles		4420	2.2	4653	2.2	0.819	40.5	LOS C	25.6	155.0	0.84	0.82	0.88	35.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												
P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52

West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2024 APRV Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	40	0.0	42	0.0	0.040	7.0	LOS A	0.0	0.3	0.02	0.59	0.02	58.2
2	T1	589	1.0	620	1.0	* 0.830	38.9	LOS C	25.1	152.1	0.94	0.86	0.99	31.2
3	R2	616	0.0	648	0.0	0.830	45.6	LOS D	24.6	148.0	0.94	0.88	0.99	33.6
3u	U	2	0.0	2	0.0	0.830	45.8	LOS D	24.1	144.7	0.94	0.88	1.00	27.9
Approach		1247	0.5	1313	0.5	0.830	41.2	LOS C	25.1	152.1	0.91	0.86	0.96	33.1
East: Moores Road (E)														
4	L2	174	0.0	183	0.0	0.146	10.7	LOS A	2.7	16.5	0.35	0.68	0.35	54.3
5	T1	448	1.0	472	1.0	0.479	44.4	LOS D	12.7	77.0	0.90	0.76	0.90	38.0
6	R2	63	0.0	66	0.0	* 0.774	80.1	LOS F	4.6	27.6	1.00	0.84	1.27	23.5
Approach		685	0.7	721	0.7	0.774	39.1	LOS C	12.7	77.0	0.77	0.74	0.80	38.7
North: Bruce Highway (N)														
7	L2	111	1.0	117	1.0	0.127	10.4	LOS A	1.0	5.9	0.15	0.62	0.15	53.8
8	T1	408	4.0	429	4.0	* 0.824	41.3	LOS C	21.6	136.9	0.92	0.83	0.98	30.3
9	R2	622	6.0	655	6.0	0.824	48.6	LOS D	21.6	136.9	0.95	0.88	1.01	31.3
Approach		1141	4.8	1201	4.8	0.824	42.3	LOS C	21.6	136.9	0.86	0.84	0.92	32.4
West: Bruce Highway (W)														
10	L2	622	4.0	655	4.0	0.332	23.9	LOS B	11.3	70.5	0.59	0.76	0.59	42.8
11	T1	765	1.0	805	1.0	* 0.819	53.6	LOS D	25.6	155.0	1.00	0.93	1.09	34.7
12	R2	19	0.0	20	0.0	0.233	74.9	LOS F	1.3	7.8	0.99	0.70	0.99	25.1
Approach		1406	2.3	1480	2.3	0.819	40.7	LOS C	25.6	155.0	0.82	0.85	0.87	37.3
All Vehicles		4479	2.2	4715	2.2	0.830	41.0	LOS C	25.6	155.0	0.85	0.83	0.90	35.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												
P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52

West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2024 DEV Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	40	0.0	42	0.0	0.040	7.0	LOS A	0.0	0.3	0.02	0.59	0.02	58.2
2	T1	571	1.0	601	1.0	* 0.808	37.8	LOS C	23.8	144.1	0.92	0.84	0.96	31.7
3	R2	601	0.0	633	0.0	0.808	44.5	LOS D	23.3	140.2	0.92	0.86	0.96	34.0
3u	U	2	0.0	2	0.0	0.808	44.7	LOS D	22.8	137.0	0.92	0.87	0.97	28.2
Approach		1214	0.5	1278	0.5	0.808	40.1	LOS C	23.8	144.1	0.89	0.84	0.93	33.5
East: Moores Road (E)														
4	L2	174	0.0	183	0.0	0.146	10.7	LOS A	2.7	16.4	0.35	0.68	0.35	54.3
5	T1	445	1.0	468	1.0	0.476	44.3	LOS D	12.6	76.4	0.90	0.76	0.90	38.0
6	R2	61	0.0	64	0.0	* 0.749	79.6	LOS F	4.4	26.6	1.00	0.82	1.23	23.6
Approach		680	0.7	716	0.7	0.749	38.9	LOS C	12.6	76.4	0.77	0.74	0.79	38.8
North: Bruce Highway (N)														
7	L2	111	1.0	117	1.0	0.125	9.9	LOS A	0.9	5.2	0.14	0.62	0.14	54.3
8	T1	405	4.0	426	4.0	* 0.819	41.0	LOS C	21.4	135.3	0.92	0.83	0.98	30.4
9	R2	619	6.0	652	6.0	0.819	48.3	LOS D	21.4	135.3	0.95	0.87	1.00	31.4
Approach		1135	4.8	1195	4.8	0.819	42.0	LOS C	21.4	135.3	0.86	0.83	0.91	32.5
West: Bruce Highway (W)														
10	L2	621	4.0	654	4.0	0.331	23.9	LOS B	11.3	70.4	0.59	0.76	0.59	42.9
11	T1	765	1.0	805	1.0	* 0.819	53.6	LOS D	25.6	155.0	1.00	0.93	1.09	34.7
12	R2	19	0.0	20	0.0	0.233	74.9	LOS F	1.3	7.8	0.99	0.70	0.99	25.1
Approach		1405	2.3	1479	2.3	0.819	40.7	LOS C	25.6	155.0	0.82	0.85	0.87	37.3
All Vehicles		4434	2.2	4667	2.2	0.819	40.6	LOS C	25.6	155.0	0.84	0.83	0.89	35.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												
P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52

West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2024 DEV+ SEN Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	40	0.0	42	0.0	0.040	7.0	LOS A	0.0	0.3	0.02	0.59	0.02	58.2
2	T1	579	1.0	609	1.0	* 0.818	38.3	LOS C	24.4	147.7	0.93	0.85	0.98	31.5
3	R2	608	0.0	640	0.0	0.818	45.0	LOS D	23.8	143.7	0.93	0.87	0.98	33.9
3u	U	2	0.0	2	0.0	0.818	45.2	LOS D	23.4	140.4	0.93	0.87	0.98	28.1
Approach		1229	0.5	1294	0.5	0.818	40.6	LOS C	24.4	147.7	0.90	0.85	0.95	33.4
East: Moores Road (E)														
4	L2	174	0.0	183	0.0	0.145	10.7	LOS A	2.7	16.4	0.35	0.68	0.35	54.3
5	T1	446	1.0	469	1.0	0.477	44.3	LOS D	12.6	76.6	0.90	0.76	0.90	38.0
6	R2	60	0.0	63	0.0	* 0.737	79.3	LOS F	4.3	26.1	1.00	0.82	1.22	23.6
Approach		680	0.7	716	0.7	0.737	38.8	LOS C	12.6	76.6	0.77	0.74	0.79	38.8
North: Bruce Highway (N)														
7	L2	111	1.0	117	1.0	0.126	10.4	LOS A	1.0	5.8	0.15	0.62	0.15	53.8
8	T1	404	4.0	425	4.0	* 0.817	41.0	LOS C	21.3	134.8	0.92	0.83	0.98	30.4
9	R2	618	6.0	651	6.0	0.817	48.3	LOS D	21.3	134.8	0.95	0.87	1.00	31.4
Approach		1133	4.8	1193	4.8	0.817	41.9	LOS C	21.3	134.8	0.86	0.83	0.91	32.6
West: Bruce Highway (W)														
10	L2	621	4.0	654	4.0	0.331	23.9	LOS B	11.3	70.4	0.59	0.76	0.59	42.9
11	T1	765	1.0	805	1.0	* 0.819	53.6	LOS D	25.6	155.0	1.00	0.93	1.09	34.7
12	R2	19	0.0	20	0.0	0.233	74.9	LOS F	1.3	7.8	0.99	0.70	0.99	25.1
Approach		1405	2.3	1479	2.3	0.819	40.7	LOS C	25.6	155.0	0.82	0.85	0.87	37.3
All Vehicles		4447	2.2	4681	2.2	0.819	40.7	LOS C	25.6	155.0	0.84	0.83	0.89	35.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												

P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52
West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	43	0.0	45	0.0	0.045	8.3	LOS A	0.2	1.1	0.08	0.60	0.08	56.7
2	T1	619	1.0	652	1.0	* 0.876	42.0	LOS C	28.2	170.9	0.97	0.91	1.07	29.9
3	R2	653	0.0	687	0.0	0.876	48.7	LOS D	27.6	166.3	0.97	0.91	1.07	32.5
3u	U	2	0.0	2	0.0	0.876	48.9	LOS D	27.1	162.6	0.97	0.91	1.07	26.9
Approach		1317	0.5	1386	0.5	0.876	44.2	LOS D	28.2	170.9	0.94	0.90	1.03	31.9
East: Moores Road (E)														
4	L2	190	0.0	200	0.0	0.162	11.3	LOS A	3.2	19.5	0.38	0.68	0.38	53.7
5	T1	486	1.0	512	1.0	0.520	44.9	LOS D	14.0	84.6	0.91	0.77	0.91	37.8
6	R2	66	0.0	69	0.0	* 0.811	81.2	LOS F	4.9	29.2	1.00	0.86	1.33	23.3
Approach		742	0.7	781	0.7	0.811	39.5	LOS C	14.0	84.6	0.78	0.76	0.81	38.5
North: Bruce Highway (N)														
7	L2	120	1.0	126	1.0	0.146	13.4	LOS A	1.7	10.3	0.24	0.64	0.24	51.0
8	T1	439	4.0	462	4.0	* 0.896	46.5	LOS D	25.8	163.5	0.95	0.91	1.09	28.3
9	R2	672	6.0	707	6.0	0.896	54.0	LOS D	25.8	163.5	1.00	0.93	1.13	29.6
Approach		1231	4.8	1296	4.8	0.896	47.4	LOS D	25.8	163.5	0.91	0.89	1.03	30.5
West: Bruce Highway (W)														
10	L2	676	4.0	712	4.0	0.361	24.2	LOS B	12.5	78.2	0.61	0.76	0.61	42.6
11	T1	832	1.0	876	1.0	* 0.890	62.1	LOS E	30.7	186.0	1.00	1.01	1.21	32.1
12	R2	21	0.0	22	0.0	0.258	75.1	LOS F	1.4	8.6	1.00	0.71	1.00	25.1
Approach		1529	2.3	1609	2.3	0.890	45.5	LOS D	30.7	186.0	0.83	0.89	0.94	35.4
All Vehicles		4819	2.2	5073	2.2	0.896	44.7	LOS D	30.7	186.0	0.87	0.87	0.97	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												
P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52

West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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

MOVEMENT SUMMARY

Site: 1 [2034 DEV + SEN Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Road (S)														
1	L2	44	0.0	46	0.0	0.046	8.3	LOS A	0.2	1.1	0.08	0.60	0.08	56.7
2	T1	632	1.0	665	1.0	* 0.892	43.5	LOS D	29.4	178.4	0.98	0.93	1.10	29.3
3	R2	663	0.0	698	0.0	0.892	50.2	LOS D	28.8	173.6	0.98	0.92	1.10	32.0
3u	U	2	0.0	2	0.0	0.892	50.5	LOS D	28.3	169.8	0.98	0.92	1.10	26.4
Approach		1341	0.5	1412	0.5	0.892	45.7	LOS D	29.4	178.4	0.95	0.92	1.06	31.3
East: Moores Road (E)														
4	L2	190	0.0	200	0.0	0.162	11.3	LOS A	3.2	19.5	0.38	0.68	0.38	53.7
5	T1	488	1.0	514	1.0	0.522	45.0	LOS D	14.0	85.0	0.91	0.77	0.91	37.7
6	R2	66	0.0	69	0.0	* 0.811	81.2	LOS F	4.9	29.2	1.00	0.86	1.33	23.3
Approach		744	0.7	783	0.7	0.811	39.6	LOS C	14.0	85.0	0.78	0.76	0.81	38.5
North: Bruce Highway (N)														
7	L2	120	1.0	126	1.0	0.148	13.4	LOS A	1.7	10.3	0.25	0.64	0.25	51.0
8	T1	440	4.0	463	4.0	* 0.897	46.6	LOS D	25.9	163.9	0.95	0.91	1.09	28.3
9	R2	672	6.0	707	6.0	0.897	54.1	LOS D	25.9	163.9	1.00	0.93	1.13	29.6
Approach		1232	4.8	1297	4.8	0.897	47.4	LOS D	25.9	163.9	0.91	0.89	1.03	30.5
West: Bruce Highway (W)														
10	L2	676	4.0	712	4.0	0.361	24.2	LOS B	12.5	78.2	0.61	0.76	0.61	42.6
11	T1	832	1.0	876	1.0	* 0.890	62.1	LOS E	30.7	186.0	1.00	1.01	1.21	32.1
12	R2	21	0.0	22	0.0	0.258	75.1	LOS F	1.4	8.6	1.00	0.71	1.00	25.1
Approach		1529	2.3	1609	2.3	0.890	45.5	LOS D	30.7	186.0	0.83	0.89	0.94	35.4
All Vehicles		4846	2.2	5101	2.2	0.897	45.1	LOS D	30.7	186.0	0.88	0.88	0.98	33.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Road (S)												
P1	Full	50	50	57.4	LOS E	0.2	0.2	0.94	0.94	98.1	53.0	0.54
East: Moores Road (E)												

P2	Full	50	50	52.8	LOS E	0.2	0.2	0.90	0.90	88.1	46.0	0.52
West: Bruce Highway (W)												
P4	Full	50	50	50.1	LOS E	0.2	0.2	0.88	0.88	85.5	46.0	0.54
P4S	Slip/ Bypass	50	53	33.3	LOS D	0.1	0.1	0.72	0.72	60.3	35.0	0.58
All Pedestrians		200	203	48.2	LOS E	0.2	0.2	0.86	0.86	82.7	44.9	0.54

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:56 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

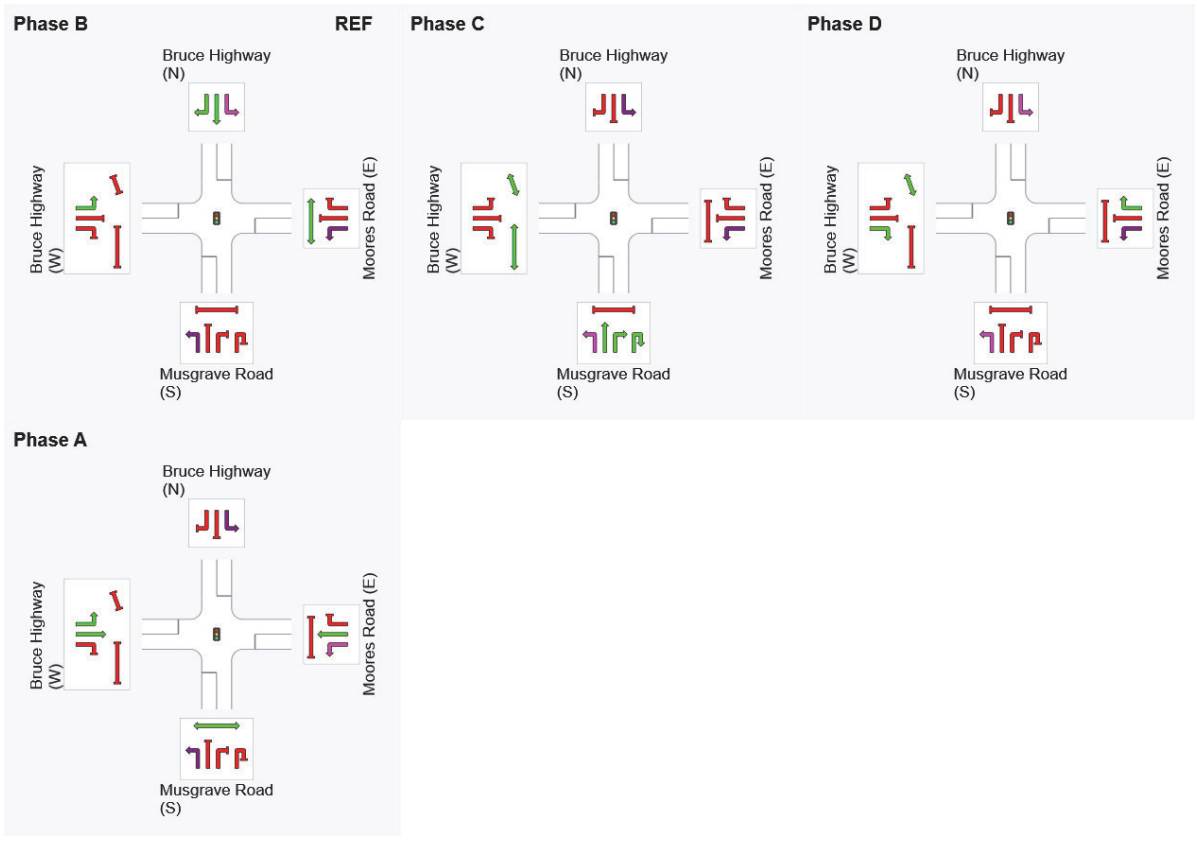
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: B, C, D, A
Output Phase Sequence: B, C, D, A

Phase Timing Summary

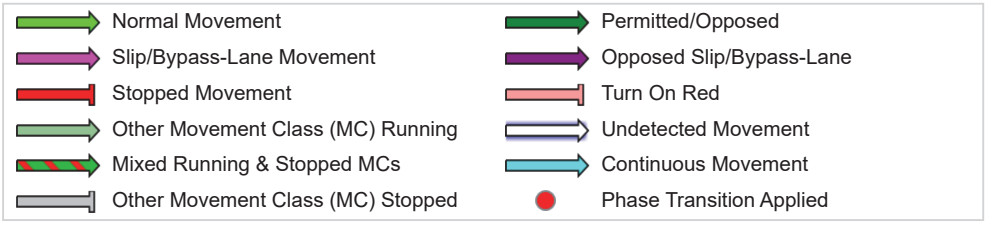
Phase	B	C	D	A
Phase Change Time (sec)	0	47	90	103
Green Time (sec)	41	37	7	31
Phase Time (sec)	47	43	13	37
Phase Split	34%	31%	9%	26%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:47 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

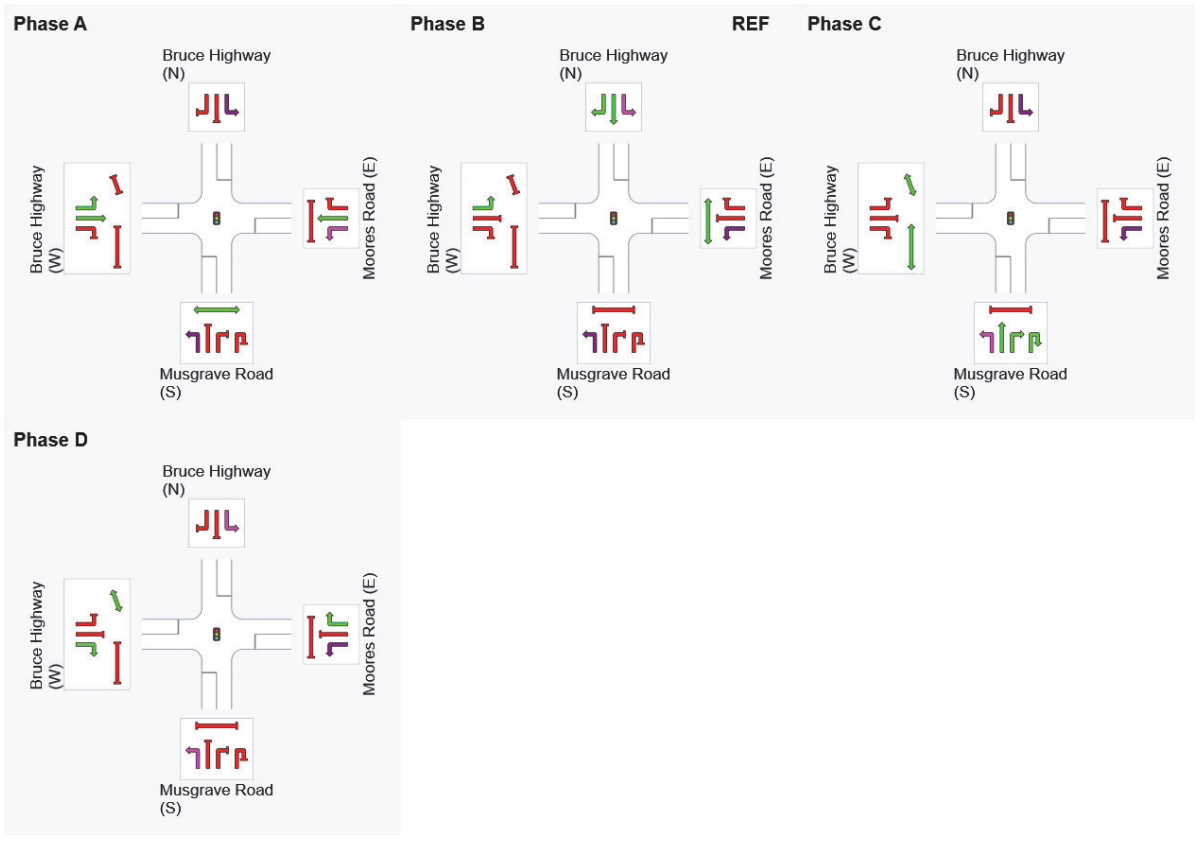
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

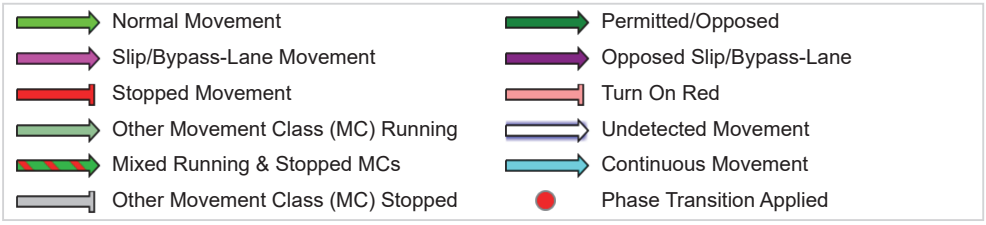
Phase	A	B	C	D
Phase Change Time (sec)	103	0	48	90
Green Time (sec)	31	42	36	7
Phase Time (sec)	37	48	42	13
Phase Split	26%	34%	30%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:48 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 APRV Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

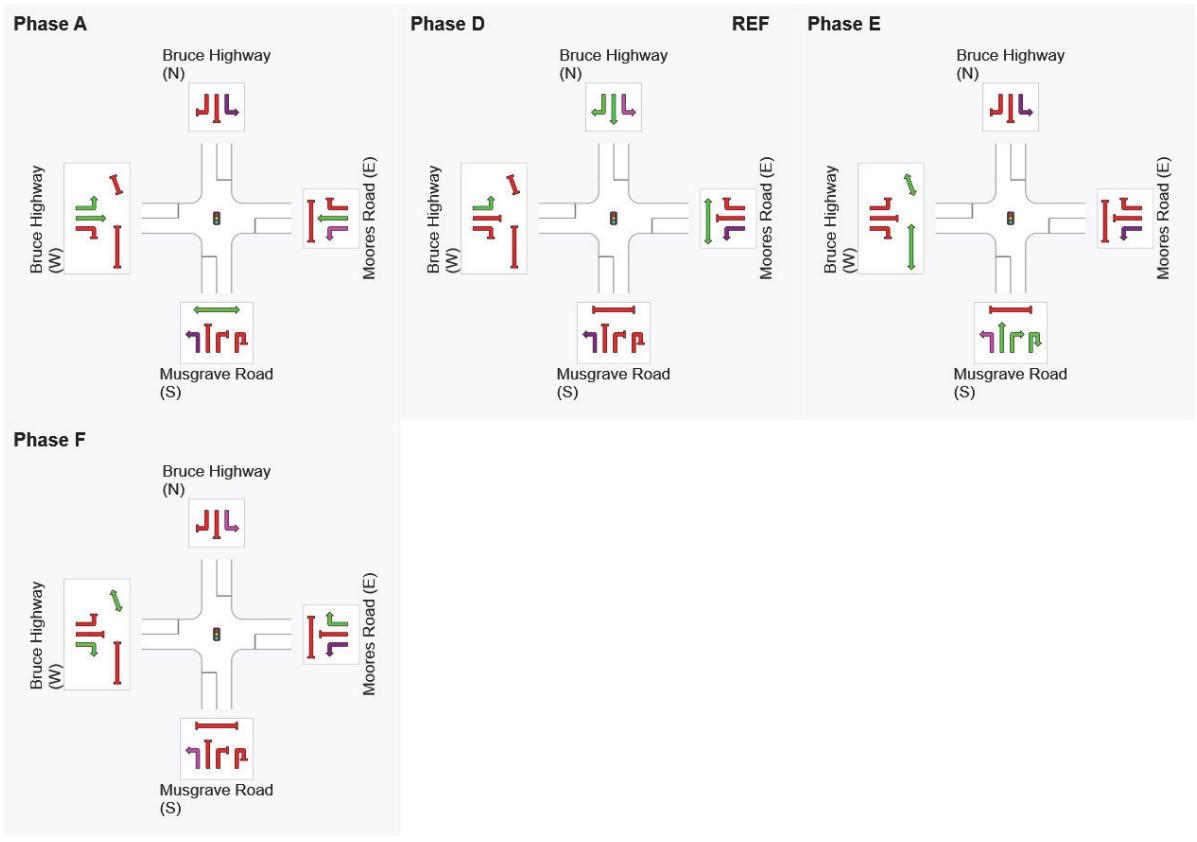
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

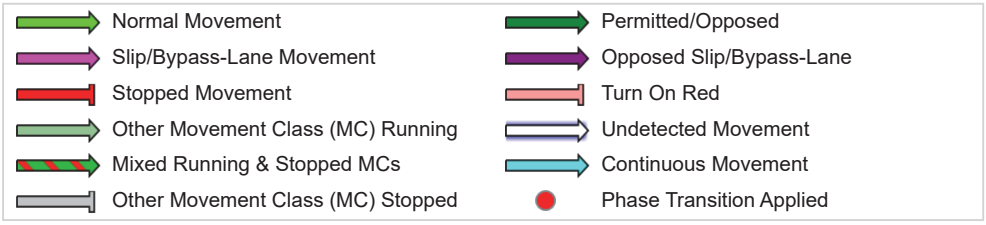
Phase	A	D	E	F
Phase Change Time (sec)	103	0	47	90
Green Time (sec)	31	41	37	7
Phase Time (sec)	37	47	43	13
Phase Split	26%	34%	31%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:48 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 DEV Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

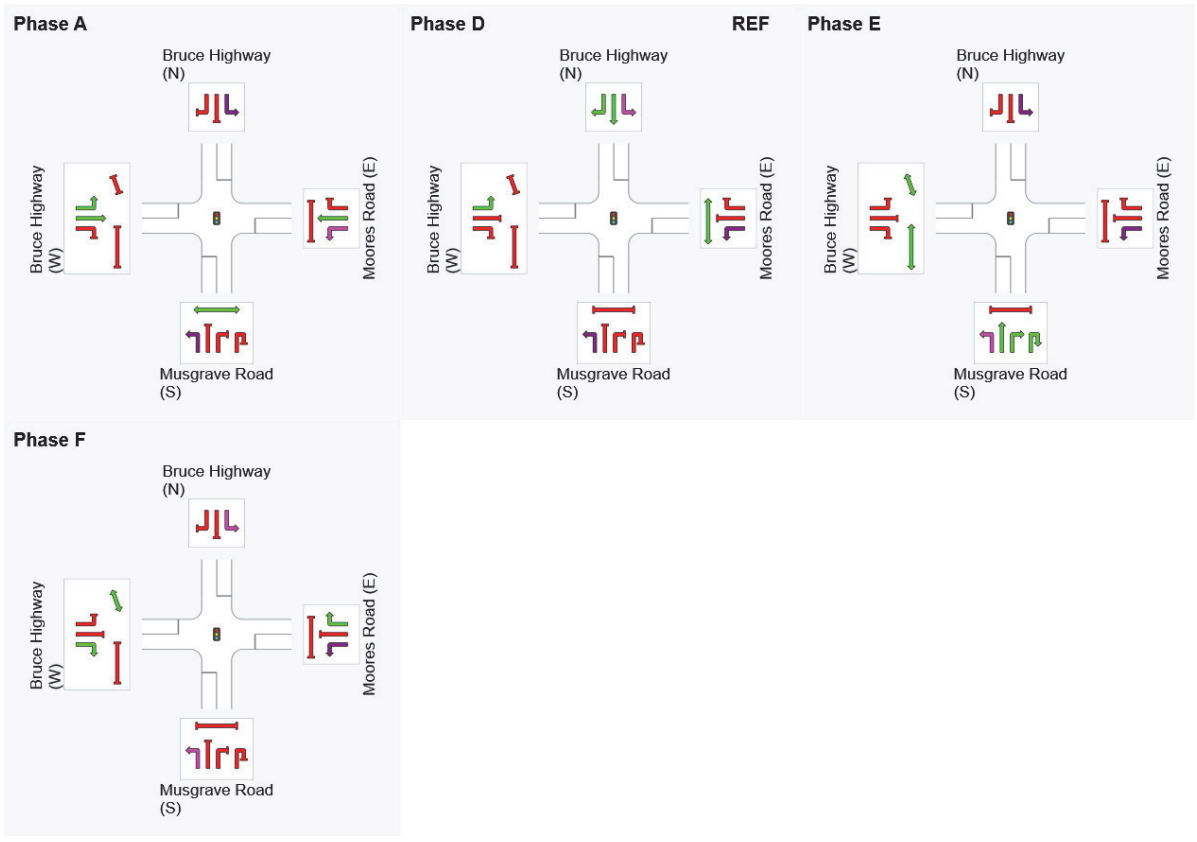
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

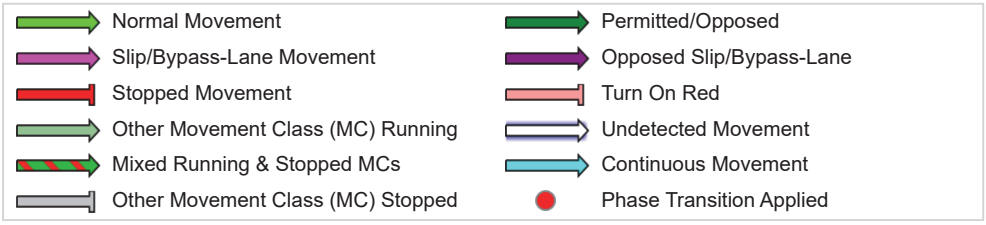
Phase	A	D	E	F
Phase Change Time (sec)	103	0	48	90
Green Time (sec)	31	42	36	7
Phase Time (sec)	37	48	42	13
Phase Split	26%	34%	30%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:49 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 DEV + SEN Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

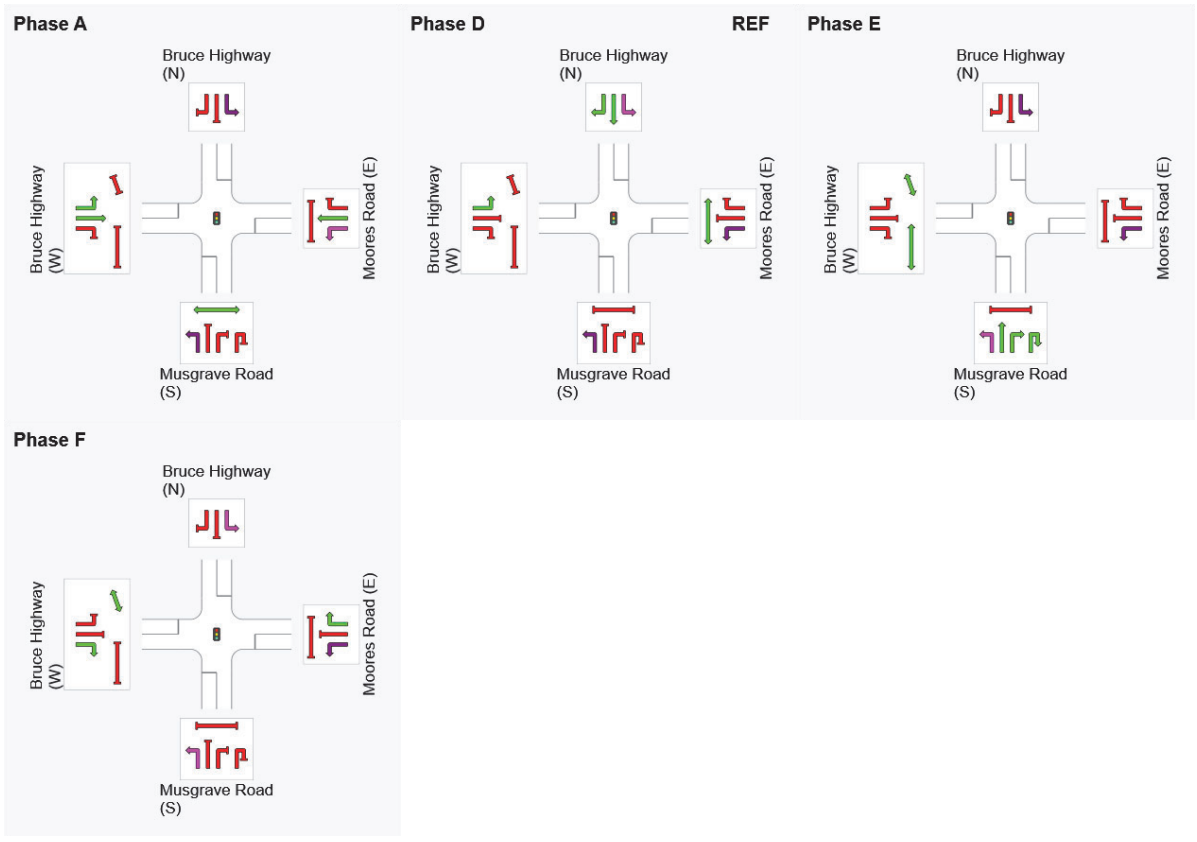
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

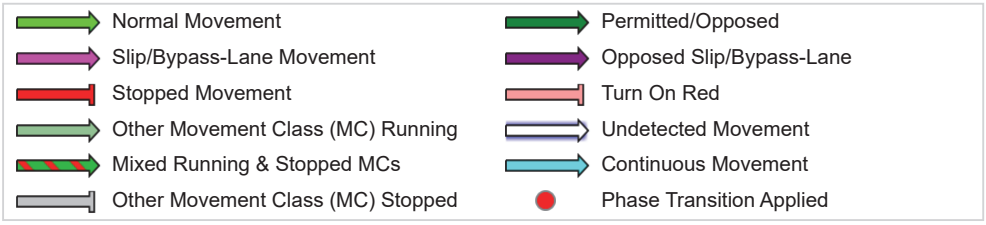
Phase	A	D	E	F
Phase Change Time (sec)	103	0	47	90
Green Time (sec)	31	41	37	7
Phase Time (sec)	37	47	43	13
Phase Split	26%	34%	31%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:50 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

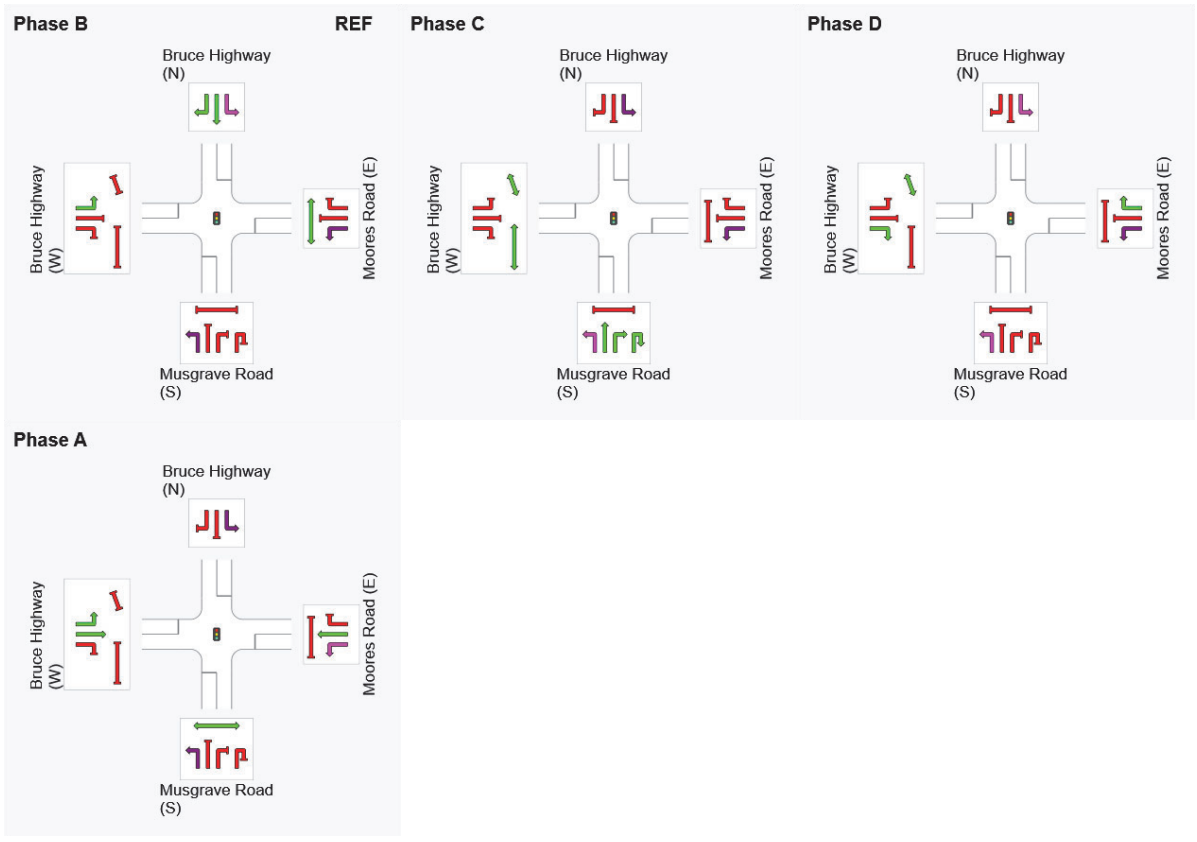
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: B, C, D, A
Output Phase Sequence: B, C, D, A

Phase Timing Summary

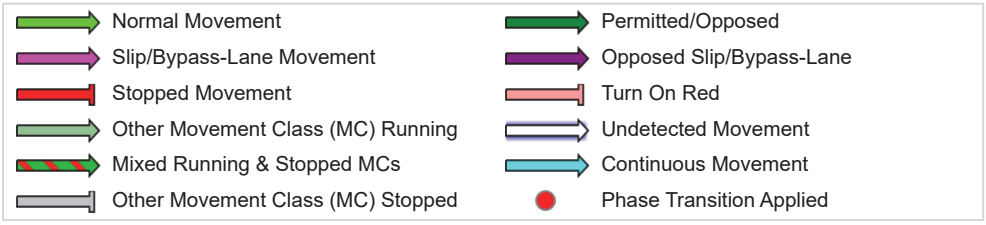
Phase	B	C	D	A
Phase Change Time (sec)	0	47	89	103
Green Time (sec)	41	36	8	31
Phase Time (sec)	47	42	14	37
Phase Split	34%	30%	10%	26%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:50 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2034 DEV+ SEN Saturday Peak (Site Folder: Sat AM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Saturday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

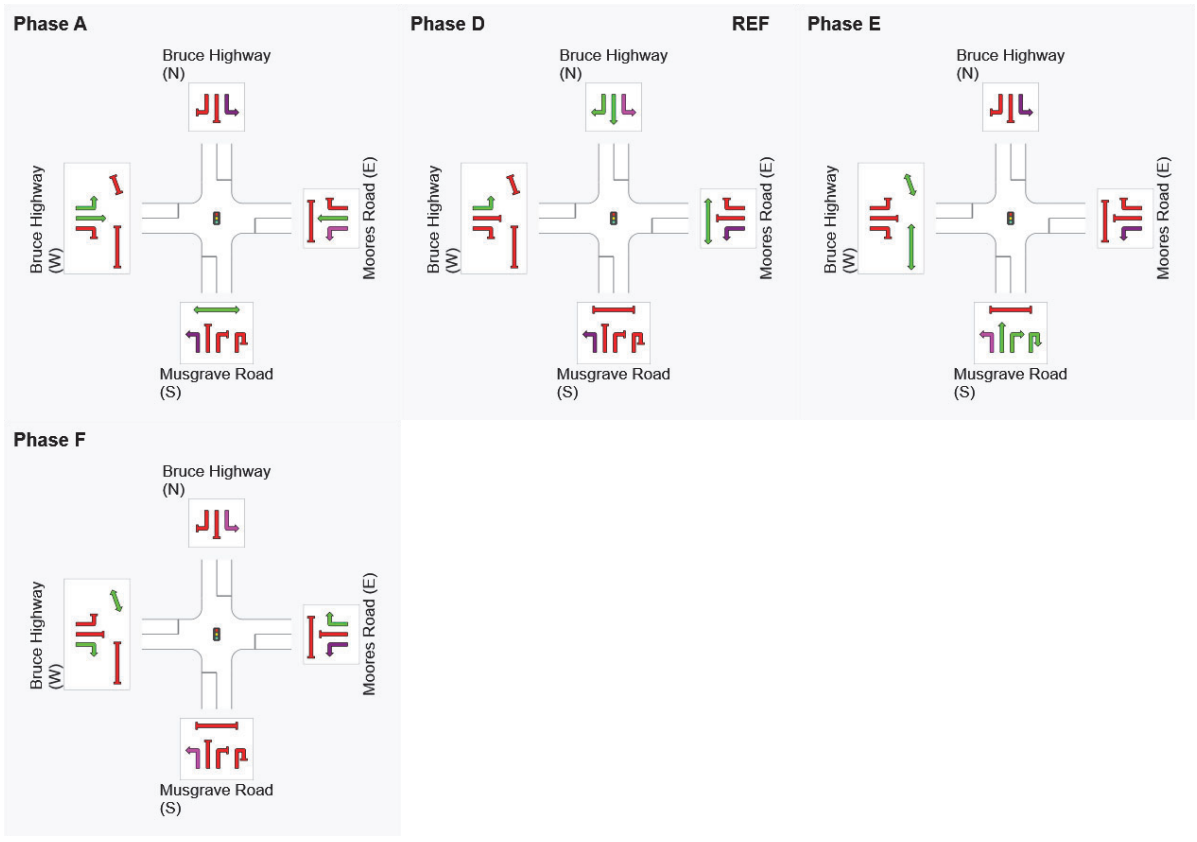
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

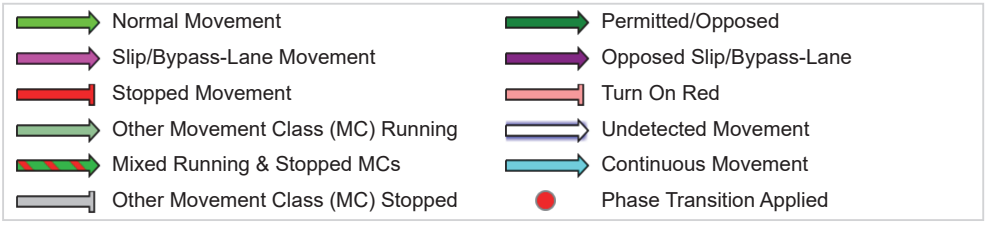
Phase	A	D	E	F
Phase Change Time (sec)	103	0	47	90
Green Time (sec)	31	41	37	7
Phase Time (sec)	37	47	43	13
Phase Split	26%	34%	31%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:51 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

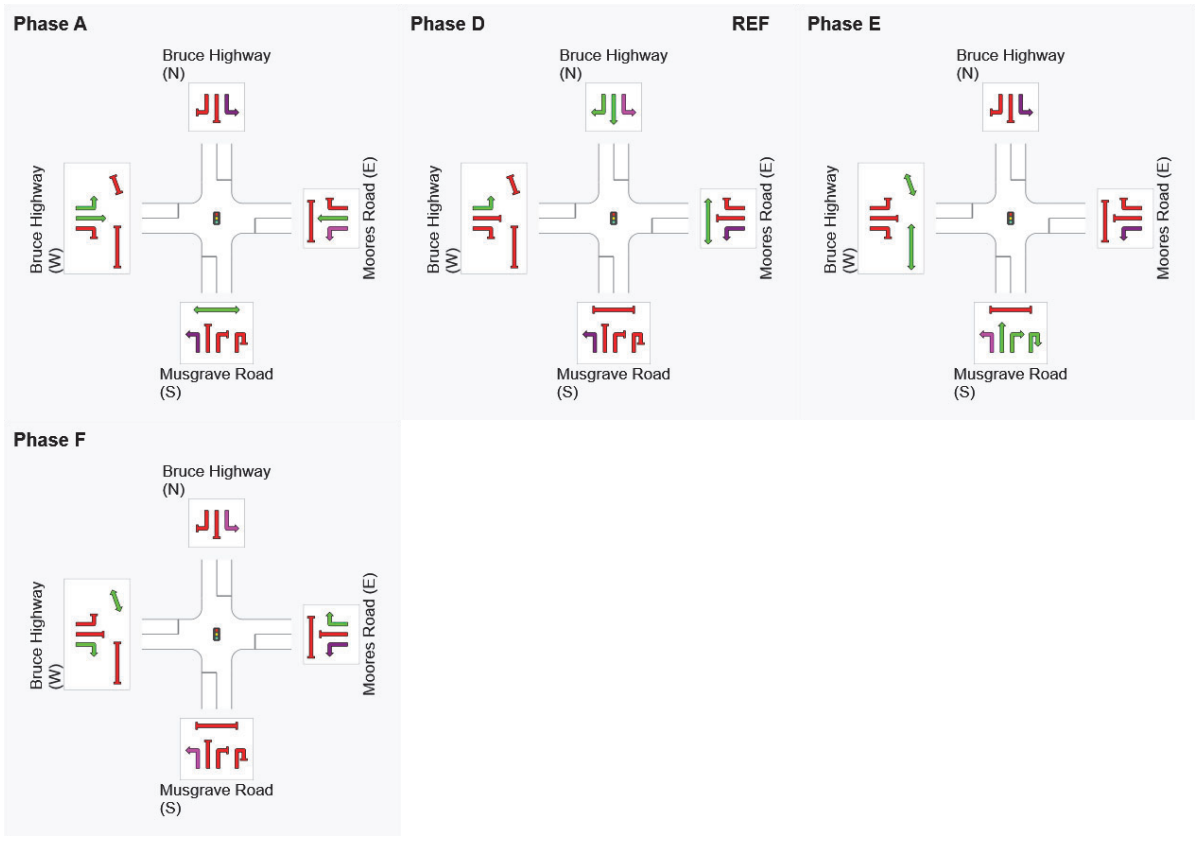
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

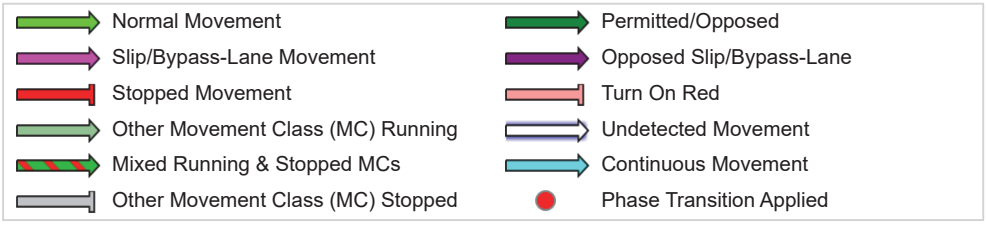
Phase	A	D	E	F
Phase Change Time (sec)	91	0	38	79
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:52 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

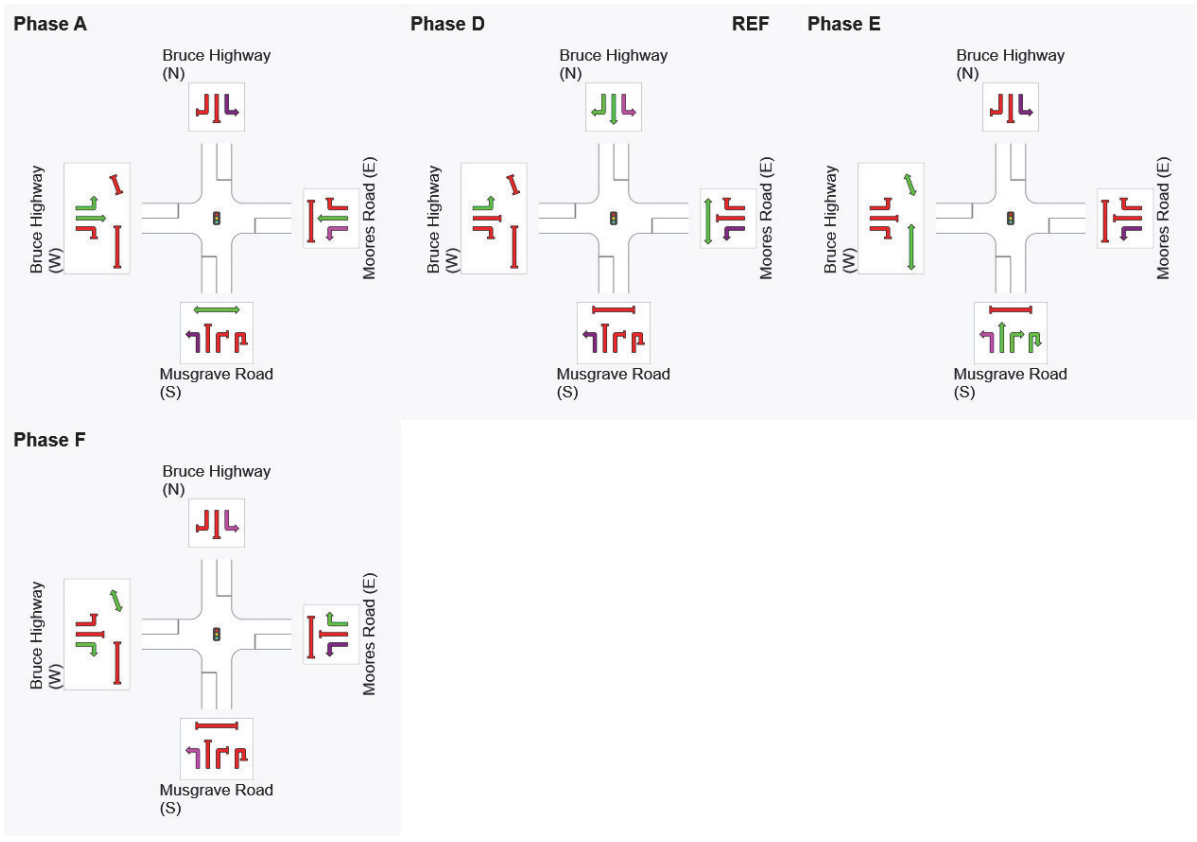
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

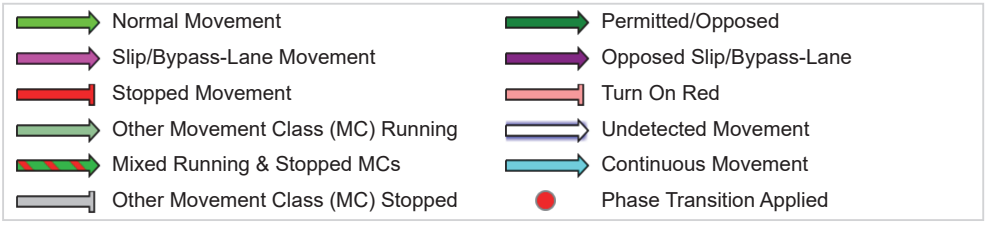
Phase	A	D	E	F
Phase Change Time (sec)	91	0	38	79
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:52 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 APRV Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

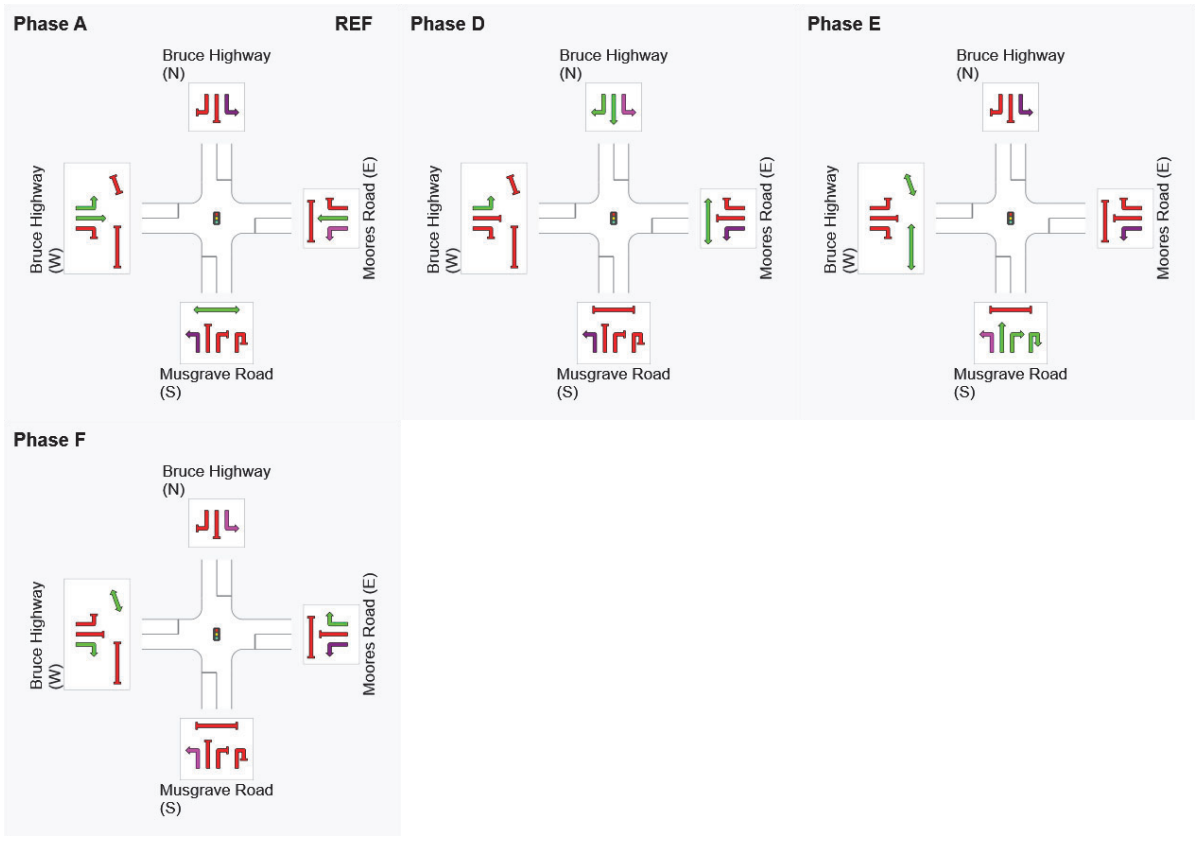
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

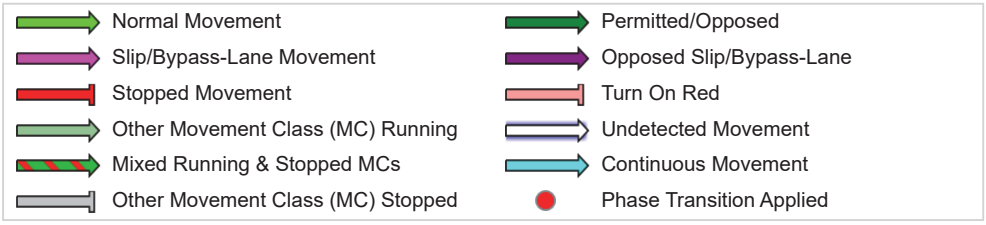
Phase	A	D	E	F
Phase Change Time (sec)	0	39	77	118
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:53 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 DEV Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

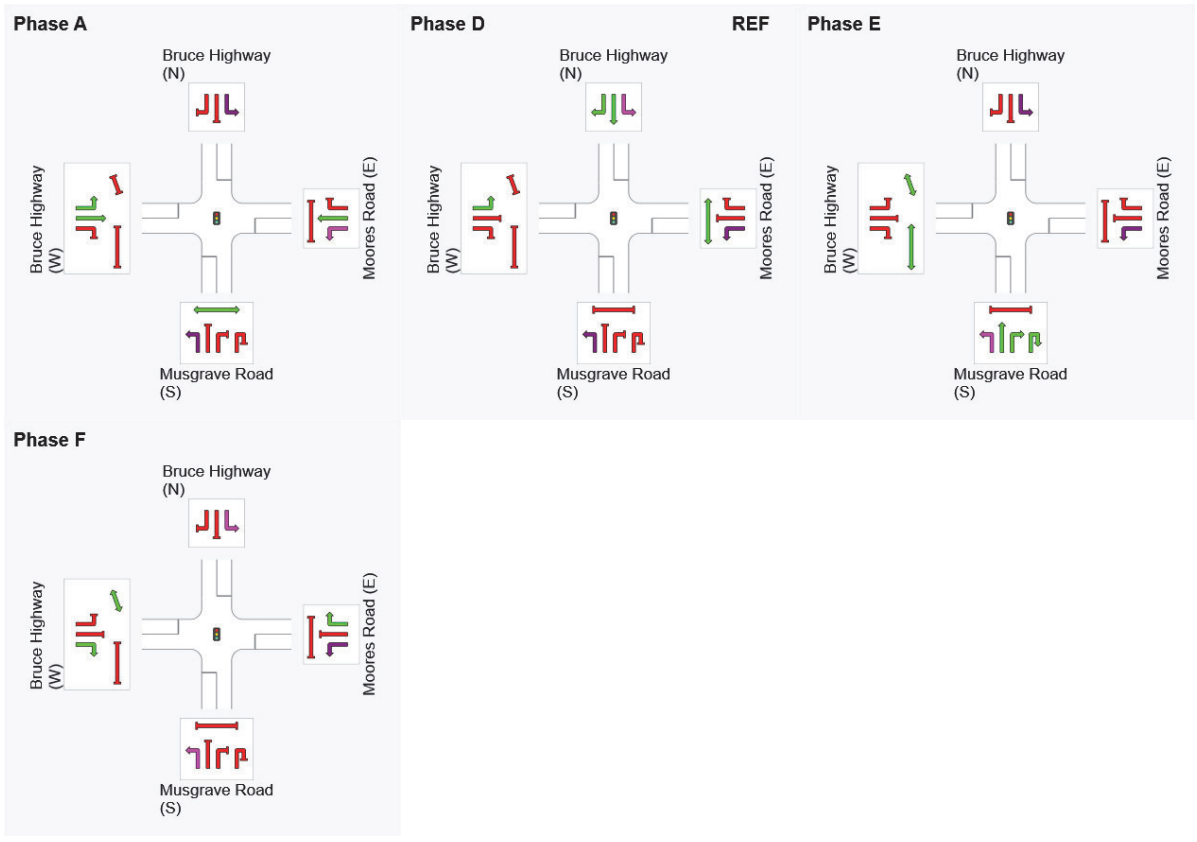
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

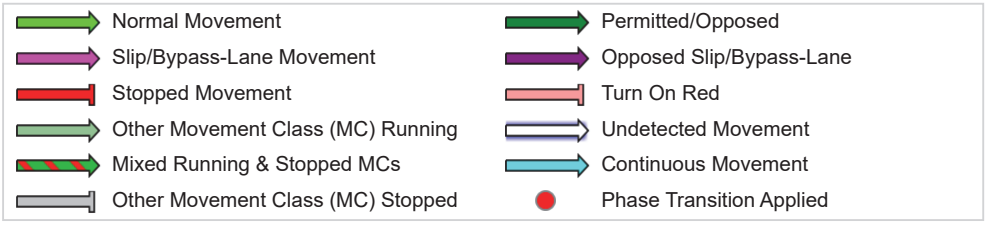
Phase	A	D	E	F
Phase Change Time (sec)	91	0	38	79
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:54 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2024 DEV+ SEN Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

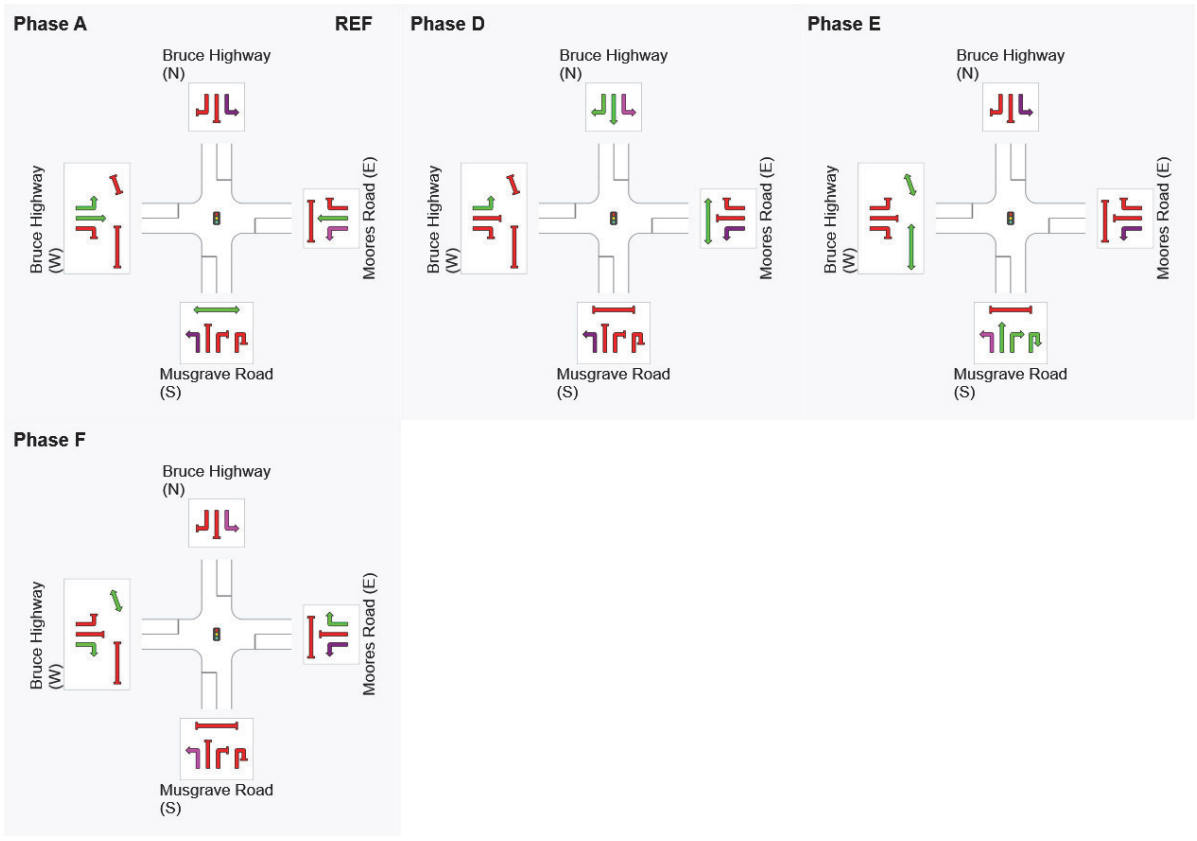
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

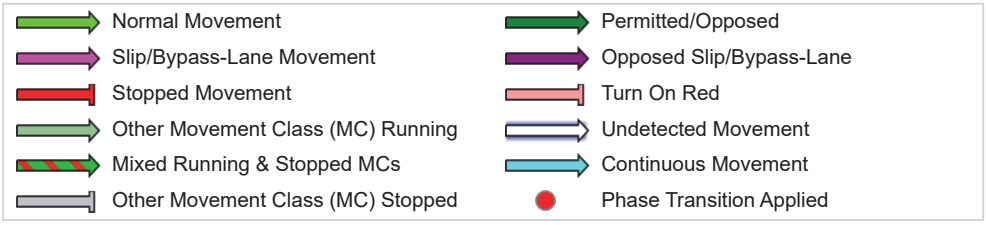
Phase	A	D	E	F
Phase Change Time (sec)	0	39	77	118
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:54 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

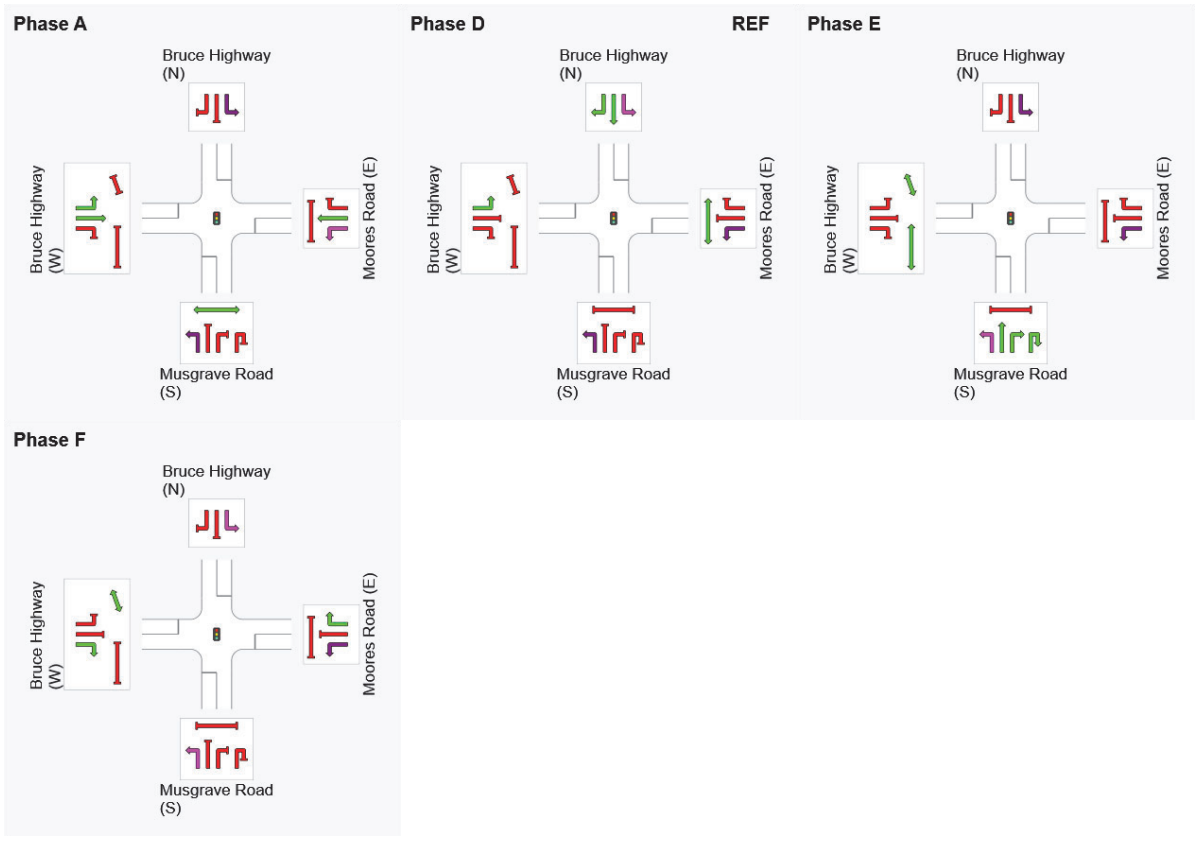
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase D
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

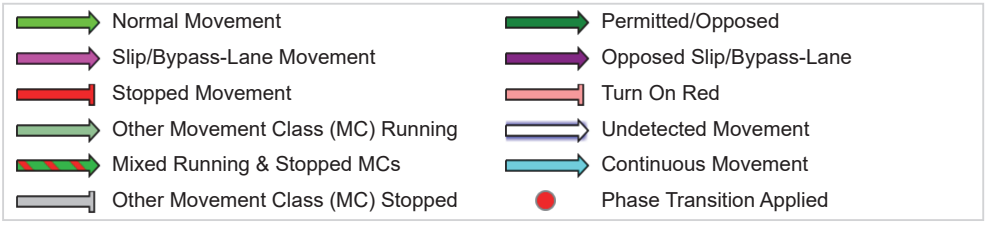
Phase	A	D	E	F
Phase Change Time (sec)	91	0	38	79
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:55 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

PHASING SUMMARY

Site: 1 [2034 DEV + SEN Thursday Peak (Site Folder: Thurs PM)]

Intersection: Moores Road/Bruce Highway/Musgrave Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

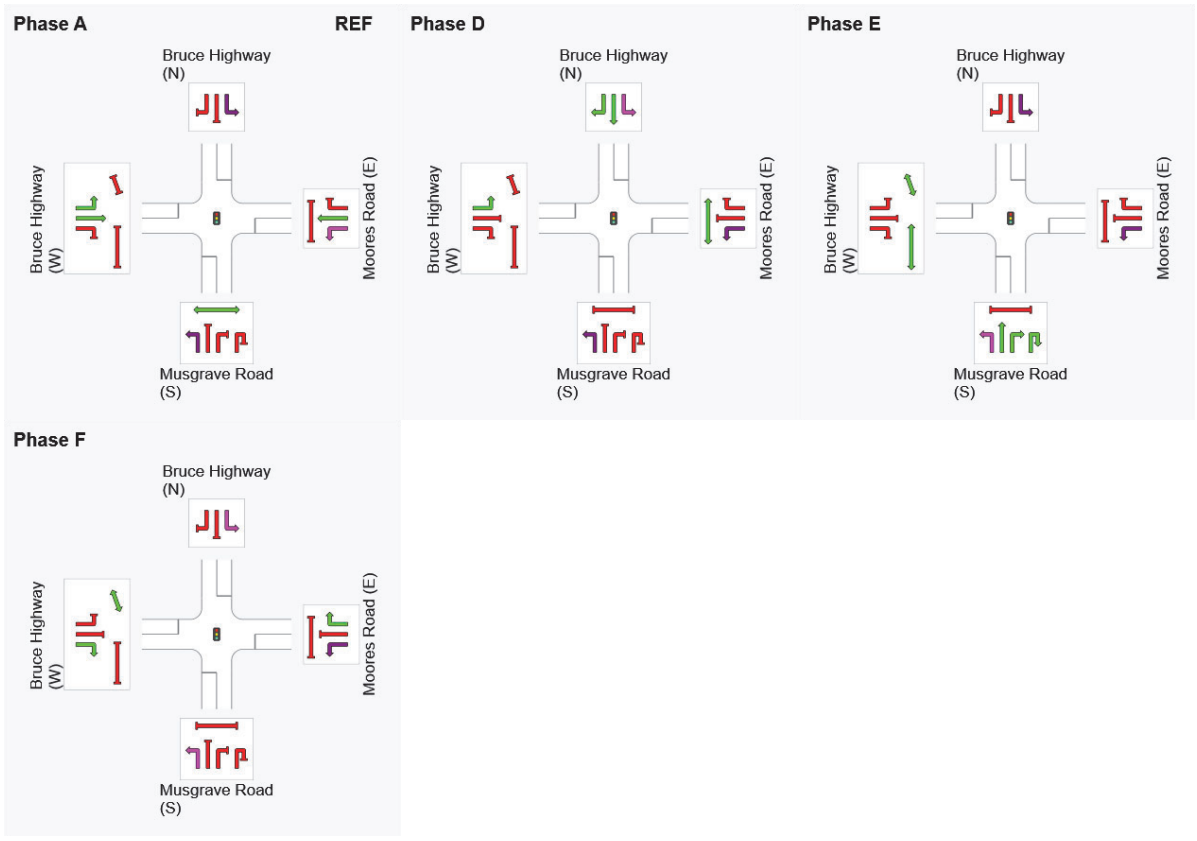
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

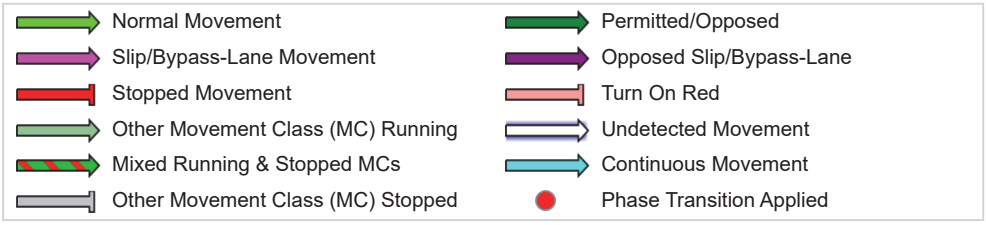
Phase	A	D	E	F
Phase Change Time (sec)	0	39	77	118
Green Time (sec)	33	32	35	6
Phase Time (sec)	39	38	41	12
Phase Split	30%	29%	32%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:59:56 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\1) Musgrave Rd-Bruce Hwy.sip9

MOVEMENT SUMMARY

Site: 7 [2022 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	111	0.0	117	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	827	1.0	871	1.0	* 0.575	16.5	LOS B	14.0	84.8	0.57	0.50	0.57	39.8
Approach		938	0.9	987	0.9	0.575	15.2	LOS B	14.0	84.8	0.50	0.50	0.50	39.9
North: Musgrave Street (N)														
8	T1	582	1.0	613	1.0	0.223	0.4	LOS A	0.4	2.7	0.03	0.02	0.03	59.2
9	R2	246	0.0	259	0.0	* 0.397	7.6	LOS A	1.4	8.3	0.17	0.63	0.17	43.7
9u	U	6	0.0	6	0.0	0.397	8.7	LOS A	1.4	8.3	0.17	0.63	0.17	48.1
Approach		834	0.7	878	0.7	0.397	2.6	LOS A	1.4	8.3	0.07	0.21	0.07	54.7
West: Cowap Street														
10	L2	192	0.0	202	0.0	0.194	3.8	LOS A	2.4	14.2	0.27	0.40	0.27	43.9
12	R2	101	0.0	106	0.0	* 0.299	47.0	LOS D	5.4	32.3	0.90	0.75	0.90	13.8
Approach		293	0.0	308	0.0	0.299	18.7	LOS B	5.4	32.3	0.49	0.52	0.49	28.0
All Vehicles		2065	0.7	2174	0.7	0.575	10.6	LOS A	14.0	84.8	0.33	0.39	0.33	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	27.4	LOS C	0.1	0.1	0.68	0.68	53.5	34.0	0.63
All Pedestrians		100	100	40.8	LOS E	0.2	0.2	0.81	0.81	70.8	39.0	0.55

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

MOVEMENT SUMMARY

Site: 7 [2024 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	111	0.0	117	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	843	1.0	887	1.0	* 0.572	15.7	LOS B	13.8	83.4	0.55	0.49	0.55	40.5
Approach		954	0.9	1004	0.9	0.572	14.5	LOS B	13.8	83.4	0.49	0.49	0.49	40.5
North: Musgrave Street (N)														
8	T1	593	1.0	624	1.0	0.227	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	246	0.0	259	0.0	* 0.407	7.6	LOS A	1.4	8.3	0.17	0.63	0.17	43.7
9u	U	6	0.0	6	0.0	0.407	8.8	LOS A	1.4	8.3	0.17	0.63	0.17	48.1
Approach		845	0.7	889	0.7	0.407	2.6	LOS A	1.4	8.3	0.07	0.20	0.07	54.7
West: Cowap Street														
10	L2	192	0.0	202	0.0	0.197	3.8	LOS A	2.4	14.3	0.28	0.41	0.28	43.9
12	R2	101	0.0	106	0.0	* 0.299	47.0	LOS D	5.4	32.3	0.90	0.75	0.90	13.8
Approach		293	0.0	308	0.0	0.299	18.7	LOS B	5.4	32.3	0.49	0.52	0.49	28.0
All Vehicles		2092	0.7	2202	0.7	0.572	10.3	LOS A	13.8	83.4	0.32	0.38	0.32	43.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	26.7	LOS C	0.1	0.1	0.67	0.67	52.9	34.0	0.64
All Pedestrians		100	100	40.5	LOS E	0.2	0.2	0.81	0.81	70.5	39.0	0.55

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

MOVEMENT SUMMARY

Site: 7 [2024 W Aprv Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	115	0.0	121	0.0	0.065	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	883	1.0	929	1.0	* 0.605	15.9	LOS B	15.1	91.5	0.57	0.50	0.57	40.3
Approach		998	0.9	1051	0.9	0.605	14.7	LOS B	15.1	91.5	0.51	0.51	0.51	40.3
North: Musgrave Street (N)														
8	T1	595	1.0	626	1.0	0.228	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	254	0.0	267	0.0	* 0.428	8.3	LOS A	1.8	10.8	0.23	0.64	0.23	42.7
9u	U	6	0.0	6	0.0	0.428	9.5	LOS A	1.8	10.8	0.23	0.64	0.23	47.4
Approach		855	0.7	900	0.7	0.428	2.8	LOS A	1.8	10.8	0.09	0.21	0.09	54.3
West: Cowap Street														
10	L2	200	0.0	211	0.0	0.210	4.3	LOS A	2.8	16.6	0.30	0.42	0.30	43.2
12	R2	105	0.0	111	0.0	* 0.311	47.1	LOS D	5.6	33.7	0.90	0.75	0.90	13.8
Approach		305	0.0	321	0.0	0.311	19.0	LOS B	5.6	33.7	0.51	0.53	0.51	27.8
All Vehicles		2158	0.7	2271	0.7	0.605	10.6	LOS A	15.1	91.5	0.34	0.39	0.34	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	26.7	LOS C	0.1	0.1	0.67	0.67	52.9	34.0	0.64
All Pedestrians		100	100	40.5	LOS E	0.2	0.2	0.81	0.81	70.5	39.0	0.55

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

MOVEMENT SUMMARY

Site: 7 [2024 W Dev Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	112	0.0	118	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	853	1.0	898	1.0	* 0.580	15.8	LOS B	14.1	85.3	0.56	0.49	0.56	40.4
Approach		965	0.9	1016	0.9	0.580	14.6	LOS B	14.1	85.3	0.49	0.50	0.49	40.5
North: Musgrave Street (N)														
8	T1	593	1.0	624	1.0	0.227	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	248	0.0	261	0.0	* 0.413	7.9	LOS A	1.6	9.4	0.20	0.64	0.20	43.2
9u	U	6	0.0	6	0.0	0.413	9.1	LOS A	1.6	9.4	0.20	0.64	0.20	47.8
Approach		847	0.7	891	0.7	0.413	2.7	LOS A	1.6	9.4	0.08	0.21	0.08	54.5
West: Cowap Street														
10	L2	194	0.0	204	0.0	0.200	4.0	LOS A	2.5	15.2	0.29	0.41	0.29	43.6
12	R2	102	0.0	107	0.0	* 0.302	47.0	LOS D	5.4	32.7	0.90	0.75	0.90	13.8
Approach		296	0.0	312	0.0	0.302	18.9	LOS B	5.4	32.7	0.50	0.53	0.50	27.9
All Vehicles		2108	0.7	2219	0.7	0.580	10.4	LOS A	14.1	85.3	0.33	0.38	0.33	43.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	26.7	LOS C	0.1	0.1	0.67	0.67	52.9	34.0	0.64
All Pedestrians		100	100	40.5	LOS E	0.2	0.2	0.81	0.81	70.5	39.0	0.55

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

MOVEMENT SUMMARY

Site: 7 [2024 W SENS Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	111	0.0	117	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	871	1.0	917	1.0	* 0.595	15.9	LOS B	14.7	89.0	0.57	0.50	0.57	40.3
Approach		982	0.9	1034	0.9	0.595	14.7	LOS B	14.7	89.0	0.50	0.50	0.50	40.4
North: Musgrave Street (N)														
8	T1	595	1.0	626	1.0	0.228	0.4	LOS A	0.5	2.8	0.03	0.02	0.03	59.2
9	R2	246	0.0	259	0.0	* 0.412	7.9	LOS A	1.6	9.4	0.20	0.64	0.20	43.2
9u	U	6	0.0	6	0.0	0.412	9.1	LOS A	1.6	9.4	0.20	0.64	0.20	47.8
Approach		847	0.7	891	0.7	0.412	2.7	LOS A	1.6	9.4	0.08	0.21	0.08	54.6
West: Cowap Street														
10	L2	192	0.0	202	0.0	0.200	4.0	LOS A	2.5	15.1	0.29	0.41	0.29	43.6
12	R2	101	0.0	106	0.0	* 0.299	47.0	LOS D	5.4	32.3	0.90	0.75	0.90	13.8
Approach		293	0.0	308	0.0	0.299	18.8	LOS B	5.4	32.3	0.50	0.53	0.50	27.9
All Vehicles		2122	0.7	2234	0.7	0.595	10.5	LOS A	14.7	89.0	0.33	0.39	0.33	43.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	26.7	LOS C	0.1	0.1	0.67	0.67	52.9	34.0	0.64
All Pedestrians		100	100	40.5	LOS E	0.2	0.2	0.81	0.81	70.5	39.0	0.55

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

MOVEMENT SUMMARY

Site: 7 [2034 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	111	0.0	117	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	922	1.0	971	1.0	* 0.604	14.3	LOS A	14.7	89.2	0.54	0.48	0.54	41.6
Approach		1033	0.9	1087	0.9	0.604	13.4	LOS A	14.7	89.2	0.48	0.48	0.48	41.6
North: Musgrave Street (N)														
8	T1	648	1.0	682	1.0	0.249	0.4	LOS A	0.5	3.1	0.03	0.02	0.03	59.2
9	R2	246	0.0	259	0.0	* 0.434	8.0	LOS A	1.6	9.5	0.21	0.64	0.21	43.1
9u	U	6	0.0	6	0.0	0.434	9.1	LOS A	1.6	9.5	0.21	0.64	0.21	47.7
Approach		900	0.7	947	0.7	0.434	2.6	LOS A	1.6	9.5	0.08	0.20	0.08	54.8
West: Cowap Street														
10	L2	192	0.0	202	0.0	0.206	4.1	LOS A	2.5	15.3	0.29	0.41	0.29	43.5
12	R2	101	0.0	106	0.0	* 0.299	47.0	LOS D	5.4	32.3	0.90	0.75	0.90	13.8
Approach		293	0.0	308	0.0	0.299	18.9	LOS B	5.4	32.3	0.50	0.53	0.50	27.9
All Vehicles		2226	0.7	2343	0.7	0.604	9.7	LOS A	14.7	89.2	0.32	0.37	0.32	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	25.4	LOS C	0.1	0.1	0.65	0.65	51.6	34.0	0.66
All Pedestrians		100	100	39.8	LOS D	0.2	0.2	0.80	0.80	69.8	39.0	0.56

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

MOVEMENT SUMMARY

Site: 7 [2034 W SENS Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	111	0.0	117	0.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	950	1.0	1000	1.0	* 0.626	14.5	LOS A	15.6	94.8	0.55	0.49	0.55	41.5
Approach		1061	0.9	1117	0.9	0.626	13.5	LOS A	15.6	94.8	0.49	0.49	0.49	41.5
North: Musgrave Street (N)														
8	T1	650	1.0	684	1.0	0.249	0.4	LOS A	0.5	3.1	0.03	0.02	0.03	59.2
9	R2	246	0.0	259	0.0	* 0.440	8.4	LOS A	1.8	10.9	0.24	0.65	0.24	42.6
9u	U	6	0.0	6	0.0	0.440	9.5	LOS A	1.8	10.9	0.24	0.65	0.24	47.4
Approach		902	0.7	949	0.7	0.440	2.7	LOS A	1.8	10.9	0.09	0.20	0.09	54.7
West: Cowap Street														
10	L2	192	0.0	202	0.0	0.210	4.3	LOS A	2.7	16.1	0.30	0.42	0.30	43.2
12	R2	101	0.0	106	0.0	* 0.299	47.0	LOS D	5.4	32.3	0.90	0.75	0.90	13.8
Approach		293	0.0	308	0.0	0.299	19.0	LOS B	5.4	32.3	0.51	0.53	0.51	27.8
All Vehicles		2256	0.7	2375	0.7	0.626	9.9	LOS A	15.6	94.8	0.33	0.38	0.33	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	88.1	44.0	0.50
West: Cowap Street												
P4	Full	50	50	25.4	LOS C	0.1	0.1	0.65	0.65	51.6	34.0	0.66
All Pedestrians		100	100	39.8	LOS D	0.2	0.2	0.80	0.80	69.8	39.0	0.56

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

MOVEMENT SUMMARY

Site: 7 [2022 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	85	0.0	89	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	911	1.0	959	1.0	* 0.441	2.6	LOS A	3.2	19.7	0.12	0.10	0.12	55.6
Approach		996	0.9	1048	0.9	0.441	2.8	LOS A	3.2	19.7	0.11	0.14	0.11	54.8
North: Musgrave Street (N)														
8	T1	454	3.0	478	3.0	0.171	0.4	LOS A	0.4	2.2	0.03	0.02	0.03	59.2
9	R2	92	0.0	97	0.0	* 0.195	5.9	LOS A	0.1	0.7	0.02	0.58	0.02	46.2
9u	U	1	0.0	1	0.0	0.195	7.1	LOS A	0.1	0.7	0.02	0.58	0.02	49.8
Approach		547	2.5	576	2.5	0.195	1.4	LOS A	0.4	2.2	0.03	0.12	0.03	57.2
West: Cowap Street														
10	L2	183	0.0	193	0.0	0.190	2.1	LOS A	1.2	7.0	0.16	0.33	0.16	46.3
12	R2	80	0.0	84	0.0	* 0.256	51.9	LOS D	4.6	27.9	0.90	0.74	0.90	12.9
Approach		263	0.0	277	0.0	0.256	17.3	LOS B	4.6	27.9	0.38	0.46	0.38	29.2
All Vehicles		1806	1.3	1901	1.3	0.441	4.5	LOS A	4.6	27.9	0.12	0.18	0.12	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	16.8	LOS B	0.1	0.1	0.51	0.51	42.9	34.0	0.79
All Pedestrians		100	100	38.0	LOS D	0.2	0.2	0.73	0.73	68.0	39.0	0.57

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

MOVEMENT SUMMARY

Site: 7 [2024 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	85	0.0	89	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	929	1.0	978	1.0	* 0.443	2.0	LOS A	2.7	16.3	0.09	0.08	0.09	56.5
Approach		1014	0.9	1067	0.9	0.443	2.3	LOS A	2.7	16.3	0.09	0.12	0.09	55.6
North: Musgrave Street (N)														
8	T1	462	3.0	486	3.0	0.174	0.4	LOS A	0.4	2.2	0.03	0.02	0.03	59.2
9	R2	92	0.0	97	0.0	* 0.202	5.9	LOS A	0.1	0.7	0.02	0.58	0.02	46.2
9u	U	1	0.0	1	0.0	0.202	7.1	LOS A	0.1	0.7	0.02	0.58	0.02	49.8
Approach		555	2.5	584	2.5	0.202	1.3	LOS A	0.4	2.2	0.03	0.12	0.03	57.2
West: Cowap Street														
10	L2	183	0.0	193	0.0	0.193	2.1	LOS A	1.2	7.0	0.16	0.33	0.16	46.3
12	R2	80	0.0	84	0.0	* 0.256	51.9	LOS D	4.6	27.9	0.90	0.74	0.90	12.9
Approach		263	0.0	277	0.0	0.256	17.3	LOS B	4.6	27.9	0.38	0.46	0.38	29.2
All Vehicles		1832	1.3	1928	1.3	0.443	4.2	LOS A	4.6	27.9	0.11	0.17	0.11	51.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	16.3	LOS B	0.1	0.1	0.50	0.50	42.4	34.0	0.80
All Pedestrians		100	100	37.8	LOS D	0.2	0.2	0.73	0.73	67.8	39.0	0.58

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

MOVEMENT SUMMARY

Site: 7 [2024 W Aprv Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	88	0.0	93	0.0	0.050	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	964	1.0	1015	1.0	* 0.466	2.6	LOS A	3.6	21.7	0.12	0.11	0.12	55.5
Approach		1052	0.9	1107	0.9	0.466	2.9	LOS A	3.6	21.7	0.11	0.14	0.11	54.7
North: Musgrave Street (N)														
8	T1	464	3.0	488	3.0	0.175	0.4	LOS A	0.4	2.2	0.03	0.02	0.03	59.2
9	R2	99	0.0	104	0.0	* 0.216	5.9	LOS A	0.1	0.7	0.03	0.58	0.03	46.2
9u	U	1	0.0	1	0.0	0.216	7.1	LOS A	0.1	0.7	0.03	0.58	0.03	49.8
Approach		564	2.5	594	2.5	0.216	1.4	LOS A	0.4	2.2	0.03	0.12	0.03	57.1
West: Cowap Street														
10	L2	190	0.0	200	0.0	0.203	2.1	LOS A	1.2	7.4	0.16	0.33	0.16	46.3
12	R2	83	0.0	87	0.0	* 0.266	52.0	LOS D	4.8	29.0	0.91	0.74	0.91	12.9
Approach		273	0.0	287	0.0	0.266	17.3	LOS B	4.8	29.0	0.39	0.46	0.39	29.2
All Vehicles		1889	1.2	1988	1.2	0.466	4.5	LOS A	4.8	29.0	0.13	0.18	0.13	50.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	16.8	LOS B	0.1	0.1	0.51	0.51	42.9	34.0	0.79
All Pedestrians		100	100	38.0	LOS D	0.2	0.2	0.73	0.73	68.0	39.0	0.57

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

MOVEMENT SUMMARY

Site: 7 [2024 W Dev Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	86	0.0	91	0.0	0.049	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	937	1.0	986	1.0	* 0.453	2.6	LOS A	3.4	20.6	0.12	0.11	0.12	55.6
Approach		1023	0.9	1077	0.9	0.453	2.8	LOS A	3.4	20.6	0.11	0.14	0.11	54.8
North: Musgrave Street (N)														
8	T1	463	3.0	487	3.0	0.174	0.4	LOS A	0.4	2.2	0.03	0.02	0.03	59.2
9	R2	94	0.0	99	0.0	* 0.202	5.9	LOS A	0.1	0.7	0.03	0.58	0.03	46.2
9u	U	1	0.0	1	0.0	0.202	7.1	LOS A	0.1	0.7	0.03	0.58	0.03	49.8
Approach		558	2.5	587	2.5	0.202	1.4	LOS A	0.4	2.2	0.03	0.12	0.03	57.2
West: Cowap Street														
10	L2	185	0.0	195	0.0	0.195	2.1	LOS A	1.2	7.1	0.16	0.33	0.16	46.3
12	R2	81	0.0	85	0.0	* 0.259	51.9	LOS D	4.7	28.2	0.90	0.74	0.90	12.9
Approach		266	0.0	280	0.0	0.259	17.3	LOS B	4.7	28.2	0.39	0.46	0.39	29.2
All Vehicles		1847	1.3	1944	1.3	0.453	4.5	LOS A	4.7	28.2	0.12	0.18	0.12	50.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	16.8	LOS B	0.1	0.1	0.51	0.51	42.9	34.0	0.79
All Pedestrians		100	100	38.0	LOS D	0.2	0.2	0.73	0.73	68.0	39.0	0.57

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

MOVEMENT SUMMARY

Site: 7 [2024 W SENS Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	85	0.0	89	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	952	1.0	1002	1.0	* 0.454	2.0	LOS A	2.8	17.0	0.10	0.09	0.10	56.5
Approach		1037	0.9	1092	0.9	0.454	2.3	LOS A	2.8	17.0	0.09	0.12	0.09	55.6
North: Musgrave Street (N)														
8	T1	464	3.0	488	3.0	0.175	0.4	LOS A	0.4	2.2	0.03	0.02	0.03	59.2
9	R2	92	0.0	97	0.0	* 0.203	5.9	LOS A	0.1	0.7	0.03	0.58	0.03	46.2
9u	U	1	0.0	1	0.0	0.203	7.1	LOS A	0.1	0.7	0.03	0.58	0.03	49.8
Approach		557	2.5	586	2.5	0.203	1.3	LOS A	0.4	2.2	0.03	0.12	0.03	57.2
West: Cowap Street														
10	L2	183	0.0	193	0.0	0.195	2.1	LOS A	1.2	7.0	0.16	0.33	0.16	46.3
12	R2	80	0.0	84	0.0	* 0.256	51.9	LOS D	4.6	27.9	0.90	0.74	0.90	12.9
Approach		263	0.0	277	0.0	0.256	17.3	LOS B	4.6	27.9	0.38	0.46	0.38	29.2
All Vehicles		1857	1.3	1955	1.3	0.454	4.1	LOS A	4.6	27.9	0.11	0.17	0.11	51.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	16.3	LOS B	0.1	0.1	0.50	0.50	42.4	34.0	0.80
All Pedestrians		100	100	37.8	LOS D	0.2	0.2	0.73	0.73	67.8	39.0	0.58

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

MOVEMENT SUMMARY

Site: 7 [2034 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	85	0.0	89	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	1016	1.0	1069	1.0	* 0.478	1.5	LOS A	2.4	14.3	0.08	0.07	0.08	57.3
Approach		1101	0.9	1159	0.9	0.478	1.8	LOS A	2.4	14.3	0.07	0.10	0.07	56.4
North: Musgrave Street (N)														
8	T1	505	3.0	532	3.0	0.190	0.4	LOS A	0.4	2.5	0.03	0.02	0.03	59.2
9	R2	92	0.0	97	0.0	* 0.218	5.9	LOS A	0.1	0.7	0.03	0.58	0.03	46.2
9u	U	1	0.0	1	0.0	0.218	7.1	LOS A	0.1	0.7	0.03	0.58	0.03	49.8
Approach		598	2.5	629	2.5	0.218	1.3	LOS A	0.4	2.5	0.03	0.11	0.03	57.4
West: Cowap Street														
10	L2	183	0.0	193	0.0	0.203	2.1	LOS A	1.2	7.2	0.16	0.33	0.16	46.3
12	R2	80	0.0	84	0.0	* 0.256	51.9	LOS D	4.6	27.9	0.90	0.74	0.90	12.9
Approach		263	0.0	277	0.0	0.256	17.3	LOS B	4.6	27.9	0.39	0.46	0.39	29.2
All Vehicles		1962	1.3	2065	1.3	0.478	3.7	LOS A	4.6	27.9	0.10	0.15	0.10	52.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	15.8	LOS B	0.1	0.1	0.49	0.49	41.9	34.0	0.81
All Pedestrians		100	100	37.5	LOS D	0.2	0.2	0.72	0.72	67.5	39.0	0.58

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

MOVEMENT SUMMARY

Site: 7 [2034 W SENS Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	85	0.0	89	0.0	0.048	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	41.6
2	T1	1039	1.0	1094	1.0	* 0.489	1.5	LOS A	2.5	14.9	0.08	0.07	0.08	57.3
Approach		1124	0.9	1183	0.9	0.489	1.9	LOS A	2.5	14.9	0.07	0.10	0.07	56.4
North: Musgrave Street (N)														
8	T1	507	3.0	534	3.0	0.191	0.4	LOS A	0.4	2.5	0.03	0.02	0.03	59.2
9	R2	92	0.0	97	0.0	* 0.221	5.9	LOS A	0.1	0.7	0.03	0.58	0.03	46.2
9u	U	1	0.0	1	0.0	0.221	7.1	LOS A	0.1	0.7	0.03	0.58	0.03	49.8
Approach		600	2.5	632	2.5	0.221	1.3	LOS A	0.4	2.5	0.03	0.11	0.03	57.4
West: Cowap Street														
10	L2	183	0.0	193	0.0	0.205	2.2	LOS A	1.2	7.2	0.16	0.34	0.16	46.3
12	R2	80	0.0	84	0.0	* 0.256	51.9	LOS D	4.6	27.9	0.90	0.74	0.90	12.9
Approach		263	0.0	277	0.0	0.256	17.3	LOS B	4.6	27.9	0.39	0.46	0.39	29.2
All Vehicles		1987	1.3	2092	1.3	0.489	3.7	LOS A	4.6	27.9	0.10	0.15	0.10	52.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	93.1	44.0	0.47
West: Cowap Street												
P4	Full	50	50	15.8	LOS B	0.1	0.1	0.49	0.49	41.9	34.0	0.81
All Pedestrians		100	100	37.5	LOS D	0.2	0.2	0.72	0.72	67.5	39.0	0.58

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.

PHASING SUMMARY

Site: 7 [2022 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

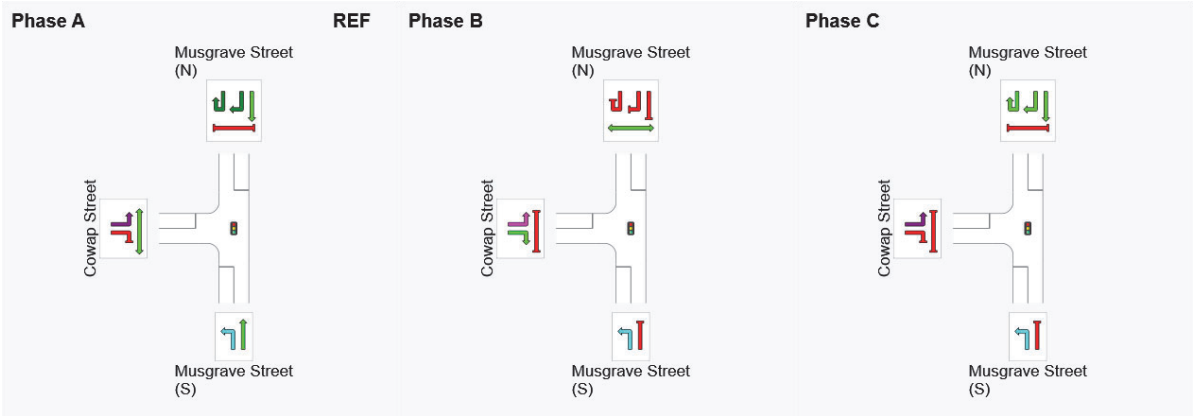
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

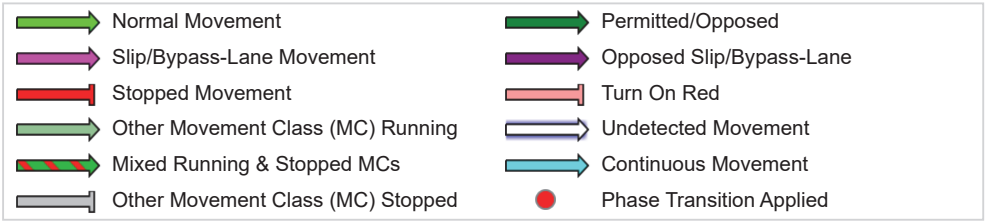
Phase	A	B	C
Phase Change Time (sec)	0	54	83
Green Time (sec)	48	23	31
Phase Time (sec)	54	29	37
Phase Split	45%	24%	31%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\2) Musgrave St-Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

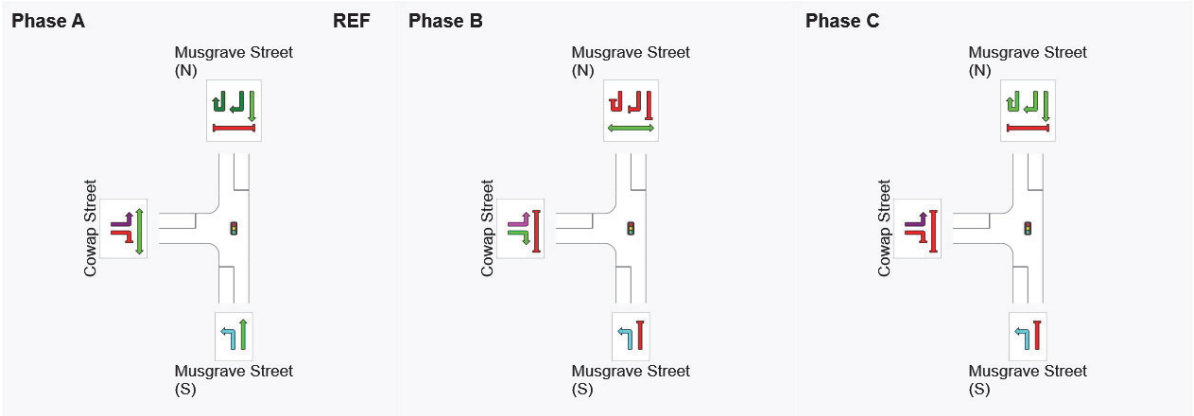
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

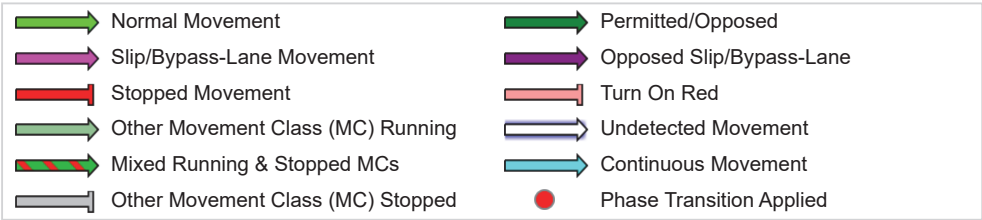
Phase	A	B	C
Phase Change Time (sec)	0	55	84
Green Time (sec)	49	23	30
Phase Time (sec)	55	29	36
Phase Split	46%	24%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:41:37 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\2) Musgrave St-Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 W Aprv Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

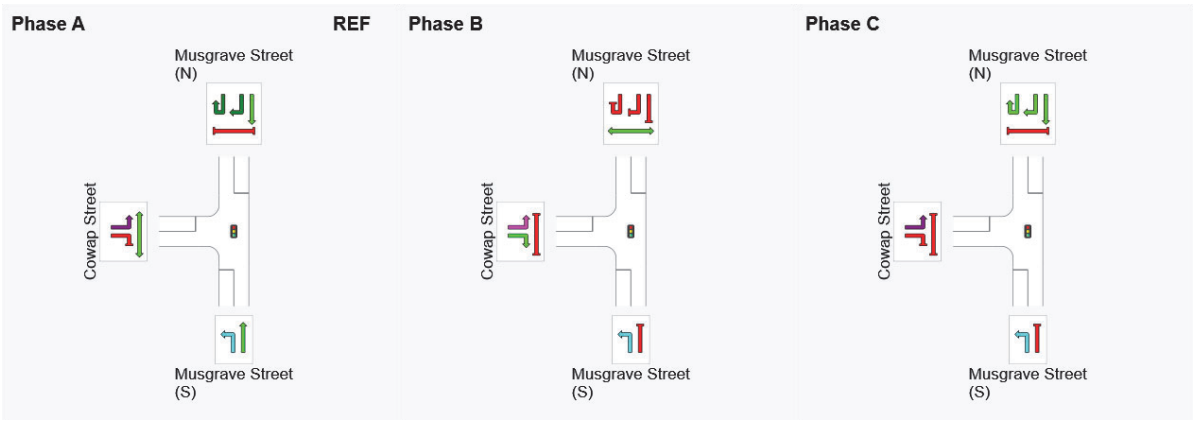
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

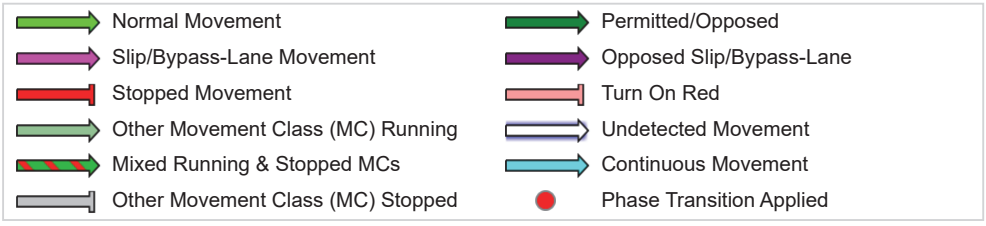
Phase	A	B	C
Phase Change Time (sec)	0	55	84
Green Time (sec)	49	23	30
Phase Time (sec)	55	29	36
Phase Split	46%	24%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 W Dev Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

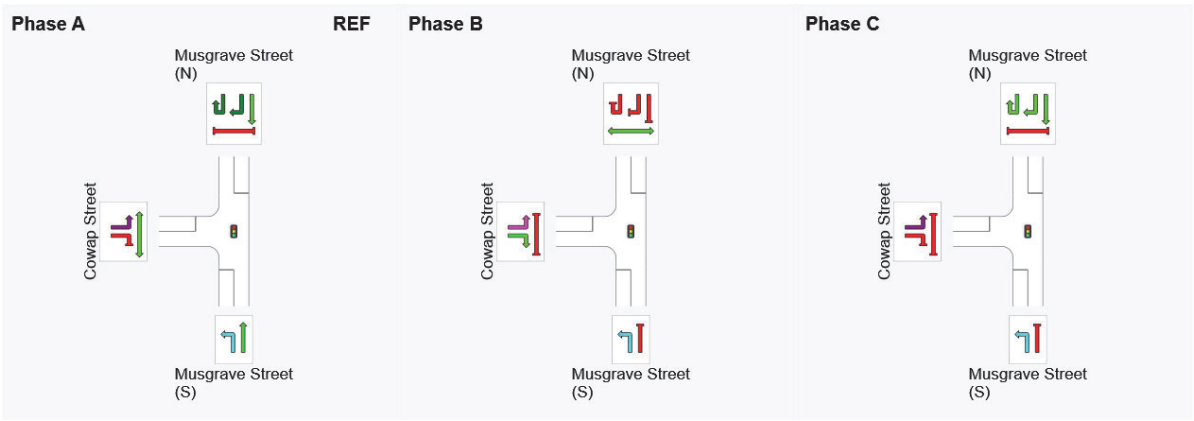
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

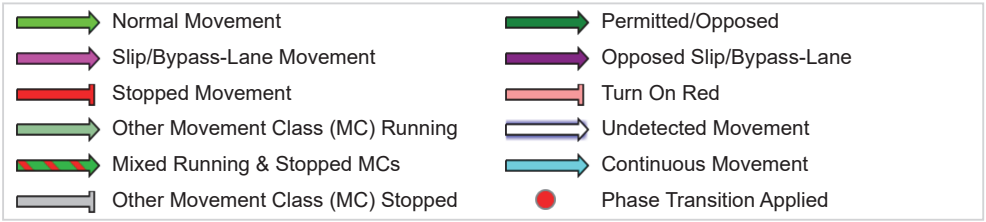
Phase	A	B	C
Phase Change Time (sec)	0	55	84
Green Time (sec)	49	23	30
Phase Time (sec)	55	29	36
Phase Split	46%	24%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 7 [2024 W SENS Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

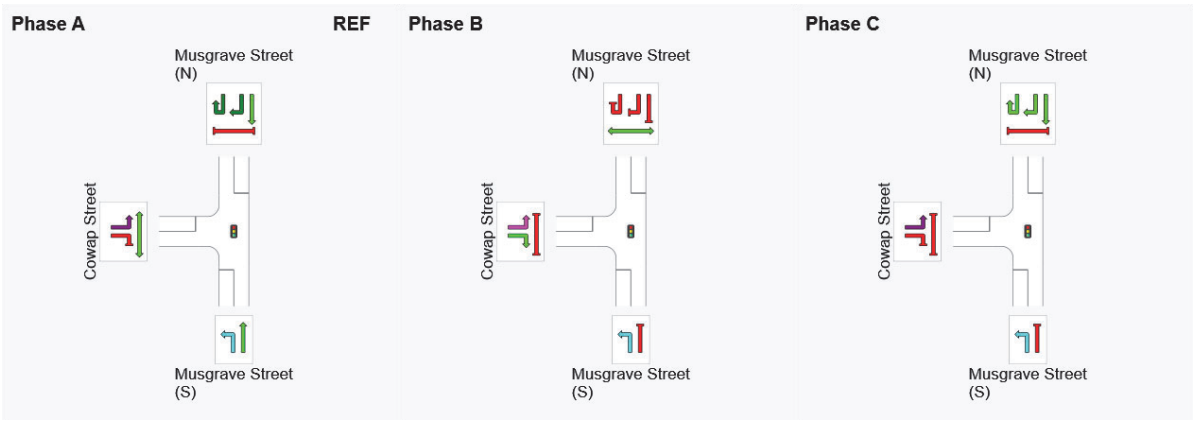
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

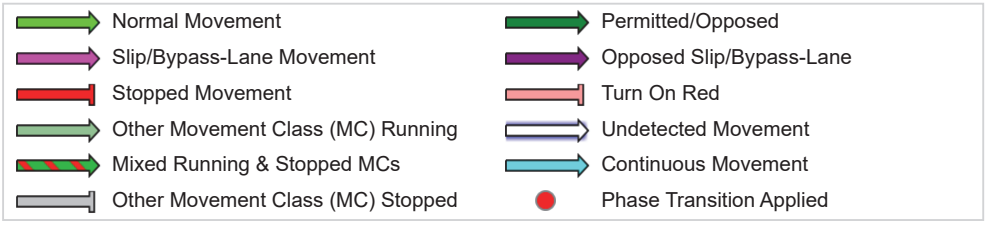
Phase	A	B	C
Phase Change Time (sec)	0	55	84
Green Time (sec)	49	23	30
Phase Time (sec)	55	29	36
Phase Split	46%	24%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2034 BG Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

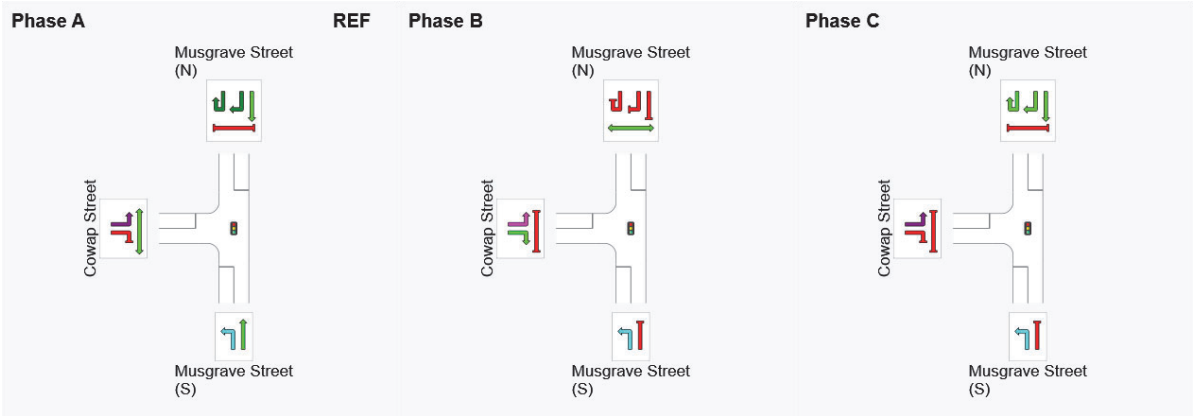
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

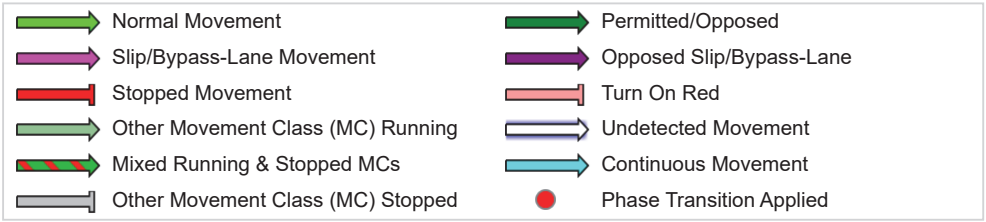
Phase	A	B	C
Phase Change Time (sec)	0	57	86
Green Time (sec)	51	23	28
Phase Time (sec)	57	29	34
Phase Split	48%	24%	28%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 7 [2034 W SENS Saturday Peak (Site Folder: Saturday AM)]

Intersection: Musgrave Street/Cowap Street
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

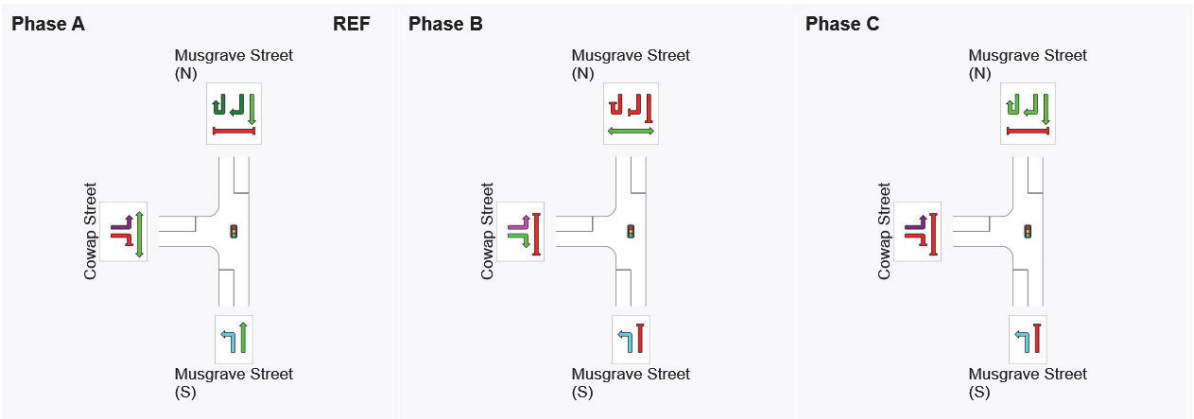
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

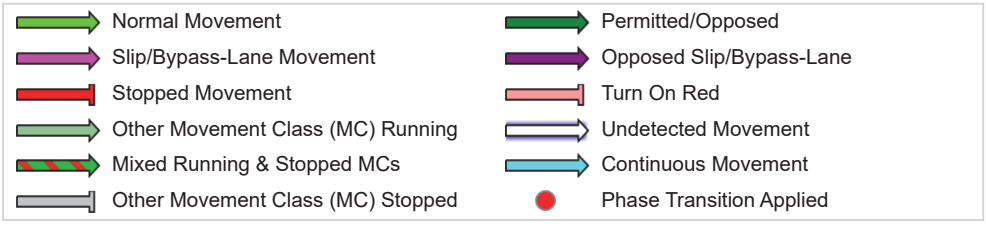
Phase	A	B	C
Phase Change Time (sec)	0	57	86
Green Time (sec)	51	23	28
Phase Time (sec)	57	29	34
Phase Split	48%	24%	28%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2022 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

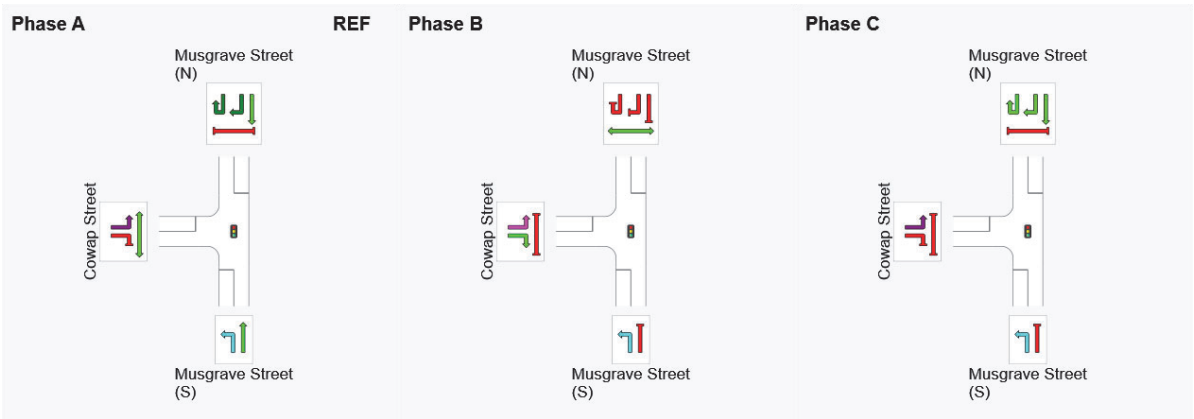
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

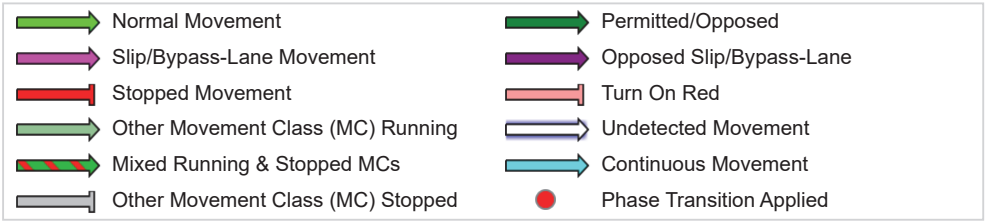
Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:41:41 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\2) Musgrave St-Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

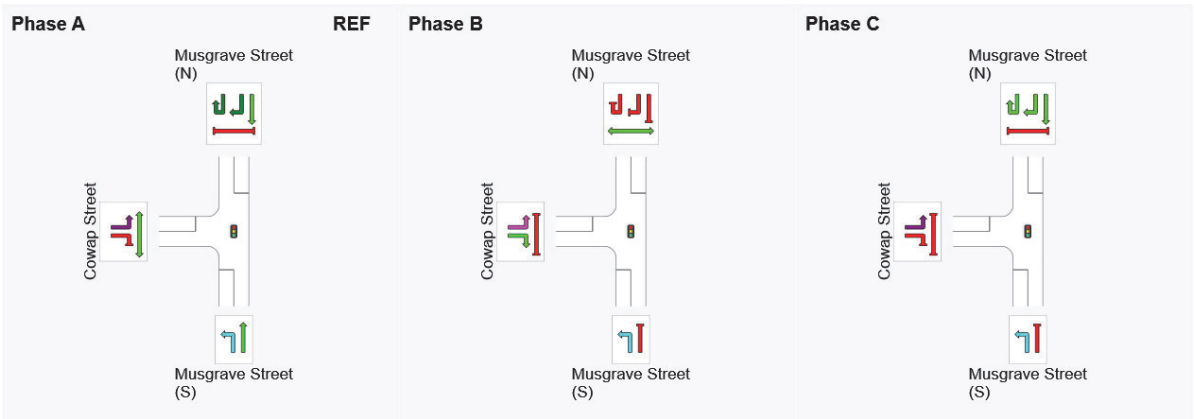
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

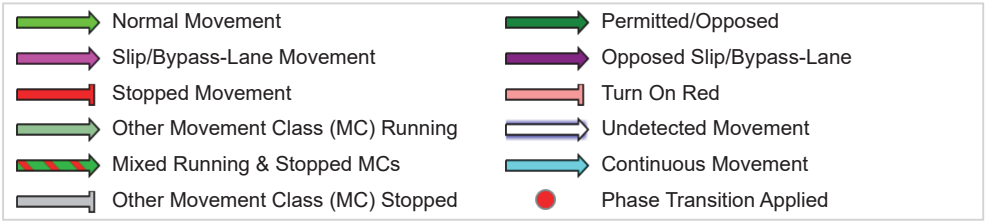
Phase	A	B	C
Phase Change Time (sec)	0	80	109
Green Time (sec)	74	23	15
Phase Time (sec)	80	29	21
Phase Split	62%	22%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:41:41 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\2) Musgrave St-Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 W Aprv Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

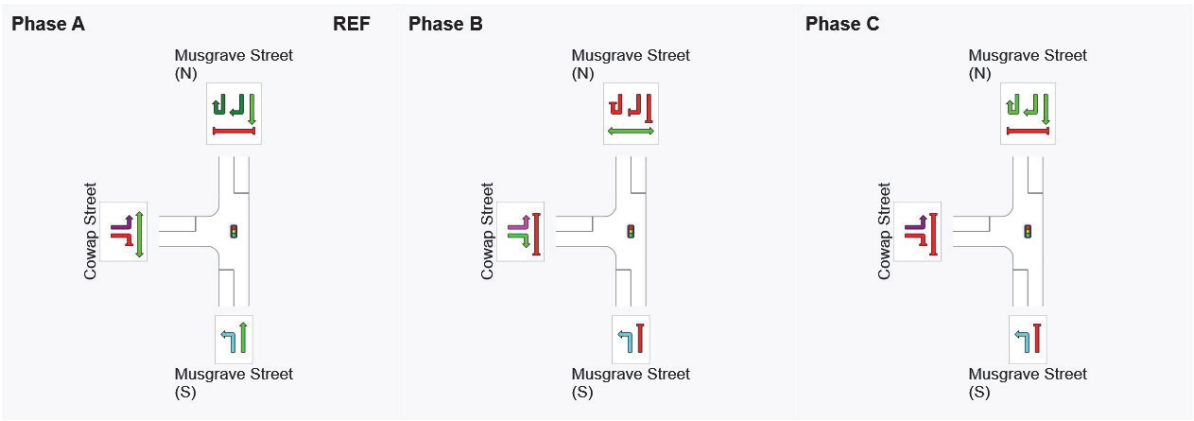
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

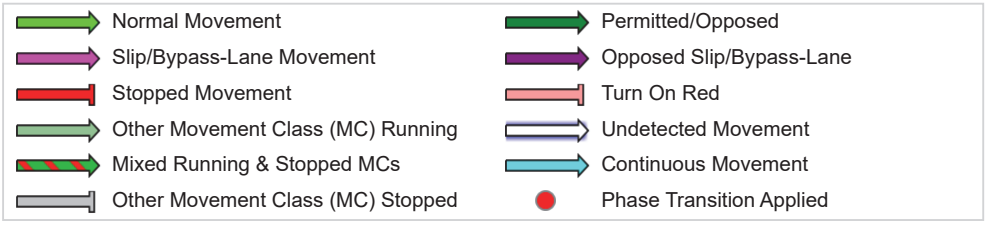
Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 W Dev Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

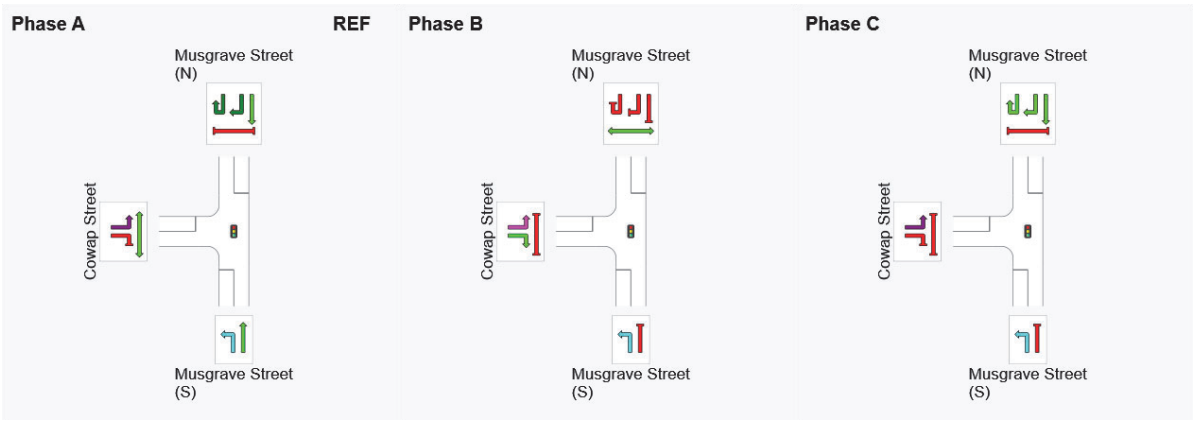
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

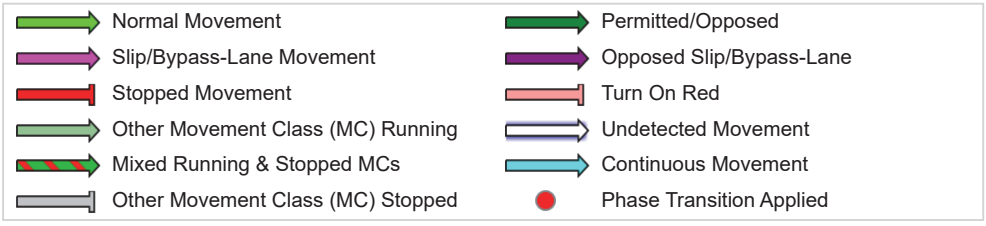
Phase	A	B	C
Phase Change Time (sec)	0	79	108
Green Time (sec)	73	23	16
Phase Time (sec)	79	29	22
Phase Split	61%	22%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2024 W SENS Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

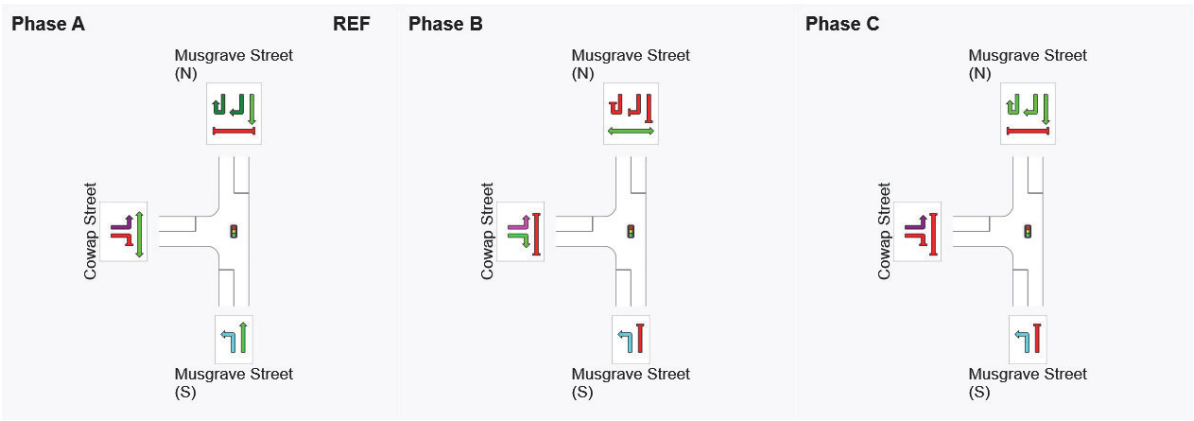
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

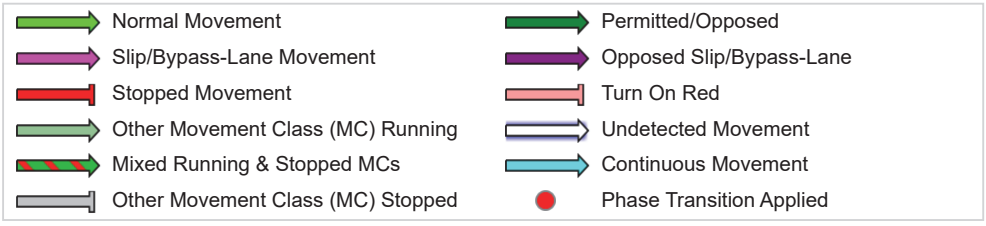
Phase	A	B	C
Phase Change Time (sec)	0	80	109
Green Time (sec)	74	23	15
Phase Time (sec)	80	29	21
Phase Split	62%	22%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

PHASING SUMMARY

Site: 7 [2034 BG Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

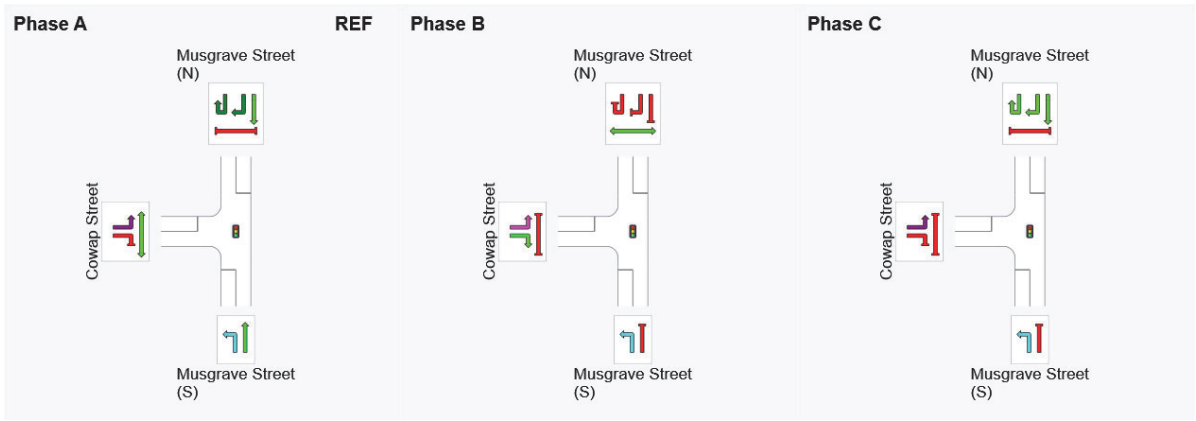
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

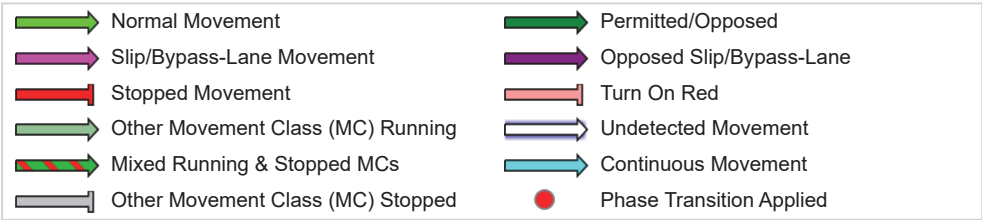
Phase	A	B	C
Phase Change Time (sec)	0	81	110
Green Time (sec)	75	23	14
Phase Time (sec)	81	29	20
Phase Split	62%	22%	15%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:41:43 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\2) Musgrave St-Cowap St.sip9

PHASING SUMMARY

Site: 7 [2034 W SENS Thursday Peak (Site Folder: Thursday PM)]

Intersection: Musgrave Street/Cowap Street
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

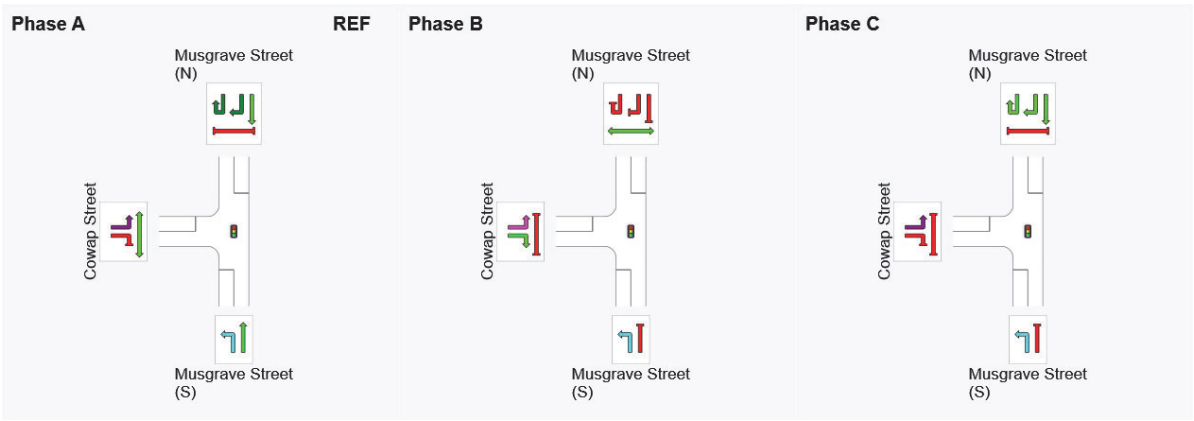
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

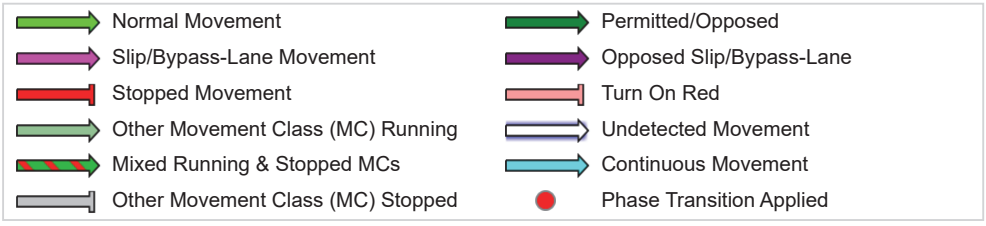
Phase	A	B	C
Phase Change Time (sec)	0	81	110
Green Time (sec)	75	23	14
Phase Time (sec)	81	29	20
Phase Split	62%	22%	15%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Cowap St.sip9

MOVEMENT SUMMARY

Site: 6 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	737	1.0	737	1.0	0.275	0.5	LOS A	0.6	3.8	0.03	0.03	0.03	58.5
Approach		991	0.7	991	0.7	0.275	1.8	LOS A	0.6	3.8	0.02	0.15	0.02	53.3
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	90	1.0	90	1.0	0.070	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	607	1.0	607	1.0	* 0.261	0.6	LOS A	0.5	3.1	0.03	0.02	0.03	58.1
Approach		697	1.0	697	1.0	0.261	1.5	LOS A	0.5	3.1	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	203	1.0	203	1.0	0.184	1.8	LOS A	0.7	4.5	0.12	0.30	0.12	30.6
12	R2	140	0.0	140	0.0	* 0.175	46.7	LOS D	3.6	21.7	0.85	0.71	0.85	9.8
Approach		343	0.6	343	0.6	0.184	20.1	LOS B	3.6	21.7	0.42	0.47	0.42	18.3
All Vehicles		2051	0.8	2051	0.8	0.275	5.5	LOS A	3.6	21.7	0.10	0.19	0.10	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	751	1.0	751	1.0	0.280	0.5	LOS A	0.6	3.9	0.03	0.03	0.03	58.5
Approach		1005	0.7	1005	0.7	0.280	1.8	LOS A	0.6	3.9	0.02	0.15	0.02	53.4
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	618	1.0	618	1.0	* 0.266	0.7	LOS A	0.5	3.1	0.03	0.03	0.03	58.1
Approach		710	1.0	710	1.0	0.266	1.5	LOS A	0.5	3.1	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	203	1.0	203	1.0	0.186	1.8	LOS A	0.7	4.5	0.12	0.30	0.12	30.6
12	R2	140	0.0	140	0.0	* 0.175	46.7	LOS D	3.6	21.7	0.85	0.71	0.85	9.8
Approach		343	0.6	343	0.6	0.186	20.1	LOS B	3.6	21.7	0.42	0.47	0.42	18.3
All Vehicles		2078	0.8	2078	0.8	0.280	5.4	LOS A	3.6	21.7	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	310	0.0	310	0.0	0.167	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	762	1.0	762	1.0	0.284	0.5	LOS A	0.7	4.0	0.03	0.03	0.03	58.5
Approach		1072	0.7	1072	0.7	0.284	2.0	LOS A	0.7	4.0	0.02	0.17	0.02	52.6
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	624	1.0	624	1.0	* 0.268	0.7	LOS A	0.5	3.2	0.03	0.03	0.03	58.1
Approach		716	1.0	716	1.0	0.268	1.5	LOS A	0.5	3.2	0.04	0.09	0.04	54.9
West: Kmart														
10	L2	236	1.0	236	1.0	0.217	1.8	LOS A	0.9	5.5	0.12	0.30	0.12	30.6
12	R2	163	0.0	163	0.0	* 0.204	47.0	LOS D	4.2	25.5	0.86	0.72	0.86	9.7
Approach		399	0.6	399	0.6	0.217	20.3	LOS B	4.2	25.5	0.42	0.47	0.42	18.2
All Vehicles		2207	0.8	2207	0.8	0.284	5.8	LOS A	4.2	25.5	0.11	0.21	0.11	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	268	0.0	268	0.0	0.144	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	754	1.0	754	1.0	0.281	0.5	LOS A	0.6	3.9	0.03	0.03	0.03	58.5
Approach		1022	0.7	1022	0.7	0.281	1.9	LOS A	0.6	3.9	0.02	0.16	0.02	53.2
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	620	1.0	620	1.0	* 0.267	0.7	LOS A	0.5	3.2	0.03	0.03	0.03	58.1
Approach		712	1.0	712	1.0	0.267	1.5	LOS A	0.5	3.2	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	211	1.0	211	1.0	0.193	1.8	LOS A	0.8	4.7	0.12	0.30	0.12	30.6
12	R2	146	0.0	146	0.0	* 0.183	46.7	LOS D	3.8	22.7	0.86	0.71	0.86	9.8
Approach		357	0.6	357	0.6	0.193	20.2	LOS B	3.8	22.7	0.42	0.47	0.42	18.2
All Vehicles		2111	0.8	2111	0.8	0.281	5.5	LOS A	3.8	22.7	0.10	0.19	0.10	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	288	0.0	288	0.0	0.155	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	759	1.0	759	1.0	0.283	0.5	LOS A	0.6	3.9	0.03	0.03	0.03	58.5
Approach		1047	0.7	1047	0.7	0.283	1.9	LOS A	0.6	3.9	0.02	0.16	0.02	52.9
East: Clifton St														
4	L2	20	0.0	20	0.0	* 0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
Approach		20	0.0	20	0.0	0.233	73.0	LOS F	1.3	7.8	0.99	0.70	0.99	19.2
North: Musgrave St (N)														
7	L2	92	1.0	92	1.0	0.072	7.6	LOS A	0.5	2.8	0.09	0.55	0.09	46.7
8	T1	620	1.0	620	1.0	* 0.267	0.7	LOS A	0.5	3.2	0.03	0.03	0.03	58.1
Approach		712	1.0	712	1.0	0.267	1.5	LOS A	0.5	3.2	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	223	1.0	223	1.0	0.205	1.8	LOS A	0.8	5.1	0.12	0.30	0.12	30.6
12	R2	154	0.0	154	0.0	* 0.193	46.9	LOS D	4.0	24.0	0.86	0.72	0.86	9.7
Approach		377	0.6	377	0.6	0.205	20.2	LOS B	4.0	24.0	0.42	0.47	0.42	18.2
All Vehicles		2156	0.8	2156	0.8	0.283	5.7	LOS A	4.0	24.0	0.11	0.20	0.11	42.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	821	1.0	821	1.0	0.306	0.5	LOS A	0.7	4.4	0.03	0.03	0.03	58.5
Approach		1075	0.8	1075	0.8	0.306	1.7	LOS A	0.7	4.4	0.02	0.15	0.02	53.7
East: Clifton St														
4	L2	22	0.0	22	0.0	* 0.257	73.1	LOS F	1.4	8.6	1.00	0.70	1.00	19.2
Approach		22	0.0	22	0.0	0.257	73.1	LOS F	1.4	8.6	1.00	0.70	1.00	19.2
North: Musgrave St (N)														
7	L2	101	1.0	101	1.0	0.079	7.6	LOS A	0.5	3.1	0.09	0.55	0.09	46.7
8	T1	676	1.0	676	1.0	* 0.291	0.7	LOS A	0.6	3.6	0.03	0.03	0.03	58.1
Approach		777	1.0	777	1.0	0.291	1.6	LOS A	0.6	3.6	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	203	1.0	203	1.0	0.193	1.8	LOS A	0.8	4.6	0.12	0.30	0.12	30.6
12	R2	140	0.0	140	0.0	* 0.175	46.7	LOS D	3.6	21.7	0.85	0.71	0.85	9.8
Approach		343	0.6	343	0.6	0.193	20.1	LOS B	3.6	21.7	0.42	0.47	0.42	18.3
All Vehicles		2217	0.8	2217	0.8	0.306	5.2	LOS A	3.6	21.7	0.10	0.18	0.10	43.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	288	0.0	288	0.0	0.155	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	829	1.0	829	1.0	0.309	0.5	LOS A	0.7	4.5	0.03	0.03	0.03	58.5
Approach		1117	0.7	1117	0.7	0.309	1.8	LOS A	0.7	4.5	0.02	0.16	0.02	53.3
East: Clifton St														
4	L2	22	0.0	22	0.0	* 0.257	73.1	LOS F	1.4	8.6	1.00	0.70	1.00	19.2
Approach		22	0.0	22	0.0	0.257	73.1	LOS F	1.4	8.6	1.00	0.70	1.00	19.2
North: Musgrave St (N)														
7	L2	101	1.0	101	1.0	0.079	7.6	LOS A	0.5	3.1	0.09	0.55	0.09	46.7
8	T1	678	1.0	678	1.0	* 0.292	0.7	LOS A	0.6	3.6	0.03	0.03	0.03	58.1
Approach		779	1.0	779	1.0	0.292	1.6	LOS A	0.6	3.6	0.04	0.09	0.04	54.8
West: Kmart														
10	L2	223	1.0	223	1.0	0.213	1.8	LOS A	0.9	5.2	0.12	0.30	0.12	30.6
12	R2	154	0.0	154	0.0	* 0.193	46.9	LOS D	4.0	24.0	0.86	0.72	0.86	9.7
Approach		377	0.6	377	0.6	0.213	20.2	LOS B	4.0	24.0	0.42	0.47	0.42	18.2
All Vehicles		2295	0.8	2295	0.8	0.309	5.4	LOS A	4.0	24.0	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	254	0.0	254	0.0	0.137	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	823	0.0	823	0.0	* 0.305	0.5	LOS A	0.7	4.4	0.03	0.03	0.03	58.5
Approach		1077	0.0	1077	0.0	0.305	1.7	LOS A	0.7	4.4	0.02	0.15	0.02	53.7
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	78	1.0	78	1.0	0.061	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	457	3.0	457	3.0	0.202	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		535	2.7	535	2.7	0.202	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.5
West: Kmart														
10	L2	185	2.0	185	2.0	0.177	1.8	LOS A	0.7	4.1	0.12	0.30	0.12	30.6
12	R2	134	3.0	134	3.0	* 0.171	46.6	LOS D	3.5	21.4	0.85	0.71	0.85	9.8
Approach		319	2.4	319	2.4	0.177	20.6	LOS B	3.5	21.4	0.43	0.47	0.43	18.0
All Vehicles		1951	1.1	1951	1.1	0.305	5.5	LOS A	3.5	21.4	0.10	0.19	0.10	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	241	0.0	241	0.0	0.130	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	839	0.0	839	0.0	* 0.311	0.5	LOS A	0.7	4.5	0.03	0.03	0.03	58.5
Approach		1080	0.0	1080	0.0	0.311	1.7	LOS A	0.7	4.5	0.02	0.14	0.02	54.0
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	465	3.0	465	3.0	0.205	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		544	2.7	544	2.7	0.205	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	185	2.0	185	2.0	0.179	1.8	LOS A	0.7	4.1	0.12	0.30	0.12	30.6
12	R2	134	3.0	134	3.0	* 0.171	46.6	LOS D	3.5	21.4	0.85	0.71	0.85	9.8
Approach		319	2.4	319	2.4	0.179	20.6	LOS B	3.5	21.4	0.43	0.47	0.43	18.0
All Vehicles		1963	1.1	1963	1.1	0.311	5.5	LOS A	3.5	21.4	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	290	0.0	290	0.0	0.156	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	848	0.0	848	0.0	* 0.314	0.5	LOS A	0.8	4.5	0.03	0.03	0.03	58.4
Approach		1138	0.0	1138	0.0	0.314	1.8	LOS A	0.8	4.5	0.02	0.16	0.02	53.3
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	470	3.0	470	3.0	0.207	0.6	LOS A	0.4	2.3	0.03	0.02	0.03	58.2
Approach		549	2.7	549	2.7	0.207	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	214	2.0	214	2.0	0.208	1.8	LOS A	0.8	5.0	0.12	0.30	0.12	30.6
12	R2	154	3.0	154	3.0	* 0.197	46.9	LOS D	4.0	24.8	0.86	0.72	0.86	9.7
Approach		368	2.4	368	2.4	0.208	20.7	LOS B	4.0	24.8	0.43	0.48	0.43	18.0
All Vehicles		2075	1.1	2075	1.1	0.314	5.8	LOS A	4.0	24.8	0.11	0.20	0.11	41.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	253	0.0	253	0.0	0.136	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	841	0.0	841	0.0	* 0.311	0.5	LOS A	0.7	4.5	0.03	0.03	0.03	58.5
Approach		1094	0.0	1094	0.0	0.311	1.7	LOS A	0.7	4.5	0.02	0.14	0.02	53.8
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	467	3.0	467	3.0	0.206	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		546	2.7	546	2.7	0.206	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	192	2.0	192	2.0	0.186	1.8	LOS A	0.7	4.3	0.12	0.30	0.12	30.6
12	R2	139	3.0	139	3.0	* 0.177	46.7	LOS D	3.6	22.2	0.85	0.71	0.85	9.8
Approach		331	2.4	331	2.4	0.186	20.7	LOS B	3.6	22.2	0.43	0.47	0.43	18.0
All Vehicles		1991	1.1	1991	1.1	0.311	5.5	LOS A	3.6	22.2	0.10	0.19	0.10	42.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	270	0.0	270	0.0	0.145	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	846	0.0	846	0.0	* 0.313	0.5	LOS A	0.8	4.5	0.03	0.03	0.03	58.4
Approach		1116	0.0	1116	0.0	0.313	1.8	LOS A	0.8	4.5	0.02	0.15	0.02	53.6
East: Clifton St														
4	L2	20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
Approach		20	0.0	20	0.0	0.200	71.3	LOS F	1.3	7.7	0.99	0.70	0.99	19.5
North: Musgrave St (N)														
7	L2	79	1.0	79	1.0	0.062	7.6	LOS A	0.4	2.4	0.09	0.55	0.09	46.7
8	T1	467	3.0	467	3.0	0.206	0.6	LOS A	0.4	2.2	0.03	0.02	0.03	58.2
Approach		546	2.7	546	2.7	0.206	1.6	LOS A	0.4	2.4	0.04	0.10	0.04	54.6
West: Kmart														
10	L2	202	2.0	202	2.0	0.196	1.8	LOS A	0.8	4.6	0.12	0.30	0.12	30.6
12	R2	146	3.0	146	3.0	* 0.186	46.8	LOS D	3.8	23.4	0.86	0.72	0.86	9.7
Approach		348	2.4	348	2.4	0.196	20.7	LOS B	3.8	23.4	0.43	0.47	0.43	18.0
All Vehicles		2030	1.1	2030	1.1	0.313	5.7	LOS A	3.8	23.4	0.11	0.20	0.11	42.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	241	0.0	241	0.0	0.130	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	917	0.0	917	0.0	* 0.340	0.5	LOS A	0.9	5.1	0.03	0.03	0.03	58.4
Approach		1158	0.0	1158	0.0	0.340	1.6	LOS A	0.9	5.1	0.03	0.13	0.03	54.2
East: Clifton St														
4	L2	22	0.0	22	0.0	0.220	71.4	LOS F	1.4	8.5	0.99	0.71	0.99	19.5
Approach		22	0.0	22	0.0	0.220	71.4	LOS F	1.4	8.5	0.99	0.71	0.99	19.5
North: Musgrave St (N)														
7	L2	87	1.0	87	1.0	0.068	7.6	LOS A	0.4	2.7	0.09	0.55	0.09	46.7
8	T1	509	3.0	509	3.0	0.225	0.6	LOS A	0.4	2.5	0.03	0.02	0.03	58.1
Approach		596	2.7	596	2.7	0.225	1.7	LOS A	0.4	2.7	0.04	0.10	0.04	54.5
West: Kmart														
10	L2	185	2.0	185	2.0	0.187	1.8	LOS A	0.7	4.2	0.12	0.30	0.12	30.6
12	R2	134	3.0	134	3.0	* 0.171	46.6	LOS D	3.5	21.4	0.85	0.71	0.85	9.8
Approach		319	2.4	319	2.4	0.187	20.6	LOS B	3.5	21.4	0.43	0.47	0.43	18.0
All Vehicles		2095	1.1	2095	1.1	0.340	5.2	LOS A	3.5	21.4	0.10	0.18	0.10	43.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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

MOVEMENT SUMMARY

Site: 6 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave St (S)														
1	L2	270	0.0	270	0.0	0.145	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	37.0
2	T1	924	0.0	924	0.0	* 0.342	0.6	LOS A	0.9	5.2	0.03	0.03	0.03	58.4
Approach		1194	0.0	1194	0.0	0.342	1.7	LOS A	0.9	5.2	0.03	0.14	0.03	53.9
East: Clifton St														
4	L2	22	0.0	22	0.0	0.220	71.4	LOS F	1.4	8.5	0.99	0.71	0.99	19.5
Approach		22	0.0	22	0.0	0.220	71.4	LOS F	1.4	8.5	0.99	0.71	0.99	19.5
North: Musgrave St (N)														
7	L2	87	1.0	87	1.0	0.068	7.6	LOS A	0.4	2.7	0.09	0.55	0.09	46.7
8	T1	511	3.0	511	3.0	0.226	0.6	LOS A	0.4	2.5	0.03	0.02	0.03	58.1
Approach		598	2.7	598	2.7	0.226	1.7	LOS A	0.4	2.7	0.04	0.10	0.04	54.5
West: Kmart														
10	L2	202	2.0	202	2.0	0.205	1.8	LOS A	0.8	4.7	0.12	0.30	0.12	30.6
12	R2	146	3.0	146	3.0	* 0.186	46.8	LOS D	3.8	23.4	0.86	0.72	0.86	9.7
Approach		348	2.4	348	2.4	0.205	20.7	LOS B	3.8	23.4	0.43	0.47	0.43	18.0
All Vehicles		2162	1.1	2162	1.1	0.342	5.5	LOS A	3.8	23.4	0.10	0.19	0.10	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Clifton St												
P2	Full	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
North: Musgrave St (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.7	50.0	0.51
P3S	Slip/ Bypass	50	50	49.2	LOS E	0.2	0.2	0.87	0.87	76.9	36.0	0.47
West: Kmart												
P4	Full	50	50	7.8	LOS A	0.1	0.1	0.35	0.35	30.1	29.0	0.96
All		200	200	41.4	LOS E	0.2	0.2	0.76	0.76	70.4	37.8	0.54

Pedestrians

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.

PHASING SUMMARY

Site: 6 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

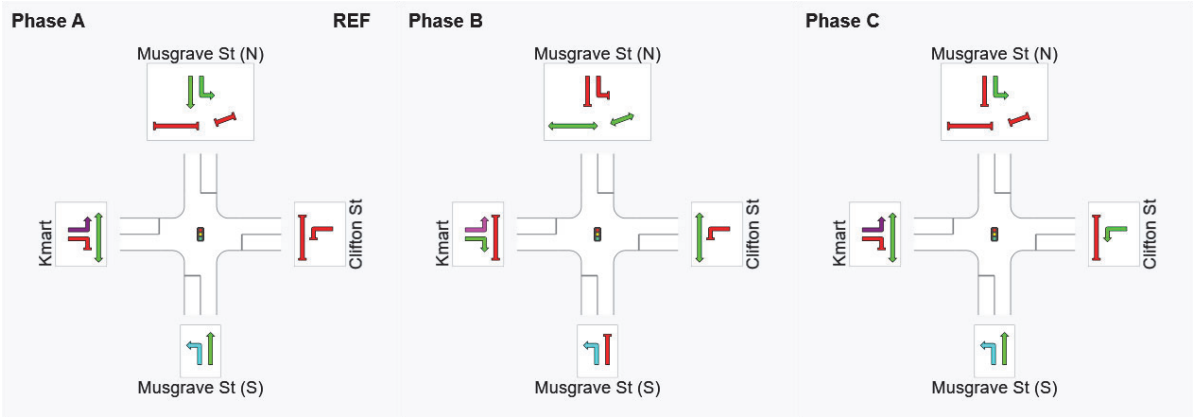
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

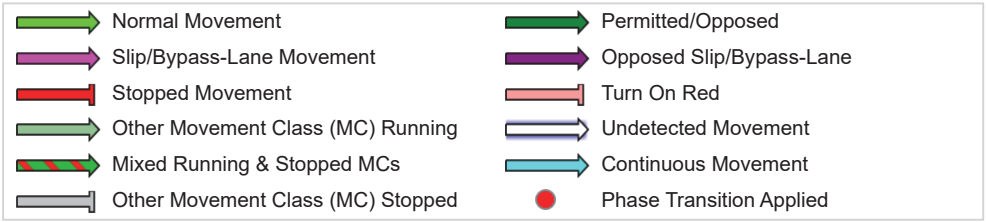
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

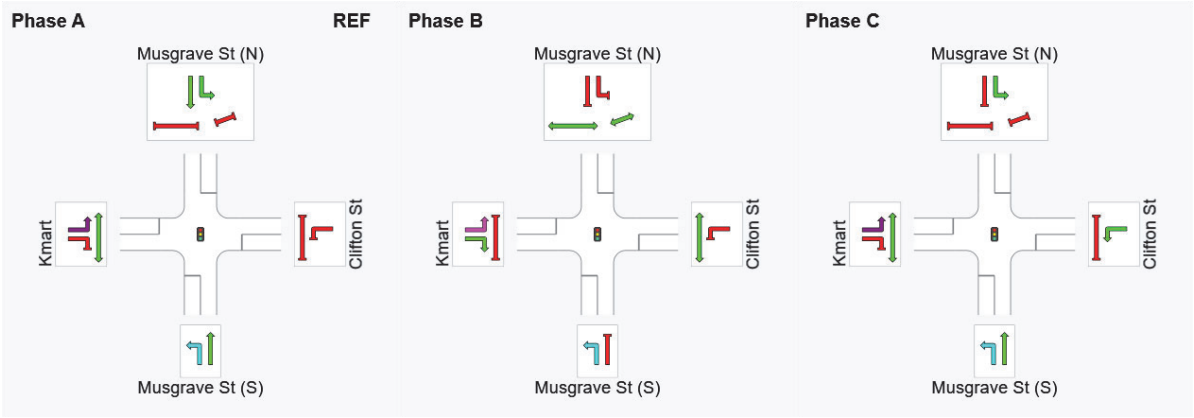
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

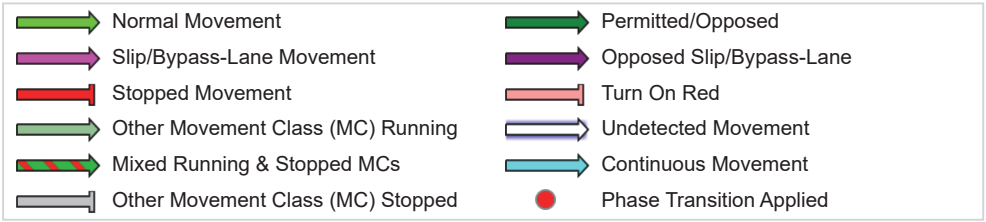
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

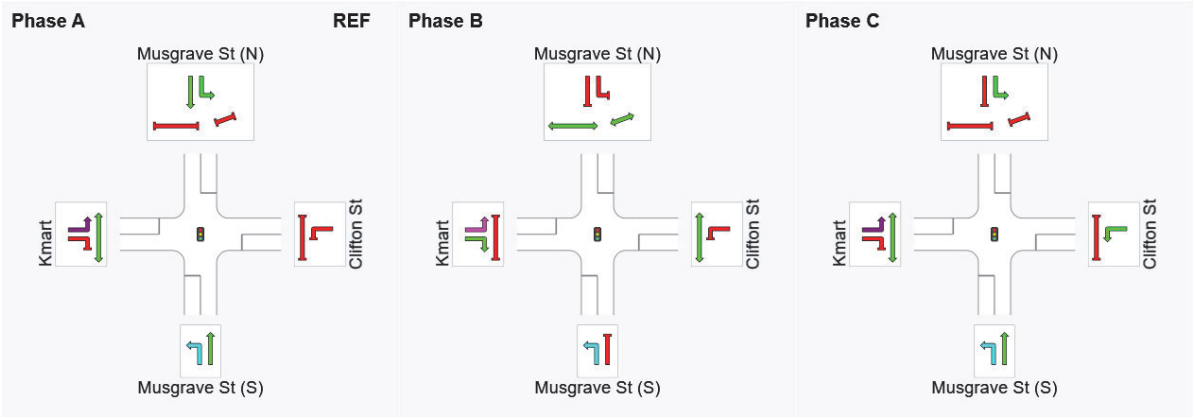
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

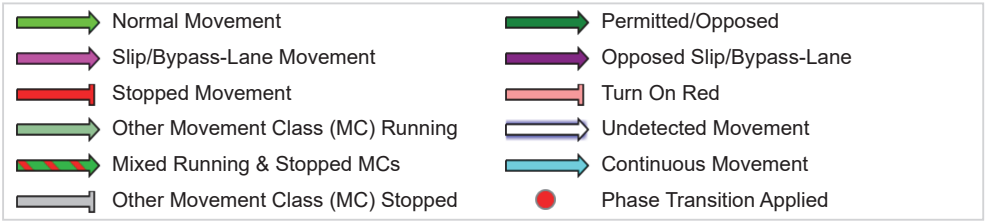
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

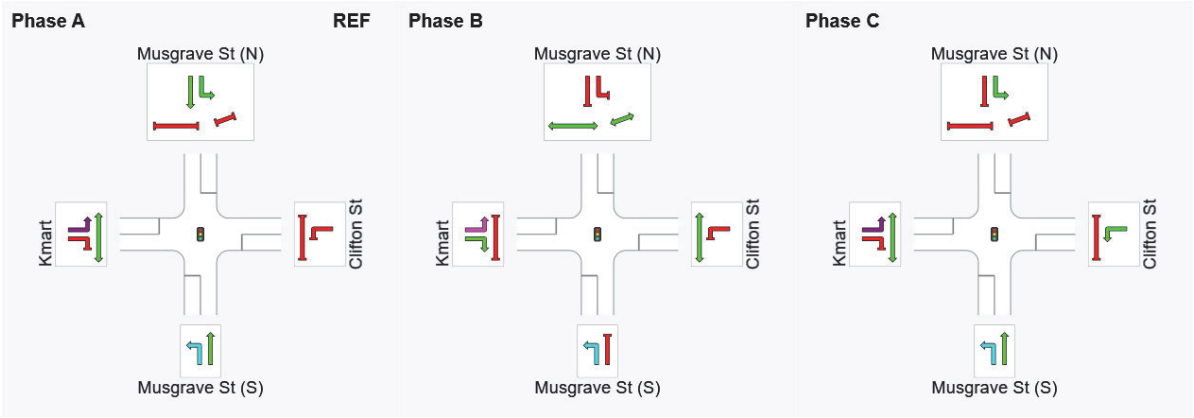
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

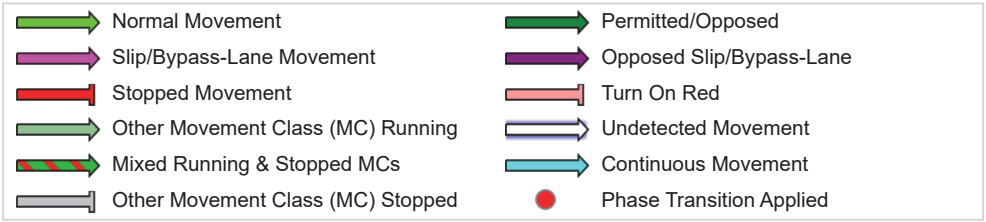
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
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Phase Split	65%	26%	9%

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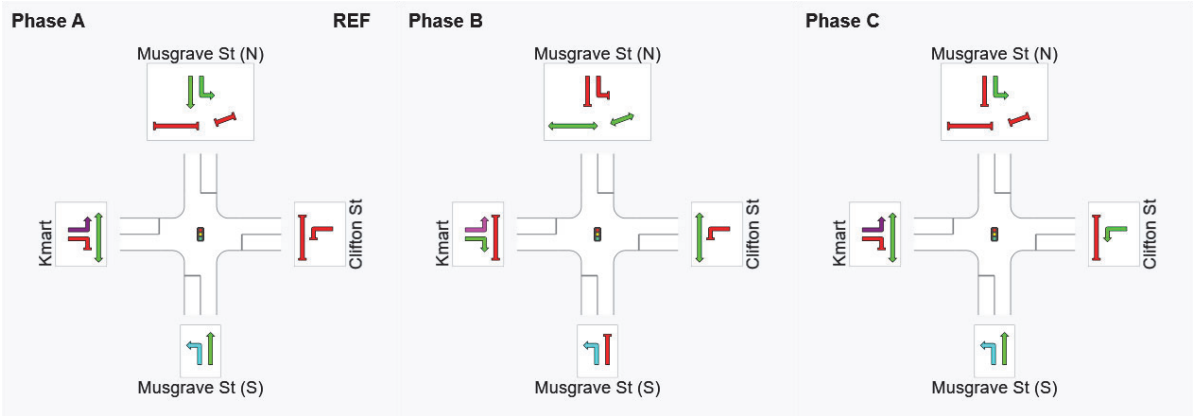
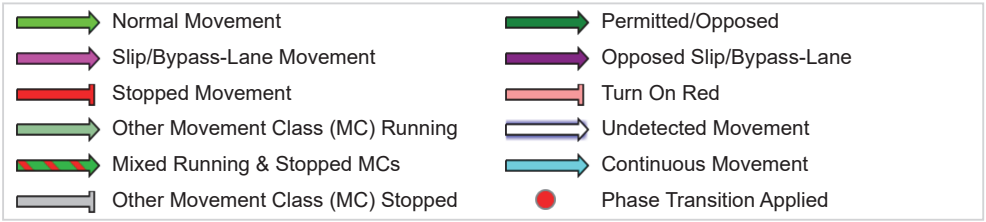
Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

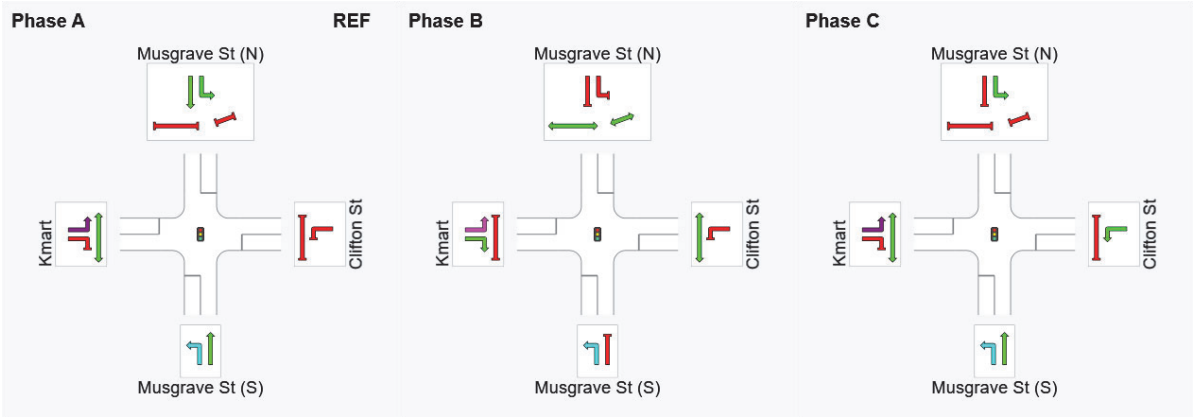
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

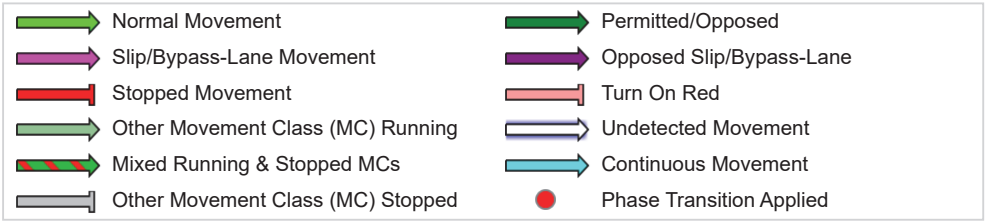
Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
Phase Time (sec)	84	34	12
Phase Split	65%	26%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 9:43:40 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\3) Clifton-Musgrave Rd.sip9

PHASING SUMMARY

Site: 6 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave St/Kmart
Saturday AM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	84	118
Green Time (sec)	78	28	6
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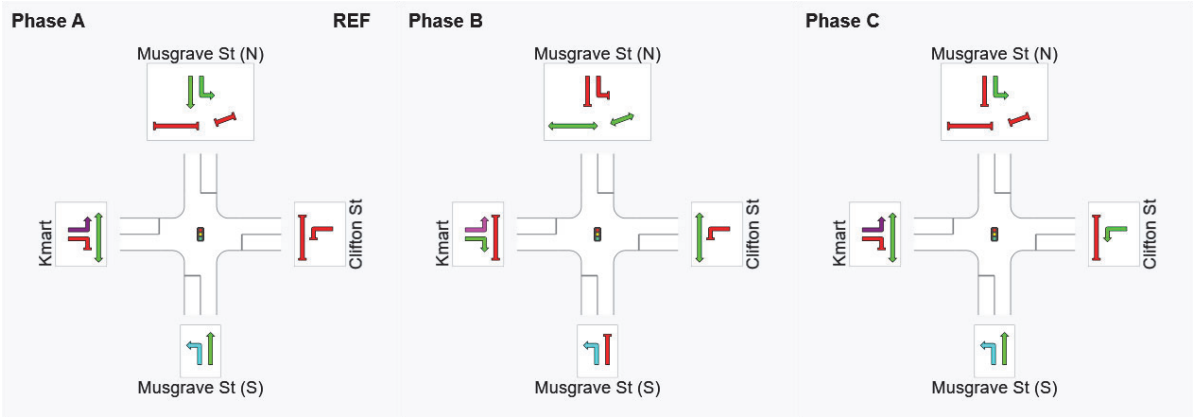
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

PHASING SUMMARY

Site: 6 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

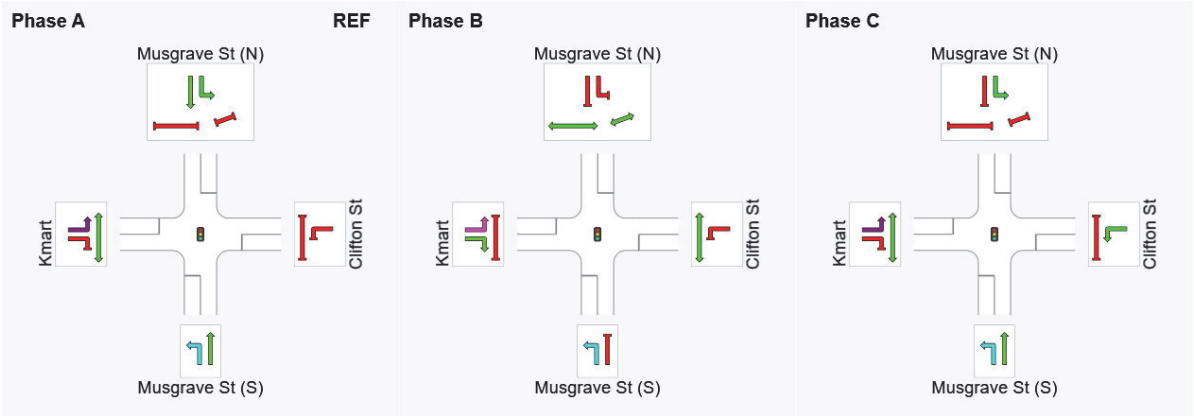
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

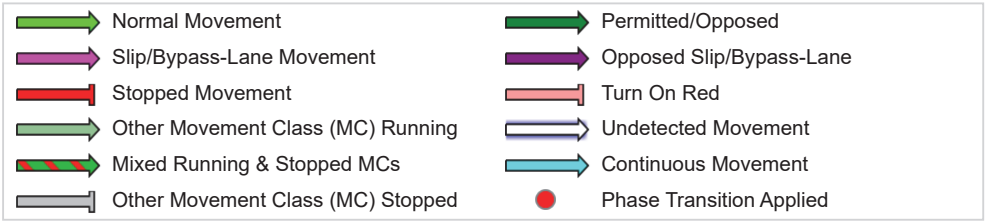
Phase	A	B	C
Phase Change Time (sec)	0	83	117
Green Time (sec)	77	28	7
Phase Time (sec)	83	34	13
Phase Split	64%	26%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
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Phase Timing Summary

Phase	A	B	C
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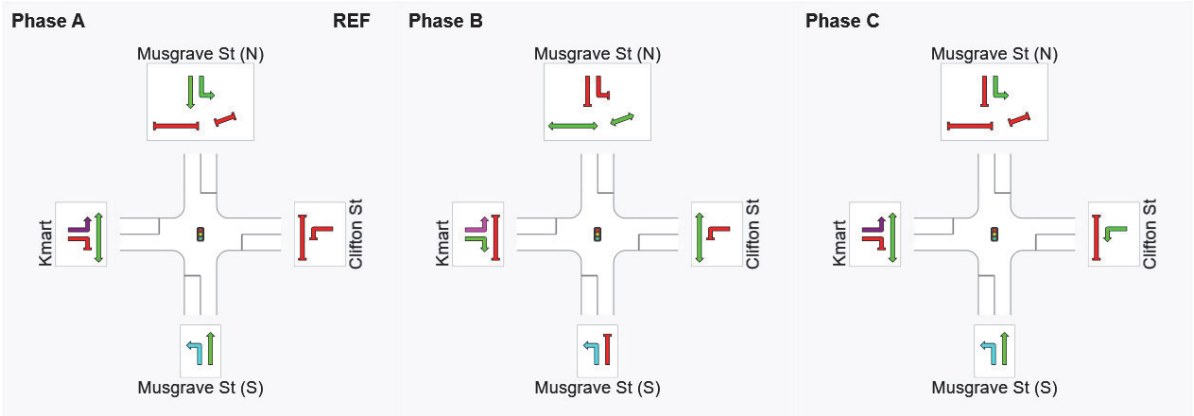

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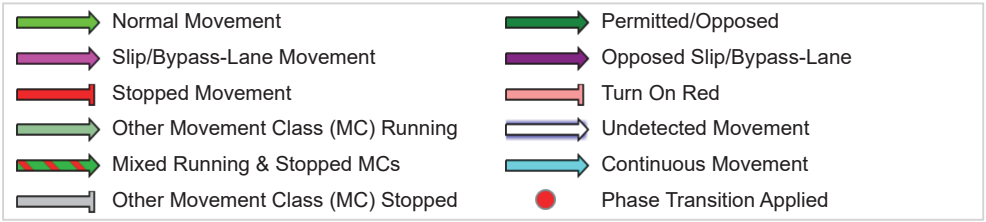

PHASING SUMMARY

Site: 6 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
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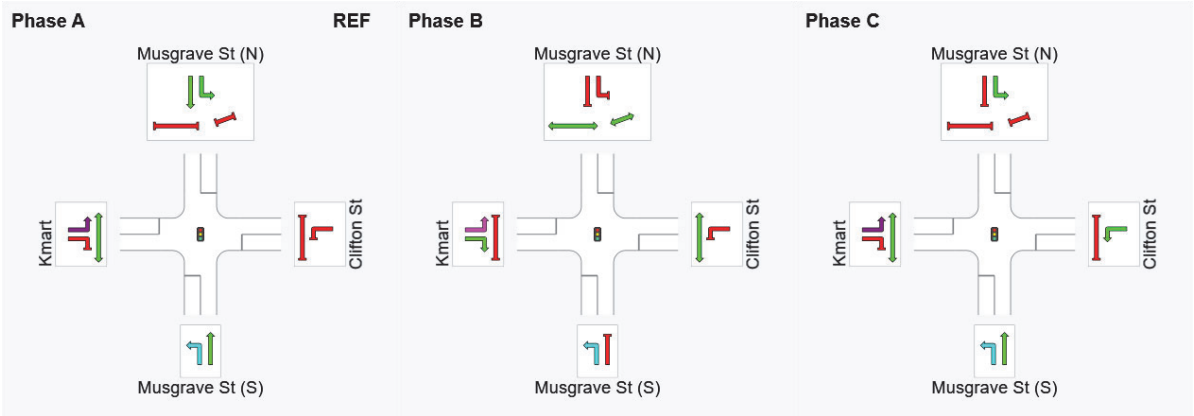

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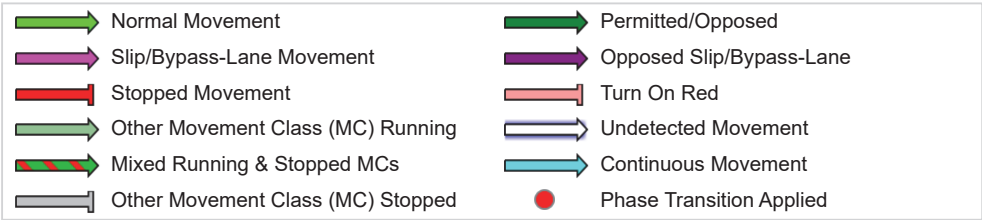

PHASING SUMMARY

Site: 6 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
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Output Phase Sequence: A, B, C

Phase Timing Summary

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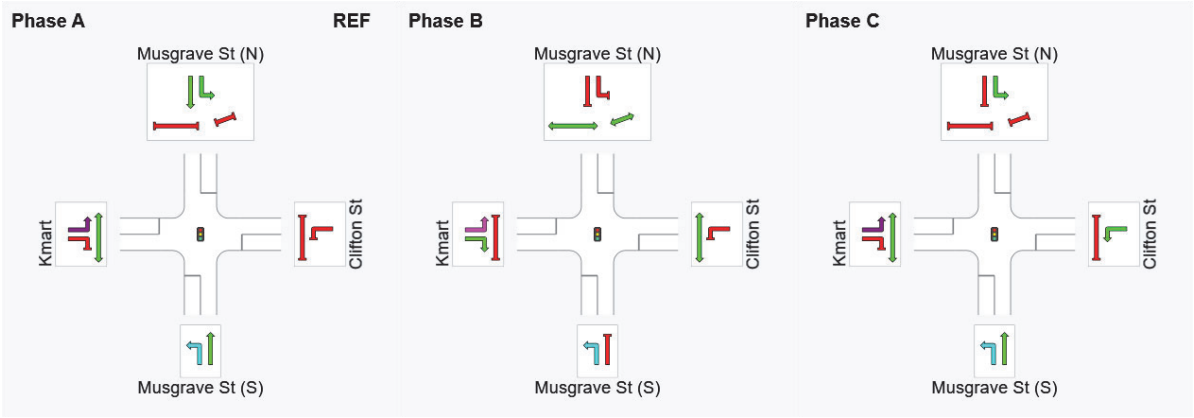
Output Phase Sequence



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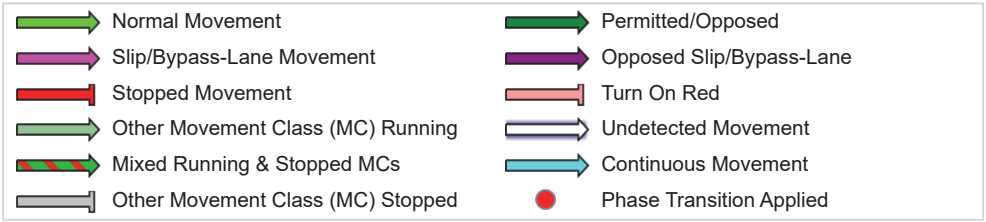

PHASING SUMMARY

Site: 6 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	83	117
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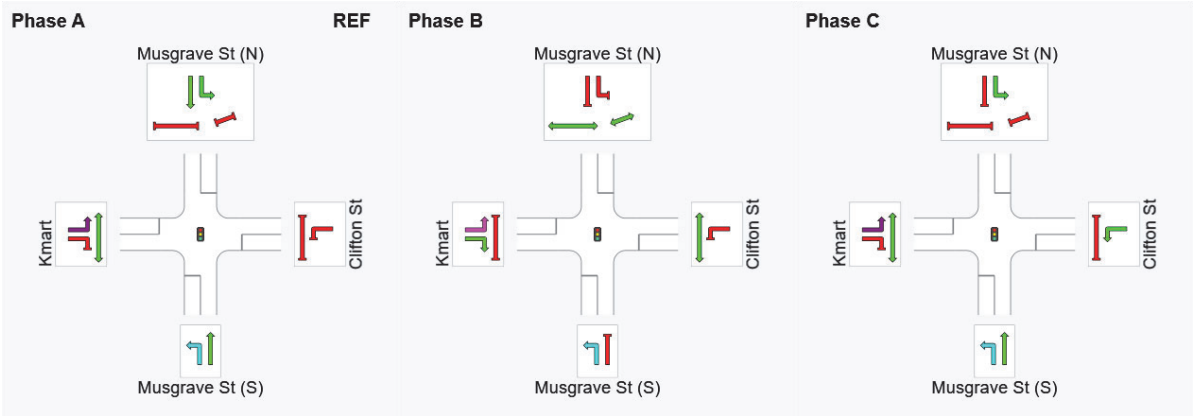
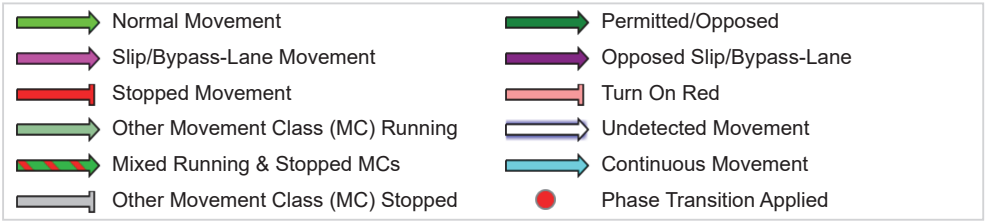
Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 6 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	83	117
Green Time (sec)	77	28	7
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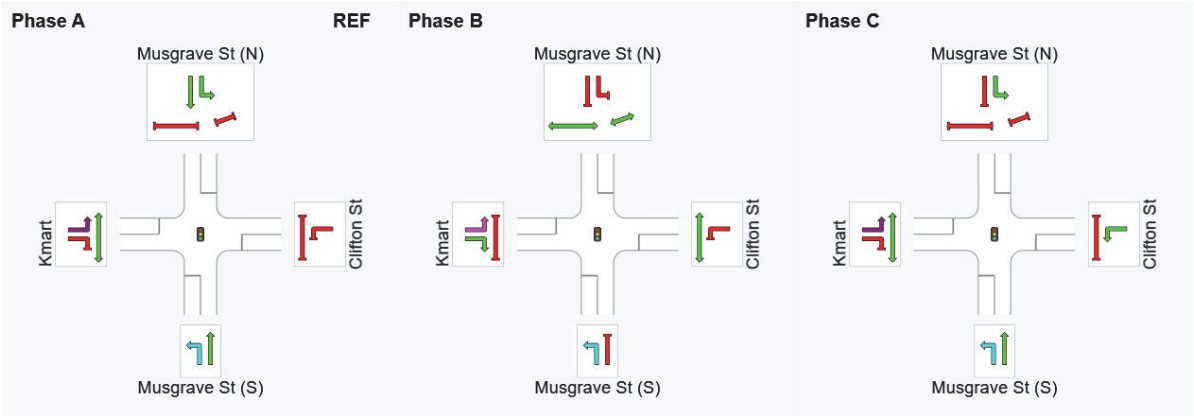
Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

PHASING SUMMARY

Site: 6 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave St/Kmart
Thursday PM Peak
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Diamond 1
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	83	117
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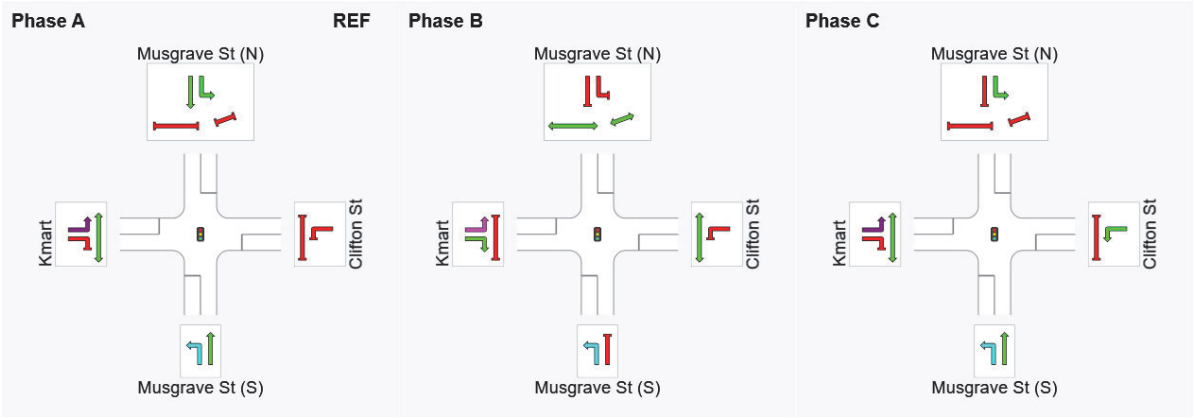
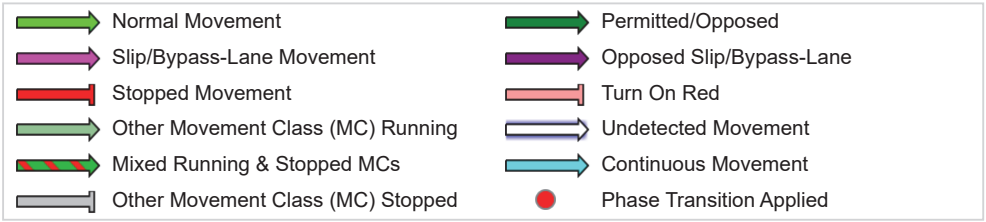
Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 2 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	227	2.0	227	2.0	0.124	6.1	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	675	1.0	675	1.0	*0.664	43.6	LOS D	11.8	71.5	0.93	0.77	0.93	21.6
3	R2	124	0.0	124	0.0	*0.657	46.1	LOS D	10.9	65.6	0.90	0.82	0.91	22.3
3u	U	90	0.0	90	0.0	0.657	47.6	LOS D	10.9	65.6	0.90	0.82	0.91	24.5
Approach		1116	1.0	1116	1.0	0.664	36.6	LOS C	11.8	71.5	0.74	0.73	0.74	25.1
East: High Street (E)														
4	L2	47	0.0	47	0.0	0.545	48.6	LOS D	12.7	77.6	0.93	0.79	0.93	23.2
5	T1	200	2.0	200	2.0	0.545	43.1	LOS D	12.7	77.6	0.93	0.79	0.93	20.5
6	R2	211	0.0	211	0.0	*0.649	56.2	LOS D	11.7	70.4	0.98	0.83	0.99	15.4
Approach		458	0.9	458	0.9	0.649	49.7	LOS D	12.7	77.6	0.95	0.81	0.95	18.3
North: Musgrave Street (N)														
7	L2	123	0.0	123	0.0	0.497	53.4	LOS D	6.5	38.8	0.92	0.78	0.92	15.5
8	T1	563	1.0	563	1.0	0.554	42.5	LOS C	9.4	57.2	0.89	0.73	0.89	22.0
9	R2	50	4.0	50	4.0	0.329	43.1	LOS D	4.6	28.1	0.79	0.76	0.79	17.5
9u	U	53	0.0	53	0.0	0.329	44.5	LOS D	4.6	28.1	0.79	0.76	0.79	15.3
Approach		789	1.0	789	1.0	0.554	44.4	LOS D	9.4	57.2	0.88	0.74	0.88	20.2
West: High Street (W)														
10	L2	64	2.0	64	2.0	0.646	40.5	LOS C	13.9	84.3	0.86	0.75	0.86	20.0
11	T1	227	1.0	227	1.0	*0.646	35.0	LOS C	13.9	84.3	0.86	0.75	0.86	23.3
12	R2	298	2.0	298	2.0	0.465	47.4	LOS D	7.3	44.5	0.86	0.78	0.86	21.9
Approach		589	1.6	589	1.6	0.646	41.9	LOS C	13.9	84.3	0.86	0.76	0.86	22.2
All Vehicles		2952	1.1	2952	1.1	0.664	41.7	LOS C	13.9	84.3	0.83	0.75	0.84	22.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	79.9	37.0	0.46
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	52.4	LOS E	0.2	0.2	0.94	0.94	82.4	39.0	0.47
All Pedestrians		200	200	53.1	LOS E	0.2	0.2	0.94	0.94	87.7	45.0	0.51

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

MOVEMENT SUMMARY

Site: 2 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	231	2.0	231	2.0	0.126	6.1	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	688	1.0	688	1.0	*0.676	43.8	LOS D	12.1	73.4	0.93	0.78	0.94	21.6
3	R2	126	0.0	126	0.0	*0.669	46.4	LOS D	11.2	67.4	0.91	0.82	0.92	22.2
3u	U	92	0.0	92	0.0	0.669	47.8	LOS D	11.2	67.4	0.91	0.82	0.92	24.5
Approach		1137	1.0	1137	1.0	0.676	36.7	LOS C	12.1	73.4	0.74	0.74	0.75	25.0
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.554	48.7	LOS D	13.0	79.0	0.93	0.79	0.93	23.2
5	T1	203	2.0	203	2.0	0.554	43.2	LOS D	13.0	79.0	0.93	0.79	0.93	20.5
6	R2	215	0.0	215	0.0	*0.662	56.5	LOS E	12.0	72.2	0.99	0.83	1.00	15.3
Approach		466	0.9	466	0.9	0.662	49.9	LOS D	13.0	79.0	0.96	0.81	0.96	18.2
North: Musgrave Street (N)														
7	L2	125	0.0	125	0.0	0.505	53.5	LOS D	6.6	39.5	0.92	0.78	0.92	15.5
8	T1	574	1.0	574	1.0	0.564	42.6	LOS D	9.7	58.5	0.90	0.74	0.90	22.0
9	R2	51	4.0	51	4.0	0.335	43.2	LOS D	4.7	28.7	0.79	0.76	0.79	17.5
9u	U	54	0.0	54	0.0	0.335	44.5	LOS D	4.7	28.7	0.79	0.76	0.79	15.3
Approach		804	1.0	804	1.0	0.564	44.4	LOS D	9.7	58.5	0.89	0.75	0.89	20.2
West: High Street (W)														
10	L2	65	2.0	65	2.0	0.657	40.6	LOS C	14.2	86.2	0.86	0.75	0.86	20.0
11	T1	231	1.0	231	1.0	*0.657	35.1	LOS C	14.2	86.2	0.86	0.75	0.86	23.2
12	R2	304	2.0	304	2.0	0.474	47.5	LOS D	7.4	45.6	0.87	0.78	0.87	21.9
Approach		600	1.6	600	1.6	0.657	42.0	LOS C	14.2	86.2	0.87	0.77	0.87	22.2
All Vehicles		3007	1.1	3007	1.1	0.676	41.9	LOS C	14.2	86.2	0.84	0.76	0.84	22.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	79.9	37.0	0.46
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	52.4	LOS E	0.2	0.2	0.94	0.94	82.4	39.0	0.47
All Pedestrians		200	200	53.1	LOS E	0.2	0.2	0.94	0.94	87.7	45.0	0.51

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

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Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	242	2.0	242	2.0	0.132	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	738	1.0	738	1.0	*0.693	42.9	LOS D	13.0	78.6	0.93	0.79	0.95	21.9
3	R2	126	0.0	126	0.0	*0.699	48.0	LOS D	11.5	69.2	0.93	0.83	0.95	21.8
3u	U	92	0.0	92	0.0	0.699	49.4	LOS D	11.5	69.2	0.93	0.83	0.95	24.0
Approach		1198	1.0	1198	1.0	0.699	36.5	LOS C	13.0	78.6	0.74	0.74	0.76	25.1
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.575	49.0	LOS D	13.6	82.7	0.94	0.80	0.94	23.1
5	T1	213	2.0	213	2.0	0.575	43.5	LOS D	13.6	82.7	0.94	0.80	0.94	20.4
6	R2	230	0.0	230	0.0	*0.708	57.8	LOS E	13.1	78.9	1.00	0.85	1.04	15.1
Approach		491	0.9	491	0.9	0.708	50.7	LOS D	13.6	82.7	0.96	0.82	0.99	18.0
North: Musgrave Street (N)														
7	L2	130	0.0	130	0.0	0.494	52.2	LOS D	6.7	40.5	0.91	0.78	0.91	15.8
8	T1	594	1.0	594	1.0	0.557	41.4	LOS C	9.8	59.7	0.88	0.73	0.88	22.4
9	R2	55	4.0	55	4.0	0.361	44.5	LOS D	5.0	30.6	0.81	0.77	0.81	17.1
9u	U	54	0.0	54	0.0	0.361	45.9	LOS D	5.0	30.6	0.81	0.77	0.81	15.0
Approach		833	1.0	833	1.0	0.557	43.6	LOS D	9.8	59.7	0.88	0.74	0.88	20.4
West: High Street (W)														
10	L2	68	2.0	68	2.0	0.688	41.0	LOS C	15.1	91.9	0.88	0.77	0.88	19.9
11	T1	242	1.0	242	1.0	*0.688	35.4	LOS C	15.1	91.9	0.88	0.77	0.88	23.1
12	R2	316	2.0	316	2.0	0.493	47.7	LOS D	7.8	47.7	0.87	0.78	0.87	21.8
Approach		626	1.6	626	1.6	0.688	42.2	LOS C	15.1	91.9	0.88	0.77	0.88	22.1
All Vehicles		3148	1.1	3148	1.1	0.708	41.7	LOS C	15.1	91.9	0.84	0.76	0.85	22.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	50.5	LOS E	0.2	0.2	0.92	0.92	79.0	37.0	0.47
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	81.4	39.0	0.48
All Pedestrians		200	200	52.6	LOS E	0.2	0.2	0.94	0.94	87.2	45.0	0.52

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

MOVEMENT SUMMARY

Site: 2 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	234	2.0	234	2.0	0.128	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	700	1.0	700	1.0	*0.688	44.0	LOS D	12.4	75.1	0.94	0.79	0.95	21.5
3	R2	126	0.0	126	0.0	*0.669	46.4	LOS D	11.2	67.4	0.91	0.82	0.92	22.2
3u	U	92	0.0	92	0.0	0.669	47.8	LOS D	11.2	67.4	0.91	0.82	0.92	24.5
Approach		1152	1.0	1152	1.0	0.688	36.9	LOS C	12.4	75.1	0.74	0.74	0.75	25.0
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.560	48.8	LOS D	13.1	80.1	0.93	0.79	0.93	23.2
5	T1	206	2.0	206	2.0	0.560	43.3	LOS D	13.1	80.1	0.93	0.79	0.93	20.4
6	R2	219	0.0	219	0.0	*0.674	56.8	LOS E	12.3	73.9	0.99	0.84	1.01	15.3
Approach		473	0.9	473	0.9	0.674	50.1	LOS D	13.1	80.1	0.96	0.81	0.97	18.2
North: Musgrave Street (N)														
7	L2	126	0.0	126	0.0	0.509	53.5	LOS D	6.6	39.9	0.92	0.78	0.92	15.5
8	T1	579	1.0	579	1.0	0.569	42.6	LOS D	9.8	59.1	0.90	0.74	0.90	22.0
9	R2	52	4.0	52	4.0	0.338	43.2	LOS D	4.7	29.0	0.79	0.76	0.79	17.5
9u	U	54	0.0	54	0.0	0.338	44.5	LOS D	4.7	29.0	0.79	0.76	0.79	15.3
Approach		811	1.0	811	1.0	0.569	44.5	LOS D	9.8	59.1	0.89	0.75	0.89	20.2
West: High Street (W)														
10	L2	66	2.0	66	2.0	0.666	40.7	LOS C	14.5	87.8	0.87	0.76	0.87	19.9
11	T1	234	1.0	234	1.0	*0.666	35.2	LOS C	14.5	87.8	0.87	0.76	0.87	23.2
12	R2	307	2.0	307	2.0	0.479	47.6	LOS D	7.5	46.1	0.87	0.78	0.87	21.9
Approach		607	1.6	607	1.6	0.666	42.0	LOS C	14.5	87.8	0.87	0.77	0.87	22.1
All Vehicles		3043	1.1	3043	1.1	0.688	42.0	LOS C	14.5	87.8	0.84	0.76	0.84	22.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	79.9	37.0	0.46
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	52.4	LOS E	0.2	0.2	0.94	0.94	82.4	39.0	0.47
All Pedestrians		200	200	53.1	LOS E	0.2	0.2	0.94	0.94	87.7	45.0	0.51

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

MOVEMENT SUMMARY

Site: 2 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	238	2.0	238	2.0	0.130	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	718	1.0	718	1.0	*0.674	42.6	LOS D	12.5	75.7	0.93	0.78	0.93	22.0
3	R2	126	0.0	126	0.0	*0.699	48.0	LOS D	11.5	69.2	0.93	0.83	0.95	21.8
3u	U	92	0.0	92	0.0	0.699	49.4	LOS D	11.5	69.2	0.93	0.83	0.95	24.0
Approach		1174	1.0	1174	1.0	0.699	36.3	LOS C	12.5	75.7	0.74	0.74	0.75	25.2
East: High Street (E)														
4	L2	48	0.0	48	0.0	0.566	48.9	LOS D	13.3	81.2	0.93	0.79	0.93	23.1
5	T1	209	2.0	209	2.0	0.566	43.3	LOS D	13.3	81.2	0.93	0.79	0.93	20.4
6	R2	224	0.0	224	0.0	*0.689	57.2	LOS E	12.7	76.1	0.99	0.84	1.02	15.2
Approach		481	0.9	481	0.9	0.689	50.4	LOS D	13.3	81.2	0.96	0.82	0.98	18.1
North: Musgrave Street (N)														
7	L2	128	0.0	128	0.0	0.487	52.2	LOS D	6.6	39.8	0.91	0.78	0.91	15.8
8	T1	584	1.0	584	1.0	0.548	41.3	LOS C	9.6	58.5	0.88	0.73	0.88	22.4
9	R2	53	4.0	53	4.0	0.355	44.5	LOS D	4.9	30.0	0.81	0.77	0.81	17.1
9u	U	54	0.0	54	0.0	0.355	45.8	LOS D	4.9	30.0	0.81	0.77	0.81	15.0
Approach		819	1.0	819	1.0	0.548	43.5	LOS D	9.6	58.5	0.88	0.74	0.88	20.5
West: High Street (W)														
10	L2	67	2.0	67	2.0	0.679	40.9	LOS C	14.9	90.3	0.87	0.76	0.87	19.9
11	T1	239	1.0	239	1.0	*0.679	35.3	LOS C	14.9	90.3	0.87	0.76	0.87	23.1
12	R2	313	2.0	313	2.0	0.488	47.6	LOS D	7.7	47.2	0.87	0.78	0.87	21.8
Approach		619	1.6	619	1.6	0.679	42.1	LOS C	14.9	90.3	0.87	0.77	0.87	22.1
All Vehicles		3093	1.1	3093	1.1	0.699	41.6	LOS C	14.9	90.3	0.84	0.76	0.84	22.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	50.5	LOS E	0.2	0.2	0.92	0.92	79.0	37.0	0.47
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	81.4	39.0	0.48
All Pedestrians		200	200	52.6	LOS E	0.2	0.2	0.94	0.94	87.2	45.0	0.52

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:25 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	253	2.0	253	2.0	0.138	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	752	1.0	752	1.0	*0.739	45.0	LOS D	13.7	82.9	0.96	0.82	0.99	21.2
3	R2	138	0.0	138	0.0	*0.734	47.7	LOS D	12.8	76.9	0.94	0.84	0.97	21.8
3u	U	101	0.0	101	0.0	0.734	49.2	LOS D	12.8	76.9	0.94	0.84	0.97	24.1
Approach		1244	1.0	1244	1.0	0.739	37.7	LOS C	13.7	82.9	0.76	0.76	0.79	24.7
East: High Street (E)														
4	L2	53	0.0	53	0.0	0.607	49.4	LOS D	14.4	87.9	0.94	0.81	0.94	23.0
5	T1	222	2.0	222	2.0	0.607	43.9	LOS D	14.4	87.9	0.94	0.81	0.94	20.3
6	R2	235	0.0	235	0.0	*0.723	58.3	LOS E	13.5	81.3	1.00	0.86	1.06	15.0
Approach		510	0.9	510	0.9	0.723	51.1	LOS D	14.4	87.9	0.97	0.83	1.00	17.9
North: Musgrave Street (N)														
7	L2	137	0.0	137	0.0	0.553	53.9	LOS D	7.3	43.9	0.93	0.79	0.93	15.4
8	T1	627	1.0	627	1.0	0.616	43.0	LOS D	10.8	65.2	0.91	0.75	0.91	21.8
9	R2	56	4.0	56	4.0	0.367	43.5	LOS D	5.2	31.8	0.80	0.77	0.80	17.4
9u	U	59	0.0	59	0.0	0.367	44.8	LOS D	5.2	31.8	0.80	0.77	0.80	15.3
Approach		879	1.0	879	1.0	0.616	44.9	LOS D	10.8	65.2	0.90	0.76	0.90	20.1
West: High Street (W)														
10	L2	71	2.0	71	2.0	0.719	41.6	LOS C	16.2	98.4	0.90	0.79	0.91	19.6
11	T1	253	1.0	253	1.0	*0.719	36.1	LOS C	16.2	98.4	0.90	0.79	0.91	22.8
12	R2	332	2.0	332	2.0	0.518	47.9	LOS D	8.3	50.6	0.88	0.78	0.88	21.8
Approach		656	1.6	656	1.6	0.719	42.7	LOS D	16.2	98.4	0.89	0.79	0.89	21.9
All Vehicles		3289	1.1	3289	1.1	0.739	42.7	LOS D	16.2	98.4	0.85	0.78	0.87	21.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	79.9	37.0	0.46
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	52.4	LOS E	0.2	0.2	0.94	0.94	82.4	39.0	0.47
All Pedestrians		200	200	53.1	LOS E	0.2	0.2	0.94	0.94	87.7	45.0	0.51

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:26 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	260	2.0	260	2.0	0.142	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.7
2	T1	782	1.0	782	1.0	*0.734	43.8	LOS D	14.1	85.2	0.95	0.81	0.98	21.6
3	R2	138	0.0	138	0.0	*0.766	49.7	LOS D	13.2	79.2	0.96	0.85	1.01	21.3
3u	U	101	0.0	101	0.0	0.766	51.1	LOS D	13.2	79.2	0.96	0.85	1.01	23.5
Approach		1281	1.0	1281	1.0	0.766	37.4	LOS C	14.1	85.2	0.76	0.76	0.79	24.8
East: High Street (E)														
4	L2	53	0.0	53	0.0	0.620	49.6	LOS D	14.8	90.2	0.95	0.81	0.95	22.9
5	T1	228	2.0	228	2.0	0.620	44.0	LOS D	14.8	90.2	0.95	0.81	0.95	20.2
6	R2	244	0.0	244	0.0	*0.751	59.3	LOS E	14.3	85.7	1.00	0.87	1.08	14.8
Approach		525	0.9	525	0.9	0.751	51.7	LOS D	14.8	90.2	0.97	0.84	1.01	17.8
North: Musgrave Street (N)														
7	L2	139	0.0	139	0.0	0.528	52.5	LOS D	7.3	43.7	0.92	0.79	0.92	15.7
8	T1	638	1.0	638	1.0	0.599	41.8	LOS C	10.7	65.1	0.90	0.74	0.90	22.2
9	R2	58	4.0	58	4.0	0.389	44.8	LOS D	5.4	33.2	0.82	0.77	0.82	17.1
9u	U	59	0.0	59	0.0	0.389	46.1	LOS D	5.4	33.2	0.82	0.77	0.82	14.9
Approach		894	1.0	894	1.0	0.599	43.9	LOS D	10.7	65.1	0.89	0.75	0.89	20.3
West: High Street (W)														
10	L2	73	2.0	73	2.0	0.741	42.2	LOS C	17.0	103.3	0.91	0.80	0.93	19.4
11	T1	261	1.0	261	1.0	*0.741	36.6	LOS C	17.0	103.3	0.91	0.80	0.93	22.6
12	R2	341	2.0	341	2.0	0.532	48.0	LOS D	8.5	52.2	0.88	0.79	0.88	21.7
Approach		675	1.6	675	1.6	0.741	43.0	LOS D	17.0	103.3	0.90	0.79	0.91	21.8
All Vehicles		3375	1.1	3375	1.1	0.766	42.4	LOS C	17.0	103.3	0.85	0.78	0.87	21.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
East: High Street (E)												

P2	Full	50	50	50.5	LOS E	0.2	0.2	0.92	0.92	79.0	37.0	0.47
North: Musgrave Street (N)												
P3	Full	50	50	54.3	LOS E	0.2	0.2	0.95	0.95	94.3	52.0	0.55
West: High Street (W)												
P4	Full	50	50	51.4	LOS E	0.2	0.2	0.93	0.93	81.4	39.0	0.48
All Pedestrians		200	200	52.6	LOS E	0.2	0.2	0.94	0.94	87.2	45.0	0.52

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:27 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	234	4.0	234	4.0	0.130	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	773	0.0	773	0.0	*0.786	50.4	LOS D	15.8	94.5	0.98	0.85	1.03	19.7
3	R2	184	2.0	184	2.0	*0.760	43.4	LOS D	17.7	107.1	0.90	0.85	0.93	23.1
3u	U	137	0.0	137	0.0	0.760	44.8	LOS D	17.7	107.1	0.90	0.85	0.93	25.4
Approach		1328	1.0	1328	1.0	0.786	41.1	LOS C	17.7	107.1	0.79	0.79	0.82	23.5
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.596	54.6	LOS D	14.5	88.7	0.95	0.80	0.95	21.6
5	T1	221	2.0	221	2.0	0.596	49.0	LOS D	14.5	88.7	0.95	0.80	0.95	19.0
6	R2	217	0.0	217	0.0	*0.760	65.9	LOS E	13.9	83.5	1.00	0.87	1.10	13.7
Approach		471	0.9	471	0.9	0.760	57.2	LOS E	14.5	88.7	0.97	0.84	1.02	16.5
North: Musgrave Street (N)														
7	L2	106	0.0	106	0.0	0.436	57.2	LOS E	5.9	35.7	0.91	0.77	0.91	14.8
8	T1	462	2.0	462	2.0	0.473	46.0	LOS D	8.2	50.2	0.87	0.71	0.87	20.9
9	R2	43	17.0	43	17.0	0.173	36.3	LOS C	2.7	18.0	0.64	0.72	0.64	19.2
9u	U	27	0.0	27	0.0	0.173	37.5	LOS C	2.7	18.0	0.64	0.72	0.64	17.3
Approach		638	2.6	638	2.6	0.473	46.8	LOS D	8.2	50.2	0.85	0.72	0.85	19.6
West: High Street (W)														
10	L2	40	3.0	40	3.0	0.731	47.2	LOS D	17.3	105.9	0.92	0.80	0.93	18.1
11	T1	271	2.0	271	2.0	*0.731	41.6	LOS C	17.3	105.9	0.92	0.80	0.93	21.1
12	R2	278	2.0	278	2.0	0.493	54.2	LOS D	7.6	46.8	0.90	0.78	0.90	20.1
Approach		589	2.1	589	2.1	0.731	47.9	LOS D	17.3	105.9	0.91	0.79	0.92	20.4
All Vehicles		3026	1.5	3026	1.5	0.786	46.1	LOS D	17.7	107.1	0.85	0.78	0.88	20.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	55.5	LOS E	0.2	0.2	0.93	0.93	84.0	37.0	0.44
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	56.4	LOS E	0.2	0.2	0.93	0.93	86.4	39.0	0.45
All Pedestrians		200	200	57.6	LOS E	0.2	0.2	0.94	0.94	92.2	45.0	0.49

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:27 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	239	4.0	239	4.0	0.132	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	788	0.0	788	0.0	*0.803	51.0	LOS D	16.3	97.7	0.98	0.86	1.05	19.5
3	R2	187	2.0	187	2.0	*0.772	43.8	LOS D	18.1	110.1	0.91	0.85	0.94	22.9
3u	U	139	0.0	139	0.0	0.772	45.2	LOS D	18.1	110.1	0.91	0.85	0.94	25.3
Approach		1353	1.0	1353	1.0	0.803	41.5	LOS C	18.1	110.1	0.79	0.80	0.84	23.4
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.605	54.7	LOS D	14.8	90.3	0.95	0.81	0.95	21.6
5	T1	225	2.0	225	2.0	0.605	49.1	LOS D	14.8	90.3	0.95	0.81	0.95	18.9
6	R2	221	0.0	221	0.0	*0.773	66.5	LOS E	14.3	85.7	1.00	0.88	1.11	13.6
Approach		479	0.9	479	0.9	0.773	57.6	LOS E	14.8	90.3	0.97	0.84	1.03	16.4
North: Musgrave Street (N)														
7	L2	108	0.0	108	0.0	0.445	57.2	LOS E	6.1	36.4	0.91	0.77	0.91	14.8
8	T1	471	2.0	471	2.0	0.482	46.0	LOS D	8.4	51.3	0.88	0.71	0.88	20.9
9	R2	44	17.0	44	17.0	0.178	36.3	LOS C	2.8	18.5	0.64	0.72	0.64	19.2
9u	U	28	0.0	28	0.0	0.178	37.6	LOS C	2.8	18.5	0.64	0.72	0.64	17.3
Approach		651	2.6	651	2.6	0.482	46.9	LOS D	8.4	51.3	0.86	0.72	0.86	19.5
West: High Street (W)														
10	L2	41	3.0	41	3.0	0.746	47.5	LOS D	17.8	109.1	0.93	0.81	0.95	18.0
11	T1	276	2.0	276	2.0	*0.746	41.9	LOS C	17.8	109.1	0.93	0.81	0.95	21.0
12	R2	284	2.0	284	2.0	0.504	54.3	LOS D	7.8	48.0	0.90	0.78	0.90	20.1
Approach		601	2.1	601	2.1	0.746	48.1	LOS D	17.8	109.1	0.91	0.80	0.92	20.3
All Vehicles		3084	1.5	3084	1.5	0.803	46.4	LOS D	18.1	110.1	0.86	0.79	0.89	20.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	55.5	LOS E	0.2	0.2	0.93	0.93	84.0	37.0	0.44
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	56.4	LOS E	0.2	0.2	0.93	0.93	86.4	39.0	0.45
All Pedestrians		200	200	57.6	LOS E	0.2	0.2	0.94	0.94	92.2	45.0	0.49

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:28 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	249	4.0	249	4.0	0.138	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	831	0.0	831	0.0	*0.794	48.4	LOS D	17.3	103.5	0.96	0.85	1.02	20.2
3	R2	187	2.0	187	2.0	*0.820	47.9	LOS D	19.4	117.5	0.95	0.88	1.02	21.7
3u	U	139	0.0	139	0.0	0.820	49.3	LOS D	19.4	117.5	0.95	0.88	1.02	24.0
Approach		1406	1.0	1406	1.0	0.820	41.0	LOS C	19.4	117.5	0.79	0.80	0.84	23.5
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.623	54.9	LOS D	15.3	93.6	0.96	0.81	0.96	21.5
5	T1	233	2.0	233	2.0	0.623	49.4	LOS D	15.3	93.6	0.96	0.81	0.96	18.9
6	R2	234	0.0	234	0.0	*0.819	69.1	LOS E	15.6	93.5	1.00	0.91	1.17	13.2
Approach		500	0.9	500	0.9	0.819	59.0	LOS E	15.6	93.6	0.98	0.86	1.06	16.1
North: Musgrave Street (N)														
7	L2	112	0.0	112	0.0	0.413	54.5	LOS D	6.1	36.5	0.88	0.77	0.88	15.3
8	T1	489	2.0	489	2.0	0.459	43.6	LOS D	8.4	51.5	0.85	0.69	0.85	21.6
9	R2	47	17.0	47	17.0	0.197	38.5	LOS C	3.1	20.3	0.67	0.73	0.67	18.5
9u	U	28	0.0	28	0.0	0.197	39.8	LOS C	3.1	20.3	0.67	0.73	0.67	16.7
Approach		676	2.6	676	2.6	0.459	44.9	LOS D	8.4	51.5	0.84	0.71	0.84	20.1
West: High Street (W)														
10	L2	43	3.0	43	3.0	0.772	48.3	LOS D	18.8	115.3	0.94	0.83	0.97	17.8
11	T1	285	2.0	285	2.0	*0.772	42.7	LOS D	18.8	115.3	0.94	0.83	0.97	20.8
12	R2	294	2.0	294	2.0	0.522	54.4	LOS D	8.2	49.9	0.90	0.78	0.90	20.1
Approach		622	2.1	622	2.1	0.772	48.6	LOS D	18.8	115.3	0.92	0.81	0.94	20.2
All Vehicles		3204	1.5	3204	1.5	0.820	46.1	LOS D	19.4	117.5	0.85	0.79	0.89	20.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	53.7	LOS E	0.2	0.2	0.91	0.91	82.1	37.0	0.45
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	54.6	LOS E	0.2	0.2	0.92	0.92	84.6	39.0	0.46
All Pedestrians		200	200	56.7	LOS E	0.2	0.2	0.93	0.93	91.3	45.0	0.49

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:29 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	241	4.0	241	4.0	0.133	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	798	0.0	798	0.0	*0.778	49.1	LOS D	16.1	96.7	0.97	0.84	1.02	20.0
3	R2	187	2.0	187	2.0	*0.795	45.7	LOS D	18.7	113.6	0.93	0.86	0.98	22.4
3u	U	139	0.0	139	0.0	0.795	47.1	LOS D	18.7	113.6	0.93	0.86	0.98	24.7
Approach		1365	1.0	1365	1.0	0.795	40.9	LOS C	18.7	113.6	0.79	0.79	0.83	23.6
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.610	54.7	LOS D	14.9	91.1	0.95	0.81	0.95	21.6
5	T1	227	2.0	227	2.0	0.610	49.2	LOS D	14.9	91.1	0.95	0.81	0.95	18.9
6	R2	225	0.0	225	0.0	*0.787	67.2	LOS E	14.7	88.0	1.00	0.89	1.13	13.5
Approach		485	0.9	485	0.9	0.787	57.9	LOS E	14.9	91.1	0.98	0.85	1.04	16.3
North: Musgrave Street (N)														
7	L2	109	0.0	109	0.0	0.424	55.8	LOS D	6.0	36.1	0.89	0.77	0.89	15.0
8	T1	475	2.0	475	2.0	0.465	44.8	LOS D	8.3	50.8	0.86	0.70	0.86	21.3
9	R2	45	17.0	45	17.0	0.186	37.4	LOS C	2.9	19.3	0.66	0.73	0.66	18.9
9u	U	28	0.0	28	0.0	0.186	38.7	LOS C	2.9	19.3	0.66	0.73	0.66	17.0
Approach		657	2.6	657	2.6	0.465	45.8	LOS D	8.3	50.8	0.84	0.72	0.84	19.8
West: High Street (W)														
10	L2	41	3.0	41	3.0	0.750	47.6	LOS D	18.0	110.2	0.93	0.81	0.95	18.0
11	T1	278	2.0	278	2.0	*0.750	42.1	LOS C	18.0	110.2	0.93	0.81	0.95	21.0
12	R2	286	2.0	286	2.0	0.508	54.3	LOS D	7.9	48.4	0.90	0.78	0.90	20.1
Approach		605	2.1	605	2.1	0.750	48.2	LOS D	18.0	110.2	0.91	0.80	0.93	20.3
All Vehicles		3112	1.5	3112	1.5	0.795	46.0	LOS D	18.7	113.6	0.85	0.79	0.88	20.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	54.6	LOS E	0.2	0.2	0.92	0.92	83.0	37.0	0.45
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	55.5	LOS E	0.2	0.2	0.93	0.93	85.5	39.0	0.46
All Pedestrians		200	200	57.2	LOS E	0.2	0.2	0.94	0.94	91.8	45.0	0.49

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

MOVEMENT SUMMARY

Site: 2 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	248	4.0	248	4.0	0.137	6.2	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	814	0.0	814	0.0	*0.809	50.0	LOS D	17.1	102.8	0.97	0.86	1.04	19.8
3	R2	187	2.0	187	2.0	*0.795	45.7	LOS D	18.7	113.6	0.93	0.86	0.98	22.4
3u	U	139	0.0	139	0.0	0.795	47.1	LOS D	18.7	113.6	0.93	0.86	0.98	24.7
Approach		1388	1.0	1388	1.0	0.809	41.3	LOS C	18.7	113.6	0.79	0.80	0.84	23.4
East: High Street (E)														
4	L2	33	0.0	33	0.0	0.623	54.9	LOS D	15.3	93.6	0.96	0.81	0.96	21.5
5	T1	233	2.0	233	2.0	0.623	49.4	LOS D	15.3	93.6	0.96	0.81	0.96	18.9
6	R2	229	0.0	229	0.0	*0.802	68.0	LOS E	15.1	90.4	1.00	0.90	1.15	13.3
Approach		495	0.9	495	0.9	0.802	58.4	LOS E	15.3	93.6	0.98	0.85	1.05	16.2
North: Musgrave Street (N)														
7	L2	110	0.0	110	0.0	0.428	55.9	LOS D	6.1	36.5	0.90	0.77	0.90	15.0
8	T1	480	2.0	480	2.0	0.470	44.8	LOS D	8.4	51.4	0.86	0.70	0.86	21.3
9	R2	46	17.0	46	17.0	0.189	37.4	LOS C	2.9	19.6	0.66	0.73	0.66	18.9
9u	U	28	0.0	28	0.0	0.189	38.7	LOS C	2.9	19.6	0.66	0.73	0.66	17.0
Approach		664	2.6	664	2.6	0.470	45.9	LOS D	8.4	51.4	0.85	0.72	0.85	19.8
West: High Street (W)														
10	L2	43	3.0	43	3.0	0.777	48.4	LOS D	19.0	116.4	0.94	0.83	0.97	17.7
11	T1	287	2.0	287	2.0	*0.777	42.9	LOS D	19.0	116.4	0.94	0.83	0.97	20.7
12	R2	296	2.0	296	2.0	0.525	54.5	LOS D	8.2	50.3	0.91	0.79	0.91	20.1
Approach		626	2.1	626	2.1	0.777	48.7	LOS D	19.0	116.4	0.92	0.81	0.94	20.2
All Vehicles		3173	1.5	3173	1.5	0.809	46.4	LOS D	19.0	116.4	0.86	0.79	0.89	20.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	54.6	LOS E	0.2	0.2	0.92	0.92	83.0	37.0	0.45
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	55.5	LOS E	0.2	0.2	0.93	0.93	85.5	39.0	0.46
All Pedestrians		200	200	57.2	LOS E	0.2	0.2	0.94	0.94	91.8	45.0	0.49

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:30 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	261	4.0	261	4.0	0.145	6.3	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	861	0.0	861	0.0	* 0.875	53.4	LOS D	19.6	117.5	0.99	0.92	1.12	18.9
3	R2	205	2.0	205	2.0	* 0.871	50.2	LOS D	22.4	136.2	0.98	0.91	1.09	21.1
3u	U	152	0.0	152	0.0	0.871	51.6	LOS D	22.4	136.2	0.98	0.91	1.09	23.4
Approach		1479	1.0	1479	1.0	0.875	44.5	LOS D	22.4	136.2	0.81	0.84	0.92	22.4
East: High Street (E)														
4	L2	36	0.0	36	0.0	0.661	55.4	LOS D	16.4	100.2	0.97	0.82	0.97	21.4
5	T1	246	2.0	246	2.0	0.661	49.9	LOS D	16.4	100.2	0.97	0.82	0.97	18.7
6	R2	242	0.0	242	0.0	* 0.847	71.3	LOS F	16.5	99.0	1.00	0.93	1.22	12.9
Approach		524	0.9	524	0.9	0.847	60.2	LOS E	16.5	100.2	0.98	0.87	1.08	15.9
North: Musgrave Street (N)														
7	L2	118	0.0	118	0.0	0.459	56.1	LOS D	6.6	39.5	0.90	0.78	0.90	15.0
8	T1	515	2.0	515	2.0	0.504	45.1	LOS D	9.1	55.9	0.87	0.72	0.87	21.2
9	R2	48	17.0	48	17.0	0.199	37.5	LOS C	3.1	20.7	0.66	0.73	0.66	18.8
9u	U	30	0.0	30	0.0	0.199	38.8	LOS C	3.1	20.7	0.66	0.73	0.66	16.9
Approach		711	2.6	711	2.6	0.504	46.2	LOS D	9.1	55.9	0.86	0.73	0.86	19.8
West: High Street (W)														
10	L2	44	3.0	44	3.0	0.813	49.8	LOS D	20.6	126.0	0.96	0.86	1.02	17.4
11	T1	302	2.0	302	2.0	* 0.813	44.2	LOS D	20.6	126.0	0.96	0.86	1.02	20.3
12	R2	310	2.0	310	2.0	0.550	54.7	LOS D	8.7	53.1	0.91	0.79	0.91	20.0
Approach		656	2.1	656	2.1	0.813	49.5	LOS D	20.6	126.0	0.94	0.83	0.97	20.0
All Vehicles		3370	1.5	3370	1.5	0.875	48.3	LOS D	22.4	136.2	0.87	0.82	0.94	20.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	54.6	LOS E	0.2	0.2	0.92	0.92	83.0	37.0	0.45
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	55.5	LOS E	0.2	0.2	0.93	0.93	85.5	39.0	0.46
All Pedestrians		200	200	57.2	LOS E	0.2	0.2	0.94	0.94	91.8	45.0	0.49

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:31 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 2 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Musgrave Street (S)														
1	L2	270	4.0	270	4.0	0.150	6.3	LOS A	0.0	0.0	0.00	0.53	0.00	49.4
2	T1	887	0.0	887	0.0	*0.868	51.9	LOS D	20.0	120.3	0.98	0.91	1.11	19.3
3	R2	205	2.0	205	2.0	*0.898	54.0	LOS D	23.5	142.6	1.00	0.93	1.15	20.2
3u	U	152	0.0	152	0.0	0.898	55.4	LOS D	23.5	142.6	1.00	0.93	1.15	22.4
Approach		1514	1.0	1514	1.0	0.898	44.4	LOS D	23.5	142.6	0.81	0.84	0.92	22.4
East: High Street (E)														
4	L2	36	0.0	36	0.0	0.679	55.7	LOS D	17.0	103.6	0.97	0.83	0.97	21.3
5	T1	254	2.0	254	2.0	0.679	50.1	LOS D	17.0	103.6	0.97	0.83	0.97	18.7
6	R2	250	0.0	250	0.0	*0.875	74.3	LOS F	17.6	105.3	1.00	0.96	1.27	12.5
Approach		540	0.9	540	0.9	0.875	61.7	LOS E	17.6	105.3	0.99	0.89	1.11	15.6
North: Musgrave Street (N)														
7	L2	120	0.0	120	0.0	0.442	54.8	LOS D	6.6	39.5	0.89	0.77	0.89	15.2
8	T1	524	2.0	524	2.0	0.491	43.9	LOS D	9.1	55.9	0.86	0.71	0.86	21.5
9	R2	51	17.0	51	17.0	0.213	38.7	LOS C	3.3	22.1	0.68	0.73	0.68	18.5
9u	U	30	0.0	30	0.0	0.213	39.9	LOS C	3.3	22.1	0.68	0.73	0.68	16.6
Approach		725	2.6	725	2.6	0.491	45.2	LOS D	9.1	55.9	0.85	0.72	0.85	20.0
West: High Street (W)														
10	L2	47	3.0	47	3.0	0.845	51.4	LOS D	22.0	134.8	0.98	0.90	1.06	17.0
11	T1	312	2.0	312	2.0	*0.845	45.8	LOS D	22.0	134.8	0.98	0.90	1.06	19.8
12	R2	322	2.0	322	2.0	0.572	54.9	LOS D	9.1	55.6	0.92	0.79	0.92	20.0
Approach		681	2.1	681	2.1	0.845	50.5	LOS D	22.0	134.8	0.95	0.85	0.99	19.7
All Vehicles		3460	1.5	3460	1.5	0.898	48.5	LOS D	23.5	142.6	0.87	0.83	0.95	20.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Musgrave Street (S)												
P1	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
East: High Street (E)												

P2	Full	50	50	53.7	LOS E	0.2	0.2	0.91	0.91	82.1	37.0	0.45
North: Musgrave Street (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	99.3	52.0	0.52
West: High Street (W)												
P4	Full	50	50	54.6	LOS E	0.2	0.2	0.92	0.92	84.6	39.0	0.46
All Pedestrians		200	200	56.7	LOS E	0.2	0.2	0.93	0.93	91.3	45.0	0.49

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

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Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, D, E, G
Output Phase Sequence: A, D, E, G

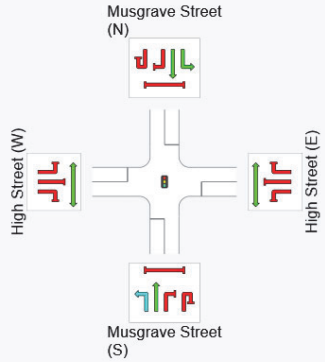
Phase Timing Summary

Phase	A	D	E	G
Phase Change Time (sec)	0	27	54	90
Green Time (sec)	21	21	30	24
Phase Time (sec)	27	27	36	30
Phase Split	23%	23%	30%	25%

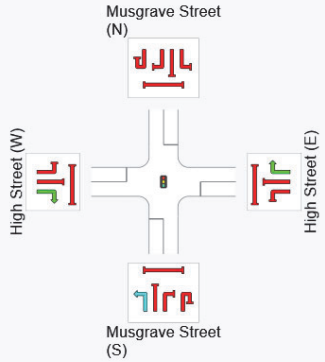
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

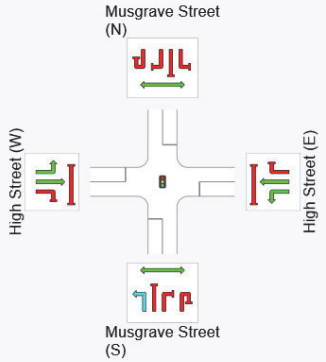
Phase A REF



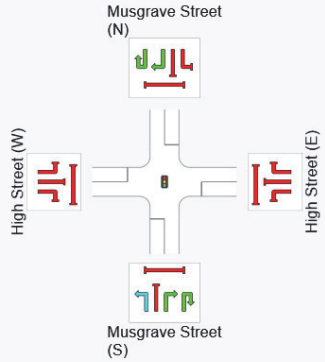
Phase D



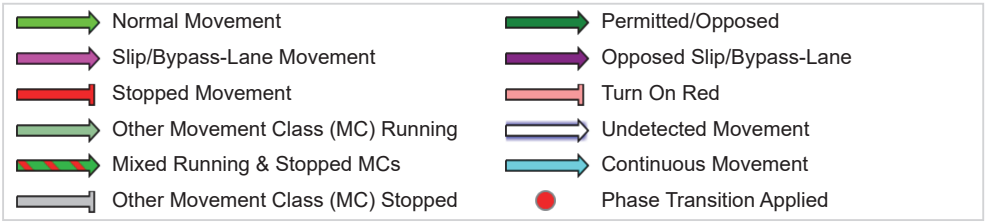
Phase E



Phase G



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:22 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

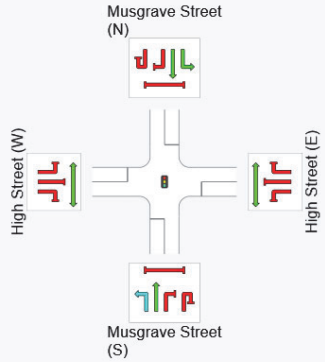
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	27	54	90
Green Time (sec)	21	21	30	24
Phase Time (sec)	27	27	36	30
Phase Split	23%	23%	30%	25%

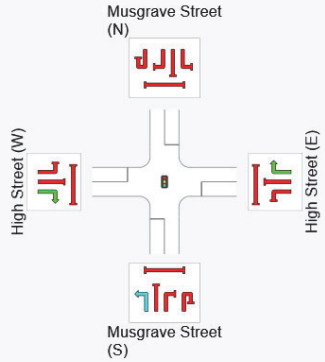
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

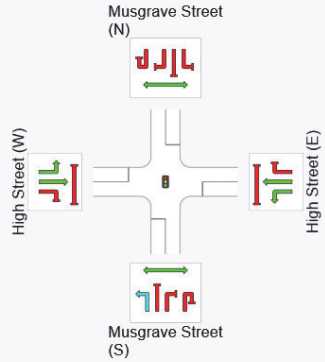
Phase A REF



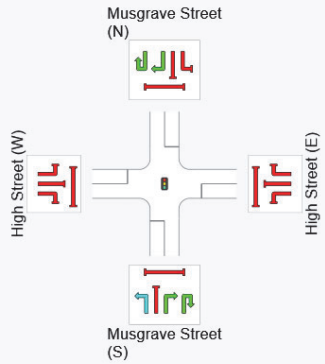
Phase C



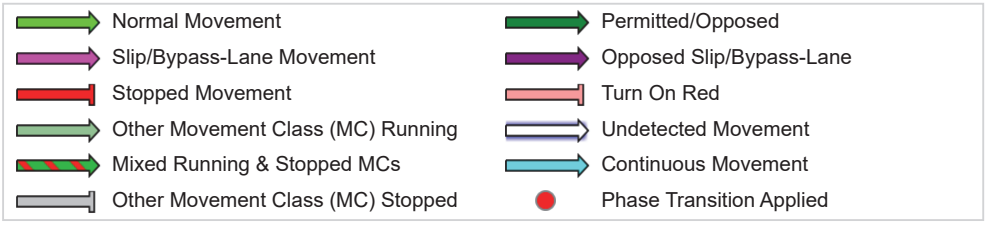
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:24 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

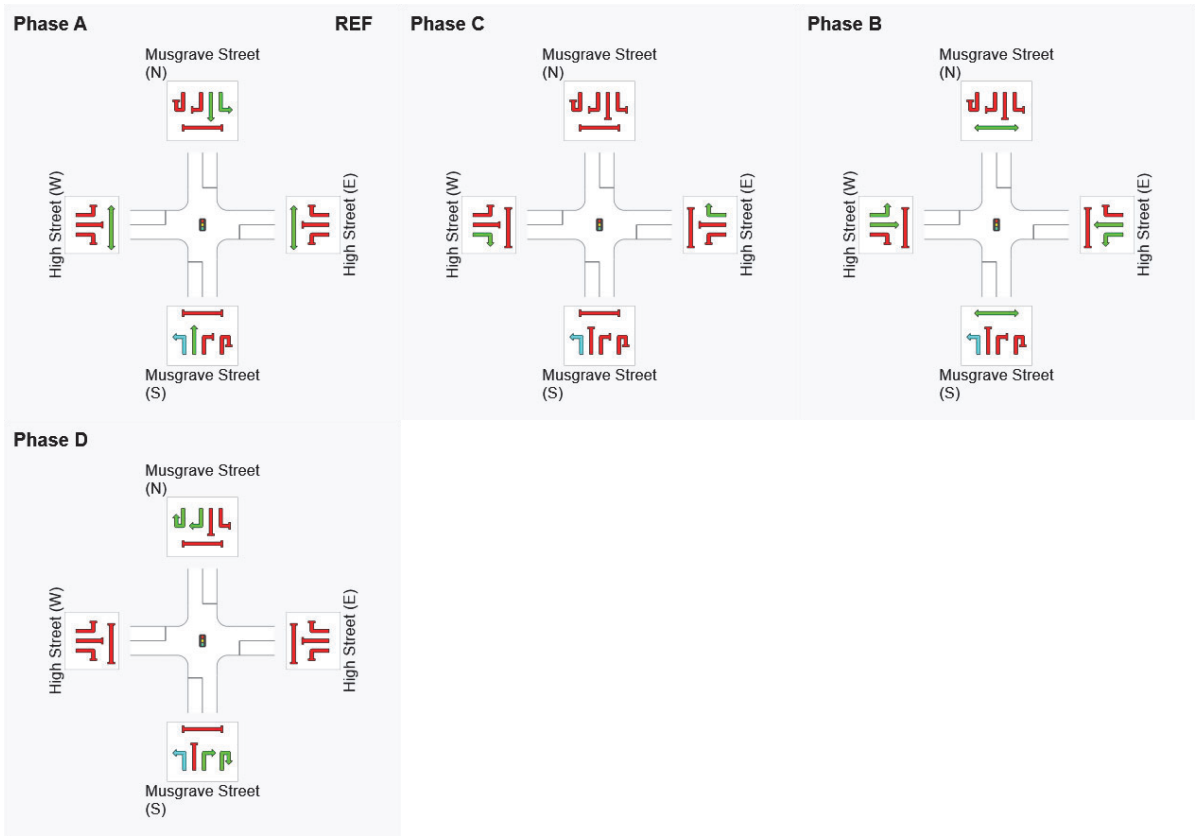
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

Phase Timing Summary

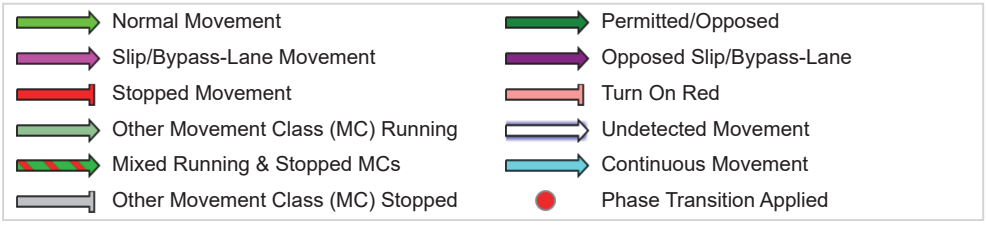
Phase	A	C	B	D
Phase Change Time (sec)	0	28	55	91
Green Time (sec)	22	21	30	23
Phase Time (sec)	28	27	36	29
Phase Split	23%	23%	30%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:24 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

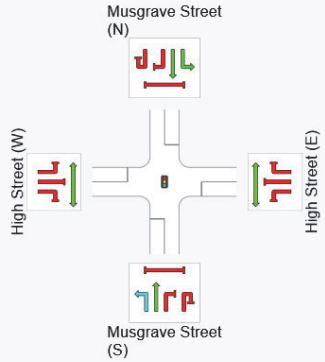
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	27	54	90
Green Time (sec)	21	21	30	24
Phase Time (sec)	27	27	36	30
Phase Split	23%	23%	30%	25%

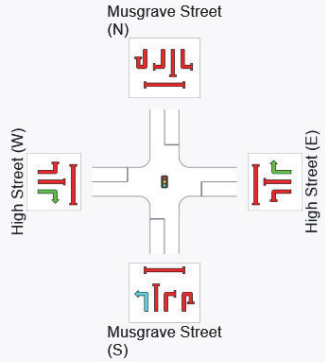
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

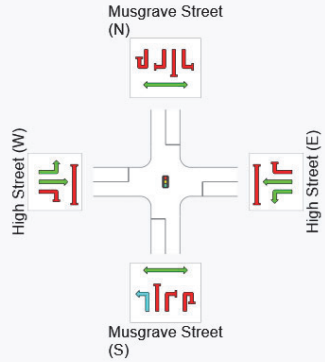
Phase A REF



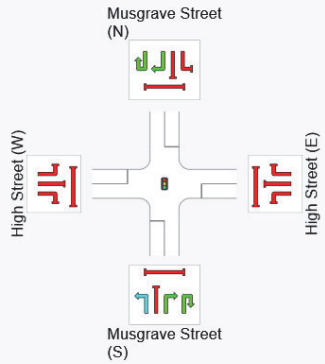
Phase C



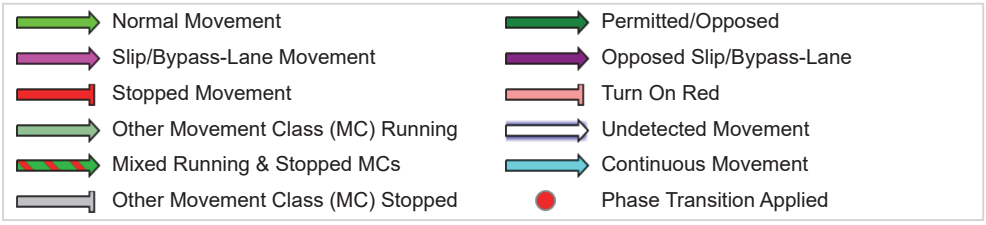
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:25 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

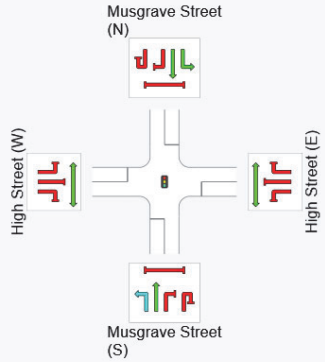
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	28	55	91
Green Time (sec)	22	21	30	23
Phase Time (sec)	28	27	36	29
Phase Split	23%	23%	30%	24%

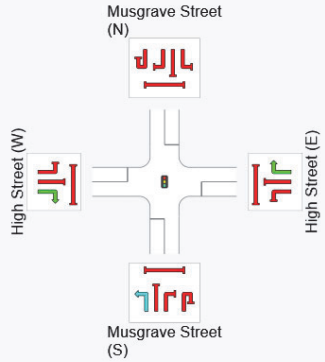
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

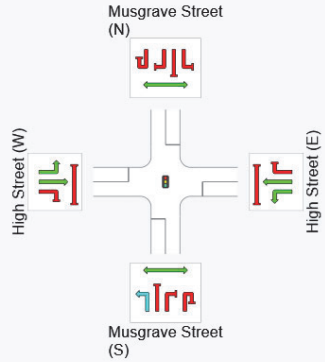
Phase A REF



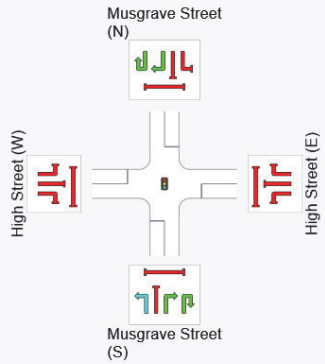
Phase C



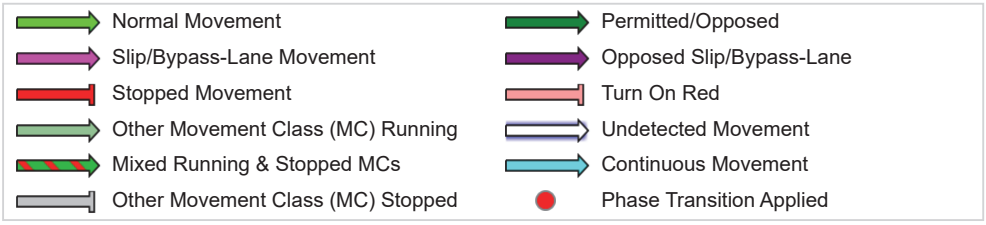
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:25 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, D, E, G
Output Phase Sequence: A, D, E, G

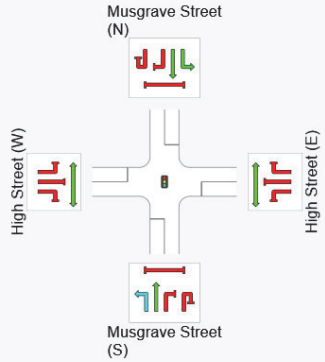
Phase Timing Summary

Phase	A	D	E	G
Phase Change Time (sec)	0	27	54	90
Green Time (sec)	21	21	30	24
Phase Time (sec)	27	27	36	30
Phase Split	23%	23%	30%	25%

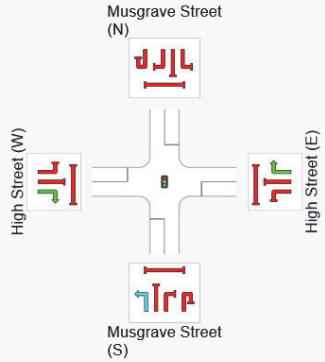
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

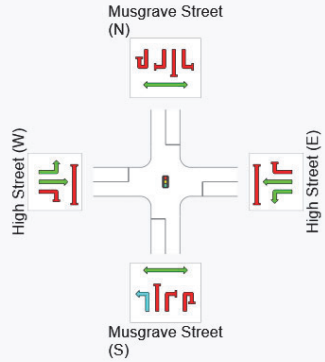
Phase A REF



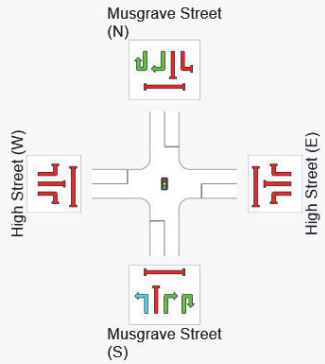
Phase D



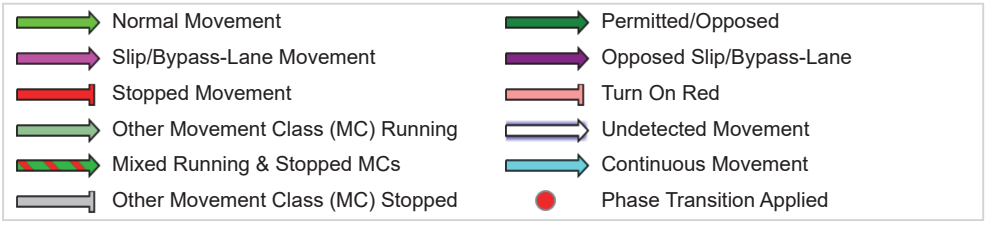
Phase E



Phase G



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:26 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Musgrave Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Site User-Given Cycle Time)

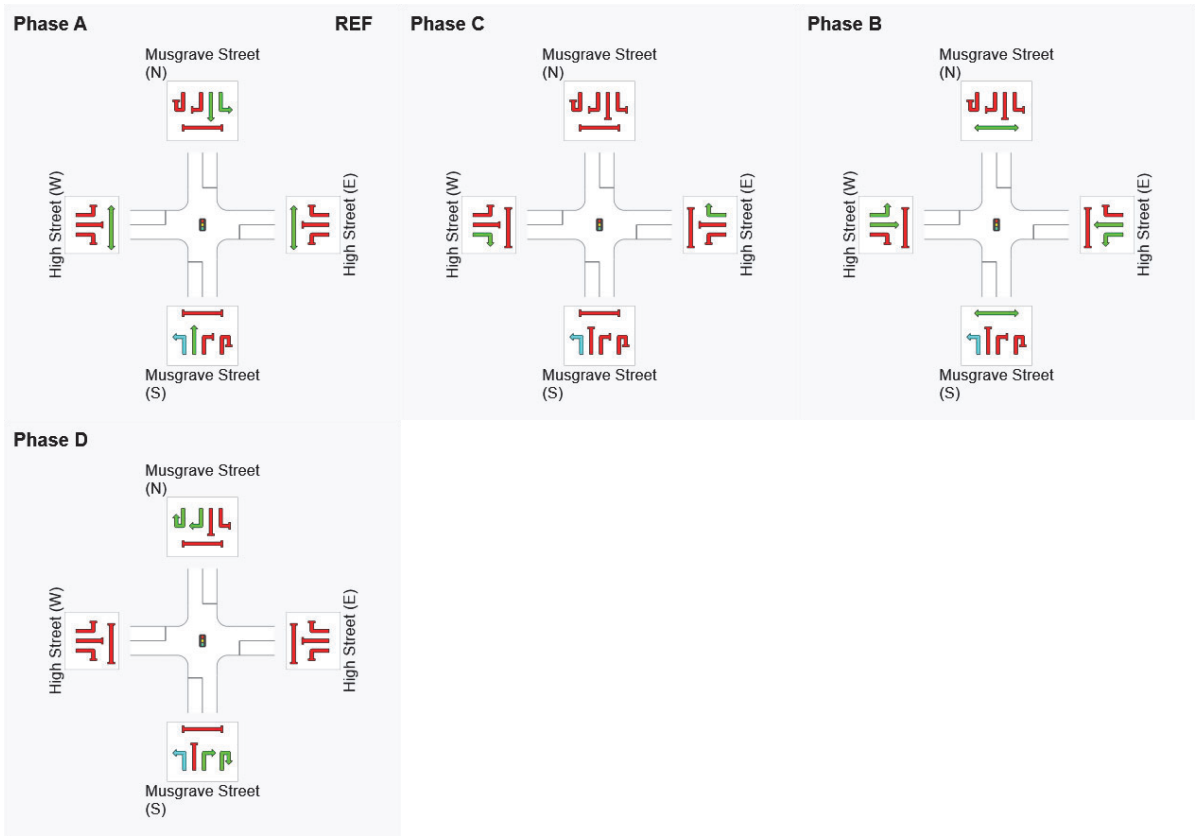
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

Phase Timing Summary

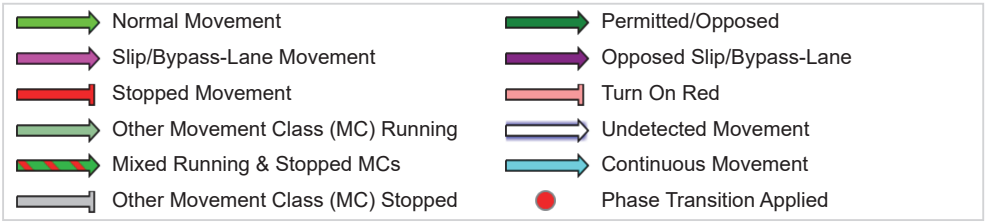
Phase	A	C	B	D
Phase Change Time (sec)	0	28	55	91
Green Time (sec)	22	21	30	23
Phase Time (sec)	28	27	36	29
Phase Split	23%	23%	30%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:27 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

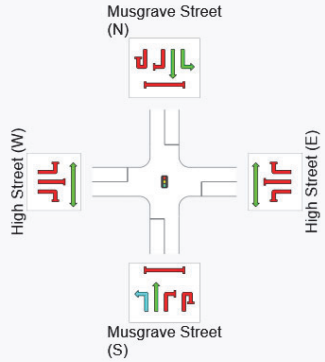
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	28	54	90
Green Time (sec)	22	20	30	34
Phase Time (sec)	28	26	36	40
Phase Split	22%	20%	28%	31%

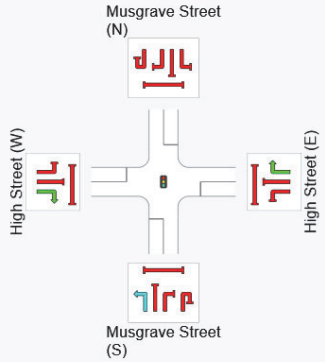
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

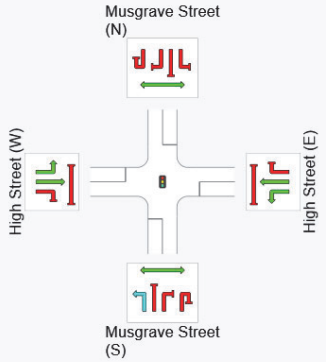
Phase A REF



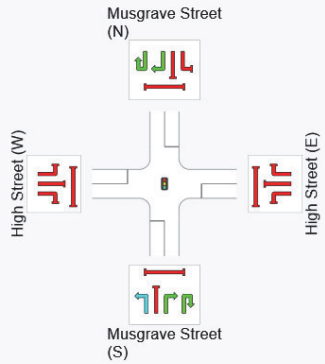
Phase C



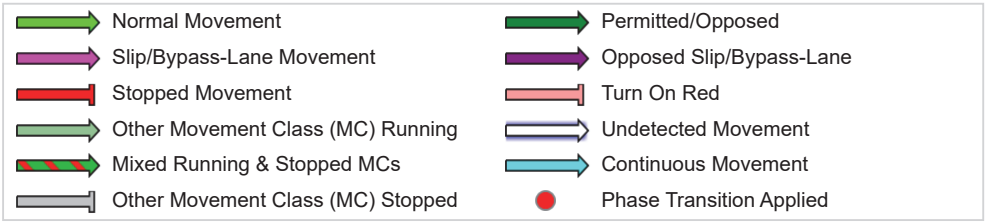
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:27 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

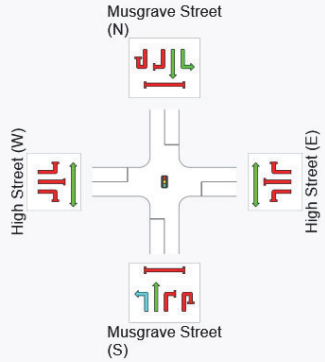
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	28	54	90
Green Time (sec)	22	20	30	34
Phase Time (sec)	28	26	36	40
Phase Split	22%	20%	28%	31%

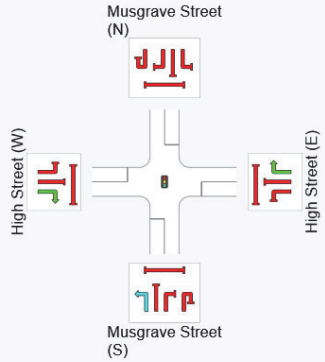
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

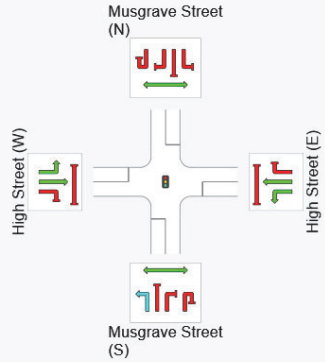
Phase A REF



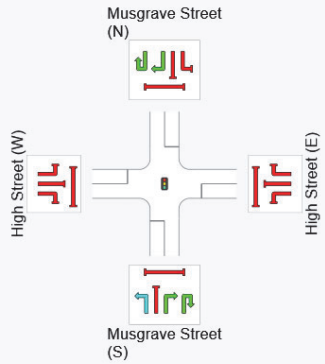
Phase C



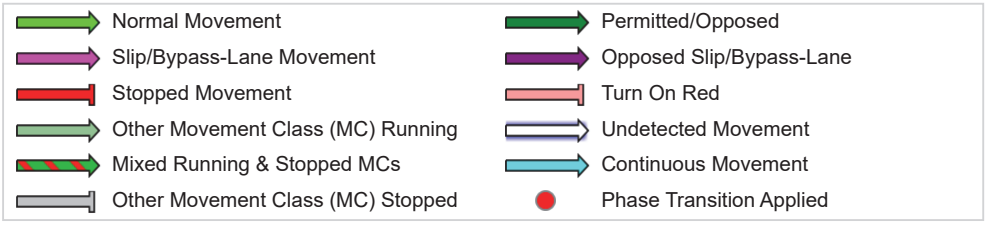
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:28 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

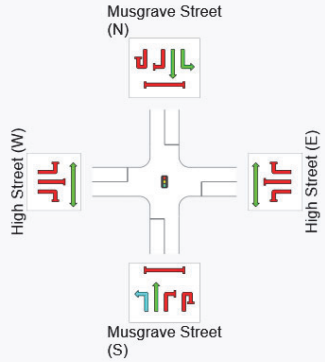
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	30	56	92
Green Time (sec)	24	20	30	32
Phase Time (sec)	30	26	36	38
Phase Split	23%	20%	28%	29%

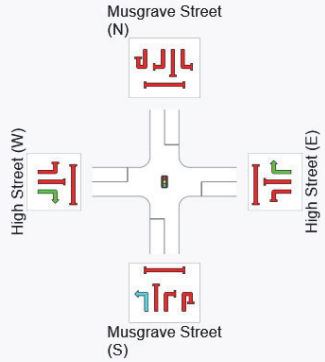
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

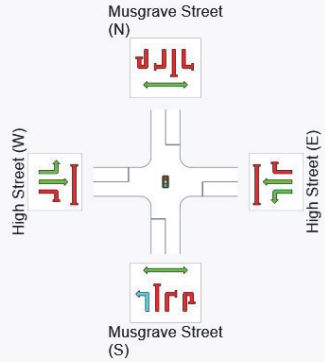
Phase A REF



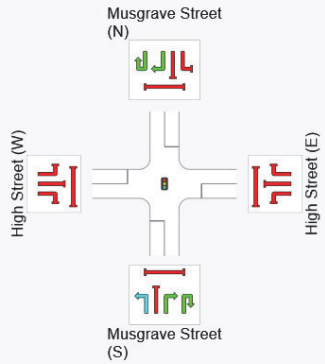
Phase C



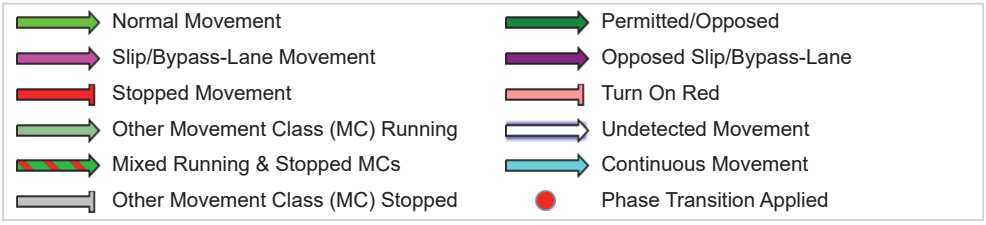
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:29 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

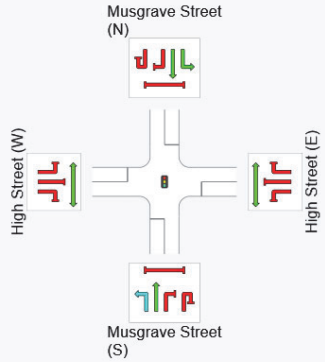
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	29	55	91
Green Time (sec)	23	20	30	33
Phase Time (sec)	29	26	36	39
Phase Split	22%	20%	28%	30%

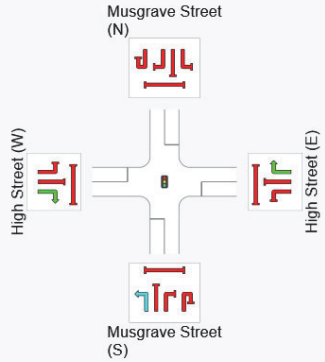
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

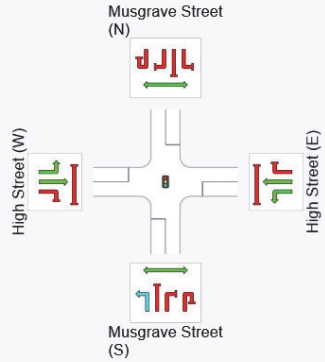
Phase A REF



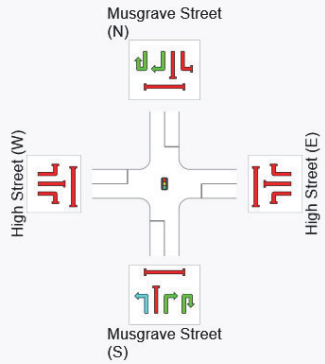
Phase C



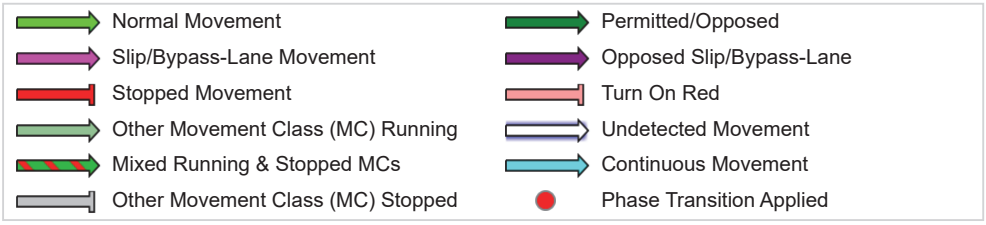
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:29 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

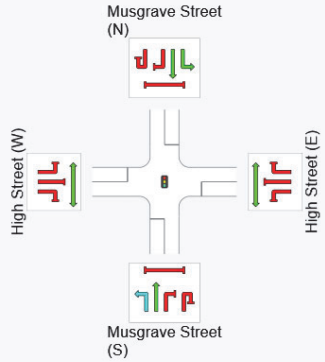
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	29	55	91
Green Time (sec)	23	20	30	33
Phase Time (sec)	29	26	36	39
Phase Split	22%	20%	28%	30%

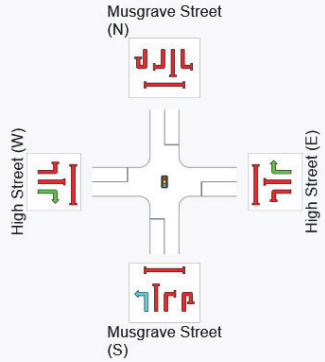
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

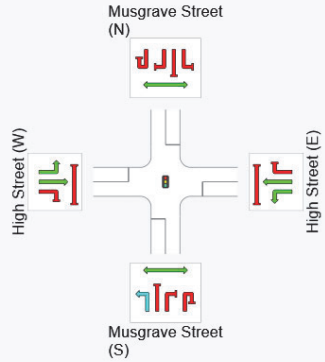
Phase A REF



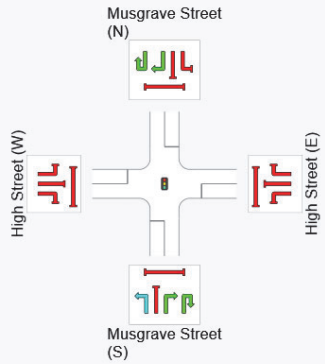
Phase C



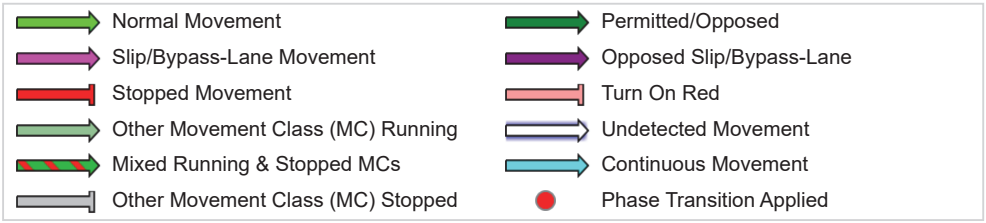
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:30 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

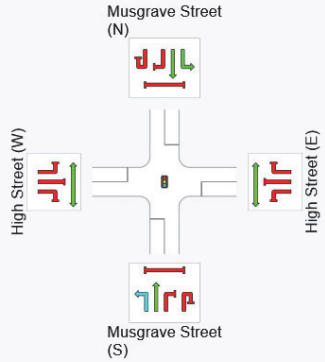
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	29	55	91
Green Time (sec)	23	20	30	33
Phase Time (sec)	29	26	36	39
Phase Split	22%	20%	28%	30%

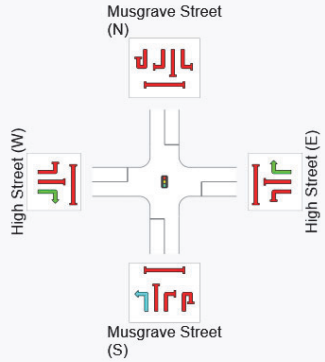
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

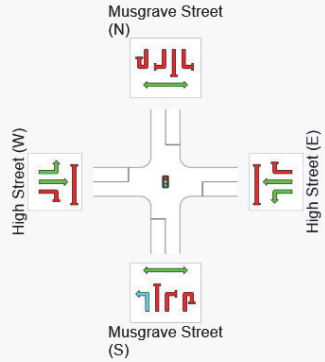
Phase A REF



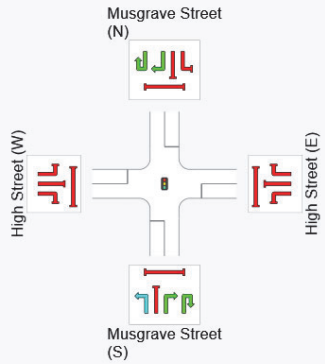
Phase C



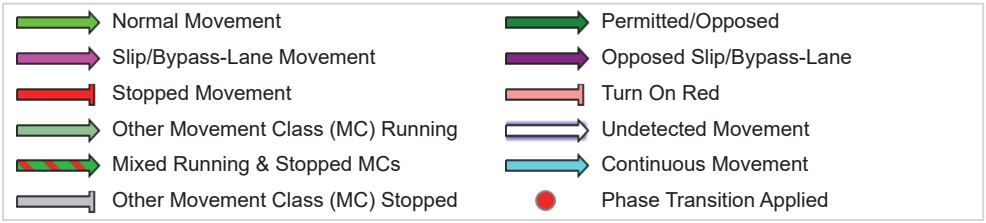
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:31 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

PHASING SUMMARY

Site: 2 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: Musgrave Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, C, B, D
Output Phase Sequence: A, C, B, D

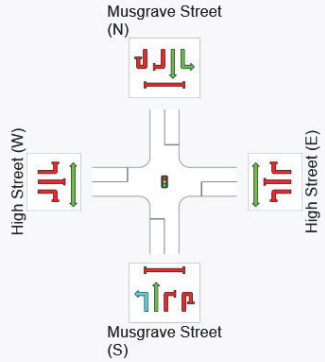
Phase Timing Summary

Phase	A	C	B	D
Phase Change Time (sec)	0	30	56	92
Green Time (sec)	24	20	30	32
Phase Time (sec)	30	26	36	38
Phase Split	23%	20%	28%	29%

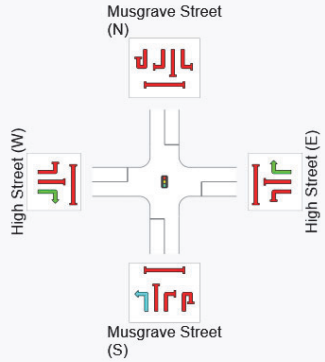
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

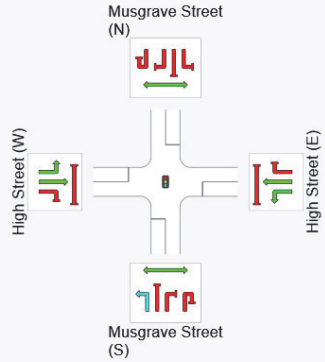
Phase A REF



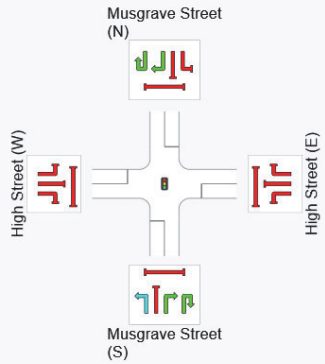
Phase C



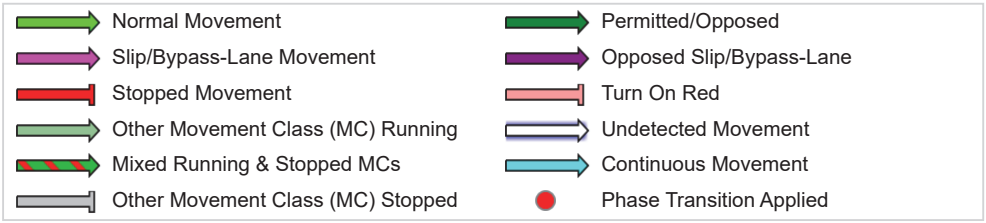
Phase B



Phase D



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:02:31 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\5) Musgrave Rd-High St.sip9

MOVEMENT SUMMARY

Site: 5 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	355	1.0	355	1.0	0.349	3.1	LOS A	2.5	15.0	0.19	0.17	0.19	52.8
6	R2	122	7.0	122	7.0	* 0.241	16.1	LOS B	2.2	13.9	0.50	0.69	0.50	26.6
Approach		477	2.5	477	2.5	0.349	6.4	LOS A	2.5	15.0	0.27	0.30	0.27	44.8
North: Site Access														
7	L2	108	0.0	108	0.0	0.101	10.1	LOS A	1.9	11.3	0.48	0.55	0.48	28.2
9	R2	240	0.0	240	0.0	* 0.398	24.7	LOS B	7.3	44.1	0.82	0.75	0.82	21.1
Approach		348	0.0	348	0.0	0.398	20.2	LOS B	7.3	44.1	0.71	0.69	0.71	22.7
West: High Street (W)														
10	L2	221	0.0	221	0.0	0.170	6.5	LOS A	1.1	6.9	0.23	0.62	0.23	41.2
11	T1	450	0.0	450	0.0	* 0.420	26.0	LOS B	7.3	43.9	0.87	0.72	0.87	28.0
Approach		671	0.0	671	0.0	0.420	19.6	LOS B	7.3	43.9	0.66	0.69	0.66	30.6
All Vehicles		1496	0.8	1496	0.8	0.420	15.5	LOS B	7.3	44.1	0.55	0.56	0.55	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	31.6	LOS D	0.1	0.1	0.89	0.89	65.4	44.0	0.67
North: Site Access												
P3	Full	50	50	29.0	LOS C	0.1	0.1	0.85	0.85	55.9	35.0	0.63
All Pedestrians		100	100	30.3	LOS D	0.1	0.1	0.87	0.87	60.7	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	362	1.0	362	1.0	0.374	4.4	LOS A	3.4	20.6	0.26	0.22	0.26	50.3
6	R2	122	7.0	122	7.0	* 0.298	17.7	LOS B	2.4	15.6	0.57	0.71	0.57	25.4
Approach		484	2.5	484	2.5	0.374	7.8	LOS A	3.4	20.6	0.34	0.35	0.34	42.7
North: Site Access														
7	L2	108	0.0	108	0.0	0.111	12.2	LOS A	2.1	12.6	0.53	0.58	0.53	26.4
9	R2	240	0.0	240	0.0	* 0.369	23.0	LOS B	7.1	42.3	0.79	0.73	0.79	21.8
Approach		348	0.0	348	0.0	0.369	19.6	LOS B	7.1	42.3	0.71	0.68	0.71	23.0
West: High Street (W)														
10	L2	221	0.0	221	0.0	0.171	6.7	LOS A	1.3	7.6	0.25	0.62	0.25	40.9
11	T1	459	0.0	459	0.0	* 0.362	22.4	LOS B	6.9	41.5	0.81	0.68	0.81	30.2
Approach		680	0.0	680	0.0	0.362	17.3	LOS B	6.9	41.5	0.63	0.66	0.63	32.5
All Vehicles		1512	0.8	1512	0.8	0.374	14.8	LOS B	7.1	42.3	0.55	0.56	0.55	32.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	29.8	LOS C	0.1	0.1	0.86	0.86	63.7	44.0	0.69
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	27.7	LOS C	0.1	0.1	0.83	0.83	58.1	39.5	0.68

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

MOVEMENT SUMMARY

Site: 5 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	368	1.0	368	1.0	0.371	3.8	LOS A	3.0	18.5	0.23	0.20	0.23	51.5
6	R2	140	7.0	140	7.0	* 0.285	17.9	LOS B	2.8	18.1	0.56	0.71	0.56	25.2
Approach		508	2.7	508	2.7	0.371	7.7	LOS A	3.0	18.5	0.32	0.34	0.32	42.7
North: Site Access														
7	L2	126	0.0	126	0.0	0.115	9.7	LOS A	2.1	12.9	0.47	0.55	0.47	28.5
9	R2	280	0.0	280	0.0	* 0.447	24.4	LOS B	8.6	51.7	0.83	0.76	0.83	21.2
Approach		406	0.0	406	0.0	0.447	19.9	LOS B	8.6	51.7	0.72	0.69	0.72	22.8
West: High Street (W)														
10	L2	261	0.0	261	0.0	0.203	6.7	LOS A	1.5	9.3	0.25	0.62	0.25	40.9
11	T1	467	0.0	467	0.0	* 0.456	27.1	LOS B	7.8	46.7	0.89	0.74	0.89	27.4
Approach		728	0.0	728	0.0	0.456	19.8	LOS B	7.8	46.7	0.66	0.70	0.66	30.4
All Vehicles		1642	0.8	1642	0.8	0.456	16.1	LOS B	8.6	51.7	0.57	0.59	0.57	31.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	30.7	LOS D	0.1	0.1	0.88	0.88	64.5	44.0	0.68
North: Site Access												
P3	Full	50	50	29.8	LOS C	0.1	0.1	0.86	0.86	56.7	35.0	0.62
All Pedestrians		100	100	30.3	LOS D	0.1	0.1	0.87	0.87	60.6	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	363	1.0	363	1.0	0.375	4.4	LOS A	3.4	20.7	0.26	0.22	0.26	50.3
6	R2	127	7.0	127	7.0	* 0.302	17.8	LOS B	2.5	16.3	0.57	0.71	0.57	25.3
Approach		490	2.6	490	2.6	0.375	7.9	LOS A	3.4	20.7	0.34	0.35	0.34	42.5
North: Site Access														
7	L2	113	0.0	113	0.0	0.113	11.7	LOS A	2.1	12.9	0.52	0.58	0.52	26.9
9	R2	250	0.0	250	0.0	* 0.385	23.1	LOS B	7.4	44.4	0.80	0.74	0.80	21.8
Approach		363	0.0	363	0.0	0.385	19.6	LOS B	7.4	44.4	0.71	0.69	0.71	23.0
West: High Street (W)														
10	L2	231	0.0	231	0.0	0.180	6.7	LOS A	1.3	8.1	0.25	0.62	0.25	40.9
11	T1	461	0.0	461	0.0	* 0.378	23.3	LOS B	7.1	42.5	0.83	0.69	0.83	29.6
Approach		692	0.0	692	0.0	0.378	17.8	LOS B	7.1	42.5	0.63	0.67	0.63	32.0
All Vehicles		1545	0.8	1545	0.8	0.385	15.1	LOS B	7.4	44.4	0.56	0.57	0.56	32.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	29.8	LOS C	0.1	0.1	0.86	0.86	63.7	44.0	0.69
North: Site Access												
P3	Full	50	50	26.5	LOS C	0.1	0.1	0.81	0.81	53.4	35.0	0.66
All Pedestrians		100	100	28.1	LOS C	0.1	0.1	0.84	0.84	58.5	39.5	0.67

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

MOVEMENT SUMMARY

Site: 5 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	363	1.0	363	1.0	0.394	5.8	LOS A	4.3	26.0	0.32	0.28	0.32	47.8
6	R2	136	7.0	136	7.0	* 0.347	19.7	LOS B	3.0	19.5	0.63	0.73	0.63	24.0
Approach		499	2.6	499	2.6	0.394	9.6	LOS A	4.3	26.0	0.41	0.40	0.41	40.0
North: Site Access														
7	L2	130	0.0	130	0.0	0.127	11.2	LOS A	2.4	14.6	0.51	0.58	0.51	27.2
9	R2	274	0.0	274	0.0	* 0.393	21.8	LOS B	7.9	47.4	0.78	0.73	0.78	22.4
Approach		404	0.0	404	0.0	0.393	18.4	LOS B	7.9	47.4	0.69	0.68	0.69	23.6
West: High Street (W)														
10	L2	268	0.0	268	0.0	0.210	6.9	LOS A	1.8	10.6	0.27	0.63	0.27	40.6
11	T1	451	0.0	451	0.0	* 0.385	24.1	LOS B	7.1	42.3	0.84	0.70	0.84	29.1
Approach		719	0.0	719	0.0	0.385	17.7	LOS B	7.1	42.3	0.63	0.67	0.63	31.9
All Vehicles		1622	0.8	1622	0.8	0.394	15.4	LOS B	7.9	47.4	0.58	0.59	0.58	31.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	28.1	LOS C	0.1	0.1	0.84	0.84	62.0	44.0	0.71
North: Site Access												
P3	Full	50	50	27.3	LOS C	0.1	0.1	0.83	0.83	54.2	35.0	0.65
All Pedestrians		100	100	27.7	LOS C	0.1	0.1	0.83	0.83	58.1	39.5	0.68

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

MOVEMENT SUMMARY

Site: 5 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	395	1.0	395	1.0	0.388	3.2	LOS A	2.9	17.6	0.20	0.18	0.20	52.6
6	R2	122	7.0	122	7.0	* 0.278	16.2	LOS B	2.2	14.2	0.52	0.70	0.52	26.5
Approach		517	2.4	517	2.4	0.388	6.3	LOS A	2.9	17.6	0.28	0.30	0.28	45.2
North: Site Access														
7	L2	108	0.0	108	0.0	0.111	12.2	LOS A	2.1	12.6	0.53	0.58	0.53	26.4
9	R2	240	0.0	240	0.0	* 0.398	24.7	LOS B	7.3	44.1	0.82	0.75	0.82	21.1
Approach		348	0.0	348	0.0	0.398	20.8	LOS B	7.3	44.1	0.73	0.69	0.73	22.3
West: High Street (W)														
10	L2	221	0.0	221	0.0	0.171	6.7	LOS A	1.3	7.6	0.25	0.62	0.25	40.9
11	T1	502	0.0	502	0.0	* 0.396	22.7	LOS B	7.7	46.0	0.82	0.69	0.82	30.0
Approach		723	0.0	723	0.0	0.396	17.8	LOS B	7.7	46.0	0.65	0.67	0.65	32.1
All Vehicles		1588	0.8	1588	0.8	0.398	14.7	LOS B	7.7	46.0	0.54	0.55	0.54	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	31.6	LOS D	0.1	0.1	0.89	0.89	65.4	44.0	0.67
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	28.6	LOS C	0.1	0.1	0.85	0.85	59.0	39.5	0.67

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

MOVEMENT SUMMARY

Site: 5 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	396	1.0	396	1.0	0.389	3.2	LOS A	2.9	17.7	0.20	0.18	0.20	52.6
6	R2	136	7.0	136	7.0	* 0.276	17.1	LOS B	2.6	16.8	0.54	0.71	0.54	25.8
Approach		532	2.5	532	2.5	0.389	6.8	LOS A	2.9	17.7	0.29	0.31	0.29	44.2
North: Site Access														
7	L2	130	0.0	130	0.0	0.122	10.2	LOS A	2.3	13.7	0.48	0.56	0.48	28.1
9	R2	274	0.0	274	0.0	* 0.454	25.2	LOS B	8.6	51.5	0.84	0.76	0.84	20.8
Approach		404	0.0	404	0.0	0.454	20.4	LOS B	8.6	51.5	0.73	0.70	0.73	22.5
West: High Street (W)														
10	L2	268	0.0	268	0.0	0.208	6.7	LOS A	1.6	9.6	0.25	0.62	0.25	40.9
11	T1	494	0.0	494	0.0	* 0.461	26.3	LOS B	8.1	48.8	0.88	0.73	0.88	27.8
Approach		762	0.0	762	0.0	0.461	19.4	LOS B	8.1	48.8	0.66	0.70	0.66	30.6
All Vehicles		1698	0.8	1698	0.8	0.461	15.7	LOS B	8.6	51.5	0.56	0.58	0.56	31.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	31.6	LOS D	0.1	0.1	0.89	0.89	65.4	44.0	0.67
North: Site Access												
P3	Full	50	50	29.0	LOS C	0.1	0.1	0.85	0.85	55.9	35.0	0.63
All Pedestrians		100	100	30.3	LOS D	0.1	0.1	0.87	0.87	60.7	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	442	0.0	442	0.0	0.403	1.5	LOS A	1.7	10.3	0.11	0.09	0.11	56.3
6	R2	94	19.0	94	19.0	* 0.194	13.7	LOS A	1.3	9.6	0.41	0.67	0.41	28.8
Approach		536	3.3	536	3.3	0.403	3.6	LOS A	1.7	10.3	0.16	0.20	0.16	50.4
North: Site Access														
7	L2	83	2.0	83	2.0	0.086	12.0	LOS A	1.6	9.7	0.52	0.57	0.52	26.4
9	R2	173	0.0	173	0.0	* 0.324	26.4	LOS B	5.4	32.3	0.83	0.73	0.83	20.4
Approach		256	0.6	256	0.6	0.324	21.7	LOS B	5.4	32.3	0.73	0.68	0.73	21.8
West: High Street (W)														
10	L2	147	1.0	147	1.0	0.111	2.2	LOS A	0.6	3.9	0.20	0.35	0.20	29.4
11	T1	455	0.0	455	0.0	* 0.359	22.4	LOS B	6.8	41.1	0.81	0.68	0.81	30.2
Approach		602	0.2	602	0.2	0.359	17.5	LOS B	6.8	41.1	0.66	0.60	0.66	30.0
All Vehicles		1394	1.5	1394	1.5	0.403	12.9	LOS A	6.8	41.1	0.48	0.46	0.48	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	30.0	LOS C	0.1	0.1	0.86	0.86	60.4	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	450	0.0	450	0.0	0.410	1.5	LOS A	1.8	10.6	0.11	0.10	0.11	56.2
6	R2	94	19.0	94	19.0	* 0.195	13.7	LOS A	1.3	9.6	0.41	0.67	0.41	28.7
Approach		544	3.3	544	3.3	0.410	3.6	LOS A	1.8	10.6	0.16	0.19	0.16	50.5
North: Site Access														
7	L2	83	2.0	83	2.0	0.086	12.0	LOS A	1.6	9.7	0.52	0.57	0.52	26.4
9	R2	173	0.0	173	0.0	* 0.324	26.4	LOS B	5.4	32.3	0.83	0.73	0.83	20.4
Approach		256	0.6	256	0.6	0.324	21.7	LOS B	5.4	32.3	0.73	0.68	0.73	21.8
West: High Street (W)														
10	L2	147	1.0	147	1.0	0.111	6.4	LOS A	0.6	3.9	0.20	0.60	0.20	41.4
11	T1	463	0.0	463	0.0	* 0.365	22.5	LOS B	7.0	41.9	0.81	0.68	0.81	30.2
Approach		610	0.2	610	0.2	0.365	18.6	LOS B	7.0	41.9	0.66	0.66	0.66	31.8
All Vehicles		1410	1.5	1410	1.5	0.410	13.4	LOS A	7.0	41.9	0.48	0.48	0.48	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	30.0	LOS C	0.1	0.1	0.86	0.86	60.4	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	456	0.0	456	0.0	0.416	1.5	LOS A	1.8	10.8	0.11	0.10	0.11	56.2
6	R2	110	19.0	110	19.0	* 0.224	13.9	LOS A	1.6	11.6	0.42	0.68	0.42	28.6
Approach		566	3.7	566	3.7	0.416	3.9	LOS A	1.8	11.6	0.17	0.21	0.17	49.7
North: Site Access														
7	L2	99	2.0	99	2.0	0.101	11.6	LOS A	1.9	11.4	0.51	0.57	0.51	26.8
9	R2	208	0.0	208	0.0	* 0.390	26.9	LOS B	6.6	39.7	0.85	0.75	0.85	20.1
Approach		307	0.6	307	0.6	0.390	22.0	LOS B	6.6	39.7	0.74	0.69	0.74	21.7
West: High Street (W)														
10	L2	182	1.0	182	1.0	0.140	6.5	LOS A	0.9	5.5	0.22	0.61	0.22	41.2
11	T1	470	0.0	470	0.0	* 0.386	23.4	LOS B	7.2	43.5	0.83	0.69	0.83	29.5
Approach		652	0.3	652	0.3	0.386	18.7	LOS B	7.2	43.5	0.66	0.67	0.66	31.6
All Vehicles		1525	1.6	1525	1.6	0.416	13.9	LOS A	7.2	43.5	0.49	0.50	0.49	33.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	26.5	LOS C	0.1	0.1	0.81	0.81	53.4	35.0	0.66
All Pedestrians		100	100	30.4	LOS D	0.1	0.1	0.87	0.87	60.8	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	452	0.0	452	0.0	0.412	1.5	LOS A	1.8	10.7	0.11	0.10	0.11	56.2
6	R2	98	19.0	98	19.0	* 0.204	13.8	LOS A	1.4	10.1	0.42	0.67	0.42	28.7
Approach		550	3.4	550	3.4	0.412	3.7	LOS A	1.8	10.7	0.16	0.20	0.16	50.3
North: Site Access														
7	L2	87	2.0	87	2.0	0.091	12.0	LOS A	1.7	10.2	0.52	0.57	0.52	26.4
9	R2	181	0.0	181	0.0	* 0.339	26.5	LOS B	5.7	34.0	0.83	0.74	0.83	20.3
Approach		268	0.6	268	0.6	0.339	21.8	LOS B	5.7	34.0	0.73	0.68	0.73	21.8
West: High Street (W)														
10	L2	155	1.0	155	1.0	0.118	6.5	LOS A	0.8	4.6	0.22	0.61	0.22	41.3
11	T1	465	0.0	465	0.0	* 0.367	22.5	LOS B	7.0	42.1	0.81	0.68	0.81	30.1
Approach		620	0.3	620	0.3	0.367	18.5	LOS B	7.0	42.1	0.66	0.66	0.66	31.9
All Vehicles		1438	1.5	1438	1.5	0.412	13.4	LOS A	7.0	42.1	0.49	0.49	0.49	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	30.0	LOS C	0.1	0.1	0.86	0.86	60.4	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	451	0.0	451	0.0	0.411	1.5	LOS A	1.8	10.6	0.11	0.10	0.11	56.2
6	R2	114	19.0	114	19.0	* 0.232	14.0	LOS A	1.7	12.2	0.43	0.68	0.43	28.5
Approach		565	3.8	565	3.8	0.411	4.0	LOS A	1.8	12.2	0.17	0.21	0.17	49.5
North: Site Access														
7	L2	101	2.0	101	2.0	0.103	11.6	LOS A	1.9	11.7	0.52	0.57	0.52	26.7
9	R2	215	0.0	215	0.0	* 0.403	27.0	LOS B	6.9	41.2	0.85	0.76	0.85	20.1
Approach		316	0.6	316	0.6	0.403	22.1	LOS B	6.9	41.2	0.74	0.70	0.74	21.7
West: High Street (W)														
10	L2	186	1.0	186	1.0	0.143	6.5	LOS A	0.9	5.7	0.22	0.61	0.22	41.2
11	T1	471	0.0	471	0.0	* 0.386	23.4	LOS B	7.3	43.6	0.83	0.69	0.83	29.5
Approach		657	0.3	657	0.3	0.386	18.6	LOS B	7.3	43.6	0.66	0.67	0.66	31.6
All Vehicles		1538	1.7	1538	1.7	0.411	14.0	LOS A	7.3	43.6	0.50	0.51	0.50	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	26.5	LOS C	0.1	0.1	0.81	0.81	53.4	35.0	0.66
All Pedestrians		100	100	30.4	LOS D	0.1	0.1	0.87	0.87	60.8	39.5	0.65

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

MOVEMENT SUMMARY

Site: 5 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	493	0.0	493	0.0	0.449	1.6	LOS A	2.1	12.4	0.12	0.10	0.12	56.1
6	R2	94	19.0	94	19.0	* 0.206	13.8	LOS A	1.4	9.8	0.42	0.67	0.42	28.7
Approach		587	3.0	587	3.0	0.449	3.5	LOS A	2.1	12.4	0.16	0.19	0.16	50.8
North: Site Access														
7	L2	83	2.0	83	2.0	0.088	12.6	LOS A	1.6	10.0	0.54	0.58	0.54	26.0
9	R2	173	0.0	173	0.0	* 0.324	26.4	LOS B	5.4	32.3	0.83	0.73	0.83	20.4
Approach		256	0.6	256	0.6	0.324	21.9	LOS B	5.4	32.3	0.73	0.68	0.73	21.8
West: High Street (W)														
10	L2	147	1.0	147	1.0	0.112	2.3	LOS A	0.7	4.4	0.22	0.36	0.22	29.4
11	T1	507	0.0	507	0.0	* 0.385	21.9	LOS B	7.6	45.6	0.81	0.68	0.81	30.5
Approach		654	0.2	654	0.2	0.385	17.5	LOS B	7.6	45.6	0.68	0.61	0.68	30.3
All Vehicles		1497	1.4	1497	1.4	0.449	12.8	LOS A	7.6	45.6	0.48	0.46	0.48	34.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	24.9	LOS C	0.1	0.1	0.79	0.79	51.8	35.0	0.68
All Pedestrians		100	100	29.6	LOS C	0.1	0.1	0.86	0.86	60.0	39.5	0.66

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

MOVEMENT SUMMARY

Site: 5 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: High Street (E)														
5	T1	493	0.0	493	0.0	0.449	1.6	LOS A	2.1	12.4	0.12	0.10	0.12	56.1
6	R2	114	19.0	114	19.0	* 0.244	14.8	LOS B	1.8	13.0	0.46	0.68	0.46	27.8
Approach		607	3.6	607	3.6	0.449	4.0	LOS A	2.1	13.0	0.18	0.21	0.18	49.5
North: Site Access														
7	L2	101	2.0	101	2.0	0.105	12.1	LOS A	2.0	12.0	0.53	0.58	0.53	26.3
9	R2	215	0.0	215	0.0	* 0.403	27.0	LOS B	6.9	41.2	0.85	0.76	0.85	20.1
Approach		316	0.6	316	0.6	0.403	22.3	LOS B	6.9	41.2	0.75	0.70	0.75	21.6
West: High Street (W)														
10	L2	186	1.0	186	1.0	0.143	6.5	LOS A	0.9	5.7	0.22	0.61	0.22	41.2
11	T1	514	0.0	514	0.0	* 0.406	22.8	LOS B	7.9	47.3	0.82	0.69	0.82	29.9
Approach		700	0.3	700	0.3	0.406	18.5	LOS B	7.9	47.3	0.67	0.67	0.67	31.8
All Vehicles		1623	1.6	1623	1.6	0.449	13.8	LOS A	7.9	47.3	0.50	0.50	0.50	34.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	34.3	LOS D	0.1	0.1	0.93	0.93	68.1	44.0	0.65
North: Site Access												
P3	Full	50	50	25.7	LOS C	0.1	0.1	0.80	0.80	52.6	35.0	0.67
All Pedestrians		100	100	30.0	LOS C	0.1	0.1	0.86	0.86	60.4	39.5	0.65

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.

PHASING SUMMARY

Site: 5 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

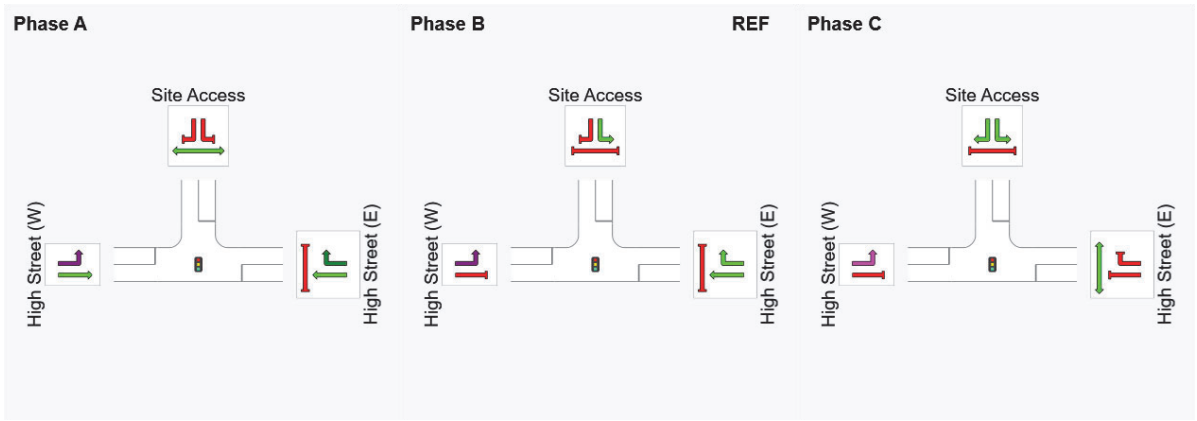
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

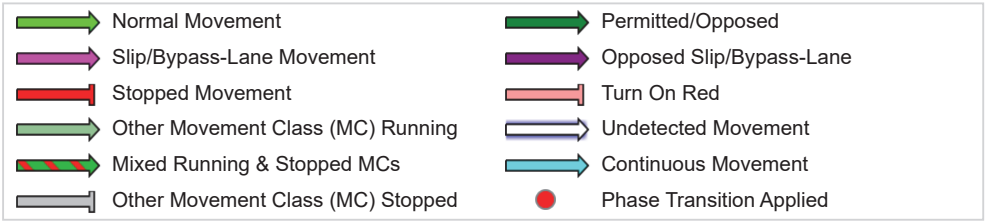
Phase	A	B	C
Phase Change Time (sec)	52	0	20
Green Time (sec)	22	14	26
Phase Time (sec)	28	20	32
Phase Split	35%	25%	40%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

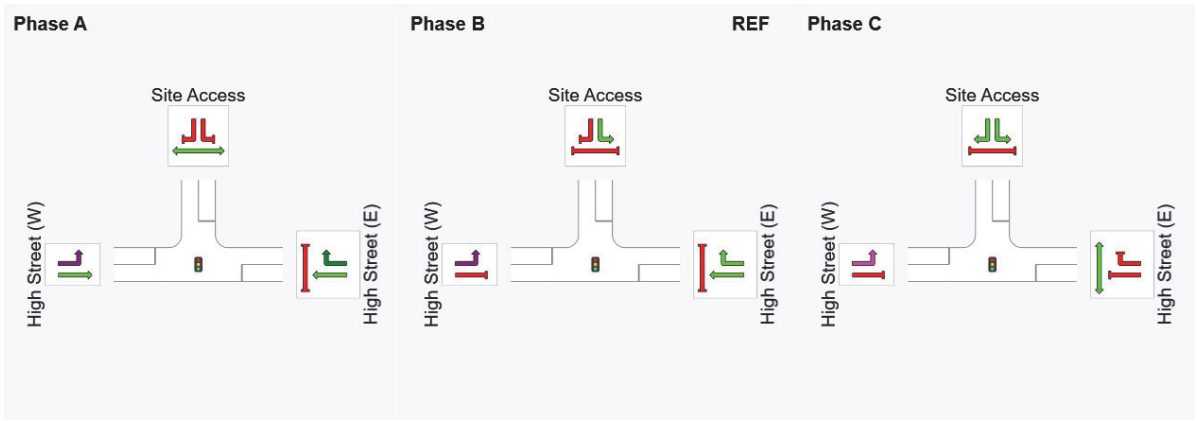
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

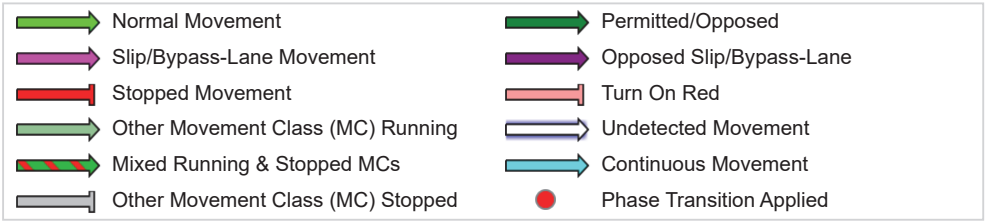
Phase	A	B	C
Phase Change Time (sec)	48	0	14
Green Time (sec)	26	8	28
Phase Time (sec)	32	14	34
Phase Split	40%	18%	43%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Aprv Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

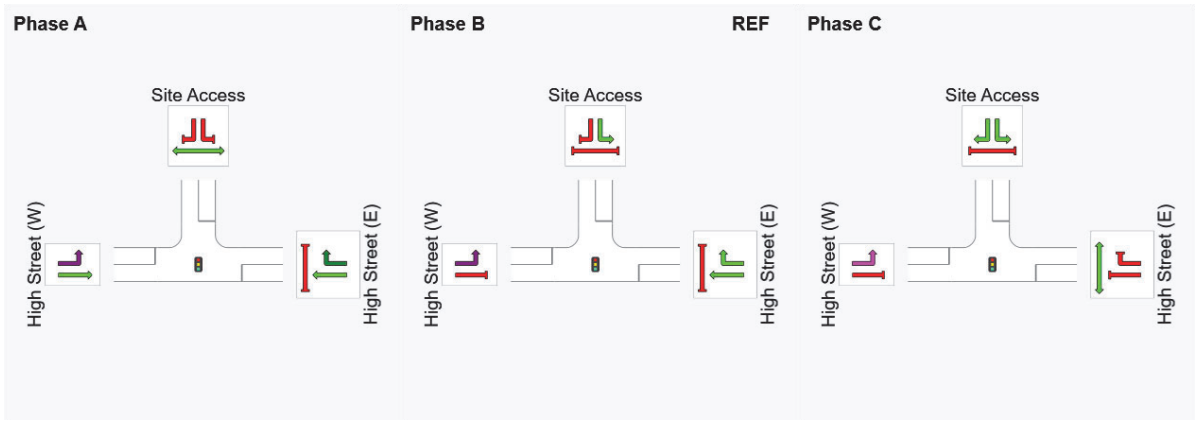
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

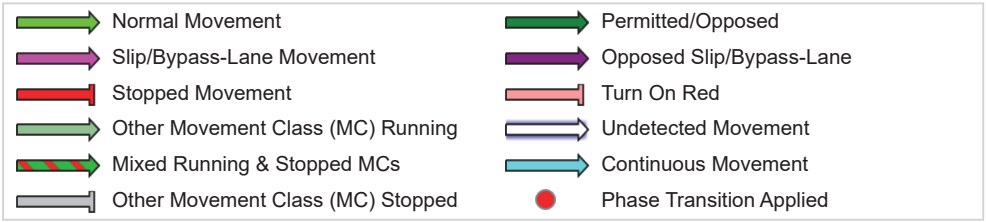
Phase	A	B	C
Phase Change Time (sec)	53	0	20
Green Time (sec)	21	14	27
Phase Time (sec)	27	20	33
Phase Split	34%	25%	41%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2024 W Dev Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

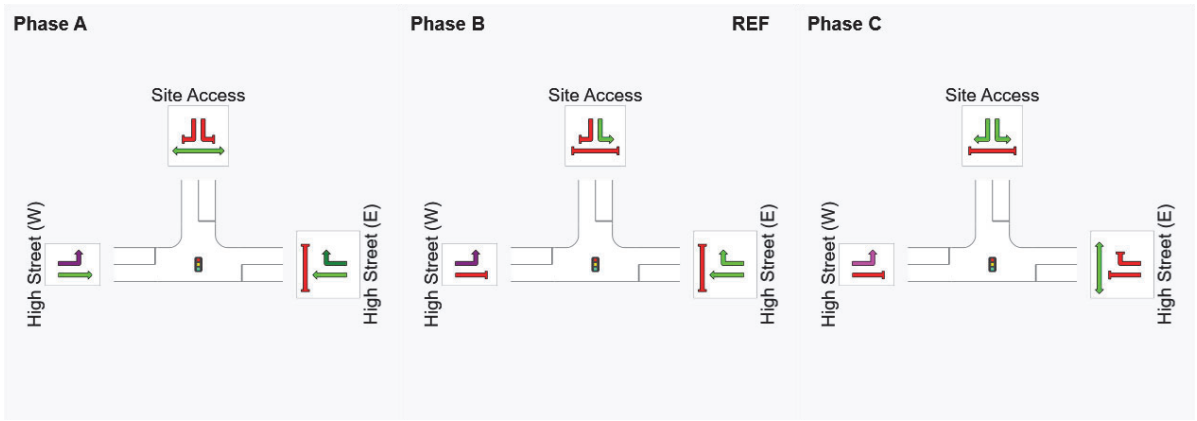
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	49	0	15
Green Time (sec)	25	9	28
Phase Time (sec)	31	15	34
Phase Split	39%	19%	43%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

PHASING SUMMARY

Site: 5 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

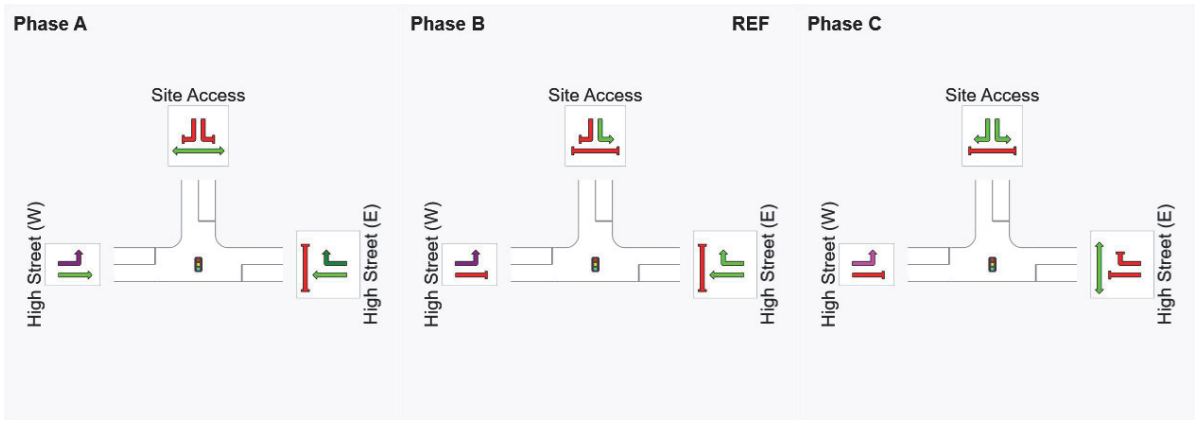
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	50	0	14
Green Time (sec)	24	8	30
Phase Time (sec)	30	14	36
Phase Split	38%	18%	45%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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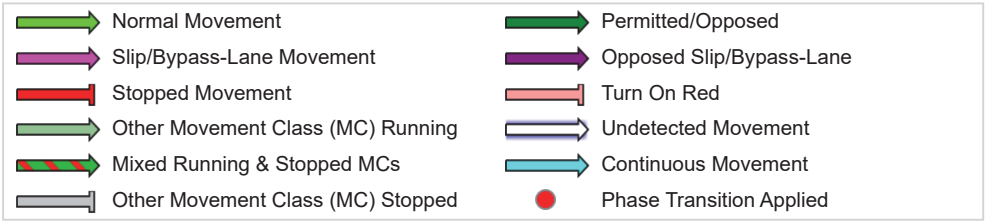


PHASING SUMMARY

Site: 5 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

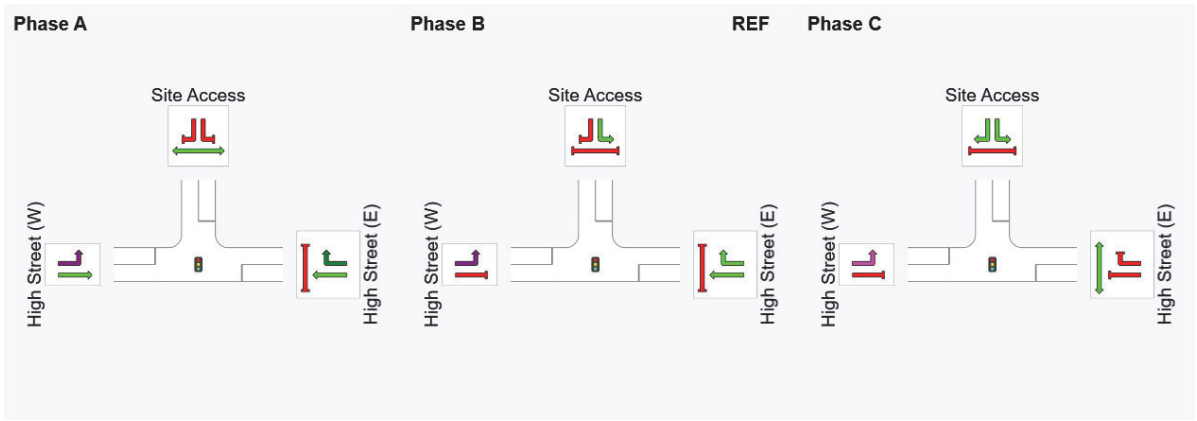
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	48	0	16
Green Time (sec)	26	10	26
Phase Time (sec)	32	16	32
Phase Split	40%	20%	40%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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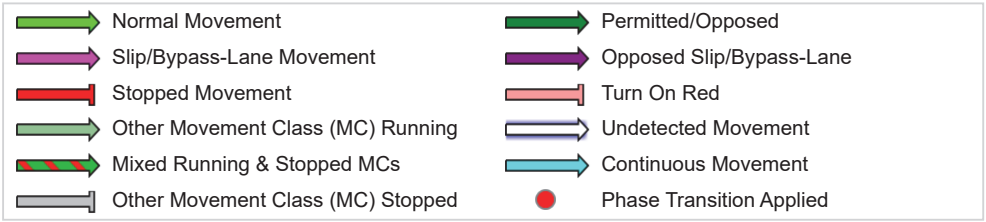

PHASING SUMMARY

Site: 5 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Kmart
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	52	0	20
Green Time (sec)	22	14	26
Phase Time (sec)	28	20	32
Phase Split	35%	25%	40%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

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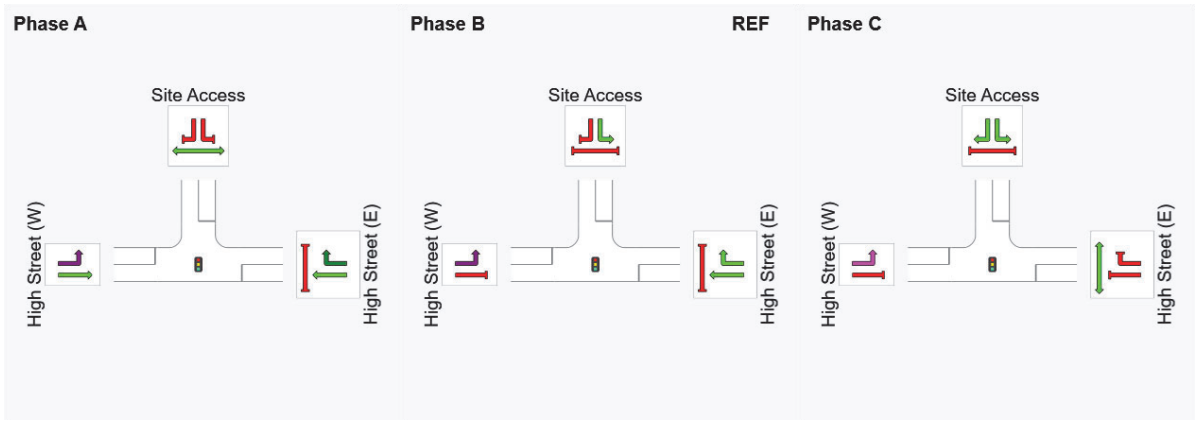

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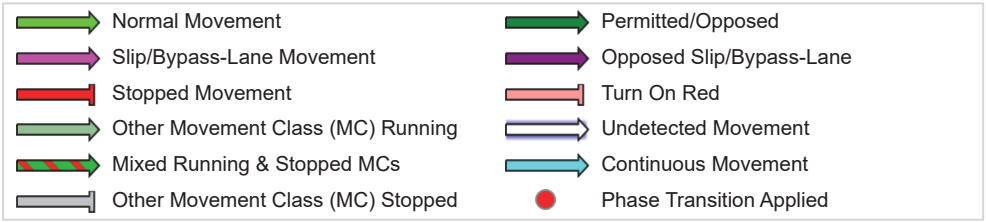


PHASING SUMMARY

Site: 5 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

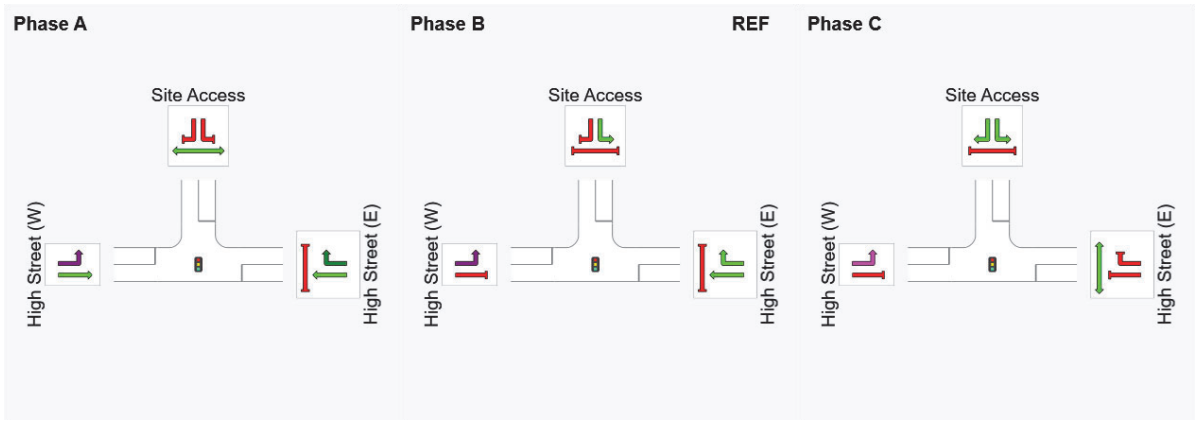
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	48	0	19
Green Time (sec)	26	13	23
Phase Time (sec)	32	19	29
Phase Split	40%	24%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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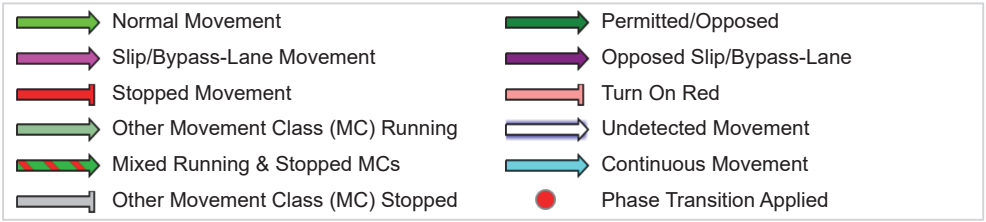

PHASING SUMMARY

Site: 5 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
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Phase Timing Summary

Phase	A	B	C
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Phase Time (sec)	32	19	29
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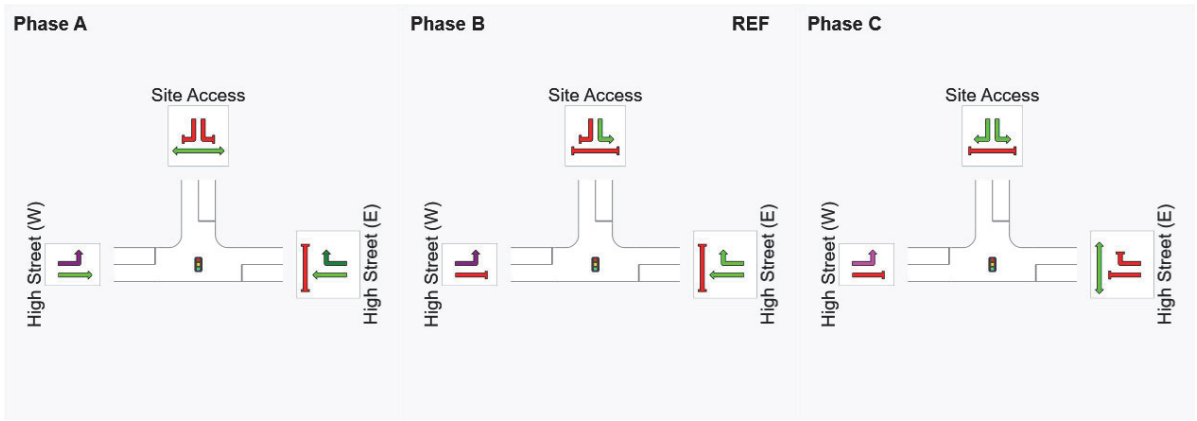

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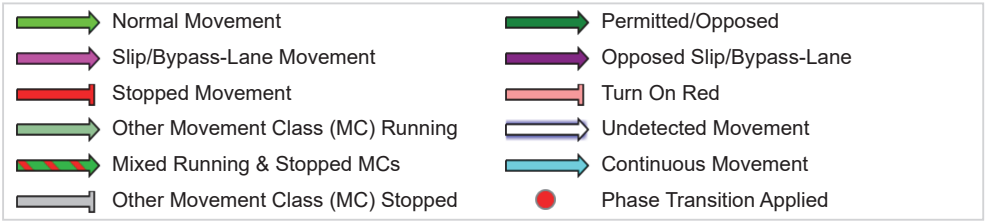

PHASING SUMMARY

Site: 5 [2024 W Aprv Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
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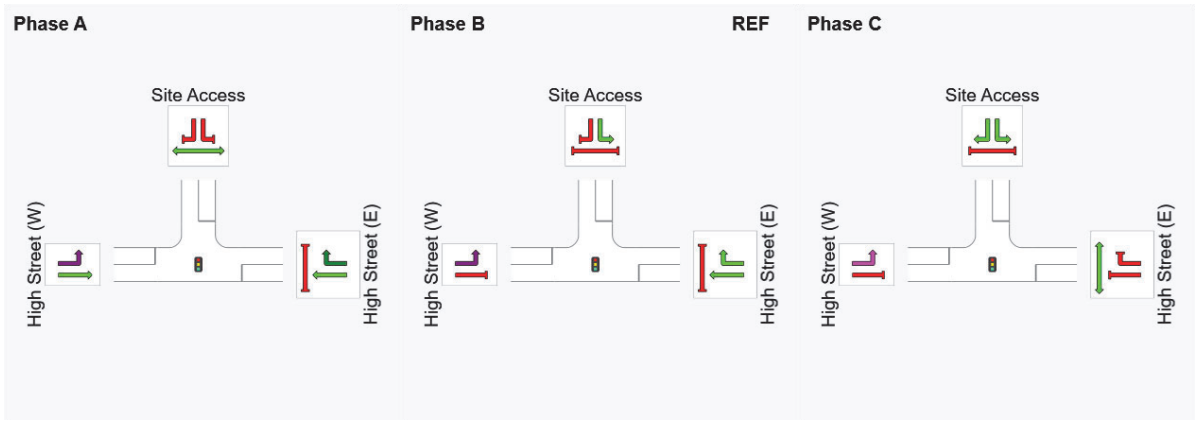
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	49	0	20
Green Time (sec)	25	14	23
Phase Time (sec)	31	20	29
Phase Split	39%	25%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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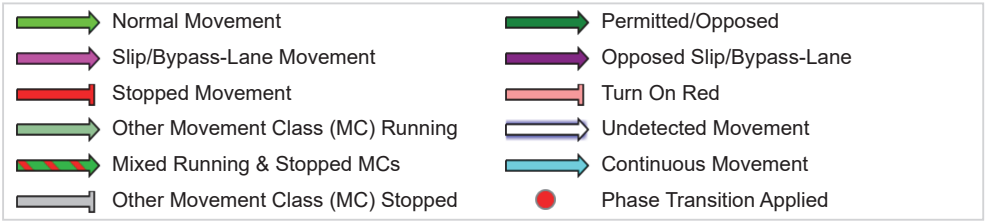

PHASING SUMMARY

Site: 5 [2024 W Dev Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	48	0	19
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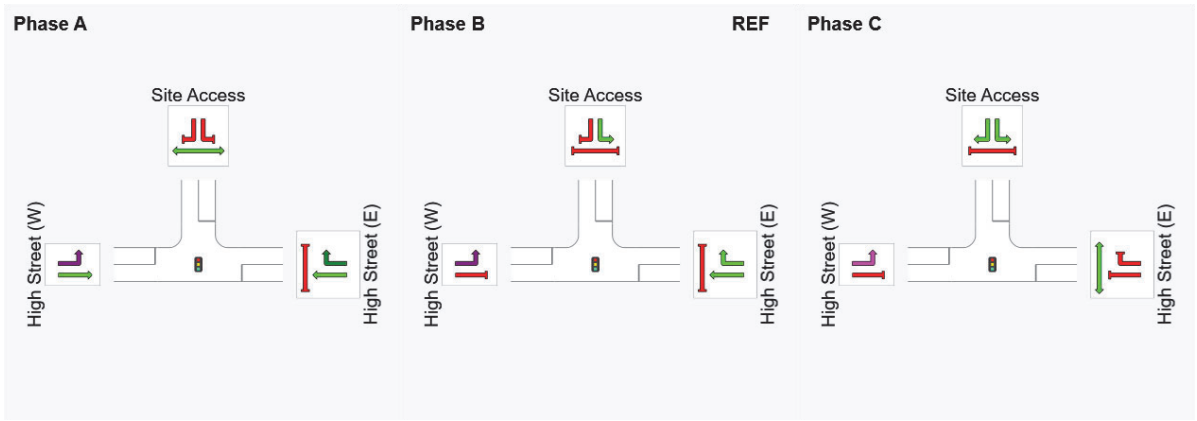
Phase Time (sec)	32	19	29
Phase Split	40%	24%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



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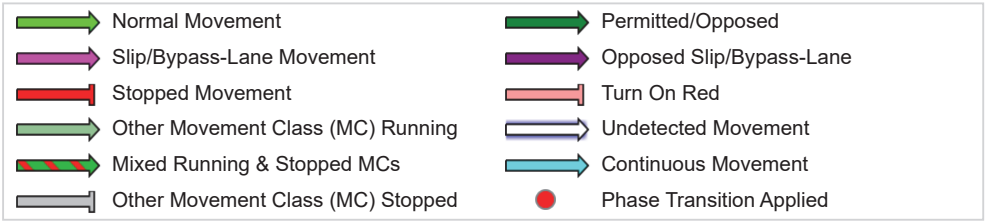


PHASING SUMMARY

Site: 5 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

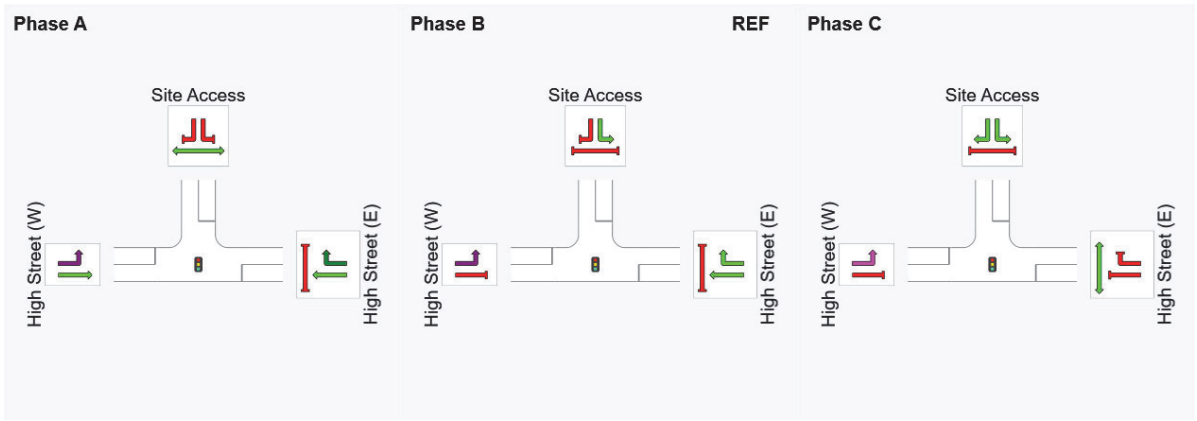
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

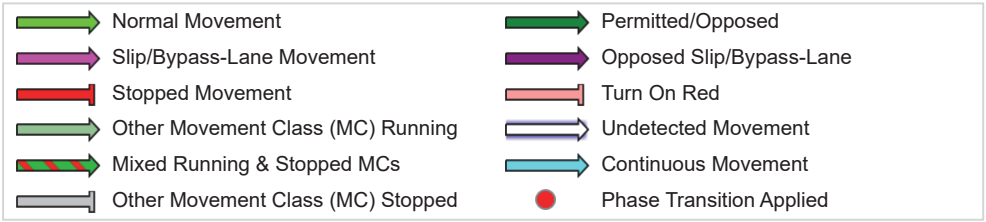
Phase	A	B	C
Phase Change Time (sec)	49	0	20
Green Time (sec)	25	14	23
Phase Time (sec)	31	20	29
Phase Split	39%	25%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

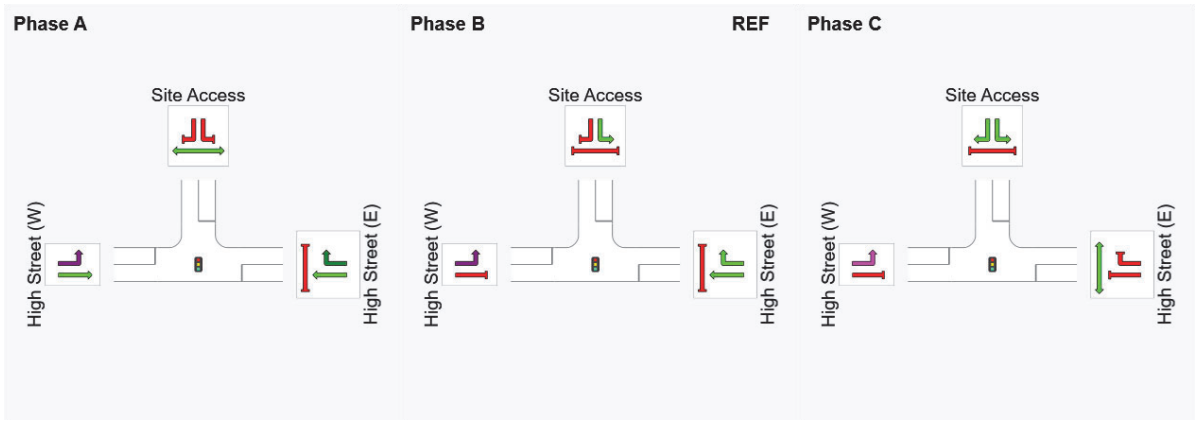
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

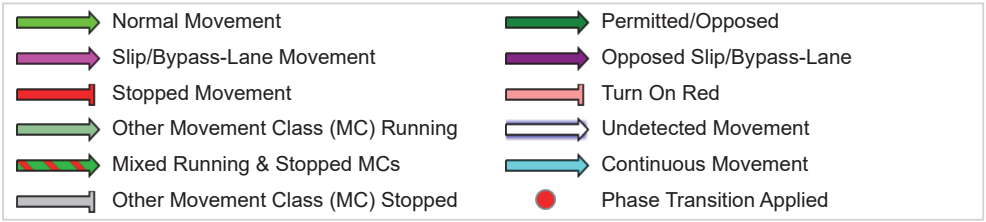
Phase	A	B	C
Phase Change Time (sec)	47	0	18
Green Time (sec)	27	12	23
Phase Time (sec)	33	18	29
Phase Split	41%	23%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Kmart
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 seconds (Site User-Given Cycle Time)

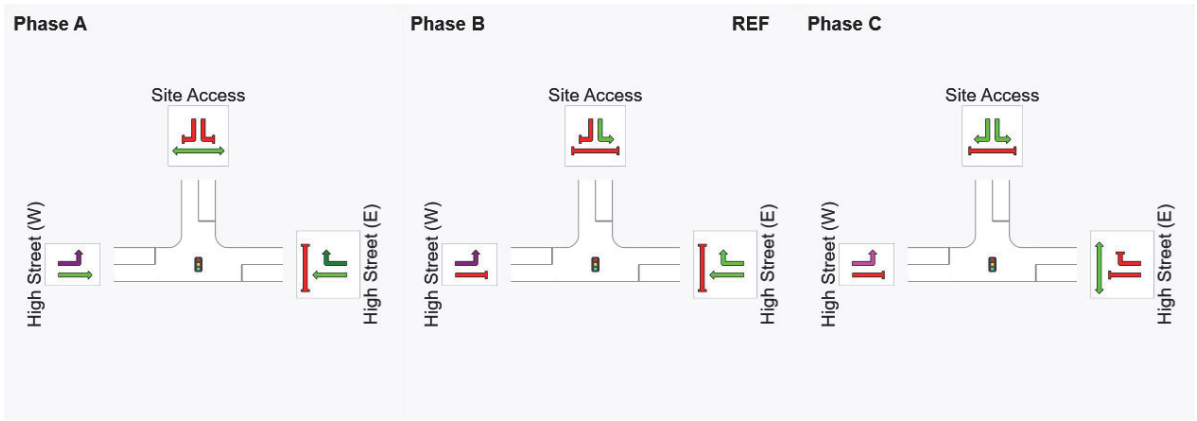
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase B
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

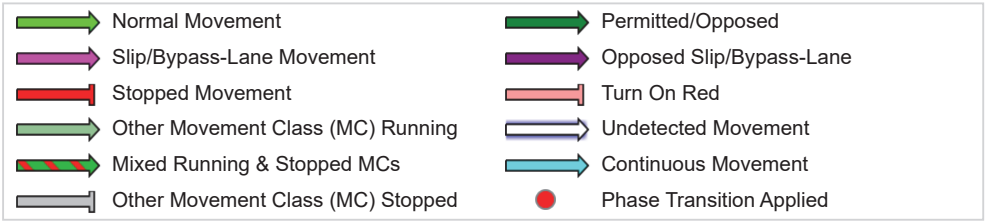
Phase	A	B	C
Phase Change Time (sec)	48	0	19
Green Time (sec)	26	13	23
Phase Time (sec)	32	19	29
Phase Split	40%	24%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



MOVEMENT SUMMARY

Site: 4 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.56	0.45	0.56	34.5
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.56	0.45	0.56	25.7
3	R2	1	0.0	1	0.0	0.013	5.3	LOS A	0.1	0.4	0.56	0.45	0.56	43.2
3u	U	1	0.0	1	0.0	0.013	6.1	LOS A	0.1	0.4	0.56	0.45	0.56	22.2
Approach		10	0.0	10	0.0	0.013	3.2	LOS A	0.1	0.4	0.56	0.45	0.56	30.4
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.271	5.3	LOS A	1.4	9.8	0.40	0.52	0.40	43.0
5	T1	483	1.0	483	1.0	0.271	5.3	LOS A	1.4	9.8	0.40	0.55	0.40	46.5
6	R2	127	0.0	127	0.0	0.271	10.0	LOS A	1.4	9.6	0.40	0.61	0.40	42.8
6u	U	3	0.0	3	0.0	0.271	12.2	LOS A	1.4	9.6	0.40	0.61	0.40	49.2
Approach		619	0.8	619	0.8	0.271	6.3	LOS A	1.4	9.8	0.40	0.57	0.40	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.503	3.7	LOS A	4.0	28.0	0.72	0.65	0.72	34.9
8	T1	2	0.0	2	0.0	0.503	3.6	LOS A	4.0	28.0	0.72	0.65	0.72	24.1
9	R2	269	1.0	269	1.0	0.503	6.4	LOS A	4.0	28.0	0.72	0.65	0.72	26.9
9u	U	1	0.0	1	0.0	0.503	7.2	LOS A	4.0	28.0	0.72	0.65	0.72	34.0
Approach		463	1.0	463	1.0	0.503	5.3	LOS A	4.0	28.0	0.72	0.65	0.72	30.2
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.333	4.7	LOS A	1.8	12.7	0.26	0.50	0.26	35.3
11	T1	455	0.0	455	0.0	0.354	4.8	LOS A	1.9	13.6	0.27	0.45	0.27	48.8
12	R2	2	0.0	2	0.0	0.354	9.4	LOS A	1.9	13.6	0.27	0.45	0.27	35.3
12u	U	4	0.0	4	0.0	0.354	11.6	LOS A	1.9	13.6	0.27	0.45	0.27	32.7
Approach		928	0.0	928	0.0	0.354	4.8	LOS A	1.9	13.6	0.26	0.47	0.26	42.0
All Vehicles		2020	0.5	2020	0.5	0.503	5.4	LOS A	4.0	28.0	0.41	0.54	0.41	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:04 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.57	0.46	0.57	34.4
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.57	0.46	0.57	25.7
3	R2	1	0.0	1	0.0	0.013	5.3	LOS A	0.1	0.4	0.57	0.46	0.57	43.2
3u	U	1	0.0	1	0.0	0.013	6.1	LOS A	0.1	0.4	0.57	0.46	0.57	22.2
Approach		10	0.0	10	0.0	0.013	3.3	LOS A	0.1	0.4	0.57	0.46	0.57	30.4
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.275	5.3	LOS A	1.4	10.0	0.40	0.52	0.40	43.0
5	T1	492	1.0	492	1.0	0.275	5.3	LOS A	1.4	10.0	0.40	0.55	0.40	46.5
6	R2	127	0.0	127	0.0	0.275	10.0	LOS A	1.4	9.8	0.41	0.61	0.41	42.8
6u	U	3	0.0	3	0.0	0.275	12.2	LOS A	1.4	9.8	0.41	0.61	0.41	49.2
Approach		628	0.8	628	0.8	0.275	6.3	LOS A	1.4	10.0	0.40	0.57	0.40	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.505	3.8	LOS A	4.0	28.3	0.73	0.65	0.73	34.8
8	T1	2	0.0	2	0.0	0.505	3.7	LOS A	4.0	28.3	0.73	0.65	0.73	24.0
9	R2	269	1.0	269	1.0	0.505	6.5	LOS A	4.0	28.3	0.73	0.65	0.73	26.9
9u	U	1	0.0	1	0.0	0.505	7.3	LOS A	4.0	28.3	0.73	0.65	0.73	33.9
Approach		463	1.0	463	1.0	0.505	5.4	LOS A	4.0	28.3	0.73	0.65	0.73	30.2
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.359	4.8	LOS A	2.0	13.9	0.27	0.50	0.27	35.2
11	T1	463	0.0	463	0.0	0.335	4.7	LOS A	1.8	12.8	0.26	0.44	0.26	49.0
12	R2	2	0.0	2	0.0	0.335	9.4	LOS A	1.8	12.8	0.26	0.44	0.26	35.5
12u	U	4	0.0	4	0.0	0.335	11.5	LOS A	1.8	12.8	0.26	0.44	0.26	32.7
Approach		936	0.0	936	0.0	0.359	4.8	LOS A	2.0	13.9	0.26	0.47	0.26	42.1
All Vehicles		2037	0.5	2037	0.5	0.505	5.4	LOS A	4.0	28.3	0.41	0.54	0.41	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:05 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2024 W Aprv Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.9	LOS A	0.1	0.4	0.58	0.47	0.58	34.2
2	T1	4	0.0	4	0.0	0.013	2.8	LOS A	0.1	0.4	0.58	0.47	0.58	25.6
3	R2	1	0.0	1	0.0	0.013	5.5	LOS A	0.1	0.4	0.58	0.47	0.58	42.9
3u	U	1	0.0	1	0.0	0.013	6.3	LOS A	0.1	0.4	0.58	0.47	0.58	22.0
Approach		10	0.0	10	0.0	0.013	3.4	LOS A	0.1	0.4	0.58	0.47	0.58	30.2
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.299	5.3	LOS A	1.6	11.2	0.42	0.53	0.42	42.8
5	T1	534	1.0	534	1.0	0.299	5.4	LOS A	1.6	11.2	0.42	0.56	0.42	46.4
6	R2	132	0.0	132	0.0	0.299	10.1	LOS A	1.6	10.9	0.42	0.62	0.42	42.8
6u	U	3	0.0	3	0.0	0.299	12.2	LOS A	1.6	10.9	0.42	0.62	0.42	49.2
Approach		675	0.8	675	0.8	0.299	6.4	LOS A	1.6	11.2	0.42	0.57	0.42	45.6
North: Aquatic Street (N)														
7	L2	196	1.0	196	1.0	0.536	4.9	LOS A	4.8	33.7	0.78	0.73	0.82	33.8
8	T1	2	0.0	2	0.0	0.536	4.7	LOS A	4.8	33.7	0.78	0.73	0.82	23.1
9	R2	277	1.0	277	1.0	0.536	7.5	LOS A	4.8	33.7	0.78	0.73	0.82	26.1
9u	U	1	0.0	1	0.0	0.536	8.3	LOS A	4.8	33.7	0.78	0.73	0.82	32.6
Approach		476	1.0	476	1.0	0.536	6.4	LOS A	4.8	33.7	0.78	0.73	0.82	29.3
West: High Street (W)														
10	L2	475	0.0	475	0.0	0.370	4.9	LOS A	2.1	14.5	0.28	0.51	0.28	35.1
11	T1	506	0.0	506	0.0	0.366	4.8	LOS A	2.1	14.7	0.27	0.45	0.27	48.8
12	R2	2	0.0	2	0.0	0.366	9.4	LOS A	2.1	14.7	0.27	0.45	0.27	35.3
12u	U	4	0.0	4	0.0	0.366	11.5	LOS A	2.1	14.7	0.27	0.45	0.27	32.6
Approach		987	0.0	987	0.0	0.370	4.9	LOS A	2.1	14.7	0.28	0.48	0.28	42.2
All Vehicles		2148	0.5	2148	0.5	0.536	5.7	LOS A	4.8	33.7	0.43	0.56	0.44	39.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W Dev Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.57	0.46	0.57	34.4
2	T1	4	0.0	4	0.0	0.013	2.6	LOS A	0.1	0.4	0.57	0.46	0.57	25.7
3	R2	1	0.0	1	0.0	0.013	5.4	LOS A	0.1	0.4	0.57	0.46	0.57	43.1
3u	U	1	0.0	1	0.0	0.013	6.2	LOS A	0.1	0.4	0.57	0.46	0.57	22.1
Approach		10	0.0	10	0.0	0.013	3.3	LOS A	0.1	0.4	0.57	0.46	0.57	30.3
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.281	5.3	LOS A	1.5	10.3	0.40	0.52	0.40	42.9
5	T1	503	1.0	503	1.0	0.281	5.4	LOS A	1.5	10.3	0.41	0.55	0.41	46.5
6	R2	128	0.0	128	0.0	0.281	10.1	LOS A	1.4	10.1	0.41	0.61	0.41	42.8
6u	U	3	0.0	3	0.0	0.281	12.2	LOS A	1.4	10.1	0.41	0.61	0.41	49.2
Approach		640	0.8	640	0.8	0.281	6.3	LOS A	1.5	10.3	0.41	0.57	0.41	45.7
North: Aquatic Street (N)														
7	L2	192	1.0	192	1.0	0.512	4.0	LOS A	4.2	29.5	0.74	0.67	0.75	34.5
8	T1	2	0.0	2	0.0	0.512	3.9	LOS A	4.2	29.5	0.74	0.67	0.75	23.8
9	R2	271	1.0	271	1.0	0.512	6.7	LOS A	4.2	29.5	0.74	0.67	0.75	26.7
9u	U	1	0.0	1	0.0	0.512	7.5	LOS A	4.2	29.5	0.74	0.67	0.75	33.6
Approach		466	1.0	466	1.0	0.512	5.6	LOS A	4.2	29.5	0.74	0.67	0.75	30.0
West: High Street (W)														
10	L2	469	0.0	469	0.0	0.361	4.8	LOS A	2.0	14.0	0.27	0.51	0.27	35.2
11	T1	474	0.0	474	0.0	0.343	4.8	LOS A	1.9	13.3	0.26	0.45	0.26	48.9
12	R2	2	0.0	2	0.0	0.343	9.4	LOS A	1.9	13.3	0.26	0.45	0.26	35.4
12u	U	4	0.0	4	0.0	0.343	11.5	LOS A	1.9	13.3	0.26	0.45	0.26	32.7
Approach		949	0.0	949	0.0	0.361	4.8	LOS A	2.0	14.0	0.27	0.48	0.27	42.1
All Vehicles		2065	0.5	2065	0.5	0.512	5.5	LOS A	4.2	29.5	0.42	0.55	0.42	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.8	LOS A	0.1	0.4	0.58	0.47	0.58	34.2
2	T1	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.58	0.47	0.58	25.6
3	R2	1	0.0	1	0.0	0.013	5.5	LOS A	0.1	0.4	0.58	0.47	0.58	42.9
3u	U	1	0.0	1	0.0	0.013	6.3	LOS A	0.1	0.4	0.58	0.47	0.58	22.0
Approach		10	0.0	10	0.0	0.013	3.4	LOS A	0.1	0.4	0.58	0.47	0.58	30.2
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.297	5.3	LOS A	1.6	11.1	0.41	0.52	0.41	42.8
5	T1	540	1.0	540	1.0	0.297	5.4	LOS A	1.6	11.1	0.41	0.55	0.41	46.5
6	R2	127	0.0	127	0.0	0.297	10.1	LOS A	1.5	10.9	0.42	0.61	0.42	42.9
6u	U	3	0.0	3	0.0	0.297	12.2	LOS A	1.5	10.9	0.42	0.61	0.42	49.3
Approach		676	0.8	676	0.8	0.297	6.3	LOS A	1.6	11.1	0.42	0.57	0.42	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.525	4.8	LOS A	4.6	32.3	0.78	0.73	0.81	33.8
8	T1	2	0.0	2	0.0	0.525	4.7	LOS A	4.6	32.3	0.78	0.73	0.81	23.1
9	R2	269	1.0	269	1.0	0.525	7.5	LOS A	4.6	32.3	0.78	0.73	0.81	26.1
9u	U	1	0.0	1	0.0	0.525	8.3	LOS A	4.6	32.3	0.78	0.73	0.81	32.7
Approach		463	1.0	463	1.0	0.525	6.4	LOS A	4.6	32.3	0.78	0.73	0.81	29.3
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.364	4.8	LOS A	2.0	14.2	0.27	0.51	0.27	35.2
11	T1	516	0.0	516	0.0	0.371	4.8	LOS A	2.1	15.0	0.27	0.45	0.27	48.9
12	R2	2	0.0	2	0.0	0.371	9.4	LOS A	2.1	15.0	0.27	0.45	0.27	35.4
12u	U	4	0.0	4	0.0	0.371	11.5	LOS A	2.1	15.0	0.27	0.45	0.27	32.7
Approach		989	0.0	989	0.0	0.371	4.8	LOS A	2.1	15.0	0.27	0.47	0.27	42.4
All Vehicles		2138	0.5	2138	0.5	0.525	5.6	LOS A	4.6	32.3	0.43	0.56	0.44	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:07 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	2.8	LOS A	0.1	0.4	0.58	0.47	0.58	34.2
2	T1	4	0.0	4	0.0	0.013	2.7	LOS A	0.1	0.4	0.58	0.47	0.58	25.6
3	R2	1	0.0	1	0.0	0.013	5.5	LOS A	0.1	0.4	0.58	0.47	0.58	42.9
3u	U	1	0.0	1	0.0	0.013	6.3	LOS A	0.1	0.4	0.58	0.47	0.58	22.0
Approach		10	0.0	10	0.0	0.013	3.4	LOS A	0.1	0.4	0.58	0.47	0.58	30.2
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.296	5.3	LOS A	1.6	11.1	0.41	0.52	0.41	42.8
5	T1	538	1.0	538	1.0	0.296	5.4	LOS A	1.6	11.1	0.41	0.55	0.41	46.5
6	R2	127	0.0	127	0.0	0.296	10.1	LOS A	1.5	10.8	0.42	0.61	0.42	42.9
6u	U	3	0.0	3	0.0	0.296	12.2	LOS A	1.5	10.8	0.42	0.61	0.42	49.3
Approach		674	0.8	674	0.8	0.296	6.3	LOS A	1.6	11.1	0.41	0.57	0.41	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.521	4.6	LOS A	4.5	31.6	0.77	0.71	0.80	34.0
8	T1	2	0.0	2	0.0	0.521	4.5	LOS A	4.5	31.6	0.77	0.71	0.80	23.3
9	R2	269	1.0	269	1.0	0.521	7.3	LOS A	4.5	31.6	0.77	0.71	0.80	26.3
9u	U	1	0.0	1	0.0	0.521	8.1	LOS A	4.5	31.6	0.77	0.71	0.80	32.9
Approach		463	1.0	463	1.0	0.521	6.2	LOS A	4.5	31.6	0.77	0.71	0.80	29.5
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.363	4.8	LOS A	2.0	14.1	0.27	0.51	0.27	35.2
11	T1	507	0.0	507	0.0	0.365	4.8	LOS A	2.1	14.6	0.27	0.45	0.27	48.9
12	R2	2	0.0	2	0.0	0.365	9.4	LOS A	2.1	14.6	0.27	0.45	0.27	35.4
12u	U	4	0.0	4	0.0	0.365	11.5	LOS A	2.1	14.6	0.27	0.45	0.27	32.7
Approach		980	0.0	980	0.0	0.365	4.8	LOS A	2.1	14.6	0.27	0.47	0.27	42.4
All Vehicles		2127	0.5	2127	0.5	0.521	5.6	LOS A	4.5	31.6	0.43	0.56	0.43	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: High Street/Acquatic Place
Saturday AM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	4	0.0	4	0.0	0.013	3.0	LOS A	0.1	0.4	0.59	0.48	0.59	34.0
2	T1	4	0.0	4	0.0	0.013	2.9	LOS A	0.1	0.4	0.59	0.48	0.59	25.5
3	R2	1	0.0	1	0.0	0.013	5.6	LOS A	0.1	0.4	0.59	0.48	0.59	42.7
3u	U	1	0.0	1	0.0	0.013	6.4	LOS A	0.1	0.4	0.59	0.48	0.59	21.8
Approach		10	0.0	10	0.0	0.013	3.5	LOS A	0.1	0.4	0.59	0.48	0.59	30.1
East: High Street (W)														
4	L2	6	0.0	6	0.0	0.318	5.3	LOS A	1.7	12.2	0.42	0.52	0.42	42.7
5	T1	586	1.0	586	1.0	0.318	5.4	LOS A	1.7	12.2	0.43	0.56	0.43	46.4
6	R2	127	0.0	127	0.0	0.318	10.1	LOS A	1.7	11.9	0.43	0.61	0.43	42.9
6u	U	3	0.0	3	0.0	0.318	12.2	LOS A	1.7	11.9	0.43	0.61	0.43	49.3
Approach		722	0.8	722	0.8	0.318	6.3	LOS A	1.7	12.2	0.43	0.57	0.43	45.7
North: Aquatic Street (N)														
7	L2	191	1.0	191	1.0	0.542	5.8	LOS A	5.1	36.1	0.82	0.79	0.89	33.0
8	T1	2	0.0	2	0.0	0.542	5.7	LOS A	5.1	36.1	0.82	0.79	0.89	22.3
9	R2	269	1.0	269	1.0	0.542	8.5	LOS A	5.1	36.1	0.82	0.79	0.89	25.4
9u	U	1	0.0	1	0.0	0.542	9.3	LOS A	5.1	36.1	0.82	0.79	0.89	31.6
Approach		463	1.0	463	1.0	0.542	7.4	LOS A	5.1	36.1	0.82	0.79	0.89	28.6
West: High Street (W)														
10	L2	467	0.0	467	0.0	0.369	4.8	LOS A	2.1	14.4	0.28	0.51	0.28	35.1
11	T1	559	0.0	559	0.0	0.400	4.8	LOS A	2.4	16.8	0.28	0.45	0.28	48.8
12	R2	2	0.0	2	0.0	0.400	9.4	LOS A	2.4	16.8	0.28	0.45	0.28	35.3
12u	U	4	0.0	4	0.0	0.400	11.5	LOS A	2.4	16.8	0.28	0.45	0.28	32.6
Approach		1032	0.0	1032	0.0	0.400	4.9	LOS A	2.4	16.8	0.28	0.48	0.28	42.6
All Vehicles		2227	0.5	2227	0.5	0.542	5.8	LOS A	5.1	36.1	0.44	0.57	0.45	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:08 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.3	LOS A	0.0	0.2	0.52	0.46	0.52	33.3
2	T1	2	0.0	2	0.0	0.007	2.2	LOS A	0.0	0.2	0.52	0.46	0.52	25.5
3	R2	2	0.0	2	0.0	0.007	4.9	LOS A	0.0	0.2	0.52	0.46	0.52	41.5
3u	U	1	0.0	1	0.0	0.007	5.7	LOS A	0.0	0.2	0.52	0.46	0.52	22.2
Approach		6	0.0	6	0.0	0.007	3.7	LOS A	0.0	0.2	0.52	0.46	0.52	31.8
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.241	5.5	LOS A	1.2	8.3	0.33	0.48	0.33	43.8
5	T1	498	0.0	498	0.0	0.241	5.0	LOS A	1.2	8.3	0.34	0.51	0.34	47.5
6	R2	82	0.0	82	0.0	0.241	9.7	LOS A	1.2	8.1	0.34	0.56	0.34	44.0
6u	U	2	0.0	2	0.0	0.241	11.8	LOS A	1.2	8.1	0.34	0.56	0.34	50.5
Approach		585	0.2	585	0.2	0.241	5.7	LOS A	1.2	8.3	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.344	3.6	LOS A	2.5	17.3	0.66	0.60	0.66	34.9
8	T1	1	0.0	1	0.0	0.344	3.5	LOS A	2.5	17.3	0.66	0.60	0.66	24.1
9	R2	200	1.0	200	1.0	0.344	6.3	LOS A	2.5	17.3	0.66	0.60	0.66	26.9
9u	U	2	0.0	2	0.0	0.344	7.1	LOS A	2.5	17.3	0.66	0.60	0.66	33.9
Approach		312	0.6	312	0.6	0.344	5.3	LOS A	2.5	17.3	0.66	0.60	0.66	29.8
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.280	4.6	LOS A	1.4	9.6	0.20	0.48	0.20	35.6
11	T1	492	0.0	492	0.0	0.339	4.5	LOS A	1.8	12.9	0.20	0.42	0.20	49.5
12	R2	4	0.0	4	0.0	0.339	9.2	LOS A	1.8	12.9	0.20	0.42	0.20	36.1
12u	U	5	0.0	5	0.0	0.339	11.3	LOS A	1.8	12.9	0.20	0.42	0.20	33.1
Approach		863	0.0	863	0.0	0.339	4.6	LOS A	1.8	12.9	0.20	0.45	0.20	43.7
All Vehicles		1766	0.2	1766	0.2	0.344	5.1	LOS A	2.5	17.3	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.3	LOS A	0.0	0.2	0.53	0.46	0.53	33.3
2	T1	2	0.0	2	0.0	0.007	2.2	LOS A	0.0	0.2	0.53	0.46	0.53	25.4
3	R2	2	0.0	2	0.0	0.007	4.9	LOS A	0.0	0.2	0.53	0.46	0.53	41.4
3u	U	1	0.0	1	0.0	0.007	5.8	LOS A	0.0	0.2	0.53	0.46	0.53	22.2
Approach		6	0.0	6	0.0	0.007	3.7	LOS A	0.0	0.2	0.53	0.46	0.53	31.8
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.244	5.5	LOS A	1.2	8.4	0.34	0.48	0.34	43.7
5	T1	507	0.0	507	0.0	0.244	5.0	LOS A	1.2	8.4	0.34	0.51	0.34	47.5
6	R2	82	0.0	82	0.0	0.244	9.7	LOS A	1.2	8.3	0.34	0.56	0.34	44.0
6u	U	2	0.0	2	0.0	0.244	11.8	LOS A	1.2	8.3	0.34	0.56	0.34	50.5
Approach		594	0.2	594	0.2	0.244	5.7	LOS A	1.2	8.4	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.347	3.7	LOS A	2.5	17.6	0.67	0.61	0.67	34.8
8	T1	1	0.0	1	0.0	0.347	3.6	LOS A	2.5	17.6	0.67	0.61	0.67	24.0
9	R2	200	1.0	200	1.0	0.347	6.4	LOS A	2.5	17.6	0.67	0.61	0.67	26.8
9u	U	2	0.0	2	0.0	0.347	7.2	LOS A	2.5	17.6	0.67	0.61	0.67	33.8
Approach		312	0.6	312	0.6	0.347	5.4	LOS A	2.5	17.6	0.67	0.61	0.67	29.7
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.281	4.6	LOS A	1.4	9.6	0.20	0.48	0.20	35.6
11	T1	502	0.0	502	0.0	0.345	4.5	LOS A	1.9	13.3	0.20	0.42	0.20	49.5
12	R2	4	0.0	4	0.0	0.345	9.2	LOS A	1.9	13.3	0.20	0.42	0.20	36.1
12u	U	5	0.0	5	0.0	0.345	11.3	LOS A	1.9	13.3	0.20	0.42	0.20	33.1
Approach		873	0.0	873	0.0	0.345	4.6	LOS A	1.9	13.3	0.20	0.45	0.20	43.7
All Vehicles		1785	0.2	1785	0.2	0.347	5.1	LOS A	2.5	17.6	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2024 W Aprv Thursday Peak - Import (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	33.1
2	T1	2	0.0	2	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	25.3
3	R2	2	0.0	2	0.0	0.007	5.1	LOS A	0.0	0.2	0.54	0.47	0.54	41.2
3u	U	1	0.0	1	0.0	0.007	5.9	LOS A	0.0	0.2	0.54	0.47	0.54	22.0
Approach		6	0.0	6	0.0	0.007	3.9	LOS A	0.0	0.2	0.54	0.47	0.54	31.6
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.263	5.6	LOS A	1.3	9.3	0.35	0.49	0.35	43.6
5	T1	543	0.0	543	0.0	0.263	5.1	LOS A	1.3	9.3	0.35	0.52	0.35	47.3
6	R2	86	0.0	86	0.0	0.263	9.7	LOS A	1.3	9.1	0.36	0.56	0.36	43.9
6u	U	2	0.0	2	0.0	0.263	11.9	LOS A	1.3	9.1	0.36	0.56	0.36	50.4
Approach		634	0.2	634	0.2	0.263	5.7	LOS A	1.3	9.3	0.35	0.52	0.35	46.8
North: Aquatic Street (N)														
7	L2	113	0.0	113	0.0	0.369	4.1	LOS A	2.8	19.5	0.70	0.64	0.70	34.4
8	T1	1	0.0	1	0.0	0.369	4.0	LOS A	2.8	19.5	0.70	0.64	0.70	23.6
9	R2	207	1.0	207	1.0	0.369	6.8	LOS A	2.8	19.5	0.70	0.64	0.70	26.5
9u	U	2	0.0	2	0.0	0.369	7.6	LOS A	2.8	19.5	0.70	0.64	0.70	33.2
Approach		323	0.6	323	0.6	0.369	5.9	LOS A	2.8	19.5	0.70	0.64	0.70	29.3
West: High Street (W)														
10	L2	369	0.0	369	0.0	0.291	4.6	LOS A	1.4	10.1	0.21	0.49	0.21	35.6
11	T1	539	0.0	539	0.0	0.371	4.6	LOS A	2.1	14.9	0.21	0.43	0.21	49.4
12	R2	4	0.0	4	0.0	0.371	9.2	LOS A	2.1	14.9	0.21	0.43	0.21	36.0
12u	U	5	0.0	5	0.0	0.371	11.3	LOS A	2.1	14.9	0.21	0.43	0.21	33.0
Approach		917	0.0	917	0.0	0.371	4.6	LOS A	2.1	14.9	0.21	0.45	0.21	43.8
All Vehicles		1880	0.2	1880	0.2	0.371	5.2	LOS A	2.8	19.5	0.35	0.51	0.35	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:09 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2024 W Dev Thursday Peak - Import (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.53	0.46	0.53	33.2
2	T1	2	0.0	2	0.0	0.007	2.3	LOS A	0.0	0.2	0.53	0.46	0.53	25.4
3	R2	2	0.0	2	0.0	0.007	5.0	LOS A	0.0	0.2	0.53	0.46	0.53	41.4
3u	U	1	0.0	1	0.0	0.007	5.8	LOS A	0.0	0.2	0.53	0.46	0.53	22.1
Approach		6	0.0	6	0.0	0.007	3.8	LOS A	0.0	0.2	0.53	0.46	0.53	31.7
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.249	5.6	LOS A	1.2	8.6	0.34	0.49	0.34	43.7
5	T1	516	0.0	516	0.0	0.249	5.0	LOS A	1.2	8.6	0.34	0.51	0.34	47.4
6	R2	83	0.0	83	0.0	0.249	9.7	LOS A	1.2	8.5	0.35	0.56	0.35	44.0
6u	U	2	0.0	2	0.0	0.249	11.8	LOS A	1.2	8.5	0.35	0.56	0.35	50.5
Approach		604	0.2	604	0.2	0.249	5.7	LOS A	1.2	8.6	0.34	0.52	0.34	46.9
North: Aquatic Street (N)														
7	L2	110	0.0	110	0.0	0.352	3.8	LOS A	2.6	18.0	0.68	0.62	0.68	34.7
8	T1	1	0.0	1	0.0	0.352	3.7	LOS A	2.6	18.0	0.68	0.62	0.68	23.9
9	R2	202	1.0	202	1.0	0.352	6.5	LOS A	2.6	18.0	0.68	0.62	0.68	26.8
9u	U	2	0.0	2	0.0	0.352	7.3	LOS A	2.6	18.0	0.68	0.62	0.68	33.6
Approach		315	0.6	315	0.6	0.352	5.5	LOS A	2.6	18.0	0.68	0.62	0.68	29.6
West: High Street (W)														
10	L2	364	0.0	364	0.0	0.284	4.6	LOS A	1.4	9.7	0.20	0.48	0.20	35.6
11	T1	511	0.0	511	0.0	0.352	4.6	LOS A	2.0	13.7	0.21	0.43	0.21	49.5
12	R2	4	0.0	4	0.0	0.352	9.2	LOS A	2.0	13.7	0.21	0.43	0.21	36.1
12u	U	5	0.0	5	0.0	0.352	11.3	LOS A	2.0	13.7	0.21	0.43	0.21	33.1
Approach		884	0.0	884	0.0	0.352	4.6	LOS A	2.0	13.7	0.21	0.45	0.21	43.7
All Vehicles		1809	0.2	1809	0.2	0.352	5.1	LOS A	2.6	18.0	0.33	0.50	0.33	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:45:10 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\8) High St-Aquatic Pl.sip9

MOVEMENT SUMMARY

Site: 4 [2024 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	33.1
2	T1	2	0.0	2	0.0	0.007	2.3	LOS A	0.0	0.2	0.54	0.47	0.54	25.4
3	R2	2	0.0	2	0.0	0.007	5.0	LOS A	0.0	0.2	0.54	0.47	0.54	41.3
3u	U	1	0.0	1	0.0	0.007	5.9	LOS A	0.0	0.2	0.54	0.47	0.54	22.1
Approach		6	0.0	6	0.0	0.007	3.8	LOS A	0.0	0.2	0.54	0.47	0.54	31.7
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.261	5.6	LOS A	1.3	9.2	0.34	0.49	0.34	43.6
5	T1	547	0.0	547	0.0	0.261	5.0	LOS A	1.3	9.2	0.35	0.51	0.35	47.4
6	R2	82	0.0	82	0.0	0.261	9.7	LOS A	1.3	9.0	0.35	0.55	0.35	44.0
6u	U	2	0.0	2	0.0	0.261	11.8	LOS A	1.3	9.0	0.35	0.55	0.35	50.5
Approach		634	0.2	634	0.2	0.261	5.7	LOS A	1.3	9.2	0.35	0.52	0.35	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.358	4.2	LOS A	2.7	18.8	0.70	0.64	0.70	34.3
8	T1	1	0.0	1	0.0	0.358	4.1	LOS A	2.7	18.8	0.70	0.64	0.70	23.6
9	R2	200	1.0	200	1.0	0.358	6.9	LOS A	2.7	18.8	0.70	0.64	0.70	26.5
9u	U	2	0.0	2	0.0	0.358	7.7	LOS A	2.7	18.8	0.70	0.64	0.70	33.2
Approach		312	0.6	312	0.6	0.358	5.9	LOS A	2.7	18.8	0.70	0.64	0.70	29.3
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.286	4.6	LOS A	1.4	9.8	0.20	0.49	0.20	35.6
11	T1	546	0.0	546	0.0	0.374	4.6	LOS A	2.1	15.0	0.21	0.43	0.21	49.5
12	R2	4	0.0	4	0.0	0.374	9.2	LOS A	2.1	15.0	0.21	0.43	0.21	36.0
12u	U	5	0.0	5	0.0	0.374	11.3	LOS A	2.1	15.0	0.21	0.43	0.21	33.0
Approach		917	0.0	917	0.0	0.374	4.6	LOS A	2.1	15.0	0.21	0.45	0.21	44.0
All Vehicles		1869	0.2	1869	0.2	0.374	5.2	LOS A	2.7	18.8	0.34	0.50	0.34	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.007	2.4	LOS A	0.0	0.2	0.54	0.47	0.54	33.1
2	T1	2	0.0	2	0.0	0.007	2.3	LOS A	0.0	0.2	0.54	0.47	0.54	25.4
3	R2	2	0.0	2	0.0	0.007	5.1	LOS A	0.0	0.2	0.54	0.47	0.54	41.3
3u	U	1	0.0	1	0.0	0.007	5.9	LOS A	0.0	0.2	0.54	0.47	0.54	22.0
Approach		6	0.0	6	0.0	0.007	3.9	LOS A	0.0	0.2	0.54	0.47	0.54	31.6
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.264	5.6	LOS A	1.3	9.4	0.34	0.49	0.34	43.6
5	T1	555	0.0	555	0.0	0.264	5.0	LOS A	1.3	9.4	0.35	0.51	0.35	47.4
6	R2	82	0.0	82	0.0	0.264	9.7	LOS A	1.3	9.2	0.35	0.55	0.35	44.0
6u	U	2	0.0	2	0.0	0.264	11.9	LOS A	1.3	9.2	0.35	0.55	0.35	50.5
Approach		642	0.2	642	0.2	0.264	5.7	LOS A	1.3	9.4	0.35	0.52	0.35	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.358	4.2	LOS A	2.7	18.9	0.71	0.64	0.71	34.3
8	T1	1	0.0	1	0.0	0.358	4.1	LOS A	2.7	18.9	0.71	0.64	0.71	23.6
9	R2	200	1.0	200	1.0	0.358	6.9	LOS A	2.7	18.9	0.71	0.64	0.71	26.5
9u	U	2	0.0	2	0.0	0.358	7.7	LOS A	2.7	18.9	0.71	0.64	0.71	33.1
Approach		312	0.6	312	0.6	0.358	6.0	LOS A	2.7	18.9	0.71	0.64	0.71	29.2
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.286	4.6	LOS A	1.4	9.8	0.20	0.49	0.20	35.6
11	T1	549	0.0	549	0.0	0.376	4.6	LOS A	2.2	15.1	0.21	0.43	0.21	49.5
12	R2	4	0.0	4	0.0	0.376	9.2	LOS A	2.2	15.1	0.21	0.43	0.21	36.0
12u	U	5	0.0	5	0.0	0.376	11.3	LOS A	2.2	15.1	0.21	0.43	0.21	33.0
Approach		920	0.0	920	0.0	0.376	4.6	LOS A	2.2	15.1	0.21	0.45	0.21	44.0
All Vehicles		1880	0.2	1880	0.2	0.376	5.2	LOS A	2.7	18.9	0.34	0.50	0.34	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [2034 W SENS Thursday Peak (Site Folder: Thurs PM)]

Intersection: High Street/Acquatic Place
Thursday PM
Configuration: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Aquatic Street (S)														
1	L2	1	0.0	1	0.0	0.008	2.5	LOS A	0.0	0.2	0.55	0.48	0.55	33.0
2	T1	2	0.0	2	0.0	0.008	2.4	LOS A	0.0	0.2	0.55	0.48	0.55	25.3
3	R2	2	0.0	2	0.0	0.008	5.2	LOS A	0.0	0.2	0.55	0.48	0.55	41.1
3u	U	1	0.0	1	0.0	0.008	6.0	LOS A	0.0	0.2	0.55	0.48	0.55	21.9
Approach		6	0.0	6	0.0	0.008	4.0	LOS A	0.0	0.2	0.55	0.48	0.55	31.5
East: High Street (W)														
4	L2	3	33.0	3	33.0	0.280	5.6	LOS A	1.5	10.2	0.35	0.49	0.35	43.5
5	T1	595	0.0	595	0.0	0.280	5.0	LOS A	1.5	10.2	0.35	0.52	0.35	47.4
6	R2	82	0.0	82	0.0	0.280	9.7	LOS A	1.4	10.0	0.36	0.55	0.36	44.1
6u	U	2	0.0	2	0.0	0.280	11.9	LOS A	1.4	10.0	0.36	0.55	0.36	50.6
Approach		682	0.1	682	0.1	0.280	5.6	LOS A	1.5	10.2	0.36	0.52	0.36	46.9
North: Aquatic Street (N)														
7	L2	109	0.0	109	0.0	0.370	4.8	LOS A	2.9	20.4	0.74	0.67	0.74	33.8
8	T1	1	0.0	1	0.0	0.370	4.7	LOS A	2.9	20.4	0.74	0.67	0.74	23.1
9	R2	200	1.0	200	1.0	0.370	7.5	LOS A	2.9	20.4	0.74	0.67	0.74	26.1
9u	U	2	0.0	2	0.0	0.370	8.3	LOS A	2.9	20.4	0.74	0.67	0.74	32.5
Approach		312	0.6	312	0.6	0.370	6.5	LOS A	2.9	20.4	0.74	0.67	0.74	28.8
West: High Street (W)														
10	L2	362	0.0	362	0.0	0.290	4.6	LOS A	1.4	10.0	0.21	0.49	0.21	35.6
11	T1	593	0.0	593	0.0	0.404	4.6	LOS A	2.4	17.0	0.22	0.43	0.22	49.4
12	R2	4	0.0	4	0.0	0.404	9.2	LOS A	2.4	17.0	0.22	0.43	0.22	35.9
12u	U	5	0.0	5	0.0	0.404	11.3	LOS A	2.4	17.0	0.22	0.43	0.22	33.0
Approach		964	0.0	964	0.0	0.404	4.6	LOS A	2.4	17.0	0.21	0.45	0.21	44.2
All Vehicles		1964	0.2	1964	0.2	0.404	5.3	LOS A	2.9	20.4	0.35	0.51	0.35	41.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

PHASING SUMMARY

Site: 3 [2034 W SENS Thusday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

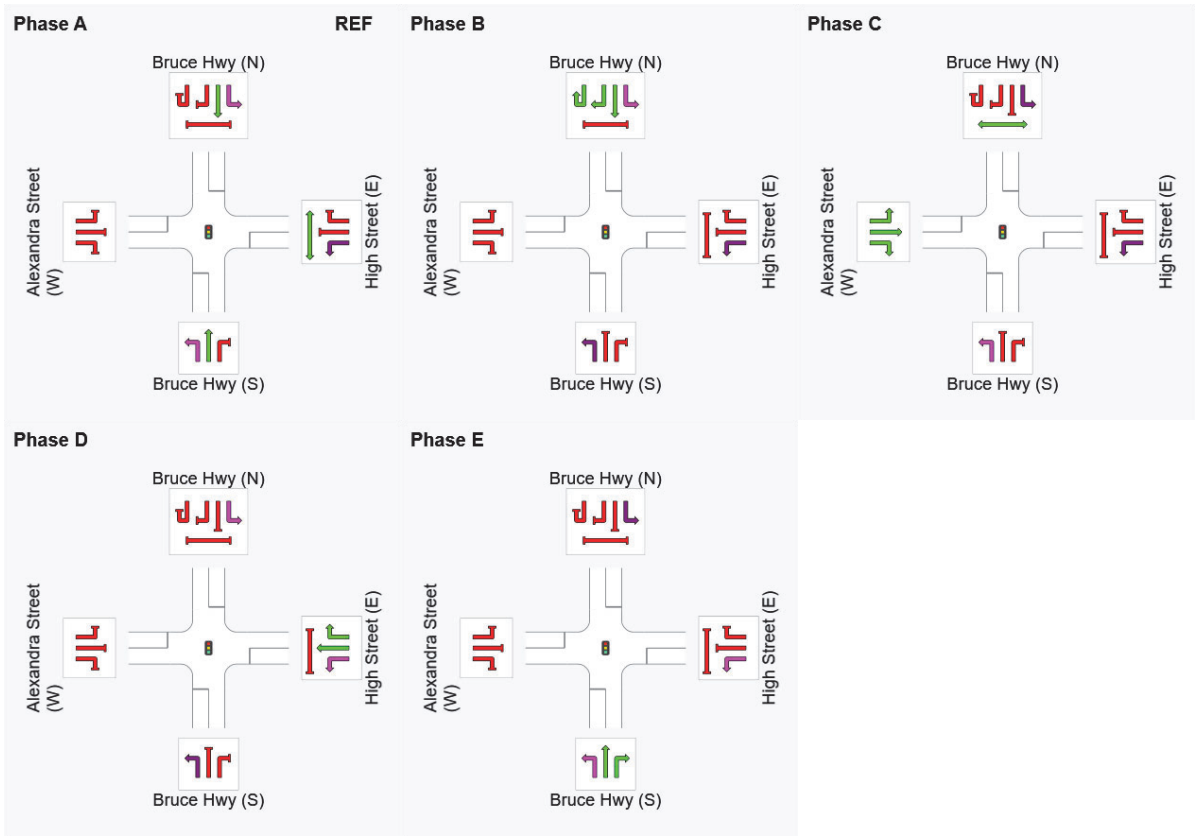
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

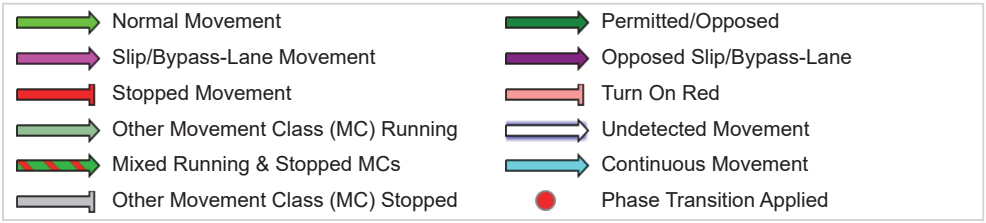
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	98
Green Time (sec)	24	6	28	16	26
Phase Time (sec)	30	12	34	22	32
Phase Split	23%	9%	26%	17%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:02 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	260	3.0	260	3.0	0.183	9.3	LOS A	3.5	21.8	0.27	0.66	0.27	55.7
2	T1	766	2.0	766	2.0	0.457	29.5	LOS C	18.1	111.0	0.76	0.66	0.76	44.8
3	R2	576	0.0	576	0.0	* 0.749	64.5	LOS E	19.0	114.1	1.00	0.87	1.04	22.6
Approach		1602	1.4	1602	1.4	0.749	38.8	LOS C	19.0	114.1	0.76	0.73	0.78	36.6
East: High Street (E)														
4	L2	374	0.0	374	0.0	0.322	15.7	LOS B	10.5	62.7	0.49	0.70	0.49	41.7
5	T1	307	2.0	307	2.0	* 0.759	66.4	LOS E	13.7	84.0	1.00	0.88	1.10	18.9
6	R2	86	1.0	86	1.0	0.759	72.1	LOS F	13.5	82.1	1.00	0.88	1.10	21.1
Approach		767	0.9	767	0.9	0.759	42.3	LOS C	13.7	84.0	0.75	0.79	0.80	27.0
North: Bruce Hwy (N)														
7	L2	109	0.0	109	0.0	0.101	12.1	LOS A	2.0	11.9	0.37	0.67	0.37	47.8
8	T1	803	3.0	803	3.0	0.776	50.3	LOS D	27.1	167.3	0.97	0.87	1.00	35.7
9	R2	66	0.0	66	0.0	* 0.773	83.8	LOS F	5.7	34.5	1.00	0.85	1.23	24.3
9u	U	12	0.0	12	0.0	0.773	84.0	LOS F	5.7	34.5	1.00	0.85	1.23	25.6
Approach		990	2.4	990	2.4	0.776	48.7	LOS D	27.1	167.3	0.91	0.84	0.95	35.2
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.457	59.7	LOS E	9.6	57.4	0.89	0.74	0.89	29.2
11	T1	272	0.0	272	0.0	* 0.457	53.7	LOS D	10.1	60.9	0.89	0.74	0.89	21.6
12	R2	197	4.0	197	4.0	0.457	59.1	LOS E	10.1	60.9	0.88	0.78	0.88	28.7
Approach		506	1.6	506	1.6	0.457	56.3	LOS D	10.1	60.9	0.88	0.76	0.88	25.4
All Vehicles		3865	1.6	3865	1.6	0.776	44.3	LOS D	27.1	167.3	0.81	0.78	0.84	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	62.4	LOS F	0.2	0.2	0.94	0.94	126.2	83.0	0.66
North: Bruce Hwy (N)												
P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48

All Pedestrians	100	100	63.3	LOS F	0.2	0.2	0.95	0.95	114.1	66.0	0.58

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:53 AM
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MOVEMENT SUMMARY

Site: 3 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.190	9.6	LOS A	3.8	23.6	0.28	0.66	0.28	55.5
2	T1	793	2.0	793	2.0	0.481	30.5	LOS C	19.2	117.5	0.77	0.68	0.77	44.2
3	R2	597	0.0	597	0.0	* 0.776	65.9	LOS E	20.1	120.5	1.00	0.88	1.07	22.3
Approach		1659	1.4	1659	1.4	0.776	39.8	LOS C	20.1	120.5	0.77	0.75	0.80	36.1
East: High Street (E)														
4	L2	381	0.0	381	0.0	0.334	16.3	LOS B	11.0	66.1	0.51	0.71	0.51	41.3
5	T1	312	2.0	312	2.0	* 0.773	67.0	LOS E	14.1	86.1	1.00	0.89	1.11	18.8
6	R2	88	1.0	88	1.0	0.773	72.7	LOS F	13.8	84.2	1.00	0.89	1.11	21.0
Approach		781	0.9	781	0.9	0.773	42.9	LOS D	14.1	86.1	0.76	0.80	0.82	26.8
North: Bruce Hwy (N)														
7	L2	113	0.0	113	0.0	0.106	12.4	LOS A	2.1	12.8	0.38	0.68	0.38	47.5
8	T1	832	3.0	832	3.0	0.804	52.2	LOS D	28.9	178.4	0.98	0.89	1.04	35.1
9	R2	68	0.0	68	0.0	* 0.715	81.2	LOS F	5.8	35.1	1.00	0.82	1.15	24.8
9u	U	13	0.0	13	0.0	0.715	81.4	LOS F	5.8	35.1	1.00	0.82	1.15	26.0
Approach		1026	2.4	1026	2.4	0.804	50.1	LOS D	28.9	178.4	0.91	0.87	0.98	34.7
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.465	59.8	LOS E	9.8	58.6	0.89	0.75	0.89	29.2
11	T1	277	0.0	277	0.0	* 0.465	53.8	LOS D	10.3	62.1	0.89	0.74	0.89	21.6
12	R2	201	4.0	201	4.0	0.465	59.2	LOS E	10.3	62.1	0.88	0.78	0.88	28.7
Approach		515	1.6	515	1.6	0.465	56.4	LOS D	10.3	62.1	0.89	0.76	0.89	25.4
All Vehicles		3981	1.6	3981	1.6	0.804	45.2	LOS D	28.9	178.4	0.82	0.79	0.86	32.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	63.3	LOS F	0.2	0.2	0.95	0.95	127.2	83.0	0.65
North: Bruce Hwy (N)												
P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48

All Pedestrians	100	100	63.8	LOS F	0.2	0.2	0.96	0.96	114.6	66.0	0.58

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:54 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2024 W Aprv Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.192	9.8	LOS A	4.0	24.5	0.29	0.66	0.29	55.3
2	T1	793	2.0	793	2.0	0.481	30.5	LOS C	19.2	117.5	0.77	0.68	0.77	44.2
3	R2	623	0.0	623	0.0	* 0.810	68.0	LOS E	21.5	129.2	1.00	0.89	1.11	21.8
Approach		1685	1.4	1685	1.4	0.810	41.1	LOS C	21.5	129.2	0.78	0.75	0.82	35.5
East: High Street (E)														
4	L2	406	0.0	406	0.0	0.360	17.0	LOS B	12.3	73.6	0.53	0.72	0.53	40.8
5	T1	336	2.0	336	2.0	* 0.780	66.5	LOS E	14.9	91.4	1.00	0.89	1.11	18.9
6	R2	89	1.0	89	1.0	0.780	72.2	LOS F	14.7	89.5	1.00	0.89	1.12	21.1
Approach		831	0.9	831	0.9	0.780	42.9	LOS D	14.9	91.4	0.77	0.81	0.83	26.8
North: Bruce Hwy (N)														
7	L2	115	0.0	115	0.0	0.110	13.0	LOS A	2.3	13.7	0.40	0.68	0.40	46.9
8	T1	839	3.0	839	3.0	0.831	55.3	LOS D	30.1	186.1	0.99	0.92	1.08	34.1
9	R2	69	0.0	69	0.0	* 0.814	85.3	LOS F	6.1	36.8	1.00	0.87	1.30	24.0
9u	U	13	0.0	13	0.0	0.814	85.5	LOS F	6.1	36.8	1.00	0.87	1.30	25.3
Approach		1036	2.4	1036	2.4	0.831	53.0	LOS D	30.1	186.1	0.92	0.89	1.02	33.7
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.485	60.1	LOS E	10.3	61.6	0.90	0.75	0.90	29.2
11	T1	300	0.0	300	0.0	* 0.485	54.1	LOS D	10.8	65.3	0.89	0.75	0.89	21.6
12	R2	201	4.0	201	4.0	0.485	59.4	LOS E	10.8	65.3	0.89	0.79	0.89	28.6
Approach		538	1.5	538	1.5	0.485	56.5	LOS D	10.8	65.3	0.89	0.76	0.89	25.2
All Vehicles		4090	1.6	4090	1.6	0.831	46.5	LOS D	30.1	186.1	0.83	0.80	0.88	32.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	63.3	LOS F	0.2	0.2	0.95	0.95	127.2	83.0	0.65
North: Bruce Hwy (N)												

P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48
All Pedestrians		100	100	63.8	LOS F	0.2	0.2	0.96	0.96	114.6	66.0	0.58

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

MOVEMENT SUMMARY

Site: 3 [2024 W Dev Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.190	9.6	LOS A	3.8	23.6	0.28	0.66	0.28	55.5
2	T1	793	2.0	793	2.0	0.481	30.5	LOS C	19.2	117.5	0.77	0.68	0.77	44.2
3	R2	604	0.0	604	0.0	* 0.785	66.4	LOS E	20.5	122.7	1.00	0.88	1.08	22.2
Approach		1666	1.4	1666	1.4	0.785	40.1	LOS C	20.5	122.7	0.77	0.75	0.80	36.0
East: High Street (E)														
4	L2	387	0.0	387	0.0	0.340	16.3	LOS B	11.3	67.6	0.51	0.71	0.51	41.3
5	T1	318	2.0	318	2.0	* 0.784	67.5	LOS E	14.4	87.9	1.00	0.90	1.13	18.7
6	R2	88	1.0	88	1.0	0.784	73.2	LOS F	14.1	86.0	1.00	0.90	1.13	20.9
Approach		793	0.9	793	0.9	0.784	43.2	LOS D	14.4	87.9	0.76	0.81	0.83	26.7
North: Bruce Hwy (N)														
7	L2	113	0.0	113	0.0	0.106	12.4	LOS A	2.1	12.8	0.38	0.68	0.38	47.5
8	T1	834	3.0	834	3.0	0.806	52.4	LOS D	29.0	179.4	0.98	0.90	1.04	35.0
9	R2	69	0.0	69	0.0	* 0.723	81.4	LOS F	5.9	35.6	1.00	0.83	1.16	24.7
9u	U	13	0.0	13	0.0	0.723	81.6	LOS F	5.9	35.6	1.00	0.83	1.16	26.0
Approach		1029	2.4	1029	2.4	0.806	50.3	LOS D	29.0	179.4	0.91	0.87	0.98	34.6
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.470	59.9	LOS E	9.9	59.4	0.89	0.75	0.89	29.2
11	T1	283	0.0	283	0.0	* 0.470	53.9	LOS D	10.4	62.9	0.89	0.74	0.89	21.6
12	R2	201	4.0	201	4.0	0.470	59.3	LOS E	10.4	62.9	0.89	0.78	0.89	28.6
Approach		521	1.5	521	1.5	0.470	56.4	LOS D	10.4	62.9	0.89	0.76	0.89	25.3
All Vehicles		4009	1.6	4009	1.6	0.806	45.5	LOS D	29.0	179.4	0.82	0.79	0.86	32.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	63.3	LOS F	0.2	0.2	0.95	0.95	127.2	83.0	0.65
North: Bruce Hwy (N)												

P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48
All Pedestrians		100	100	63.8	LOS F	0.2	0.2	0.96	0.96	114.6	66.0	0.58

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

MOVEMENT SUMMARY

Site: 3 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	269	3.0	269	3.0	0.192	9.8	LOS A	4.0	24.5	0.29	0.66	0.29	55.3
2	T1	793	2.0	793	2.0	0.481	30.5	LOS C	19.2	117.5	0.77	0.68	0.77	44.2
3	R2	616	0.0	616	0.0	* 0.801	67.4	LOS E	21.1	126.7	1.00	0.89	1.10	22.0
Approach		1678	1.4	1678	1.4	0.801	40.7	LOS C	21.1	126.7	0.78	0.75	0.81	35.7
East: High Street (E)														
4	L2	399	0.0	399	0.0	0.352	16.9	LOS B	11.9	71.6	0.52	0.71	0.52	40.9
5	T1	367	2.0	367	2.0	* 0.791	67.1	LOS E	15.2	93.2	1.00	0.90	1.13	18.8
6	R2	65	1.0	65	1.0	0.791	72.7	LOS F	15.1	91.8	1.00	0.90	1.13	21.2
Approach		831	1.0	831	1.0	0.791	43.4	LOS D	15.2	93.2	0.77	0.81	0.84	26.6
North: Bruce Hwy (N)														
7	L2	114	0.0	114	0.0	0.108	12.7	LOS A	2.2	13.2	0.39	0.68	0.39	47.2
8	T1	832	3.0	832	3.0	0.824	54.7	LOS D	29.6	183.0	0.99	0.92	1.07	34.3
9	R2	68	0.0	68	0.0	* 0.804	84.9	LOS F	6.0	36.2	1.00	0.87	1.28	24.1
9u	U	13	0.0	13	0.0	0.804	85.1	LOS F	6.0	36.2	1.00	0.87	1.28	25.4
Approach		1027	2.4	1027	2.4	0.824	52.4	LOS D	29.6	183.0	0.92	0.89	1.01	33.9
West: Alexandra Street (W)														
10	L2	37	0.0	37	0.0	0.481	60.0	LOS E	10.2	60.9	0.90	0.75	0.90	29.2
11	T1	295	0.0	295	0.0	* 0.481	54.0	LOS D	10.7	64.6	0.89	0.75	0.89	21.6
12	R2	201	4.0	201	4.0	0.481	59.4	LOS E	10.7	64.6	0.89	0.79	0.89	28.6
Approach		533	1.5	533	1.5	0.481	56.5	LOS D	10.7	64.6	0.89	0.76	0.89	25.2
All Vehicles		4069	1.6	4069	1.6	0.824	46.3	LOS D	29.6	183.0	0.83	0.80	0.88	32.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	63.3	LOS F	0.2	0.2	0.95	0.95	127.2	83.0	0.65
North: Bruce Hwy (N)												
P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48

All Pedestrians	100	100	63.8	LOS F	0.2	0.2	0.96	0.96	114.6	66.0	0.58

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

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Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	293	3.0	293	3.0	0.210	10.1	LOS A	4.6	28.2	0.30	0.67	0.30	55.0
2	T1	863	2.0	863	2.0	0.532	32.1	LOS C	21.7	132.6	0.80	0.71	0.80	43.4
3	R2	650	0.0	650	0.0	* 0.845	71.1	LOS F	23.2	139.5	1.00	0.91	1.15	21.2
Approach		1806	1.4	1806	1.4	0.845	42.5	LOS D	23.2	139.5	0.79	0.77	0.85	35.0
East: High Street (E)														
4	L2	417	0.0	417	0.0	0.386	19.1	LOS B	13.8	82.7	0.57	0.73	0.57	39.3
5	T1	342	2.0	342	2.0	* 0.846	71.6	LOS F	16.2	98.9	1.00	0.95	1.21	18.0
6	R2	96	1.0	96	1.0	0.846	77.3	LOS F	15.9	96.7	1.00	0.95	1.21	20.1
Approach		855	0.9	855	0.9	0.846	46.6	LOS D	16.2	98.9	0.79	0.84	0.90	25.6
North: Bruce Hwy (N)														
7	L2	123	0.0	123	0.0	0.119	13.4	LOS A	2.5	15.2	0.41	0.68	0.41	46.6
8	T1	905	3.0	905	3.0	* 0.874	60.0	LOS E	34.5	213.1	0.99	0.98	1.15	32.6
9	R2	74	0.0	74	0.0	0.699	79.8	LOS F	6.3	37.7	1.00	0.82	1.12	25.1
9u	U	14	0.0	14	0.0	0.699	80.0	LOS F	6.3	37.7	1.00	0.82	1.12	26.3
Approach		1116	2.4	1116	2.4	0.874	56.4	LOS D	34.5	213.1	0.93	0.93	1.06	32.6
West: Alexandra Street (W)														
10	L2	41	0.0	41	0.0	0.510	60.4	LOS E	10.8	65.0	0.90	0.76	0.90	29.1
11	T1	303	0.0	303	0.0	* 0.510	54.4	LOS D	11.4	69.0	0.90	0.76	0.90	21.5
12	R2	220	4.0	220	4.0	0.510	59.8	LOS E	11.4	69.0	0.90	0.79	0.90	28.5
Approach		564	1.6	564	1.6	0.510	56.9	LOS E	11.4	69.0	0.90	0.77	0.90	25.3
All Vehicles		4341	1.6	4341	1.6	0.874	48.8	LOS D	34.5	213.1	0.84	0.83	0.92	31.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	128.1	83.0	0.65
North: Bruce Hwy (N)												
P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48

All Pedestrians	100	100	64.3	LOS F	0.2	0.2	0.96	0.96	115.0	66.0	0.57

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:56 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	293	3.0	293	3.0	0.211	10.1	LOS A	4.6	28.2	0.30	0.67	0.30	55.0
2	T1	863	2.0	863	2.0	0.532	32.1	LOS C	21.7	132.6	0.80	0.71	0.80	43.4
3	R2	669	0.0	669	0.0	* 0.870	74.0	LOS F	24.6	147.8	1.00	0.93	1.19	20.7
Approach		1825	1.4	1825	1.4	0.870	43.9	LOS D	24.6	147.8	0.79	0.78	0.86	34.5
East: High Street (E)														
4	L2	435	0.0	435	0.0	0.404	19.3	LOS B	14.7	88.0	0.58	0.74	0.58	39.1
5	T1	359	2.0	359	2.0	* 0.877	74.7	LOS F	17.2	105.4	1.00	0.98	1.27	17.4
6	R2	95	1.0	95	1.0	0.877	80.4	LOS F	16.9	103.2	1.00	0.98	1.27	19.6
Approach		889	0.9	889	0.9	0.877	48.2	LOS D	17.2	105.4	0.79	0.86	0.93	25.1
North: Bruce Hwy (N)														
7	L2	124	0.0	124	0.0	0.121	13.7	LOS A	2.6	15.7	0.42	0.69	0.42	46.2
8	T1	905	3.0	905	3.0	* 0.874	60.0	LOS E	34.5	213.1	0.99	0.98	1.15	32.6
9	R2	74	0.0	74	0.0	0.699	79.8	LOS F	6.3	37.7	1.00	0.82	1.12	25.1
9u	U	14	0.0	14	0.0	0.699	80.0	LOS F	6.3	37.7	1.00	0.82	1.12	26.3
Approach		1117	2.4	1117	2.4	0.874	56.4	LOS D	34.5	213.1	0.93	0.93	1.06	32.6
West: Alexandra Street (W)														
10	L2	41	0.0	41	0.0	0.526	60.6	LOS E	11.3	67.6	0.91	0.76	0.91	29.0
11	T1	321	0.0	321	0.0	* 0.526	54.6	LOS D	11.8	71.1	0.91	0.76	0.91	21.4
12	R2	220	4.0	220	4.0	0.526	60.0	LOS E	11.8	71.1	0.90	0.80	0.90	28.5
Approach		582	1.5	582	1.5	0.526	57.0	LOS E	11.8	71.1	0.90	0.77	0.90	25.1
All Vehicles		4413	1.6	4413	1.6	0.877	49.7	LOS D	34.5	213.1	0.84	0.83	0.93	31.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	128.1	83.0	0.65
North: Bruce Hwy (N)												
P3	Full	50	50	64.3	LOS F	0.2	0.2	0.96	0.96	102.0	49.0	0.48

All Pedestrians	100	100	64.3	LOS F	0.2	0.2	0.96	0.96	115.0	66.0	0.57

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:57 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	395	5.0	395	5.0	0.282	9.6	LOS A	5.6	35.5	0.31	0.67	0.31	55.1
2	T1	1253	3.0	1253	3.0	0.793	34.9	LOS C	35.3	218.0	0.93	0.84	0.93	42.0
3	R2	499	0.0	499	0.0	* 0.728	62.3	LOS E	15.4	92.5	1.00	0.86	1.05	23.1
Approach		2147	2.7	2147	2.7	0.793	36.6	LOS C	35.3	218.0	0.83	0.81	0.84	38.6
East: High Street (E)														
4	L2	324	0.0	324	0.0	0.299	16.7	LOS B	9.0	54.2	0.52	0.71	0.52	41.0
5	T1	340	0.0	340	0.0	* 0.798	64.3	LOS E	13.5	80.7	1.00	0.91	1.16	19.4
6	R2	64	0.0	64	0.0	0.798	69.9	LOS E	13.3	79.6	1.00	0.91	1.16	21.7
Approach		728	0.0	728	0.0	0.798	43.6	LOS D	13.5	80.7	0.79	0.82	0.88	26.4
North: Bruce Hwy (N)														
7	L2	63	2.0	63	2.0	0.059	12.0	LOS A	1.1	6.6	0.38	0.66	0.38	47.8
8	T1	822	5.0	822	5.0	0.798	48.9	LOS D	26.3	165.4	0.98	0.90	1.04	36.2
9	R2	59	0.0	59	0.0	* 0.797	81.0	LOS F	4.6	27.7	1.00	0.85	1.31	24.9
9u	U	7	0.0	7	0.0	0.797	81.2	LOS F	4.6	27.7	1.00	0.85	1.31	26.1
Approach		951	4.5	951	4.5	0.798	48.7	LOS D	26.3	165.4	0.94	0.88	1.02	35.6
West: Alexandra Street (W)														
10	L2	26	0.0	26	0.0	0.549	55.4	LOS D	11.9	71.6	0.90	0.76	0.90	30.6
11	T1	322	0.0	322	0.0	* 0.549	49.6	LOS D	11.9	71.6	0.90	0.76	0.90	22.7
12	R2	303	4.0	303	4.0	0.549	54.9	LOS D	11.8	71.7	0.90	0.79	0.90	29.9
Approach		651	1.9	651	1.9	0.549	52.3	LOS D	11.9	72.1	0.90	0.78	0.90	26.9
All Vehicles		4477	2.5	4477	2.5	0.798	42.6	LOS D	35.3	218.0	0.86	0.82	0.89	34.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	58.3	LOS E	0.2	0.2	0.95	0.95	122.2	83.0	0.68
North: Bruce Hwy (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51

All Pedestrians	100	100	58.8	LOS E	0.2	0.2	0.95	0.95	109.6	66.0	0.60

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

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Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.293	9.6	LOS A	5.9	37.3	0.31	0.67	0.31	55.0
2	T1	1298	3.0	1298	3.0	* 0.856	41.1	LOS C	42.5	262.7	0.95	0.91	1.03	39.3
3	R2	518	0.0	518	0.0	0.725	61.4	LOS E	15.9	95.4	1.00	0.86	1.04	23.3
Approach		2225	2.7	2225	2.7	0.856	40.0	LOS C	42.5	262.7	0.84	0.86	0.90	37.1
East: High Street (E)														
4	L2	331	0.0	331	0.0	0.313	17.8	LOS B	9.7	58.4	0.55	0.72	0.55	40.2
5	T1	347	0.0	347	0.0	* 0.814	65.2	LOS E	13.9	83.1	1.00	0.92	1.18	19.2
6	R2	65	0.0	65	0.0	0.814	70.8	LOS F	13.7	81.9	1.00	0.92	1.18	21.5
Approach		743	0.0	743	0.0	0.814	44.5	LOS D	13.9	83.1	0.80	0.83	0.90	26.1
North: Bruce Hwy (N)														
7	L2	65	2.0	65	2.0	0.062	12.3	LOS A	1.1	7.0	0.39	0.67	0.39	47.5
8	T1	852	5.0	852	5.0	0.849	54.3	LOS D	29.1	183.2	0.99	0.95	1.13	34.4
9	R2	62	0.0	62	0.0	* 0.832	82.3	LOS F	4.9	29.3	1.00	0.87	1.38	24.6
9u	U	7	0.0	7	0.0	0.832	82.5	LOS F	4.9	29.3	1.00	0.87	1.38	25.9
Approach		986	4.5	986	4.5	0.849	53.5	LOS D	29.1	183.2	0.95	0.93	1.10	33.9
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.567	55.5	LOS D	12.1	72.5	0.90	0.76	0.90	30.6
11	T1	328	0.0	328	0.0	* 0.567	49.6	LOS D	12.1	72.5	0.90	0.76	0.90	22.7
12	R2	309	4.0	309	4.0	0.567	55.1	LOS D	12.0	75.0	0.90	0.80	0.90	29.8
Approach		664	1.9	664	1.9	0.567	52.4	LOS D	12.1	75.0	0.90	0.78	0.90	26.8
All Vehicles		4618	2.5	4618	2.5	0.856	45.4	LOS D	42.5	262.7	0.87	0.86	0.94	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51

All Pedestrians	100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:58 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2024 W Dev Thusday Peak - Import (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.294	9.6	LOS A	5.9	37.3	0.31	0.67	0.31	55.0
2	T1	1298	3.0	1298	3.0	* 0.856	41.1	LOS C	42.5	262.9	0.95	0.91	1.03	39.2
3	R2	523	0.0	523	0.0	0.732	61.6	LOS E	16.1	96.7	1.00	0.86	1.05	23.3
Approach		2230	2.7	2230	2.7	0.856	40.1	LOS C	42.5	262.9	0.84	0.86	0.90	37.1
East: High Street (E)														
4	L2	336	0.0	336	0.0	0.319	17.8	LOS B	9.9	59.7	0.55	0.72	0.55	40.2
5	T1	352	0.0	352	0.0	* 0.824	65.8	LOS E	14.1	84.7	1.00	0.93	1.19	19.1
6	R2	65	0.0	65	0.0	0.824	71.4	LOS F	13.9	83.5	1.00	0.93	1.20	21.4
Approach		753	0.0	753	0.0	0.824	44.9	LOS D	14.1	84.7	0.80	0.84	0.91	26.0
North: Bruce Hwy (N)														
7	L2	65	2.0	65	2.0	0.062	12.3	LOS A	1.1	7.0	0.39	0.67	0.39	47.5
8	T1	853	5.0	853	5.0	0.850	54.4	LOS D	29.1	183.6	0.99	0.96	1.13	34.4
9	R2	62	0.0	62	0.0	* 0.832	82.3	LOS F	4.9	29.3	1.00	0.87	1.38	24.6
9u	U	7	0.0	7	0.0	0.832	82.5	LOS F	4.9	29.3	1.00	0.87	1.38	25.9
Approach		987	4.5	987	4.5	0.850	53.6	LOS D	29.1	183.6	0.95	0.93	1.10	33.9
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.574	55.5	LOS D	12.1	72.9	0.90	0.76	0.90	30.5
11	T1	333	0.0	333	0.0	* 0.574	49.7	LOS D	12.1	72.9	0.90	0.76	0.90	22.7
12	R2	309	4.0	309	4.0	0.574	55.1	LOS D	12.2	76.1	0.90	0.80	0.90	29.8
Approach		669	1.8	669	1.8	0.574	52.4	LOS D	12.2	76.1	0.90	0.78	0.90	26.8
All Vehicles		4639	2.5	4639	2.5	0.856	45.5	LOS D	42.5	262.9	0.87	0.86	0.94	33.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												

P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51
All Pedestrians		100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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

MOVEMENT SUMMARY

Site: 3 [2024 W Aprv Thusday Peak - Import (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.295	9.9	LOS A	6.2	38.8	0.32	0.68	0.32	54.8
2	T1	1298	3.0	1298	3.0	* 0.858	41.3	LOS C	40.5	250.1	0.94	0.91	1.03	39.2
3	R2	540	0.0	540	0.0	0.756	62.6	LOS E	16.9	101.3	1.00	0.87	1.07	23.0
Approach		2247	2.6	2247	2.6	0.858	40.7	LOS C	40.5	250.1	0.84	0.86	0.91	36.8
East: High Street (E)														
4	L2	353	0.0	353	0.0	0.338	18.5	LOS B	10.8	64.7	0.57	0.72	0.57	39.7
5	T1	367	0.0	367	0.0	* 0.855	68.2	LOS E	15.0	90.1	1.00	0.96	1.25	18.6
6	R2	66	0.0	66	0.0	0.855	73.9	LOS F	14.8	88.9	1.00	0.96	1.25	20.9
Approach		786	0.0	786	0.0	0.855	46.3	LOS D	15.0	90.1	0.80	0.86	0.94	25.5
North: Bruce Hwy (N)														
7	L2	67	2.0	67	2.0	0.065	12.7	LOS A	1.2	7.5	0.40	0.67	0.40	47.2
8	T1	858	5.0	858	5.0	0.855	55.0	LOS D	29.5	185.9	0.99	0.96	1.14	34.2
9	R2	62	0.0	62	0.0	* 0.832	82.3	LOS F	4.9	29.3	1.00	0.87	1.38	24.6
9u	U	7	0.0	7	0.0	0.832	82.5	LOS F	4.9	29.3	1.00	0.87	1.38	25.9
Approach		994	4.5	994	4.5	0.855	54.0	LOS D	29.5	185.9	0.95	0.94	1.10	33.7
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.594	55.6	LOS D	12.4	74.1	0.91	0.76	0.91	30.5
11	T1	348	0.0	348	0.0	* 0.594	49.7	LOS D	12.4	74.1	0.90	0.77	0.90	22.7
12	R2	309	4.0	309	4.0	0.594	55.4	LOS D	12.7	79.3	0.91	0.80	0.91	29.7
Approach		684	1.8	684	1.8	0.594	52.5	LOS D	12.7	79.3	0.91	0.78	0.91	26.7
All Vehicles		4711	2.5	4711	2.5	0.858	46.2	LOS D	40.5	250.1	0.87	0.86	0.95	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												

P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51
All Pedestrians		100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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

MOVEMENT SUMMARY

Site: 3 [2024 W SENS Thusday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	409	5.0	409	5.0	0.295	9.9	LOS A	6.2	38.8	0.32	0.68	0.32	54.8
2	T1	1298	3.0	1298	3.0	* 0.858	41.3	LOS C	40.5	250.1	0.94	0.91	1.03	39.2
3	R2	542	0.0	542	0.0	0.759	62.7	LOS E	17.0	101.9	1.00	0.87	1.07	23.0
Approach		2249	2.6	2249	2.6	0.858	40.7	LOS C	40.5	250.1	0.84	0.86	0.91	36.7
East: High Street (E)														
4	L2	353	0.0	353	0.0	0.337	18.5	LOS B	10.8	64.5	0.56	0.72	0.56	39.7
5	T1	367	0.0	367	0.0	* 0.853	68.0	LOS E	15.0	89.8	1.00	0.96	1.24	18.6
6	R2	65	0.0	65	0.0	0.853	73.7	LOS F	14.8	88.5	1.00	0.96	1.25	21.0
Approach		785	0.0	785	0.0	0.853	46.2	LOS D	15.0	89.8	0.80	0.85	0.94	25.6
North: Bruce Hwy (N)														
7	L2	68	2.0	68	2.0	0.066	12.7	LOS A	1.2	7.6	0.40	0.67	0.40	47.2
8	T1	852	5.0	852	5.0	0.849	54.3	LOS D	29.1	183.2	0.99	0.95	1.13	34.4
9	R2	62	0.0	62	0.0	* 0.832	82.3	LOS F	4.9	29.3	1.00	0.87	1.38	24.6
9u	U	7	0.0	7	0.0	0.832	82.5	LOS F	4.9	29.3	1.00	0.87	1.38	25.9
Approach		989	4.4	989	4.4	0.849	53.4	LOS D	29.1	183.2	0.95	0.93	1.09	33.9
West: Alexandra Street (W)														
10	L2	27	0.0	27	0.0	0.594	55.6	LOS D	12.4	74.1	0.91	0.76	0.91	30.5
11	T1	348	0.0	348	0.0	* 0.594	49.7	LOS D	12.4	74.1	0.90	0.77	0.90	22.7
12	R2	309	4.0	309	4.0	0.594	55.4	LOS D	12.7	79.3	0.91	0.80	0.91	29.7
Approach		684	1.8	684	1.8	0.594	52.5	LOS D	12.7	79.3	0.91	0.78	0.91	26.7
All Vehicles		4707	2.5	4707	2.5	0.858	46.0	LOS D	40.5	250.1	0.87	0.86	0.95	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51

All Pedestrians	100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:00 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	445	5.0	445	5.0	0.323	10.2	LOS A	7.2	45.1	0.34	0.68	0.34	54.5
2	T1	1412	3.0	1412	3.0	* 0.972	74.0	LOS F	60.0	371.0	0.98	1.16	1.34	29.0
3	R2	563	0.0	563	0.0	0.758	61.9	LOS E	17.5	105.3	1.00	0.87	1.07	23.2
Approach		2420	2.7	2420	2.7	0.972	59.5	LOS E	60.0	371.0	0.86	1.00	1.09	30.4
East: High Street (E)														
4	L2	362	0.0	362	0.0	0.369	21.4	LOS B	12.4	74.1	0.62	0.74	0.62	37.8
5	T1	379	0.0	379	0.0	* 0.945	83.3	LOS F	17.6	105.4	1.00	1.08	1.48	16.1
6	R2	71	0.0	71	0.0	0.945	89.0	LOS F	17.3	103.9	1.00	1.08	1.48	18.4
Approach		812	0.0	812	0.0	0.945	56.2	LOS D	17.6	105.4	0.83	0.93	1.10	22.8
North: Bruce Hwy (N)														
7	L2	71	2.0	71	2.0	0.070	13.0	LOS A	1.3	8.2	0.41	0.67	0.41	46.9
8	T1	926	5.0	926	5.0	0.922	67.3	LOS E	35.9	226.5	1.00	1.06	1.28	30.7
9	R2	67	0.0	67	0.0	* 0.891	85.9	LOS F	5.4	32.4	1.00	0.92	1.51	24.0
9u	U	7	0.0	7	0.0	0.891	86.2	LOS F	5.4	32.4	1.00	0.92	1.51	25.2
Approach		1071	4.5	1071	4.5	0.922	65.0	LOS E	35.9	226.5	0.96	1.03	1.24	30.6
West: Alexandra Street (W)														
10	L2	29	0.0	29	0.0	0.652	55.9	LOS D	13.0	77.9	0.91	0.77	0.91	30.4
11	T1	359	0.0	359	0.0	* 0.652	50.1	LOS D	13.0	77.9	0.91	0.77	0.91	22.6
12	R2	338	4.0	338	4.0	0.652	56.0	LOS D	14.3	89.0	0.93	0.81	0.93	29.5
Approach		726	1.9	726	1.9	0.652	53.1	LOS D	14.3	89.0	0.92	0.79	0.92	26.6
All Vehicles		5029	2.5	5029	2.5	0.972	59.2	LOS E	60.0	371.0	0.89	0.97	1.10	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51

All Pedestrians	100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:01 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

MOVEMENT SUMMARY

Site: 3 [2034 W SENS Thusday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bruce Hwy (S)														
1	L2	445	5.0	445	5.0	0.325	10.5	LOS A	7.4	46.8	0.35	0.69	0.35	54.2
2	T1	1412	3.0	1412	3.0	* 0.974	74.8	LOS F	60.2	372.1	0.98	1.16	1.35	28.9
3	R2	587	0.0	587	0.0	0.790	63.6	LOS E	18.7	112.4	1.00	0.89	1.10	22.8
Approach		2444	2.6	2444	2.6	0.974	60.4	LOS E	60.2	372.1	0.87	1.01	1.10	30.1
East: High Street (E)														
4	L2	383	0.0	383	0.0	0.394	22.2	LOS B	13.5	80.9	0.64	0.75	0.64	37.3
5	T1	399	0.0	399	0.0	* 0.989	99.8	LOS F	20.3	121.5	1.00	1.16	1.63	14.1
6	R2	72	0.0	72	0.0	0.989	105.5	LOS F	20.0	119.8	1.00	1.16	1.63	16.2
Approach		854	0.0	854	0.0	0.989	65.5	LOS E	20.3	121.5	0.84	0.98	1.18	20.7
North: Bruce Hwy (N)														
7	L2	73	2.0	73	2.0	0.073	13.3	LOS A	1.4	8.6	0.42	0.67	0.42	46.5
8	T1	927	5.0	927	5.0	0.923	67.6	LOS E	36.1	227.2	1.00	1.06	1.28	30.6
9	R2	67	0.0	67	0.0	* 0.891	85.9	LOS F	5.4	32.4	1.00	0.92	1.51	24.0
9u	U	7	0.0	7	0.0	0.891	86.2	LOS F	5.4	32.4	1.00	0.92	1.51	25.2
Approach		1074	4.5	1074	4.5	0.923	65.2	LOS E	36.1	227.2	0.96	1.03	1.24	30.5
West: Alexandra Street (W)														
10	L2	29	0.0	29	0.0	0.679	56.2	LOS D	13.3	79.8	0.92	0.78	0.93	30.3
11	T1	379	0.0	379	0.0	* 0.679	50.3	LOS D	13.3	81.0	0.91	0.78	0.92	22.5
12	R2	338	4.0	338	4.0	0.679	56.4	LOS D	15.0	93.7	0.93	0.82	0.94	29.4
Approach		746	1.8	746	1.8	0.679	53.3	LOS D	15.0	93.7	0.92	0.80	0.93	26.5
All Vehicles		5118	2.5	5118	2.5	0.989	61.2	LOS E	60.2	372.1	0.89	0.98	1.12	28.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: High Street (E)												
P2	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	123.1	83.0	0.67
North: Bruce Hwy (N)												
P3	Full	50	50	59.3	LOS E	0.2	0.2	0.96	0.96	97.0	49.0	0.51

All Pedestrians	100	100	59.3	LOS E	0.2	0.2	0.96	0.96	110.0	66.0	0.60

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.

Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:02 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2022 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

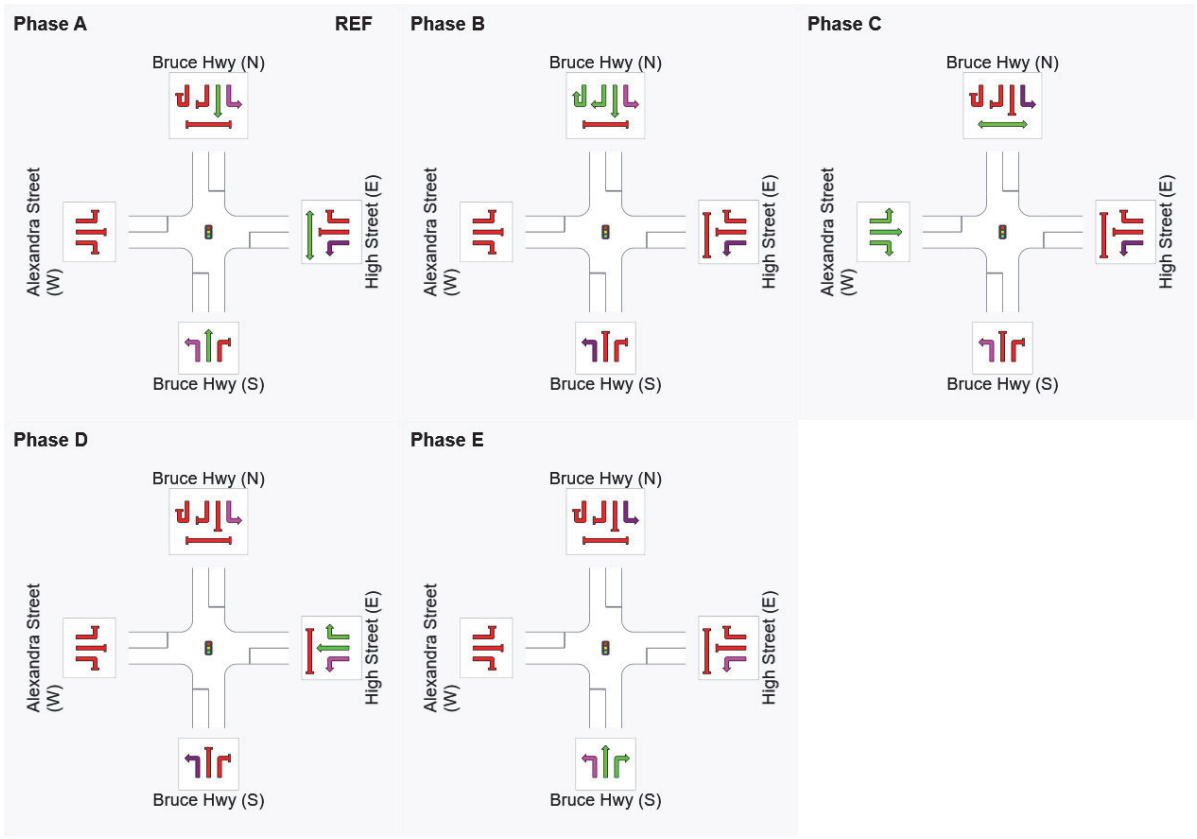
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

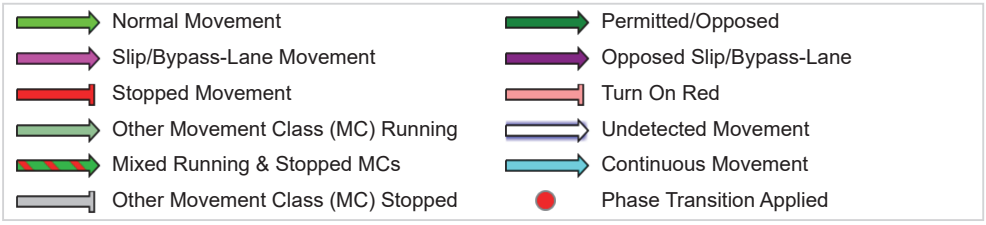
Phase	A	B	C	D	E
Phase Change Time (sec)	0	32	46	80	105
Green Time (sec)	26	8	28	19	29
Phase Time (sec)	32	14	34	25	35
Phase Split	23%	10%	24%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:53 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

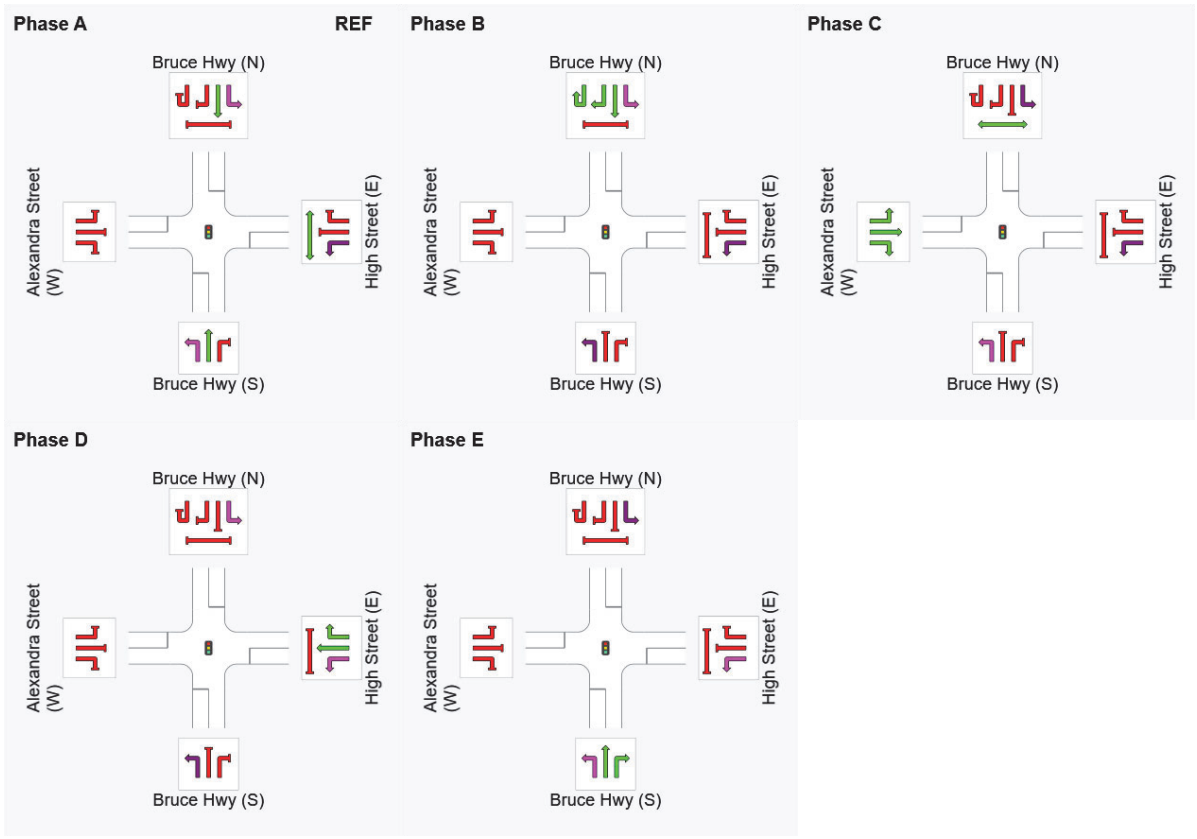
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

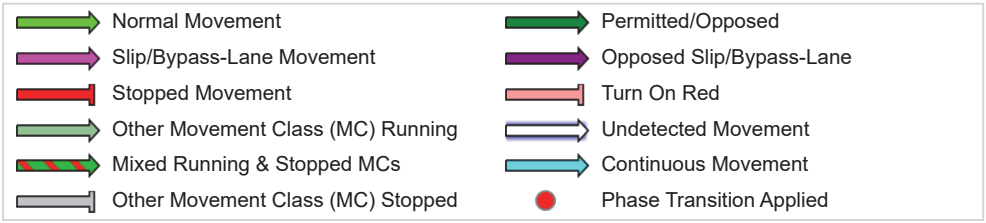
Phase	A	B	C	D	E
Phase Change Time (sec)	0	31	46	80	105
Green Time (sec)	25	9	28	19	29
Phase Time (sec)	31	15	34	25	35
Phase Split	22%	11%	24%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:54 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Aprv Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

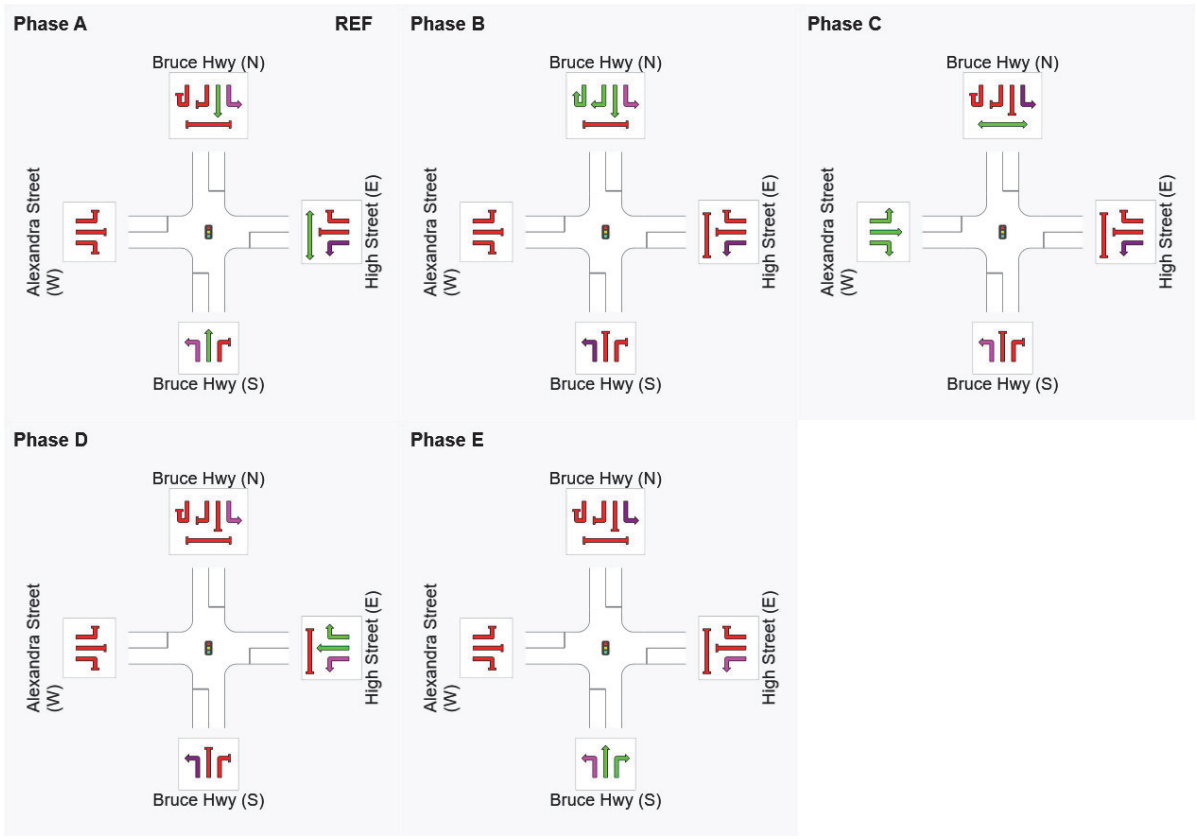
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

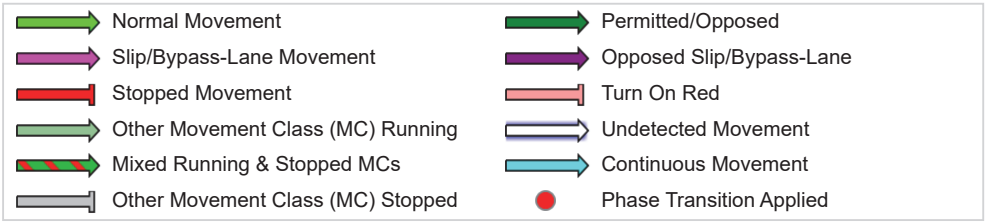
Phase	A	B	C	D	E
Phase Change Time (sec)	0	31	45	79	105
Green Time (sec)	25	8	28	20	29
Phase Time (sec)	31	14	34	26	35
Phase Split	22%	10%	24%	19%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:54 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Dev Saturday Peak - Import (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

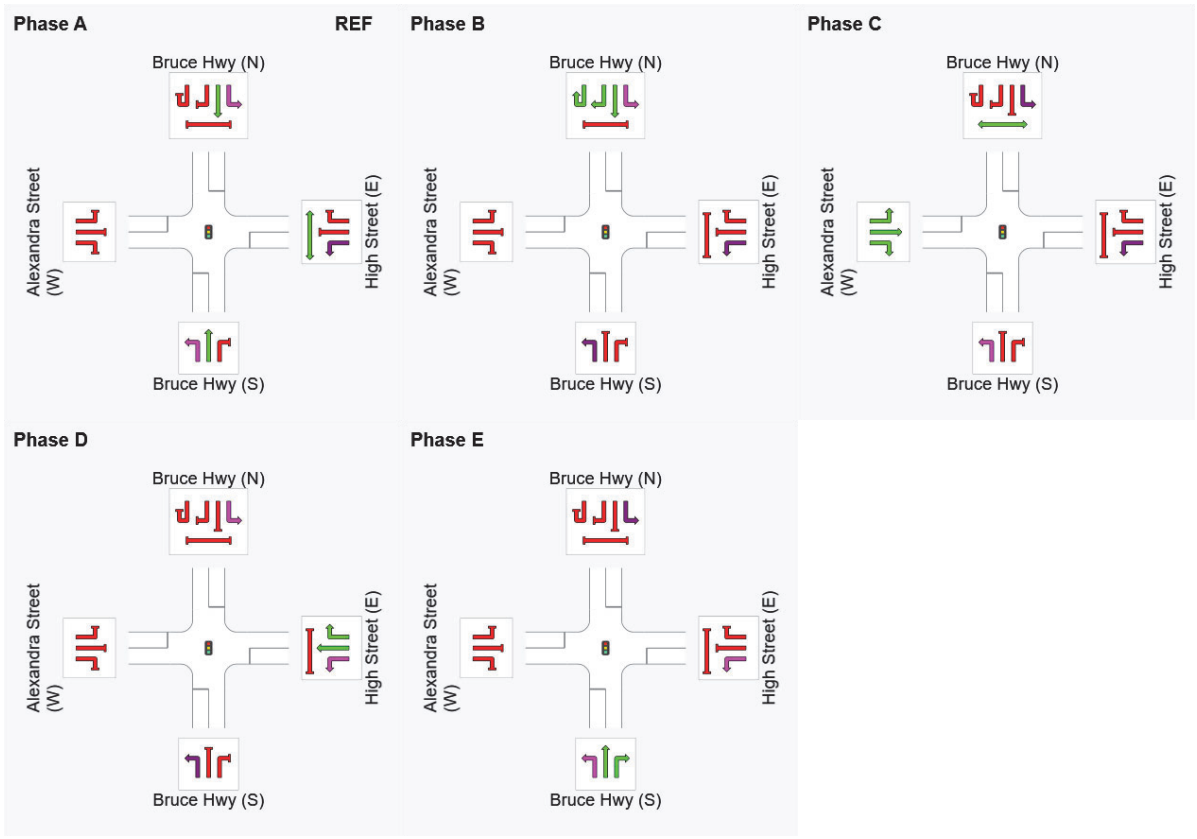
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

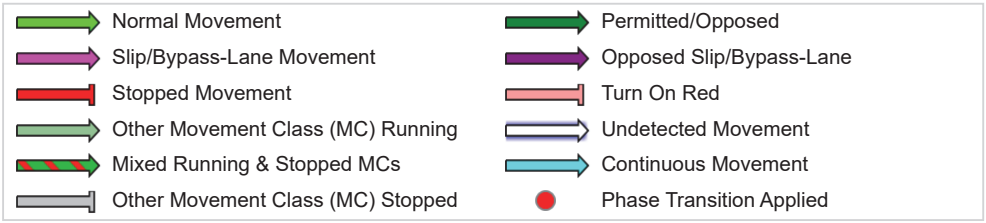
Phase	A	B	C	D	E
Phase Change Time (sec)	0	31	46	80	105
Green Time (sec)	25	9	28	19	29
Phase Time (sec)	31	15	34	25	35
Phase Split	22%	11%	24%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:55 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

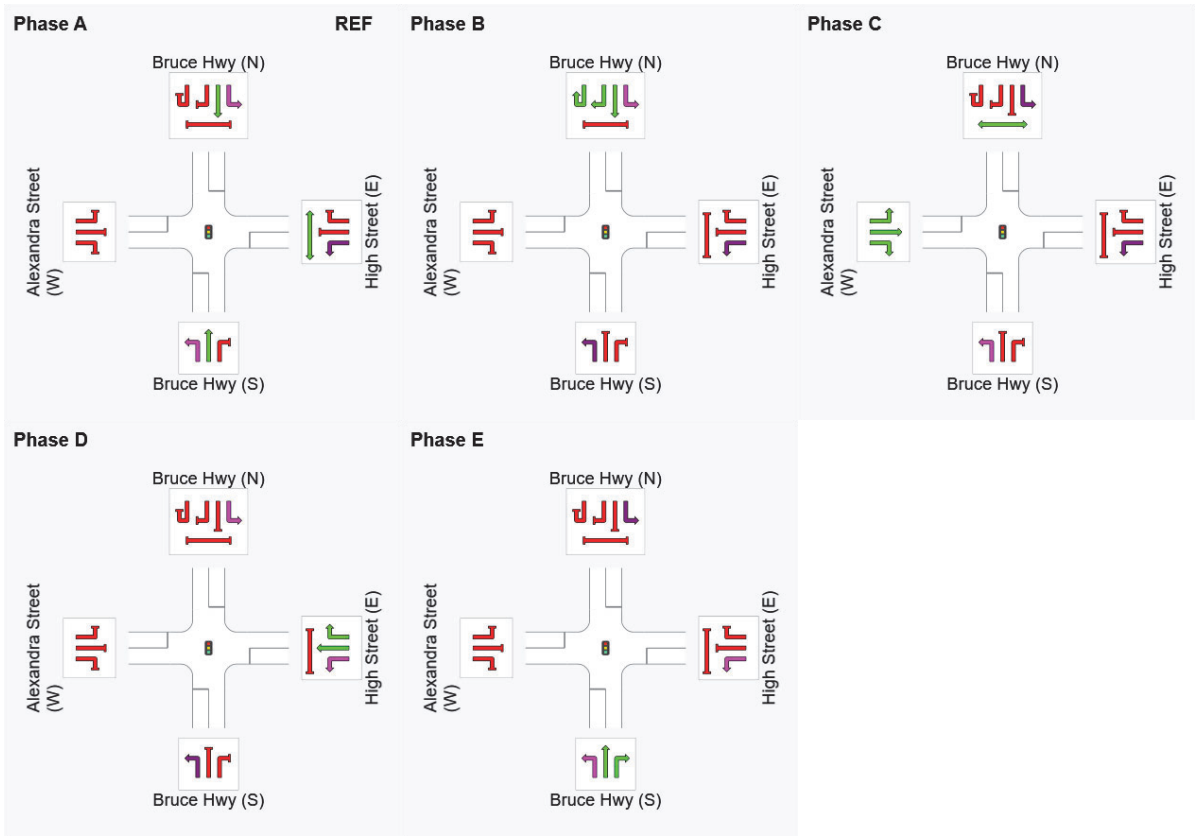
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

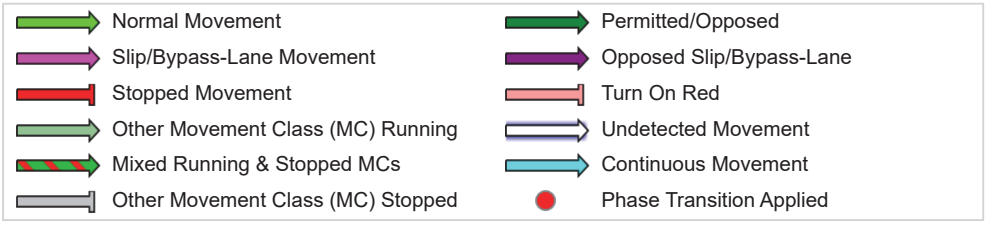
Phase	A	B	C	D	E
Phase Change Time (sec)	0	31	45	79	105
Green Time (sec)	25	8	28	20	29
Phase Time (sec)	31	14	34	26	35
Phase Split	22%	10%	24%	19%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:56 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2034 BG Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

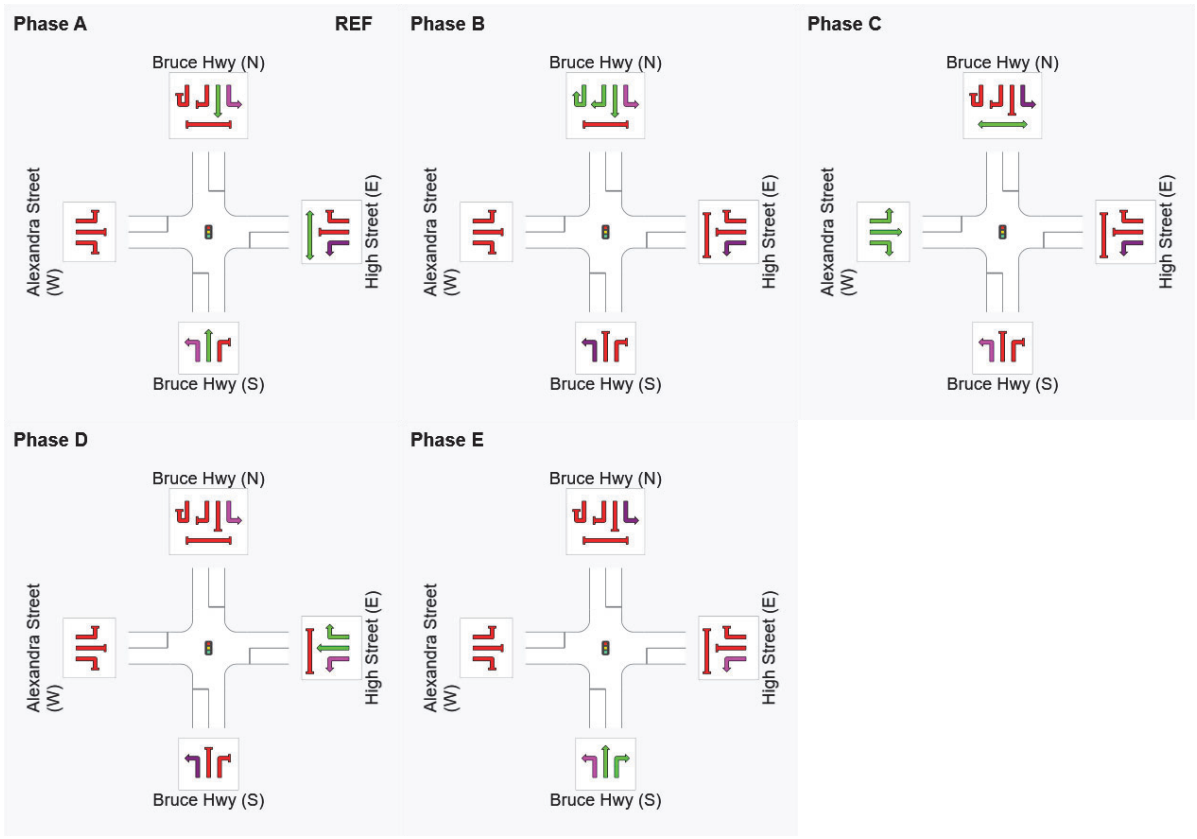
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

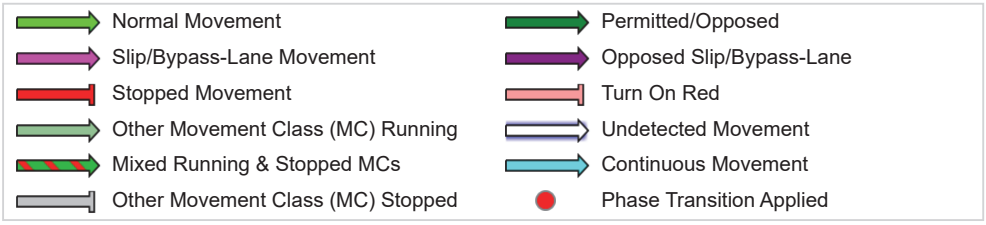
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	46	80	105
Green Time (sec)	24	10	28	19	29
Phase Time (sec)	30	16	34	25	35
Phase Split	21%	11%	24%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:56 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2034 W SENS Saturday Peak (Site Folder: Sat AM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Saturday AM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

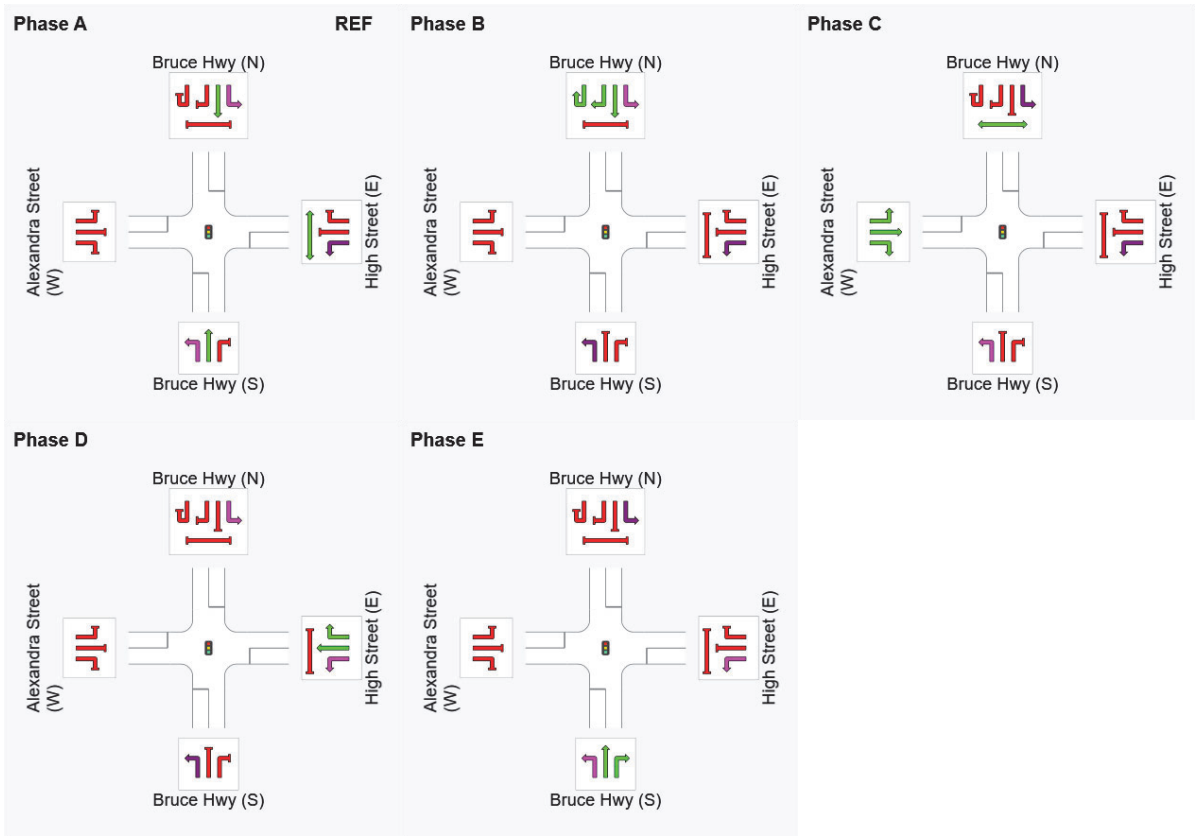
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

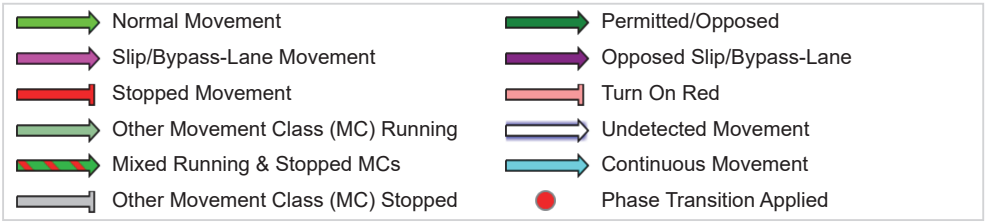
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	46	80	105
Green Time (sec)	24	10	28	19	29
Phase Time (sec)	30	16	34	25	35
Phase Split	21%	11%	24%	18%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:57 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2022 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

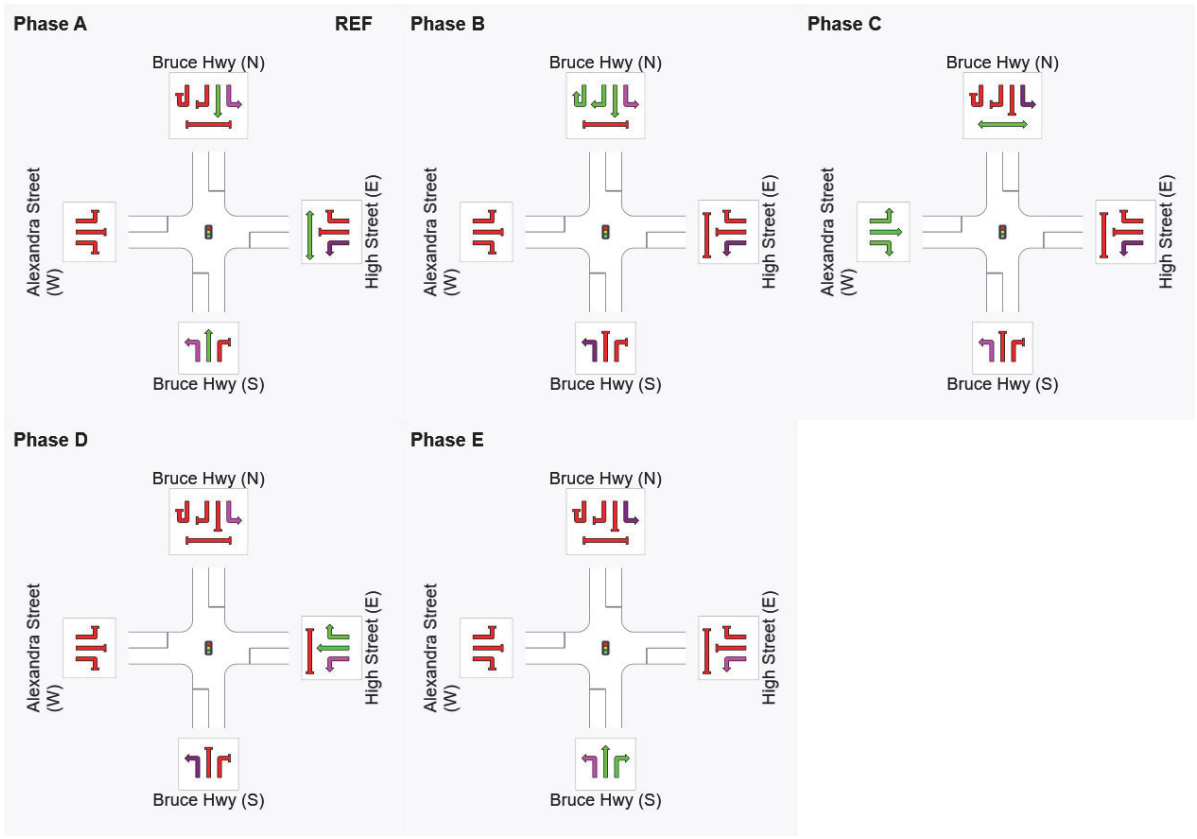
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

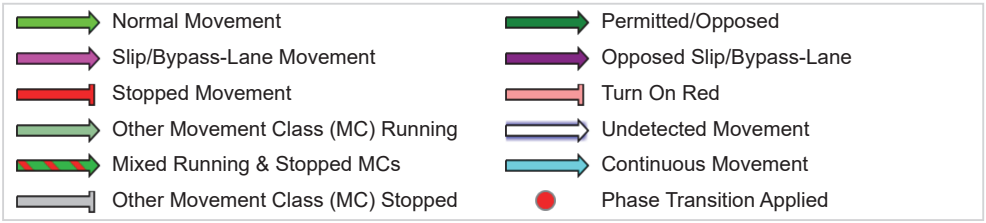
Phase	A	B	C	D	E
Phase Change Time (sec)	0	31	43	77	100
Green Time (sec)	25	6	28	17	24
Phase Time (sec)	31	12	34	23	30
Phase Split	24%	9%	26%	18%	23%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:57 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

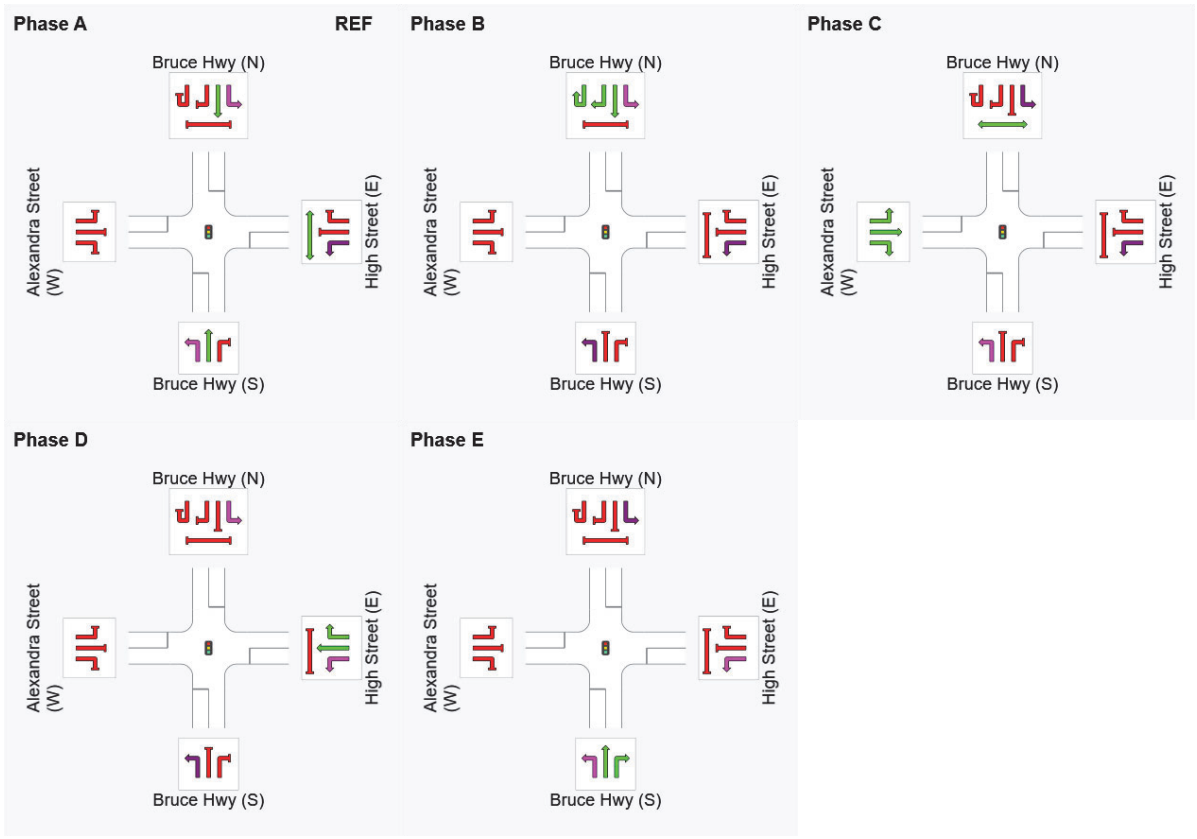
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

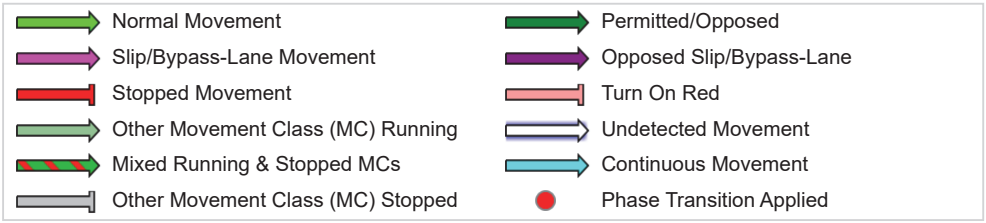
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	99
Green Time (sec)	24	6	28	17	25
Phase Time (sec)	30	12	34	23	31
Phase Split	23%	9%	26%	18%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:58 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Dev Thusday Peak - Import (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

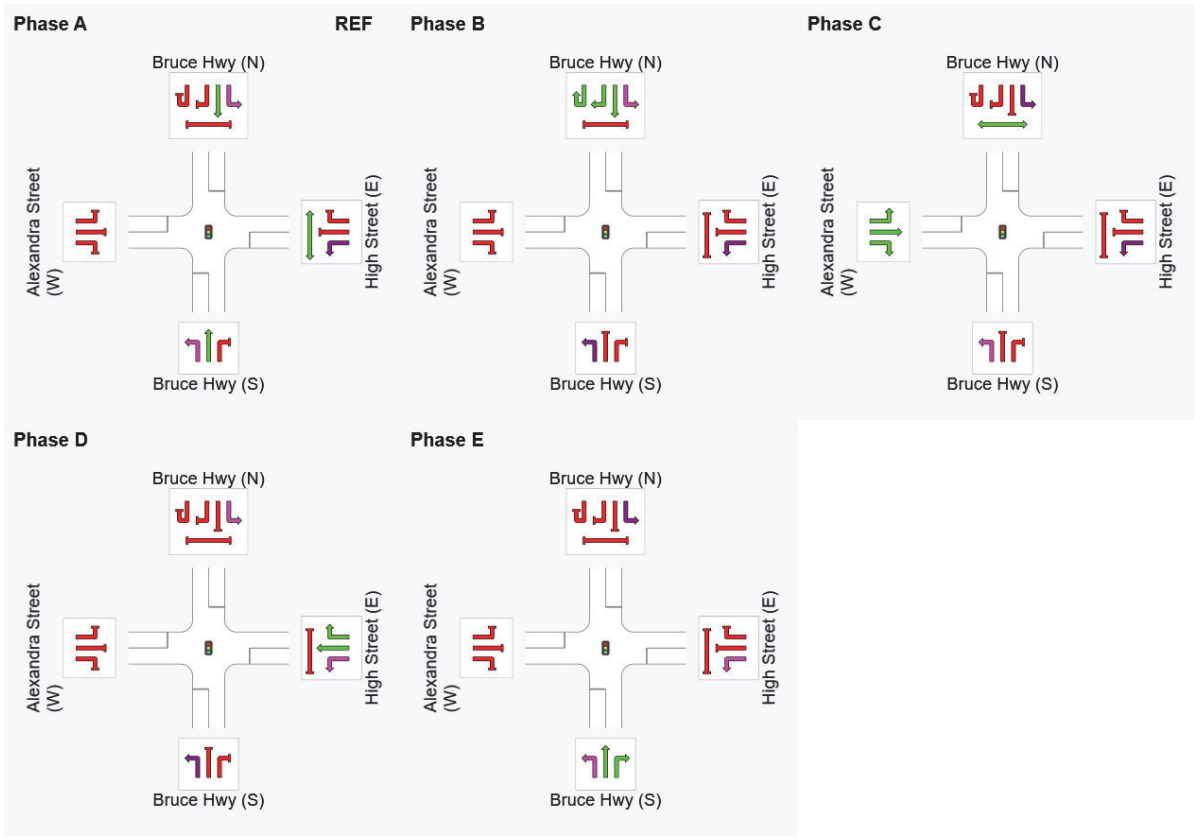
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

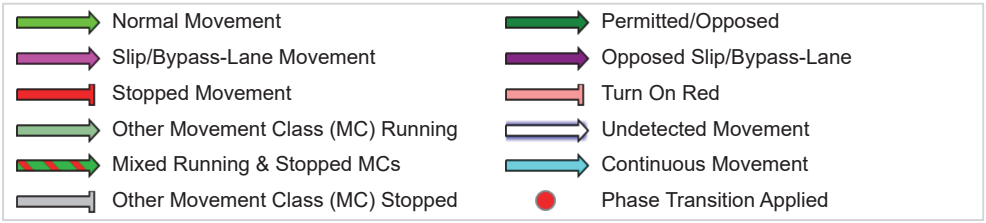
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	99
Green Time (sec)	24	6	28	17	25
Phase Time (sec)	30	12	34	23	31
Phase Split	23%	9%	26%	18%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:46:59 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W Aprv Thusday Peak - Import (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

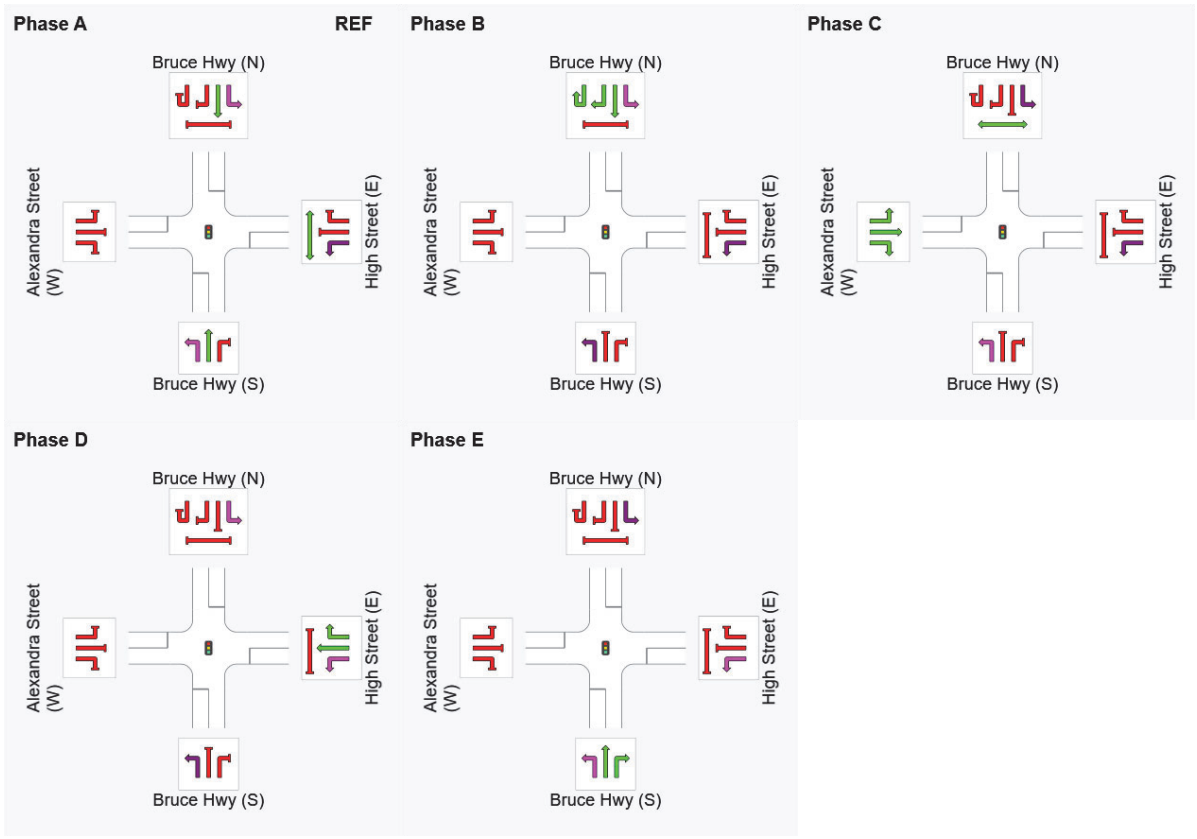
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

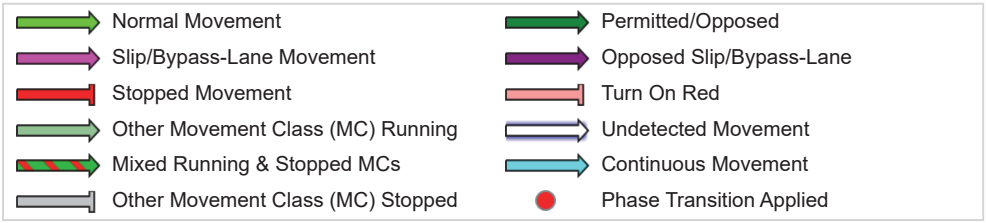
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	99
Green Time (sec)	24	6	28	17	25
Phase Time (sec)	30	12	34	23	31
Phase Split	23%	9%	26%	18%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:00 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2024 W SENS Thusday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

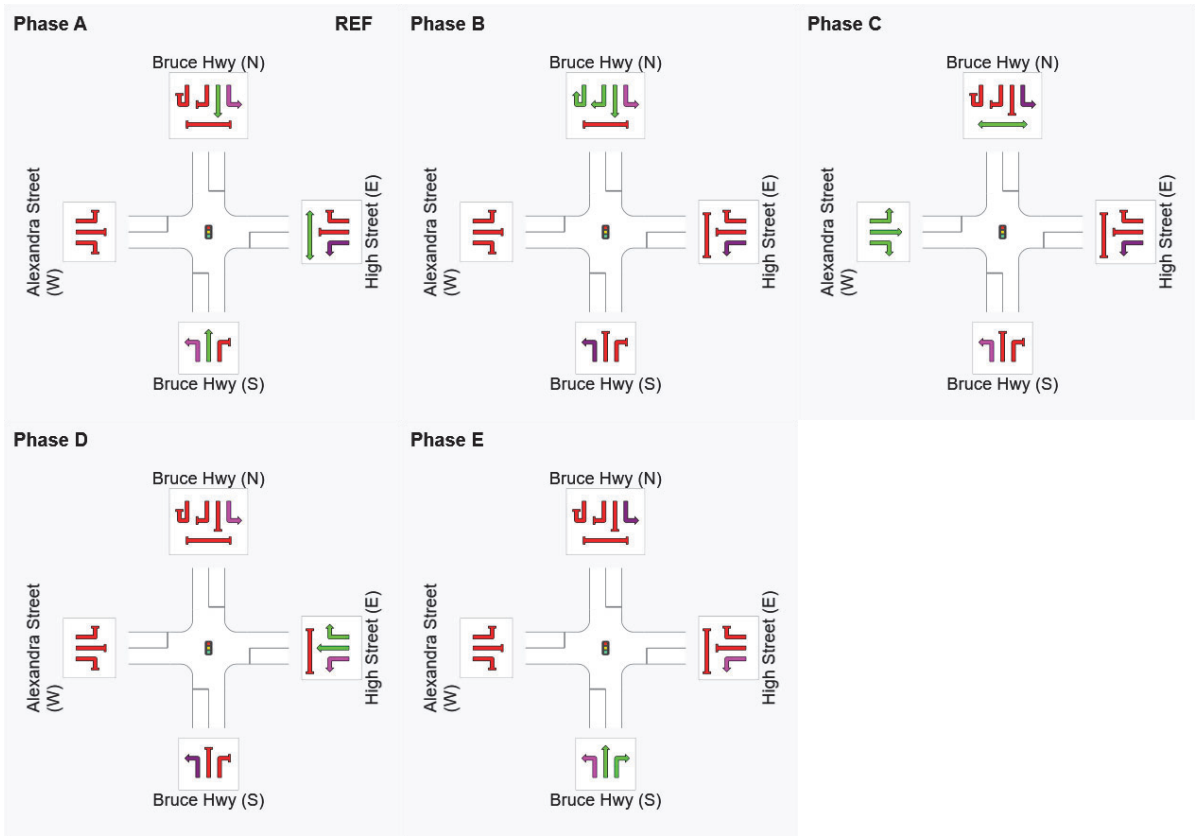
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

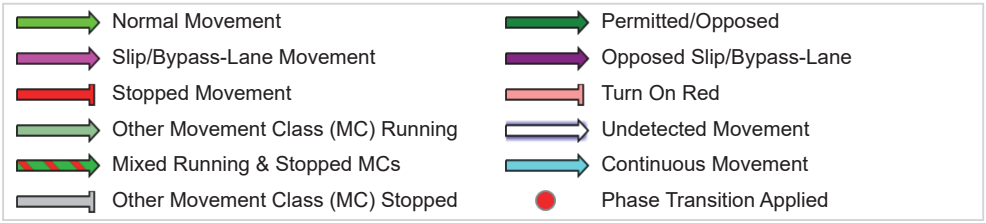
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	99
Green Time (sec)	24	6	28	17	25
Phase Time (sec)	30	12	34	23	31
Phase Split	23%	9%	26%	18%	24%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:00 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

PHASING SUMMARY

Site: 3 [2034 BG Thursday Peak (Site Folder: Thurs PM)]

Intersection: Bruce Highway/Alexandra Street/High Street
Thursday PM
Configuration: Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Site User-Given Cycle Time)

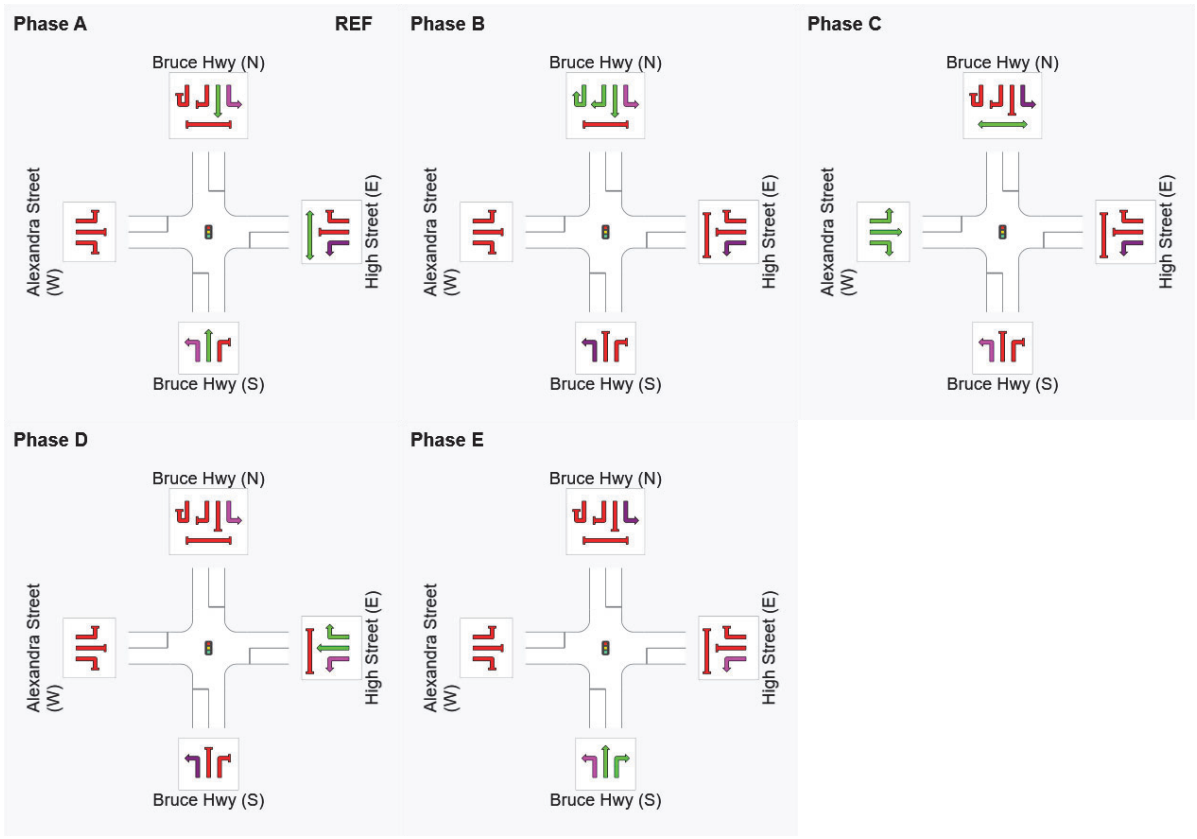
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Two-phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

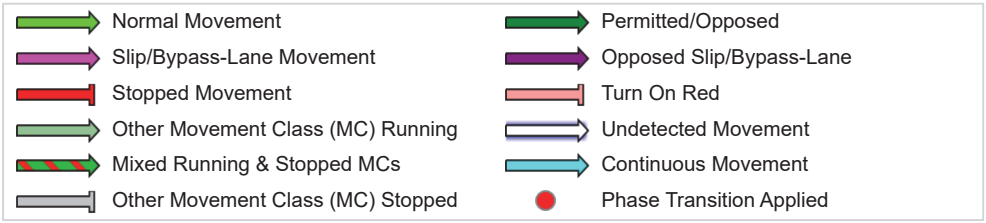
Phase	A	B	C	D	E
Phase Change Time (sec)	0	30	42	76	98
Green Time (sec)	24	6	28	16	26
Phase Time (sec)	30	12	34	22	32
Phase Split	23%	9%	26%	17%	25%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Organisation: CARDNO PTY LTD | Licence: NETWORK / Enterprise | Processed: Friday, 29 July 2022 10:47:01 AM
Project: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - Analysis\6360 - SIDRA\ALDI EXPANSION\Council IR\9) High St-Alexandra St.sip9

Queensland Government

24-Jun-2021 14:55

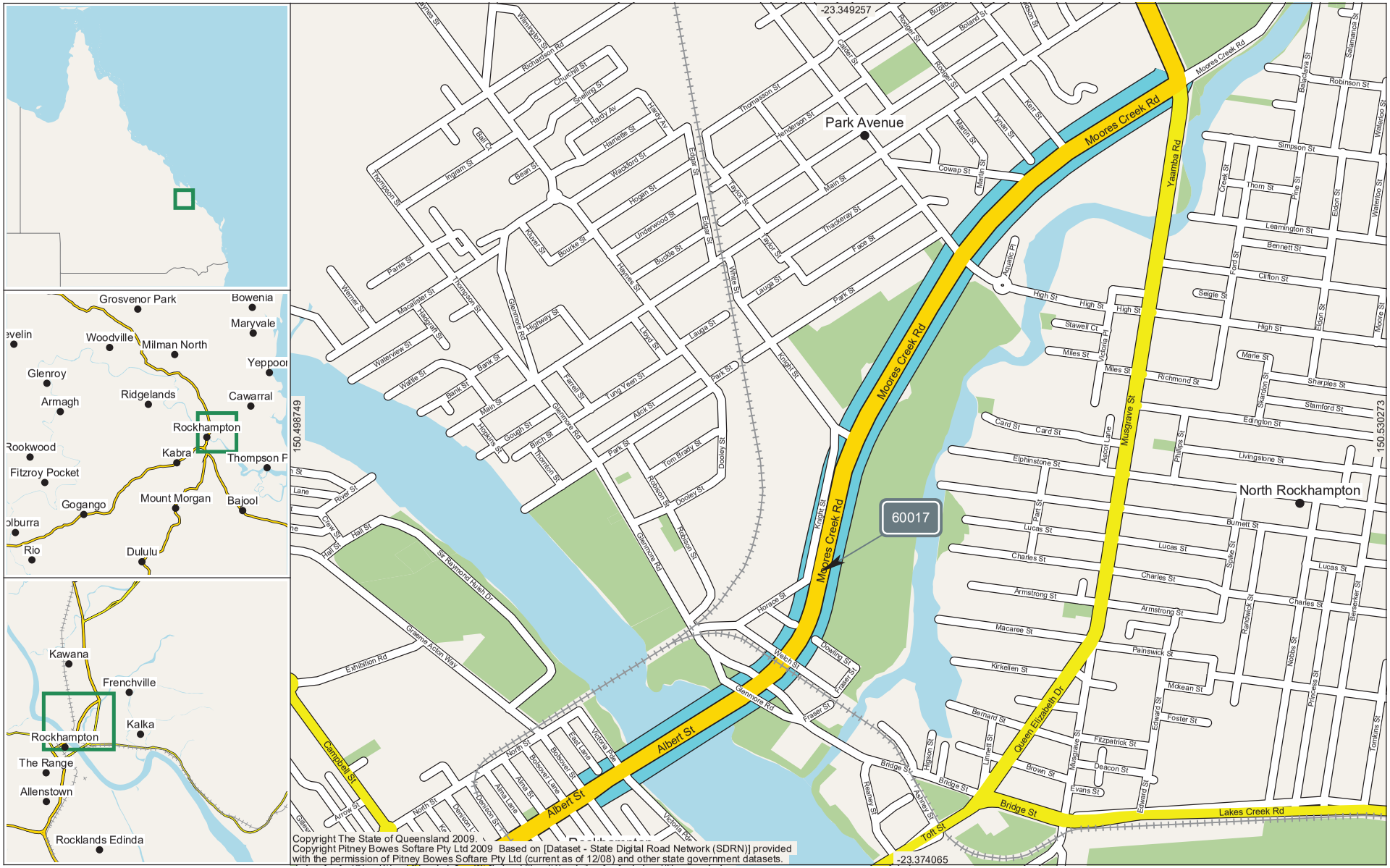
Traffic Analysis and Reporting System

AADT Segment Report

Area 404 - Fitzroy District Road Section 10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)

Road Segment from 1.409km to 4.340km Segment Site 60017 Traffic Year 2020 Data Collection Year 2020

TARS



Site 60017. Point 260000035. 320m S of Knight St (Moore Creek Rd).

2.42 km

The width of each Road Segment is proportional to its AADT.

1.41 km

Start Point 260000727. Albert St to Base Hospital @ Bolsover St.

4.34 km

End Point 260000037. Moores Creek Rd to city @ Yaamba Rd.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	16,459	100%
A	13,590	100%
B	30,049	100%

Light Vehicles (0A)

G	14,600	88.71%
A	12,286	90.40%
B	26,886	89.47%

Heavy Vehicles (0B)

G	1,859	11.29%
A	1,302	9.58%
B	3,161	10.52%

Short Vehicles (1A)

G	14,600	88.71%
A	12,286	90.40%
B	26,886	89.47%

Trucks and Buses (1B)

G	1,386	8.42%
A	956	7.03%
B	2,342	7.79%

Articulated Vehicles (1C)

G	254	1.54%
A	181	1.33%
B	435	1.45%

Road Trains (1D)

G	219	1.33%
A	165	1.21%
B	384	1.28%

Short 2-Axle Vehicles (2A)

G	14,268	86.69%
A	12,039	88.59%
B	26,307	87.55%

Short Vehicles Towing (2B)

G	332	2.02%
A	247	1.82%
B	579	1.93%

2-Axle Trucks and Buses (2C)

G	1,233	7.49%
A	863	6.35%
B	2,096	6.98%

3-Axle Trucks and Buses (2D)

G	127	0.77%
A	77	0.57%
B	204	0.68%

4-Axle Trucks (2E)

G	26	0.16%
A	16	0.12%
B	42	0.14%

3-Axle Articulated (2F)

G	33	0.20%
A	22	0.16%
B	55	0.18%

4-Axle Articulated (2G)

G	48	0.29%
A	31	0.23%
B	79	0.26%

5-Axle Articulated (2H)

G	31	0.19%
A	23	0.17%
B	54	0.18%

6-Axle Articulated (2I)

G	142	0.86%
A	105	0.77%
B	247	0.82%

B Double (2J)

G	212	1.29%
A	160	1.18%
B	372	1.24%

Double Road Trains (2K)

G	7	0.04%
A	5	0.04%
B	12	0.04%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%

AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

- G Traffic flow in gazettal direction
- A Traffic flow against gazettal direction
- B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

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Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

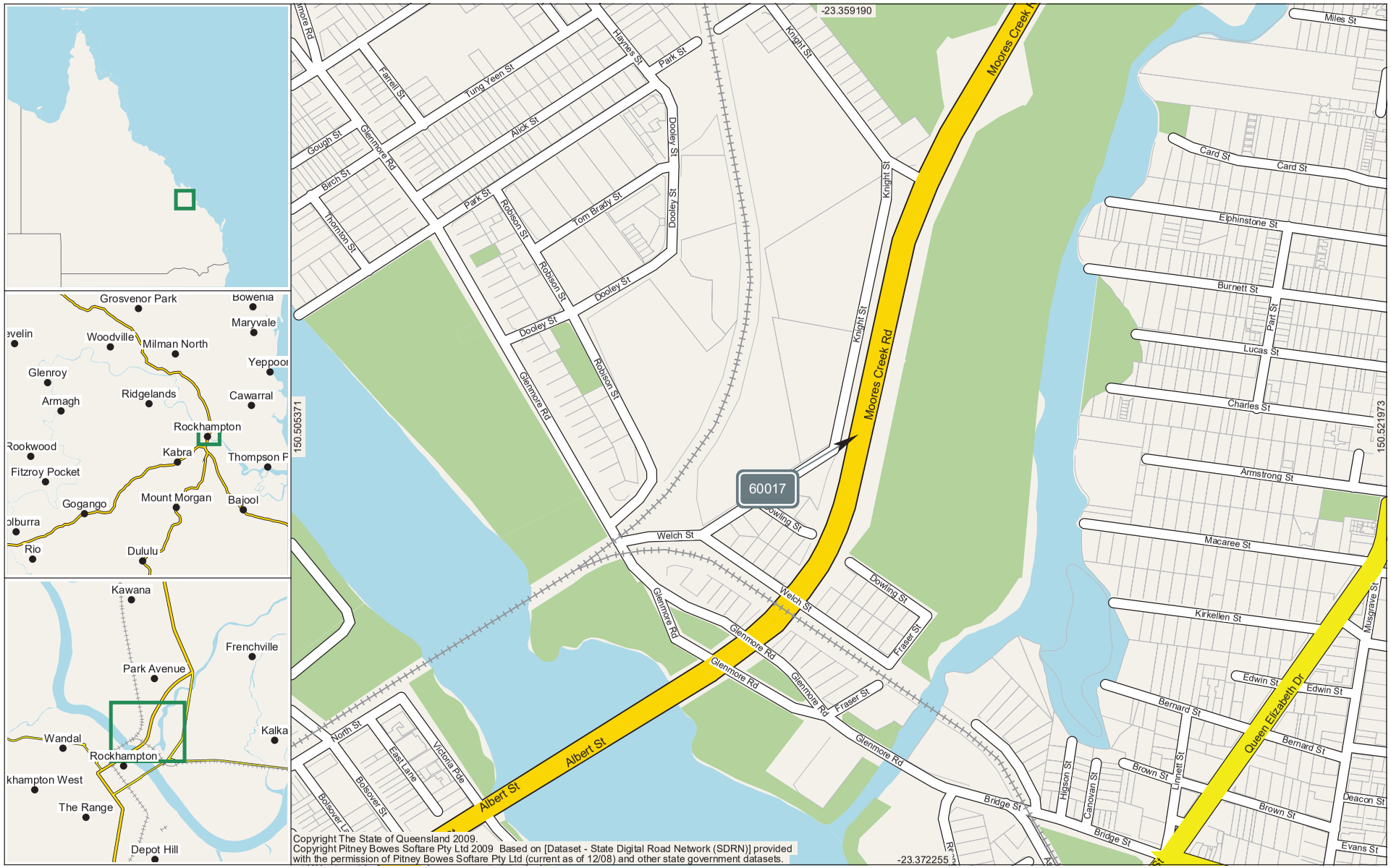
4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train

Annual Volume Report

Area 404 - Fitzroy District Road Section 10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)

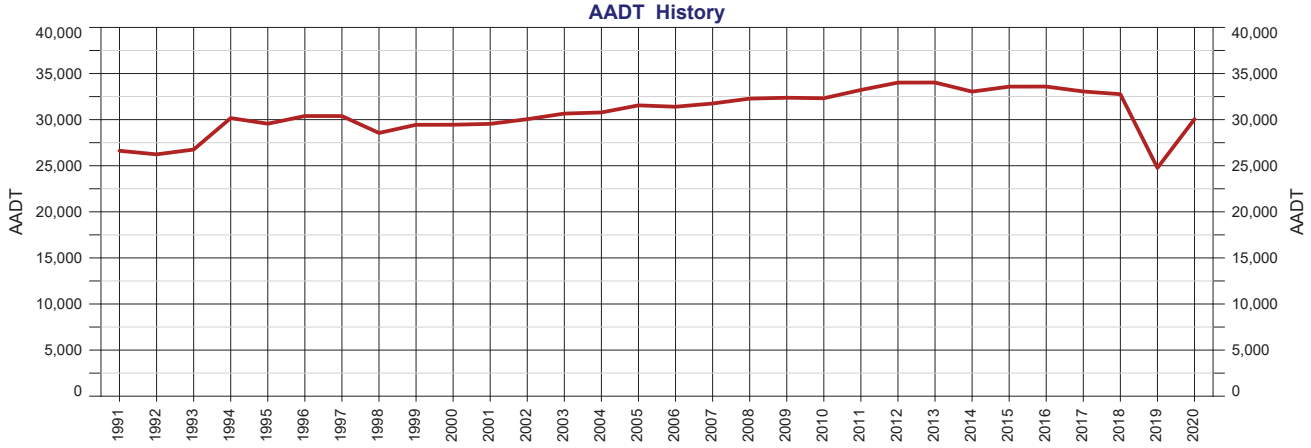
Site 60017 - 320m S of Knight St (Moore Creek Rd) TDist 2.415km Speed Limit 70



Area	404 - Fitzroy District
Road Section	10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)
Site	60017 - 320m S of Knight St (Moore Creek Rd)
Thru Dist	2.415
Type	P - Permanent
Stream	TB - Bi-directional traffic flow

Year	2020	Growth last Year	21.36%
AADT	30,049	Growth last 5 Yrs	-2.27%
Avg Week Day	32,452	Growth last 10 Yrs	-1.37%
Avg Weekend Day	22,837		

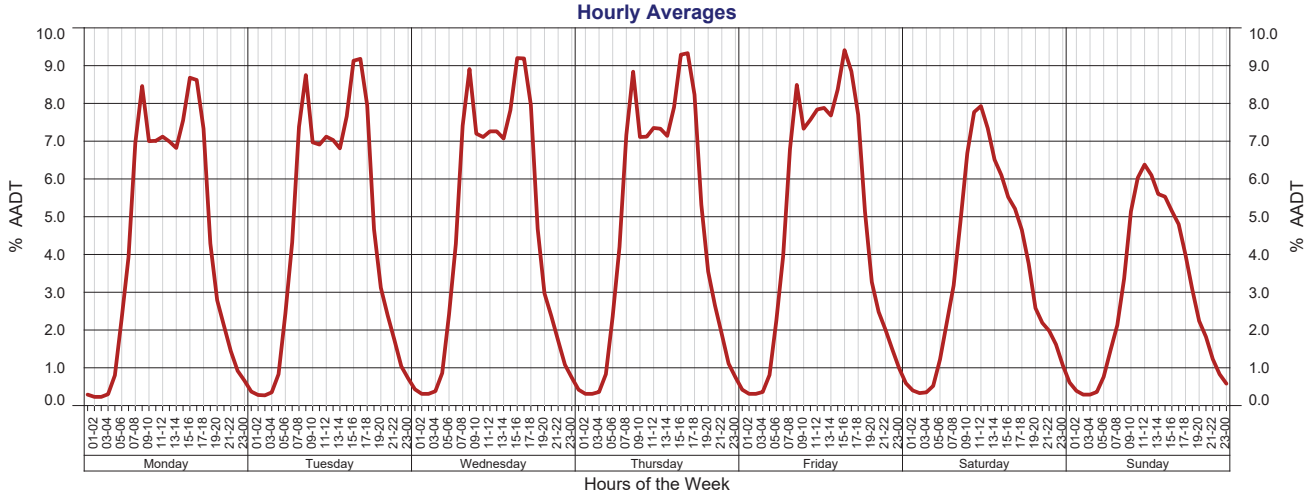
AADT History



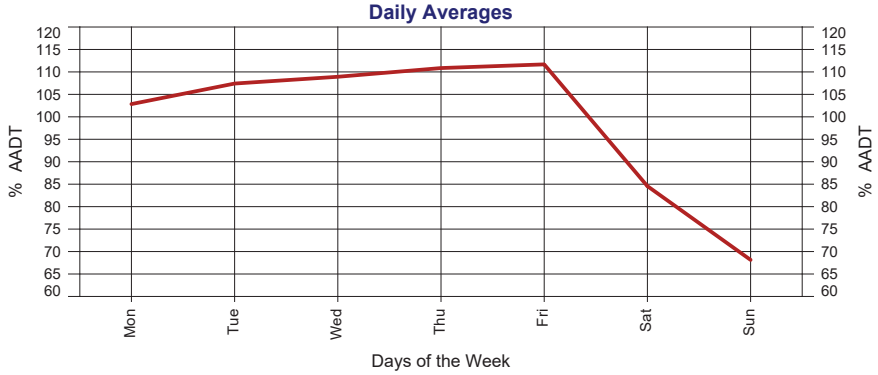
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	30,049	21.36%	-2.27%	-1.37%
2019	24,761	-24.41%	-7.74%	-4.07%
2018	32,758	-0.89%	-0.65%	-0.08%
2017	33,053	-1.59%	-0.56%	0.16%
2016	33,586	0.02%	0.00%	0.52%
2015	33,580	1.64%	0.34%	0.61%
2014	33,039	-2.90%	0.16%	0.53%
2013	34,025	0.02%	1.22%	1.09%
2012	34,018	2.40%	1.52%	1.26%
2011	33,220	2.78%	1.15%	1.09%
2010	32,320	-0.16%	0.53%	0.86%
2009	32,373	0.29%	0.89%	1.01%
2008	32,279	1.67%	1.08%	1.16%
2007	31,750	1.12%	0.97%	0.91%
2006	31,398	-0.47%	1.07%	0.73%

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2005	31,547	2.50%	1.53%	0.84%
2004	30,779	0.40%	1.05%	0.46%
2003	30,656	2.02%	1.34%	0.69%
2002	30,048	1.71%	0.49%	0.70%
2001	29,543	0.34%	-0.26%	0.68%
2000	29,444	0.02%	-0.32%	0.95%
1999	29,438	3.10%	-0.48%	1.23%
1998	28,554	-6.04%	-0.33%	1.13%
1997	30,388	0.00%	2.43%	2.57%
1996	30,389	2.82%	3.09%	3.05%
1995	29,555	-2.03%	3.15%	3.08%
1994	30,168	12.76%	4.29%	3.79%
1993	26,753	1.99%	1.53%	
1992	26,231	-1.46%	2.22%	
1991	26,620	4.66%	3.64%	

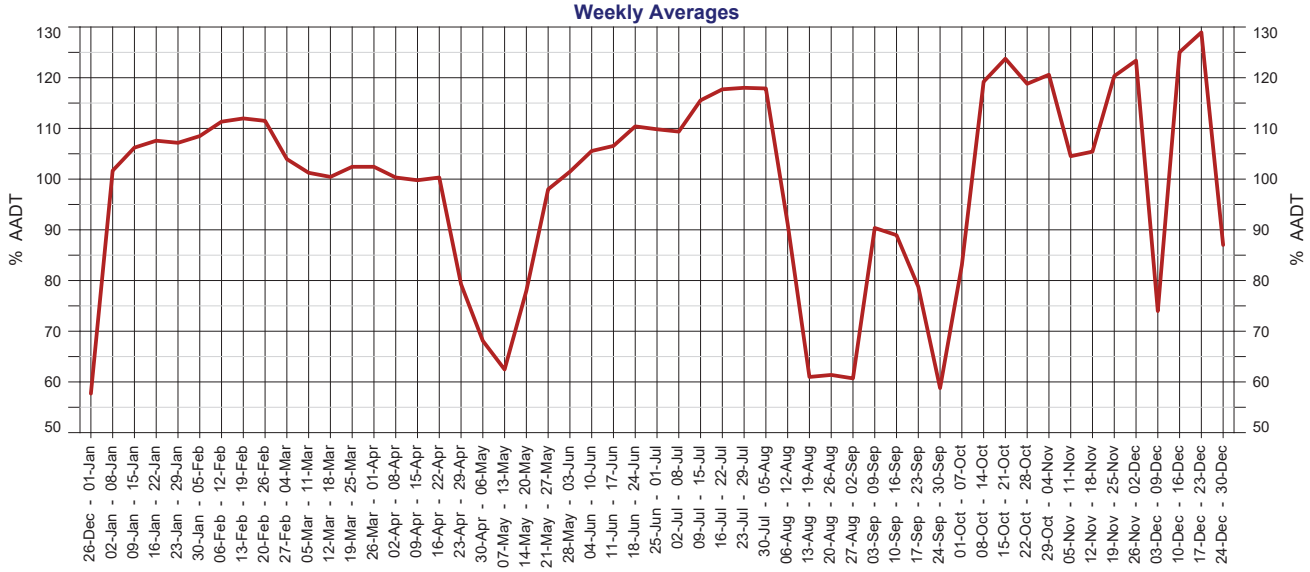
Hourly Averages



Daily Averages



Weekly Averages



2020 Calendar

January

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

March

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

April

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

September

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

December

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Days on which traffic data was collected.

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

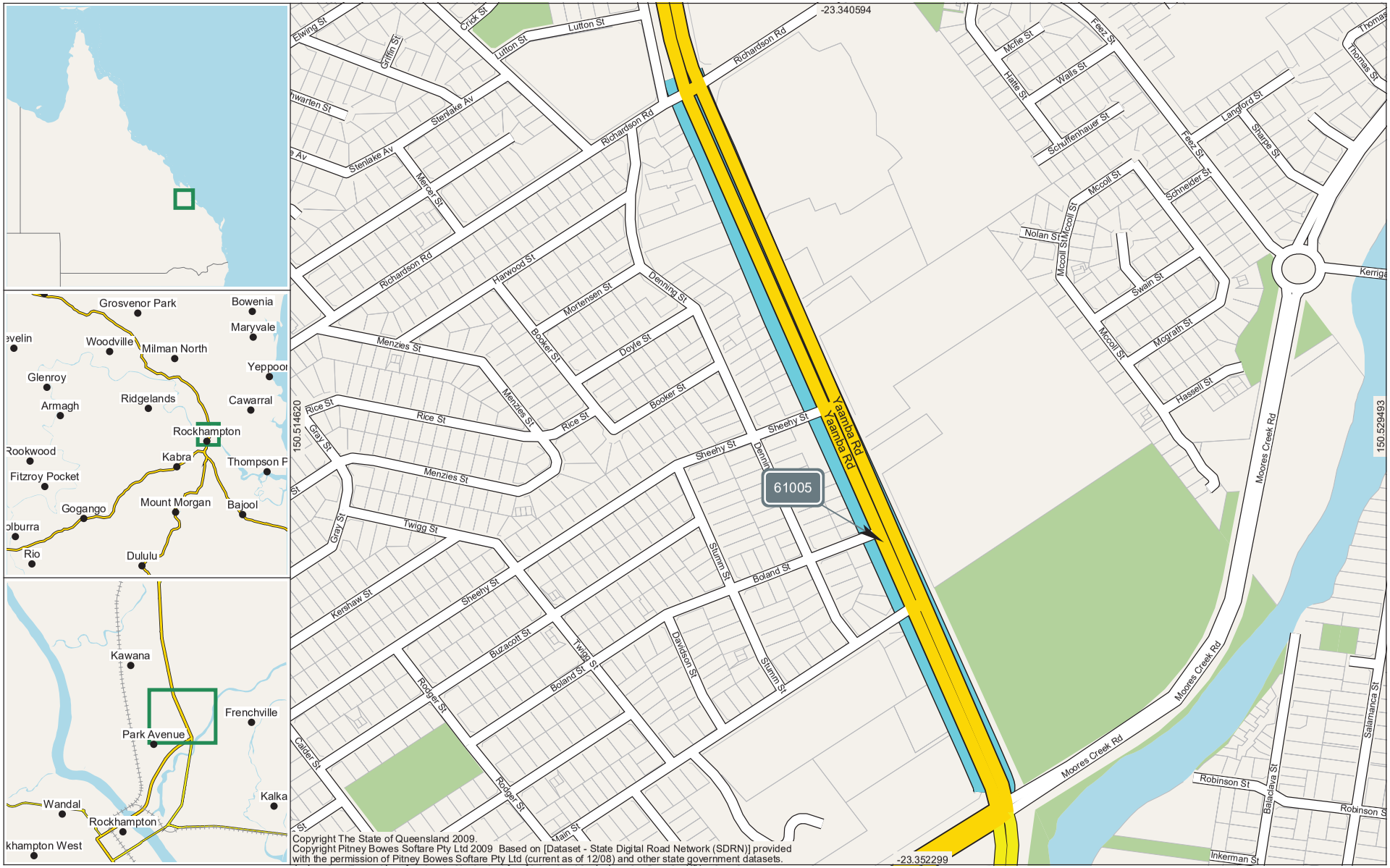
Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

AADT Segment Report

Area 404 - Fitzroy District Road Section 10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)

Road Segment from 4.340km to 5.517km Segment Site 61005 Traffic Year 2019 Data Collection Year 2019



Site 61005. Point 260000731. Bruce Hwy Boland St Ped Crossing.
4.75 km

The width of each Road Segment is proportional to its AADT.

4.34 km
Start Point 260000037. Moores Creek Rd to city @ Yaamba Rd.

5.52 km
End Point 260000422. Yaamba Rd to city @ Richardson Rd.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	9,617	100%
A	8,869	100%
B	18,486	100%

Light Vehicles (0A)

G	8,635	89.79%
A	7,911	89.20%
B	16,546	89.51%

Heavy Vehicles (0B)

G	981	10.20%
A	958	10.80%
B	1,939	10.49%

Short Vehicles (1A)

G	8,635	89.79%
A	7,911	89.20%
B	16,546	89.51%

Trucks and Buses (1B)

G	683	7.10%
A	685	7.72%
B	1,368	7.40%

Articulated Vehicles (1C)

G	147	1.53%
A	146	1.65%
B	293	1.58%

Road Trains (1D)

G	151	1.57%
A	127	1.43%
B	278	1.50%

Short 2-Axle Vehicles (2A)

G	8,483	88.21%
A	7,756	87.45%
B	16,239	87.84%

Short Vehicles Towing (2B)

G	152	1.58%
A	155	1.75%
B	307	1.66%

2-Axle Trucks and Buses (2C)

G	616	6.41%
A	614	6.92%
B	1,230	6.65%

3-Axle Trucks and Buses (2D)

G	54	0.56%
A	58	0.65%
B	112	0.61%

4-Axle Trucks (2E)

G	13	0.14%
A	13	0.15%
B	26	0.14%

3-Axle Articulated (2F)

G	14	0.15%
A	13	0.15%
B	27	0.15%

4-Axle Articulated (2G)

G	26	0.27%
A	24	0.27%
B	50	0.27%

5-Axle Articulated (2H)

G	19	0.20%
A	19	0.21%
B	38	0.21%

6-Axle Articulated (2I)

G	88	0.92%
A	90	1.01%
B	178	0.96%

B Double (2J)

G	149	1.55%
A	124	1.40%
B	273	1.48%

Double Road Trains (2K)

G	2	0.02%
A	3	0.03%
B	5	0.03%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%

AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

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Site Description
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Start and End Point
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00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

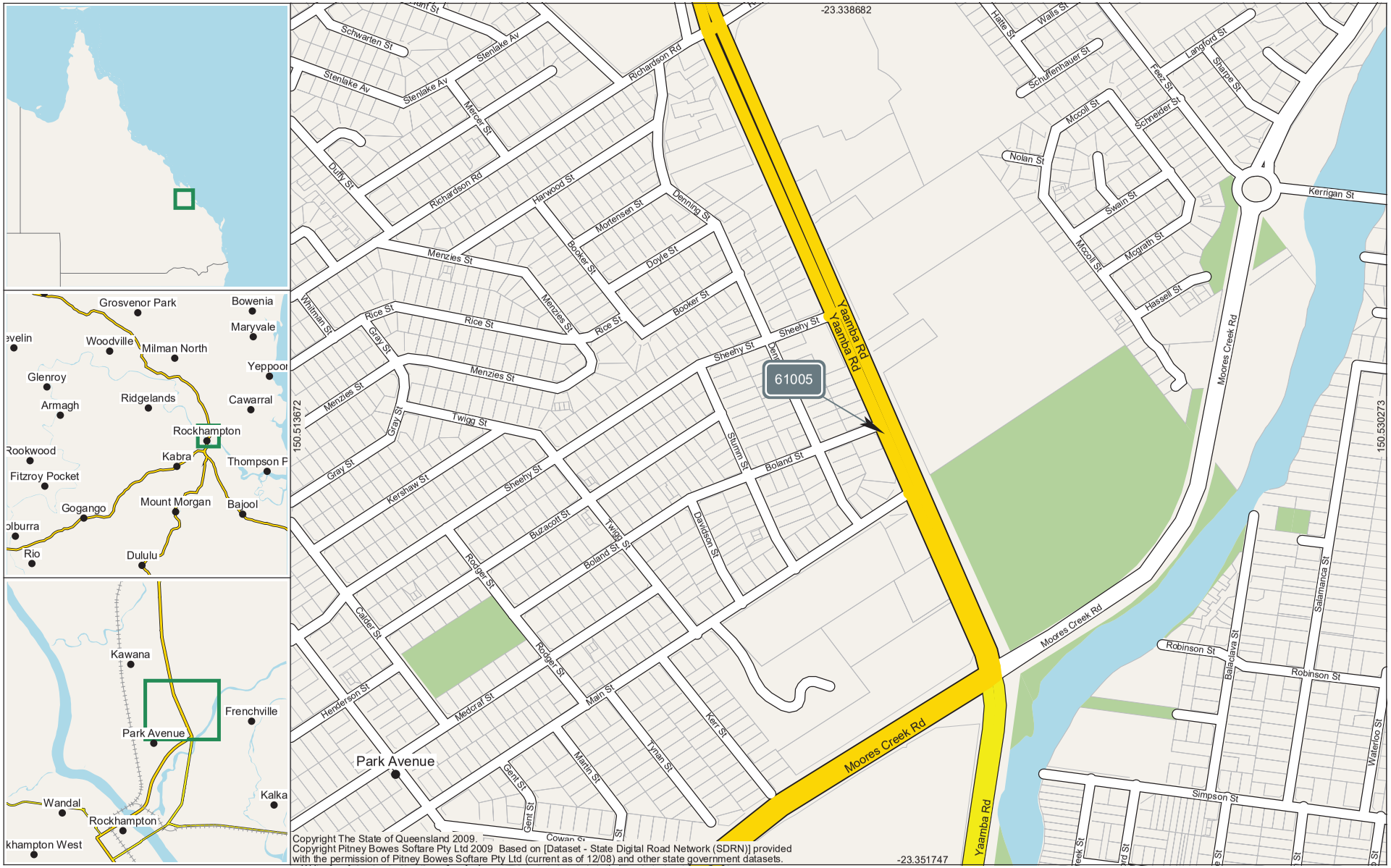
4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train

Annual Volume Report

Area 404 - Fitzroy District Road Section 10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)

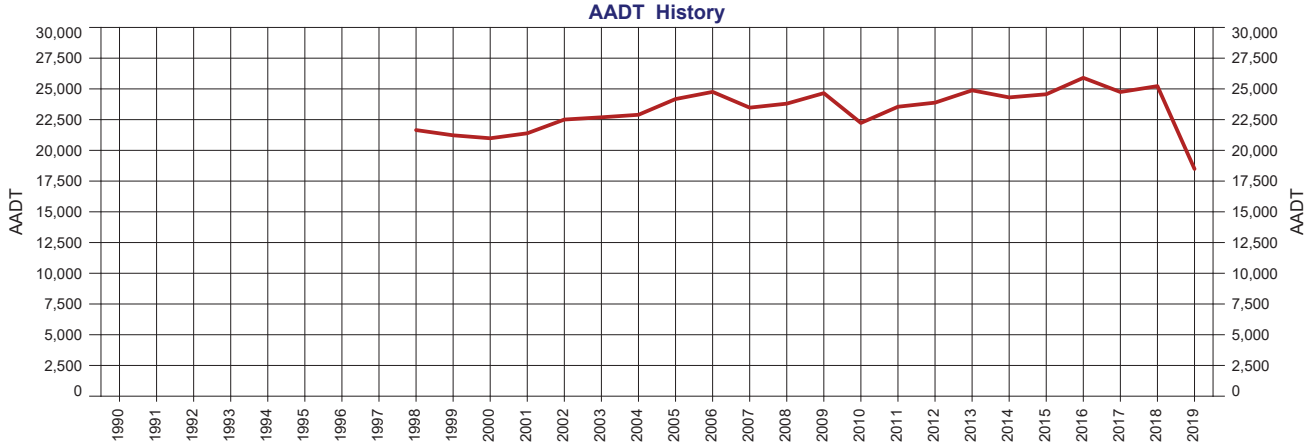
Site 61005 - Bruce Hwy at Boland St TDist 4.750km Speed Limit 70



Area	404 - Fitzroy District
Road Section	10F - BRUCE HIGHWAY (ROCKHAMPTON-ST LAWRENCE)
Site	61005 - Bruce Hwy at Boland St
Thru Dist	4.75
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2019	Growth last Year	-26.72%
AADT	18,486	Growth last 5 Yrs	-7.71%
Avg Week Day	23,477	Growth last 10 Yrs	-3.69%
Avg Weekend Day	18,486		

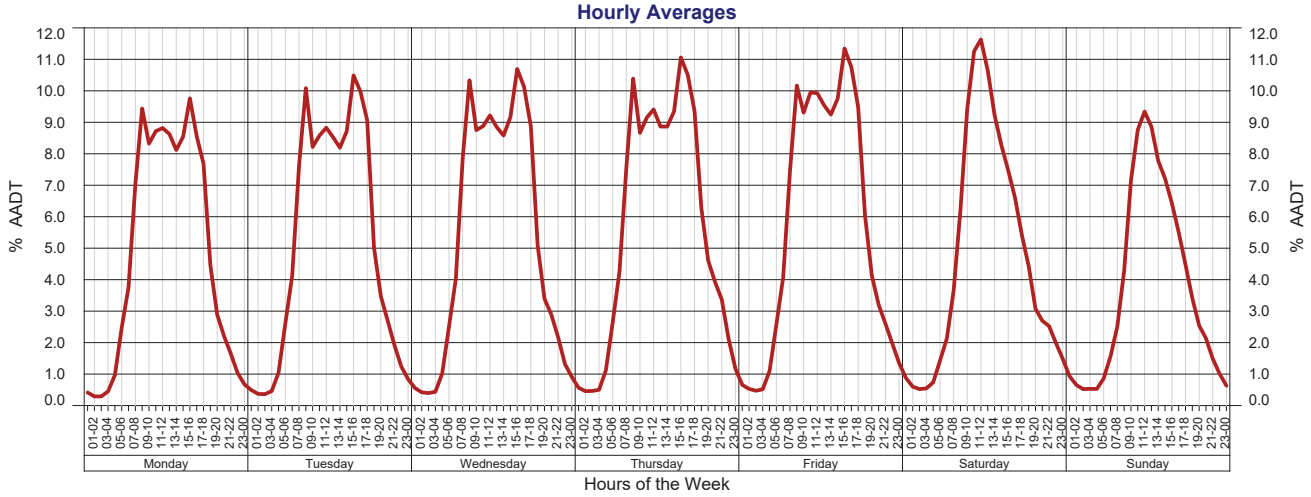
AADT History



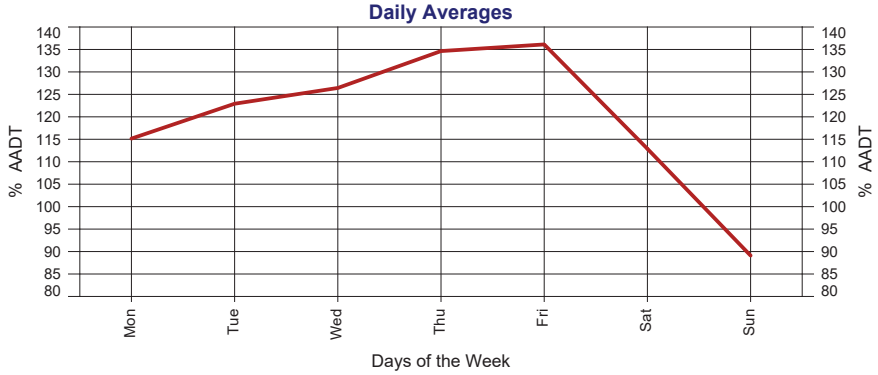
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2019	18,486	-26.72%	-7.71%	-3.69%
2018	25,226	1.94%	0.48%	0.75%
2017	24,747	-4.45%	0.33%	0.56%
2016	25,900	5.44%	2.02%	1.14%
2015	24,564	1.05%	1.35%	0.36%
2014	24,308	-2.31%	0.72%	0.33%
2013	24,883	4.20%	1.37%	0.79%
2012	23,881	1.41%	0.29%	0.33%
2011	23,549	5.94%	-0.55%	0.37%
2010	22,229	-9.84%	-2.25%	-0.19%
2009	24,654	3.59%	1.04%	1.52%
2008	23,800	1.39%	0.52%	1.14%
2007	23,474	-5.18%	0.56%	
2006	24,757	2.41%	2.87%	
2005	24,175	5.60%	2.94%	

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2004	22,894	0.91%	1.79%	
2003	22,688	0.81%	1.58%	
2002	22,506	5.22%		
2001	21,389	1.93%		
2000	20,983	-1.14%		
1999	21,224	-1.97%		
1998	21,650			
1997				
1996				
1995				
1994				
1993				
1992				
1991				
1990				

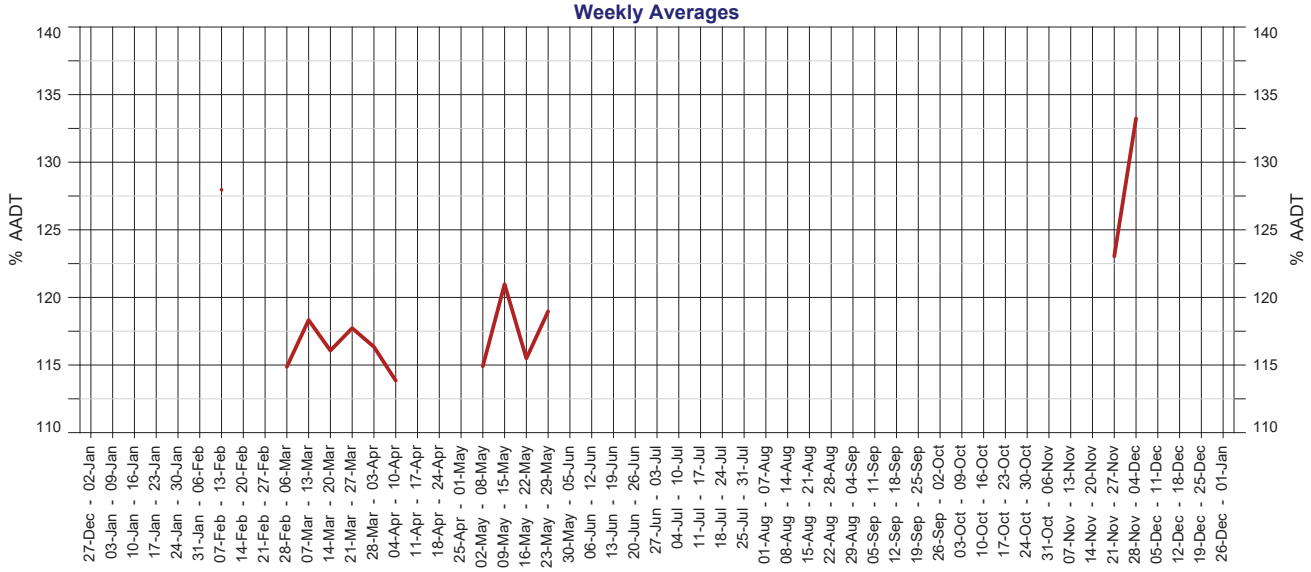
Hourly Averages



Daily Averages



Weekly Averages



2019 Calendar

January

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

March

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

April

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

May

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

October

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Days on which traffic data was collected.

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
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Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

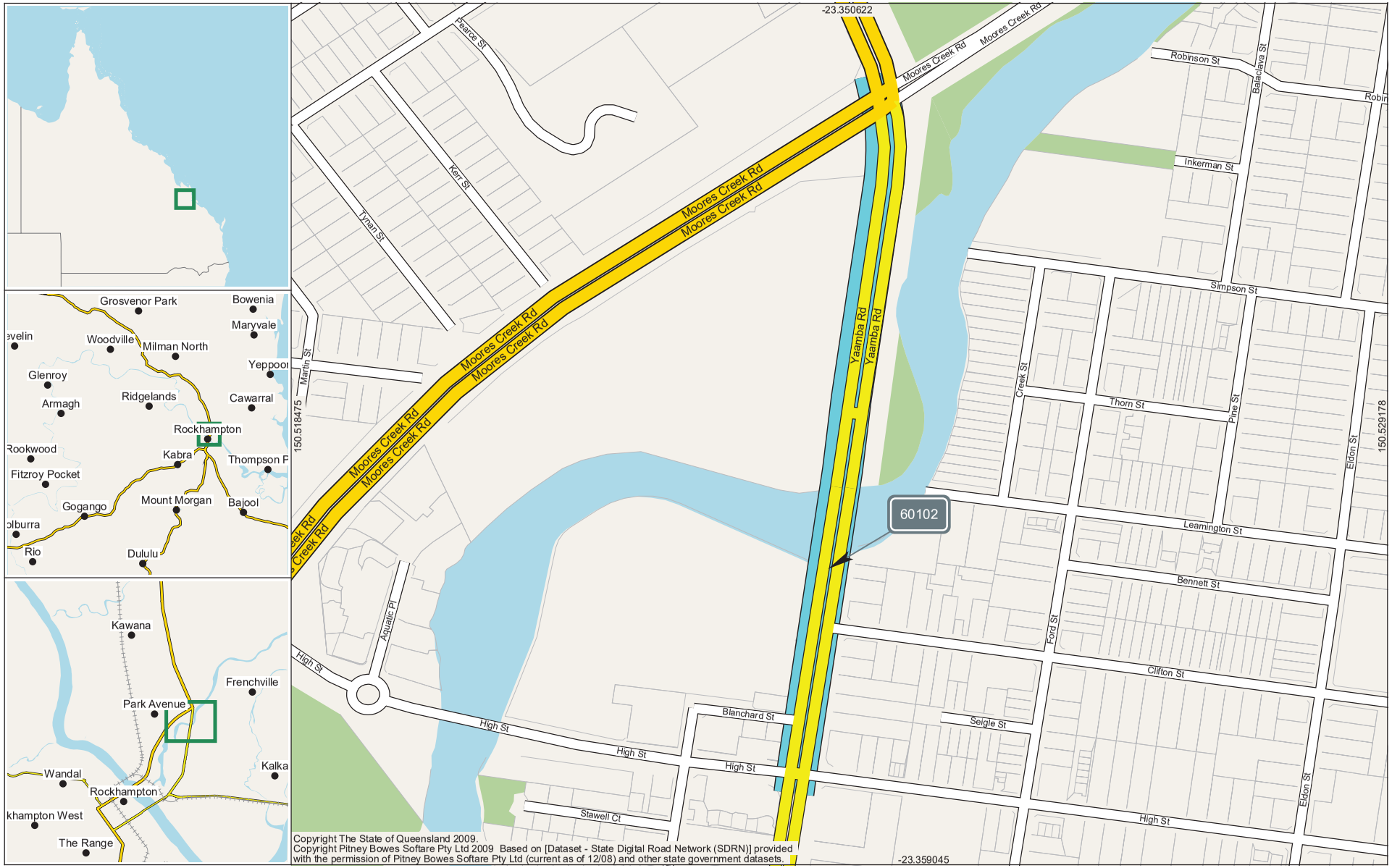
Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

AADT Segment Report

Area 404 - Fitzroy District Road Section 196 - ROCKHAMPTON - YEPPOON ROAD

Road Segment from 3.226km to 4.030km Segment Site 60102 Traffic Year 2020 Data Collection Year 2020



Site 60102. Point 260000175. 65m N of Clifton St, S of Moores Creek Bridge, Berserker.

3.48 km

The width of each Road Segment is proportional to its AADT.

3.23 km

Start Point 260000176. Musgrave St to R'ton CBD @ High St.

4.03 km

End Point 260000017. Yaamba Rd to City @ Moores C.Rd/Bruce H.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)

G	8,797	100%
A	6,392	100%
B	15,189	100%

Light Vehicles (0A)

G	8,293	94.27%
A	5,870	91.83%
B	14,163	93.25%

Heavy Vehicles (0B)

G	505	5.74%
A	524	8.20%
B	1,029	6.77%

Short Vehicles (1A)

G	8,293	94.27%
A	5,870	91.83%
B	14,163	93.25%

Trucks and Buses (1B)

G	444	5.05%
A	483	7.56%
B	927	6.10%

Articulated Vehicles (1C)

G	32	0.36%
A	28	0.44%
B	60	0.40%

Road Trains (1D)

G	29	0.33%
A	13	0.20%
B	42	0.28%

Short 2-Axle Vehicles (2A)

G	8,206	93.28%
A	5,791	90.60%
B	13,997	92.15%

Short Vehicles Towing (2B)

G	87	0.99%
A	79	1.24%
B	166	1.09%

2-Axle Trucks and Buses (2C)

G	423	4.81%
A	462	7.23%
B	885	5.83%

3-Axle Trucks and Buses (2D)

G	16	0.18%
A	17	0.27%
B	33	0.22%

4-Axle Trucks (2E)

G	5	0.06%
A	4	0.06%
B	9	0.06%

3-Axle Articulated (2F)

G	5	0.06%
A	8	0.13%
B	13	0.09%

4-Axle Articulated (2G)

G	7	0.08%
A	8	0.13%
B	15	0.10%

5-Axle Articulated (2H)

G	4	0.05%
A	2	0.03%
B	6	0.04%

6-Axle Articulated (2I)

G	16	0.18%
A	10	0.16%
B	26	0.17%

B Double (2J)

G	25	0.28%
A	11	0.17%
B	36	0.24%

Double Road Trains (2K)

G	4	0.05%
A	2	0.03%
B	6	0.04%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%

AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

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Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

- G Traffic flow in gazettal direction
- A Traffic flow against gazettal direction
- B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

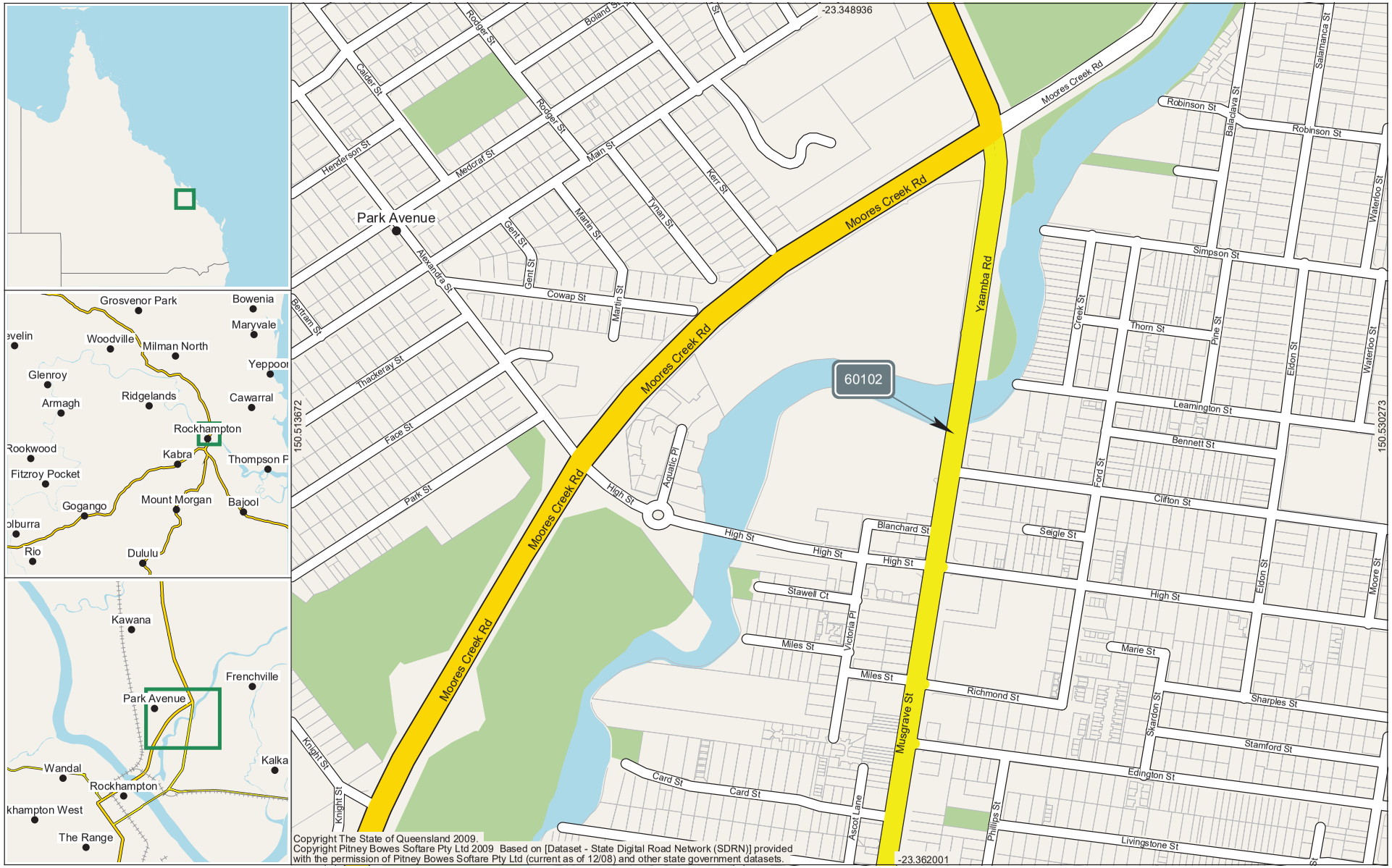
The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

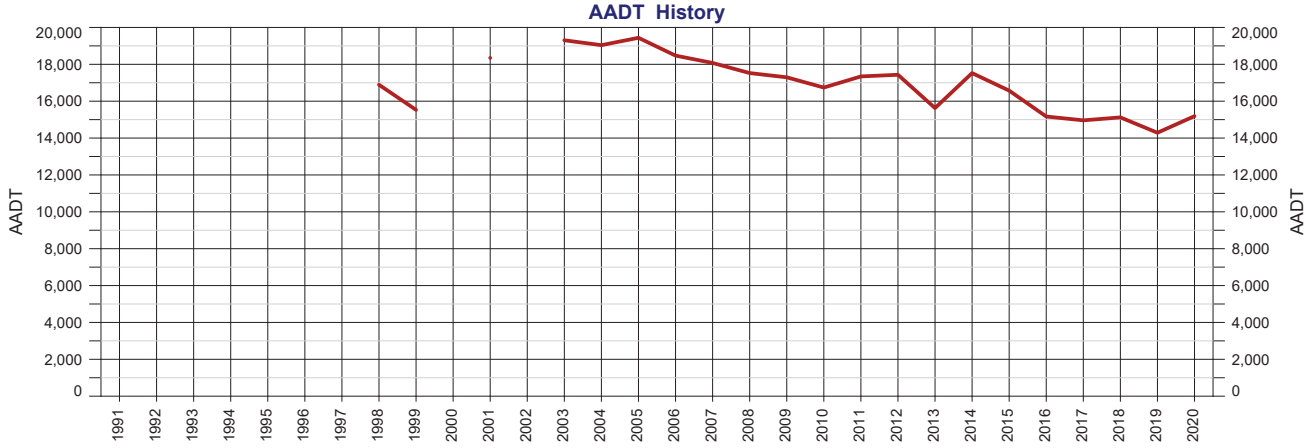
12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train



Area	404 - Fitzroy District
Road Section	196 - ROCKHAMPTON - YEPPOON ROAD
Site	60102 - 65m N Clifton St, Moores Ck, Berserker
Thru Dist	3.48
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2020	Growth last Year	6.30%
AADT	15,189	Growth last 5 Yrs	-0.57%
Avg Week Day	19,138	Growth last 10 Yrs	-1.20%
Avg Weekend Day	13,821		

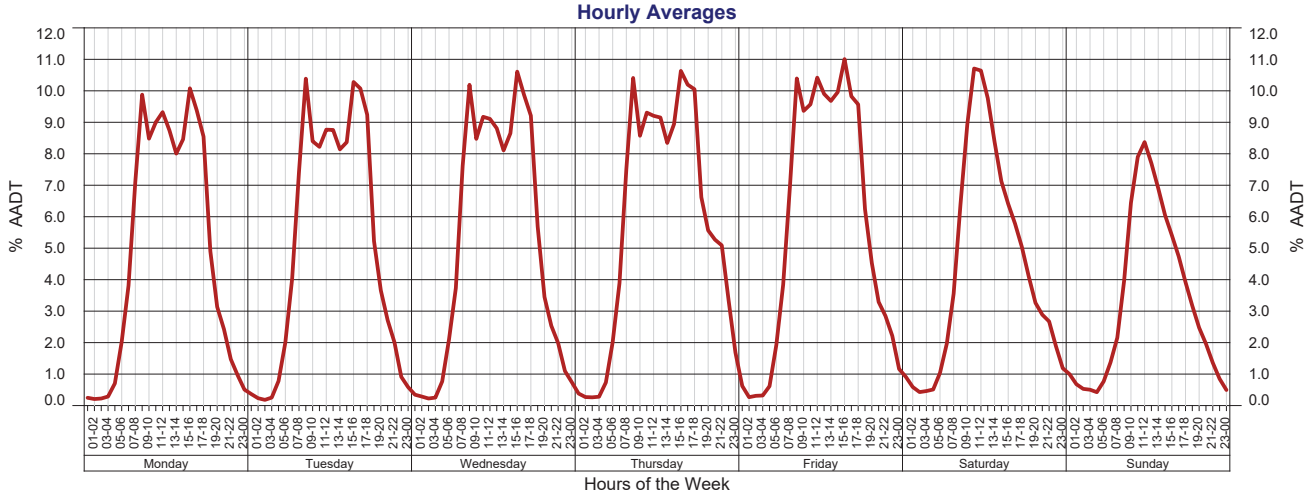
AADT History



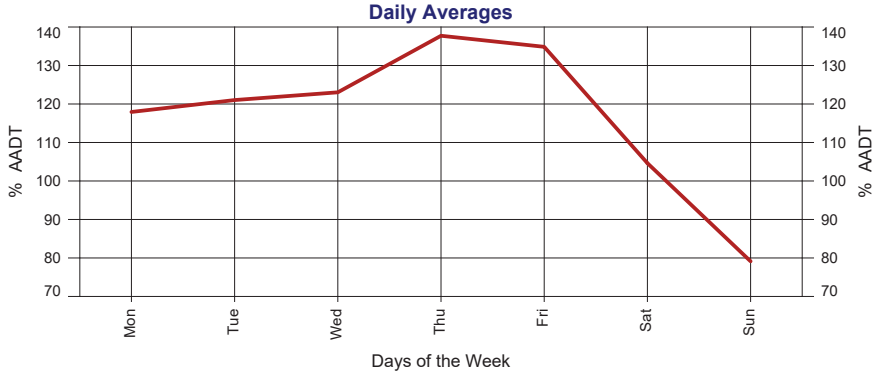
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	15,189	6.30%	-0.57%	-1.20%
2019	14,289	-5.50%	-3.47%	-2.25%
2018	15,121	1.07%	-1.85%	-1.63%
2017	14,961	-1.37%	-2.92%	-2.00%
2016	15,169	-8.47%	-3.03%	-2.03%
2015	16,572	-5.43%	-0.59%	-1.09%
2014	17,524	12.14%	0.74%	-0.52%
2013	15,627	-10.36%	-2.70%	-2.36%
2012	17,433	0.52%	-0.17%	
2011	17,343	3.60%	-0.85%	-1.06%
2010	16,740	-3.21%	-2.68%	
2009	17,295	-1.31%	-2.24%	-0.51%
2008	17,525	-3.04%	-2.27%	-0.04%
2007	18,074	-2.15%		
2006	18,472	-4.97%	-0.54%	

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2005	19,438	2.10%		
2004	19,039	-1.37%	3.24%	
2003	19,304		3.71%	
2002				
2001	18,349			
2000				
1999	15,529	-8.07%		
1998	16,892			
1997				
1996				
1995				
1994				
1993				
1992				
1991				

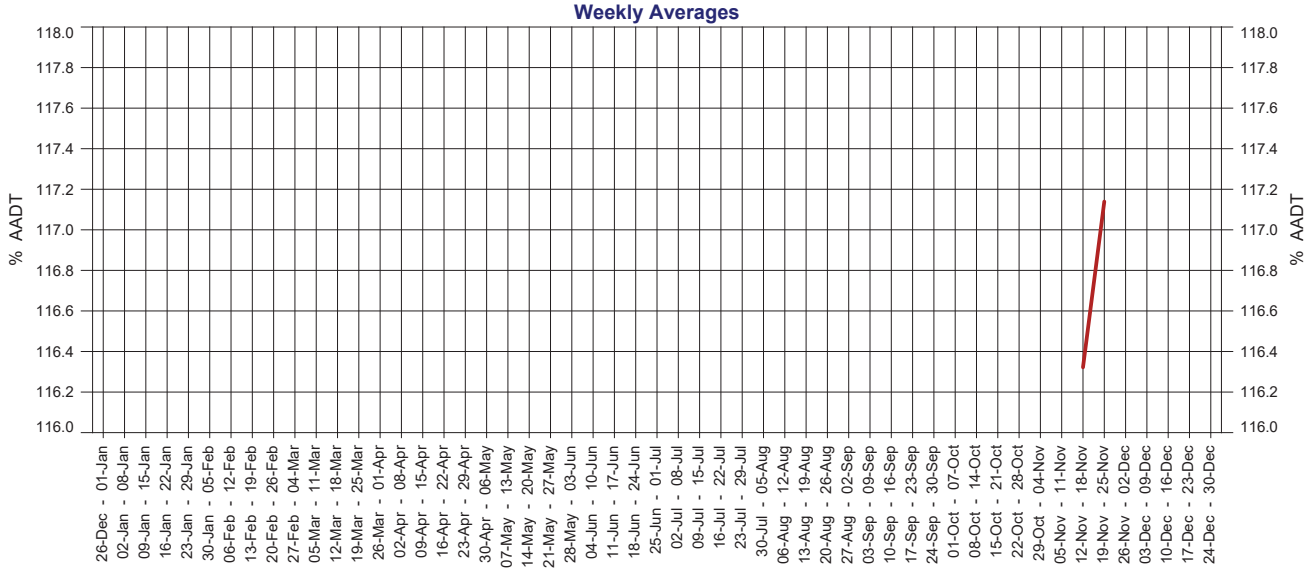
Hourly Averages



Daily Averages



Weekly Averages



2020 Calendar

January

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

March

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

April

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

September

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

December

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Days on which traffic data was collected.

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Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

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Days on which traffic data was collected are highlighted in green.

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- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

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Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

Queensland Government

24-Jun-2021 15:18

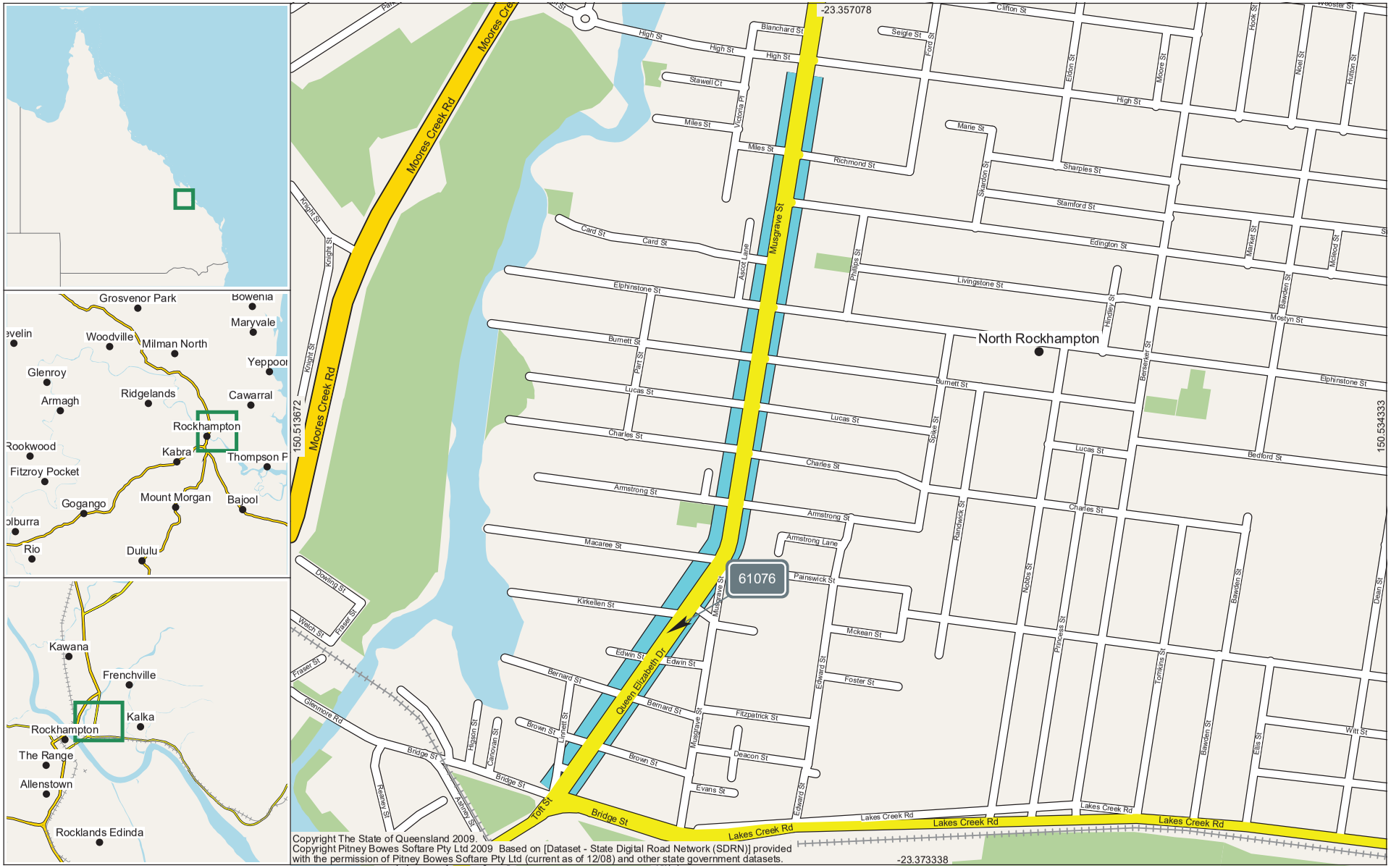
Traffic Analysis and Reporting System

AADT Segment Report

TARS

Area 404 - Fitzroy District Road Section 196 - ROCKHAMPTON - YEPPOON ROAD

Road Segment from 1.575km to 3.226km Segment Site 61076 Traffic Year 2020 Data Collection Year 2019



Site 61076. Point 260000779. R'ton-Yeppoon Rd at Kirkellen St.

1.99 km

The width of each Road Segment is proportional to its AADT.

1.57 km

Start Point 260018832. R'ton-Yeppoon Rd to CBD@Bridge St.

3.23 km

End Point 260000176. Musgrave St to R'ton CBD @ High St.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

All Vehicles (00)		
G	9,451	100%
A	7,426	100%
B	16,877	100%

Light Vehicles (0A)		
G	8,595	90.94%
A	6,679	89.94%
B	15,274	90.50%

Heavy Vehicles (0B)		
G	856	9.06%
A	746	10.05%
B	1,602	9.49%

Short Vehicles (1A)		
G	8,595	90.94%
A	6,679	89.94%
B	15,274	90.50%

Trucks and Buses (1B)		
G	788	8.34%
A	710	9.56%
B	1,498	8.88%

Articulated Vehicles (1C)		
G	49	0.52%
A	31	0.42%
B	80	0.47%

Road Trains (1D)		
G	19	0.20%
A	5	0.07%
B	24	0.14%

Short 2-Axle Vehicles (2A)		
G	8,507	90.01%
A	6,617	89.11%
B	15,124	89.61%

Short Vehicles Towing (2B)		
G	88	0.93%
A	62	0.83%
B	150	0.89%

2-Axle Trucks and Buses (2C)		
G	753	7.97%
A	678	9.13%
B	1,431	8.48%

3-Axle Trucks and Buses (2D)		
G	28	0.30%
A	27	0.36%
B	55	0.33%

4-Axle Trucks (2E)		
G	7	0.07%
A	5	0.07%
B	12	0.07%

3-Axle Articulated (2F)		
G	14	0.15%
A	12	0.16%
B	26	0.15%

4-Axle Articulated (2G)		
G	11	0.12%
A	10	0.13%
B	21	0.12%

5-Axle Articulated (2H)		
G	4	0.04%
A	1	0.01%
B	5	0.03%

6-Axle Articulated (2I)		
G	20	0.21%
A	8	0.11%
B	28	0.17%

B Double (2J)		
G	19	0.20%
A	4	0.05%
B	23	0.14%

Double Road Trains (2K)		
G	0	0.00%
A	1	0.01%
B	1	0.01%

Triple Road Trains (2L)		
G	0	0%
A	0	0%
B	0	0%

AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

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North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

- G Traffic flow in gazettal direction
- A Traffic flow against gazettal direction
- B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

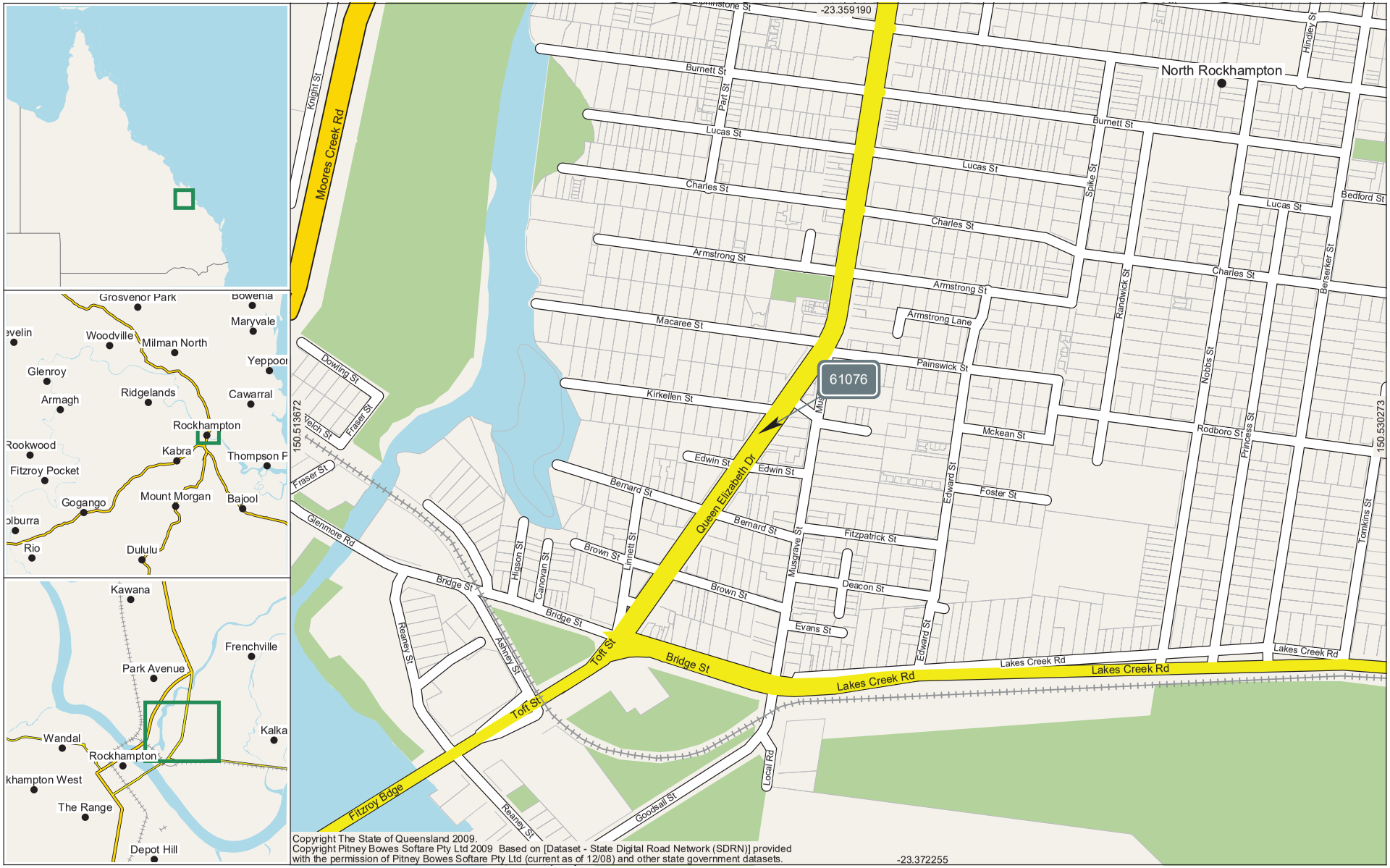
The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

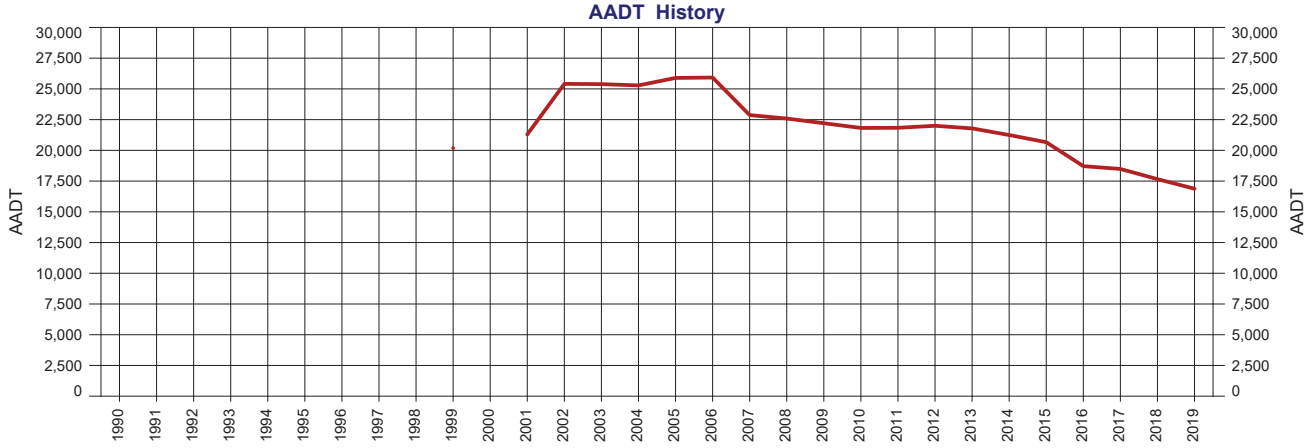
12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train



Area	404 - Fitzroy District
Road Section	196 - ROCKHAMPTON - YEPPOON ROAD
Site	61076 - 40m S of Kirkellen St, Berserker
Thru Dist	1.985
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2019	Growth last Year	-4.43%
AADT	16,877	Growth last 5 Yrs	-4.44%
Avg Week Day	18,395	Growth last 10 Yrs	-3.32%
Avg Weekend Day	14,007		

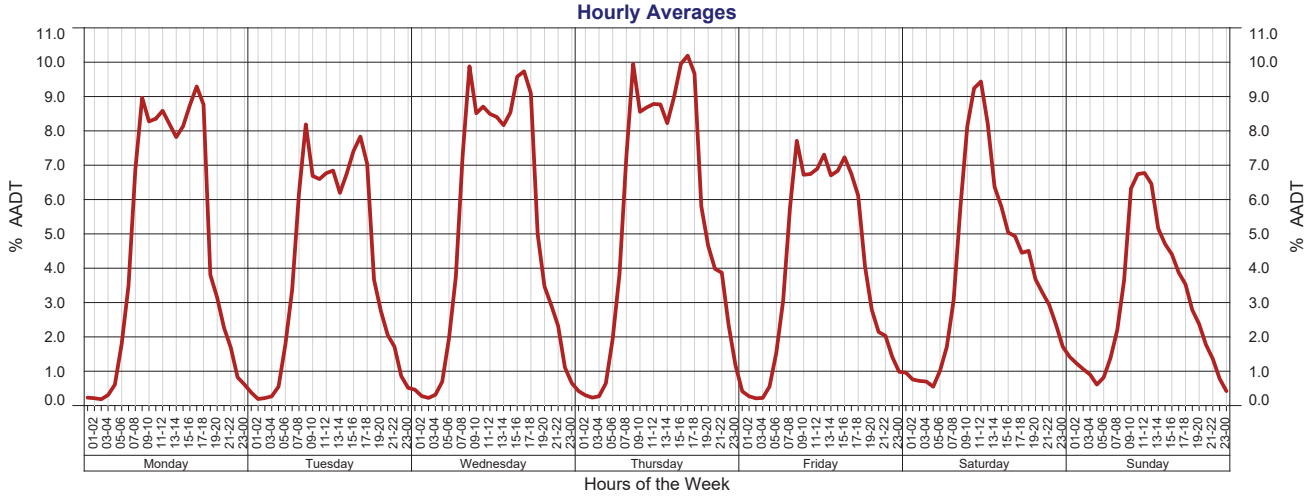
AADT History



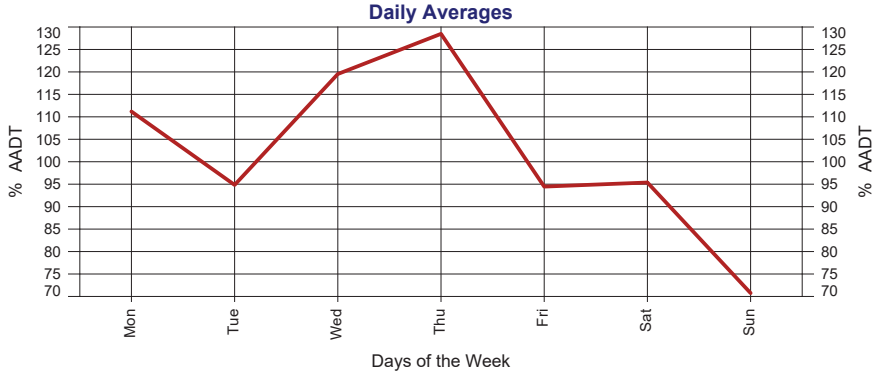
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2019	16,877	-4.43%	-4.44%	-3.32%
2018	17,659	-4.47%	-4.31%	-2.93%
2017	18,486	-1.23%	-3.89%	-2.50%
2016	18,717	-9.42%	-3.96%	-2.79%
2015	20,664	-2.75%	-1.47%	-1.80%
2014	21,248	-2.47%	-0.91%	-1.67%
2013	21,786	-0.96%	-0.50%	-1.56%
2012	21,998	0.74%	-0.55%	-1.62%
2011	21,837	0.07%	-2.12%	-1.43%
2010	21,822	-1.74%	-3.17%	
2009	22,208	-1.69%	-3.22%	-0.74%
2008	22,590	-1.21%	-3.10%	
2007	22,867	-11.80%	-2.90%	
2006	25,925	0.13%	2.17%	
2005	25,892	2.40%		

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2004	25,284	-0.41%	4.26%	
2003	25,388	-0.08%		
2002	25,408	19.34%		
2001	21,291			
2000				
1999	20,185			
1998				
1997				
1996				
1995				
1994				
1993				
1992				
1991				
1990				

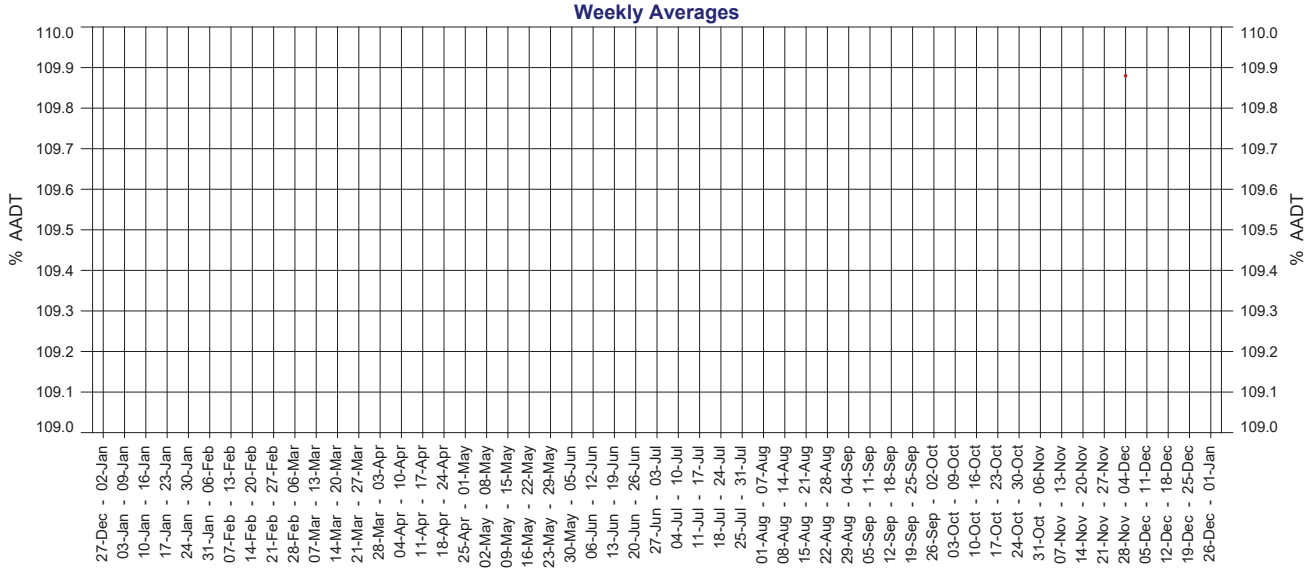
Hourly Averages



Daily Averages



Weekly Averages



2019 Calendar

January

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

March

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

April

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

May

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

October

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Days on which traffic data was collected.

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

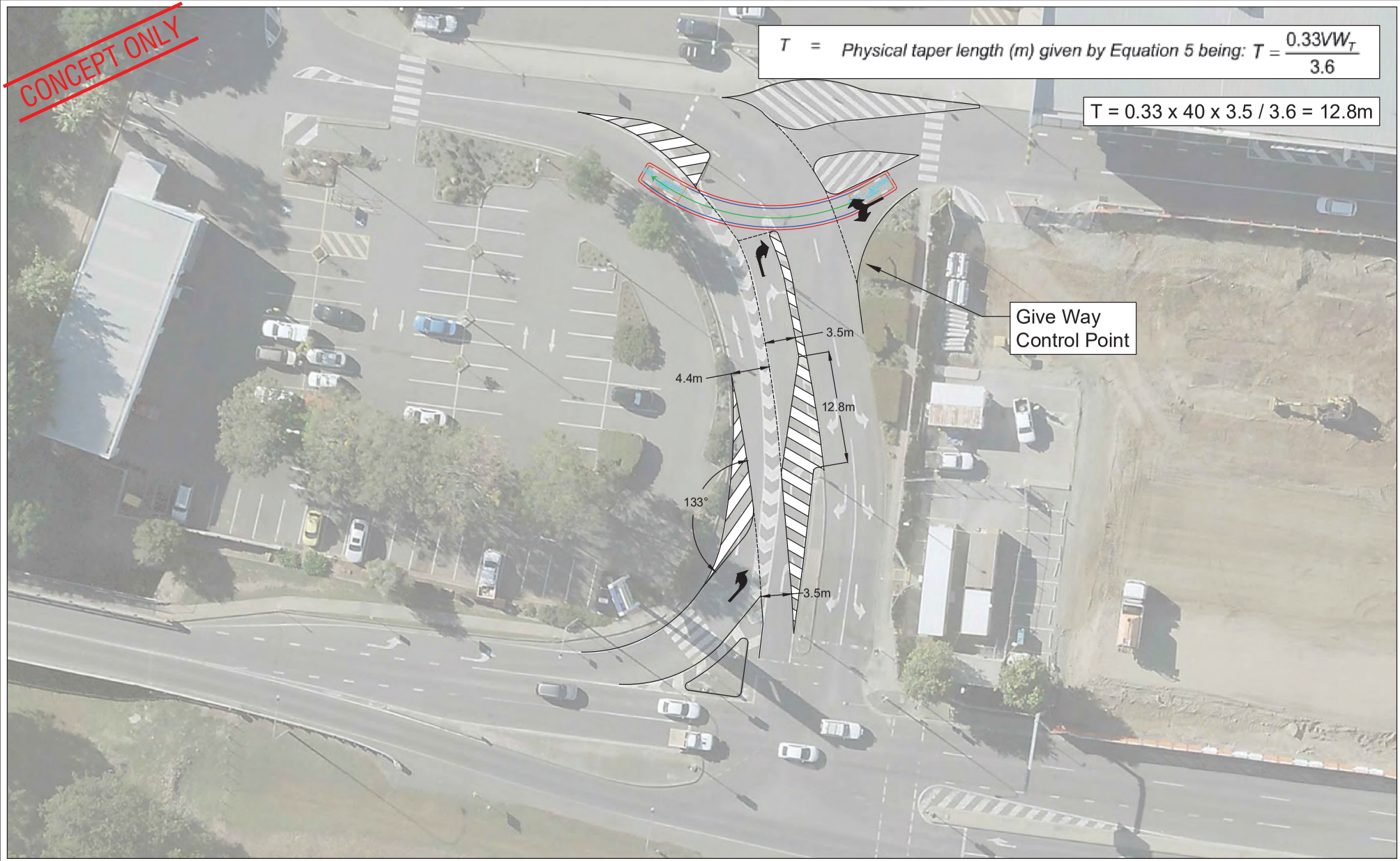
Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.



SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE

4.91
0.92 2.80
B85 - AS2890.1

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

NORTH

0 2 4 6 8 10 12 14 16 18 20m
4 3 2 1
SCALE 1:400 @ A3

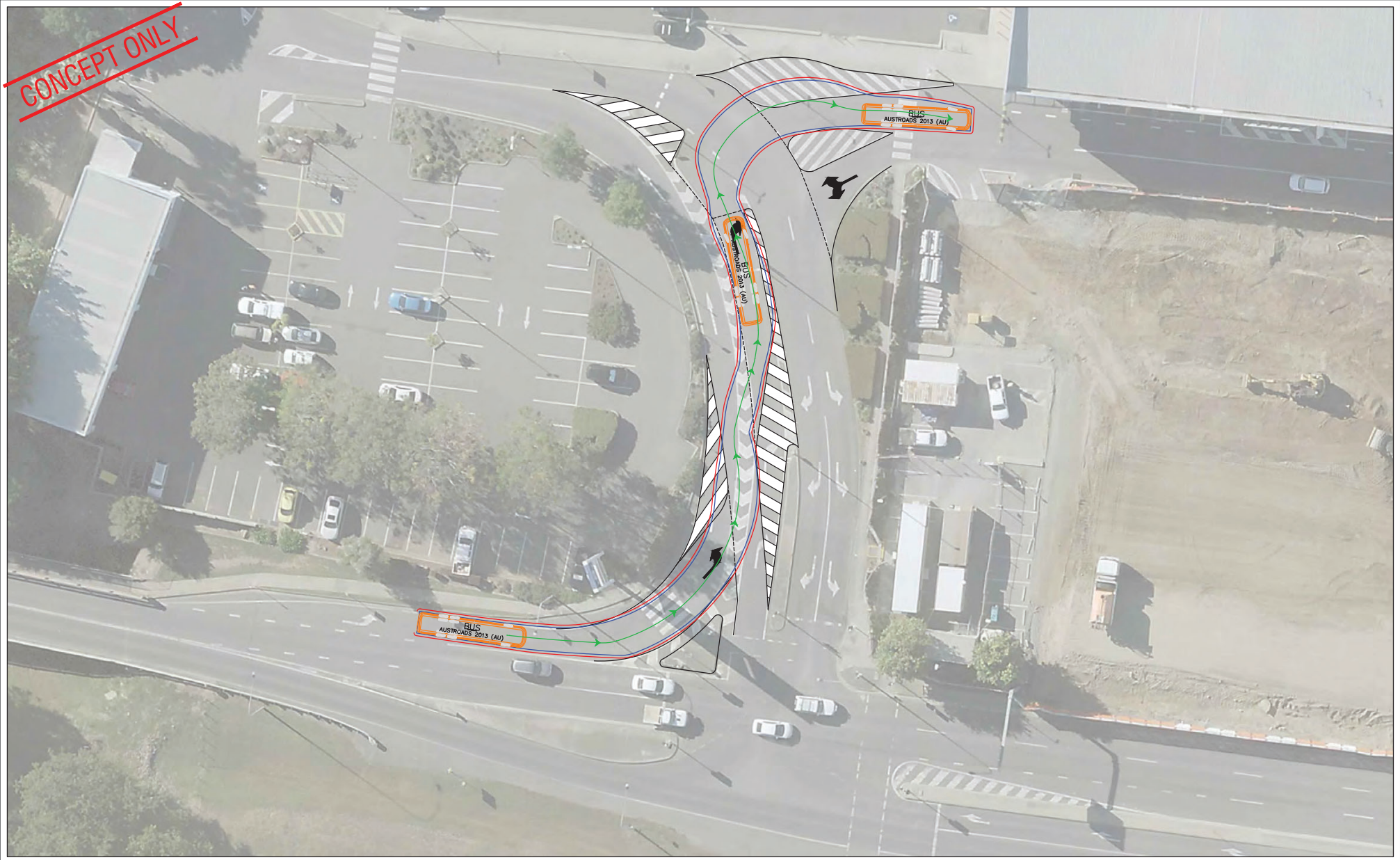
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
B85 Swept Path

Drawn	Date	Scale	Size
R. Bakon	22/07/2022	1:400	A3

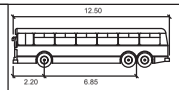
Drawing Number: CEB06360 - SK20
Revision: A

CAD File: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - ACAD\22 07 22 - CEB06360 - SK20_SK22 - B.dwg



SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 30.6

NORTH

0 2 4 6 8 10 12 14 16 18 20m

4 3 2 1

SCALE 1:400 @ A3

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Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
BUS Swept Path

Drawn	Date	Scale	Size
R. Bakon	22/07/2022	1:400	A3

Drawing Number	Revision
CEB06360 - SK21	A

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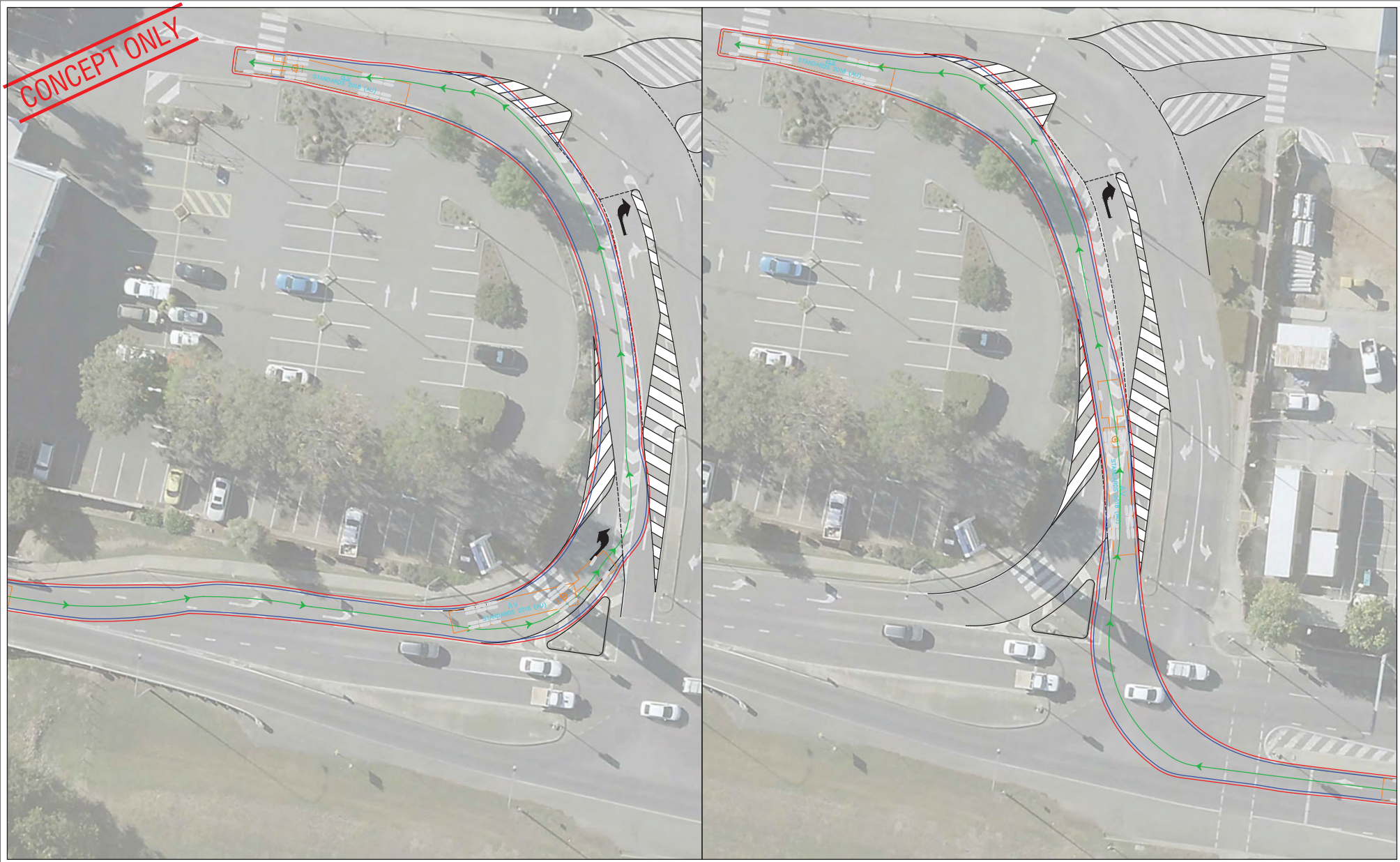
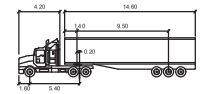


SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



AV

	meters		
Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	28.3
Tractor Track	2.50	Articulating Angle	72.0
Trailer Track	2.50		

NORTH

0 2 4 6 8 10 12 14 16 18 20m

4 3 2 1

SCALE 1:400 @ A3

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Stockland Rockhampton
120 - 331 Yaamba Road, North Rockhampton
ALDI Development
Revised Entrance Layout
AV Swept Paths

Drawn	Date	Scale	Size
R. Bakon	22/07/2022	1:400	A3

Drawing Number	Revision
CEB06360 - SK22	A

CAD File: G:\CEB06360 - Rockhampton Stockland Traffic Study\6360 - ACAD\22 07 22 - CEB06360 - SK01, SK21 - B.dwg