

Appendix F

Traffic impact assessment

Traffic Impact Assessment

Genesis ·ero Waste Facility - Eastern Creek | Modification 6

Prepared for Dial-a-Dump Industries Pty Ltd | 9 October 2017



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Traffic Impact Assessment

Final

Report J17117RP3 | Prepared for Dial-a-Dump Industries Pty Ltd | 9 October 2017

Prepared by **Tim Brooker**

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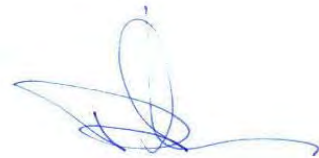
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Date 9 October 2017

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Table of contents

Chapter 1	Introduction	1
1.1	Overview	1
1.2	Secretary's Environmental Assessment Requirements	1
1.3	Project and site description	2
1.3.1	Background	2
1.3.2	The proposal	2
Chapter 2	Existing traffic conditions	5
2.1	Location and access	5
2.2	Road network and intersections	7
2.2.1	Kangaroo Avenue	7
2.2.2	Honeycomb Drive	13
2.2.3	Wonderland Drive	13
2.2.4	Wallgrove Road	13
2.2.5	Hourly traffic volumes	13
2.3	Traffic generation from current site operations	15
2.4	Intersections and turning traffic	17
2.5	Internal facility layout and traffic circulation	18
2.6	Safety and traffic management	22
2.7	Car parking	22
2.8	Public transport	23
2.9	Pedestrian and cyclist access	23
2.10	RMS proposed road extension to Archbold Road	24
Chapter 3	The proposal	25
3.1	Change in the future site traffic operations	25
3.2	Average future truck loads for materials transported to and from the site	26
3.3	Changes to site access and car parking with the proposal	26
Chapter 4	Traffic impact assessment	29
4.1	External traffic impacts on the road network	29
4.2	Assessment of peak hourly site traffic increases at intersections	30
4.3	Car parking	31
4.4	Safety and traffic management	32
4.5	Public transport, pedestrian and cycling access	32
Chapter 5	Summary and conclusion	33

Appendices

A	Site Plan and Traffic Management Plan
B	Intersection Traffic Surveys
C	Site Weighbridge Data
D	SIDRA Intersection results
E	Intersection Swept Paths

Tables

1.1	SEARs	1
1.2	Approved hours	3
1.3	Proposed hours	3
2.1	Peak hourly traffic volumes using Eastern Creek locality roads in July 2017	14
2.2	Hourly summary of the surveyed daily site access traffic movements	15
2.3	Intersection Level of Service standards	17
2.4	The Honeycomb Drive/Kangaroo Avenue intersection performance in July 2017	18
4.1	Future changes to weekday evening and night time traffic movements in the locality	29
4.2	Results of the future Honeycomb Drive intersection SIDRA analysis	31
4.3	Results of the new site access intersection SIDRA analysis	31

Figures

1.1	Local road network	4
2.1	Regional road network	6
2.2	Location of the Fulton Hogan asphalt plant driveways on DADI Drive	7
2.3	RMS proposed route of the Archbold Road extension	24
3.1	Temporary realignment of the site entry road after September 2017	27

Photographs

2.1	Site access traffic using the intersection at Kangaroo Avenue/Honeycomb Drive	8
2.2	Kangaroo Avenue view from Honeycomb Drive looking north	8
2.3	Kangaroo Avenue about 1.0 km north of the site access road looking south	9
2.4	Kangaroo Avenue looking east from the corner into Honeycomb Drive	9
2.5	Honeycomb Drive looking east about 300 m east of Kangaroo Avenue	10
2.6	Wonderland Drive looking east about 1.0 km west of Wallgrove Road	10
2.7	Wonderland Drive looking east about 600 m west of Wallgrove Road	11
2.8	Wonderland Drive looking east at the approach to Wallgrove Road	11
2.9	M7 Motorway exit ramp at Wallgrove Road looking west into Lenore Drive	12
2.10	M7 Motorway southbound on the approach to the Wallgrove Road exit ramp	12
2.11	Trucks passing each other on the main site entry road	19
2.12	Inner end of the truck approach queue near the Genesis site entry weighbridge	19
2.13	Middle section of the truck approach queue showing the range of truck types	20
2.14	Outer end of the truck approach queue approaching the asphalt plant access	20
2.15	Trucks at the wheel wash and inspection area prior to departing from the site	21
2.16	View into the quarry showing chute for the disposal of special waste	21
2.17	Main facility car park adjacent to the site entry weighbridge area	22
2.18	Indented bus bays with bus stops and bus shelters on Wonderland Drive	23

1 Introduction

1.1 Overview

The Proponent operates the Genesis Xero Waste Facility (the Facility) at Eastern Creek in the Blacktown Local Government Area (LGA). The Facility is located at 1 Kangaroo Avenue and comprises a Resource Recovery Facility (RRF) and a general solid waste (non-putrescible) landfill. The RRF includes a Materials Processing Centre (MPC) and a Waste Transfer Station. The site currently operates under project approval MP 06_0139 and environment protection licences (EPLs) 13426 and 20121.

The proponent proposes to modify MP 06_0139 to alter the hours of operation and remove the yearly limit on the quantity of waste that can be landfilled (Modification 6). This will enable the Facility to accept the waste streams that will be generated during major construction projects, some of which will be generated outside standard construction hours. This would not necessitate any modifications/alterations to the existing site infrastructure, production equipment or approved Facility footprint.

This traffic impact assessment (TIA) report accompanies the application for the modification and was prepared with reference to *Roads and Traffic Authority Guide to Traffic Generating Developments* (RTA 2002) and the requirements of the Australian Standards (AS 2890) for access and car parking for cars and heavy vehicles.

1.2 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements (SEARs) were issued for the proposed modification. The traffic specific requirements and where they have been addressed in this TIA are in Table 1.1.

Table 1.1 SEARs

Key issue	Requirement	Section addressed
Department of Planning and Environment		
Traffic and transport	Including details of any potential changes to the daily peak, and spread of traffic movements generated by the development, and any potential impacts upon the safety and functionality of the surrounding road network.	Section 3.1, Section 3.2, Sections 4.1, 4.2 and 4.4
NSW Roads and Maritime Services		
Traffic and transport	Daily and peak traffic movements likely to be generated by the proposed modification including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required).	Section 3.1, Section 3.2, Sections 4.1, 4.2 and 4.4
	Details of the proposed accesses and the parking provisions associated with the proposed modification including compliance with the requirements of the relevant Australian Standards (i.e. turn paths, sight distance requirements, aisle widths etc).	Section 3.3, Section 4.3, Section 4.4
	Proposed number of car parking spaces and compliance with the appropriate parking codes.	Section 3.3, Section 4.3
	Details of service vehicle movements (including vehicle type and likely arrival and departure times).	Section 3.2, Section 4.2

Table 1.1 **SEARs**

Key issue	Requirement	Section addressed
Blacktown City Council		
Traffic and transport	A traffic impact assessment is to be prepared which considers the increase in truck movements and safety at the entry driveway off Honeycomb Drive as a result of the proposed modification. A stop sign and associated line marking is required to be provided by the applicant at no cost to Council, on the access driveway to the facility, where it meets the existing intersection of Honeycomb Drive and Kangaroo Avenue. Priority is to be given to traffic on the public road from Honeycomb Drive to Kangaroo Avenue.	Section 3.2, Section 3.3. Section 4.1, Section 4.2

1.3 Project and site description

1.3.1 Background

The site is located at the corner of Honeycomb Drive and Kangaroo Avenue on Lot 1 DP 1145808 and Lot 8 DP 1200048 in Eastern Creek, which is in the Blacktown LGA, as shown in Figure 1.1. The site is surrounded by Kangaroo Avenue to the east and north-east, other industrial sites and the Western Motorway to the north, Archbold Road to the west and open grassland to the south.

Further afield there is residential development in Minchinbury beyond the Western Motorway to the north and in Erskine Park beyond Archbold Road to the west, and predominantly undeveloped land containing high voltage powerlines to the west and south-west.

The site is permitted to receive and process 2 million tonnes per annum (Mtpa) of construction, demolition, commercial and industrial waste and green waste clean ups for resource recovery and landfill. A total of 700,000 tpa of resource recovery process rejects and special waste (asbestos) are permitted to be sent to landfill at the site. The Facility comprises:

- access and internal roads;
- weighbridge and material inspection area;
- materials processing centre (MPC);
- segregated material area (SMA) where materials such as bricks, concrete and sand are stockpiled directly from client trucks or from the MPC and reprocessed into saleable products such as aggregates and sands; and
- asbestos discovered during pre-processing and landfill rejected during the resource recovery process are applied to the base of a former quarry. Incoming loads that are unsuitable for recovery or are pre classified in accordance with the licence conditions are directed straight to the landfill for immediate disposal and covering.

1.3.2 The proposal

The purpose of Modification 6 is to modify the operational hours and to allow greater flexibility in relation to the waste volume permitted to landfill.

For the most part, operations at the Facility will continue in accordance with MP 06_0139, as amended. There will be no modification to the maximum volume of waste that may be accepted in a single year.

The operating hours are proposed to be changed to meet the demand of large infrastructure 24-hour construction projects such as motorways and to enable maintenance and cleaning outside of standard hours so that plant is more available during standard hours. The approved construction and operating hours from the project approval (Table 5 of Condition 39) are in Table 1.2.

Table 1.2 **Approved hours**

Activity	Days	Hours
Construction	Monday-Friday	6am-6pm
	Saturday	8am-4pm
	Sunday and public holidays	Nil
Operations (waste deliveries and use of chute)	Monday-Friday	7am-6pm
	Saturday, Sunday and public holidays	8am-4pm
Operations (MPC)	Monday-Friday	6am-10pm
	Saturday, Sunday and public holidays	6am-4pm

The proposed revised operating hours are in Table 1.3, which is proposed to replace Table 5 of Condition 39.

Table 1.3 **Proposed hours**

Activity	Sub-activity	Days	Hours
Construction		Monday-Friday	6am-6pm
		Saturday	8am-4pm
		Sunday and public holidays	Nil
Operations (waste deliveries, processing and landfilling)			
MPC and PSE	Receive materials	Monday-Sunday	24 hours
	Operations	Monday-Sunday	24 hours
SMA	Receive materials	Monday-Sunday	24 hours
	Crushing and screening	Monday-Sunday	6am-6pm
Landfill	Receive materials by truck	Monday-Sunday	5am-9pm*
	Convey waste from MPC to landfill via chute	Monday-Sunday	24 hours
Maintenance			
MPC, PSE and landfill	Repair machinery	Monday-Sunday	24 hours
SMA	Cleaning and machinery repairs	Monday-Sunday	24 hours
Chute	Clearing of blockages and general repairs	Monday-Sunday	24 hours

The limit on landfilling volumes of 700,000 tpa is proposed to be removed. This will not change the cap on volumes of 2M tpa approved to be received at Genesis. Removal of the cap will allow Genesis operational flexibility to meet the increased demand of more special waste during the aforementioned major construction projects.



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Source: EMM (2017); GA (2017)

2 Existing traffic conditions

2.1 Location and access

The access to the Facility from the surrounding major roads and local roads is shown in Figure 2.1.

The Facility is located within Eastern Creek, which is one of Sydney's largest industrial precincts. To the north of the facility are a number of large industrial sites which have access via the northern end of Kangaroo Avenue. The M4 Motorway separates the Eastern Creek Industrial area from the residential suburb of Minchinbury, which is approximately 500 m from the nearest operational areas of the facility. To the east of the Facility, within Eastern Creek there are also many large industrial sites, which are mainly used for commercial and industrial purposes.

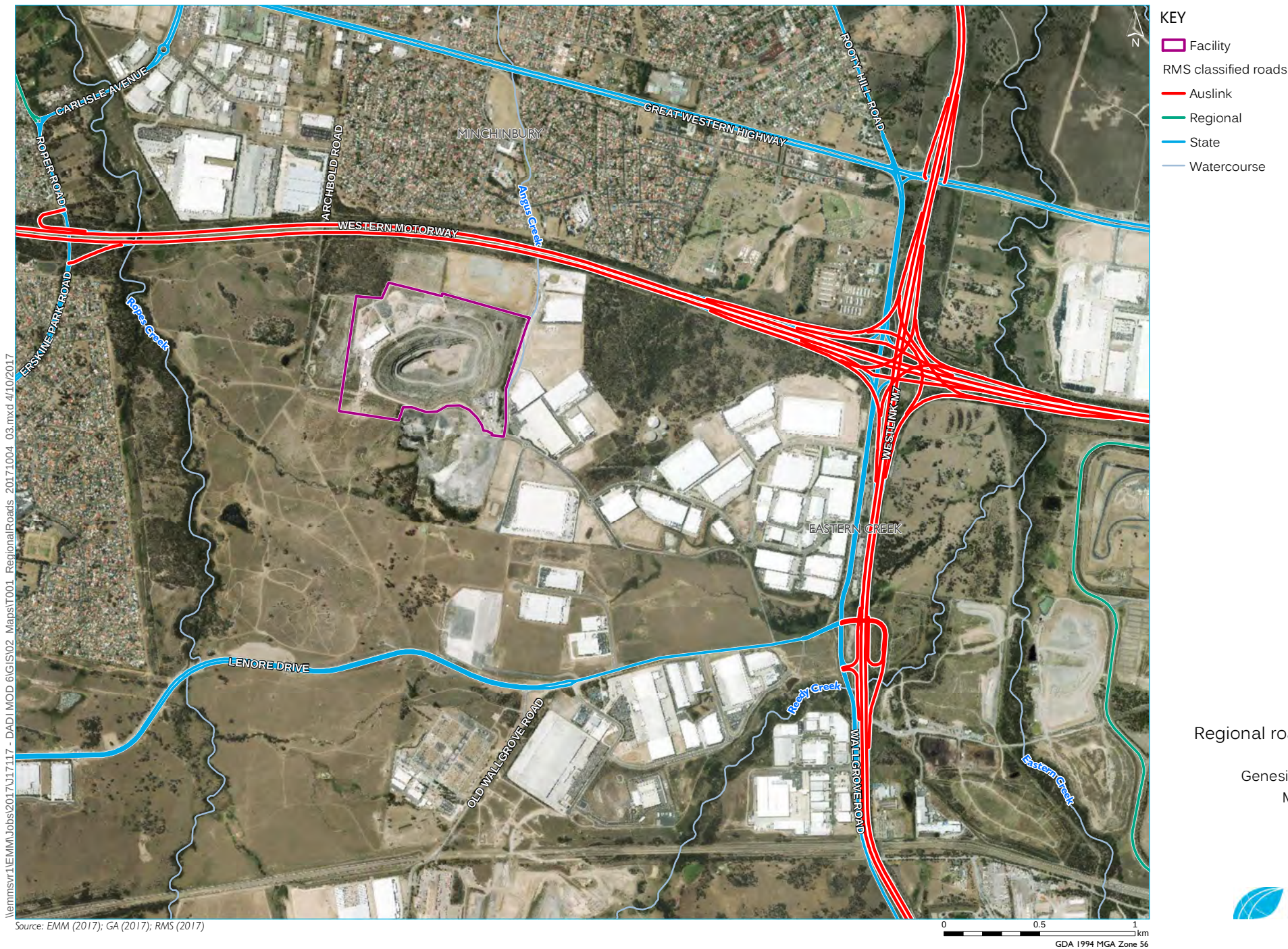
Prior to 9 October 2017, traffic associated with the Facility used a private road (DADI Drive) which intersects with Kangaroo Avenue and Honeycomb Drive as the western leg of a four way intersection (where the fourth leg of the intersection is also a private industrial access driveway connecting to another site immediately to the south). Construction has now commenced to upgrade DADI Drive to a public road (Precinct Road) to connect the industrial area to Archbold Road in the west. During this period, the western leg of the four way intersection will be closed and the Facility will be accessed via a driveway, which has now been constructed and is operating on the western side of Kangaroo Avenue, 130 m north of the Honeycomb Drive intersection.

Between the Facility and Wallgrove Road, Honeycomb Drive connects from the Kangaroo Avenue intersection for approximately 600 m east to Wonderland Drive, which then continues further east for approximately 1.3 km as the primary access route for all the industrial precinct traffic which requires access to the major road network at Wallgrove Road.

The former site access road (DADI Drive) is approximately 600m long and also provided access to another industrial site (an asphalt plant) operated by Fulton Hogan Pty Ltd. There is a single lane each way on DADI Drive for the majority of its length. However the driveway is widened and provides multiple traffic lanes over approximately 150 m on the final approach to the site entry and exit weighbridges. This widening is shown at the top of Figure 2.2.

The Fulton Hogan asphalt plant has two driveways on DADI drive, which are also shown on Figure 2.2. These driveways are located approximately 500 m and 600 m west of the intersection of Kangaroo Avenue with Honeycomb Drive. The western asphalt plant driveway is approximately 300 m from the current site entry and exit weighbridges at the facility.

During the construction work to upgrade DADI Drive, the Fulton Hogan asphalt plant traffic will also use the access driveway on the western side of Kangaroo Avenue, 130 m north of the Honeycomb Drive intersection.



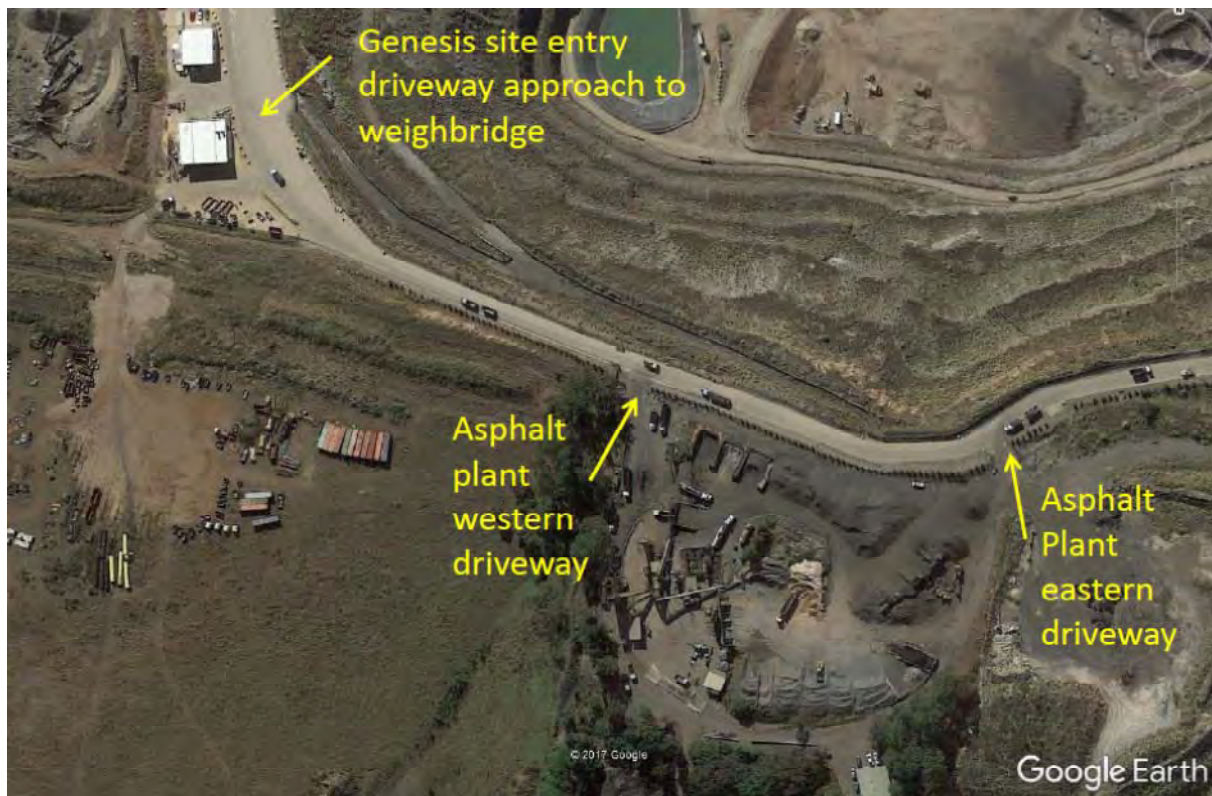


Figure 2.2 Location of the Fulton Hogan asphalt plant driveways on DADI Drive

2.2 Road network and intersections

The existing local roads along the external transport route are shown in Photographs 2.1 to 2.8. Other major roads in the locality, which are shown in Photographs 2.9 and 2.10, include Wallgrove Road, the M7 Motorway, M4 Motorway, Great Western Highway and Lenore Drive. These routes further distribute the site traffic to and from regional destinations when travelling to and from Eastern Creek.

This traffic impact assessment is primarily focussed on the existing and future operating performance of the local roads in the Eastern Creek area, which have a 50 km/hr speed limit currently.

This assessment also considers the intersection operating performance for the site access traffic using the Honeycomb Drive and Kangaroo Avenue intersection (including in its former configuration as a four way intersection) and at the newly created intersection.

2.2.1 Kangaroo Avenue

Kangaroo Avenue is a two lane wide industrial road which has a typical sealed width of 13.5 m between the kerbs. The road has on street parking which is reasonably well utilised on the eastern side in the vicinity of the site access road intersection with Kangaroo Avenue and Honeycomb Drive, which is shown in Photograph 2.2.



Photograph 2.1 Site access traffic using the intersection at Kangaroo Avenue/Honeycomb Drive



Photograph 2.2 Kangaroo Avenue view from Honeycomb Drive looking north



Photograph 2.3 **Kangaroo Avenue about 1.0 km north of the site access road looking south**



Photograph 2.4 **Kangaroo Avenue looking east from the corner into Honeycomb Drive**



Photograph 2.5 Honeycomb Drive looking east about 300 m east of Kangaroo Avenue



Photograph 2.6 Wonderland Drive looking east about 1.0 km west of Wallgrove Road



Photograph 2.7 **Wonderland Drive looking east about 600 m west of Wallgrove Road**



Photograph 2.8 **Wonderland Drive looking east at the approach to Wallgrove Road**



Photograph 2.9 M7 Motorway exit ramp at Wallgrove Road looking west into Lenore Drive



Photograph 2.10 M7 Motorway southbound on the approach to the Wallgrove Road exit ramp

On Kangaroo Avenue, more than 200 m north of Honeycomb Drive, the on-street car parking is not heavily utilised, as is shown by Photograph 2.3. There are two slight bends in the roadway on Kangaroo Avenue, approximately 50 m and 200 m north of the intersection with Honeycomb Drive. However, the route visibility is generally acceptable for the prevailing traffic speed limit on Kangaroo Avenue which is 50 km/h, as is Honeycomb Drive and Wonderland Drive and the other roads in this precinct of the Eastern Creek industrial area.

2.2.2 Honeycomb Drive

Honeycomb Drive has a wider 15.5 m cross section and is an industrial collector road which has provision for on-street car parking and has roundabouts at the major intersections. The route links a number of other minor industrial roads to Wonderland Drive. The speed limit on Honeycomb Drive is also 50 km/h.

The on-street car parking along Honeycomb Drive is not generally heavily utilised at the current time along the majority of the route length, as is shown in Photographs 2.4 and 2.5.

2.2.3 Wonderland Drive

Wonderland Drive is the primary industrial collector/ sub arterial road which provides the primary access to Wallgrove Road for all the industrial sites in this precinct of the Eastern Creek industrial area. The route has a combination of two and four lane cross sections and has large roundabouts at the major intersections with the other connecting industrial roads.

No on-street parking is permitted along Wonderland Drive within approximately 500 m of the Wallgrove Road intersection. No Stopping restrictions are signposted along both sides of the road. Further than 500 m west of Wallgrove Road, on street parking is permitted and this car parking is generally well utilised at most locations, as is shown on Photographs 2.6 and 2.7.

2.2.4 Wallgrove Road

Wallgrove Road is a major north-south arterial road, generally six lanes wide, which runs parallel to the route of the M7 Motorway in the Eastern Creek locality and also distributes traffic to and from the M7 Motorway and the other major roads in the area, which are listed in Section 2.3.

2.2.5 Hourly traffic volumes

The hourly site access traffic volumes and traffic using Wallgrove Road, Wonderland Drive, Honeycomb Drive and Kangaroo Avenue were determined by peak hour intersection traffic surveys on Thursday 27 July 2017. The full survey results are in Appendix B. The surveys identified that the morning and afternoon peak hour traffic periods at both these intersections were generally at similar times. Individual intersection results were as follows.

- Wallgrove Road/ Wonderland Drive, morning peak hour 7.30 am to 8.30 am;
- Honeycomb Drive/Kangaroo Avenue/site access, morning peak hour 7.15 am to 8.15 am;
- Wallgrove Road/ Wonderland Drive, afternoon peak hour 4.00 pm to 5.00 pm; and
- Honeycomb Drive/Kangaroo Avenue/site access afternoon peak hour 4.00 pm to 5.00 pm.

A summary of the current peak hourly traffic volumes using each road is provided in Table 2.1.

Table 2.1 Peak hourly traffic volumes using Eastern Creek locality roads in July 2017

Road and location	Time period	North or East Bound	South or West Bound	Combined two-way	Proportion of Heavy Vehicles
Wallgrove Road	Morning peak hour	1,034	1,640	2,674	13%
north of Wonderland Dr	Afternoon peak hour	1,359	1,038	2,397	8%
Wallgrove Road	Morning peak hour	1,178	1,181	2,359	14%
south of Wonderland Dr	Afternoon peak hour	940	1,352	2,292	9%
Wonderland Drive	Morning peak hour	314	890	1,204	18%
west of Wallgrove Road	Afternoon peak hour	910	201	1,111	11%
Honeycomb Drive	Morning peak hour	106	208	314	27%
east of Kangaroo Ave	Afternoon peak hour	236	49	285	17%
Kangaroo Ave	Morning peak hour	158	70	228	18%
north of Honeycomb Dr	Afternoon peak hour	29	154	183	14%
Site Access Traffic	Morning peak hour	44	53	97	56%
west of Honeycomb Dr	Afternoon peak hour	84	24	108	26%

At all the locations surveyed in Table 2.1, the proportions of heavy vehicles in traffic were consistently higher during the morning peak hour compared to the afternoon peak hour. Also in this locality, the proportion of heavy vehicles in traffic during the morning peak hour is generally a good estimate for the overall average proportion of heavy vehicle traffic in total daily traffic.

The current total daily traffic volume for the site access traffic, Honeycomb Drive and Kangaroo Avenue were also recorded by extending the 27 July peak hour intersection traffic survey at that location to a full 24 hour survey. The current daily traffic volumes, including heavy vehicle movements, at each location were as follows:

- Site access traffic is 1,400 daily vehicle movements, with 837 (60%) heavy vehicles;
- Honeycomb Drive has 3,550 daily vehicle movements, with 1,196 (34%) heavy vehicles; and
- Kangaroo Avenue has 2,236 daily vehicle movements, with 412 (18%) heavy vehicles.

These existing daily traffic volumes are consistent with the Blacktown City Council Development Control Pkplan (DCP) road design standards for the SEPP 59 component of the Eastern Creek Industrial area, which require the following road width cross sections for local and collector roads:

- 13.5 m road width for local industrial roads for 0 to 4,000 daily traffic volumes; and
- 15.5 m road width for industrial collector roads for 4,000 to 10,000 daily traffic volumes.

Although the daily traffic volume at the western end of Honeycomb Drive is currently below 4,000 vehicles, the daily traffic volumes are higher on the sections further to the east. On the other primary industrial area access routes, which are listed in Table 2.1, the total daily traffic volumes were also estimated from the known ratio of the peak hour to the daily traffic volumes at the other three survey locations in Table 2.1, which gives the following estimates:

- Wonderland Drive has approximately 14,000 daily vehicles, with 2,800 (20%) heavy vehicles;
- Wallgrove Road (north) has 30,750 daily vehicles, with 4,300 (14%) heavy vehicles; and

- Wallgrove Road (south) has 28,200 daily vehicles, with 4,370 (15.5%) heavy vehicles.

2.3 Traffic generation from current site operations

The Facility is currently operating most days of the year. The hours of operation are Monday to Friday 7 am to 6 pm and Saturdays, Sundays and Public Holidays 8 am to 4 pm. Although the facility is licensed to receive material on weekends and public holidays, it generally only dispatches product on weekdays and Saturdays.

At the maximum approved rate of 2M tpa of material received, the facility generates approximately 450 daily truck loads (900 daily truck movements) on an average daily basis throughout the year. However, based on the full financial year 2016/17 production records, the site is currently operating at approximately 62% of its approved operating capacity, with approximately 600 daily truck movements on an average day throughout the year.

The surveyed site access hourly traffic movements on 27 July 2017, which are a combination of the Genesis Facility traffic and the Fulton Hogan asphalt plant traffic, are shown in Table 2.2. Subsequent to the change to the site access traffic operations, which occurred on 9 October 2017, as described in Section 2.1, both the Genesis Facility traffic and the Fulton Hogan asphalt plant traffic are now using the intersection located on Kangaroo Avenue.

Table 2.2 Hourly summary of the surveyed daily site access traffic movements

Hourly Interval	Cars travelling outbound	Trucks travelling outbound	All traffic travelling outbound	Cars travelling inbound	Trucks travelling inbound	All traffic travelling inbound
0-1 am	0	0	0	0	0	0
1-2 am	0	0	0	0	0	0
2-3 am	2	0	2	0	2	2
3-4 am	0	0	0	0	0	0
4-5 am	1	0	1	5	0	5
5-6 am	2	0	2	53	12	65
6-7 am	11	32	43	47	29	76
7-8 am	18	23	41	29	26	55
8-9 am	10	30	40	20	40	60
9-10 am	10	45	55	14	34	48
10-11 am	22	46	67	18	48	66
11-12 midday	17	45	62	21	39	60
12-1 pm	20	41	61	12	45	57
1-2 pm	12	48	60	15	40	55
2-3 pm	19	45	64	19	44	63
3-4 pm	32	38	70	8	19	27
4-5 pm	70	14	84	10	14	24
5-6 pm	21	8	29	2	9	11

Table 2.2 **Hourly summary of the surveyed daily site access traffic movements**

Hourly Interval	Cars travelling outbound	Trucks travelling outbound	All traffic travelling outbound	Cars travelling inbound	Trucks travelling inbound	All traffic travelling inbound
6-7 pm	6	6	12	4	5	9
7-8 pm	0	5	5	1	1	2
8-9 pm	0	1	1	0	1	1
9-10 pm	0	0	0	2	0	2
10-11 pm	2	1	3	0	1	1
11-12 midnight	7	0	7	1	0	1
24 hour total	282	428	710	281	409	690

Additional site weighbridge truck access records provided by Genesis for all trucks using the site entry and exit weighbridges on 27 July 2017 and a full month of the site weighbridge recorded truck loads for April 2017 are included as Appendix C to this report. From the combination of the site access road truck movement survey in Table 2.2 and the additional site truck access records in Appendix C, the following general description of the site daily truck traffic and other vehicle movements has been produced:

- The site access road survey results show 837 daily truck movements (418-419 trucks each way) using the site access road.
- The site weighbridge records for the survey day show 608 daily truck movements (304 trucks each way) visited the Genesis facility during the current site operating period.
- The balance of approximately 230 daily truck movements (115 trucks per day) using the road on the survey day were travelling to or from the Fulton Hogan asphalt plant.

During the main daytime site operations period, from 9 am to 3 pm, the site daily traffic survey results in Table 2.2 show there is a steady average of approximately 43 trucks per hour in each direction using the site access road. The sources of this truck traffic are:

- Approximately 31 trucks per hour in each direction to and from the Facility; and
- Approximately 12 trucks per hour in each direction accessing the Fulton Hogan asphalt plant.

The additional weighbridge survey information in Appendix C for the full month of April 2017, which was a relatively busy month of the year (this is discussed further in Section 3.2), recorded 8,900 trucks in total visiting the site that month, either transporting materials to the facility or picking up recycled products.

This data corresponds to a weekday average of 396 trucks visiting the site each day for 22.5 working days in April 2017, in comparison to the daily survey total of 304 trucks, which was recorded by the site weighbridges on 27 July 2017.

Also the site access road hourly truck movement data in Table 2.2, shows that the peak period for the Facility truck traffic, between 9 am to 3 pm on weekdays, does not normally coincide with either the morning or the afternoon commuter traffic peak hours on the other roads in the locality (either Kangaroo Avenue, Honeycomb Drive, Wonderland Drive or Wallgrove Road). During the actual commuter morning and afternoon peak hour traffic periods on these roads, the Facility truck traffic is 50% or less than of the peak daytime hourly traffic movements (during the period 9 am to 3 pm).

The site morning peak in-bound employee car traffic normally occurs between 5 to 6 am or 6 to 7 am, which is generally earlier than the morning traffic peak hour for the surrounding roads. However, the site afternoon peak outbound employee car traffic does occur during the same period as the peak for traffic using external roads, which is from 4 to 5 pm.

The site access road inbound peak car traffic is approximately 50 cars per hour on weekdays (during both the 5 to 6 am and 6 to 7 am peak periods) and the outbound peak is approximately 70 cars per hour (during the 4 to 5 pm peak period). Other car traffic at other times of the day is also generated by the part time workforce, contractors and commercial visitors to the facility and the Fulton Hogan asphalt plant.

2.4 Intersections and turning traffic

The existing Honeycomb Drive and Kangaroo Avenue intersection performance has been analysed, for the surveyed peak hourly traffic volumes on 27 July 2017, using the intersection modelling software SIDRA for the morning and afternoon peak periods. The intersection modelling results also include the intersection degree of saturation (DOS) which is a measure of the traffic flow (volume) for each intersection approach, in comparison to the capacity of the intersection to accommodate traffic on this approach to the intersection.

The NSW Roads and Maritime Services (RMS) intersection level of service standards are summarised in Table 2.3. Intersection traffic operations are defined in terms of both level of service (LoS) standards and their corresponding average vehicle delay (AVD) in seconds (s).

Table 2.3 Intersection Level of Service standards

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

Source: *Guide to Traffic Generating Developments, RTA 2002.*

The SIDRA intersection traffic modelling results and the modelled intersection layout, including the current lengths of the intersection turn lanes on each approach, are both included in Appendix D and are summarised in Table 2.4.

Table 2.4 The Honeycomb Drive/Kangaroo Avenue intersection performance in July 2017

Intersection Peak Hour	SIDRA intersection results for 27 July Facility Traffic			
	LoS	DOS	AVD* (seconds)	Maximum traffic queue length (m)
Intersection am peak hour (7.15–8.15 am)	A	0.131	8.8	5
Intersection pm peak hour (4.00–5.00 pm)	A	0.114	6.9	4

Notes: * The average vehicle delay for give way intersections is for the highest delayed traffic movement at the intersection.

The SIDRA traffic modelling of the existing facility traffic which is shown in Table 2.4, indicated that the main local road access intersection in this locality has very low peak hour traffic delays (LoS 'A') indicating good traffic operations and a high level of spare traffic capacity (low DOS) during both the morning and afternoon peak hours.

2.5 Internal facility layout and traffic circulation

The key locations for the internal Facility traffic circulation are illustrated by Photographs 2.11 to 2.16 and by the Facility traffic management plans which are included in Appendix A.

Incoming construction and demolition (C&D) waste material trucks are all weighed at the main site entry weighbridge (Photograph 2.12) and exit via the wheel wash and truck inspection area (Photograph 2.15). Incoming trucks collecting the blended and recycled product use the same site entry and exit points as the incoming landfill and recycling material. All loaded trucks departing from the site are covered to prevent any loss of material or dust from these vehicles.

During the EMM site inspection which occurred during a busy period between 11 am to 12 pm on a weekday in July 2017, the maximum number of vehicles observed queuing on the former site access road via DADI Drive, was approximately 20 trucks queuing at the weighbridge. This internal traffic queue was comfortably accommodated on the former site access road (DADI Drive) with no queuing near the intersection with Kangaroo Avenue/Honeycomb Drive.



Photograph 2.11 Trucks passing each other on the main site entry road



Photograph 2.12 Inner end of the truck approach queue near the Genesis site entry weighbridge



Photograph 2.13 Middle section of the truck approach queue showing the range of truck types



Photograph 2.14 Outer end of the truck approach queue approaching the asphalt plant access



Photograph 2.15 Trucks at the wheel wash and inspection area prior to departing from the site



Photograph 2.16 View into the quarry showing chute for the disposal of special waste

2.6 Safety and traffic management

The Facility traffic is managed in accordance with the site traffic management plan, which is included in Appendix A.

The former site access road speed limit, 40km/hr, was clearly signposted at the former main site entry gate (Photograph 2.1) and at other locations along the site access road. At other locations within the site, internal 10 km/hr or 20 km/hr speed limits generally apply.

All trucks are visually inspected and travel through the wheel wash before departing from the material dumping area (Photograph 2.15) to remove any loose material which may be attached to the vehicle and to suppress any dust before vehicles leave the facility.

2.7 Car parking

The main staff and visitor car parking area at the facility is located adjacent to the weighbridge, workshop and administration office. Photograph 2.17 shows the facility car parking area which is rectangular in shape with three lines of car parking bays.

The approximate capacity of the car park is 60 parking spaces. The car park is sealed concrete and is adequate for the maximum numbers of employees (50) and visitors normally present on a typical working day.

At the time of EMM's site inspection, the car parking area was observed to be 95% full with three vacant car parking spaces.



Photograph 2.17 Main facility car park adjacent to the site entry weighbridge area

2.8 Public transport

Bus services in the locality operate along Wonderland Drive, to and from the Rooty Hill and Mount Druitt railway stations.

Bus route 723 travels via Wonderland Drive and Honeycomb Drive as far west as Grevillea Road which is approximately 200 m east of the intersection with Honeycomb Drive and Kangaroo Avenue. However, the nearest bus stop access is still over one kilometre effectively from the main site administration office and car parking areas for the Facility.

The main bus stops are located along Wonderland Drive further to the east (Photograph 2.18) where large indented bus stops with bus shelters are provided for bus passengers on both sides of the road. Due to the relatively long walking distance (which over 1 km each way) from the site offices to the nearest route 723 bus stops, it is relatively unlikely that any persons working at the Facility would travel by public transport.

2.9 Pedestrian and cyclist access

There are paved footpaths and a cycleway along Wonderland Drive and Honeycomb Drive which connect to the site from the east.

The potential routes for future extensions to these footpaths and cycleways past the site to connect to other areas of the Blacktown local government area (LGA) pedestrian and cycle paths north of the M4 Motorway are still under consideration by Blacktown City Council and the NSW Government.



Photograph 2.18 Indented bus bays with bus stops and bus shelters on Wonderland Drive

2.10 RMS proposed road extension to Archbold Road

The RMS has recently completed and exhibited the Review of Environmental Factors report for the proposed Archbold Road Upgrade and Duplication (RMS, May 2017).

The proposed Archbold Road extension will provide an additional north-south arterial road connection, linking to the M4 Motorway, Great Western Highway, Lenore Drive and Old Wallgrove Road, along the western edge of the Eastern Creek industrial precinct, directly to the west of the Facility.

The route of the proposed road extension is shown in Figure 2.3. By providing additional arterial road access to the Eastern Creek industrial area, the Archbold Road extension will substantially relieve the current daily and peak hourly traffic volumes on the existing primary access routes to the precinct, including on Wonderland Drive and Wallgrove Road and also on the sections of the Great Western Highway and the M4 Motorway, which are between the existing Wallgrove Road and the proposed Archbold Road interchanges.

The proposed Archbold Road extension will also provide more direct public transport access to and from the Wonderland Drive section of the Eastern Creek industrial area, by providing more direct access for the existing bus services and other potential new bus services, travelling to and from Mount Druitt which is the nearest major railway station and bus-rail interchange point for longer distance public transport journeys.



Source: Archbold Road Upgrade and Extension, Review of Environmental Factors, RMS, May 2017.

Figure 2.3 RMS proposed route of the Archbold Road extension

3 The proposal

3.1 Change in the future site traffic operations

The facility's approved maximum material receipt rate will not change from 2M tpa. The primary effect of the proposal will be to extend the operating hours of the facility to receive more material outside the existing operating hours, which are primarily 7 am to 6 pm as described in Section 1.3.

According to the weighbridge records for the full financial year 2016/17, the site is currently operating at approximately 62% of the approved capacity. A total of 1,231,860 tonnes of material was received at the site. Of this total, 518,960 tonnes was either processed as or directly disposed of as landfill. The corresponding materials handling balance of material received at and processed at the site for either landfill or recycled products gives the following annual totals for 2016/17:

- 712,960 tonnes material (either pre-segregated recyclable materials or as co-mingled recyclables) received at the site for recycling;
- 518,960 tonnes material received at the site for landfill, and
- 492,760 tonnes material re-exported from the site as recycled or other products.

These amounts correspond to:

- 1,231,860 total annual tonnage of material received at the site, and
- 1,724,620 total annual tonnage of material transported either to or from the site.

If the cap on landfill disposal (700,000 tpa) is removed, the traffic volume will be capped by the 2 Mtpa permitted under the consent. The future potential increase in the annual truck traffic at the facility would also be approximately 62% on average compared to current daily operations (assuming proportional increases in the annual amounts of material received for landfill at the site, processed and subsequently dispatched from the site as recycled products. However as the hours of operation are proposed to be expanded at the facility, the potential increase in traffic volumes also needs to be considered in the context of a broader temporal spread.

It is noted that the Facility already has approval to receive 2Mtpa of non-putrescible waste. The daily truck movements which enable 2Mtpa of waste to be received have therefore already been considered as part of the major project approval. There is no condition under the major project approval for the Facility which limits daily truck movements. The approval infers a cap on truck movements through the condition which limits the overall volume of waste to be received at the Facility - being 2Mtpa. For clarity, the proponent is not seeking to 'increase' daily truck movements. The proponent is seeking to operate within the existing limit to truck movements which is inferred through the 2 Mtpa limit.

In this traffic impact assessment, it is also assumed that the additional future materials received at and products sold from the facility will continue to be transported via the same external road network which is used currently, via Kangaroo Avenue, Honeycomb Drive and Wonderland Drive, until such time as the the Archbold Road extension is completed and becomes operational for general traffic use, along the route which is shown in Figure 2.3.

3.2 Average future truck loads for materials transported to and from the site

Incoming C&D materials and quarry products for blending are transported to the Facility in trucks of various sizes and capacity, as illustrated in Photographs 2.12, 2.13 and 2.14 and the monthly summary of the recorded truck types visiting the site in April 2017 in Appendix C.

For the full month of April 2017 the total balance of materials received at, and transported from, the site was as follows:

- 122,610 tonnes of material received during April 2017;
- 38,650 tonnes of material transported from the site as recycled products or other materials; and
- these amounts correspond to 161,260 tonnes of material transported either to or from the site.

April 2017 was a busy month for the Facility. The total tonnage of material received was approximately 10 percent of the annual total. Also the average payload of the 8,900 loaded trucks in April 2017 was 18.11 tonnes.

It is assumed for this TIA assessment that all of the additional annual tonnages of material transported to and from the site from the current year 2016/17 operations to the 2 Mtpa limit, would be transported mainly during the currently under-utilised evening and night-time periods on weekdays (between 6 pm to 7 am). On a case by case basis, at a later date, approval is also likely to be sought to receive material from major infrastructure construction projects directly to landfill on a 24 hour basis. In consideration of this factor, the maximum potential additional site evening and night time truck movements at the facility could be up to:

- +246 additional evening or night time truck loads (+492 truck movements) which is a 62% increase on the April 2017 busy daytime average of 396 truck loads (792 truck movements).

In this future scenario, the additional site truck movements would potentially be distributed over a 13 hour period on a weekday evening and night time from 6 pm to 7 am, and would correspond to additional average hourly truck traffic of 19 truck loads (38 hourly truck movements) during each hour of the relevant evening and night time period.

With additional future evening and night time truck operations, there would also be a small change in the future site workforce, which will increase by approximately 10 persons compared to current operations. The future site daily car traffic will therefore increase by up to 20 vehicles each weekday, each vehicle entering once and departing once from the facility each day.

3.3 Changes to site access and car parking with the proposal

The proposal generally involves only minor changes to the current site layout and traffic management arrangement which are shown in Appendix A. During the construction work, the realignment of the current site haul road, will connect to Kangaroo Avenue at a site access intersection approximately 130 m north of the current intersection with Honeycomb Drive, which is shown by the map in Figure 3.1.

No other changes to the general site layout of plant and equipment are proposed under MOD 6. The additional workforce is likely to comprise shift workers who would not require car parking at the current times of peak demand for the existing workers at the facility.



Figure 3.1 Temporary realignment of the site entry road after September 2017

The site entry and exit weighbridges will remain at their current locations during this period and there will generally be no change to the internal site traffic queuing arrangements at the weighbridges, where the internal site traffic queues of up to 20 trucks and other vehicles waiting at the weighbridge area are accommodated on the internal site access road in the location which is shown in Figure 2.2.

The design requirements for the site access intersection with Kangaroo Avenue and Honeycomb Drive have been determined by Traffix Pty Ltd, who have prepared a detailed swept path analysis for the future trucks using the intersection. The Traffix report extracts are included in Appendix E of this TIA report.

The projected maximum increase of 62% additional evening and night time truck movements at the Facility on a typical weekday will not generally affect the site morning or afternoon peak hour operating traffic movements as there would be no additional site traffic movements during these periods.

The external locality traffic impacts for the Facility are assessed in Chapter 4 (Section 4.1) in comparison to the existing locality daily traffic volumes, for the additional evening and night time truck traffic using the main external roads which are Kangaroo Avenue, Honeycomb Drive, Wonderland Drive and Wallgrove Road, north and south of Wonderland Drive.

For the future site peak hourly traffic volumes, although there would be no change to these volumes, the future operations of the site access intersection (130 m north of Honeycomb Drive) and the resulting traffic changes to the Honeycomb Drive and Kangaroo Avenue intersection, with the closure of the former site access road after 9 October 2017, are assessed by the SIDRA intersection analysis program, in Section 4.2.

4 Traffic impact assessment

4.1 External traffic impacts on the road network

As summarised in Section 3.2, the Facility daily truck movements will remain within the maximum limit inferred through the condition limiting incoming waste volumes to 2 Mtpa. The removal of the limit on waste disposed of to landfill combined with the expanded hours of operation, will potentially increase the current actual Facility daily truck volumes by approximately 246 truck loads, which is 492 truck movements, during the evening and night time periods on a weekday.

The corresponding predicted additional weekday evening and night time traffic increases for Kangaroo Avenue, Honeycomb Drive, Wonderland Drive and Wallgrove Road, north and south of Wallgrove Road, in comparison to the existing average weekday traffic volumes for these routes, are shown in Table 4.1.

Table 4.1 Future changes to weekday evening and night time traffic movements in the locality

Road Section	Surveyed July 2017 daily traffic movements			Potential additional evening and night time Facility traffic movements on a weekday			Increase above the current (historic) Facility operating patterns
	All traffic	Cars	Trucks	All traffic	Cars	Trucks	
Kangaroo Avenue, north of the Honeycomb Drive	2,236	1,824	412	1,912*	603*	1,329*	+85.5%
Honeycomb Drive, east of the Honeycomb Drive intersection	3,550	2,354	1,196	512	20	492	+14.4%
Wonderland Drive, west of the Wallgrove Road intersection	14,000	11,200	2,800	512	20	492	+3.7%
Wallgrove Road, north of the Wonderland Drive intersection	30,750	26,450	4,300	256	10	246	+0.8%
Wallgrove Road, south of the Wonderland Drive intersection	28,200	23,830	4,370	256	10	246	+0.9%

Note: * This includes the former site access road traffic (1,400 daily vehicle movements) also being transferred to Kangaroo Avenue.

The proportional daily traffic increase above current (historic) operating patterns but within authorised maximums for the Facility, will be highest on Kangaroo Avenue north of Honeycomb Drive (+1,912 vehicle movements) due to the combination of the additional evening and night time Facility traffic associated with the new operating hours (512 vehicle movements) and the relocation of the surveyed (July 2017) site access road traffic to the Kangaroo Road driveway (1,400 vehicle movements). These combined changes result in a localised 85.5% increase in traffic using the affected 130 m section of Kangaroo Avenue.

According to the Blacktown City Council Road Hierarchy Standards for industrial roads, Kangaroo Avenue is a 'local industrial road' with daily vehicle movements less than 4,000. A road is categorised as an 'industrial collector road' when these daily movements are exceeded, and requires a road carriageway width of 15.5 m. Daily traffic movements along the 130 m of Kangaroo Avenue to the temporary driveway are predicted to be 4,148, and subsequently the western side of that section of road should require widening by 2 m according to the road hierarchy standards.

Notwithstanding, the swept path analysis in Appendix E demonstrates that the temporary intersection can safely accommodate turning trucks with the current 13.5 m road width. As the predicted daily traffic movements for Kangaroo Avenue will be only marginally above the 4,000 threshold, road widening is not recommended.

However, it is recommended that the on-street car (or truck) parking on Kangaroo Avenue should be prohibited by 'No Stopping' signs, for 50 m either side of the intersection centre line, to maintain good visibility for traffic turning at the intersection as well as allowing for the through traffic to easily pass any vehicles on Kangaroo Avenue which are turning either left or right at the intersection.

At other locations, the proportional increases in traffic from the additional evening and night time Facility traffic using Honeycomb Drive and Wonderland Drive to the east of the Facility (Table 4.1) will be significantly lower than for Kangaroo Avenue, corresponding to +14.4% and +3.7% localised traffic increases respectively on these two routes.

The typical road width and condition of Honeycomb Drive and Wonderland Drive are shown in Photographs 2.4 to 2.8 and 2.18. These roads are industrial collector or sub-arterial type roads which have been adequately constructed to carry significant volumes of heavy vehicle traffic and are unlikely to be adversely affected by the additional evening and night time traffic volumes generated by the proposal (Table 4.1).

For the additional Facility evening and night time traffic travelling either north or south along Wallgrove Road via the Wonderland Drive intersection, towards the M7 Motorway, M4 Motorway or Great Western Highway routes, the additional Facility traffic movements which are identified in Table 4.1 will correspond to a less than +1% increase in daily traffic. Based on the existing surveyed turning traffic patterns for heavy vehicle traffic at the intersection between Wallgrove Road and Wonderland Drive, it is predicted that there will be approximately a 50% north vs 50% south, future traffic distribution for any additional Facility traffic which is using Wallgrove Road.

4.2 Assessment of peak hourly site traffic increases at intersections

The additional Facility truck traffic will primarily occur in the evening and night periods (between 6 pm to 7 am) and will not impact on the morning or afternoon peak hour operations of the Kangaroo Avenue access intersection or any other locality intersections.

Similarly car (light vehicle) traffic to and from the Facility is predicted to only increase marginally by up to 10 movements (20 total daily car traffic movements) at off peak times of the day, consistent with future additional night shift start and finish times at the site.

However, at the former site access road intersection, at which the existing site access traffic volumes were surveyed in July 2017 and assessed in Table 2.4, there has been a change in the site traffic operations since 9 October 2017, with the temporary closure of the western leg of the intersection (for the construction of the new Precinct Road).

The SIDRA intersection traffic modelling results for the modified intersection at Honeycomb Drive/Kangaroo Avenue are included in Appendix D and are summarised in Table 4.2. These results show that the modified intersection will have very low peak hour traffic delays (LoS 'A') indicating good traffic operations and a high level of spare traffic capacity (low DOS) during both the morning and afternoon peak hours.

Table 4.2 Results of the future Honeycomb Drive intersection SIDRA analysis

Intersection Peak Hour	Future situation – Average Day Facility Traffic			
	LoS	DOS	AVD* (seconds)	Maximum traffic queue length (m)
Intersection am peak hour (7.15–8.15 am)	A	0.124	4.9	0
Intersection pm peak hour (4.00–5.00 pm)	A	0.133	4.9	1

Notes: * The average vehicle delay for give way intersections is for the highest delayed traffic movement at the intersection.

The SIDRA intersection traffic modelling results for the intersection on Kangaroo Avenue, including the assumed prohibition on kerbside parking on Kangaroo Avenue within 50 m along each intersection approach, are also included as Appendix D and are summarised in Table 4.3.

These results also indicate that the intersection will have low peak hour traffic delays (LoS 'A') indicating good traffic operations and a high level of spare traffic capacity (low DOS) during both the morning and afternoon peak hours.

Table 4.3 Results of the new site access intersection SIDRA analysis

Intersection Peak Hour	Existing situation – Average Day Facility Traffic			
	LoS	DOS	AVD* (seconds)	Maximum traffic queue length (m)
Intersection am peak hour (7.15–8.15 am)	A	0.088	14.1	4
Intersection pm peak hour (4.00–5.00 pm)	A	0.129	10.0	4

Notes: * The average vehicle delay for give way intersections is for the highest delayed traffic movement at the intersection.

4.3 Car parking

The existing staff and visitor car parking areas at the facility are discussed in Section 2.8 and shown in Photograph 2.17. These areas are generally adequate for the current employees and visitor numbers at the facility. Employee numbers will only change marginally under the proposal; and the additional site workforce will be shift workers who would not require car parking at the current times of peak demand for the existing site car parking.

4.4 Safety and traffic management

The current safety of the industrial locality road network in the Eastern Creek area is considered to be very good. The primary access route to the site via Wonderland Drive, Honeycomb Drive and Kangaroo Avenue has been constructed to a high design standard for industrial area roads and the current general speed limit in the area is 50 km/hr which also improves traffic safety. All the existing intersections along these routes have been well designed and have adequate sight distances for visibility for the prevailing traffic speed which is 50 km/hr.

The current Facility operating procedures and traffic management plan, which are included as Appendix A are also acceptable. There will be no change to current internal levels of traffic safety within the facility resulting from the proposal.

The internal Facility traffic circulation and road widths will all generally comply with the AS 2890 Part 2 recommended minimum road widths of 6.5 m for two way traffic movement by large trucks within industrial sites, with additional widening provided at corners to accommodate the increased vehicle swept path widths for large trucks when cornering.

4.5 Public transport, pedestrian and cycling access

Access to the Facility is available with paved paths for use by pedestrians and cyclists. Public transport access is available via bus route 723.

However, demand levels for access to the Facility by either walking or cycling or public transport are likely to be minimal due to the distances from nearest bus stops or the closest existing residential area (Minchinbury) to the facility.

5 Summary and conclusion

The Facility has been operating safely for a number of years, employing approximately 50 staff. In addition to employee and site visitor daily car traffic movements, the average daily number of Facility truck movements (as defined by the overall 2M tpa limit on waste which can be received by the Facility) is in the vicinity of 900 daily movements. The proposed change in the current patterns of operation (from the removal of the limit on waste disposed of to landfill combined with the expanded hours of operation) will not change daily truck movements within the authorised processing (vehicle movement) limits of the Facility. It is also noted that the current demand, regardless of maximum volume caps, is approximately 500,000 tpa. This means that removing the 700,000 tpa limit on landfilling will not immediately 'release' a pent up demand but will enable the facility to meet increased demand which is likely to build incrementally over time.

The existing roads in the locality (which include Wallgrove Road, Wonderland Drive, Honeycomb Drive and Kangaroo Avenue) all carry high proportions of heavy vehicle traffic currently which are a minimum of 14% of the total daily traffic using these routes.

This TIA has assessed the traffic impacts of the proposed additional site operating hours as generally increasing the amounts of evening and night time truck traffic using the Facility in comparison to the current (historic) site operations (although still remaining within the maximum approved operating limit of 2,000,000 tonnes per year), and with corresponding proportional increases in the amounts of material destined for landfill or to be re-exported as recycled materials from the facility.

The increased Facility evening and night time truck traffic will potentially be up to 62% of the site daily truck traffic movements from current operations if the waste volumes increase to the 2M tpa maximum. The maximum predicted additional truck movements are +246 truck loads (+492 truck movements) during the evening and night time periods on a weekday. As these additional truck movements will generally be occurring between 6 pm to 7 am they will not generally change the current morning or afternoon peak hour intersection traffic volumes at the site access or at any other intersection in the Eastern Creek area.

The future site car (light vehicle) traffic is predicted to increase only marginally with the proposal by up to 10 employee car traffic movements daily travelling both inbound to and outbound from the facility (20 additional daily car traffic movements in total) which will be travelling at off peak times of the day, consistent with future additional night shift start and finish times at the site.

The current 1,400 daily vehicle movements for the site access traffic has, since 9 October 2017, been relocated from the corner of Honeycomb Drive to the new intersection on Kangaroo Avenue whilst the Precinct road construction is taking place. The combination of this traffic increase, with the localised increase of 512 daily vehicle movements from the proposed modification, will result in a 85.5% localised daily traffic increase along the short 130 m section of Kangaroo Avenue between the two intersections. However, the Facility daily truck movements will remain within the authorised processing (vehicle movement) limits of the Facility.

The SIDRA and swept path analysis of the temporary access intersection show the future intersection performance will be very good (LoS 'A') and the current 13.5 m width of Kangaroo Avenue will be safely accommodate turning trucks.

The section of Kangaroo Avenue up to the intersection will not require widening as the forecast traffic increase will only marginally exceed the threshold for road upgrades. Also, the future intersection performance will be LoS 'A' during both the morning and afternoon traffic peak hours and swept path analysis shows the road width can adequately accommodate turning trucks. However, it is recommended that the on street parking on Kangaroo Avenue should be prohibited by 'No Stopping' signs, for 50 m either side of the intersection centre line. This will maintain good visibility for traffic turning at the intersection as well as allowing for through traffic to easily pass other vehicles on Kangaroo Avenue which are turning either left or right at the intersection.

The future traffic changes to the existing site access intersection with Kangaroo Avenue and Honeycomb Drive have been reviewed with the closure of the former site access road and the diversion of its traffic to Kangaroo Avenue. The revised SIDRA analysis shows that the intersection will continue to operate well with Level of Service 'A', corresponding to minimal traffic delays, during both the morning and afternoon traffic peak hour periods.

From the removal of the limit on waste disposed of to landfill combined with the expanded hours of operation, there will potentially be evening and night time traffic increases of +14.4%, +3.7%, +0.8% and +0.9% on Honeycomb Drive, Wonderland Drive and Wallgrove Road, north and south of Wonderland Drive, in comparison to the current actual daily traffic movements using these routes.

These additional evening and night time truck traffic increases should be accommodated with minimal impacts to the traffic capacity of these routes. The roads are all industrial standard collector or sub arterial roads which have been adequately constructed to carry large volumes of heavy vehicle traffic. The proposal should not therefore have any adverse impact on the local traffic capacity or safety of the surrounding locality network.

Public transport access to the facility is available via bus route 723. However, the demand levels for employee or other access to the facility by either walking or cycling or public transport are likely to be minimal due to the current separation distances from nearest bus stops or the closest existing residential area (Minchinbury) to the facility.

Appendix A

Site Plan and Traffic Management Plan



APPENDIX A – AERIAL IMAGE OF CARPARK REQUIREMENTS



Genesis, Eastern Creek



Genesis, Eastern Creek



Image 1 – Traffic Flow for Waste Disposal to Landfill



Image 2 – Traffic Flow for Waste Disposal in the Materials Processing Centre



Image 3 – Traffic Flow for Waste Disposal in the Greenwaste area



Image 4 – Traffic Flow for Waste Disposal to the Crushing Area



Image 5 – Traffic Flow for Product pickup from Sales Yard

Appendix B

Intersection Traffic Surveys



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : EMM
Job No/Name : 6511 EASTERN CREEK Dial a Dump
Day/Date : Thursday 27th July 2017

Intersection Layout

Obtained via satellite

May be incorrect

AM PEAK HOUR
0715 - 0815

Combined figures only

Site Access



Kangaroo Ave

R	T	L	
2	0	68	AM
1	0	153	PM

AM	PM	
6	1	L
38	83	T
0	0	R

R		
27	152	
22	51	
0	5	
	PM	AM

PM			
1	1	0	
0	0	0	
	L	T	R

Honeycombe Dr

PM PEAK HOUR
1600 - 1700

Weather >>>



Driveway



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM
Job No/Name : 6511 EASTERN CREEK Dial a Dump
Day/Date : Thursday 27th July 2017

Lights

Time Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0015	1	0	0	0	0	0	0	0	0	0	0	0	1
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	1	1
0045 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0115	0	0	0	0	0	0	0	0	0	0	0	0	0
0115 - 0130	0	0	0	0	0	0	0	0	0	0	0	1	1
0130 - 0145	2	0	0	0	0	0	0	0	0	0	0	4	6
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0215	11	0	0	0	1	0	0	0	0	0	0	0	12
0215 - 0230	2	0	0	0	1	0	0	0	0	0	0	0	3
0230 - 0245	0	0	0	0	0	0	0	0	0	0	0	0	0
0245 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0315	2	0	0	0	0	0	0	0	0	0	0	3	5
0315 - 0330	1	0	0	0	0	0	0	0	0	0	0	5	6
0330 - 0345	0	0	0	0	0	0	0	0	0	0	0	7	7
0345 - 0400	0	0	0	0	0	0	0	0	0	0	0	15	15
0400 - 0415	0	0	0	0	0	0	0	0	0	0	0	0	0
0415 - 0430	2	0	0	0	1	0	0	0	0	0	1	4	8
0430 - 0445	2	0	0	0	0	0	0	0	0	0	2	6	10
0445 - 0500	0	0	0	0	0	0	0	0	0	0	2	20	22
0500 - 0515	3	0	0	0	0	0	0	0	0	0	4	18	25
0515 - 0530	4	0	0	0	1	0	0	0	0	0	11	13	29
0530 - 0545	5	0	1	0	1	0	0	0	0	0	17	22	46
0545 - 0600	4	0	3	0	0	0	0	0	0	0	17	41	65
0600 - 0615	5	0	0	1	5	0	0	0	0	0	20	21	52
0615 - 0630	2	0	2	0	0	0	0	0	0	0	8	16	28
0630 - 0645	8	0	0	0	4	0	0	0	0	0	9	24	45
0645 - 0700	13	0	0	0	1	0	0	0	0	1	8	38	61
0700 - 0715	17	0	0	0	2	0	0	0	0	3	10	25	57
0715 - 0730	14	0	0	1	3	0	0	0	0	2	12	23	55
0730 - 0745	12	0	0	0	7	0	0	0	0	1	4	35	59
0745 - 0800	10	0	0	1	4	0	0	0	0	0	3	42	60
0800 - 0815	12	0	0	1	0	0	0	0	0	1	7	37	58
0815 - 0830	10	0	0	0	4	0	0	0	0	0	6	19	39
0830 - 0845	8	0	0	0	3	0	0	0	0	0	2	22	35
0845 - 0900	11	0	0	0	2	0	0	0	0	0	5	16	34
0900 - 0915	10	0	0	0	4	0	0	0	0	0	1	17	32
0915 - 0930	6	0	0	0	3	0	0	0	0	0	2	9	20
0930 - 0945	13	0	0	0	0	0	0	0	0	0	6	19	38
0945 - 1000	13	0	0	0	3	0	0	0	0	0	5	22	43
1000 - 1015	9	0	1	0	5	0	0	0	0	0	4	12	31
1015 - 1030	10	0	0	1	5	0	0	0	0	0	6	15	37
1030 - 1045	10	0	0	1	4	1	0	0	0	0	3	5	24
1045 - 1100	12	0	1	0	5	0	0	0	0	0	3	20	41
1100 - 1115	11	0	0	1	5	0	0	0	0	0	2	9	28
1115 - 1130	12	0	2	0	4	0	0	0	0	0	6	5	29
1130 - 1145	6	0	0	0	5	0	0	0	0	0	7	9	27
1145 - 1200	11	0	0	0	2	0	0	0	0	0	4	5	22
Period End	284	0	10	7	85	1	0	0	0	8	197	625	1217

Lights

Peak Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	1	2
0015 - 0115	0	0	0	0	0	0	0	0	0	0	0	1	1
0030 - 0130	0	0	0	0	0	0	0	0	0	0	0	2	2
0045 - 0145	2	0	0	0	0	0	0	0	0	0	0	5	7
0100 - 0200	2	0	0	0	0	0	0	0	0	0	0	5	7
0115 - 0215	13	0	0	0	1	0	0	0	0	0	0	5	19
0130 - 0230	15	0	0	0	2	0	0	0	0	0	0	4	21
0145 - 0245	13	0	0	0	2	0	0	0	0	0	0	0	15
0200 - 0300	13	0	0	0	2	0	0	0	0	0	0	0	15
0215 - 0315	4	0	0	0	1	0	0	0	0	0	0	3	8
0230 - 0330	3	0	0	0	0	0	0	0	0	0	0	8	11
0245 - 0345	3	0	0	0	0	0	0	0	0	0	0	15	18
0300 - 0400	3	0	0	0	0	0	0	0	0	0	0	30	33
0315 - 0415	1	0	0	0	0	0	0	0	0	0	0	27	28
0330 - 0430	2	0	0	0	1	0	0	0	0	0	1	26	30
0345 - 0445	4	0	0	0	1	0	0	0	0	0	3	25	33
0400 - 0500	4	0	0	0	1	0	0	0	0	0	5	30	40
0415 - 0515	7	0	0	0	1	0	0	0	0	0	9	48	65
0430 - 0530	9	0	0	0	1	0	0	0	0	0	19	57	86
0445 - 0545	12	0	1	0	2	0	0	0	0	0	34	73	122
0500 - 0600	16	0	4	0	2	0	0	0	0	0	49	94	165
0515 - 0615	18	0	4	1	7	0	0	0	0	0	65	97	192
0530 - 0630	16	0	6	1	6	0	0	0	0	0	62	100	191
0545 - 0645	19	0	5	1	9	0	0	0	0	0	54	102	190
0600 - 0700	28	0	2	1	10	0	0	0	0	1	45	99	186
0615 - 0715	40	0	2	0	7	0	0	0	0	4	35	103	191
0630 - 0730	52	0	0	1	10	0	0	0	0	6	39	110	218
0645 - 0745	56	0	0	1	13	0	0	0	0	7	34	121	232
0700 - 0800	53	0	0	2	16	0	0	0	0	6	29	125	231
0715 - 0815	48	0	0	3	14	0	0	0	0	4	26	137	232
0730 - 0830	44	0	0	2	15	0	0	0	0	2	20	133	216
0745 - 0845	40	0	0	2	11	0	0	0	0	1	18	120	192
0800 - 0900	41	0	0	1	9	0	0	0	0	1	20	94	166
0815 - 0915	39	0	0	0	13	0	0	0	0	0	14	74	140
0830 - 0930	35	0	0	0	12	0	0	0	0	0	10	64	121
0845 - 0945	40	0	0	0	9	0	0	0	0	0	14	61	124
0900 - 1000	42	0	0	0	10	0	0	0	0	0	14	67	133
0915 - 1015	41	0	1	0	11	0	0	0	0	0	17	62	132
0930 - 1030	45	0	1	1	13	0	0	0	0	0	21	68	149
0945 - 1045	42	0	1	2	17	1	0	0	0	0	18	54	135
1000 - 1100	41	0	2	2	19	1	0	0	0	0	16	52	133
1015 - 1115	43	0	1	3	19	1	0	0	0	0	14	49	130
1030 - 1130	45	0	3	2	18	1	0	0	0	0	14	39	122
1045 - 1145	41	0	3	1	19	0	0	0	0	0	18	43	125
1100 - 1200	40	0	2	1	16	0	0	0	0	0	19	28	106

PEAK HOUR	48	0	0	3	14	0	0	0	0	4	26	137	232
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R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Heavies

Time Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0015	0	0	0	0	0	0	0	0	0	0	0	0	0
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	0	0
0045 - 0100	0	0	0	0	0	0	0	0	0	0	0	1	1
0100 - 0115	1	0	0	0	0	0	0	0	0	0	0	0	1
0115 - 0130	0	0	0	0	0	0	0	0	0	0	0	0	0
0130 - 0145	1	0	0	0	0	0	0	0	0	0	0	1	2
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0215	0	0	0	0	0	0	0	0	0	0	2	0	2
0215 - 0230	0	0	0	0	0	0	0	0	0	0	0	0	0
0230 - 0245	0	0	0	0	0	0	0	0	0	0	0	0	0
0245 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0315	0	0	0	0	0	0	0	0	0	0	0	1	1
0315 - 0330	1	0	0	0	0	0	0	0	0	0	0	0	1
0330 - 0345	0	0	0	0	0	0	0	0	0	0	0	0	0
0345 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0415	0	0	0	0	0	0	0	0	0	0	0	0	0
0415 - 0430	0	0	0	0	0	0	0	0	0	0	0	0	0
0430 - 0445	0	0	0	0	0	0	0	0	0	0	0	0	0
0445 - 0500	0	0	0	0	0	0	0	0	0	0	0	1	1
0500 - 0515	1	0	0	0	0	0	0	0	0	0	1	1	3
0515 - 0530	1	0	0	0	0	0	0	0	0	0	4	3	8
0530 - 0545	0	0	0	0	0	0	0	0	0	1	2	2	5
0545 - 0600	3	0	0	0	0	0	0	0	0	0	5	4	12
0600 - 0615	2	0	1	0	3	0	0	0	0	0	10	2	18
0615 - 0630	2	0	0	0	9	0	0	0	0	0	5	4	20
0630 - 0645	3	0	0	0	11	0	0	0	0	0	7	3	24
0645 - 0700	1	0	0	0	9	0	0	0	0	0	6	4	20
0700 - 0715	1	0	0	1	3	0	0	0	0	0	7	4	16
0715 - 0730	3	0	1	1	5	0	0	0	0	0	4	5	19
0730 - 0745	4	0	0	1	8	0	0	0	0	1	6	4	24
0745 - 0800	9	0	1	0	4	0	0	0	0	0	7	4	25
0800 - 0815	4	0	0	1	7	0	0	0	0	0	8	2	22
0815 - 0830	2	0	0	0	7	0	0	0	0	0	12	2	23
0830 - 0845	3	0	0	1	7	0	0	0	0	0	5	2	18
0845 - 0900	5	0	0	0	7	0	0	0	0	0	15	1	28
0900 - 0915	6	0	0	3	8	0	0	0	0	0	9	7	33
0915 - 0930	5	0	0	0	10	0	0	0	0	0	7	2	24
0930 - 0945	3	0	0	0	13	0	0	0	0	0	10	5	31
0945 - 1000	3	0	0	3	8	0	0	0	0	0	8	4	26
1000 - 1015	5	0	1	0	7	0	0	0	0	0	15	8	36
1015 - 1030	5	0	0	1	14	0	0	0	0	0	13	5	38
1030 - 1045	4	0	0	1	14	0	0	0	0	0	11	1	31
1045 - 1100	4	0	0	2	7	0	0	0	0	2	8	7	30
1100 - 1115	7	0	0	0	15	0	0	0	0	0	5	4	31
1115 - 1130	5	0	0	0	12	0	0	0	0	0	12	2	31
1130 - 1145	6	0	0	0	9	0	0	0	0	0	11	4	30

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

Heavies

Peak Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	1	1
0015 - 0115	1	0	0	0	0	0	0	0	0	0	0	1	2
0030 - 0130	1	0	0	0	0	0	0	0	0	0	0	1	2
0045 - 0145	2	0	0	0	0	0	0	0	0	0	0	2	4
0100 - 0200	2	0	0	0	0	0	0	0	0	0	0	1	3
0115 - 0215	1	0	0	0	0	0	0	0	0	0	2	1	4
0130 - 0230	1	0	0	0	0	0	0	0	0	0	2	1	4
0145 - 0245	0	0	0	0	0	0	0	0	0	0	2	0	2
0200 - 0300	0	0	0	0	0	0	0	0	0	0	2	0	2
0215 - 0315	0	0	0	0	0	0	0	0	0	0	0	1	1
0230 - 0330	1	0	0	0	0	0	0	0	0	0	0	1	2
0245 - 0345	1	0	0	0	0	0	0	0	0	0	0	1	2
0300 - 0400	2	0	0	0	0	0	0	0	0	0	0	1	3
0315 - 0415	2	0	0	0	0	0	0	0	0	0	0	0	2
0330 - 0430	1	0	0	0	0	0	0	0	0	0	0	0	1
0345 - 0445	1	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	1	1
0415 - 0515	1	0	0	0	0	0	0	0	0	0	1	2	4
0430 - 0530	2	0	0	0	0	0	0	0	0	0	5	5	12
0445 - 0545	2	0	0	0	0	0	0	0	0	1	7	7	17
0500 - 0600	5	0	0	0	0	0	0	0	0	1	12	10	28
0515 - 0615	6	0	1	0	3	0	0	0	0	1	21	11	43
0530 - 0630	7	0	1	0	12	0	0	0	0	1	22	12	55
0545 - 0645	10	0	1	0	23	0	0	0	0	0	27	13	74
0600 - 0700	8	0	1	0	32	0	0	0	0	0	28	13	82
0615 - 0715	7	0	0	1	32	0	0	0	0	0	25	15	80
0630 - 0730	8	0	1	2	28	0	0	0	0	0	24	16	79
0645 - 0745	9	0	1	3	25	0	0	0	0	1	23	17	79
0700 - 0800	17	0	2	3	20	0	0	0	0	1	24	17	84
0715 - 0815	20	0	2	3	24	0	0	0	0	1	25	15	90
0730 - 0830	19	0	1	2	26	0	0	0	0	1	33	12	94
0745 - 0845	18	0	1	2	25	0	0	0	0	0	32	10	88
0800 - 0900	14	0	0	2	28	0	0	0	0	0	40	7	91
0815 - 0915	16	0	0	4	29	0	0	0	0	0	41	12	102
0830 - 0930	19	0	0	4	32	0	0	0	0	0	36	12	103
0845 - 0945	19	0	0	3	38	0	0	0	0	0	41	15	116
0900 - 1000	17	0	0	6	39	0	0	0	0	0	34	18	114
0915 - 1015	16	0	1	3	38	0	0	0	0	0	40	19	117
0930 - 1030	16	0	1	4	42	0	0	0	0	0	46	22	131
0945 - 1045	17	0	1	5	43	0	0	0	0	0	47	18	131
1000 - 1100	18	0	1	4	42	0	0	0	0	2	47	21	135
1015 - 1115	20	0	0	4	50	0	0	0	0	2	37	17	130
1030 - 1130	20	0	0	3	48	0	0	0	0	2	36	14	123
1045 - 1145	22	0	0	2	43	0	0	0	0	2	36	17	122
1100 - 1200	21	0	0	0	45	0	0	0	0	1	39	15	121

1145 - 1200	3	0	0	0	9	0	0	0	0	1	11	5	29
Period End	104	0	4	15	206	0	0	0	0	5	226	105	665



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

COMBINED	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0015	1	0	0	0	0	0	0	0	0	0	0	0	1
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	1	1
0045 - 0100	0	0	0	0	0	0	0	0	0	0	0	1	1
0100 - 0115	1	0	0	0	0	0	0	0	0	0	0	0	1
0115 - 0130	0	0	0	0	0	0	0	0	0	0	0	1	1
0130 - 0145	3	0	0	0	0	0	0	0	0	0	0	5	8
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0215	11	0	0	0	1	0	0	0	0	0	2	0	14
0215 - 0230	2	0	0	0	1	0	0	0	0	0	0	0	3
0230 - 0245	0	0	0	0	0	0	0	0	0	0	0	0	0
0245 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0315	2	0	0	0	0	0	0	0	0	0	0	4	6
0315 - 0330	2	0	0	0	0	0	0	0	0	0	0	5	7
0330 - 0345	0	0	0	0	0	0	0	0	0	0	0	7	7
0345 - 0400	1	0	0	0	0	0	0	0	0	0	0	15	16
0400 - 0415	0	0	0	0	0	0	0	0	0	0	0	0	0
0415 - 0430	2	0	0	0	1	0	0	0	0	0	1	4	8
0430 - 0445	2	0	0	0	0	0	0	0	0	0	2	6	10
0445 - 0500	0	0	0	0	0	0	0	0	0	0	2	21	23
0500 - 0515	4	0	0	0	0	0	0	0	0	0	5	19	28
0515 - 0530	5	0	0	0	1	0	0	0	0	0	15	16	37
0530 - 0545	5	0	1	0	1	0	0	0	0	1	19	24	51
0545 - 0600	7	0	3	0	0	0	0	0	0	0	22	45	77
0600 - 0615	7	0	1	1	8	0	0	0	0	0	30	23	70
0615 - 0630	4	0	2	0	9	0	0	0	0	0	13	20	48
0630 - 0645	11	0	0	0	15	0	0	0	0	0	16	27	69
0645 - 0700	14	0	0	0	10	0	0	0	0	1	14	42	81
0700 - 0715	18	0	0	1	5	0	0	0	0	3	17	29	73
0715 - 0730	17	0	1	2	8	0	0	0	0	2	16	28	74
0730 - 0745	16	0	0	1	15	0	0	0	0	2	10	39	83
0745 - 0800	19	0	1	1	8	0	0	0	0	0	10	46	85
0800 - 0815	16	0	0	2	7	0	0	0	0	1	15	39	80
0815 - 0830	12	0	0	0	11	0	0	0	0	0	18	21	62
0830 - 0845	11	0	0	1	10	0	0	0	0	0	7	24	53
0845 - 0900	16	0	0	0	9	0	0	0	0	0	20	17	62
0900 - 0915	16	0	0	3	12	0	0	0	0	0	10	24	65
0915 - 0930	11	0	0	0	13	0	0	0	0	0	9	11	44
0930 - 0945	16	0	0	0	13	0	0	0	0	0	16	24	69
0945 - 1000	16	0	0	3	11	0	0	0	0	0	13	26	69
1000 - 1015	14	0	2	0	12	0	0	0	0	0	19	20	67
1015 - 1030	15	0	0	2	19	0	0	0	0	0	19	20	75
1030 - 1045	14	0	0	2	18	1	0	0	0	0	14	6	55
1045 - 1100	16	0	1	2	12	0	0	0	0	2	11	27	71
1100 - 1115	18	0	0	1	20	0	0	0	0	0	7	13	59
1115 - 1130	17	0	2	0	16	0	0	0	0	0	18	7	60

PEAK HOUR	20	0	2	3	24	0	0	0	0	1	25	15	90
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Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

COMBINED	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	T	R	L	T	R	L	T	R	L	T	R	
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	2	3
0015 - 0115	1	0	0	0	0	0	0	0	0	0	0	2	3
0030 - 0130	1	0	0	0	0	0	0	0	0	0	0	3	4
0045 - 0145	4	0	0	0	0	0	0	0	0	0	0	7	11
0100 - 0200	4	0	0	0	0	0	0	0	0	0	0	6	10
0115 - 0215	14	0	0	0	1	0	0	0	0	0	2	6	23
0130 - 0230	16	0	0	0	2	0	0	0	0	0	2	5	25
0145 - 0245	13	0	0	0	2	0	0	0	0	0	2	0	17
0200 - 0300	13	0	0	0	2	0	0	0	0	0	2	0	17
0215 - 0315	4	0	0	0	1	0	0	0	0	0	0	4	9
0230 - 0330	4	0	0	0	0	0	0	0	0	0	0	9	13
0245 - 0345	4	0	0	0	0	0	0	0	0	0	0	16	20
0300 - 0400	5	0	0	0	0	0	0	0	0	0	0	31	36
0315 - 0415	3	0	0	0	0	0	0	0	0	0	0	27	30
0330 - 0430	3	0	0	0	1	0	0	0	0	0	1	26	31
0345 - 0445	5	0	0	0	1	0	0	0	0	0	3	25	34
0400 - 0500	4	0	0	0	1	0	0	0	0	0	5	31	41
0415 - 0515	8	0	0	0	1	0	0	0	0	0	10	50	69
0430 - 0530	11	0	0	0	1	0	0	0	0	0	24	62	98
0445 - 0545	14	0	1	0	2	0	0	0	0	1	41	80	139
0500 - 0600	21	0	4	0	2	0	0	0	0	1	61	104	193
0515 - 0615	24	0	5	1	10	0	0	0	0	1	86	108	235
0530 - 0630	23	0	7	1	18	0	0	0	0	1	84	112	246
0545 - 0645	29	0	6	1	32	0	0	0	0	0	81	115	264
0600 - 0700	36	0	3	1	42	0	0	0	0	1	73	112	268
0615 - 0715	47	0	2	1	39	0	0	0	0	4	60	118	271
0630 - 0730	60	0	1	3	38	0	0	0	0	6	63	126	297
0645 - 0745	65	0	1	4	38	0	0	0	0	8	57	138	311
0700 - 0800	70	0	2	5	36	0	0	0	0	7	53	142	315
0715 - 0815	68	0	2	6	38	0	0	0	0	5	51	152	322
0730 - 0830	63	0	1	4	41	0	0	0	0	3	53	145	310
0745 - 0845	58	0	1	4	36	0	0	0	0	1	50	130	280
0800 - 0900	55	0	0	3	37	0	0	0	0	1	60	101	257
0815 - 0915	55	0	0	4	42	0	0	0	0	0	55	86	242
0830 - 0930	54	0	0	4	44	0	0	0	0	0	46	76	224
0845 - 0945	59	0	0	3	47	0	0	0	0	0	55	76	240
0900 - 1000	59	0	0	6	49	0	0	0	0	0	48	85	247
0915 - 1015	57	0	2	3	49	0	0	0	0	0	57	81	249
0930 - 1030	61	0	2	5	55	0	0	0	0	0	67	90	280
0945 - 1045	59	0	2	7	60	1	0	0	0	0	65	72	266
1000 - 1100	59	0	3	6	61	1	0	0	0	2	63	73	268
1015 - 1115	63	0	1	7	69	1	0	0	0	2	51	66	260
1030 - 1130	65	0	3	5	66	1	0	0	0	2	50	53	245
1045 - 1145	63	0	3	3	62	0	0	0	0	2	54	60	247
1100 - 1200	61	0	2	1	61	0	0	0	0	1	58	43	227

1130 - 1145	12	0	0	0	14	0	0	0	0	0	18	13	57
1145 - 1200	14	0	0	0	11	0	0	0	0	1	15	10	51
Period End	388	0	14	22	291	1	0	0	0	13	423	730	1882

PEAK HOUR	68	0	2	6	38	0	0	0	0	5	51	152	322
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R.O.A.R DATA

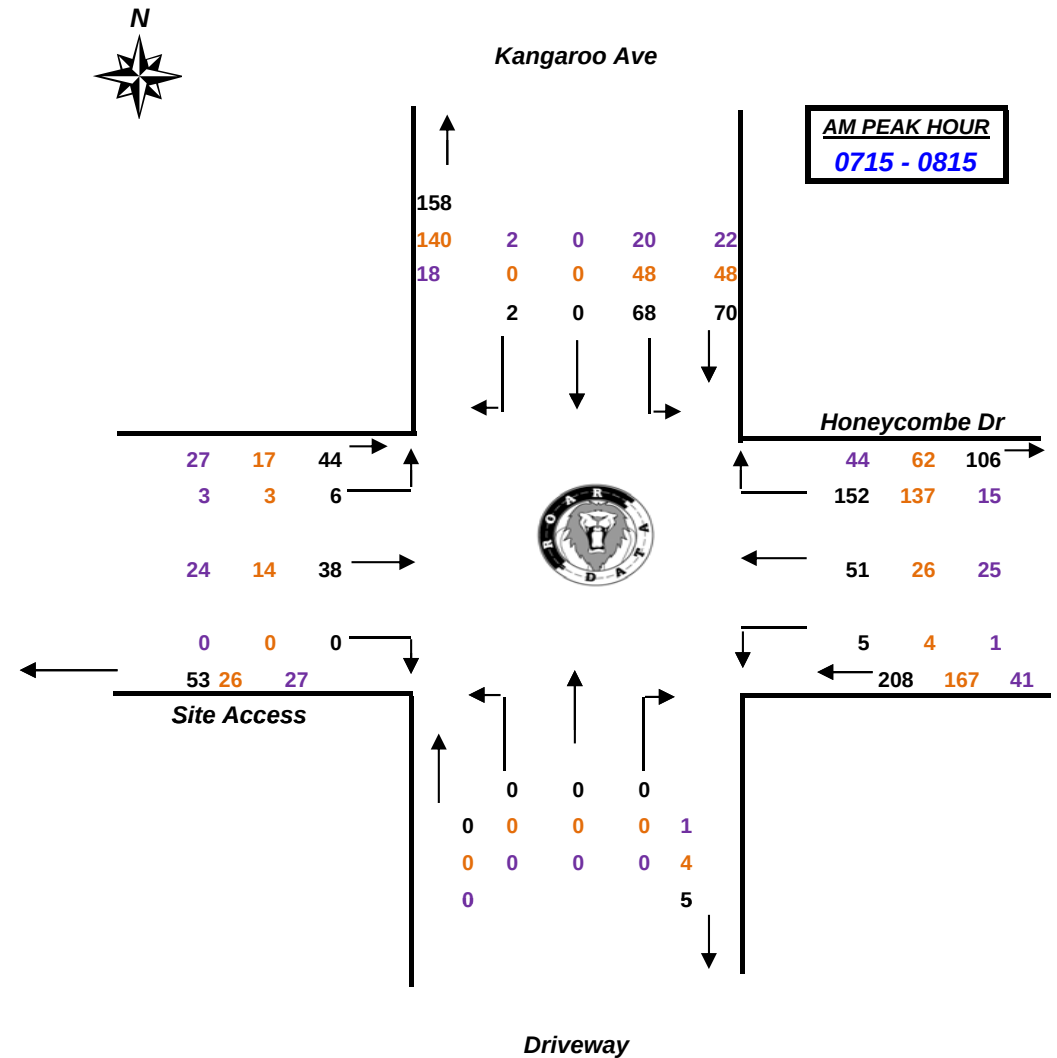
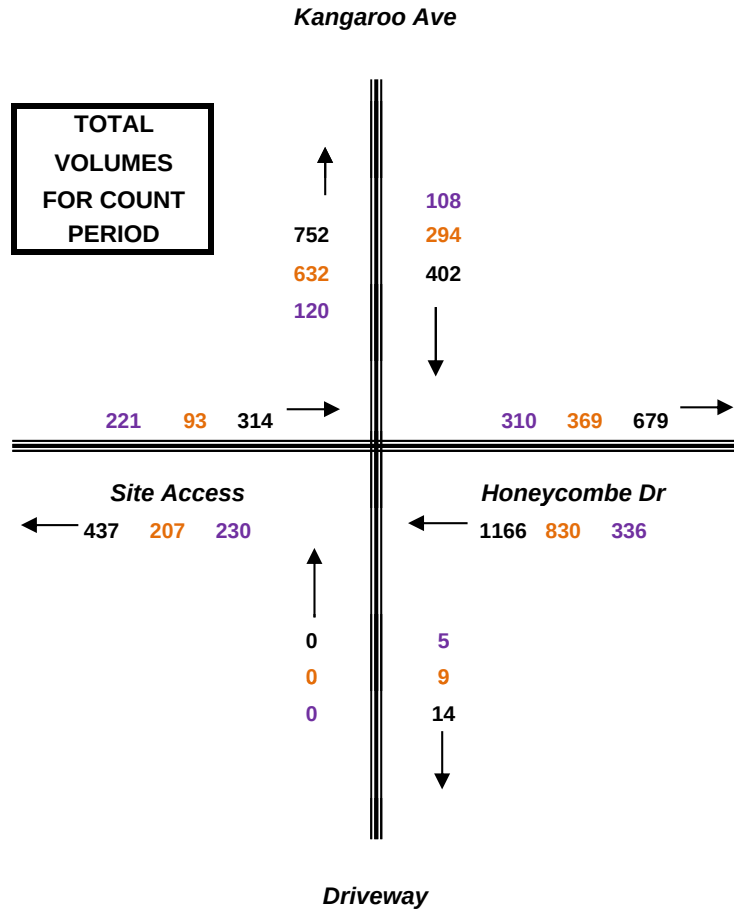
Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

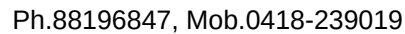
Lights

Time Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	I	R	L	I	R	L	I	R	L	I	R	
1200 - 1215	31	0	0	0	8	0	0	0	0	0	7	18	64
1215 - 1230	9	0	0	0	4	0	0	0	0	0	2	8	23
1230 - 1245	15	0	0	0	7	0	0	0	0	2	2	9	35
1245 - 1300	4	0	0	0	1	0	0	0	0	0	1	6	12
1300 - 1315	16	0	1	1	4	0	0	0	0	0	2	18	42
1315 - 1330	10	0	0	0	2	0	0	0	0	0	6	16	34
1330 - 1345	15	0	1	0	3	0	0	0	0	0	1	26	46
1345 - 1400	18	0	0	0	2	0	0	0	0	0	4	16	40
1400 - 1415	24	0	0	0	3	0	0	0	0	1	4	11	43
1415 - 1430	9	0	0	0	4	0	0	0	0	0	5	6	24
1430 - 1445	24	0	0	1	6	0	0	0	0	0	8	2	41
1445 - 1500	13	0	0	0	5	0	0	0	0	0	2	10	30
1500 - 1515	31	0	0	0	12	0	0	0	0	0	3	23	69
1515 - 1530	17	0	0	0	2	0	0	0	0	0	2	8	29
1530 - 1545	31	0	0	0	14	0	0	0	0	0	2	6	53
1545 - 1600	21	0	0	0	4	0	0	0	0	0	1	8	34
1600 - 1615	70	0	0	0	16	0	0	0	0	0	2	3	91
1615 - 1630	21	0	0	0	16	0	1	0	0	0	4	4	46
1630 - 1645	29	0	0	0	26	0	0	0	0	0	3	5	63
1645 - 1700	20	0	0	0	12	0	0	0	0	0	0	6	38
1700 - 1715	40	0	0	0	6	0	0	0	0	0	1	5	52
1715 - 1730	10	0	0	0	3	0	0	0	0	0	0	9	22
1730 - 1745	10	0	0	0	10	0	0	0	0	0	1	7	28
1745 - 1800	10	0	0	0	2	0	0	0	0	0	0	9	21
1800 - 1815	31	0	0	0	1	0	0	0	0	0	2	3	37
1815 - 1830	14	0	0	0	2	0	0	0	0	0	1	2	19
1830 - 1845	7	0	0	0	3	0	0	0	0	0	1	1	12
1845 - 1900	4	0	0	0	0	0	0	0	0	0	0	1	5
1900 - 1915	3	0	0	0	0	0	0	0	0	0	0	0	3
1915 - 1930	0	0	0	0	0	0	0	0	0	0	0	1	1
1930 - 1945	4	0	0	0	0	0	0	0	0	0	0	0	4
1945 - 2000	2	0	0	0	0	0	0	0	0	0	1	1	4
2000 - 2015	2	0	0	0	0	0	0	0	0	0	0	2	4
2015 - 2030	5	0	0	0	0	0	0	0	0	0	0	1	6
2030 - 2045	0	0	0	0	0	0	0	0	0	0	0	0	0
2045 - 2100	0	0	0	0	0	0	0	0	0	0	0	1	1
2100 - 2115	1	0	0	0	0	0	0	0	0	0	0	0	1
2115 - 2130	0	0	0	0	0	0	0	0	0	0	0	3	3
2130 - 2145	10	0	0	0	0	0	0	0	0	0	0	1	11
2145 - 2200	22	0	0	0	0	0	0	0	0	0	2	0	24
2200 - 2215	4	0	0	0	2	0	0	0	0	0	0	0	6
2215 - 2230	1	0	0	0	0	0	0	0	0	0	0	3	4
2230 - 2245	2	0	0	0	0	0	0	0	0	0	0	5	7
2245 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2315	4	0	0	0	0	0	0	0	0	0	0	0	4
2315 - 2330	1	0	0	0	0	0	0	0	0	0	0	3	4
2330 - 2345	3	0	0	0	1	0	0	0	0	0	1	2	7
2345 - 2400	5	0	0	0	6	0	0	0	0	0	0	2	13
Period End	623	0	2	2	187	0	1	0	0	3	71	271	1160

Lights

Peak Period	NORTH Kangaroo Ave			WEST Site Access			SOUTH Driveway			EAST Honeycombe Dr			TOT
	L	I	R	L	I	R	L	I	R	L	I	R	
1200 - 1300	59	0	0	0	20	0	0	0	0	2	12	41	134
1215 - 1315	44	0	1	1	16	0	0	0	0	2	7	41	112
1230 - 1330	45	0	1	1	14	0	0	0	0	2	11	49	123
1245 - 1345	45	0	2	1	10	0	0	0	0	0	10	66	134
1300 - 1400	59	0	2	1	11	0	0	0	0	0	13	76	162
1315 - 1415	67	0	1	0	10	0	0	0	0	1	15	69	163
1330 - 1430	66	0	1	0	12	0	0	0	0	1	14	59	153
1345 - 1445	75	0	0	1	15	0	0	0	0	1	21	35	148
1400 - 1500	70	0	0	1	18	0	0	0	0	1	19	29	138
1415 - 1515	77	0	0	1	27	0	0	0	0	0	18	41	164
1430 - 1530	85	0	0	1	25	0	0	0	0	0	15	43	169
1445 - 1545	92	0	0	0	33	0	0	0	0	0	9	47	181
1500 - 1600	100	0	0	0	32	0	0	0	0	0	8	45	185
1515 - 1615	139	0	0	0	36	0	0	0	0	0	7	25	207
1530 - 1630	143	0	0	0	50	0	1	0	0	0	9	21	224
1545 - 1645	141	0	0	0	62	0	1	0	0	0	10	20	234
1600 - 1700	140	0	0	0	70	0	1	0	0	0	9	18	238
1615 - 1715	110	0	0	0	60	0	1	0	0	0	8	20	199
1630 - 1730	99	0	0	0	47	0	0	0	0	0	4	25	175
1645 - 1745	80	0	0	0	31	0	0	0	0	0	2	27	140
1700 - 1800	70	0	0	0	21	0	0	0	0	0	2	30	123
1715 - 1815	61	0	0	0	16	0	0	0	0	0	3	28	108
1730 - 1830	65	0	0	0	15	0	0	0	0	0	4	21	105
1745 - 1845	62	0	0	0	8	0	0	0	0	0	4	15	89
1800 - 1900	56	0	0	0	6	0	0	0	0	0	4	7	73
1815 - 1915	28	0	0	0	5	0	0	0	0	0	2	4	39
1830 - 1930	14	0	0	0	3	0	0	0	0	0	1	3	21
1845 - 1945	11	0	0	0	0	0	0	0	0	0	0	2	13
1900 - 2000	9	0	0	0	0	0	0	0	0	0	1	2	12
1915 - 2015	8	0	0	0	0	0	0	0	0	0	1	4	13
1930 - 2030	13	0	0	0	0	0	0	0	0	0	1	4	18
1945 - 2045	9	0	0	0	0	0	0	0	0	0	1	4	14
2000 - 2100	7	0	0	0	0	0	0	0	0	0	0	4	11
2015 - 2115	6	0	0	0	0	0	0	0	0	0	0	2	8
2030 - 2130	1	0	0	0	0	0	0	0	0	0	0	4	5
2045 - 2145	11	0	0	0	0	0	0	0	0	0	0	5	16
2100 - 2200	33	0	0	0	0	0	0	0	0	0	2	4	39
2115 - 2215	36	0	0	0	2	0	0	0	0	0	2	4	44
2130 - 2230	37	0	0	0	2	0	0	0	0	0	2	4	45
2145 - 2245	29	0	0	0	2	0	0	0	0	0	2	8	41
2200 - 2300	7	0	0	0	2	0	0	0	0	0	0	8	17
2215 - 2315	7	0	0	0	0	0	0	0	0	0	0	8	15
2230 - 2330	7	0	0	0	0	0	0	0	0	0	0	8	15
2245 - 2345	8	0	0	0	1	0	0	0	0	0	1	5	15
2300 - 2400	13	0	0	0	7	0	0	0	0	0	1	7	28

PEAK HOUR	140	0	0	0	70	0	1	0	0	0	9	18	238
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Day/Date : Thursday 27th July 2017

Heavies	NORTH			WEST			SOUTH			EAST			
	Kangaroo Ave			Site Access			Driveway			Honeycombe Dr			
Peak Period	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1200 - 1300	18	0	1	1	40	0	0	0	0	1	44	13	118
1215 - 1315	13	0	0	1	40	0	0	0	0	1	44	14	113
1230 - 1330	13	0	1	3	47	0	0	0	0	1	36	14	115
1245 - 1345	17	0	2	4	41	0	0	0	0	0	37	16	117
1300 - 1400	19	0	2	4	44	0	0	0	0	0	38	17	124
1315 - 1415	22	0	2	3	41	0	0	0	0	0	42	15	125
1330 - 1430	18	0	1	1	31	0	0	0	0	0	46	10	107
1345 - 1445	14	0	0	0	38	0	0	0	0	0	41	9	102
1400 - 1500	11	0	0	0	45	0	0	0	0	1	44	10	111
1415 - 1515	8	0	0	1	46	0	0	0	0	2	39	9	105
1430 - 1530	9	0	0	1	52	0	0	0	0	2	34	12	110
1445 - 1545	9	0	0	1	51	0	0	0	0	2	28	13	104
1500 - 1600	8	0	0	1	37	0	0	0	0	1	19	9	75
1515 - 1615	7	0	0	0	24	0	0	0	0	0	14	8	53
1530 - 1630	9	0	1	0	16	0	0	1	0	0	12	10	49
1545 - 1645	12	0	1	1	9	0	0	1	0	0	14	7	45
1600 - 1700	13	0	1	1	13	0	0	1	0	0	13	9	51
1615 - 1715	15	0	1	1	16	0	0	1	0	0	10	10	54
1630 - 1730	13	0	0	1	13	0	0	0	0	0	11	6	44
1645 - 1745	9	0	0	0	11	0	0	0	0	0	10	5	35
1700 - 1800	7	0	0	0	8	0	0	0	0	0	9	6	30
1715 - 1815	6	0	0	0	7	0	0	0	0	0	7	5	25
1730 - 1830	6	0	0	0	9	0	0	0	0	0	4	4	23
1745 - 1845	6	0	0	0	7	0	0	0	0	0	3	5	21
1800 - 1900	7	0	0	0	6	0	0	0	0	0	5	4	22
1815 - 1915	6	0	0	0	6	0	0	0	0	0	5	3	20
1830 - 1930	4	0	0	0	5	0	0	0	0	0	6	3	18
1845 - 1945	2	0	0	0	6	0	0	0	0	0	4	2	14
1900 - 2000	3	0	0	0	5	0	0	0	0	0	1	1	10
1915 - 2015	2	0	0	0	3	0	0	0	0	0	2	1	8
1930 - 2030	2	0	0	0	2	0	0	0	0	0	1	3	8
1945 - 2045	3	0	0	0	1	0	0	0	0	0	1	5	10
2000 - 2100	3	0	0	0	1	0	0	0	0	0	1	7	12
2015 - 2115	6	0	0	0	1	0	0	0	0	0	0	7	14
2030 - 2130	7	0	0	0	0	0	0	0	0	0	0	5	12
2045 - 2145	7	0	0	0	0	0	0	0	0	0	0	3	10
2100 - 2200	5	0	0	0	0	0	0	0	0	0	0	0	5
2115 - 2215	2	0	0	0	0	0	0	0	0	0	1	0	3
2130 - 2230	2	0	0	0	1	0	0	0	0	0	1	0	4
2145 - 2245	1	0	0	0	1	0	0	0	0	0	1	0	3
2200 - 2300	1	0	0	0	1	0	0	0	0	0	1	0	3
2215 - 2315	1	0	0	0	1	0	0	0	0	0	0	0	2
2230 - 2330	0	0	0	0	0	0	0	0	0	0	0	0	0
2245 - 2345	0	0	0	0	0	0	0	0	0	0	0	1	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	1	1

2345 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0
Period End	95	0	4	7	200	0	0	1	0	3	175	77	562



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

PEAK HOUR	13	0	1	1	13	0	0	1	0	0	13	9	51
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Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

COMBINED	NORTH			WEST			SOUTH			EAST			TOT
	Kangaroo Ave			Site Access			Driveway			Honeycombe Dr			
Time Period	L	I	R	L	I	R	L	I	R	L	I	R	
1200 - 1215	38	0	1	1	23	0	0	0	0	0	18	22	103
1215 - 1230	14	0	0	0	13	0	0	0	0	0	15	13	55
1230 - 1245	18	0	0	0	18	0	0	0	0	3	14	11	64
1245 - 1300	7	0	0	0	6	0	0	0	0	0	9	8	30
1300 - 1315	18	0	1	2	19	0	0	0	0	0	13	23	76
1315 - 1330	15	0	1	2	18	0	0	0	0	0	11	21	68
1330 - 1345	22	0	2	1	8	0	0	0	0	0	14	30	77
1345 - 1400	23	0	0	0	10	0	0	0	0	0	13	19	65
1400 - 1415	29	0	0	0	15	0	0	0	0	1	19	14	78
1415 - 1430	10	0	0	0	10	0	0	0	0	0	14	6	40
1430 - 1445	27	0	0	1	18	0	0	0	0	0	16	5	67
1445 - 1500	15	0	0	0	20	0	0	0	0	1	14	14	64
1500 - 1515	33	0	0	1	25	0	0	0	0	1	13	25	98
1515 - 1530	19	0	0	0	14	0	0	0	0	0	6	11	50
1530 - 1545	34	0	0	0	25	0	0	0	0	0	4	10	73
1545 - 1600	22	0	0	0	5	0	0	0	0	0	4	8	39
1600 - 1615	71	0	0	0	16	0	0	0	0	0	7	4	98
1615 - 1630	25	0	1	0	20	0	1	1	0	0	6	9	63
1630 - 1645	35	0	0	1	30	0	0	0	0	0	7	6	79
1645 - 1700	22	0	0	0	17	0	0	0	0	0	2	8	49
1700 - 1715	43	0	0	0	9	0	0	0	0	0	3	7	62
1715 - 1730	12	0	0	0	4	0	0	0	0	0	3	10	29
1730 - 1745	12	0	0	0	12	0	0	0	0	0	4	7	35
1745 - 1800	10	0	0	0	4	0	0	0	0	0	1	12	27
1800 - 1815	33	0	0	0	3	0	0	0	0	0	2	4	42
1815 - 1830	16	0	0	0	5	0	0	0	0	0	1	2	24
1830 - 1845	9	0	0	0	3	0	0	0	0	0	3	2	17
1845 - 1900	5	0	0	0	1	0	0	0	0	0	3	3	12
1900 - 1915	4	0	0	0	2	0	0	0	0	0	0	0	6
1915 - 1930	0	0	0	0	2	0	0	0	0	0	1	1	4
1930 - 1945	4	0	0	0	1	0	0	0	0	0	0	0	5
1945 - 2000	4	0	0	0	0	0	0	0	0	0	1	2	7
2000 - 2015	2	0	0	0	0	0	0	0	0	0	1	2	5
2015 - 2030	5	0	0	0	1	0	0	0	0	0	0	3	9
2030 - 2045	1	0	0	0	0	0	0	0	0	0	0	2	3
2045 - 2100	2	0	0	0	0	0	0	0	0	0	0	4	6
2100 - 2115	4	0	0	0	0	0	0	0	0	0	0	0	4
2115 - 2130	1	0	0	0	0	0	0	0	0	0	0	3	4
2130 - 2145	11	0	0	0	0	0	0	0	0	0	0	1	12
2145 - 2200	22	0	0	0	0	0	0	0	0	0	2	0	24
2200 - 2215	4	0	0	0	2	0	0	0	0	0	1	0	7
2215 - 2230	2	0	0	0	1	0	0	0	0	0	0	3	6
2230 - 2245	2	0	0	0	0	0	0	0	0	0	0	5	7
2245 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2315	4	0	0	0	0	0	0	0	0	0	0	0	4
2315 - 2330	1	0	0	0	0	0	0	0	0	0	0	3	4

COMBINED	NORTH			WEST			SOUTH			EAST			
	Kangaroo Ave			Site Access			Driveway			Honeycombe Dr			
Peak Period	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1200 - 1300	77	0	1	1	60	0	0	0	0	3	56	54	252
1215 - 1315	57	0	1	2	56	0	0	0	0	3	51	55	225
1230 - 1330	58	0	2	4	61	0	0	0	0	3	47	63	238
1245 - 1345	62	0	4	5	51	0	0	0	0	0	47	82	251
1300 - 1400	78	0	4	5	55	0	0	0	0	0	51	93	286
1315 - 1415	89	0	3	3	51	0	0	0	0	1	57	84	288
1330 - 1430	84	0	2	1	43	0	0	0	0	1	60	69	260
1345 - 1445	89	0	0	1	53	0	0	0	0	1	62	44	250
1400 - 1500	81	0	0	1	63	0	0	0	0	2	63	39	249
1415 - 1515	85	0	0	2	73	0	0	0	0	2	57	50	269
1430 - 1530	94	0	0	2	77	0	0	0	0	2	49	55	279
1445 - 1545	101	0	0	1	84	0	0	0	0	2	37	60	285
1500 - 1600	108	0	0	1	69	0	0	0	0	1	27	54	260
1515 - 1615	146	0	0	0	60	0	0	0	0	0	21	33	260
1530 - 1630	152	0	1	0	66	0	1	1	0	0	21	31	273
1545 - 1645	153	0	1	1	71	0	1	1	0	0	24	27	279
1600 - 1700	153	0	1	1	83	0	1	1	0	0	22	27	289
1615 - 1715	125	0	1	1	76	0	1	1	0	0	18	30	253
1630 - 1730	112	0	0	1	60	0	0	0	0	0	15	31	219
1645 - 1745	89	0	0	0	42	0	0	0	0	0	12	32	175
1700 - 1800	77	0	0	0	29	0	0	0	0	0	11	36	153
1715 - 1815	67	0	0	0	23	0	0	0	0	0	10	33	133
1730 - 1830	71	0	0	0	24	0	0	0	0	0	8	25	128
1745 - 1845	68	0	0	0	15	0	0	0	0	0	7	20	110
1800 - 1900	63	0	0	0	12	0	0	0	0	0	9	11	95
1815 - 1915	34	0	0	0	11	0	0	0	0	0	7	7	59
1830 - 1930	18	0	0	0	8	0	0	0	0	0	7	6	39
1845 - 1945	13	0	0	0	6	0	0	0	0	0	4	4	27
1900 - 2000	12	0	0	0	5	0	0	0	0	0	2	3	22
1915 - 2015	10	0	0	0	3	0	0	0	0	0	3	5	21
1930 - 2030	15	0	0	0	2	0	0	0	0	0	2	7	26
1945 - 2045	12	0	0	0	1	0	0	0	0	0	2	9	24
2000 - 2100	10	0	0	0	1	0	0	0	0	0	1	11	23
2015 - 2115	12	0	0	0	1	0	0	0	0	0	0	9	22
2030 - 2130	8	0	0	0	0	0	0	0	0	0	0	9	17
2045 - 2145	18	0	0	0	0	0	0	0	0	0	0	8	26
2100 - 2200	38	0	0	0	0	0	0	0	0	0	2	4	44
2115 - 2215	38	0	0	0	2	0	0	0	0	0	3	4	47
2130 - 2230	39	0	0	0	3	0	0	0	0	0	3	4	49
2145 - 2245	30	0	0	0	3	0	0	0	0	0	3	8	44
2200 - 2300	8	0	0	0	3	0	0	0	0	0	1	8	20
2215 - 2315	8	0	0	0	1	0	0	0	0	0	0	8	17
2230 - 2330	7	0	0	0	0	0	0	0	0	0	0	8	15
2245 - 2345	8	0	0	0	1	0	0	0	0	0	1	6	16
2300 - 2400	13	0	0	0	7	0	0	0	0	0	1	8	29

2330 - 2345	3	0	0	0	1	0	0	0	0	0	1	3	8
2345 - 2400	5	0	0	0	6	0	0	0	0	0	0	2	13
Period End	718	0	6	9	387	0	1	1	0	6	246	348	1722



R.O.A.R DATA

Reliable, Original & Authentic Results

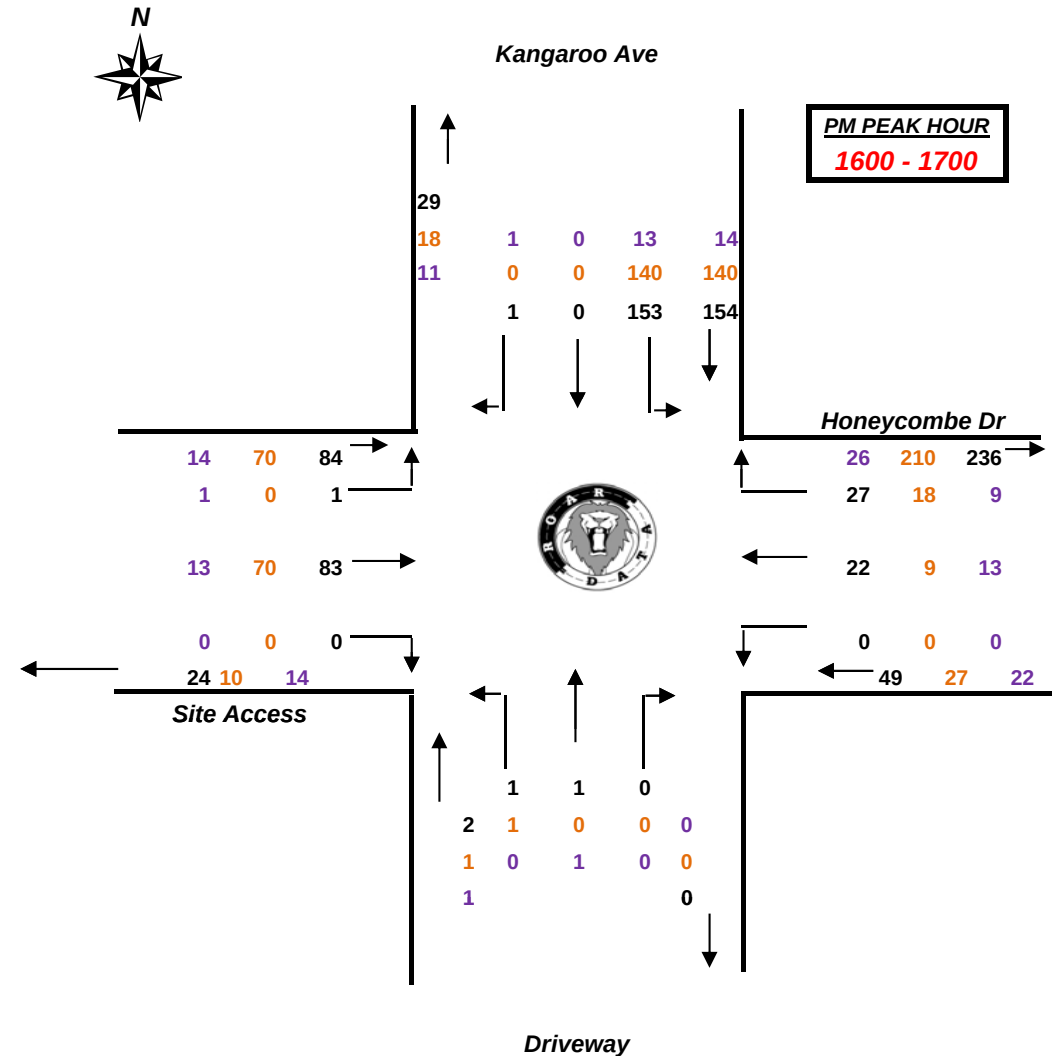
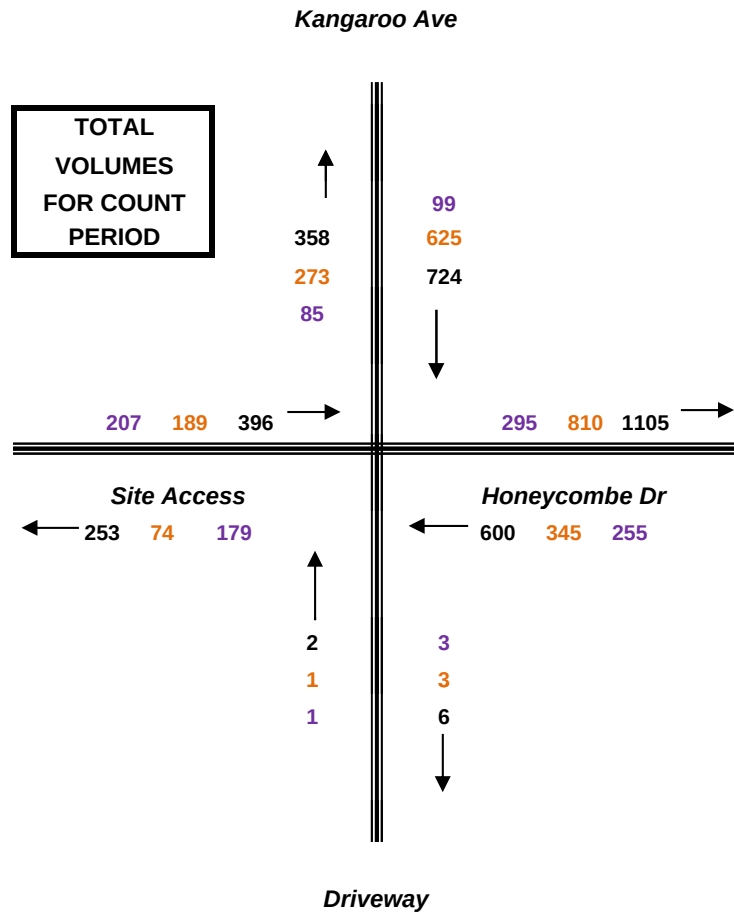
Ph.88196847, Mob.0418-239019

PEAK HOUR	153	0	1	1	83	0	1	1	0	0	22	27	289
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Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM
Job No/Name : 6511 EASTERN CREEK Dial a Dump
Day/Date : Thursday 27th July 2017

Intersection Layout

Obtained via satellite

May be incorrect

AM PEAK HOUR
0730-0830

Combined figures only

Wonderland Dr

Wallgrove Rd

MID PEAK HOUR
1130-1230

	AM	MID	PM	
L	186	362	527	L
T	1	1	0	T
R	127	178	383	R

	R	T	L	
AM	567	1051	22	AM
MID	272	702	2	MID
PM	78	957	3	PM

	L	T	R	
PM	123	814	3	PM
MID	138	645	2	MID
AM	320	846	12	AM

	R	T	L	
PM	18	3	2	PM
MID	0	3	3	MID
AM	12	5	3	AM

M7 Offices

PM PEAK HOUR
1600-1700

Weather >>>



Wallgrove Rd



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Lights

Lights	NORTH						SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	1	195	88	36	0	11	49	130	1	0	0	0	511
0715 - 0730	6	185	90	26	0	13	44	184	2	0	1	2	553
0730 - 0745	9	207	119	32	0	14	56	178	1	2	1	1	620
0745 - 0800	4	218	145	34	0	12	70	197	3	0	0	1	684
0800 - 0815	2	262	120	35	1	18	52	163	3	0	2	0	658
0815 - 0830	7	239	127	31	0	29	89	202	5	1	0	0	730
0830 - 0845	4	193	97	30	0	19	50	188	0	1	0	0	582
0845 - 0900	8	181	112	37	0	12	52	214	3	0	0	1	620
Period End	41	1680	898	261	1	128	462	1456	18	4	4	5	4958

Lights

Lights	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	TOT
0700 - 0800	20	805	442	128	0	50	219	689	7	2	2	4	2368
0715 - 0815	21	872	474	127	1	57	222	722	9	2	4	4	2515
0730 - 0830	22	926	511	132	1	73	267	740	12	3	3	2	2692
0745 - 0845	17	912	489	130	1	78	261	750	11	2	2	1	2654
0800 - 0900	21	875	456	133	1	78	243	767	11	2	2	1	2590

PEAK HOUR	22	926	511	132	1	73	267	740	12	3	3	2	2692
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Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	1	222	100	44	0	30	66	165	1	0	0	0	629
0715 - 0730	6	210	102	42	0	25	55	211	2	0	1	2	656
0730 - 0745	9	239	129	46	0	25	72	192	1	2	1	1	717
0745 - 0800	4	256	160	48	0	28	82	230	3	0	0	1	812
0800 - 0815	2	296	138	42	1	27	62	188	3	0	2	0	761
0815 - 0830	7	260	140	50	0	47	104	236	5	1	0	0	850
0830 - 0845	4	225	112	39	0	30	60	221	0	1	0	0	692
0845 - 0900	8	211	133	57	0	24	65	251	3	0	0	1	753
Period End	41	1919	1014	368	1	236	566	1694	18	4	4	5	5870

Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	20	927	491	180	0	108	275	798	7	2	2	4	2814
0715 - 0815	21	1001	529	178	1	105	271	821	9	2	4	4	2946
0730 - 0830	22	1051	567	186	1	127	320	846	12	3	3	2	3140
0745 - 0845	17	1037	550	179	1	132	308	875	11	2	2	1	3115
0800 - 0900	21	992	523	188	1	128	291	896	11	2	2	1	3056

PEAK HOUR	22	1051	567	186	1	127	320	846	12	3	3	2	3140
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Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			TOT
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	
0700 - 0715	0	27	12	8	0	19	17	35	0	0	0	0	118
0715 - 0730	0	25	12	16	0	12	11	27	0	0	0	0	103
0730 - 0745	0	32	10	14	0	11	16	14	0	0	0	0	97
0745 - 0800	0	38	15	14	0	16	12	33	0	0	0	0	128
0800 - 0815	0	34	18	7	0	9	10	25	0	0	0	0	103
0815 - 0830	0	21	13	19	0	18	15	34	0	0	0	0	120
0830 - 0845	0	32	15	9	0	11	10	33	0	0	0	0	110
0845 - 0900	0	30	21	20	0	12	13	37	0	0	0	0	133
Period End	0	239	116	107	0	108	104	238	0	0	0	0	912

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	TOT
0700 - 0800	0	122	49	52	0	58	56	109	0	0	0	0	446
0715 - 0815	0	129	55	51	0	48	49	99	0	0	0	0	431
0730 - 0830	0	125	56	54	0	54	53	106	0	0	0	0	448
0745 - 0845	0	125	61	49	0	54	47	125	0	0	0	0	461
0800 - 0900	0	117	67	55	0	50	48	129	0	0	0	0	466

PEAK HOUR	0	125	56	54	0	54	53	106	0	0	0	0	448
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Peds

Peds	NORTH	WEST	SOUTH	EAST	TOT
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
0700 - 0715					0
0715 - 0730		NOT	REQUIRED		0
0730 - 0745					0
0745 - 0800					0
0800 - 0815					0
0815 - 0830					0
0830 - 0845					0
0845 - 0900					0
Period End	0	0	0	0	0

Peds

Peds	NORTH	WEST	SOUTH	EAST	TOT
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
0700 - 0800	0	0	0	0	0
0715 - 0815	0	0	0	0	0
0730 - 0830	0	0	0	0	0
0745 - 0845	0	0	0	0	0
0800 - 0900	0	0	0	0	0

PEAK HR	0			0			0			0			0
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R.O.A.R DATA

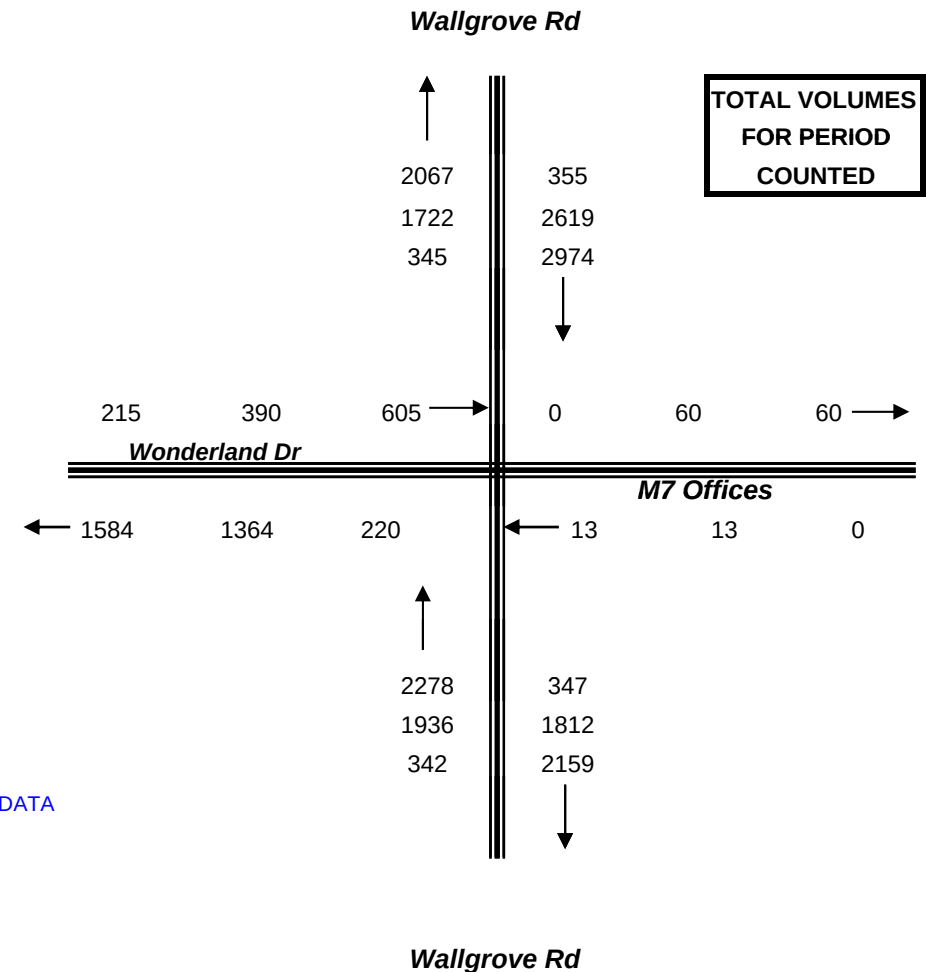
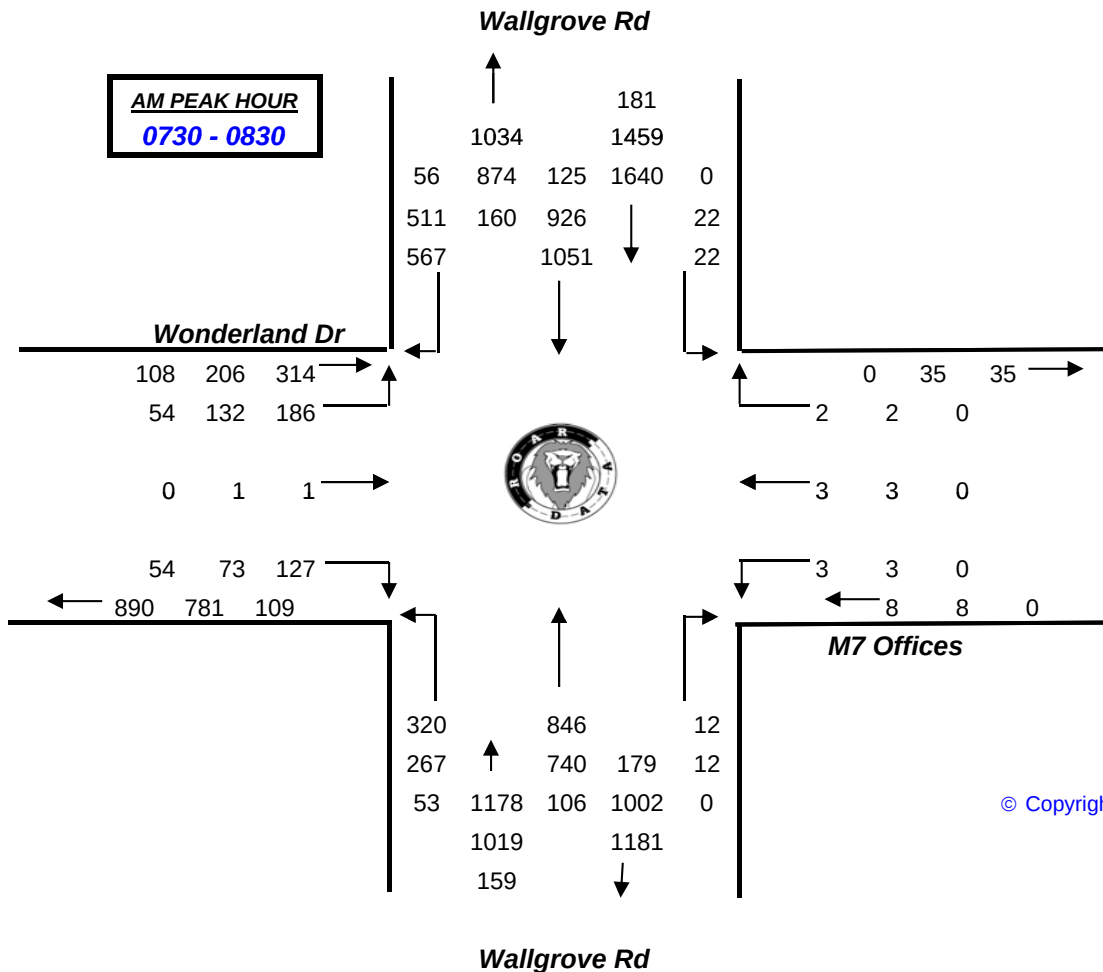
Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Lights

Lights	NORTH			WEST			SOUTH			EAST			TOT
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	
1100 - 1115	0	130	31	46	0	29	13	123	0	2	0	0	374
1115 - 1130	0	135	39	48	0	28	15	131	1	1	1	1	400
1130 - 1145	0	143	49	56	0	22	24	130	0	2	0	2	428
1145 - 1200	1	153	66	49	1	31	32	124	1	0	1	0	459
1200 - 1215	1	115	47	116	0	36	16	127	0	3	2	1	464
1215 - 1230	0	122	38	70	0	33	20	158	1	0	0	0	442
1230 - 1245	1	105	43	64	0	37	20	101	1	0	1	0	373
1245 - 1300	0	104	52	50	0	21	47	138	3	3	0	1	419
Period End	3	1007	365	499	1	237	187	1032	7	11	5	5	3359

Lights

Lights	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1100 - 1200	1	561	185	199	1	110	84	508	2	5	2	3	1661
1115 - 1215	2	546	201	269	1	117	87	512	2	6	4	4	1751
1130 - 1230	2	533	200	291	1	122	92	539	2	5	3	3	1793
1145 - 1245	3	495	194	299	1	137	88	510	3	3	4	1	1738
1200 - 1300	2	446	180	300	0	127	103	524	5	6	3	2	1698
PEAK HOUR	2	533	200	291	1	122	92	539	2	5	3	3	1793

Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1100 - 1115	0	165	48	69	0	41	24	160	0	2	0	0	509
1115 - 1130	0	164	52	65	0	46	33	171	1	1	1	1	535
1130 - 1145	0	188	68	74	0	40	31	164	0	2	0	2	569
1145 - 1200	1	191	81	64	1	47	49	147	1	0	1	0	583
1200 - 1215	1	158	64	138	0	49	27	155	0	3	2	1	598
1215 - 1230	0	165	59	86	0	42	31	179	1	0	0	0	563
1230 - 1245	1	135	58	80	0	56	28	120	1	0	1	0	480
1245 - 1300	0	138	67	56	0	39	62	166	4	4	0	1	537
Period End	3	1304	497	632	1	360	285	1262	8	12	5	5	4374

Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1100 - 1200	1	708	249	272	1	174	137	642	2	5	2	3	2196
1115 - 1215	2	701	265	341	1	182	140	637	2	6	4	4	2285
1130 - 1230	2	702	272	362	1	178	138	645	2	5	3	3	2313
1145 - 1245	3	649	262	368	1	194	135	601	3	3	4	1	2224
1200 - 1300	2	596	248	360	0	186	148	620	6	7	3	2	2178
PEAK HOUR	2	702	272	362	1	178	138	645	2	5	3	3	2313

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			TOT
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	
1100 - 1115	0	35	17	23	0	12	11	37	0	0	0	0	135
1115 - 1130	0	29	13	17	0	18	18	40	0	0	0	0	135
1130 - 1145	0	45	19	18	0	18	7	34	0	0	0	0	141
1145 - 1200	0	38	15	15	0	16	17	23	0	0	0	0	124
1200 - 1215	0	43	17	22	0	13	11	28	0	0	0	0	134
1215 - 1230	0	43	21	16	0	9	11	21	0	0	0	0	121
1230 - 1245	0	30	15	16	0	19	8	19	0	0	0	0	107
1245 - 1300	0	34	15	6	0	18	15	28	1	1	0	0	118
Period End	0	297	132	133	0	123	98	230	1	1	0	0	1015

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1100 - 1200	0	147	64	73	0	64	53	134	0	0	0	0	535
1115 - 1215	0	155	64	72	0	65	53	125	0	0	0	0	534
1130 - 1230	0	169	72	71	0	56	46	106	0	0	0	0	520
1145 - 1245	0	154	68	69	0	57	47	91	0	0	0	0	486
1200 - 1300	0	150	68	60	0	59	45	96	1	1	0	0	480
PEAK HOUR	0	169	72	71	0	56	46	106	0	0	0	0	520

Peds

Peds	NORTH	WEST	SOUTH	EAST	
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1100 - 1115					0
1115 - 1130		NOT	REQUIRED		0
1130 - 1145					0
1145 - 1200					0
1200 - 1215					0
1215 - 1230					0
1230 - 1245					0
1245 - 1300					0
Period End	0	0	0	0	0

Peds

Peds	NORTH	WEST	SOUTH	EAST	
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1100 - 1200	0	0	0	0	0
1115 - 1215	0	0	0	0	0
1130 - 1230	0	0	0	0	0
1145 - 1245	0	0	0	0	0
1200 - 1300	0	0	0	0	0
PEAK HR	0	0	0	0	0



R.O.A.R DATA

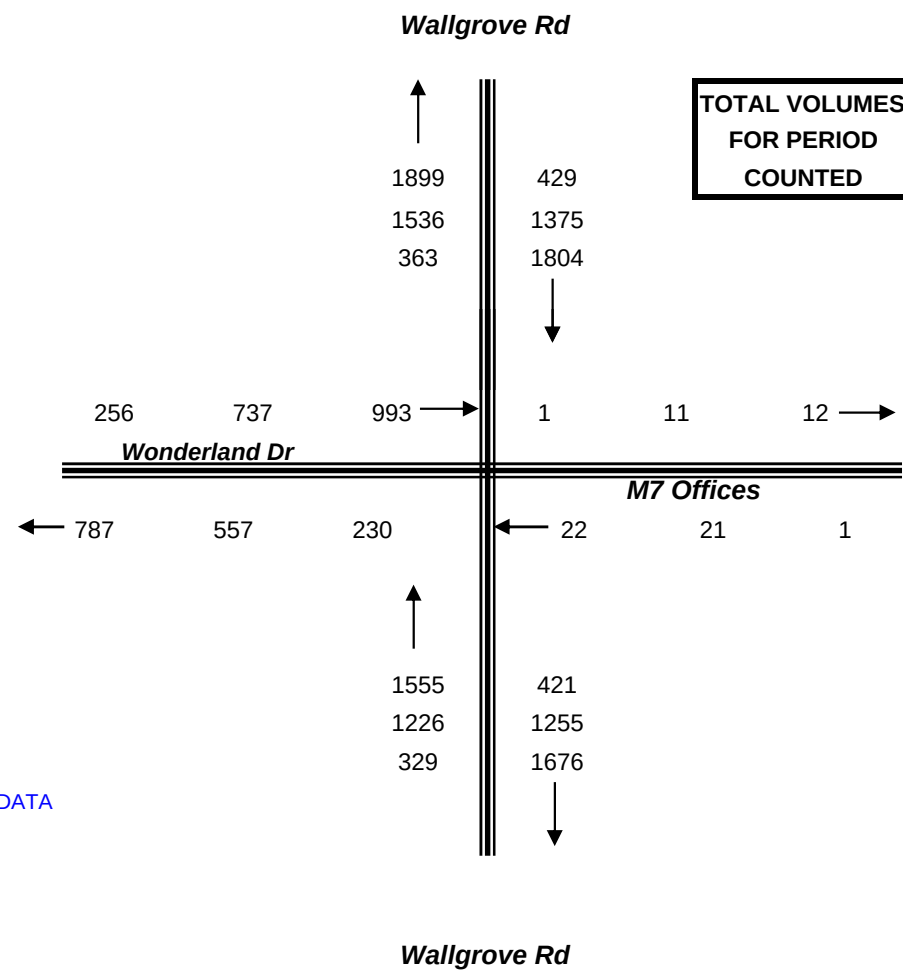
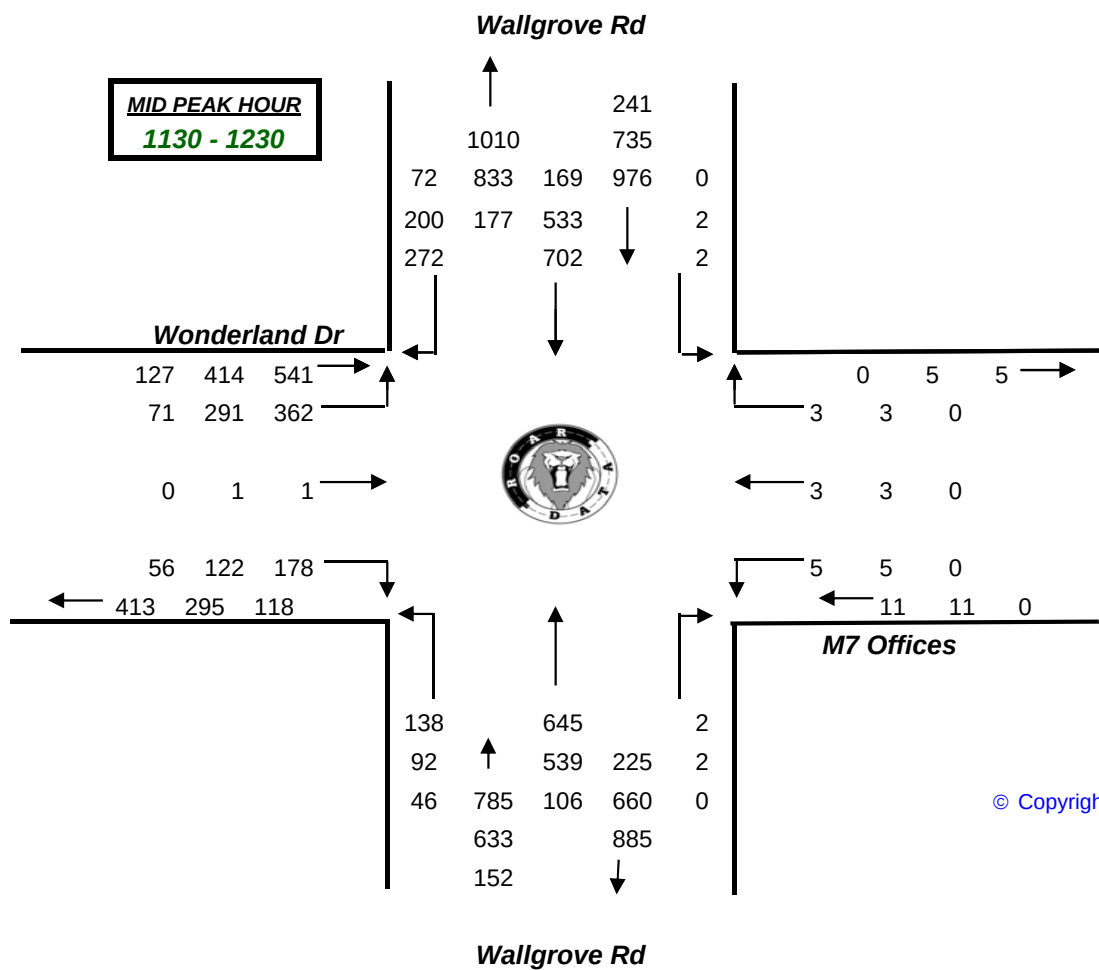
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Ph.88196847, Mob.0418-239019

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Lights

Lights	NORTH			WEST			SOUTH			EAST			TOT
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	
1600 - 1615	1	227	16	171	0	89	13	235	0	3	0	11	766
1615 - 1630	1	234	9	118	0	79	28	198	1	2	0	1	671
1630 - 1645	0	189	14	114	0	97	29	181	0	4	0	2	630
1645 - 1700	1	213	12	94	0	85	16	157	2	3	0	4	587
1700 - 1715	2	193	12	131	0	82	21	201	0	5	0	2	649
1715 - 1730	1	244	8	155	0	114	16	199	0	2	0	3	742
1730 - 1745	0	165	17	91	0	55	14	165	2	5	0	1	515
1745 - 1800	0	156	16	87	0	29	11	212	0	5	0	1	517
Period End	6	1621	104	961	0	630	148	1548	5	29	0	25	5077

Lights

Lights	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1600 - 1700	3	863	51	497	0	350	86	771	3	12	0	18	2654
1615 - 1715	4	829	47	457	0	343	94	737	3	14	0	9	2537
1630 - 1730	4	839	46	494	0	378	82	738	2	14	0	11	2608
1645 - 1745	4	815	49	471	0	336	67	722	4	15	0	10	2493
1700 - 1800	3	758	53	464	0	280	62	777	2	17	0	7	2423

PEAK HOUR	3	863	51	497	0	350	86	771	3	12	0	18	2654
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Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1600 - 1615	1	255	24	176	0	96	22	252	0	3	0	11	840
1615 - 1630	1	253	15	128	0	89	39	207	1	2	0	1	736
1630 - 1645	0	211	19	119	0	103	39	187	0	4	0	2	684
1645 - 1700	1	238	20	104	0	95	23	168	2	3	0	4	658
1700 - 1715	2	216	15	136	0	97	32	208	0	5	0	2	713
1715 - 1730	1	261	13	160	0	124	28	214	0	2	0	3	806
1730 - 1745	0	187	23	100	0	62	18	174	2	5	0	1	572
1745 - 1800	0	174	22	93	0	42	24	219	0	5	0	1	580
Period End	6	1795	151	1016	0	708	225	1629	5	29	0	25	5589

Combined

Combined	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1600 - 1700	3	957	78	527	0	383	123	814	3	12	0	18	2918
1615 - 1715	4	918	69	487	0	384	133	770	3	14	0	9	2791
1630 - 1730	4	926	67	519	0	419	122	777	2	14	0	11	2861
1645 - 1745	4	902	71	500	0	378	101	764	4	15	0	10	2749
1700 - 1800	3	838	73	489	0	325	102	815	2	17	0	7	2671

PEAK HOUR	3	957	78	527	0	383	123	814	3	12	0	18	2918
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Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Time Per	L	I	R	L	I	R	L	I	R	L	I	R	TOT
1600 - 1615	0	28	8	5	0	7	9	17	0	0	0	0	74
1615 - 1630	0	19	6	10	0	10	11	9	0	0	0	0	65
1630 - 1645	0	22	5	5	0	6	10	6	0	0	0	0	54
1645 - 1700	0	25	8	10	0	10	7	11	0	0	0	0	71
1700 - 1715	0	23	3	5	0	15	11	7	0	0	0	0	64
1715 - 1730	0	17	5	5	0	10	12	15	0	0	0	0	64
1730 - 1745	0	22	6	9	0	7	4	9	0	0	0	0	57
1745 - 1800	0	18	6	6	0	13	13	7	0	0	0	0	63
Period End	0	174	47	55	0	78	77	81	0	0	0	0	512

Heavies

Heavies	NORTH			WEST			SOUTH			EAST			TOT
	Wallgrove Rd			Wonderland Dr			Wallgrove Rd			M7 Offices			
Peak Time	L	I	R	L	I	R	L	I	R	L	I	R	
1600 - 1700	0	94	27	30	0	33	37	43	0	0	0	0	264
1615 - 1715	0	89	22	30	0	41	39	33	0	0	0	0	254
1630 - 1730	0	87	21	25	0	41	40	39	0	0	0	0	253
1645 - 1745	0	87	22	29	0	42	34	42	0	0	0	0	256
1700 - 1800	0	80	20	25	0	45	40	38	0	0	0	0	248

PEAK HOUR	0	94	27	30	0	33	37	43	0	0	0	0	264
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Peds

Peds	NORTH	WEST	SOUTH	EAST	TOT
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	
1600 - 1615					0
1615 - 1630		NOT	REQUIRED		0
1630 - 1645					0
1645 - 1700					0
1700 - 1715					0
1715 - 1730					0
1730 - 1745					0
1745 - 1800					0
Period End	0	0	0	0	0

Peds

Peds	NORTH	WEST	SOUTH	EAST	
	Wallgrove Rd	Wonderland Dr	Wallgrove Rd	M7 Offices	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1600 - 1700	0	0	0	0	0
1615 - 1715	0	0	0	0	0
1630 - 1730	0	0	0	0	0
1645 - 1745	0	0	0	0	0
1700 - 1800	0	0	0	0	0

PEAK HR	0			0			0			0			0
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R.O.A.R DATA

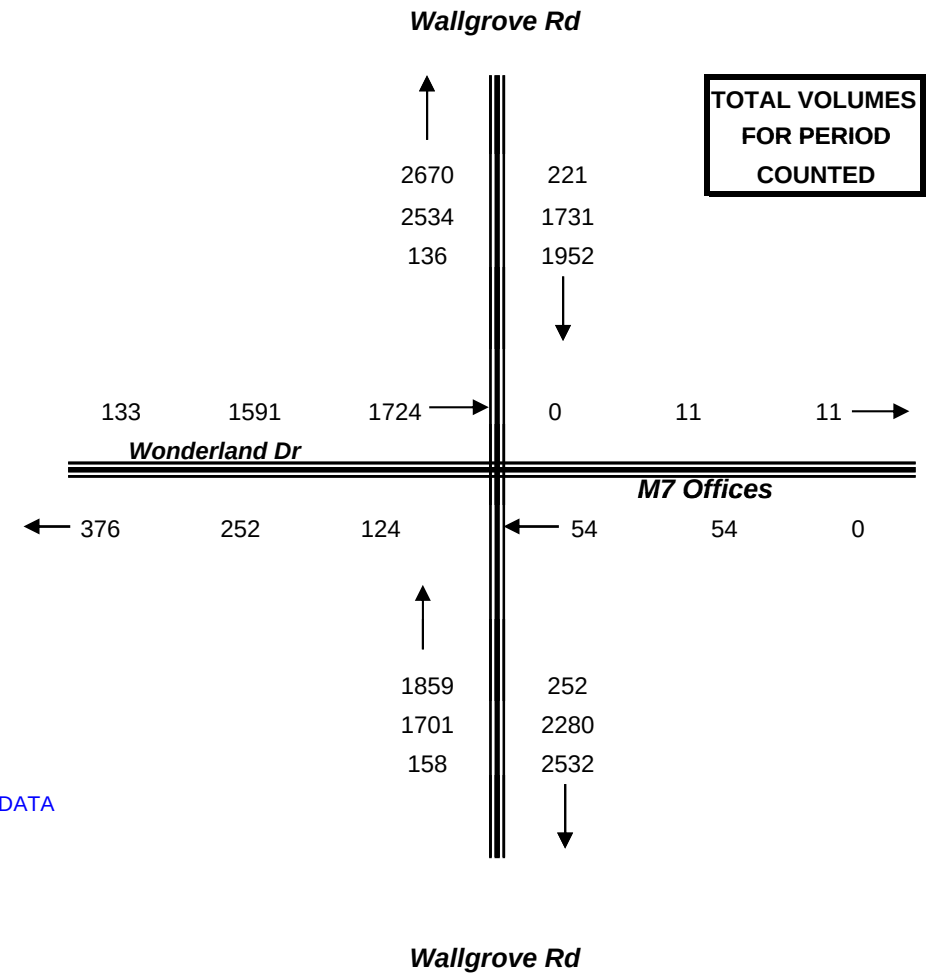
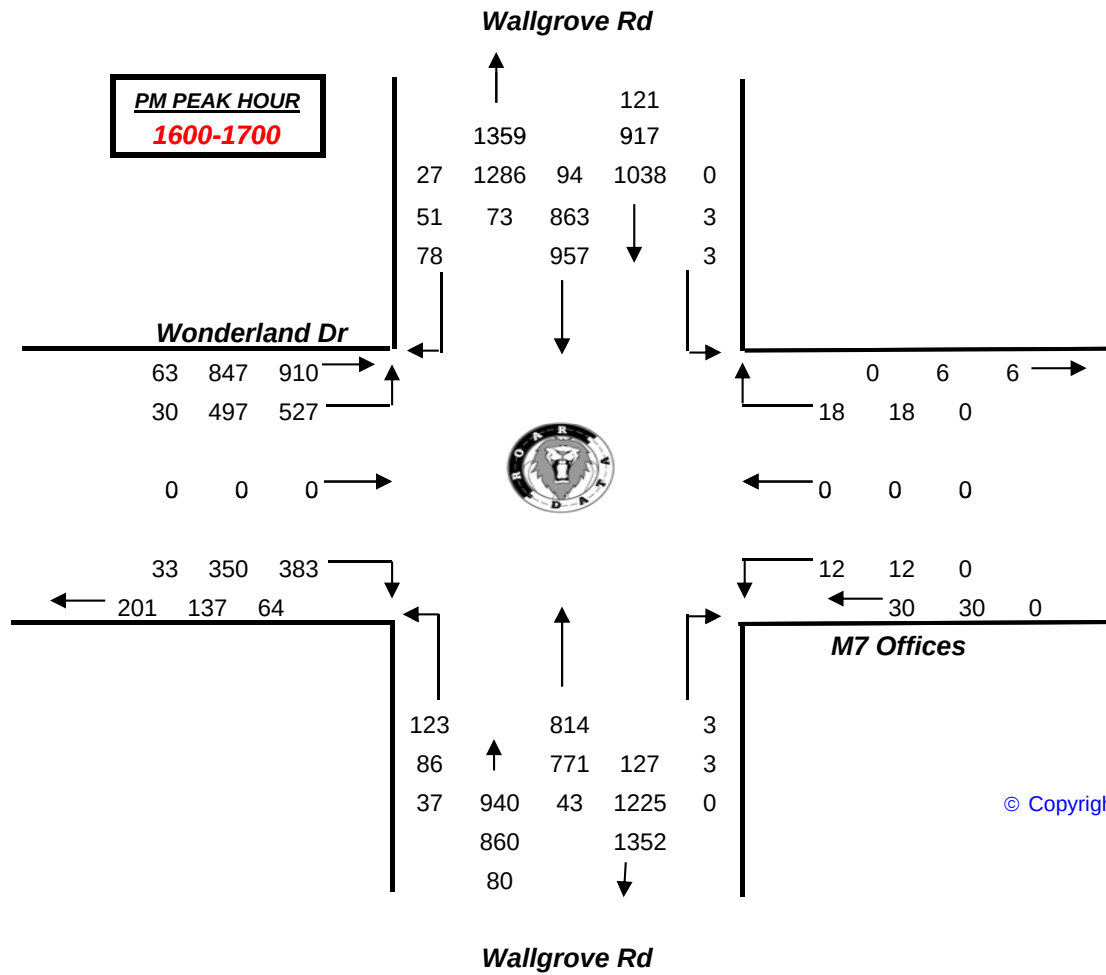
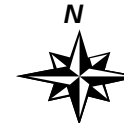
Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : EMM

Job No/Name : 6511 EASTERN CREEK Dial a Dump

Day/Date : Thursday 27th July 2017



Appendix C

Site Weighbridge Data

Truck Type

Business Unit & Product Type

Incoming

Quad A - MPC

	Concrete Aggr	Bin Truck	8 Wheeler	10 Wheeler	B Double	Bogie Tipper	Small Tipper (Daihatsu)	Compactor Truck	Pantech	Quad Dog	Quin Dog	Semi Tipper	Single Axle Tipper	Truck & Dog	Trailer	Ute	Walking Floor
Commercial Waste	37																
General	856	11	1	1	127	65	40	2	13			77	66	67	14	9	177
Green Waste	4				2	3						1			4	3	
Gyprock				2									5			3	
Heavies									7			2		58			
Non Recycleable Waste	43	1						5				1	1	1	2	1	
Timber	1				1	1						1	2				
Totals for April 2017	941	12	1	3	130	69	40	7	20			81	74	126	20	16	177
Average over 22.5 Work Days	41.8	0.5	0.0	0.1	5.8	3.1	1.8	0.3	0.9			3.6	3.3	5.6	0.9	0.7	7.9

Quad A - Crushing & Screening

Asphalt					13								5	7	1		
Brick	93	39			160	34		1	25			129	47	229	6	3	
Concrete	45	52	7		298	18		2	52			146	39	453	5		
GSWR														3			
Oversized Concrete	25	11			48	2			5			73	15	34	5		
Concrete Pours	323																
Sandstone					1				160			10	1	591			
Wash Out				2	10				12					30			
Totals for April 2017	323	163	102	7	2	530	54	0	3	254		358	107	1347	17	3	0
Average over 22.5 Work Days	14.4	7.2	4.5	0.3	0.1	23.6	2.4	0.0	0.1	11.3		15.9	4.8	59.9	0.8	0.1	0.0

Quad L - Landfill

Asbestos	38	3			15	45						13	13	4	9	2	
Asbestos Soil	19	48	77		421				136			56	1	442			
Asbestos waste	12	1			2							3	2	2			
Commercial Waste	26																
Flock									111	56							
General	3						195					1		3			103
GSW	12	2	5	1	198	8	1		58				17	102			
Mill Rejects												35					
MRF Baled																	75
MRF Loose									31					11			36
Non Recycleable Waste	10				3	2	2					3	5	1			
Totals for April 2017	0	120	54	82	1	639	55	198	0	336	56	111	38	565	9	2	214
Average over 22.5 Work Days	0.0	5.3	2.4	3.6	0.0	28.4	2.4	8.8	0.0	14.9		4.9	1.7	25.1	0.4	0.1	9.5

Outgoing (Sales)

Quad A - MPC Timber & Metal

Forest Fines Natural			2		2								1	4			
Forest Fines RED												1					
Forest Course													1				1
Blower Mulch Natural			1	1					1			4					
Euc Mulch																	3
Hardwood																	4
Black Iron												31					
Mixed Non Ferrous												2					
Stainless	1																
Totals for April 2017	0	1	0	3	1	2	0	0	0	1	0	33	5	2	4	0	8
Average over 22.5 Work Days	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.5	0.2	0.1	0.2	0.0	0.4

Quad A - Crushing & Screening

10mm Ag	1	6	1		32				23		3	3	30	3			
20mm Ag	2	8	2		60	2			13		1	7	42				
40-70	5	5	4		44	4			13		5	12	28	2			
Bedding Sand	8	13	13		62				105		3	5	252	1			
DGB20		12	25		55	3			166	6		10	232	2			
Selected Fill	3	6			5				4		1		13				
Steel Reo											7						
Totals for April 2017	0	19	50	45	0	258	9	0	0	324	6	20	37	597	8	0	0
Average over 22.5 Work Days	0.0	0.8	2.2	2.0	0.0	11.5	0.4	0.0	0.0	14.4	0.3	0.9	1.6	26.5	0.4	0.0	0.0

Site Total for April 2017	323	1244	218	138	7	1559	187	238	10	935	62	603	261	2637	58	21	399
Site Average over 22.5 Work Days	14.4	55.3	9.7	6.1	0.3	69.3	8.3	10.6	0.4	41.6	2.8	26.8	11.6	117.2	2.6	0.9	17.7

Total
8900
395.56

Range

Table

Field

Range

Weigh bridge transaction histor Date
 Weigh bridge transaction histor Site
 Weigh bridge transaction histor Status

27.7.17
 gen
 !Voided

DIAL A DUMP INDUSTRIES P/L

Page 1

11/08/2017

Weigh bridge transaction by Item

Maxzine Walters

05:52:07 am

Docket#	Item	Net	m3	QTY
2	10mm BA	22.94	22.00	0.00
3	20mm BA	74.08	91.00	0.00
3	40-70 CA	55.20	62.00	0.00
3	Asbestos	5.56	14.00	0.00
45	Asbestos Soils	986.28	1,540.00	0.00
14	Asbestos Waste	104.40	171.00	0.00
8	Bedding Sand	197.48	483.00	0.00
35	Brick	493.22	739.50	0.00
7	Commercial Waste	27.44	224.00	0.00
44	Concrete	611.38	866.00	0.00
39	DGB20	749.96	1,446.00	0.00
12	Flock	285.26	1,320.00	0.00
1	ForestFinesNatural	4.32	20.00	20.00
100	General	593.38	2,301.00	221.02
3	Green	5.60	32.50	0.00
47	GSW	918.58	1,184.00	0.00
1	GswR	14.64	12.00	0.00
1	Mill Rejects	22.32	30.00	0.00
7	MPC Heavies	138.98	270.00	0.00
4	MRF Baled	78.64	440.00	0.00
3	MRF Loose	36.20	290.00	0.00
1	Non Recycable Waste	2.40	30.00	0.00
1	OS Concrete	22.84	40.00	0.00
0	Overweight	0.00	26.00	0.00
18	Pours	158.62	111.00	0.00
0	Reject Load	0.00	48.00	0.00
0	Reject Load ASB	0.00	53.00	0.00
1	TimberEX	20.12	110.00	0.00
0	Transport	0.00	80.00	60.00
0	Truck Reload	0.00	59.00	3.00
4	Washout	120.22	210.00	0.00
3	WasteExW2R	70.62	180.00	0.00
3	Wet Washout	79.44	270.00	0.00
2	xBlack Iron	32.76	60.00	0.00
1	xMixed Non Ferrous	13.12	30.00	0.00
416	Grand Total	5,946.00	12,424.50	304.02

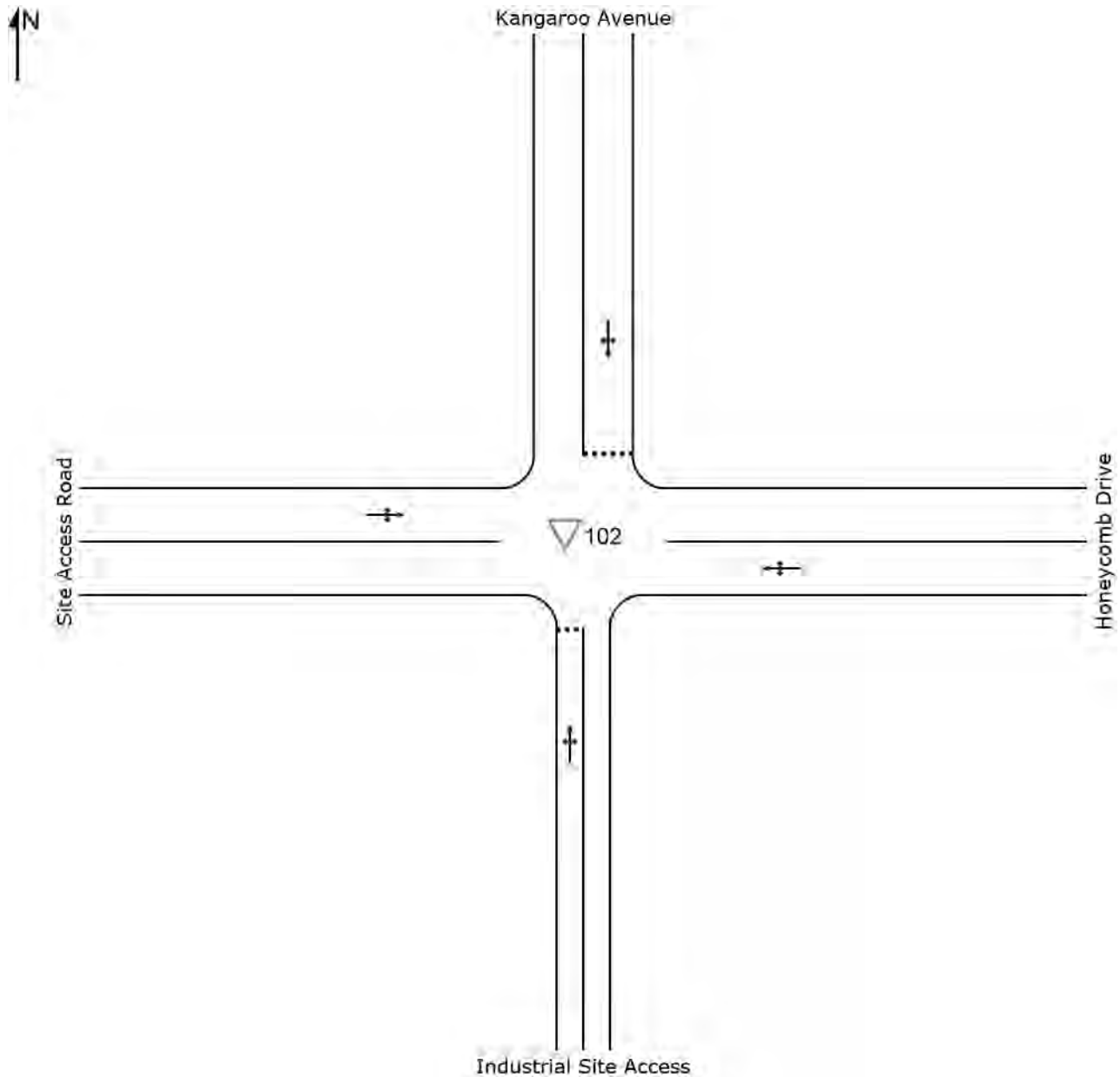
Appendix D

SIDRA Intersection results

SITE LAYOUT

▽ Site: 102 [Site Access Road AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

▽ Site: 102 [Site Access Road AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
1	L2	1	0.0	0.003	3.6	LOS A	0.0	0.1	0.20	0.42	38.4
2	T1	1	0.0	0.003	3.6	LOS A	0.0	0.1	0.20	0.42	42.2
3	R2	1	0.0	0.003	5.2	LOS A	0.0	0.1	0.20	0.42	42.0
Approach		3	0.0	0.003	4.1	LOS A	0.0	0.1	0.20	0.42	40.8
East: Honeycomb Drive											
4	L2	5	20.0	0.131	4.9	LOS A	0.7	5.4	0.17	0.41	42.2
5	T1	54	49.0	0.131	1.6	LOS A	0.7	5.4	0.17	0.41	42.1
6	R2	160	9.9	0.131	4.8	LOS A	0.7	5.4	0.17	0.41	46.8
Approach		219	19.7	0.131	4.0	NA	0.7	5.4	0.17	0.41	45.5
North: Kangaroo Avenue											
7	L2	72	29.4	0.058	5.0	LOS A	0.2	2.1	0.14	0.50	45.9
8	T1	1	0.0	0.058	5.0	LOS A	0.2	2.1	0.14	0.50	42.4
9	R2	2	100.0	0.058	8.8	LOS A	0.2	2.1	0.14	0.50	42.3
Approach		75	31.0	0.058	5.1	LOS A	0.2	2.1	0.14	0.50	45.7
West: Site Access Road											
10	L2	6	50.0	0.031	3.7	LOS A	0.0	0.1	0.01	0.07	42.9
11	T1	40	63.2	0.031	0.0	LOS A	0.0	0.1	0.01	0.07	44.3
12	R2	1	0.0	0.031	3.6	LOS A	0.0	0.1	0.01	0.07	39.9
Approach		47	60.0	0.031	0.6	NA	0.0	0.1	0.01	0.07	44.0
All Vehicles		344	27.5	0.131	3.8	NA	0.7	5.4	0.14	0.38	45.3

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY

 **Site: 102 [Site Access Road PM peak]**

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
1	L2	1	0.0	0.003	3.5	LOS A	0.0	0.1	0.13	0.40	38.4
2	T1	1	100.0	0.003	4.0	LOS A	0.0	0.1	0.13	0.40	41.8
3	R2	1	0.0	0.003	4.9	LOS A	0.0	0.1	0.13	0.40	42.0
Approach		3	33.3	0.003	4.0	LOS A	0.0	0.1	0.13	0.40	40.7
East: Honeycomb Drive											
4	L2	1	0.0	0.035	4.9	LOS A	0.2	1.5	0.19	0.35	42.5
5	T1	23	59.1	0.035	1.7	LOS A	0.2	1.5	0.19	0.35	42.3
6	R2	28	33.3	0.035	5.2	LOS A	0.2	1.5	0.19	0.35	46.8
Approach		53	44.0	0.035	3.7	NA	0.2	1.5	0.19	0.35	44.6
North: Kangaroo Avenue											
7	L2	161	8.5	0.114	5.0	LOS A	0.5	3.7	0.20	0.51	46.0
8	T1	1	0.0	0.114	4.4	LOS A	0.5	3.7	0.20	0.51	42.2
9	R2	1	100.0	0.114	6.9	LOS A	0.5	3.7	0.20	0.51	42.2
Approach		163	9.0	0.114	5.0	LOS A	0.5	3.7	0.20	0.51	46.0
West: Site Access Road											
10	L2	1	100.0	0.047	3.7	LOS A	0.0	0.1	0.00	0.02	43.3
11	T1	87	15.7	0.047	0.0	LOS A	0.0	0.1	0.00	0.02	44.8
12	R2	1	0.0	0.047	3.4	LOS A	0.0	0.1	0.00	0.02	40.2
Approach		89	16.5	0.047	0.1	NA	0.0	0.1	0.00	0.02	44.7
All Vehicles		308	17.4	0.114	3.3	NA	0.5	3.7	0.14	0.34	45.3

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

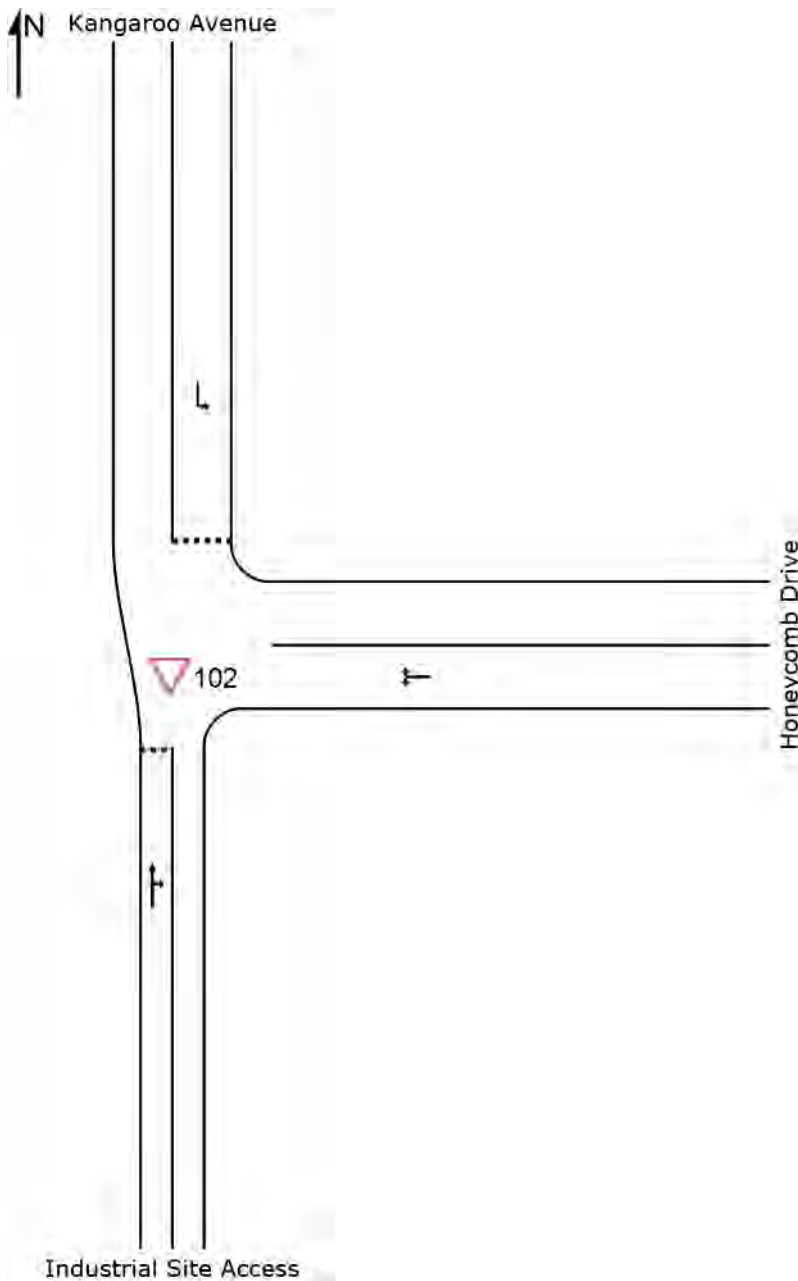
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

▽ Site: 102 [Modified Intersection AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

▽ Site: 102 [Modified Intersection AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
2	T1	1	0.0	0.002	3.1	LOS A	0.0	0.0	0.32	0.42	42.1
3	R2	1	0.0	0.002	4.8	LOS A	0.0	0.0	0.32	0.42	41.9
Approach		2	0.0	0.002	4.0	LOS A	0.0	0.0	0.32	0.42	42.0
East: Honeycomb Drive											
4	L2	5	20.0	0.124	4.8	LOS A	0.0	0.0	0.00	0.50	46.4
6	R2	214	19.7	0.124	4.7	LOS A	0.0	0.0	0.00	0.50	46.8
Approach		219	19.7	0.124	4.7	NA	0.0	0.0	0.00	0.50	46.8
North: Kangaroo Avenue											
7	L2	112	41.5	0.072	4.9	LOS A	0.0	0.0	0.00	0.52	46.0
Approach		112	41.5	0.072	4.9	LOS A	0.0	0.0	0.00	0.52	46.0
All Vehicles		333	26.9	0.124	4.8	NA	0.0	0.0	0.00	0.50	46.5

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY

 **Site: 102 [Modified Intersection PM peak]**

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
2	T1	2	50.0	0.003	2.9	LOS A	0.0	0.1	0.15	0.39	42.0
3	R2	1	0.0	0.003	4.6	LOS A	0.0	0.1	0.15	0.39	42.3
Approach		3	33.3	0.003	3.5	LOS A	0.0	0.1	0.15	0.39	42.1
East: Honeycomb Drive											
4	L2	1	0.0	0.034	4.6	LOS A	0.0	0.0	0.00	0.49	46.7
6	R2	52	44.9	0.034	4.9	LOS A	0.0	0.0	0.00	0.49	46.5
Approach		53	44.0	0.034	4.9	NA	0.0	0.0	0.00	0.49	46.5
North: Kangaroo Avenue											
7	L2	248	11.0	0.133	4.7	LOS A	0.0	0.0	0.00	0.53	46.5
Approach		248	11.0	0.133	4.7	LOS A	0.0	0.0	0.00	0.53	46.5
All Vehicles		304	17.0	0.133	4.7	NA	0.0	0.1	0.00	0.52	46.4

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

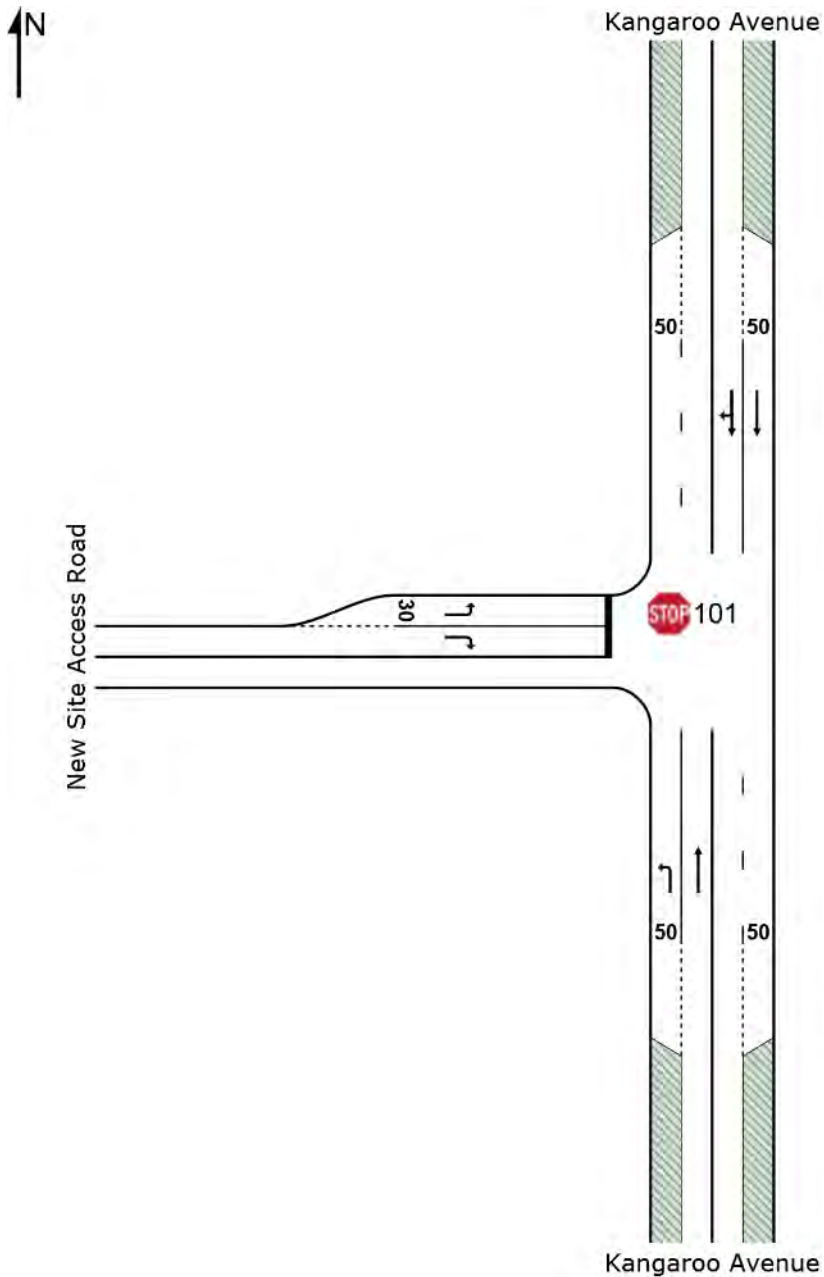
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

 Site: 101 [New Site Access AM peak hour]

New Site
Stop (Two-Way)



MOVEMENT SUMMARY



Site: 101 [New Site Access AM peak hour]

New Site

Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kangaroo Avenue											
1	L2	54	49.0	0.039	5.0	LOS A	0.0	0.0	0.00	0.52	45.9
2	T1	160	9.9	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		214	19.7	0.087	1.3	NA	0.0	0.0	0.00	0.13	48.9
North: Kangaroo Avenue											
8	T1	72	29.4	0.036	0.1	LOS A	0.0	0.3	0.03	0.03	49.8
9	R2	2	100.0	0.036	7.2	LOS A	0.0	0.3	0.05	0.04	48.4
Approach		74	31.4	0.036	0.5	NA	0.0	0.3	0.03	0.03	49.7
West: New Site Access Road											
10	L2	6	50.0	0.008	10.5	LOS A	0.0	0.3	0.30	0.91	44.0
12	R2	40	63.2	0.088	14.1	LOS A	0.3	3.6	0.49	0.97	42.2
Approach		46	61.4	0.088	13.6	LOS A	0.3	3.6	0.47	0.96	42.4
All Vehicles		334	28.1	0.088	2.8	NA	0.3	3.6	0.07	0.22	48.1

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY



Site: 101 [New Site Access PM peak hour]

New Site

Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Kangaroo Avenue											
1	L2	23	59.1	0.018	5.1	LOS A	0.0	0.0	0.00	0.52	45.8
2	T1	28	33.3	0.018	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		52	44.9	0.018	2.3	NA	0.0	0.0	0.00	0.23	48.0
North: Kangaroo Avenue											
8	T1	161	8.5	0.068	0.0	LOS A	0.0	0.1	0.00	0.01	50.0
9	R2	1	100.0	0.068	5.5	LOS A	0.0	0.1	0.00	0.01	48.6
Approach		162	9.1	0.068	0.1	NA	0.0	0.1	0.00	0.01	50.0
West: New Site Access Road											
10	L2	1	100.0	0.001	9.6	LOS A	0.0	0.1	0.13	0.97	44.3
12	R2	87	15.7	0.129	10.0	LOS A	0.5	4.1	0.40	0.91	43.9
Approach		88	16.7	0.129	10.0	LOS A	0.5	4.1	0.40	0.91	43.9
All Vehicles		302	17.4	0.129	3.3	NA	0.5	4.1	0.12	0.31	47.7

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY

▽ Site: 102 [Modified Intersection AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
2	T1	1	0.0	0.002	3.1	LOS A	0.0	0.0	0.32	0.42	42.1
3	R2	1	0.0	0.002	4.8	LOS A	0.0	0.0	0.32	0.42	41.9
Approach		2	0.0	0.002	4.0	LOS A	0.0	0.0	0.32	0.42	42.0
East: Honeycomb Drive											
4	L2	5	20.0	0.124	4.8	LOS A	0.0	0.0	0.00	0.50	46.4
6	R2	214	19.7	0.124	4.7	LOS A	0.0	0.0	0.00	0.50	46.8
Approach		219	19.7	0.124	4.7	NA	0.0	0.0	0.00	0.50	46.8
North: Kangaroo Avenue											
7	L2	112	41.5	0.072	4.9	LOS A	0.0	0.0	0.00	0.52	46.0
Approach		112	41.5	0.072	4.9	LOS A	0.0	0.0	0.00	0.52	46.0
All Vehicles		333	26.9	0.124	4.8	NA	0.0	0.0	0.00	0.50	46.5

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

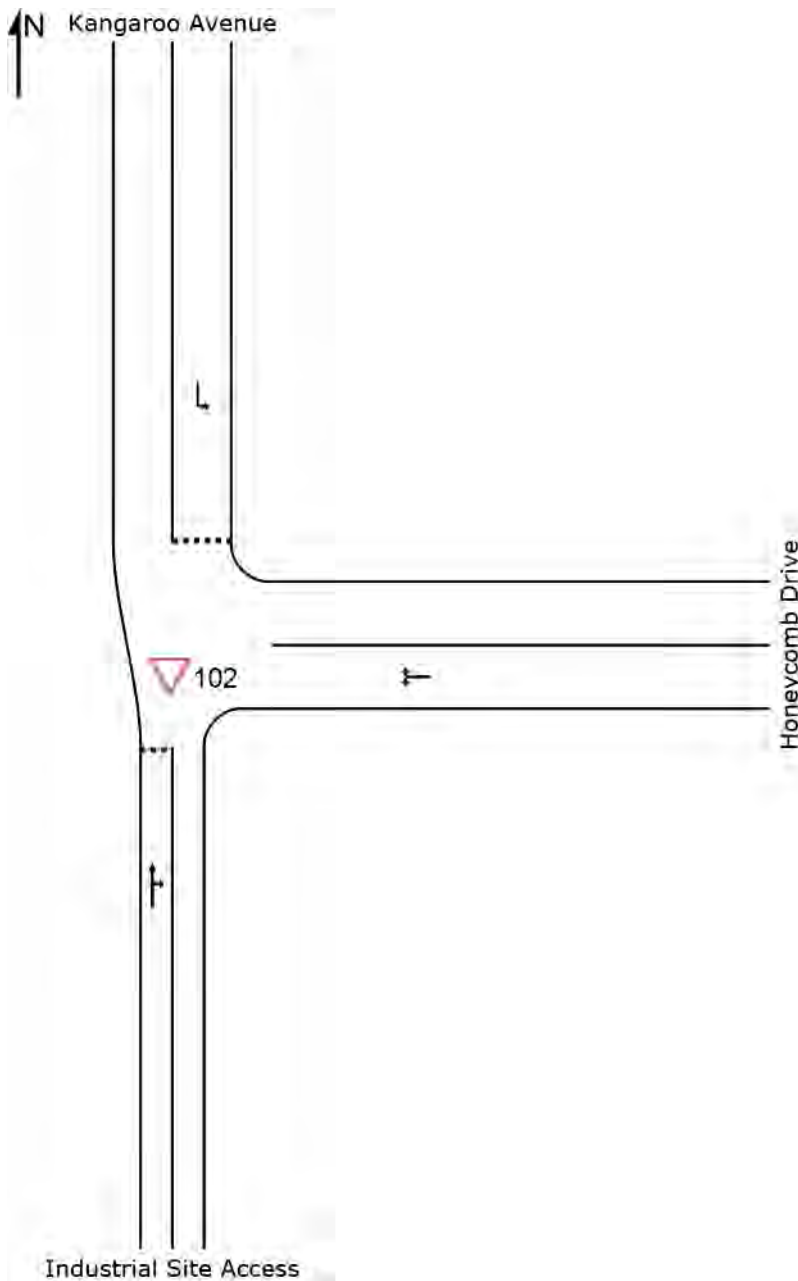
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

▽ Site: 102 [Modified Intersection AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

▽ Site: 102 [Modified Intersection PM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
2	T1	2	50.0	0.003	2.9	LOS A	0.0	0.1	0.15	0.39	42.0
3	R2	1	0.0	0.003	4.6	LOS A	0.0	0.1	0.15	0.39	42.3
Approach		3	33.3	0.003	3.5	LOS A	0.0	0.1	0.15	0.39	42.1
East: Honeycomb Drive											
4	L2	1	0.0	0.034	4.6	LOS A	0.0	0.0	0.00	0.49	46.7
6	R2	52	44.9	0.034	4.9	LOS A	0.0	0.0	0.00	0.49	46.5
Approach		53	44.0	0.034	4.9	NA	0.0	0.0	0.00	0.49	46.5
North: Kangaroo Avenue											
7	L2	248	11.0	0.133	4.7	LOS A	0.0	0.0	0.00	0.53	46.5
Approach		248	11.0	0.133	4.7	LOS A	0.0	0.0	0.00	0.53	46.5
All Vehicles		304	17.0	0.133	4.7	NA	0.0	0.1	0.00	0.52	46.4

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY



Site: 101 [New Site Access AM peak hour]

New Site

Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Kangaroo Avenue											
1	L2	54	49.0	0.039	5.0	LOS A	0.0	0.0	0.00	0.52	45.9
2	T1	160	9.9	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		214	19.7	0.087	1.3	NA	0.0	0.0	0.00	0.13	48.9
North: Kangaroo Avenue											
8	T1	72	29.4	0.036	0.1	LOS A	0.0	0.3	0.03	0.03	49.8
9	R2	2	100.0	0.036	7.2	LOS A	0.0	0.3	0.05	0.04	48.4
Approach		74	31.4	0.036	0.5	NA	0.0	0.3	0.03	0.03	49.7
West: New Site Access Road											
10	L2	6	50.0	0.008	10.5	LOS A	0.0	0.3	0.30	0.91	44.0
12	R2	40	63.2	0.088	14.1	LOS A	0.3	3.6	0.49	0.97	42.2
Approach		46	61.4	0.088	13.6	LOS A	0.3	3.6	0.47	0.96	42.4
All Vehicles		334	28.1	0.088	2.8	NA	0.3	3.6	0.07	0.22	48.1

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

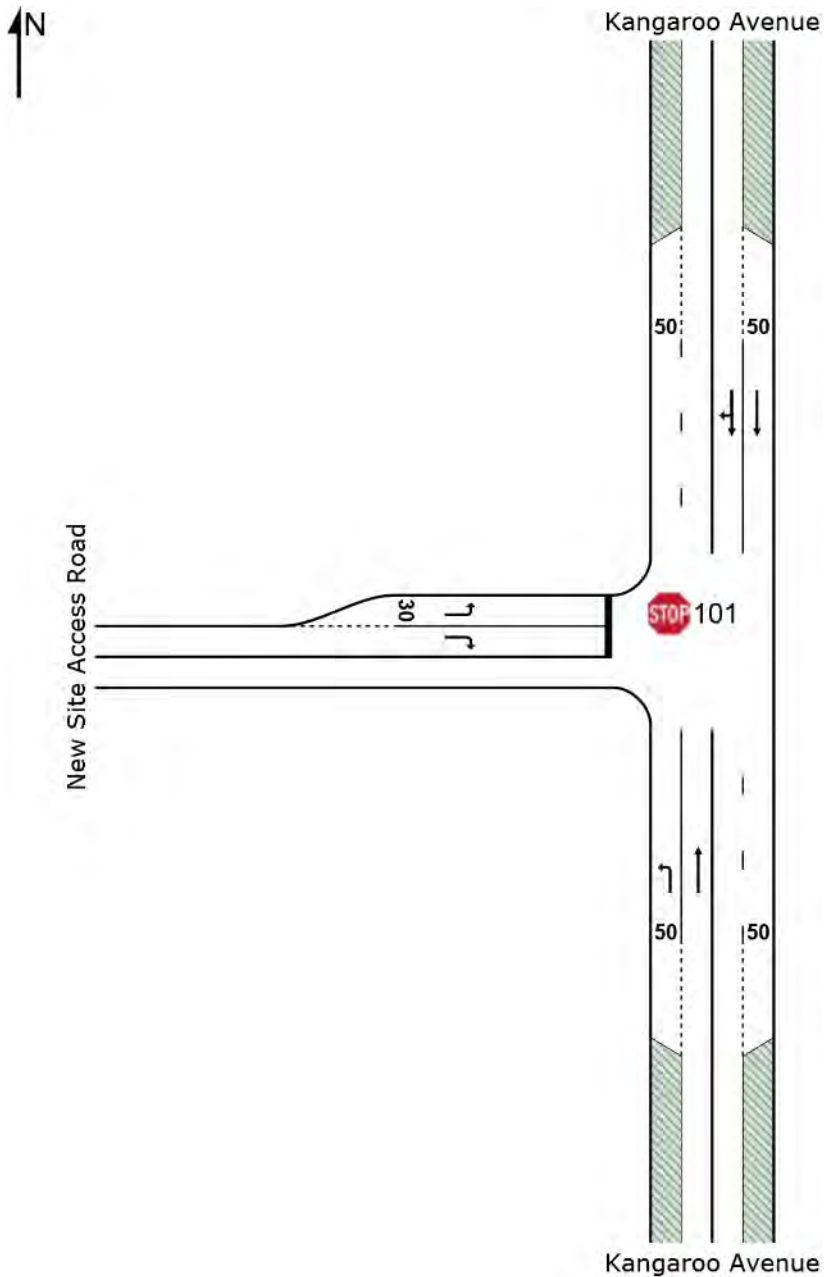
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

 Site: 101 [New Site Access AM peak hour]

New Site
Stop (Two-Way)



MOVEMENT SUMMARY

 **Site: 101 [New Site Access PM peak hour]**

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Kangaroo Avenue											
1	L2	23	59.1	0.018	5.1	LOS A	0.0	0.0	0.00	0.52	45.8
2	T1	28	33.3	0.018	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		52	44.9	0.018	2.3	NA	0.0	0.0	0.00	0.23	48.0
North: Kangaroo Avenue											
8	T1	161	8.5	0.068	0.0	LOS A	0.0	0.1	0.00	0.01	50.0
9	R2	1	100.0	0.068	5.5	LOS A	0.0	0.1	0.00	0.01	48.6
Approach		162	9.1	0.068	0.1	NA	0.0	0.1	0.00	0.01	50.0
West: New Site Access Road											
10	L2	1	100.0	0.001	9.6	LOS A	0.0	0.1	0.13	0.97	44.3
12	R2	87	15.7	0.129	10.0	LOS A	0.5	4.1	0.40	0.91	43.9
Approach		88	16.7	0.129	10.0	LOS A	0.5	4.1	0.40	0.91	43.9
All Vehicles		302	17.4	0.129	3.3	NA	0.5	4.1	0.12	0.31	47.7

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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 SUMMARY

 **Site: 102 [Site Access Road AM peak]**

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
1	L2	1	0.0	0.003	3.6	LOS A	0.0	0.1	0.20	0.42	38.4
2	T1	1	0.0	0.003	3.6	LOS A	0.0	0.1	0.20	0.42	42.2
3	R2	1	0.0	0.003	5.2	LOS A	0.0	0.1	0.20	0.42	42.0
Approach		3	0.0	0.003	4.1	LOS A	0.0	0.1	0.20	0.42	40.8
East: Honeycomb Drive											
4	L2	5	20.0	0.131	4.9	LOS A	0.7	5.4	0.17	0.41	42.2
5	T1	54	49.0	0.131	1.6	LOS A	0.7	5.4	0.17	0.41	42.1
6	R2	160	9.9	0.131	4.8	LOS A	0.7	5.4	0.17	0.41	46.8
Approach		219	19.7	0.131	4.0	NA	0.7	5.4	0.17	0.41	45.5
North: Kangaroo Avenue											
7	L2	72	29.4	0.058	5.0	LOS A	0.2	2.1	0.14	0.50	45.9
8	T1	1	0.0	0.058	5.0	LOS A	0.2	2.1	0.14	0.50	42.4
9	R2	2	100.0	0.058	8.8	LOS A	0.2	2.1	0.14	0.50	42.3
Approach		75	31.0	0.058	5.1	LOS A	0.2	2.1	0.14	0.50	45.7
West: Site Access Road											
10	L2	6	50.0	0.031	3.7	LOS A	0.0	0.1	0.01	0.07	42.9
11	T1	40	63.2	0.031	0.0	LOS A	0.0	0.1	0.01	0.07	44.3
12	R2	1	0.0	0.031	3.6	LOS A	0.0	0.1	0.01	0.07	39.9
Approach		47	60.0	0.031	0.6	NA	0.0	0.1	0.01	0.07	44.0
All Vehicles		344	27.5	0.131	3.8	NA	0.7	5.4	0.14	0.38	45.3

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

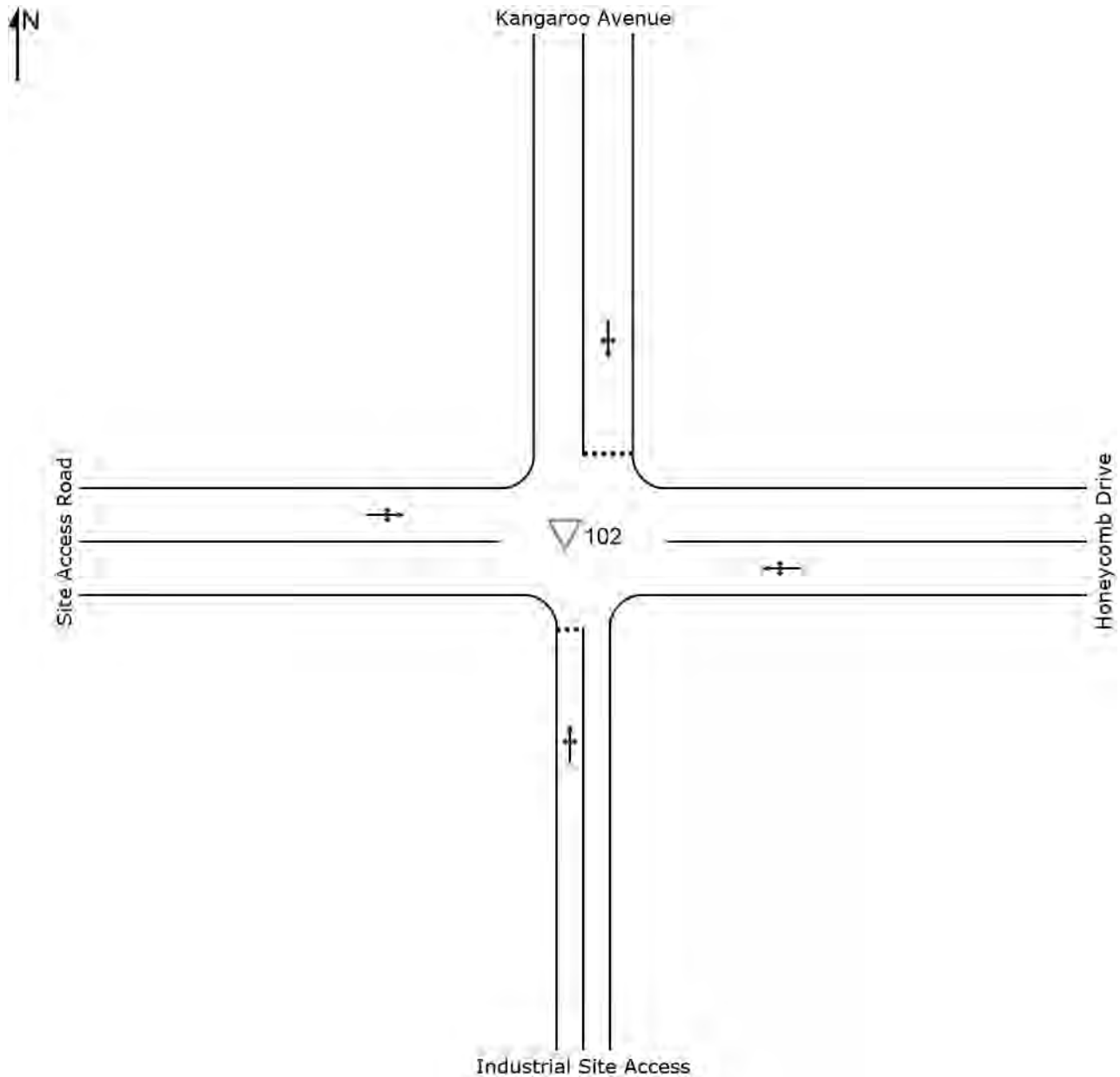
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

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

SITE LAYOUT

▽ Site: 102 [Site Access Road AM peak]

Unsignalised Intersection
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

 **Site: 102 [Site Access Road PM peak]**

Unsignalised Intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Industrial Site Access											
1	L2	1	0.0	0.003	3.5	LOS A	0.0	0.1	0.13	0.40	38.4
2	T1	1	100.0	0.003	4.0	LOS A	0.0	0.1	0.13	0.40	41.8
3	R2	1	0.0	0.003	4.9	LOS A	0.0	0.1	0.13	0.40	42.0
Approach		3	33.3	0.003	4.0	LOS A	0.0	0.1	0.13	0.40	40.7
East: Honeycomb Drive											
4	L2	1	0.0	0.035	4.9	LOS A	0.2	1.5	0.19	0.35	42.5
5	T1	23	59.1	0.035	1.7	LOS A	0.2	1.5	0.19	0.35	42.3
6	R2	28	33.3	0.035	5.2	LOS A	0.2	1.5	0.19	0.35	46.8
Approach		53	44.0	0.035	3.7	NA	0.2	1.5	0.19	0.35	44.6
North: Kangaroo Avenue											
7	L2	161	8.5	0.114	5.0	LOS A	0.5	3.7	0.20	0.51	46.0
8	T1	1	0.0	0.114	4.4	LOS A	0.5	3.7	0.20	0.51	42.2
9	R2	1	100.0	0.114	6.9	LOS A	0.5	3.7	0.20	0.51	42.2
Approach		163	9.0	0.114	5.0	LOS A	0.5	3.7	0.20	0.51	46.0
West: Site Access Road											
10	L2	1	100.0	0.047	3.7	LOS A	0.0	0.1	0.00	0.02	43.3
11	T1	87	15.7	0.047	0.0	LOS A	0.0	0.1	0.00	0.02	44.8
12	R2	1	0.0	0.047	3.4	LOS A	0.0	0.1	0.00	0.02	40.2
Approach		89	16.5	0.047	0.1	NA	0.0	0.1	0.00	0.02	44.7
All Vehicles		308	17.4	0.114	3.3	NA	0.5	3.7	0.14	0.34	45.3

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.

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

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road 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.

PHASING SUMMARY

 **Site: 101 [Wallgrove Road Access AM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase F

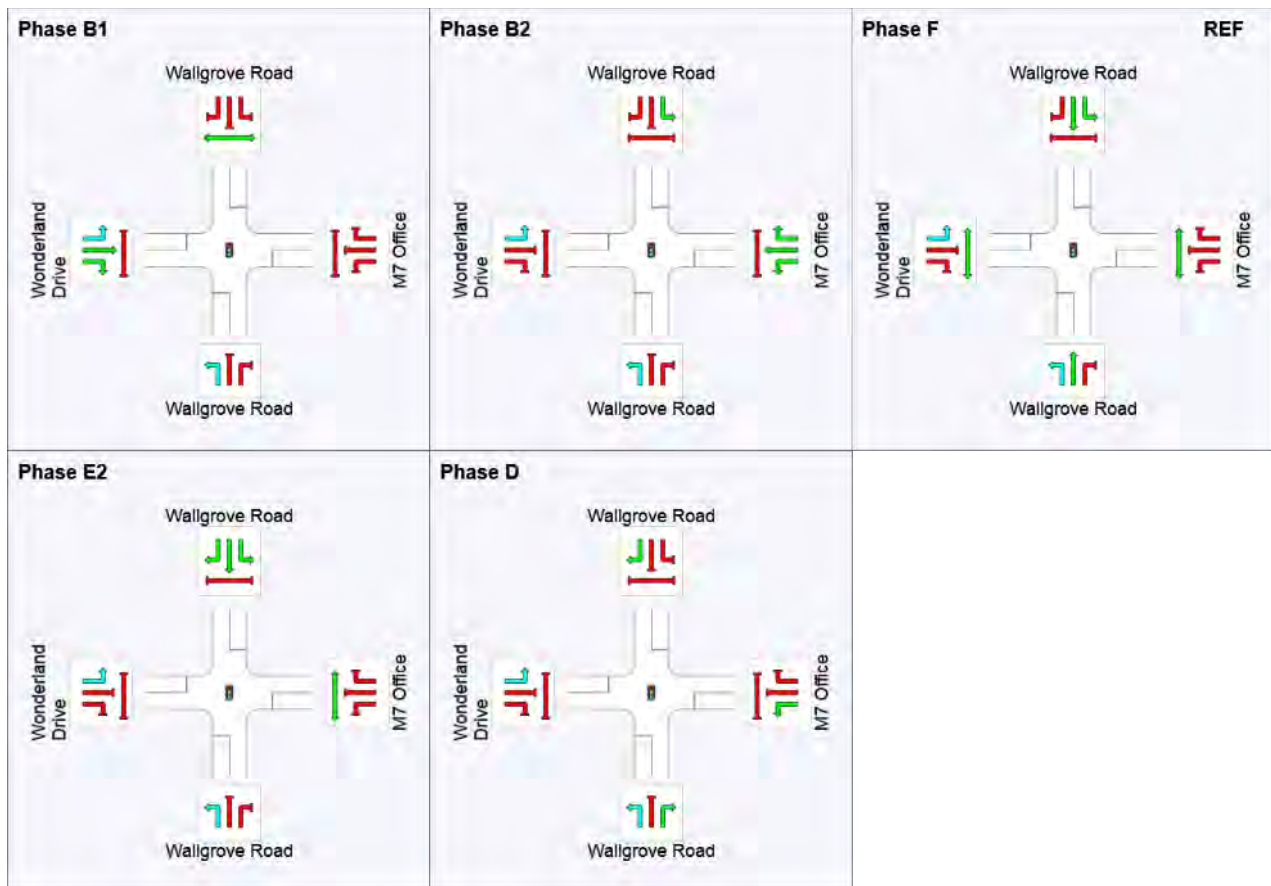
Input Phase Sequence: B1, B2, F, E2, D

Output Phase Sequence: B1, B2, F, E2, D

Phase Timing Results

Phase	B1	B2	F	E2	D
Phase Change Time (sec)	66	78	0	38	54
Green Time (sec)	6	6	32	10	6
Phase Time (sec)	12	12	38	16	12
Phase Split	13 %	13 %	42 %	18 %	13 %

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%.



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: 101 [Wallgrove Road Access AM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wallgrove Road											
1	L2	337	16.6	0.203	6.9	LOS A	0.0	0.0	0.00	0.56	56.6
2	T1	891	12.5	0.695	27.0	LOS B	16.9	131.0	0.92	0.80	46.3
3	R2	13	0.0	0.102	51.2	LOS D	0.6	3.9	0.97	0.68	31.8
Approach		1240	13.5	0.695	21.8	LOS B	16.9	131.0	0.67	0.73	48.5
East: M7 Office											
4	L2	3	0.0	0.056	34.3	LOS C	0.3	2.1	0.94	0.65	37.3
5	T1	3	0.0	0.056	29.7	LOS C	0.3	2.1	0.94	0.65	34.6
6	R2	2	0.0	0.056	34.3	LOS C	0.3	2.1	0.94	0.65	37.5
Approach		8	0.0	0.056	32.6	LOS C	0.3	2.1	0.94	0.65	36.3
North: Wallgrove Road											
7	L2	23	0.0	0.584	21.0	LOS B	16.5	127.0	0.72	0.65	46.9
8	T1	1106	11.9	0.584	15.0	LOS B	16.7	129.0	0.72	0.65	54.4
9	R2	597	9.9	0.704	41.9	LOS C	12.5	95.1	0.97	0.86	35.1
Approach		1726	11.0	0.704	24.4	LOS B	16.7	129.0	0.81	0.72	45.6
West: Wonderland Drive											
10	L2	196	29.0	0.127	4.6	LOS A	0.0	0.0	0.00	0.45	47.5
11	T1	1	0.0	0.708	50.5	LOS D	3.3	31.3	1.00	0.87	28.7
12	R2	134	42.5	0.708	55.3	LOS D	3.3	31.3	1.00	0.87	27.7
Approach		331	34.4	0.708	25.3	LOS B	3.3	31.3	0.41	0.62	36.9
All Vehicles		3305	14.3	0.708	23.5	LOS B	16.9	131.0	0.72	0.72	45.5

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 Pedestrian ped	of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	11	12.8	LOS B	0.0	0.0	0.53	0.53	
P3	North Full Crossing	11	39.2	LOS D	0.0	0.0	0.93	0.93	
P4	West Full Crossing	11	29.6	LOS C	0.0	0.0	0.81	0.81	
All Pedestrians		32	27.2	LOS C			0.76	0.76	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

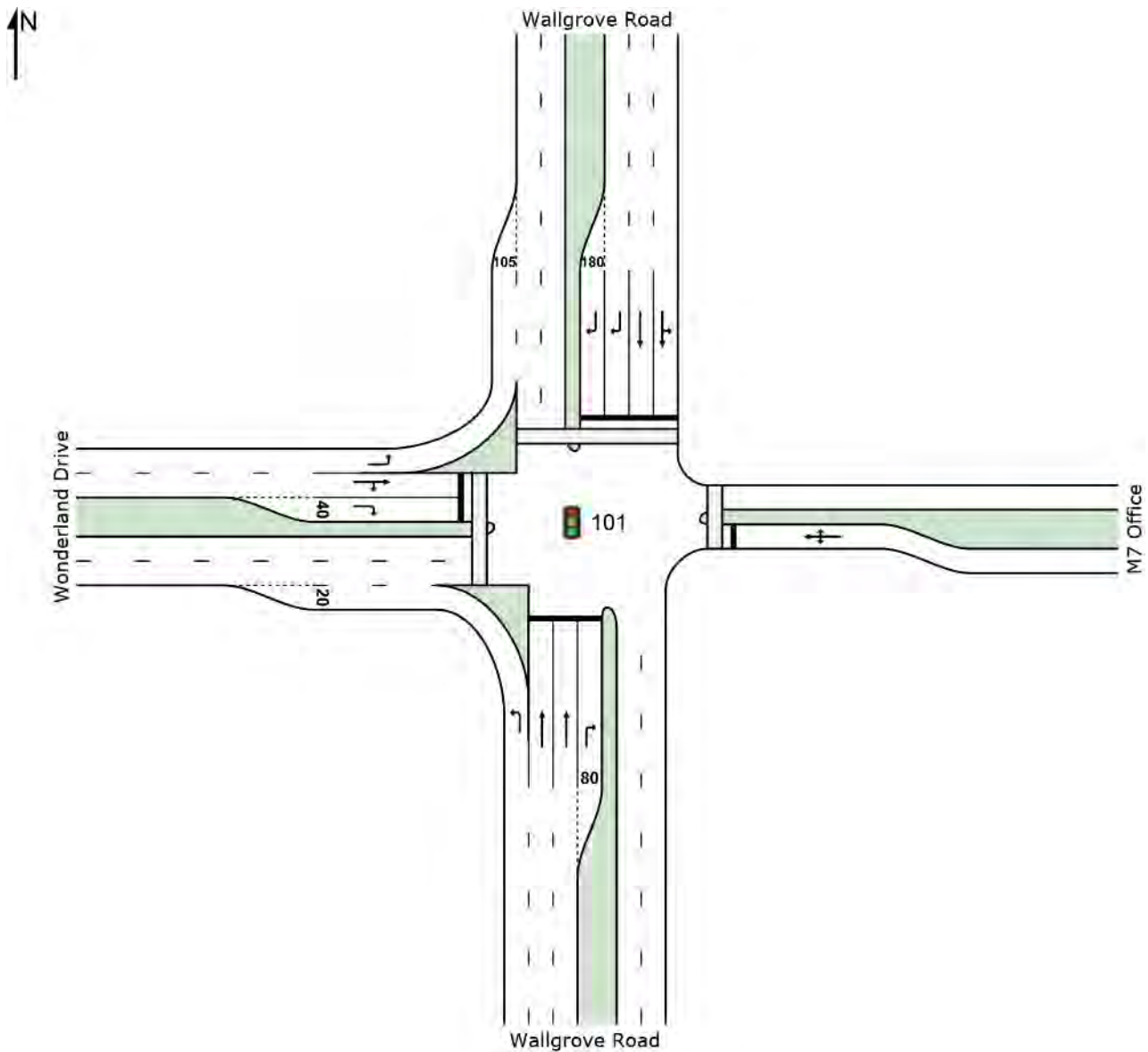
Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

SITE LAYOUT

Site: 101 [Wallgrove Road Access AM Peak]

Traffic Signal Intersection
Signals - Fixed Time Isolated



PHASING SUMMARY

 **Site: 101 [Wallgrove Road Access PM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program

Phase Sequence: Variable Phasing (phase reduction applied)

Reference Phase: Phase F

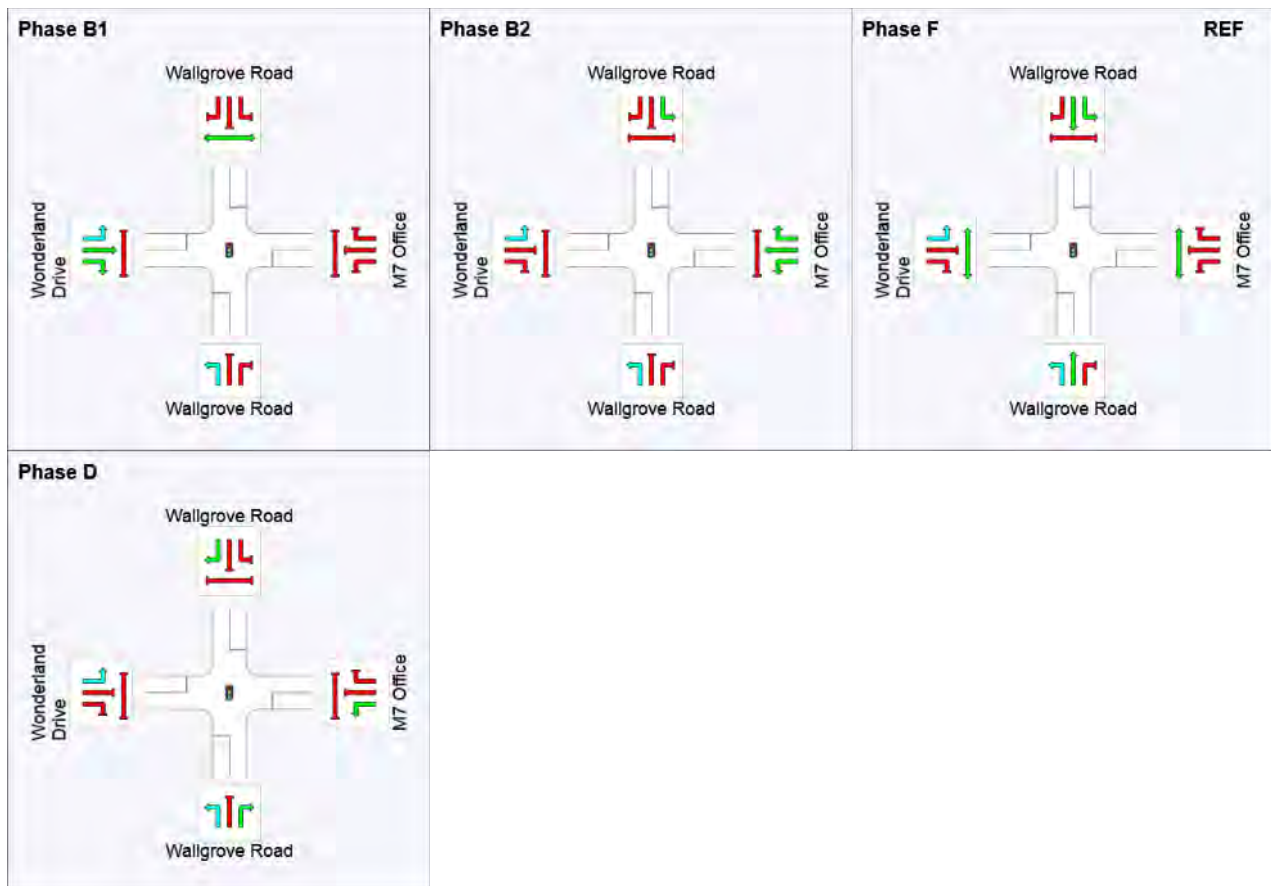
Input Phase Sequence: B1, B2, F, E2, D

Output Phase Sequence: B1, B2, F, D

Phase Timing Results

Phase	B1	B2	F	D
Phase Change Time (sec)	53	73	0	41
Green Time (sec)	14	6	35	6
Phase Time (sec)	20	12	41	12
Phase Split	24 %	14 %	48 %	14 %

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%.



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: 101 [Wallgrove Road Access PM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wallgrove Road											
1	L2	129	30.1	0.085	7.0	LOS A	0.0	0.0	0.00	0.55	53.4
2	T1	857	5.3	0.552	20.6	LOS B	13.6	99.4	0.81	0.71	50.3
3	R2	3	0.0	0.024	47.4	LOS D	0.1	0.9	0.95	0.63	32.9
Approach		989	8.5	0.552	18.9	LOS B	13.6	99.4	0.71	0.69	50.6
East: M7 Office											
4	L2	13	0.0	0.208	29.0	LOS C	1.0	6.8	0.96	0.71	38.8
5	T1	1	0.0	0.208	24.4	LOS B	1.0	6.8	0.96	0.71	35.9
6	R2	19	0.0	0.208	29.0	LOS C	1.0	6.8	0.96	0.71	39.0
Approach		33	0.0	0.208	28.8	LOS C	1.0	6.8	0.96	0.71	38.8
North: Wallgrove Road											
7	L2	3	0.0	0.669	27.7	LOS B	17.0	128.8	0.86	0.76	43.3
8	T1	1007	9.8	0.669	21.7	LOS B	17.1	129.9	0.87	0.77	49.6
9	R2	82	34.6	0.390	51.4	LOS D	1.8	16.2	0.99	0.74	32.1
Approach		1093	11.7	0.669	23.9	LOS B	17.1	129.9	0.88	0.76	47.6
West: Wonderland Drive											
10	L2	555	5.7	0.311	4.5	LOS A	0.0	0.0	0.00	0.46	47.7
11	T1	1	0.0	0.701	38.9	LOS C	8.5	63.8	1.00	0.87	31.5
12	R2	403	8.6	0.701	43.5	LOS D	8.5	63.8	1.00	0.87	33.1
Approach		959	6.9	0.701	20.9	LOS B	8.5	63.8	0.42	0.64	40.3
All Vehicles		3074	9.0	0.701	21.4	LOS B	17.1	129.9	0.68	0.70	45.8

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 Pedestrian ped	of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	11	18.5	LOS B	0.0	0.0	0.66	0.66	
P3	North Full Crossing	11	36.7	LOS D	0.0	0.0	0.93	0.93	
P4	West Full Crossing	11	24.9	LOS C	0.0	0.0	0.77	0.77	
All Pedestrians		32	26.7	LOS C			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

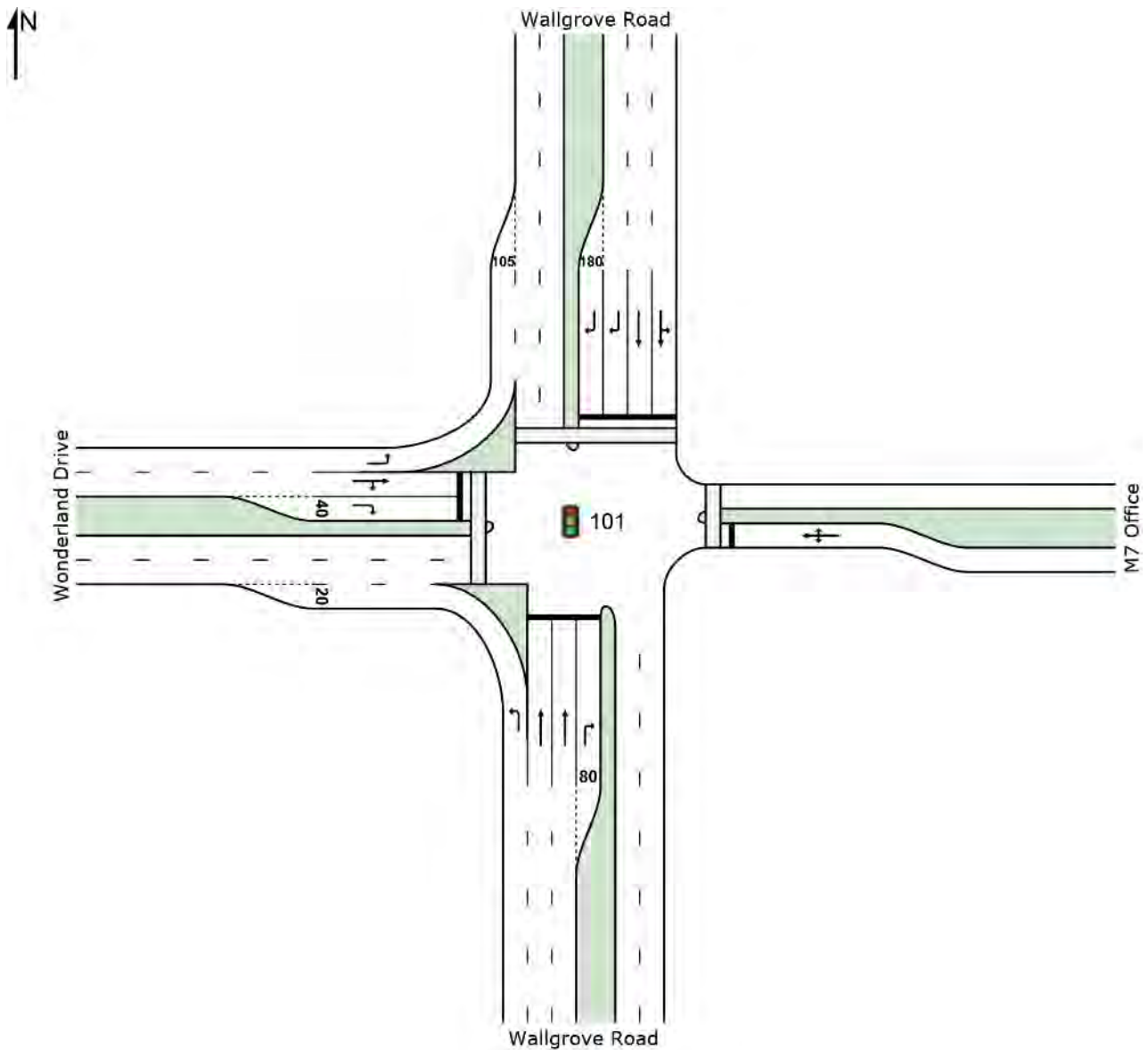
Pedestrian movement LOS values are based on average delay per pedestrian movement.

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

SITE LAYOUT

Site: 101 [Wallgrove Road Access AM Peak]

Traffic Signal Intersection
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

 **Site: 101 [Wallgrove Road Access AM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wallgrove Road											
1	L2	337	16.6	0.203	6.9	LOS A	0.0	0.0	0.00	0.56	56.6
2	T1	891	12.5	0.695	27.0	LOS B	16.9	131.0	0.92	0.80	46.3
3	R2	13	0.0	0.102	51.2	LOS D	0.6	3.9	0.97	0.68	31.8
Approach		1240	13.5	0.695	21.8	LOS B	16.9	131.0	0.67	0.73	48.5
East: M7 Office											
4	L2	3	0.0	0.056	34.3	LOS C	0.3	2.1	0.94	0.65	37.3
5	T1	3	0.0	0.056	29.7	LOS C	0.3	2.1	0.94	0.65	34.6
6	R2	2	0.0	0.056	34.3	LOS C	0.3	2.1	0.94	0.65	37.5
Approach		8	0.0	0.056	32.6	LOS C	0.3	2.1	0.94	0.65	36.3
North: Wallgrove Road											
7	L2	23	0.0	0.584	21.0	LOS B	16.5	127.0	0.72	0.65	46.9
8	T1	1106	11.9	0.584	15.0	LOS B	16.7	129.0	0.72	0.65	54.4
9	R2	597	9.9	0.704	41.9	LOS C	12.5	95.1	0.97	0.86	35.1
Approach		1726	11.0	0.704	24.4	LOS B	16.7	129.0	0.81	0.72	45.6
West: Wonderland Drive											
10	L2	196	29.0	0.127	4.6	LOS A	0.0	0.0	0.00	0.45	47.5
11	T1	1	0.0	0.708	50.5	LOS D	3.3	31.3	1.00	0.87	28.7
12	R2	134	42.5	0.708	55.3	LOS D	3.3	31.3	1.00	0.87	27.7
Approach		331	34.4	0.708	25.3	LOS B	3.3	31.3	0.41	0.62	36.9
All Vehicles		3305	14.3	0.708	23.5	LOS B	16.9	131.0	0.72	0.72	45.5

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 Pedestrian ped	of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	11	12.8	LOS B	0.0	0.0	0.53	0.53	
P3	North Full Crossing	11	39.2	LOS D	0.0	0.0	0.93	0.93	
P4	West Full Crossing	11	29.6	LOS C	0.0	0.0	0.81	0.81	
All Pedestrians		32	27.2	LOS C			0.76	0.76	

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: 101 [Wallgrove Road Access AM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program

Phase Sequence: Variable Phasing

Reference Phase: Phase F

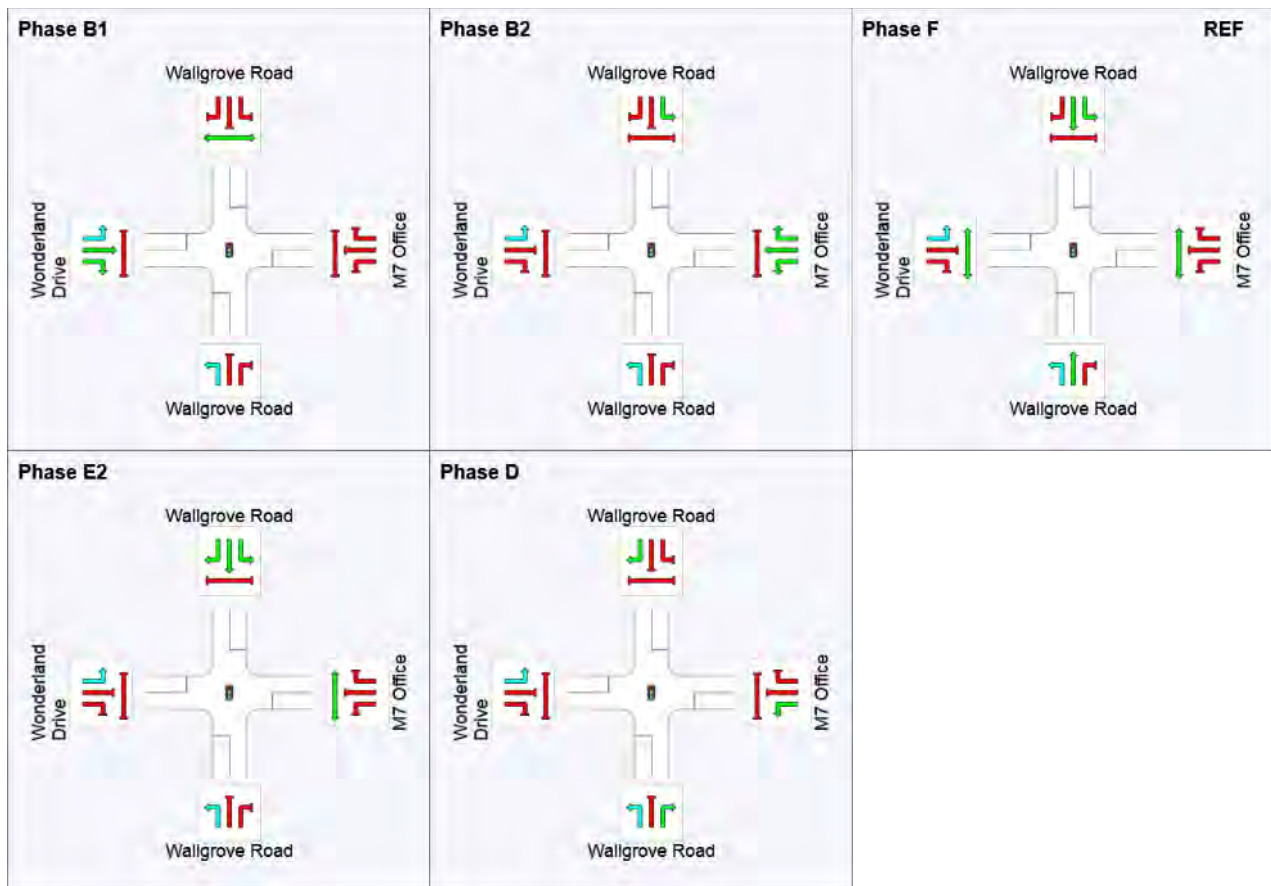
Input Phase Sequence: B1, B2, F, E2, D

Output Phase Sequence: B1, B2, F, E2, D

Phase Timing Results

Phase	B1	B2	F	E2	D
Phase Change Time (sec)	66	78	0	38	54
Green Time (sec)	6	6	32	10	6
Phase Time (sec)	12	12	38	16	12
Phase Split	13 %	13 %	42 %	18 %	13 %

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%.



REF: Reference Phase

VAR: Variable Phase



MOVEMENT SUMMARY

 **Site: 101 [Wallgrove Road Access PM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Wallgrove Road											
1	L2	129	30.1	0.085	7.0	LOS A	0.0	0.0	0.00	0.55	53.4
2	T1	857	5.3	0.552	20.6	LOS B	13.6	99.4	0.81	0.71	50.3
3	R2	3	0.0	0.024	47.4	LOS D	0.1	0.9	0.95	0.63	32.9
Approach		989	8.5	0.552	18.9	LOS B	13.6	99.4	0.71	0.69	50.6
East: M7 Office											
4	L2	13	0.0	0.208	29.0	LOS C	1.0	6.8	0.96	0.71	38.8
5	T1	1	0.0	0.208	24.4	LOS B	1.0	6.8	0.96	0.71	35.9
6	R2	19	0.0	0.208	29.0	LOS C	1.0	6.8	0.96	0.71	39.0
Approach		33	0.0	0.208	28.8	LOS C	1.0	6.8	0.96	0.71	38.8
North: Wallgrove Road											
7	L2	3	0.0	0.669	27.7	LOS B	17.0	128.8	0.86	0.76	43.3
8	T1	1007	9.8	0.669	21.7	LOS B	17.1	129.9	0.87	0.77	49.6
9	R2	82	34.6	0.390	51.4	LOS D	1.8	16.2	0.99	0.74	32.1
Approach		1093	11.7	0.669	23.9	LOS B	17.1	129.9	0.88	0.76	47.6
West: Wonderland Drive											
10	L2	555	5.7	0.311	4.5	LOS A	0.0	0.0	0.00	0.46	47.7
11	T1	1	0.0	0.701	38.9	LOS C	8.5	63.8	1.00	0.87	31.5
12	R2	403	8.6	0.701	43.5	LOS D	8.5	63.8	1.00	0.87	33.1
Approach		959	6.9	0.701	20.9	LOS B	8.5	63.8	0.42	0.64	40.3
All Vehicles		3074	9.0	0.701	21.4	LOS B	17.1	129.9	0.68	0.70	45.8

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 Pedestrian ped	of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	11	18.5	LOS B	0.0	0.0	0.66	0.66	
P3	North Full Crossing	11	36.7	LOS D	0.0	0.0	0.93	0.93	
P4	West Full Crossing	11	24.9	LOS C	0.0	0.0	0.77	0.77	
All Pedestrians		32	26.7	LOS C			0.78	0.78	

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: 101 [Wallgrove Road Access PM Peak]**

Traffic Signal Intersection

Signals - Fixed Time Isolated Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Phase Times determined by the program

Phase Sequence: Variable Phasing (phase reduction applied)

Reference Phase: Phase F

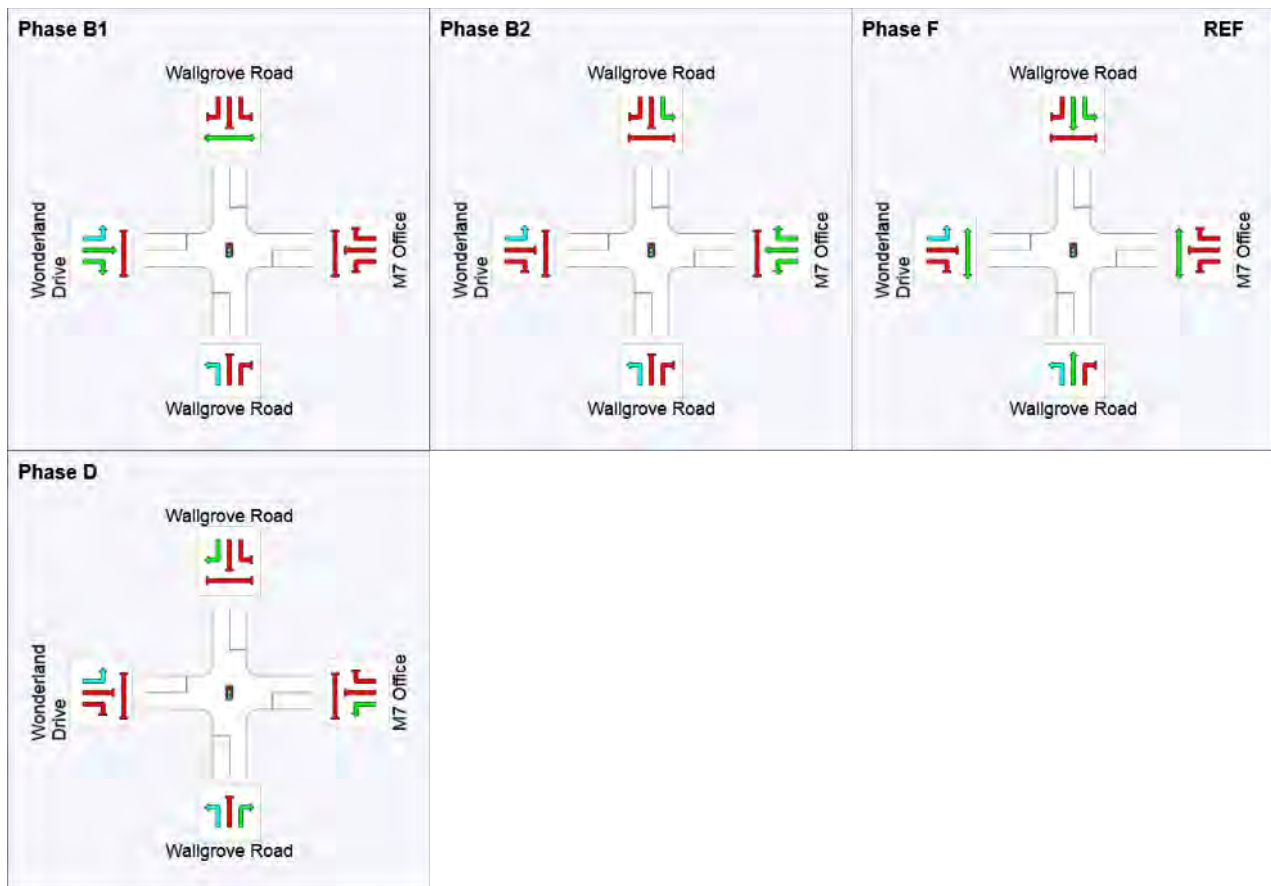
Input Phase Sequence: B1, B2, F, E2, D

Output Phase Sequence: B1, B2, F, D

Phase Timing Results

Phase	B1	B2	F	D
Phase Change Time (sec)	53	73	0	41
Green Time (sec)	14	6	35	6
Phase Time (sec)	20	12	41	12
Phase Split	24 %	14 %	48 %	14 %

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%.



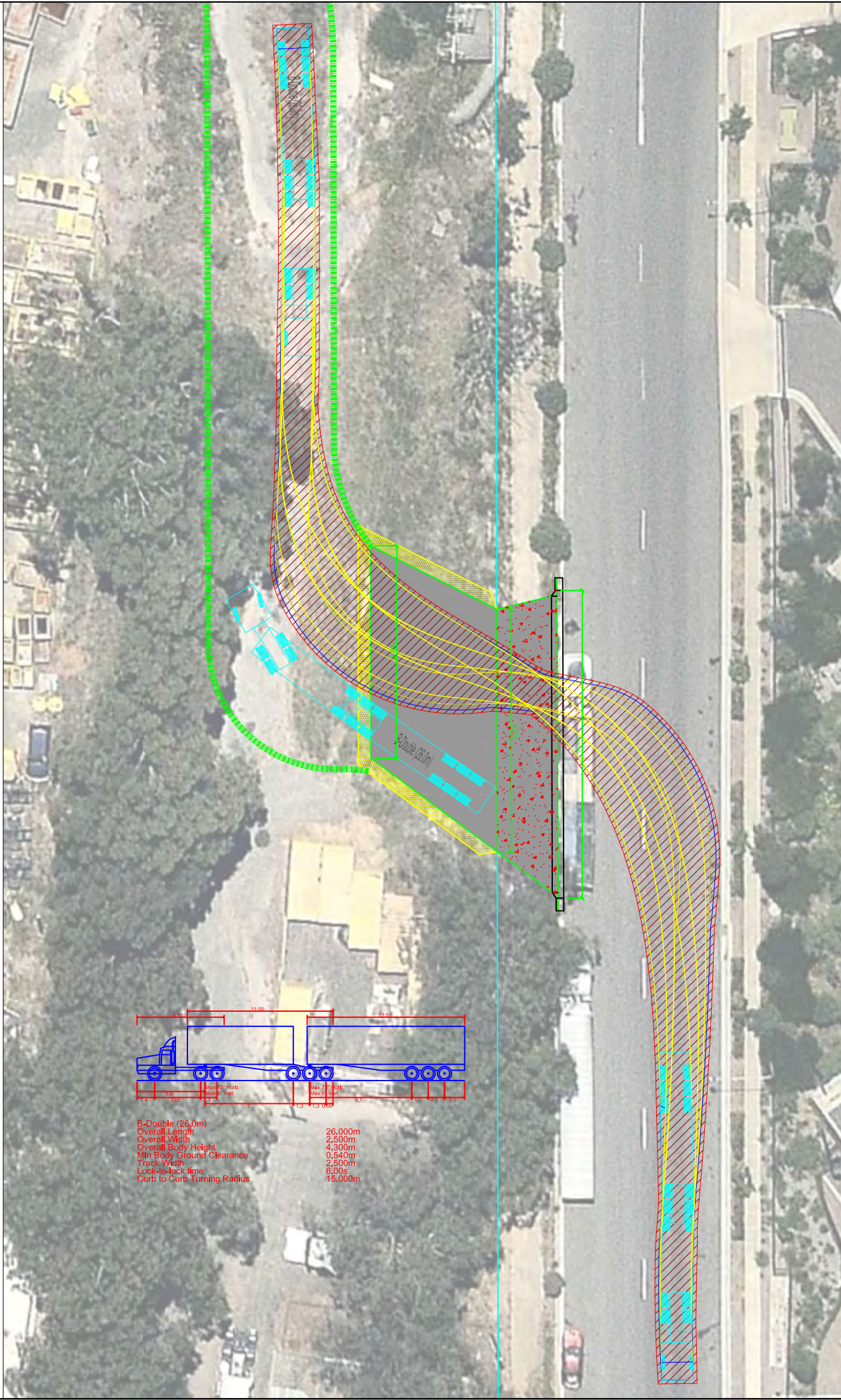
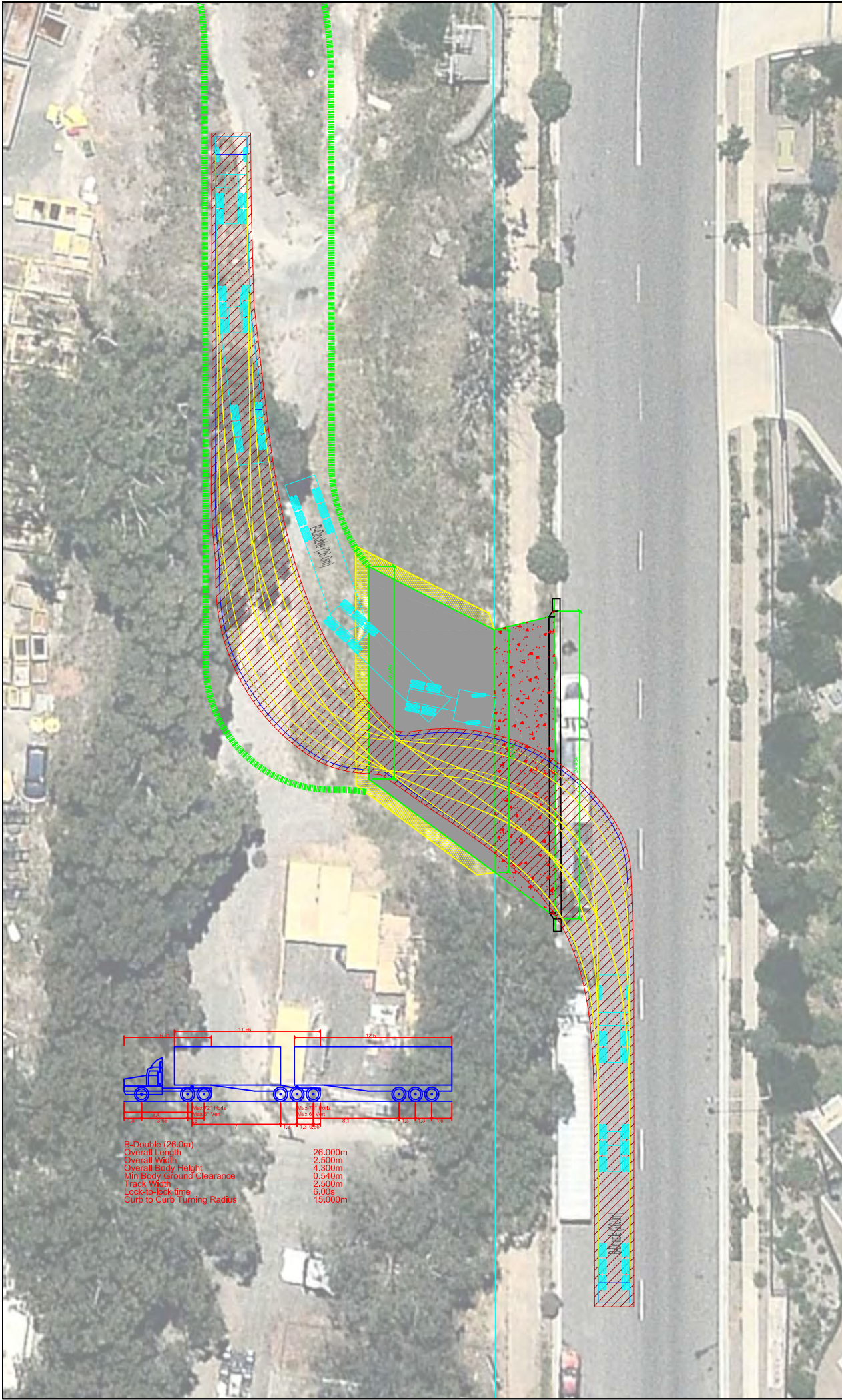
REF: Reference Phase

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

Appendix E

Intersection Swept Paths



Notes

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1-2004 *Parking facilities - Off-street car parking*, and/or AS 2890.2-2002 *Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

no. revision note

by. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

client

at&i
Level 7 135 Walker St
North Sydney, NSW 2060

scale

1:400 @ A3

0m 4 8 12 16

project

Dial a Dump Industries
Honeycomb Drive
Eastern Creek, NSW 2766

drawing prepared by

TRAFFIX

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traffix

traffic & transport planners

drawing title

B-Double
Entry and Exit Swept Path Analysis

drawn: HD

checked: KN

date: 06-03-2017

17.095d01v01 TRAFFIX Crossover Design Review [170303 Plans].dwg

17.095

-

TX.01

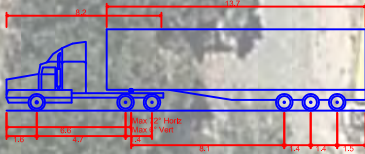
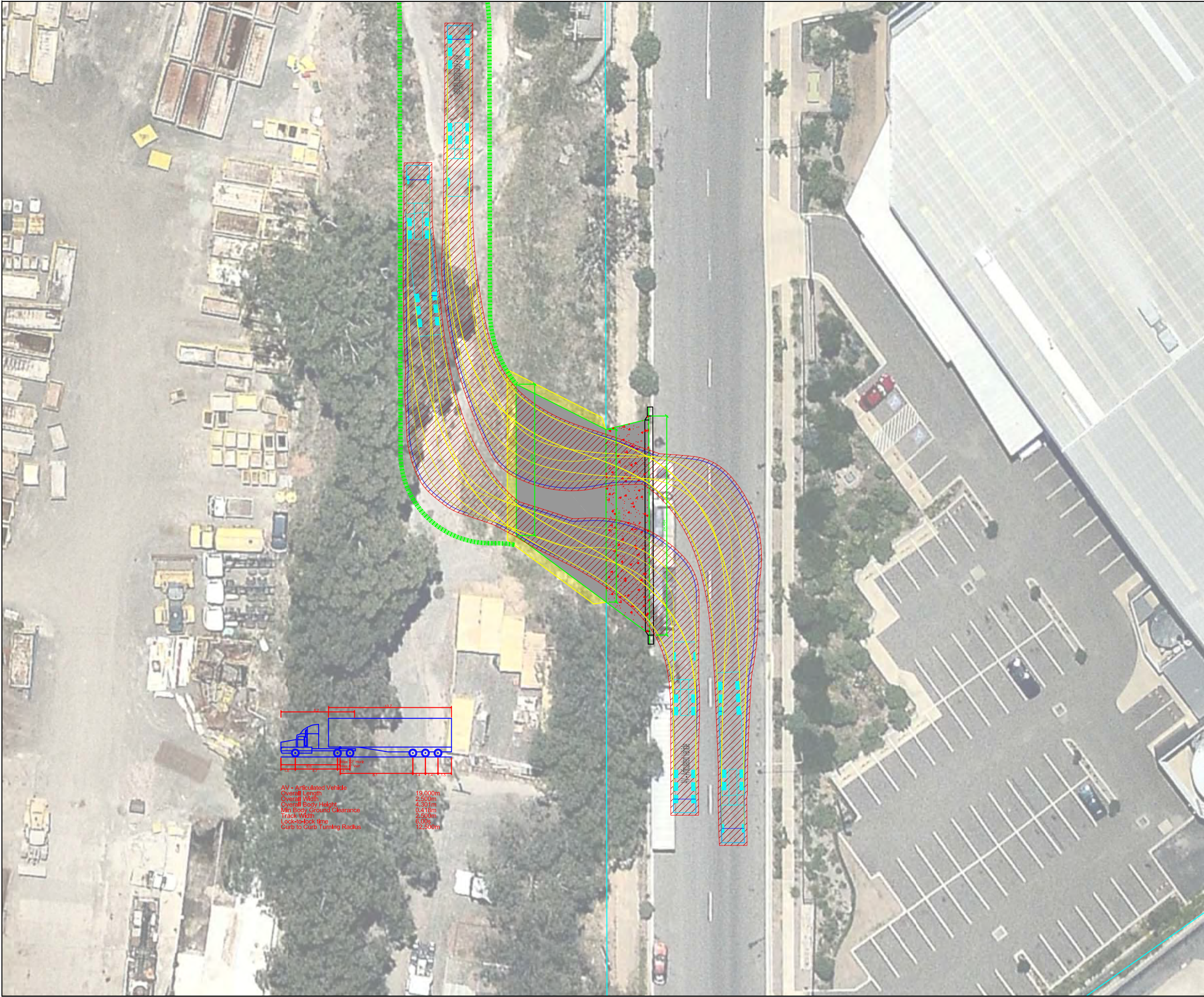
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project no.

drawing phase.

drawing no.

rev



AV - Articulated Vehicle
Overall Length 19.000m
Overall Width 2.500m
Overall Body Height 4.301m
Min Body Ground Clearance 0.418m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m

Notes

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Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1-2004 *Parking facilities - Off-street car parking*, and/or AS 2890.2-2002 *Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

no. revision note

by. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

client

at&I
Level 7 135 Walker St
North Sydney, NSW 2060

scale

1:400 @ A3
0m 4 8 12 16

project

Dial a Dump Industries
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Suite 2.08, 50 Holt Street
Sunny Hills NSW 2010

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traffix
traffic & transport planners

drawing title

Articulated Vehicle
Entry and Exit Swept Path Analysis

drawn: HD

checked: KN

date: 06-03-2017

17.095

-

TX.02

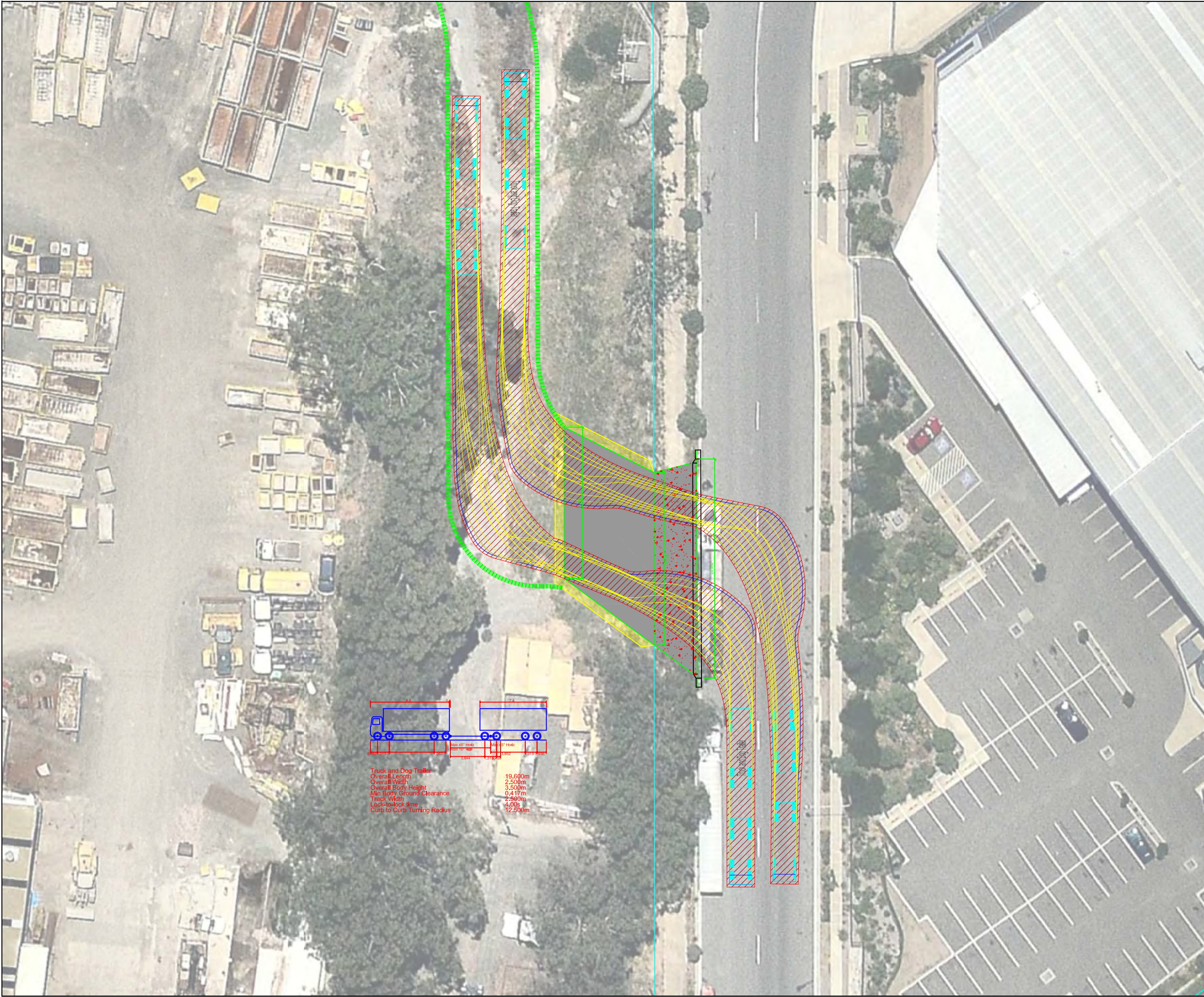
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project no.

drawing phase.

drawing no.

rev



Notes

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Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1-2004 *Parking facilities - Off-street car parking*, and/or AS 2890.2-2002 *Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

no. revision note

by. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

client

at&I
Level 7 135 Walker St
North Sydney, NSW 2060

scale

1:400 @ A3

0m 4 8 12 16

project

Dial a Dump Industries
Honeycomb Drive
Eastern Creek, NSW 2766

drawing prepared by

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