Proposed Waste or Resource Transfer Station
and Resource Recovery Facility

74-76 Seville Street, Fairfield East

TRAFFIC AND PARKING ASSESSMENT REPORT

26 July 2019

Ref 18771

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

Suite 6, 20 Young Street, Neutral Bay NSW 2089 - PO Box 1868, Neutral Bay NSW 2089 Ph: 9904 3224

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LIST OF ILLUSTRATIONS

1. INTRODUCTION

This report has been prepared to accompany a development application to Fairfield City Council for a proposal to establish a waste or resource transfer station and resource recovery facility within an existing warehouse development located at 74-76 Seville Street, Fairfield East (Figures 1 and 2).

In December 2018, the NSW Department of Planning & Environment issued the Secretary's Environmental Assessment Requirements (SEARs) which included written correspondence from various government authorities including the RMS. A copy of the RMS correspondence is reproduced in Appendix A.

The proposed development involves the change of use to operate as a waste transfer station and resource recovery facility specialising in the recovery of motor vehicle parts. There will be no new buildings constructed as part of the proposal and all of the existing buildings are to be retained – i.e. the proposal will *not* result in any additional floor space; either industrial or office.

Off-street parking for staff and visitors is to be provided within the existing outdoor car parking area located along the western boundary and accessed via the existing entry/exit driveway located off Seville Street.

Advice from the proposed operator indicates that on a day-to-day basis, the site will be accessed by small and medium rigid trucks ranging in length from 6.4m up to 8.8m, noting that 19m articulated semi-trailers and 25m B-doubles were accessing the site when the previous owner/tenant operated from the site. Vehicular access for trucks is to be provided via the existing separate entry and exit driveways located off Seville Street.

The purpose of this report is to assess the traffic and parking implications of the development proposal, including addressing the relevant items within the SEARs response package, and to that end this report:

- describes the site and provides details of the development proposal

- reviews the road network in the vicinity of the site, and the traffic conditions on that road network

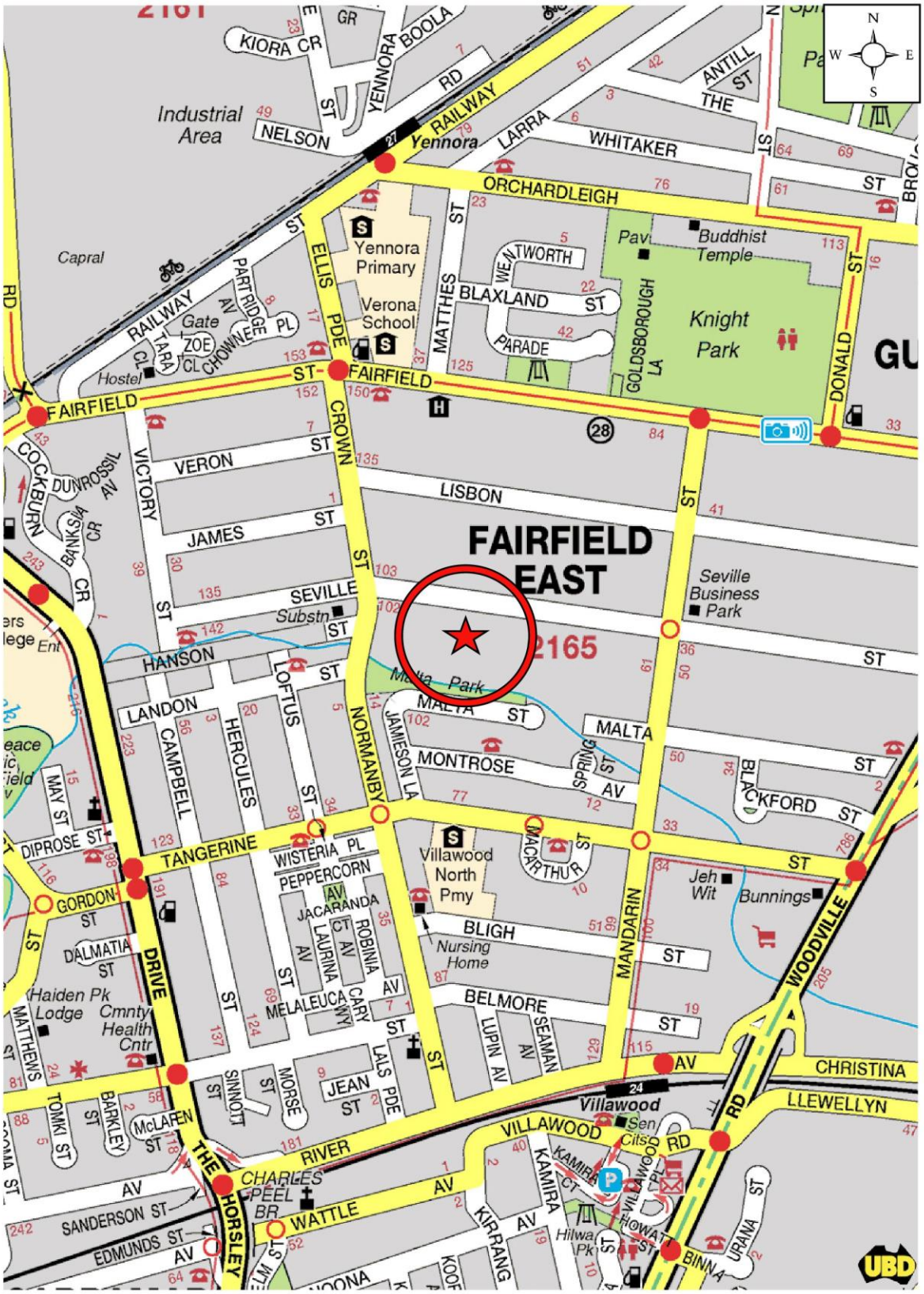
- reviews the public transport options available in in the vicinity of the site

- estimates the traffic generation potential of the development proposal, and assigns that traffic generation to the road network serving the site

- assesses the traffic implications of the development proposal in terms of road network capacity

- reviews the geometric design features of the existing car parking and loading facilities for compliance with the relevant codes and standards

- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.



VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

LOCATION
FIGURE 1


N
W
E
S
LIBSON
ST
NORMANBY
SEVILLE
ST
ST
NORMANBY
MALTA
JAMIESON
ST
ST
MONTROSE
SPRING ST
AVE
LN
TANGERINE
WISTERIA PL
ST
MACARTHUR ST
MACRTHUR ST
ST
MANDARIN
Road Closure / Unformed Road
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
SITE
FIGURE 2

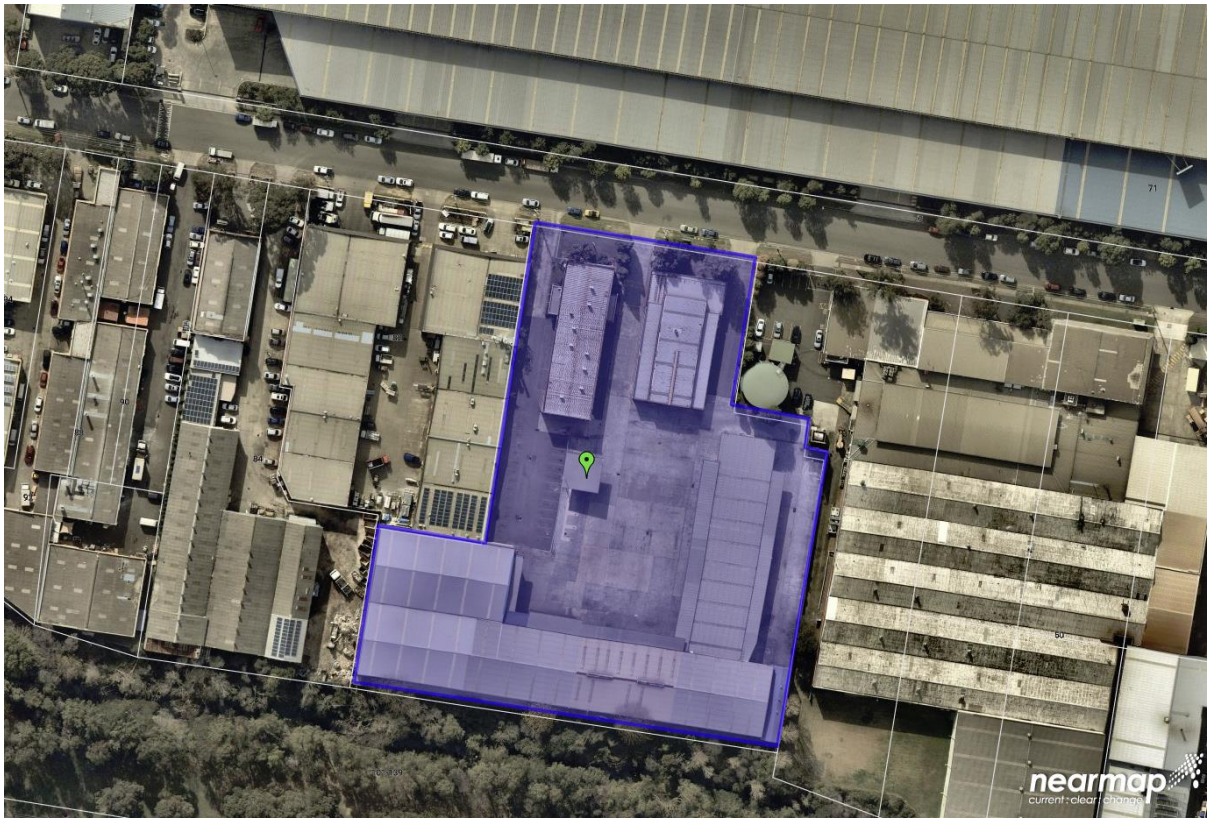
2. PROPOSED DEVELOPMENT

Site

The subject site is located on the southern side of Seville Street, midway between Crown Street and Mandarin Street. The site has a street frontage approximately 63m in length to Seville Street and occupies an area of approximately 12,682m^2.

The site is currently occupied by a number of industrial and office buildings as indicated in the aerial image below. Floor areas of the existing buildings on the site are as follows:

Warehouse 1:	1,422m^2
Warehouse 2:	1,714m^2
Warehouse 3:	871m^2
Warehouse 4:	548m^2
Admin building:	131m^2
Admin building:	1,036m^2
TOTAL AREA:	**5,722m^2**



Off-street parking is currently provided for a total of 38 cars in an outdoor, at-grade car parking area located along the western boundary of the site. Vehicular access to the car parking area is provided via an entry/exit driveway located at the western end of the Seville Street site frontage.

Loading/servicing for the previous operations on the site was undertaken by a variety of commercial vehicles up to and including 19m long articulated semi-trailers and 25m long B-doubles. Each warehouse building has its own respective loading bays, with the central hardstand area used as the truck manoeuvring area. Vehicular access to the central manoeuvring area and loading bays is provided via separate entry and exit driveway located off Seville Street.

Proposed Development

The proposed development involves the change of use to operate as a waste transfer station and resource recovery facility specialising in the recovery of motor vehicle parts. No recycling will occur on the site. There will be no new buildings constructed as part of the proposal and all of the existing buildings and their floor area are to remain *unchanged.*

Off-street parking for staff and visitors is to be provided within the existing outdoor car parking area located along the western boundary. The layout of the existing car parking area as well as the existing vehicular access arrangements are to be remain *unchanged.*

Loading/servicing for the proposed facility is expected to be undertaken by small and medium rigid trucks ranging in length from 6.4m up to 8.8m. Vehicular access for trucks is to be provided via the existing separate entry and exit driveways located off Seville Street which are to remain *unchanged*.

Operational Characteristics

Advice received from the proposed operator of the facility indicates that the operation will consist of the following characteristics:

- delivery of used motor vehicles to the site
- dismantling of vehicles to recover the engine and gearbox, including temporary storage
- subsequent sale and transportation off-site of separated engines, gearboxes, tyres and remaining car bodies by wholesale, with no on-site retail
- separation of waste material during dismantling process, including fuel, coolant fluids, engine oils etc.
- temporary storage awaiting subsequent collection of waste material for off-site recycling

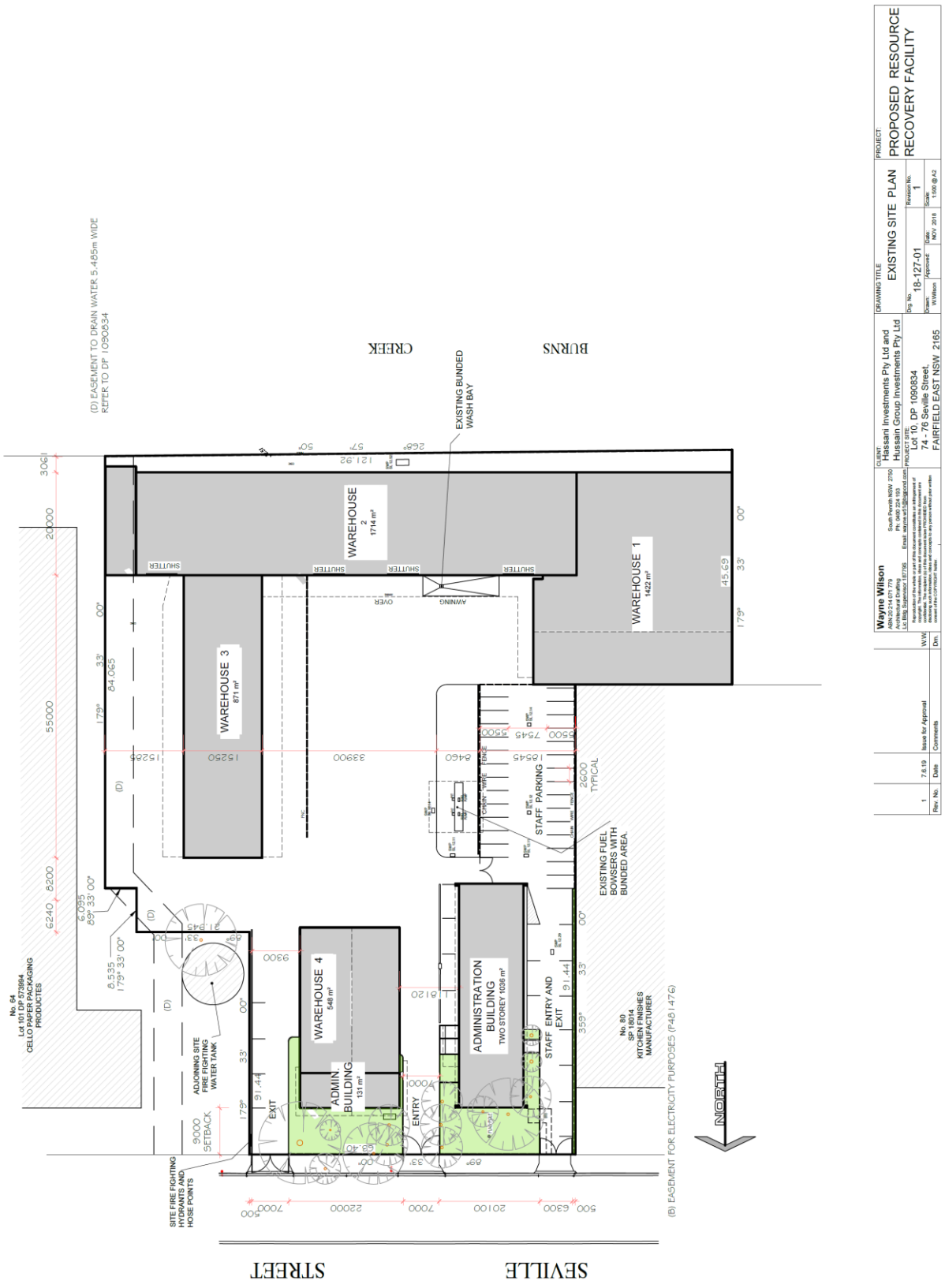
Hours of operation, employee numbers and anticipated vehicle movements are indicted in the table below.

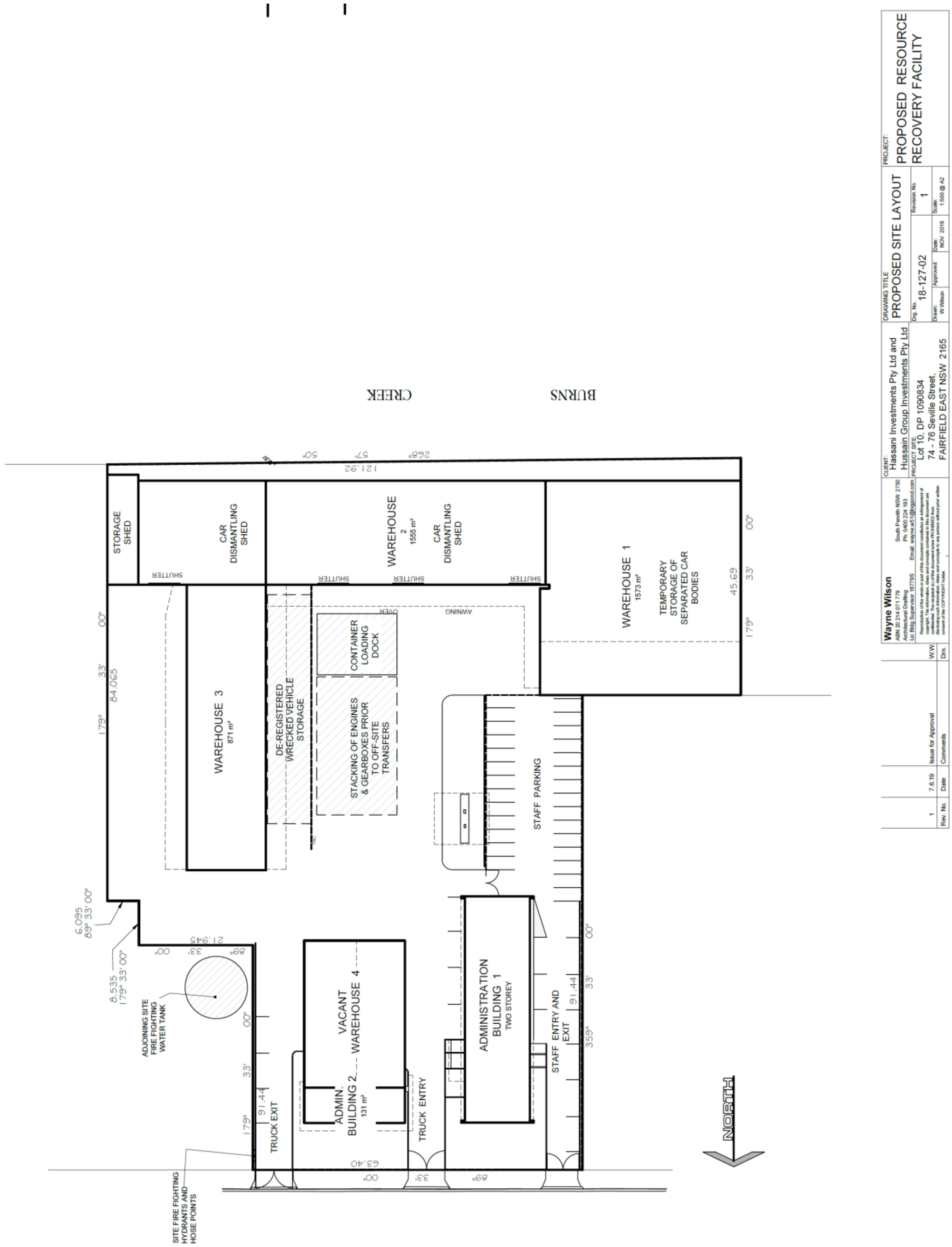
Item	Notes	Operational Details	
Employees	Standard	Average	25 20 operational 5 admin (within Admin Building)
Hours of Operation	Standard (no out-of-hours planned)	Monday to Friday Saturday Sunday (& Public Holidays)	7:00 am to 5:00 pm 7:00 am to 3:00 pm Noon NO WORK
Vehicle Movements (in and out of site)	Delivery of Used Motor Vehicles	Average Daily INTO Site Peak Daily [2]	40 Tow Trucks [1] 10 Tow Trucks per hour
	Transfer Off-Site of Car Bodies	Average Daily OUT OF Site	10 Medium Trucks
	Transfer Off-Site of Engines	Average Daily OUT OF Site	2 Medium Trucks
	Transfer Off-Site of Gearboxes	Average Daily OUT OF Site	1 Medium Truck
	Transfer Off-Site of Tyres	Average Daily OUT OF Site	1 Medium Truck
	Transfer of Waste Material	Average Daily OUT OF Site	2 Medium Trucks per week
Vehicle Movements (within site)	Movements of car bodies, engines, gearboxes, tyres, etc.	Average Daily	3 Forklift Trucks in continuous operation

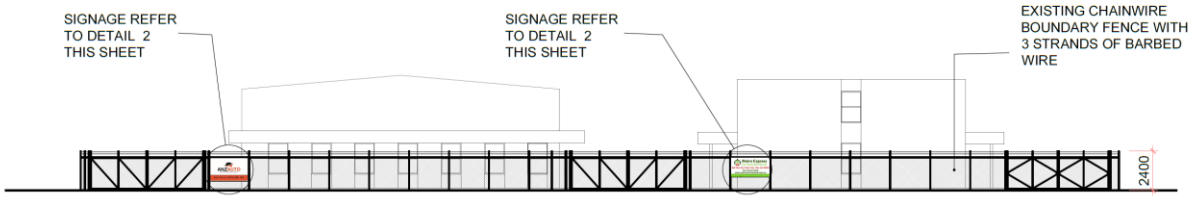
Note 1 Each tow truck would be typically carrying ONE used vehicle to site

Note 2 Peak daily movements are expected between the hours of 11:00 am to 2:00 pm and 4:00 pm to 5:00 pm

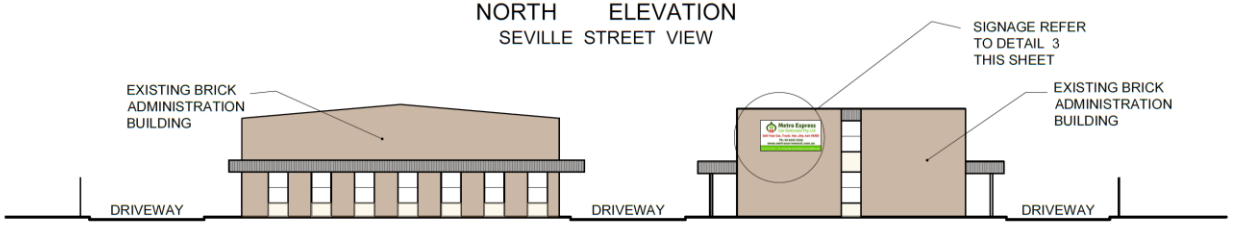
Plans of the proposed development have been prepared by *Wayne Wilson Architectural Drafting* and are reproduced in the following pages.


(D) EASEMENT TO DRAIN WATER 5.485m WIDE
REFER TO DP 1090834
EXISTING BUNDED WASH BAY
WAREHOUSE 2
1714 m²
WAREHOUSE 1
1422 m²
WAREHOUSE 3
871 m²
WAREHOUSE 4
648 m²
ADMIN. BUILDING
131 m²
ADMINISTRATION BUILDING
TWO STOREY 1036 m²
STAFF PARKING
EXISTING FUEL BOWSERS WITH BUNDED AREA
ADJOINING SITE FIRE FIGHTING WATER TANK
SITE FIRE FIGHTING HYDRANTS AND HOSE POINTS
9000 SETBACK
ENTRY
EXIT
STAFF ENTRY AND EXIT
No. 64
Lot 101 DP 873994
CELLO PAPER PACKAGING PRODUCTES
No. 80
SP 16014
KITCHEN FITTINGS MANUFACTURER
(B) EASEMENT FOR ELECTRICITY PURPOSES (P45147G)
BURNS
CREEK
SEVILLE
STREET
NORTH
Wayne Wilson
Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd
Lot 10, DP 1090834
74 - 76 Seville Street
FAIRFIELD EAST NSW 2165
EXISTING SITE PLAN
PROPOSED RESOURCE RECOVERY FACILITY
18-127-01
1:500 @ A2
Issue for Approval
Comments

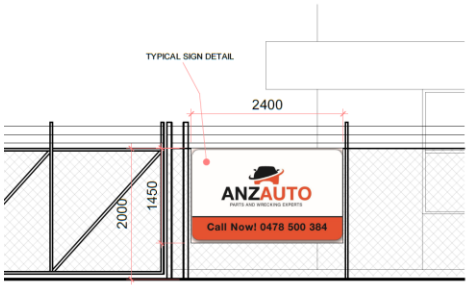

PROPOSED RESOURCE RECOVERY FACILITY
PROPOSED SITE LAYOUT
18-127-02
Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd
Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165
Wayne Wilson
Issue for Approval
BURNS CREEK
SEVILLE STREET
NORTH
STORAGE SHED
CAR DISMANTLING SHED
WAREHOUSE 2
WAREHOUSE 1
TEMPORARY STORAGE OF SEPARATED CAR BODIES
WAREHOUSE 3
DE-REGISTERED WRECKED VEHICLE STORAGE
CONTAINER LOADING DOCK
STACKING OF ENGINES & GEARBOXES PRIOR TO OFF-SITE TRANSFERS
STAFF PARKING
ADMINISTRATION BUILDING 1
TWO STOREY
VACANT WAREHOUSE 4
ADMIN. BUILDING 2
TRUCK EXIT
TRUCK ENTRY
STAFF ENTRY AND EXIT
ADJOINING SITE FIRE FIGHTING WATER TANK
SITE FIRE FIGHTING HYDRANTS AND HOSE POINTS



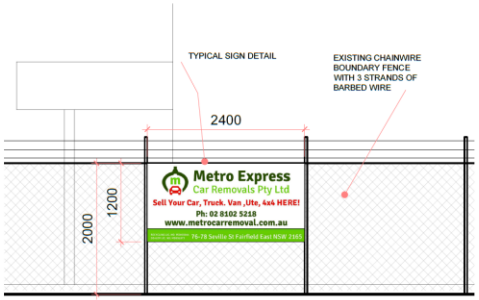
NORTH ELEVATION
SEVILLE STREET VIEW



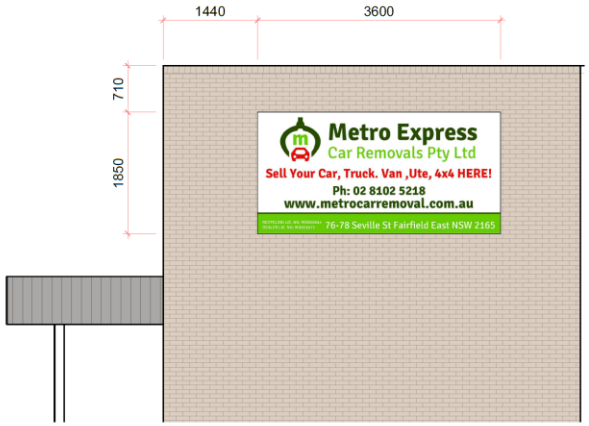
NORTH ELEVATION
BUILDING ALIGNMENT



SIGNAGE DETAIL 1
SEVILLE STREET VIEW
EASTERN END



SIGNAGE DETAIL 2
SEVILLE STREET VIEW
WESTERN END



BUILDING SIGNAGE
DETAIL 3
SEVILLE STREET VIEW

Rev. No.	Date	Comments	Drn.
1	7.6.19	Issue for Approval	W.W.

Wayne Wilson
ABN 20 214 071 779 South Penrith NSW 2750
Architectural Drafting Ph: 0400 224 193
Lic Bldg Supervisor 187795 Email: wayne.w5@bigpond.com

CLIENT: Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd

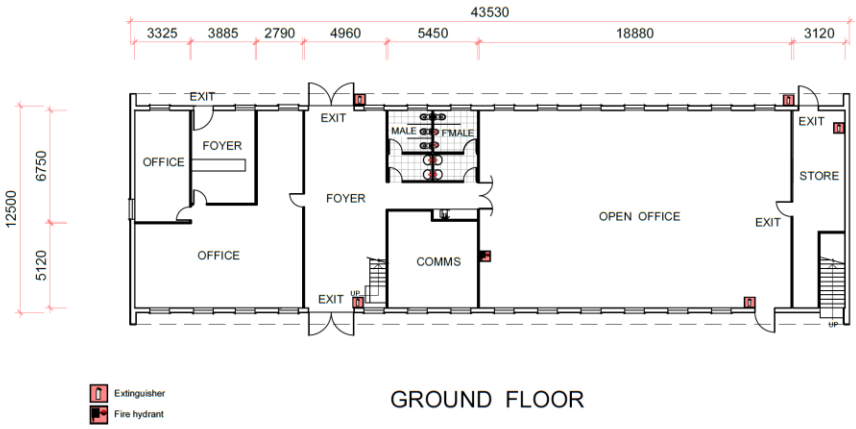
PROJECT SITE: Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165

DRAWING TITLE: ELEVATIONS & SIGNAGE

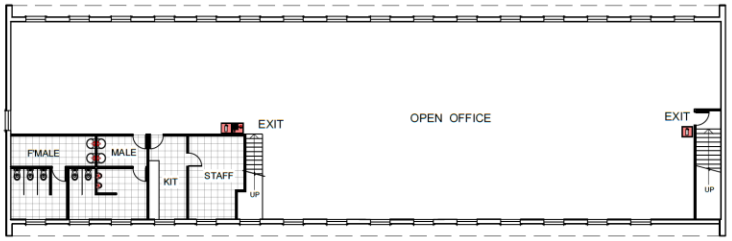
Dg. No.: 18-127-03 | Revision No.: 1

Drawn: W.Wilson | Approved: | Date: NOV 2018 | Scale: 1:200 @ A2

PROJECT: PROPOSED RESOURCE RECOVERY FACILITY

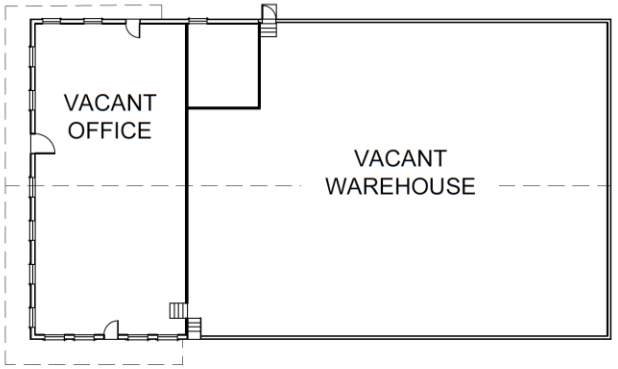


GROUND FLOOR



FIRST FLOOR

ADMINISTRATION
BUILDING 1



ADMINISTRATION
BUILDING 2 AND
WAREHOUSE 4

Rev. No.	Date	Comments	Dm.
1	7.6.19	Issue for Approval	W.W.

Wayne Wilson
ABN 20 214 071 779 South Penrith NSW 2750
Architectural Drafting Ph: 0400 224 193
Lic Bldg Supervisor 187795 Email: wayne.w51@bigpond.com

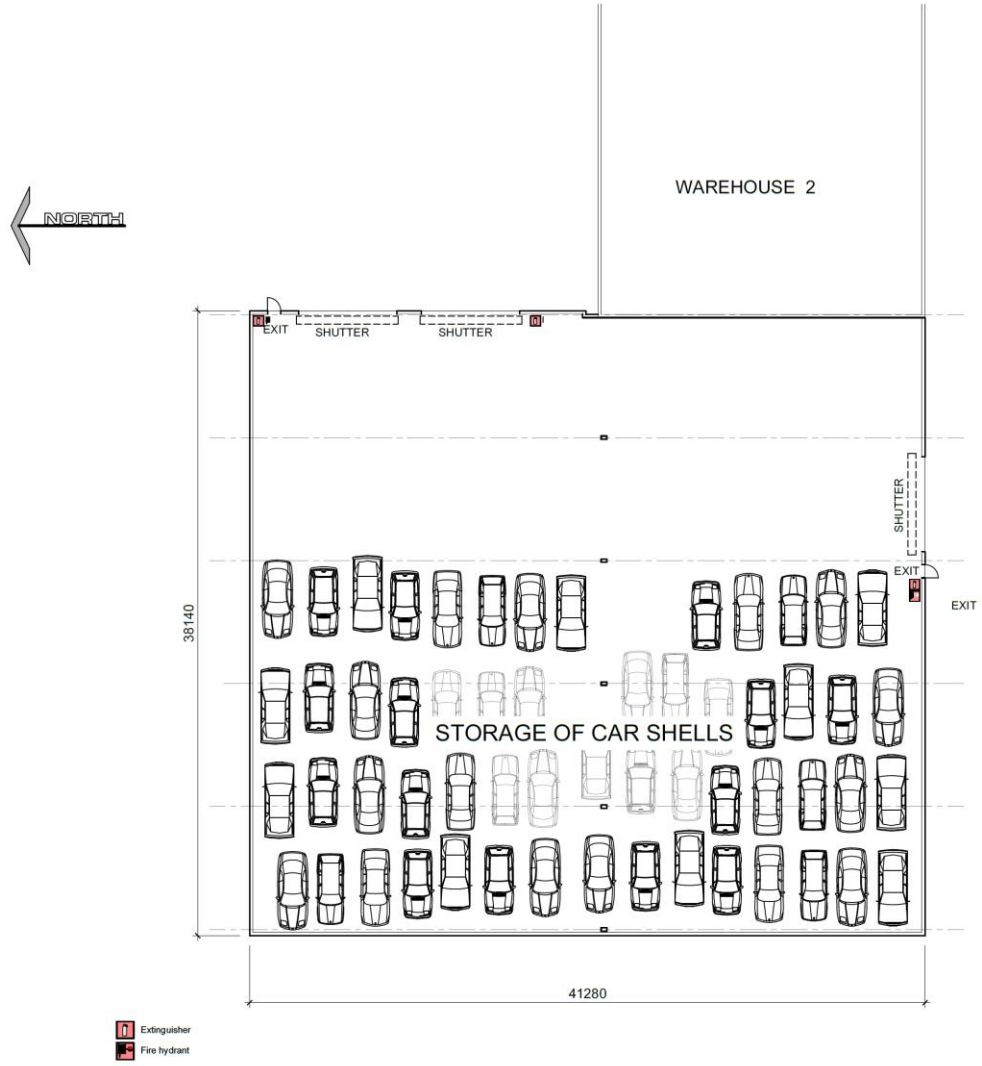
CLIENT: Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd

PROJECT SITE: Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165

DRAWING TITLE: ADMINISTRATION BUILDING

Drg. No.: 18-127-04
Revision No.: 1
Drawn: W.Wilson
Approved:
Date: NOV 2018
Scale: 1:100 @ A2

PROJECT: PROPOSED RESOURCE RECOVERY FACILITY



Rev. No.	Date	Comments	Drn.
1	7.6.19	Issue for Approval	W.W.

Wayne Wilson
ABN 20 214 071 779 South Penrith NSW 2750
Architectural Drafting Ph: 0400 224 193
Lic Bldg Supervisor 18779S Email: wayne.w51@bigpond.com

CLIENT: Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd

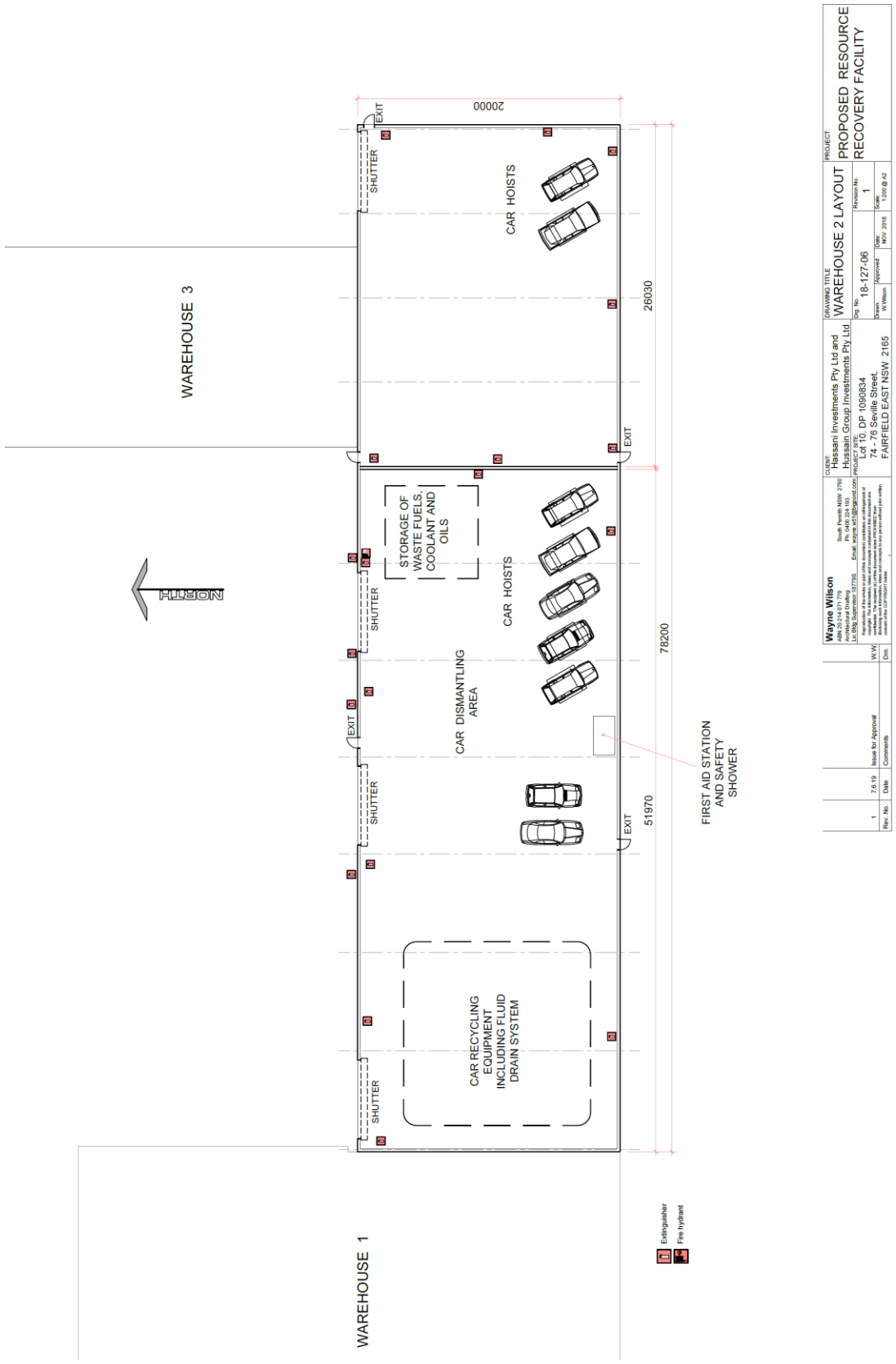
PROJECT SITE: Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165

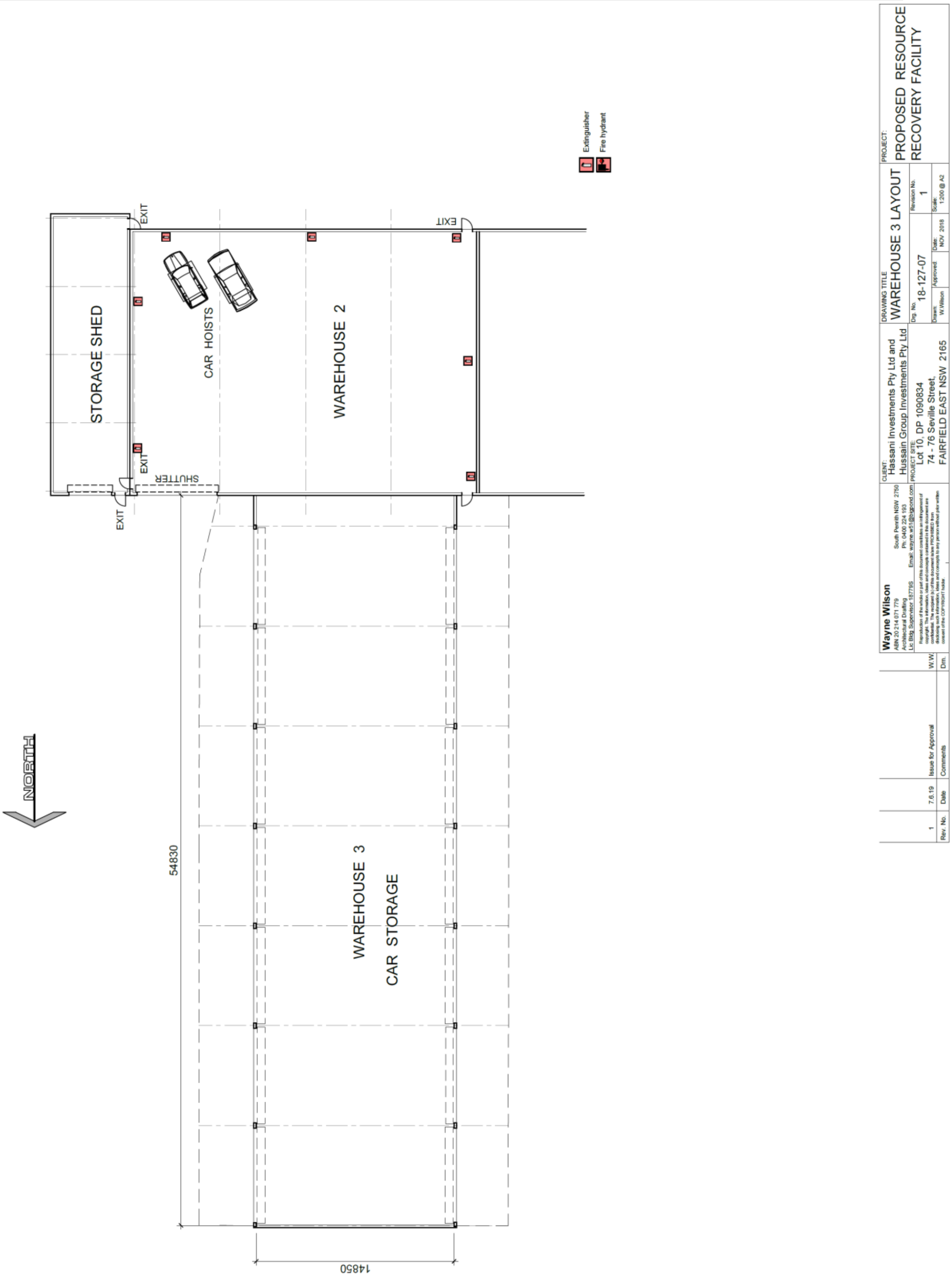
DRAWING TITLE: WAREHOUSE 1 LAYOUT

Drg. No. 18-127-05 | Revision No. 1

Drawn: W.Wilson | Approved: | Date: NOV 2018 | Scale: 1:200 @ A2

PROJECT: PROPOSED RESOURCE RECOVERY FACILITY


WAREHOUSE 3
NORTH
20000
EXIT
SHUTTER
CAR HOISTS
26030
STORAGE OF WASTE FUELS, COOLANT AND OILS
CAR DISMANTLING AREA
78200
51970
FIRST AID STATION AND SAFETY SHOWER
CAR RECYCLING EQUIPMENT INCLUDING FLUID DRAIN SYSTEM
WAREHOUSE 1
Extinguisher
Fire hydrant
Wayne Wilson
Hassani Investments Pty Ltd and Hussain Group Investments Pty Ltd
Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165
WAREHOUSE 2 LAYOUT
PROPOSED RESOURCE RECOVERY FACILITY
18-127-06
1
1:200 @ A2
Issue for Approval


Extinguisher
Fire hydrant
STORAGE SHED
CAR HOISTS
WAREHOUSE 2
EXIT
EXIT
EXIT
EXIT
SHUTTER
NORTH
54830
WAREHOUSE 3
CAR STORAGE
14850
PROJECT:
PROPOSED RESOURCE RECOVERY FACILITY
DRAWING TITLE
WAREHOUSE 3 LAYOUT
Revision No.
1
Dwg. No.
18-127-07
CLIENT:
Hassani Investments Pty Ltd and
Hussain Group Investments Pty Ltd
PROJECT SITE:
Lot 10, DP 1090834
74 - 76 Seville Street,
FAIRFIELD EAST NSW 2165
Wayne Wilson
Architectural Drafting
South Penrith NSW 2750
Rev. No.
Date
Comments
1
7.6.19
Issue for Approval
W.W.

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

The Horsley Drive and Woodville Road are both classified by the RMS as *State Roads* which provide the two key north-south road links in the area. They both typically carry two to three traffic lanes in each direction in the vicinity of the site, with turning lanes provided at key locations.

Fairfield Street is also classified by the RMS as a *State Road* which provides the key east-west road link in the area, linking The Horsley Drive to Woodville Road. It typically carries two traffic lanes in each direction in the vicinity of the site, with kerbside parking permitted at selected locations outside of commuter peak periods.

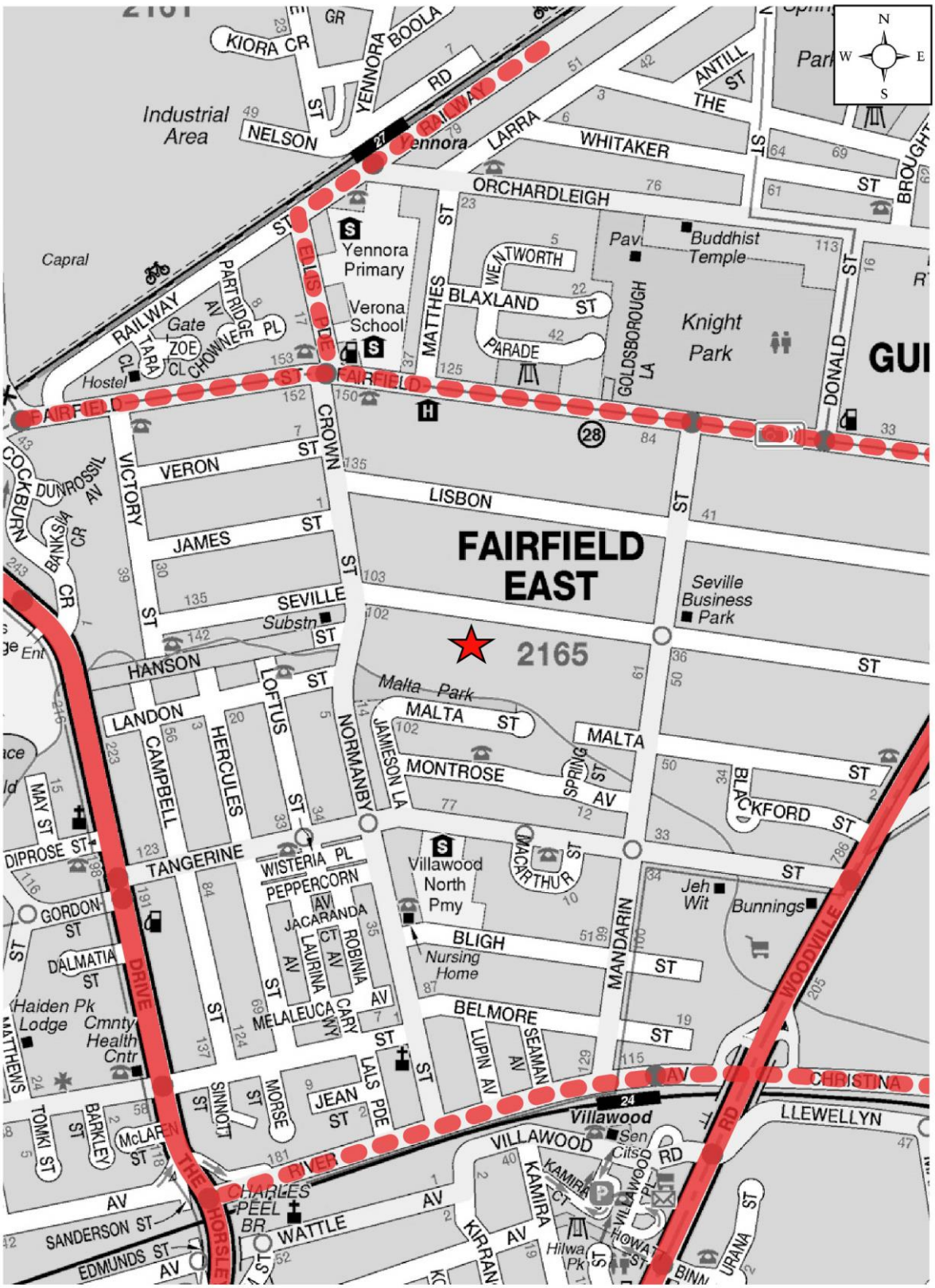
River Avenue / Christina Road / Waldron Road are classified by the RMS as *Regional Roads* which perform the function of an east-west *collector route* through the area, linking Fairfield East to Sefton. They typically carry one traffic lane in each direction in the vicinity of the site with additional lanes provided at key locations.

Mandarin Street, Seville Street and Crown Street are all local, unclassified roads which are primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted along both sides of these roads, including along the site frontage.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 70 km/h SPEED LIMIT which applies to Woodville Road



VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

ROAD HIERARCHY
FIGURE 3


N
W
E
S
LIBSON
ST
NORMANBY
50
SEVILLE
ST
50
ST
NORMANBY
JAMIESON
MALTA
ST
ST
MONTROSE
SPRING ST
AVE
MANDARIN
LN
TANGERINE
WISTERIA PL
ST
MACARTHUR
ST
50
MACARTHUR
ST
ST
Key:
Give Way Sign
Stop Sign
Roundabout
School Zone
50 Speed Limit
Pedestrian Crossing
Speed Hump
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING TRAFFIC CONTROLS
FIGURE 4

- a 60 km/h SPEED LIMIT which applies to The Horsley Drive and also Fairfield Street

- a 50 km/h SPEED LIMIT which applies to Mandarin Street, Seville Street, Crown Street and all other local roads in the area

- TRAFFIC SIGNALS in Fairfield Street where it intersects with Woodville Road, Mandarin Street and also Crown Street

- SPEED HUMPS located at regular intervals located along Seville Street and also Lisbon Street

- ROUNDABOUTS in Mandarin Street where it intersects with Seville Street, Tangerine Street and also Lisbon Street

- STOP SIGN restrictions in Seville Street where it intersects Crown Street

- a CENTRAL MEDIAN ISLAND in Woodville Road which precludes right turn movements into and out of Seville Street.

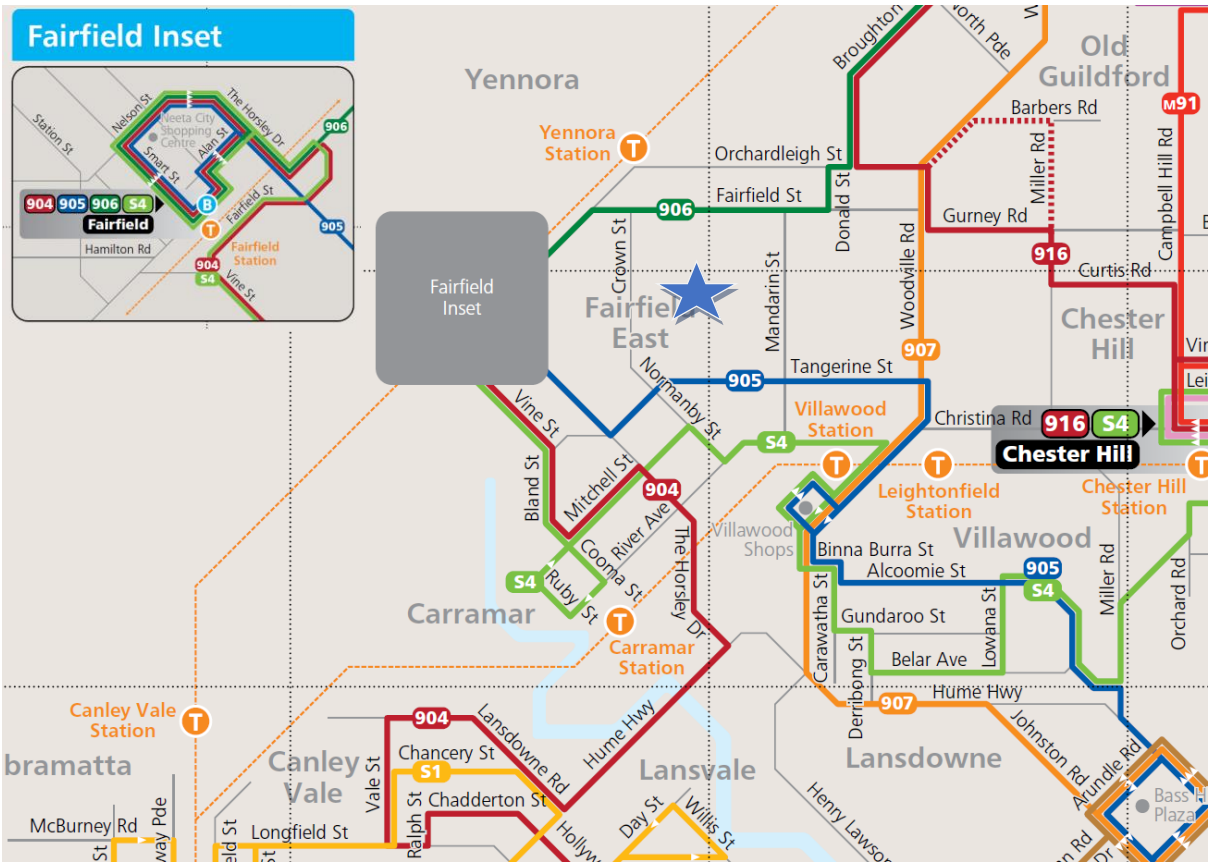
Existing Public Transport Services

There are currently three bus services which operate in the vicinity of the site are illustrated on the following page and summarised below.

The 905 service operates 7 days per week between Bankstown and Fairfield via Georges Hall, Villawood and Fairfield East, including Bankstown and Fairfield rail/bus interchanges. The nearest bus stop that is serviced by the 905 bus is located on Tangerine Street, approximately 840m walking distance to/from the site.

The 906 service operates Monday to Saturday between Parramatta and Fairfield via Granville and Guildford, including Parramatta, Granville and Fairfield rail/bus interchanges. The nearest bus stop that is serviced by the 906 bus is located on Fairfield Street, approximately 750m walking distance to/from the site.

The 907 service operates 7 days per week between Bankstown and Parramatta via Yagoona, Bass Hill and Villawood, including Bankstown and Parramatta rail/bus interchanges. The nearest bus stop that is serviced by the 907 bus is located on Woodville Road, approximately 900m walking distance to/from the site.



Whilst existing bus options are somewhat limited, those options are available and provide connections to a range of suburban railway stations.

Bicycle Network

There are a number of on-road and off-road bicycle routes that are readily accessible from the subject site to/from the greater local Fairfield and Liverpool area, including along Crown Street to the west of the site, as indicated on the following page.

In order to further enhance the *active* transport options available to future employees of the site, consideration could be given to including end-of-trip facilities and suitable bike storage areas.

Existing Traffic Conditions

An indication of the existing traffic conditions the road network in the vicinity of the site is provided by reference to the RMS's *Annual Average Daily Traffic* data. The closest count station nearest to the subject site is Station Id. 66249 which is located on Fairfield Street, just west of Pine Road, indicating that this section of Fairfield Street carries approximately 5,000-6,000 vehicles per AM and PM peak (i.e. 6am-10am & 3pm-7pm), eastbound and westbound combined. A more detailed indication of the existing traffic conditions in the vicinity of the site is provided by peak period traffic surveys which are been undertaken at the following intersections:

- Fairfield Street & Mandarin Street (traffic signals)
- Mandarin Street & Seville Street (roundabout)
- Seville Street & Crown Street (stop signs)

The results of the traffic surveys are reproduced in full in Appendix B and reveal that:

- two-way traffic flows in Fairfield Street are typically in the order of 750-950 vehicles *per hour* (vph) during the *morning* weekday peak period, increasing to approximately 1,000-1,200 vph during the *afternoon* weekday peak period

- two-way traffic flows in Mandarin Street are significantly less, typically in the order of 400 vph during weekday peak periods

- two-way traffic flow in Seville Street are lower still, typically in the order 100-160 vph in the vicinity of the Mandarin Street intersection and in the order of 100 vph in the vicinity of the Crown Street intersection, during weekday peak periods

- two-way traffic flow in Crown Street are typically in the order 350 vph in the vicinity of the Seville Street intersection, during weekday peak periods.

Projected Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network.

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002).*

The RMS *Guidelines* are based on extensive surveys of a wide range of land uses and nominates the following traffic generation rates which are applicable to the development proposal:

Warehouse Premises

0.5 peak hour vehicle trips/100m^2 GFA

Industrial Premises

1.0 peak hour vehicle trips/100m^2 GFA

Commercial Premises

2.0 peak hour vehicle trips/100m^2 GFA

For the purpose of this assessment, an average traffic generation rate of "0.75 peak hour vehicle trip/100m² GFA" has been applied across the warehouse/industrial building component of the development proposal.

Application of the above traffic generation rates to the various components of the development proposal yields a traffic generation potential of approximately 57 vehicle trips per hour during commuter peak periods as set out below:

Projected Future Traffic Generation Potential

Warehouse (4,555m²):	34 peak hour vehicle trips
Office (1,167m²):	23 peak hour vehicle trips
TOTAL TRAFFIC GENERATION POTENTIAL:	**57 peak hour vehicle trips**

As noted in the foregoing however, the proposed development will *not* result in any additional floor space; either warehouse or office. As such, the proposed development is not expected to result in any appreciable increase (or decrease) in the traffic generation potential of the site as a consequence of the proposed facility.

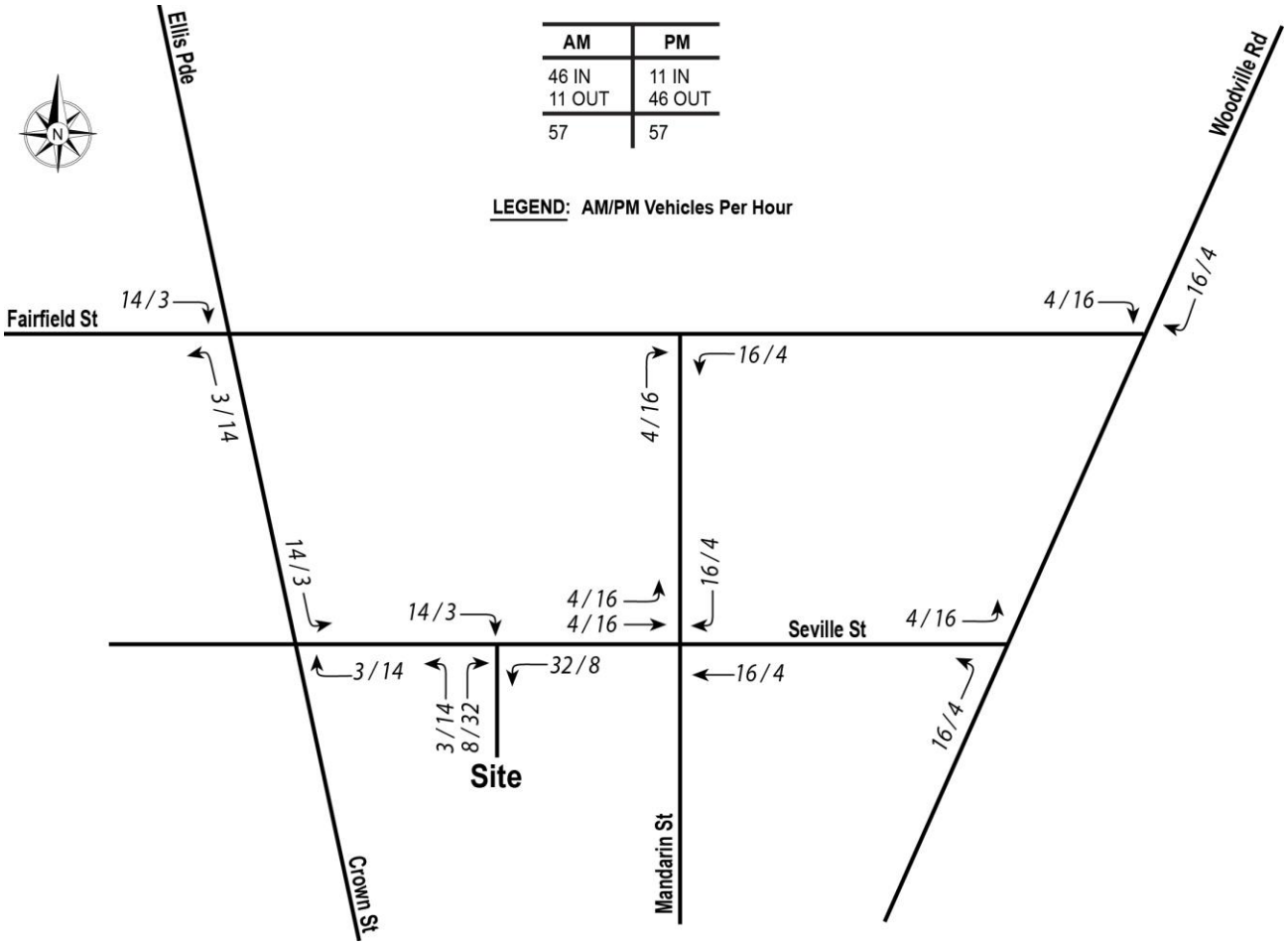
By way of comparison, the previous use on the site as a freight transport facility would likely have generated *more* traffic than the proposed use as a waste transfer station and resource recovery facility.

For the purposes of this assessment however, it has been assumed that *all* of the projected future traffic flows of 57 peak hour vehicle trips will be new or *additional* to the existing traffic flows currently using the adjacent road network. Those projected additional traffic flows have been distributed onto the surrounding road network as indicated on the figure on the following page.

That projected increase in the traffic generation potential of the site as a consequence of the development proposal is minimal and will not have any unacceptable traffic implications in terms of road network capacity, as is demonstrated by the following section of this report.

Traffic Implications - Road Network Capacity

The traffic implications of development proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network.



Those effects can be assessed using the SIDRA program which is widely used by the RMS and many LGA's for this purpose. Criteria for evaluating the results of SIDRA analysis are reproduced in the following pages. The individual movement summaries are reproduced in Appendix C.

The results of the SIDRA capacity analysis of the surrounding intersections are summarised in the table on the following page, revealing that:

- all surrounding intersections currently operate at an overall average *Level of Service "A"* or *"B"*, with average vehicle delays ranging between 2 seconds per vehicle and 16 seconds per vehicle

- under the projected *nett increase* in projected future traffic demands expected to be generated by the development proposal, all surrounding intersections will continue to operate at *Levels of Service "A"* or *"B"*, with increases in average vehicle delays of just 1-4 seconds per vehicle.

In essence, the rigorous capacity analysis confirms that the traffic generation potential of the development proposal on the subject site, noting that there will be no new buildings and therefore theoretically no change in traffic activity, will not have any appreciable effect on the performance of nearby intersections (with minimal delays on all approaches), and that no infrastructure upgrades will be required.

TABLE 3.1 - SUMMARY RESULTS OF SIDRA ANALYSIS OF SURROUNDING ROAD NETWORK

Key Indicators	Existing Traffic Demand		Projected Development Traffic Demand	
	AM	**PM**	**AM**	**PM**
Fairfield St & Mandarin St				
LOS	B	B	B	B
DOS	0.223	0.304	0.226	0.379
AVD (Sec/Veh)	15.8	16.2	16.0	21.7
Mandarin St & Seville St				
LOS	A	A	A	A
DOS	0.127	0.197	0.139	0.200
AVD (Sec/Veh)	4.2	4.7	4.4	4.7
Seville St & Crown St				
LOS	A	A	A	A
DOS	0.099	0.104	0.101	0.123
AVD (Sec/Veh)	2.2	2.6	2.4	2.8

LOS – Level of Service; DOS – Degree of Saturation; AVD – Average Vehicle Delays

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good operation.	Good operation.
'B'	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
'C'	Satisfactory.	Satisfactory but accident study required.
'D'	Operating near capacity.	Near capacity and accident study required.
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.
'F'	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode.

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
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 and requires other control mode.

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by traffic signals[1] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a roundabout or GIVE WAY or STOP signs, satisfactory intersection operation is indicated by a DS of 0.8 or less.

[1] *The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.*

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 5 and comprise:

- NO STOPPING restrictions along both sides of Seville Street in the vicinity of the site, including across the subject site's existing access driveways

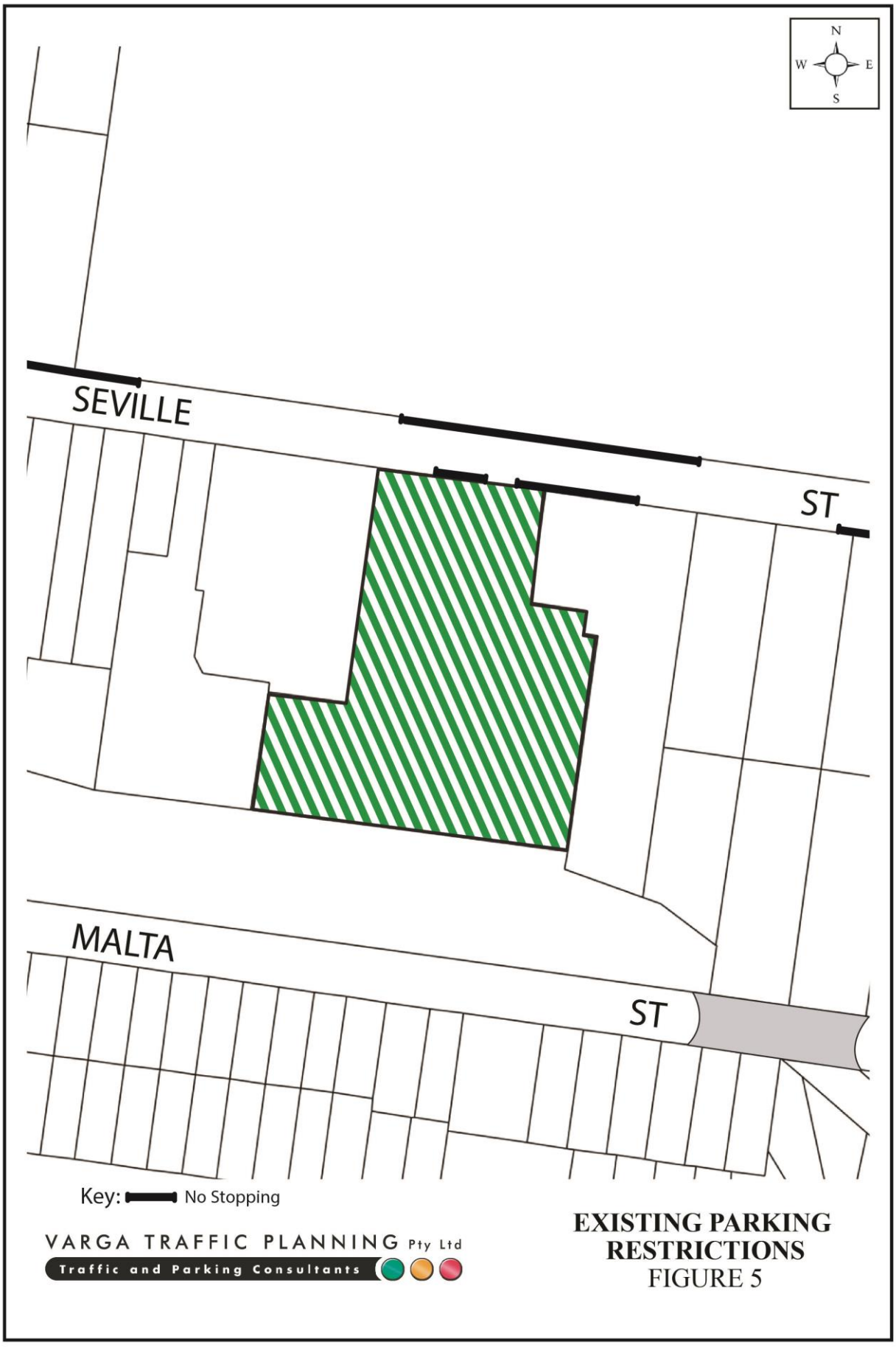
- generally UNRESTRICTED kerbside parking restrictions elsewhere along both sides of Seville Street, including along all the remainder of the site frontage.

Off-Street Car Parking Provisions

As noted in the foregoing, the proposed development will *not* result in any additional floor space; either warehouse or office. As such, the proposed development is not required to provide any additional off-street parking. Reference to Council's *DCP, Section 12.1.2* notes that a parking credit is available when you are developing a site already occupied by a building. Provided the development retains the structure of the existing building, an exemption will be granted for the parking requirements associated with the existing floor space.

Reference to the proposed operational characteristics outlined in Chapter 2 of this report also indicates that the proposed operation is expected to have, on average, 25 employees, noting that not all employees will be on-site, many will be "on the road". That anticipated peak parking demand is capable of being accommodated within the existing outdoor car parking area located along the western boundary of the site.

The geometric design layout of the existing car parking facilities, which are to remain *unchanged*, have generally been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* in respect of parking bay dimensions (typically 2.6m x 5.5m) and aisle width (6.0m)


N
W
E
S
SEVILLE
ST
MALTA
ST
Key: No Stopping
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 5

Loading/Servicing Provisions

Loading/servicing for the proposed facility is expected to be undertaken by small and medium rigid trucks ranging in length from 6.4m up to 8.8m. Vehicular access for trucks is to be provided via the existing separate entry and exit driveways located off Seville Street which are to remain *unchanged*.

Notwithstanding, swept turning path diagrams of the larger 12.5m HRV have been prepared and reproduced on the following pages which confirm that the vehicular access driveways and internal manoeuvring areas can accommodate the requirements of these trucks, allowing them to enter and exit the site in a forward direction at all times.

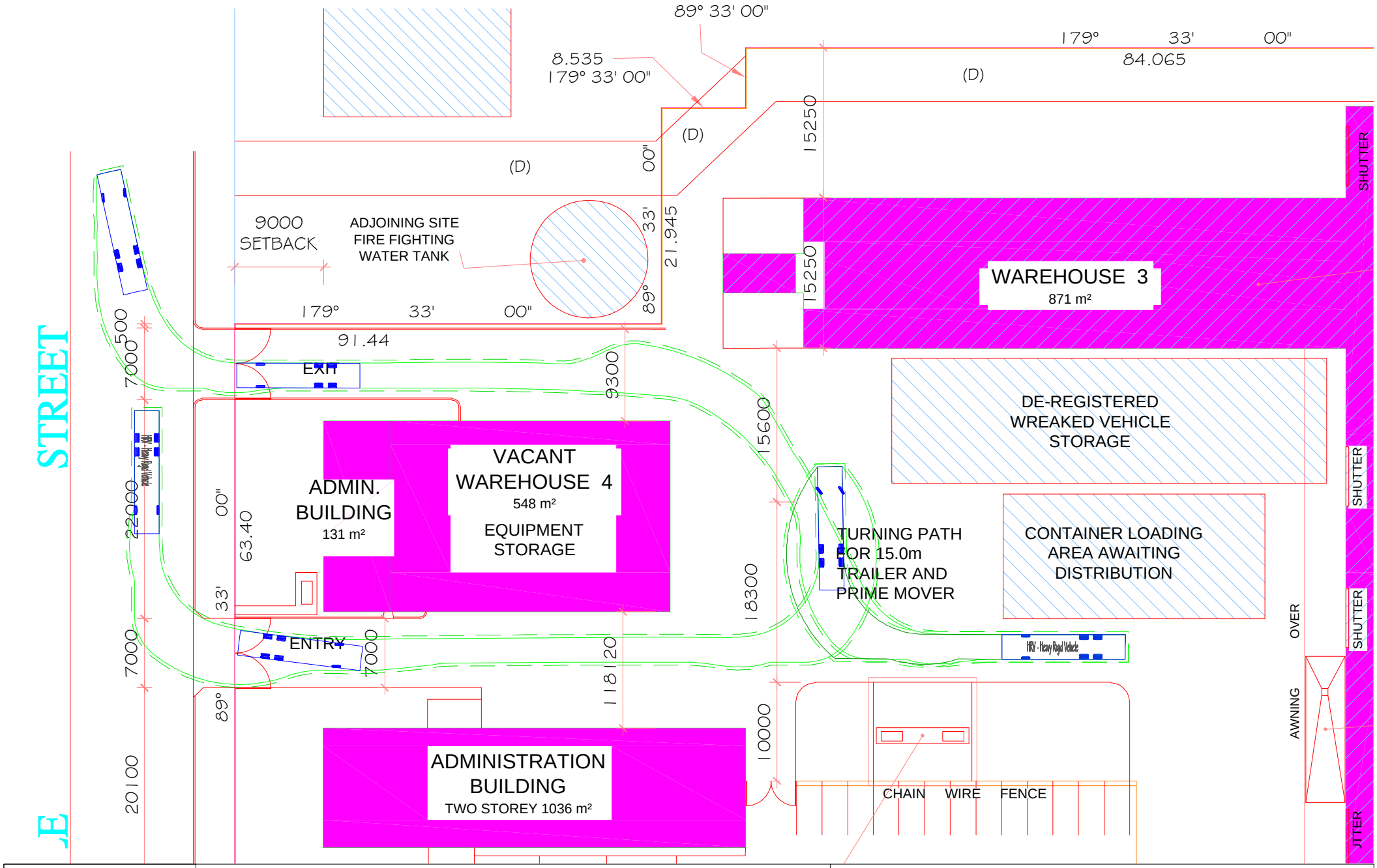
Conclusion

The foregoing assessment has found that the traffic expected to be generated by the proposed development will not result in any unacceptable implications in terms of road network capacity, nor will any road upgrades/improvements/widening be required,

Furthermore, the proposed facility satisfies the peak parking demands that are expected to be generated by the development whilst the design of the existing vehicular access and car parking/loading facilities generally comply with the relevant Australian Standards requirements.

As the proposal is merely a change of use, with no new buildings to be constructed or demolished, there is not expected to be any construction vehicle activity.

In the circumstances, it is therefore reasonable to conclude that the proposed waste or resource transfer station and resource recovery facility will not have any unacceptable implications in terms of road network capacity or off-street parking/loading/access requirements.



VARGA TRAFFIC PLANNING Pty Ltd
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Neutral Bay, NSW 2089
Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
INDUSTRIAL DEVELOPMENT

N

DRAWING TITLE
12.5M HRV TRUCK TURNING PATH
Entering / Exiting Site Loading Area

ADDRESS
74-76 Seville Street, Fairfield East

PROJECT NO.
18771

REVIEWED
CHRIS PALMER

1:500 @ A4

DATE DRAWN
2019-2-27

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

APPENDIX A

RMS SEARS REQUIREMENTS

Industry Assessments
Contact: Shaun Williams
Phone: (02) 8275 1345
Email: shaun.williams@planning.nsw.gov.au

Vidhya Ramesh
Hamptons Property Services
PO BOX 954
Edgecliff NSW 2033

EF18/46042
SEAR 1275

Dear Mr Ramesh

Waste Transfer Station
74-76 Seville Street, Fairfield East, Fairfield LGA (Lot 10 and DP 1090834)
Planning Secretary's Environmental Assessment Requirements (SEAR) 1275

Thank you for your request for the Planning Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) for the above development proposal. I have attached a copy of these requirements.

In support of your application, you indicated that your proposal is both designated and integrated development under Part 4 of the *Environmental Planning and Assessment Act 1979* and requires an approval under the *Protection of the Environment Operations Act 1997*. In preparing the SEARs, the Department has consulted with the Environment Protection Authority (EPA). A copy of their requirements is attached.

The Department has also consulted with Office of Environment and Heritage (OEH), Roads and Maritime Services (RMS) and Fire Safety NSW. A copy of their additional requirements for the EIS are attached.

If other integrated approvals are identified before the Development Application (DA) is lodged, you must undertake direct consultation with the relevant agencies, and address their requirements in the EIS.

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, then it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. If you have any questions about the application of the EPBC Act to your proposal, you should contact the Commonwealth Department of the Environment and Energy on (02) 6274 1111.

Should you have any further enquiries, please contact Shaun Williams, Planning Services, at the Department on the details above.

Yours sincerely

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary

3/12/18.

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*.
Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*.

Designated Development

SEAR Number	1275
Proposal	Proposed waste resource transfer station with a throughput of 15,000 tonnes per annum (tpa) of used motor vehicles to be stored and dismantled for resource recovery and off-site recycling.
Location	74-76 Seville Street, Fairfield East, Fairfield LGA – Lot 10 DP 1090834
Applicant	Hassani Investments Pty Ltd & Hussain Group Investments Pty Ltd
Date of Issue	7 December 2018
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.
Key Issues	The EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed: • **strategic context** – including: – a detailed justification for the proposal and suitability of the site for the development; – a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies; – a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out; – a description of how the proposed expansion integrates with existing on-site operations; and – a description of any additional licence(s) or approval(s) required to carry out the proposed development. • **suitability of the site** – including: – a detailed justification that the site can accommodate the proposed processing capacity, having regard to the scope of the operations and its environmental impacts and relevant mitigation measures; and – floor plans depicting the proposed internal layout including the location of machinery and equipment. • **waste management** – including: – details of the type, quantity and classification of waste to be received at the site; – details of the resource outputs and any additional processes for residual waste; – details of waste handling including, transport, identification, receipt, stockpiling and quality control; – details of machinery and waste processing to be used; and – the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.

	• **hazards and risk** – including: – a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). – an assessment of flood risk on the site. The assessment should determine: the flood hazard in the area; address the impact of flooding on the proposed development, and the development's impact (including filling) on flood behaviour of the site and adjacent lands; and address adequate egress and safety in a flood event • **air quality** – including: – a description of all potential sources of air and odour emissions – an air quality impact assessment in accordance with relevant Environment Protection Authority guidelines – a description and appraisal of air quality impact mitigation and monitoring measures. • **noise and vibration** – including: – a description of all potential noise and vibration sources during construction and operation, including road traffic noise – a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines – a description and appraisal of noise and vibration mitigation and monitoring measures. • **soil and water** – including: – a description of local soils, topography, drainage and landscapes – details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the *Water Act 1912* and/or the *Water Management Act 2000* – an assessment of potential impacts on floodplain and stormwater management and any impact to flooding in the catchment – details of sediment and erosion controls – a detailed site water balance – an assessment of potential impacts on the quality and quantity of surface and groundwater resources – details of the proposed stormwater and wastewater management systems (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts – a description and appraisal of impact mitigation and monitoring measures. • **fire and incident management** – including: – technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and contaminant measures; and – details of size and volume of stockpiles and their arrangements and separation to minimise fire spread and facilitate emergency vehicle access. • **traffic and transport** – including: – details of road transport routes and access to the site; – road traffic predictions for the development during construction and operation; – details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards; and – an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development.

Environmental Planning Instruments and other policies	The EIS must assess the proposal against the relevant environmental planning instruments, including but not limited to: • *State Environmental Planning Policy (Infrastructure) 2007* • *State Environmental Planning Policy No 33–Hazardous and Offensive Development* • *State Environmental Planning Policy No 55–Remediation of Land* • *Fairfield Local Environmental Plan 2013* • relevant development control plans and section 94 plans.
Guidelines	During the preparation of the EIS you should consult the Department's Register of Development Assessment Guidelines which is available on the Department's website at planning.nsw.gov.au under Development Proposals/Register of Development Assessment Guidelines. Whilst not exhaustive, this Register contains some of the guidelines, policies, and plans that must be taken into account in the environmental assessment of the proposed development.
Consultation	During the preparation of the EIS, you must consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult with the: • Environment Protection Authority • Office of Environment and Heritage • Roads and Maritime Services • Fire & Rescue NSW • Fairfield City Council • the surrounding landowners and occupiers that are likely to be impacted by the proposal. Details of the consultation carried out and issues raised must be included in the EIS.
Further consultation after 2 years	If you do not lodge an application under Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* within 2 years of the issue date of these SEARs, you must consult with the Planning Secretary in relation to any further requirements for lodgement.

29 November 2018

Our Reference: SYD18/01811/01 (A24981152)
Department Ref: SEAR 1275

Team Leader
Industry Assessments
Department of Planning & Environment
GPO Box 39 SYDNEY NSW 2001

Attention: Shaun Williams

Dear Sir/Madam,

SEARS REQUEST FOR PROPOSED WASTE MANAGEMENT FACILITY
74-76 SEVILLE STREET, FAIRFIELD EAST

Reference is made to your correspondence dated 12 November 2018 requesting Roads and Maritime Services (Roads and Maritime) to provide details of key issues and assessment requirements regarding the abovementioned development for inclusion in the Secretary's Environmental Assessment Requirements (SEARs).

Roads and Maritime would require the following issues to be included in the transport and traffic impact assessment of the proposed development:

1. Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need/associated funding for upgrading or road improvement works (if required).

2. Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (i.e.; turn paths, sight distance requirements, aisle widths, etc.).

3. Proposed number of car parking spaces and compliance with the appropriate parking codes.

4. Details of service vehicle movements (including vehicle type and likely arrival and departure times).

5. Roads and Maritime requires the EA report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (e.g.; Green Travel Plan, 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to

increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.

6. Roads and Maritime requires an assessment of the likely toxicity levels of loads transported on arterial and local roads to / from the site and, consequently, the preparation of an incident management strategy for crashes involving such loads, if relevant.

7. Roads and Maritime will require in due course the provision of a traffic management plan for all demolition/construction activities, detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures.

Any inquiries in relation to this development application can be directed to Ahsanul Amin, A/Senior Land Use Planner on 8849 2762 or e-mail at development.sydney@rms.nsw.gov.au.

Yours sincerely,

Zhaleh Alamouti
A/Senior Land Use Assessment Coordinator
Sydney Division – North West Precinct

Chris Palmer

From: AMIN Ahsanul
Sent: Friday, 15 March 2019 1:31 PM
To: Chris Palmer
Subject: RMS response on SYD18/01811/02 - Request for Input: Waste Management Facility - 74-76 Seville Street, Fairfield East - Fairfield City Council - SEAR 1275
Attachments: Signed Applicant SEARs Package - SEARs 1275.pdf; 20181126 - RMS response for SYD18_01811_01 - Request for SEARS - Waste M....pdf

Importance: High

Dear Chris

I refer to your following e-mail and our subsequent discussion, Roads and Maritime has no additional comment apart from the requirements as per it's letter dated 29 November 2018 (copy attached).

Should you have any further enquiries regarding the above please do not hesitate to contact me on 02-8849 2762 during business hours or e-mail at development.sydney@rms.nsw.gov.au.

Kind regards,

Ahsanul Amin
A/Senior Land Use Planner
Sydney Division | North West Precinct
T 02 8849 2762 | **M** 0427 941 329
www.rms.nsw.gov.au
Every journey matters

Roads and Maritime Services
Level 5, 27 Argyle Street, Parramatta, NSW 2150

From: Chris Palmer [mailto:chris@vtp.net.au]
Sent: Monday, 18 February 2019 7:09 AM
To: NAJARI ALAMOUTI Zhaleh
Cc: Development Sydney
Subject: SYD18/01811 NEW LOG - 74-76 Seville St, Fairfield East

Morning Zhaleh, I trust you're well.
We've been engaged to prepare a traffic and parking assessment report at the above address and have been provided with the SEARs package to assist.
As you're aware, part of the process is to liaise with the various authorities to ensure their respective requirements are addressed.
Other than the items listed in your response, are there any other matters for consideration that I should be aware of?
Regards
Chris Palmer B.Eng (Civil)
Traffic Engineer
Varga Traffic Planning Pty Ltd
Suite 6, 20 Young St or
PO Box 1868, Neutral Bay 2089
Tel 9904 3224 Fax 9904 3228
www.vargatraffic.com.au

APPENDIX B

TRAFFIC SURVEY DATA

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 6730 Fairfield East Mandarin St Counts
Day/Date : Wednesday 7th March 2018

PEDS	WEST	SOUTH	EAST	
Time Per	*Fairfield St*	*Mandarin St*	*Fairfield St*	TOT
0630 - 0645	0	2	0	**2**
0645 - 0700	2	0	0	**2**
0700 - 0715	3	1	0	**4**
0715 - 0730	3	1	0	**4**
0730 - 0745	0	0	0	**0**
0745 - 0800	1	1	0	**2**
0800 - 0815	2	2	0	**4**
0815 - 0830	0	0	0	**0**
0830 - 0845	2	1	0	**3**
0845 - 0900	1	1	1	**3**
0900 - 0915	2	0	0	**2**
0915 - 0930	0	0	0	**0**
Per End	**16**	**9**	**1**	**26**

PEDS	WEST	SOUTH	EAST	
Peak Per	*Fairfield St*	*Mandarin St*	*Fairfield St*	TOT
0630 - 0730	8	4	0	**12**
0645 - 0745	8	2	0	**10**
0700 - 0800	7	3	0	**10**
0715 - 0815	6	4	0	**10**
0730 - 0830	3	3	0	**6**
0745 - 0845	5	4	0	**9**
0800 - 0900	5	4	1	**10**
0815 - 0915	5	2	1	**8**
0830 - 0930	5	2	1	**8**
PEAK HR	**5**	**2**	**1**	**8**

Lights	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
0630 - 0645	60	11	11	6	18	54	**160**
0645 - 0700	71	21	8	9	33	44	**186**
0700 - 0715	90	22	4	17	35	42	**210**
0715 - 0730	72	24	11	21	39	51	**218**
0730 - 0745	104	17	13	18	26	65	**243**
0745 - 0800	79	16	8	17	38	53	**211**
0800 - 0815	75	18	8	17	36	50	**204**
0815 - 0830	55	16	10	14	34	46	**175**
0830 - 0845	94	23	12	18	60	69	**276**
0845 - 0900	74	14	4	20	40	79	**231**
0900 - 0915	81	17	11	18	49	63	**239**
0915 - 0930	65	24	10	21	35	56	**211**
Per End	**920**	**223**	**110**	**196**	**443**	**672**	**2564**

Heavies	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
0630 - 0645	10	0	0	1	1	7	**19**
0645 - 0700	13	2	0	1	1	6	**23**
0700 - 0715	12	1	1	4	2	7	**27**
0715 - 0730	13	0	2	3	1	6	**25**
0730 - 0745	13	0	0	0	1	11	**25**
0745 - 0800	10	2	1	3	2	10	**28**
0800 - 0815	10	2	0	2	2	8	**24**
0815 - 0830	9	2	1	3	2	4	**21**
0830 - 0845	9	0	0	5	2	8	**24**
0845 - 0900	7	0	0	8	1	9	**25**
0900 - 0915	8	0	1	2	1	7	**19**
0915 - 0930	10	1	1	5	4	6	**27**
Per End	**124**	**10**	**7**	**37**	**20**	**89**	**287**

Combined	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
0630 - 0645	70	11	11	7	19	61	**179**
0645 - 0700	84	23	8	10	34	50	**209**
0700 - 0715	102	23	5	21	37	49	**237**
0715 - 0730	85	24	13	24	40	57	**243**
0730 - 0745	117	17	13	18	27	76	**268**
0745 - 0800	89	18	9	20	40	63	**239**
0800 - 0815	85	20	8	19	38	58	**228**
0815 - 0830	64	18	11	17	36	50	**196**
0830 - 0845	103	23	12	23	62	77	**300**
0845 - 0900	81	14	4	28	41	88	**256**
0900 - 0915	89	17	12	20	50	70	**258**
0915 - 0930	75	25	11	26	39	62	**238**
Per End	**1044**	**233**	**117**	**233**	**463**	**761**	**2851**

Lights	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
0630 - 0730	293	78	34	53	125	191	**774**
0645 - 0745	337	84	36	65	133	202	**857**
0700 - 0800	345	79	36	73	138	211	**882**
0715 - 0815	330	75	40	73	139	219	**876**
0730 - 0830	313	67	39	66	134	214	**833**
0745 - 0845	303	73	38	66	168	218	**866**
0800 - 0900	298	71	34	69	170	244	**886**
0815 - 0915	304	70	37	70	183	257	**921**
0830 - 0930	314	78	37	77	184	267	**957**
PEAK HR	**314**	**78**	**37**	**77**	**184**	**267**	**957**

Heavies	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
0630 - 0730	48	3	3	9	5	26	**94**
0645 - 0745	51	3	3	8	5	30	**100**
0700 - 0800	48	3	4	10	6	34	**105**
0715 - 0815	46	4	3	8	6	35	**102**
0730 - 0830	42	6	2	8	7	33	**98**
0745 - 0845	38	6	2	13	8	30	**97**
0800 - 0900	35	4	1	18	7	29	**94**
0815 - 0915	33	2	2	18	6	28	**89**
0830 - 0930	34	1	2	20	8	30	**95**
PEAK HR	**34**	**1**	**2**	**20**	**8**	**30**	**95**

Combined	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
0630 - 0730	341	81	37	62	130	217	**868**
0645 - 0745	388	87	39	73	138	232	**957**
0700 - 0800	393	82	40	83	144	245	**987**
0715 - 0815	376	79	43	81	145	254	**978**
0730 - 0830	355	73	41	74	141	247	**931**
0745 - 0845	341	79	40	79	176	248	**963**
0800 - 0900	333	75	35	87	177	273	**980**
0815 - 0915	337	72	39	88	189	285	**1010**
0830 - 0930	348	79	39	97	192	297	**1052**
PEAK HR	**348**	**79**	**39**	**97**	**192**	**297**	**1052**

R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client	: Varga Traffic Planning
Job No/Name	: 6730 Fairfield East Mandarin St Counts
Day/Date	: Wednesday 7th March 2018

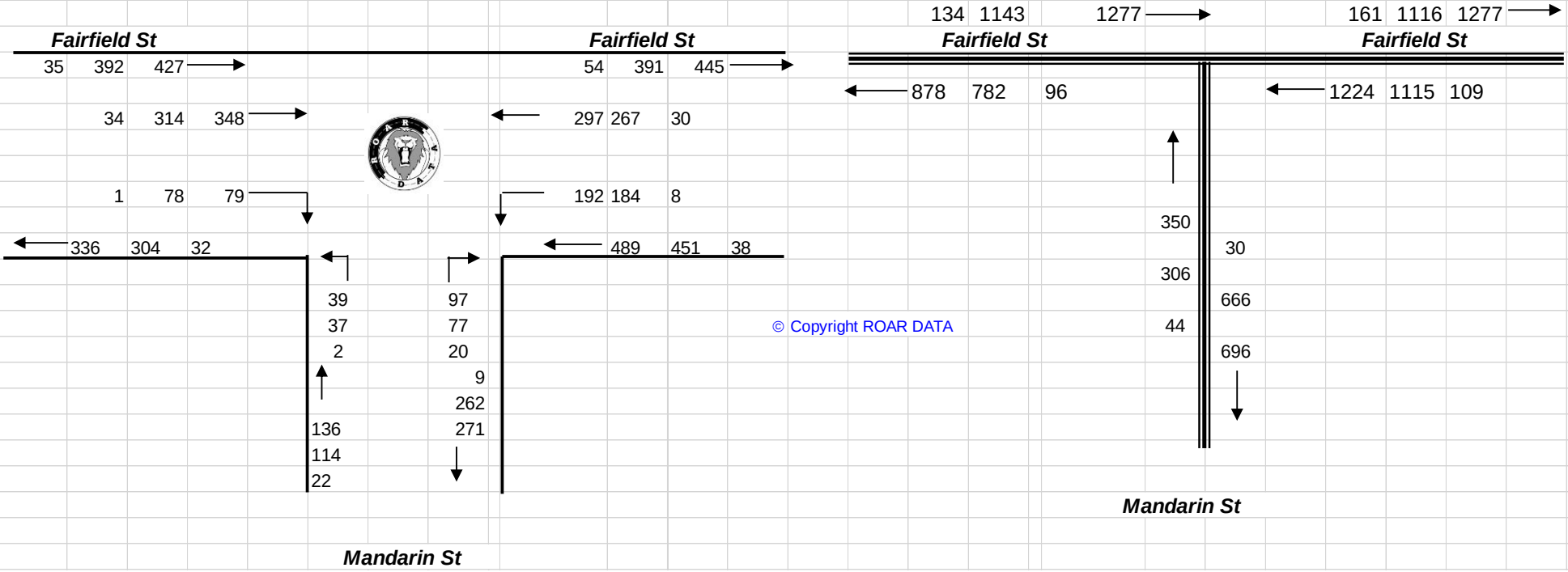
1 2 3

4 5 6 ***AM PEAK*** ***0830 - 0930***

7 8 9

TOTAL VOLUMES FOR COUNT PERIOD

N



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 6730 Fairfield East Mandarin St Cour
Day/Date : Wednesday 7th March 2018

PEDS	WEST	SOUTH	EAST	
Time Per	*Fairfield St*	*Mandarin St*	*Fairfield St*	TOT
1530 - 1545	0	0	0	**0**
1545 - 1600	3	0	0	**3**
1600 - 1615	0	1	0	**1**
1615 - 1630	0	0	0	**0**
1630 - 1645	0	1	0	**1**
1645 - 1700	1	1	0	**2**
1700 - 1715	2	2	0	**4**
1715 - 1730	0	0	0	**0**
1730 - 1745	0	1	0	**1**
1745 - 1800	0	0	0	**0**
1800 - 1815	2	1	0	**3**
1815 - 1830	0	0	0	**0**
Per End	**8**	**7**	**0**	**15**

PEDS	WEST	SOUTH	EAST	
Peak Per	*Fairfield St*	*Mandarin St*	*Fairfield St*	TOT
1530 - 1630	3	1	0	**4**
1545 - 1645	3	2	0	**5**
1600 - 1700	1	3	0	**4**
1615 - 1715	3	4	0	**7**
1630 - 1730	3	4	0	**7**
1645 - 1745	3	4	0	**7**
1700 - 1800	2	3	0	**5**
1715 - 1815	2	2	0	**4**
1730 - 1830	2	2	0	**4**
PEAK HR	**3**	**4**	**0**	**7**

Lights	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
1530 - 1545	54	18	17	35	31	87	**242**
1545 - 1600	77	17	30	26	36	84	**270**
1600 - 1615	88	13	27	45	49	118	**340**
1615 - 1630	63	14	24	31	36	88	**256**
1630 - 1645	59	16	28	21	37	111	**272**
1645 - 1700	76	14	12	30	31	130	**293**
1700 - 1715	70	30	22	34	29	141	**326**
1715 - 1730	70	12	11	39	35	124	**291**
1730 - 1745	74	14	8	34	56	140	**326**
1745 - 1800	63	14	14	36	30	118	**275**
1800 - 1815	53	12	6	21	22	5	**119**
1815 - 1830	66	10	7	19	16	106	**224**
Per End	**813**	**184**	**206**	**371**	**408**	**1252**	**3234**

Heavies	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
1530 - 1545	7	0	2	3	6	5	**23**
1545 - 1600	10	1	2	2	2	16	**33**
1600 - 1615	9	1	0	0	4	9	**23**
1615 - 1630	9	1	2	0	3	7	**22**
1630 - 1645	5	1	0	1	3	8	**18**
1645 - 1700	6	1	1	3	3	6	**20**
1700 - 1715	5	0	1	0	1	6	**13**
1715 - 1730	5	1	1	3	4	6	**20**
1730 - 1745	4	0	1	2	1	5	**13**
1745 - 1800	3	0	0	0	0	5	**8**
1800 - 1815	2	0	0	0	1	5	**8**
1815 - 1830	5	0	0	0	1	3	**9**
Per End	**70**	**6**	**10**	**14**	**29**	**81**	**210**

Combined	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Time Per	T	R	L	R	L	T	TOT
1530 - 1545	61	18	19	38	37	92	**265**
1545 - 1600	87	18	32	28	38	100	**303**
1600 - 1615	97	14	27	45	53	127	**363**
1615 - 1630	72	15	26	31	39	95	**278**
1630 - 1645	64	17	28	22	40	119	**290**
1645 - 1700	82	15	13	33	34	136	**313**
1700 - 1715	75	30	23	34	30	147	**339**
1715 - 1730	75	13	12	42	39	130	**311**
1730 - 1745	78	14	9	36	57	145	**339**
1745 - 1800	66	14	14	36	30	123	**283**
1800 - 1815	55	12	6	21	23	10	**127**
1815 - 1830	71	10	7	19	17	109	**233**
Per End	**883**	**190**	**216**	**385**	**437**	**1333**	**3444**

Lights	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
1530 - 1630	282	62	98	137	152	377	**1108**
1545 - 1645	287	60	109	123	158	401	**1138**
1600 - 1700	286	57	91	127	153	447	**1161**
1615 - 1715	268	74	86	116	133	470	**1147**
1630 - 1730	275	72	73	124	132	506	**1182**
1645 - 1745	290	70	53	137	151	535	**1236**
1700 - 1800	277	70	55	143	150	523	**1218**
1715 - 1815	260	52	39	130	143	387	**1011**
1730 - 1830	256	50	35	110	124	369	**944**
PEAK HR	**290**	**70**	**53**	**137**	**151**	**535**	**1236**

Heavies	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
1530 - 1630	35	3	6	5	15	37	**101**
1545 - 1645	33	4	4	3	12	40	**96**
1600 - 1700	29	4	3	4	13	30	**83**
1615 - 1715	25	3	4	4	10	27	**73**
1630 - 1730	21	3	3	7	11	26	**71**
1645 - 1745	20	2	4	8	9	23	**66**
1700 - 1800	17	1	3	5	6	22	**54**
1715 - 1815	14	1	2	5	6	21	**49**
1730 - 1830	14	0	1	2	3	18	**38**
PEAK HR	**20**	**2**	**4**	**8**	**9**	**23**	**66**

Combined	WEST		SOUTH		EAST		
	Fairfield St		*Mandarin St*		*Fairfield St*		
Peak Per	T	R	L	R	L	T	TOT
1530 - 1630	317	65	104	142	167	414	**1209**
1545 - 1645	320	64	113	126	170	441	**1234**
1600 - 1700	315	61	94	131	166	477	**1244**
1615 - 1715	293	77	90	120	143	497	**1220**
1630 - 1730	296	75	76	131	143	532	**1253**
1645 - 1745	310	72	57	145	160	558	**1302**
1700 - 1800	294	71	58	148	156	545	**1272**
1715 - 1815	274	53	41	135	149	408	**1060**
1730 - 1830	270	50	36	112	127	387	**982**
PEAK HR	**310**	**72**	**57**	**145**	**160**	**558**	**1302**

R.O.A.R. DATA

Reliable, Original & Authentic Results

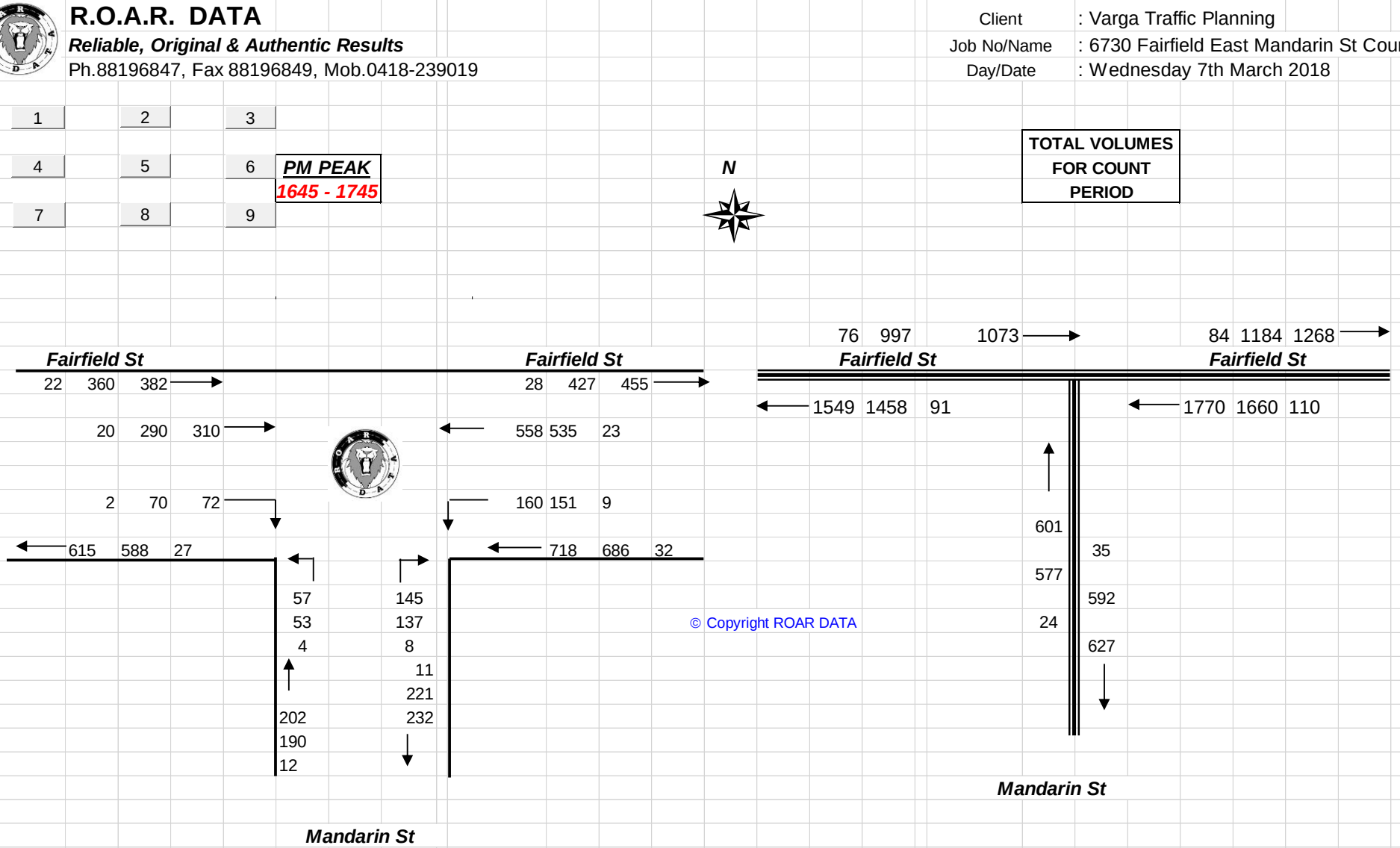
Ph.88196847, Fax 88196849, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 6730 Fairfield East Mandarin St Counts
Day/Date	: Wednesday 7th March 2018

1 2 3
4 5 6
7 8 9

PM PEAK
1645 - 1745

TOTAL VOLUMES FOR COUNT PERIOD



R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client	: Varga Traffic Planning
Job No/Name	: 6730 Fairfield East Mandarin St Counts
Day/Date	: Wednesday 7th March 2018

Intersection Details

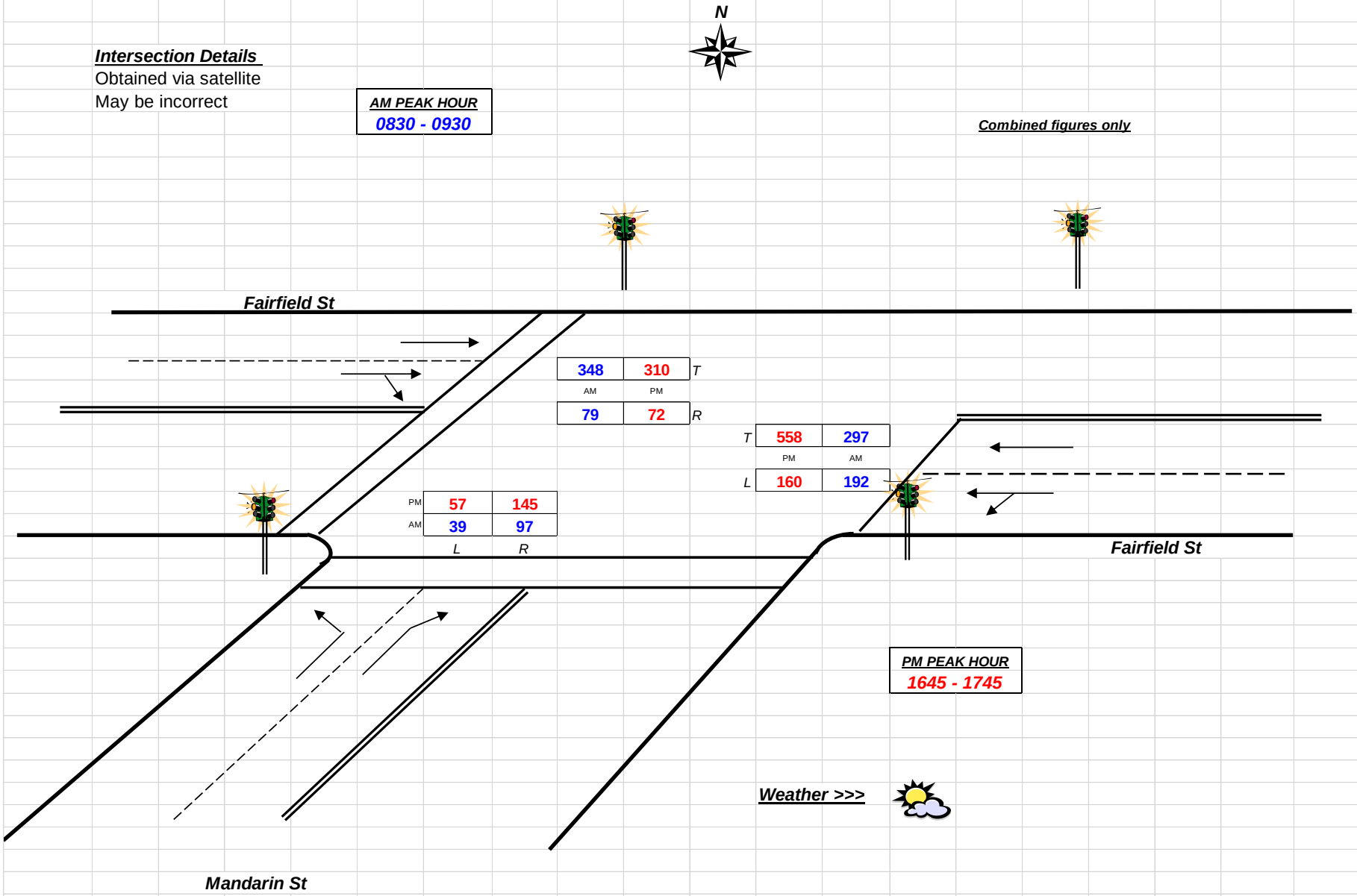
Obtained via satellite

May be incorrect

AM PEAK HOUR

0830 - 0930

Combined figures only



PM PEAK HOUR

1645 - 1745

Weather >>>

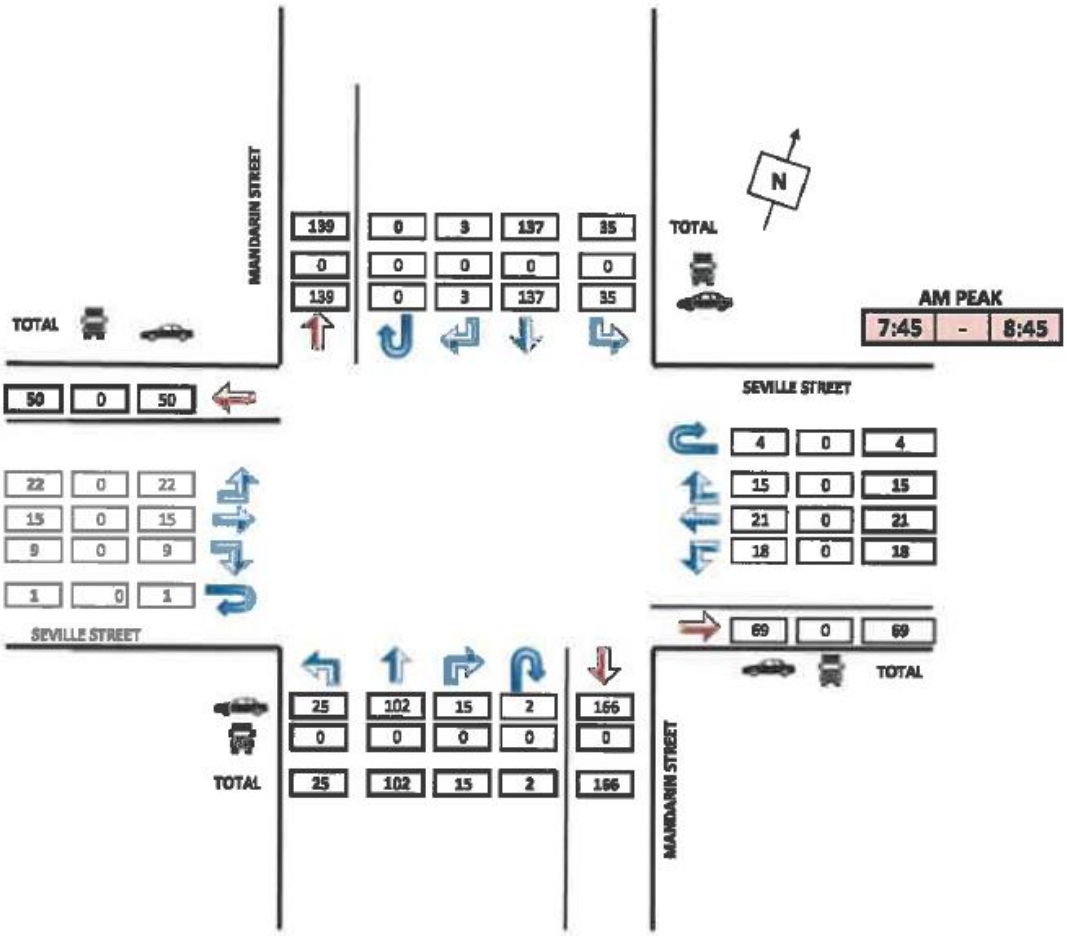
Location	MANDARIN STREET		Duration	0700 - 0900	
	SEVILLE STREET			1600 - 1800	
	MANDARIN STREET			-	
	SEVILLE STREET		Day/Date	Wednesday, October 12, 2016	
Suburb	FAIRFIELD EAST		Weather	FINE	

All Vehicles Time Per 15 Mins	NORTH MANDARIN STREET					EAST SEVILLE STREET					SOUTH MANDARIN STREET					WEST SEVILLE STREET					
	L	T	R	U	TOTAL	L	T	R	U	TOTAL	L	T	R	U	TOTAL	L	T	R	U	TOTAL	TOTAL
7:00 - 7:15	8	28	6	1	43	3	2	3	0	8	10	9	7	0	26	2	2	0	0	4	81
7:15 - 7:30	3	24	3	0	30	3	4	5	0	12	9	22	2	0	33	1	3	2	1	7	82
7:30 - 7:45	3	21	2	0	26	4	1	5	0	10	4	20	2	1	27	3	3	2	0	8	71
7:45 - 8:00	4	30	1	0	35	1	7	3	2	13	6	26	3	0	36	3	2	1	0	6	90
8:00 - 8:15	7	23	0	0	30	1	4	3	0	8	7	25	5	0	37	5	8	2	1	17	92
8:15 - 8:30	9	21	1	0	31	4	4	4	0	12	5	27	3	2	37	4	1	1	0	6	86
8:30 - 8:45	10	27	1	0	38	6	2	1	0	9	5	25	4	0	34	9	4	5	0	18	99
8:45 - 9:00	5	36	0	0	41	6	4	4	2	16	4	36	3	0	43	6	5	4	0	17	117
Period End	49	210	14	1	274	28	28	25	4	85	52	189	29	3	273	36	28	17	2	83	718
16:00 - 16:15	9	46	6	1	62	4	4	5	0	13	4	57	10	1	72	16	16	14	0	46	192
16:15 - 16:30	3	31	3	0	37	3	3	3	0	9	7	58	9	2	76	21	6	6	0	31	153
16:30 - 16:45	7	26	2	0	37	3	6	4	0	13	6	50	8	0	64	13	6	5	0	24	138
16:45 - 17:00	5	23	1	0	29	6	4	6	1	17	3	57	5	0	65	6	2	5	0	13	124
17:00 - 17:15	4	26	0	0	30	6	6	7	0	19	0	71	5	0	76	13	7	7	0	27	152
17:15 - 17:30	1	26	1	0	28	1	1	9	0	11	4	42	5	0	51	11	4	5	0	20	110
17:30 - 17:45	1	20	1	0	22	4	3	7	1	15	2	45	3	0	50	3	6	1	0	12	99
17:45 - 18:00	3	22	0	0	25	3	1	3	0	7	2	31	2	0	35	3	2	0	0	5	72
Period End	33	222	14	1	270	30	28	44	2	104	28	411	47	3	489	85	50	42	0	177	1040

All Vehicles Time Per 15 Mins	NORTH MANDARIN STREET					EAST SEVILLE STREET					SOUTH MANDARIN STREET					WEST SEVILLE STREET					
	L	T	R	U	TOTAL	L	T	R	U	TOTAL	L	T	R	U	TOTAL	L	T	R	U	TOTAL	TOTAL
7:00 - 8:00	18	103	12	1	134	11	14	16	2	43	31	76	14	1	122	9	10	5	1	25	324
7:15 - 8:15	17	98	6	0	121	9	16	16	2	43	26	92	12	1	133	13	16	7	2	38	335
7:30 - 8:30	23	95	4	0	122	10	16	15	2	43	24	97	19	9	137	16	14	6	1	37	339
7:45 - 8:45	35	137	5	0	175	18	21	15	4	58	25	102	15	2	144	22	15	9	1	47	424
8:00 - 9:00	31	107	2	0	140	17	14	12	2	45	21	118	15	2	151	27	18	12	1	58	394
Period End	124	540	27	1	692	65	81	74	12	232	129	480	69	9	687	87	78	39	5	209	1818
16:00 - 17:00	24	129	12	1	166	16	17	18	1	52	20	222	32	3	277	55	32	29	0	116	607
16:15 - 17:15	19	108	6	0	133	18	19	20	1	58	18	236	27	2	281	53	20	22	0	95	567
16:30 - 17:30	17	103	4	0	124	16	17	26	1	60	13	220	29	0	256	43	19	22	0	84	524
16:45 - 17:45	14	117	3	0	134	20	15	32	2	69	9	215	18	0	242	33	21	18	0	72	517
17:00 - 18:00	9	94	2	0	105	14	11	26	1	52	8	189	15	0	212	30	21	13	0	64	433
Period End	83	550	27	1	661	84	79	122	6	291	68	1082	115	5	1268	214	110	104	0	428	2648

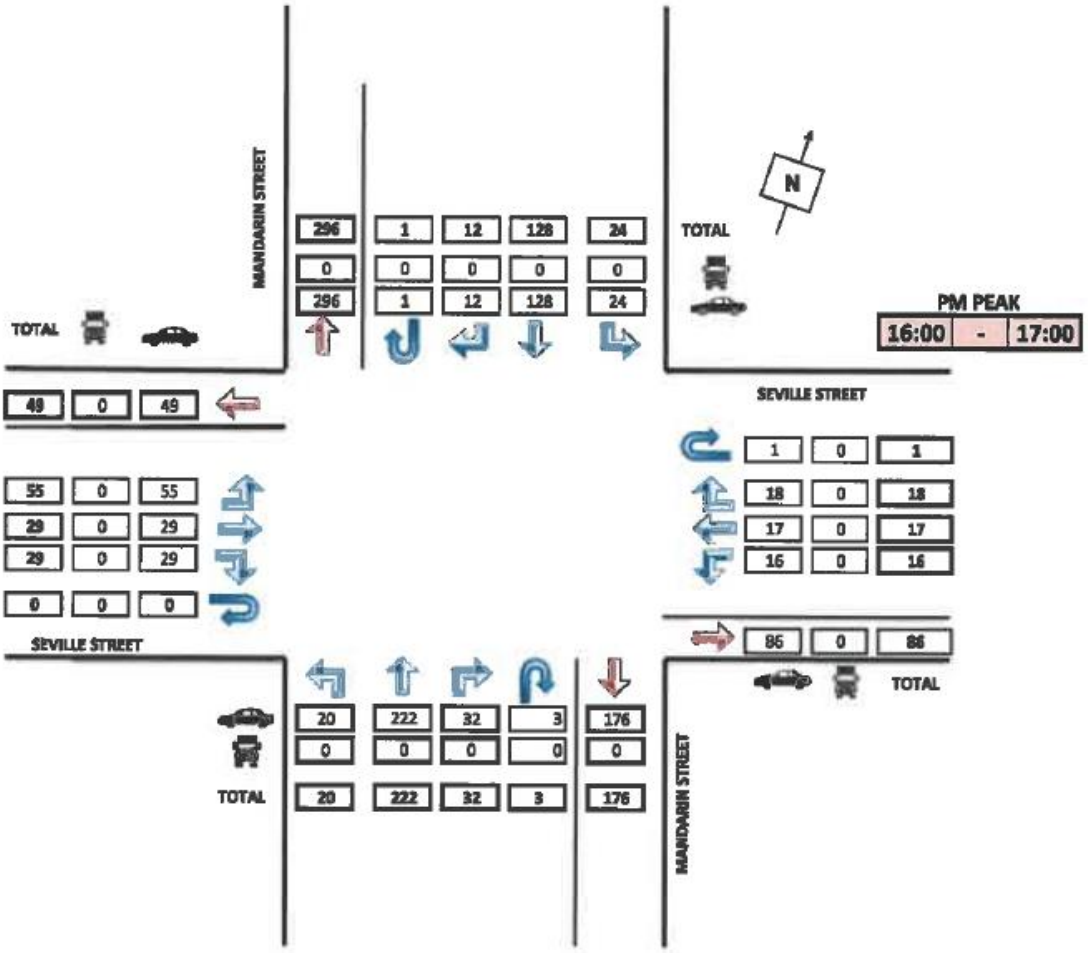
tis Traffic Information Specialist

Location	MANDARIN STREET	Duration	0700 - 0900
	SEVILLE STREET		1800 - 1800
	MANDARIN STREET		0
	SEVILLE STREET	Day/Date	Wednesday, October 12, 2016
Suburb	FAIRFIELD EAST	Weather	FINE



Traffic Information Specialist

Location	MANDARIN STREET	Duration	0700 - 0900
	SEVILLE STREET		1600 - 1800
	MANDARIN STREET		0
	SEVILLE STREET	Day/Date	Wednesday, October 12, 2016
Suburb	FAIRFIELD EAST	Weather	FINE



Traffic Information Specialist

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 7018 FAIRFIELD EAST Crown St
Day/Date : Wednesday 13th February 2019

Lights

Time Per	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0645	14	21	3	2	0	2	4	26	8	2	0	8	**90**
0645 - 0700	11	24	0	1	0	1	0	29	9	0	1	5	**81**
0700 - 0715	19	20	0	3	1	4	4	30	9	1	2	6	**99**
0715 - 0730	13	24	0	1	1	3	1	21	9	1	1	3	**78**
0730 - 0745	8	29	0	0	1	1	1	25	3	1	3	6	**78**
0745 - 0800	8	24	2	1	2	3	3	48	12	2	1	3	**109**
0800 - 0815	8	31	1	0	3	1	2	33	5	2	2	4	**92**
0815 - 0830	4	33	0	3	1	4	5	40	4	4	2	4	**104**
0830 - 0845	6	33	0	3	0	2	2	43	3	2	2	9	**105**
0845 - 0900	12	36	5	3	0	4	3	36	2	3	1	8	**113**
0900 - 0915	4	20	0	0	1	1	1	19	13	4	0	3	**66**
0915 - 0930	10	24	3	3	0	3	4	16	2	3	0	7	**75**
Period End	**117**	**319**	**14**	**20**	**10**	**29**	**30**	**366**	**79**	**25**	**15**	**66**	**1090**

Lights

Peak Time	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0730	57	89	3	7	2	10	9	106	35	4	4	22	**348**
0645 - 0745	51	97	0	5	3	9	6	105	30	3	7	20	**336**
0700 - 0800	48	97	2	5	5	11	9	124	33	5	7	18	**364**
0715 - 0815	37	108	3	2	7	8	7	127	29	6	7	16	**357**
0730 - 0830	28	117	3	4	7	9	11	146	24	9	8	17	**383**
0745 - 0845	26	121	3	7	6	10	12	164	24	10	7	20	**410**
0800 - 0900	30	133	6	9	4	11	12	152	14	11	7	25	**414**
0815 - 0915	26	122	5	9	2	11	11	138	22	13	5	24	**388**
0830 - 0930	32	113	8	9	1	10	10	114	20	12	3	27	**359**
PEAK HOUR	**30**	**133**	**6**	**9**	**4**	**11**	**12**	**152**	**14**	**11**	**7**	**25**	**414**

Heavies

Time Per	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0645	1	1	0	0	0	0	0	0	0	0	0	0	**2**
0645 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0700 - 0715	1	0	0	0	0	0	0	0	0	0	0	1	**2**
0715 - 0730	0	0	0	0	0	0	0	1	0	0	0	0	**1**
0730 - 0745	1	0	0	0	0	0	0	0	0	0	0	2	**3**
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	**1**
0800 - 0815	0	2	0	0	0	0	0	0	0	0	0	1	**3**
0815 - 0830	1	0	0	0	0	0	0	1	0	0	0	2	**4**
0830 - 0845	0	0	0	0	0	0	0	1	0	0	0	0	**1**
0845 - 0900	1	2	0	0	0	0	0	4	0	0	0	0	**7**
0900 - 0915	1	0	0	0	0	0	0	0	0	0	0	0	**1**
0915 - 0930	1	0	0	0	0	0	0	0	0	1	0	0	**2**
Period End	**7**	**5**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**7**	**27**

Heavies

Peak Per	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0730	2	1	0	0	0	0	0	1	0	0	0	1	**5**
0645 - 0745	2	0	0	0	0	0	0	1	0	0	0	3	**6**
0700 - 0800	2	0	0	0	0	0	0	1	0	0	0	4	**7**
0715 - 0815	1	2	0	0	0	0	0	1	0	0	0	4	**8**
0730 - 0830	2	2	0	0	0	0	0	1	0	0	0	6	**11**
0745 - 0845	1	2	0	0	0	0	0	2	0	0	0	4	**9**
0800 - 0900	2	4	0	0	0	0	0	6	0	0	0	3	**15**
0815 - 0915	3	2	0	0	0	0	0	6	0	0	0	2	**13**
0830 - 0930	3	2	0	0	0	0	0	5	0	1	0	0	**11**
PEAK HOUR	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**3**	**15**

Combined

Time Per	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0645	15	22	3	2	0	2	4	26	8	2	0	8	**92**
0645 - 0700	11	24	0	1	0	1	0	29	9	0	1	5	**81**
0700 - 0715	20	20	0	3	1	4	4	30	9	1	2	7	**101**
0715 - 0730	13	24	0	1	1	3	1	22	9	1	1	3	**79**
0730 - 0745	9	29	0	0	1	1	1	25	3	1	3	8	**81**
0745 - 0800	8	24	2	1	2	3	3	48	12	2	1	4	**110**
0800 - 0815	8	33	1	0	3	1	2	33	5	2	2	5	**95**
0815 - 0830	5	33	0	3	1	4	5	41	4	4	2	6	**108**
0830 - 0845	6	33	0	3	0	2	2	44	3	2	2	9	**106**
0845 - 0900	13	38	5	3	0	4	3	40	2	3	1	8	**120**
0900 - 0915	5	20	0	0	1	1	1	19	13	4	0	3	**67**
0915 - 0930	11	24	3	3	0	3	4	16	2	4	0	7	**77**
Period End	**124**	**324**	**14**	**20**	**10**	**29**	**30**	**373**	**79**	**26**	**15**	**73**	**1117**

Combined

Peak Per	NORTH Crown St L	NORTH Crown St T	NORTH Crown St R	WEST Seville St L	WEST Seville St T	WEST Seville St R	SOUTH Crown St L	SOUTH Crown St T	SOUTH Crown St R	EAST Seville St L	EAST Seville St T	EAST Seville St R	TOT
0630 - 0730	59	90	3	7	2	10	9	107	35	4	4	23	**353**
0645 - 0745	53	97	0	5	3	9	6	106	30	3	7	23	**342**
0700 - 0800	50	97	2	5	5	11	9	125	33	5	7	22	**371**
0715 - 0815	38	110	3	2	7	8	7	128	29	6	7	20	**365**
0730 - 0830	30	119	3	4	7	9	11	147	24	9	8	23	**394**
0745 - 0845	27	123	3	7	6	10	12	166	24	10	7	24	**419**
0800 - 0900	32	137	6	9	4	11	12	158	14	11	7	28	**429**
0815 - 0915	29	124	5	9	2	11	11	144	22	13	5	26	**401**
0830 - 0930	35	115	8	9	1	10	10	119	20	13	3	27	**370**
PEAK HOUR	**32**	**137**	**6**	**9**	**4**	**11**	**12**	**158**	**14**	**11**	**7**	**28**	**429**

R.O.A.R DATA

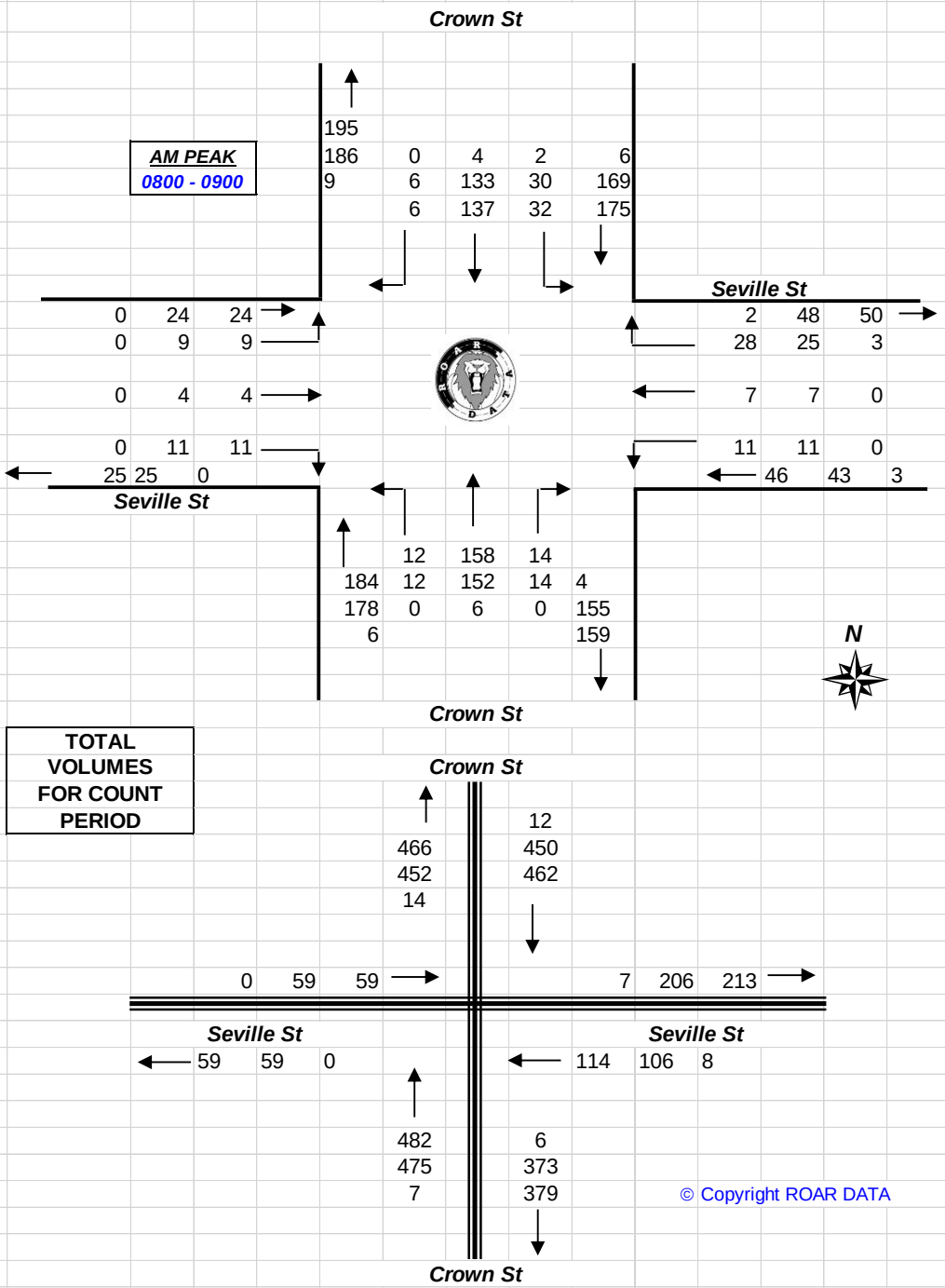
Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 7018 FAIRFIELD EAST Crown St
Day/Date	: Wednesday 13th February 2019

Peds	NORTH	WEST	SOUTH	EAST	
	Crown St	*Seville St*	*Crown St*	*Seville St*	
Time Per	**UNCLASSIFIED**	**UNCLASSIFIED**	**UNCLASSIFIED**	**UNCLASSIFIED**	**TOT**
0630 - 0645	0	0	0	0	**0**
0645 - 0700	1	1	0	0	**2**
0700 - 0715	0	0	1	0	**1**
0715 - 0730	0	1	0	0	**1**
0730 - 0745	0	1	1	0	**2**
0745 - 0800	0	0	0	0	**0**
0800 - 0815	0	0	0	1	**1**
0815 - 0830	2	3	0	1	**6**
0830 - 0845	0	0	0	0	**0**
0845 - 0900	0	0	1	1	**2**
0900 - 0915	0	0	0	3	**3**
0915 - 0930	0	1	0	0	**1**
Period End	**3**	**7**	**3**	**6**	**19**

Peds	NORTH	WEST	SOUTH	EAST	
	Crown St	*Seville St*	*Crown St*	*Seville St*	
Peak Per	**UNCLASSIFIED**	**UNCLASSIFIED**	**UNCLASSIFIED**	**UNCLASSIFIED**	**TOT**
0630 - 0730	1	2	1	0	**4**
0645 - 0745	1	3	2	0	**6**
0700 - 0800	0	2	2	0	**4**
0715 - 0815	0	2	1	1	**4**
0730 - 0830	2	4	1	2	**9**
0745 - 0845	2	3	0	2	**7**
0800 - 0900	2	3	1	3	**9**
0815 - 0915	2	3	1	5	**11**
0830 - 0930	0	1	1	4	**6**
PEAK HR	**2**	**3**	**1**	**3**	**9**



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.881 Ph.88196847, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 7018 FAIRFIELD EAST Crown St
Day/Date : Wednesday 13th February 2019

Lights

Time Per	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1545	3	30	2	1	0	3	1	28	1	9	0	10	**88**
1545 - 1600	4	33	3	2	1	5	4	29	3	11	1	11	**107**
1600 - 1615	6	41	3	0	0	2	2	42	3	8	1	26	**134**
1615 - 1630	1	42	2	0	2	2	2	31	0	1	1	4	**88**
1630 - 1645	5	45	0	0	0	2	3	27	1	1	1	7	**92**
1645 - 1700	3	39	1	0	1	0	7	39	4	4	0	5	**103**
1700 - 1715	3	37	4	0	0	4	2	22	1	1	1	12	**87**
1715 - 1730	4	40	3	0	1	3	5	34	1	4	0	3	**98**
1730 - 1745	2	39	1	1	0	2	4	30	2	2	2	10	**95**
1745 - 1800	2	42	2	4	1	5	6	31	2	5	2	9	**111**
1800 - 1815	1	40	3	0	0	1	2	28	3	4	1	4	**87**
1815 - 1830	3	55	2	0	0	1	3	30	0	2	0	4	**100**
Period End	**37**	**483**	**26**	**8**	**6**	**30**	**41**	**371**	**21**	**52**	**10**	**105**	**1190**

Lights

Peak Time	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1630	14	146	10	3	3	12	9	130	7	29	3	51	**417**
1545 - 1645	16	161	8	2	3	11	11	129	7	21	4	48	**421**
1600 - 1700	15	167	6	0	3	6	14	139	8	14	3	42	**417**
1615 - 1715	12	163	7	0	3	8	14	119	6	7	3	28	**370**
1630 - 1730	15	161	8	0	2	9	17	122	7	10	2	27	**380**
1645 - 1745	12	155	9	1	2	9	18	125	8	11	3	30	**383**
1700 - 1800	11	158	10	5	2	14	17	117	6	12	5	34	**391**
1715 - 1815	9	161	9	5	2	11	17	123	8	15	5	26	**391**
1730 - 1830	8	176	8	5	1	9	15	119	7	13	5	27	**393**
PEAK HOUR	**16**	**161**	**8**	**2**	**3**	**11**	**11**	**129**	**7**	**21**	**4**	**48**	**421**

Heavies

Time Per	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1545	1	1	0	0	0	0	0	0	0	0	0	0	**2**
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	2	**2**
1600 - 1615	1	0	0	0	0	0	0	0	0	0	0	0	**1**
1615 - 1630	2	0	0	0	0	0	0	0	0	0	0	3	**5**
1630 - 1645	2	0	0	0	0	0	0	0	0	0	0	1	**3**
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	**1**
1700 - 1715	0	1	0	0	0	0	0	0	0	0	0	0	**1**
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	1	**1**
1730 - 1745	0	2	0	0	0	0	0	0	0	0	0	0	**2**
1745 - 1800	2	0	0	0	0	0	0	0	0	0	0	0	**2**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	**0**
1815 - 1830	0	1	0	0	0	0	0	0	0	0	0	1	**2**
Period End	**8**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**22**

Heavies

Peak Per	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1630	4	1	0	0	0	0	0	0	0	0	0	5	**10**
1545 - 1645	5	0	0	0	0	0	0	0	0	0	0	6	**11**
1600 - 1700	5	0	0	0	0	0	0	0	0	0	0	5	**10**
1615 - 1715	4	1	0	0	0	0	0	0	0	0	0	5	**10**
1630 - 1730	2	1	0	0	0	0	0	0	0	0	0	3	**6**
1645 - 1745	0	3	0	0	0	0	0	0	0	0	0	2	**5**
1700 - 1800	2	3	0	0	0	0	0	0	0	0	0	1	**6**
1715 - 1815	2	2	0	0	0	0	0	0	0	0	0	1	**5**
1730 - 1830	2	3	0	0	0	0	0	0	0	0	0	1	**6**
PEAK HOUR	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**11**

Combined

Time Per	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1545	4	31	2	1	0	3	1	28	1	9	0	10	**90**
1545 - 1600	4	33	3	2	1	5	4	29	3	11	1	13	**109**
1600 - 1615	7	41	3	0	0	2	2	42	3	8	1	26	**135**
1615 - 1630	3	42	2	0	2	2	2	31	0	1	1	7	**93**
1630 - 1645	7	45	0	0	0	2	3	27	1	1	1	8	**95**
1645 - 1700	3	39	1	0	1	0	7	39	4	4	0	6	**104**
1700 - 1715	3	38	4	0	0	4	2	22	1	1	1	12	**88**
1715 - 1730	4	40	3	0	1	3	5	34	1	4	0	4	**99**
1730 - 1745	2	41	1	1	0	2	4	30	2	2	2	10	**97**
1745 - 1800	4	42	2	4	1	5	6	31	2	5	2	9	**113**
1800 - 1815	1	40	3	0	0	1	2	28	3	4	1	4	**87**
1815 - 1830	3	56	2	0	0	1	3	30	0	2	0	5	**102**
Period End	**45**	**488**	**26**	**8**	**6**	**30**	**41**	**371**	**21**	**52**	**10**	**114**	**1212**

Combined

Peak Per	NORTH Crown St L	T	R	WEST Seville St L	T	R	SOUTH Crown St L	T	R	EAST Seville St L	T	R	TOT
1530 - 1630	18	147	10	3	3	12	9	130	7	29	3	56	**427**
1545 - 1645	21	161	8	2	3	11	11	129	7	21	4	54	**432**
1600 - 1700	20	167	6	0	3	6	14	139	8	14	3	47	**427**
1615 - 1715	16	164	7	0	3	8	14	119	6	7	3	33	**380**
1630 - 1730	17	162	8	0	2	9	17	122	7	10	2	30	**386**
1645 - 1745	12	158	9	1	2	9	18	125	8	11	3	32	**388**
1700 - 1800	13	161	10	5	2	14	17	117	6	12	5	35	**397**
1715 - 1815	11	163	9	5	2	11	17	123	8	15	5	27	**396**
1730 - 1830	10	179	8	5	1	9	15	119	7	13	5	28	**399**
PEAK HOUR	**21**	**161**	**8**	**2**	**3**	**11**	**11**	**129**	**7**	**21**	**4**	**54**	**432**

R.O.A.R DATA

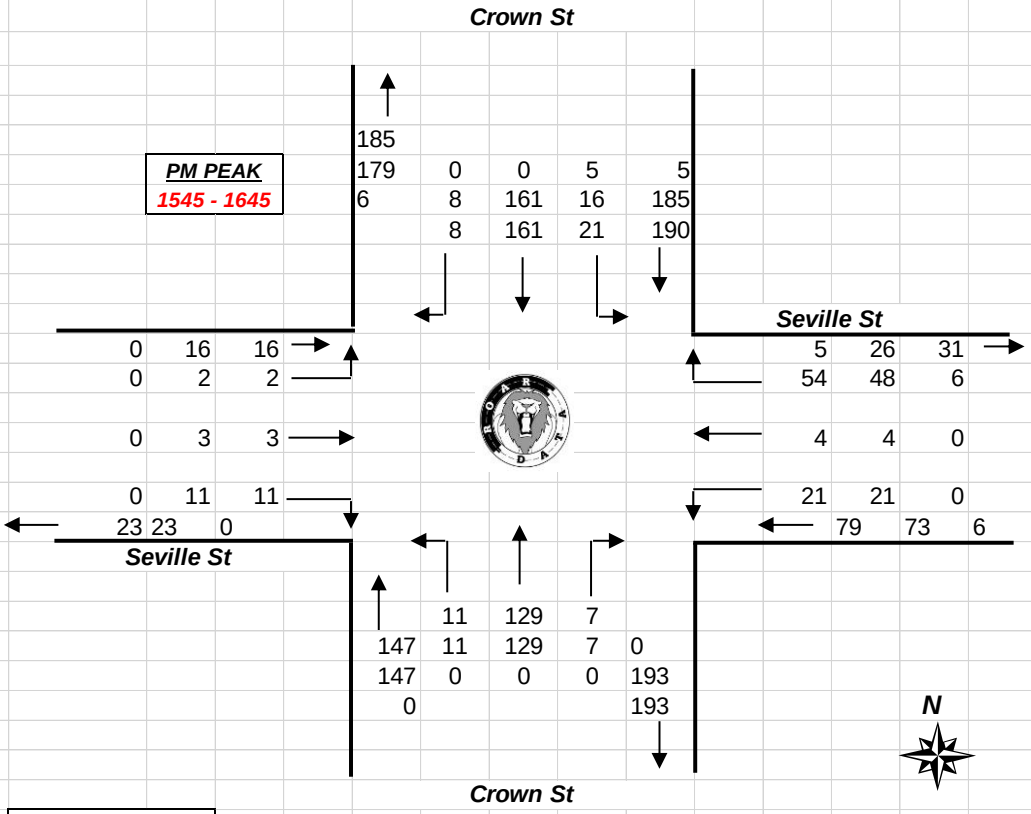
Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

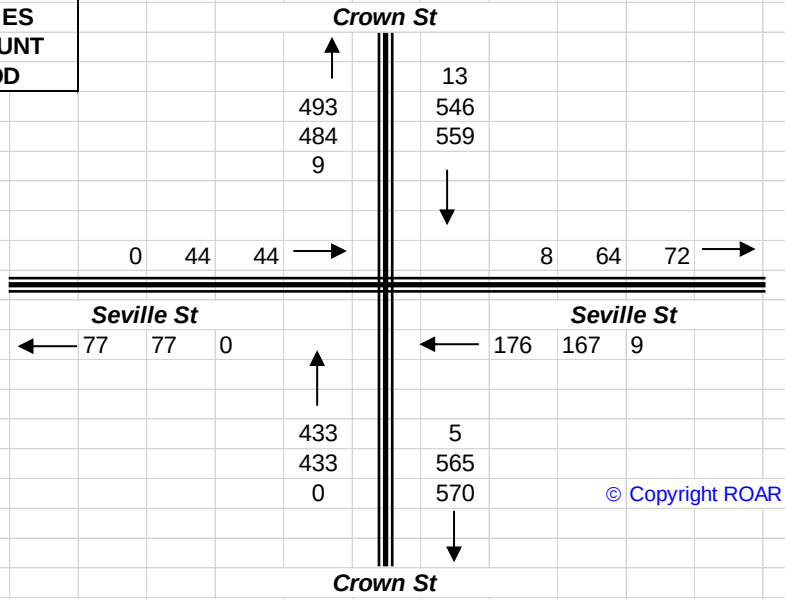
Client	: Varga Traffic Planning
Job No/Name	: 7018 FAIRFIELD EAST Crown St
Day/Date	: Wednesday 13th February 2019

Peds	NORTH	WEST	SOUTH	EAST	
	Crown St	*Seville St*	*Crown St*	*Seville St*	
Time Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1530 - 1545	1	0	1	0	**2**
1545 - 1600	0	1	1	0	**2**
1600 - 1615	0	2	1	0	**3**
1615 - 1630	0	2	0	0	**2**
1630 - 1645	1	1	0	0	**2**
1645 - 1700	0	0	0	3	**3**
1700 - 1715	0	1	0	1	**2**
1715 - 1730	0	2	3	0	**5**
1730 - 1745	0	0	0	0	**0**
1745 - 1800	0	1	1	0	**2**
1800 - 1815	0	0	0	0	**0**
1815 - 1830	0	0	0	0	**0**
Period End	**2**	**10**	**7**	**4**	**23**

Peds	NORTH	WEST	SOUTH	EAST	
	Crown St	*Seville St*	*Crown St*	*Seville St*	
Peak Per	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
1530 - 1630	1	5	3	0	**9**
1545 - 1645	1	6	2	0	**9**
1600 - 1700	1	5	1	3	**10**
1615 - 1715	1	4	0	4	**9**
1630 - 1730	1	4	3	4	**12**
1645 - 1745	0	3	3	4	**10**
1700 - 1800	0	4	4	1	**9**
1715 - 1815	0	3	4	0	**7**
1730 - 1830	0	1	1	0	**2**
PEAK HR	**1**	**6**	**2**	**0**	**9**



TOTAL VOLUMES FOR COUNT PERIOD



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client	: Varga Traffic Planning
Job No/Name	: 7018 FAIRFIELD EAST Crown St
Day/Date	: Wednesday 13th February 2019

Intersection Details

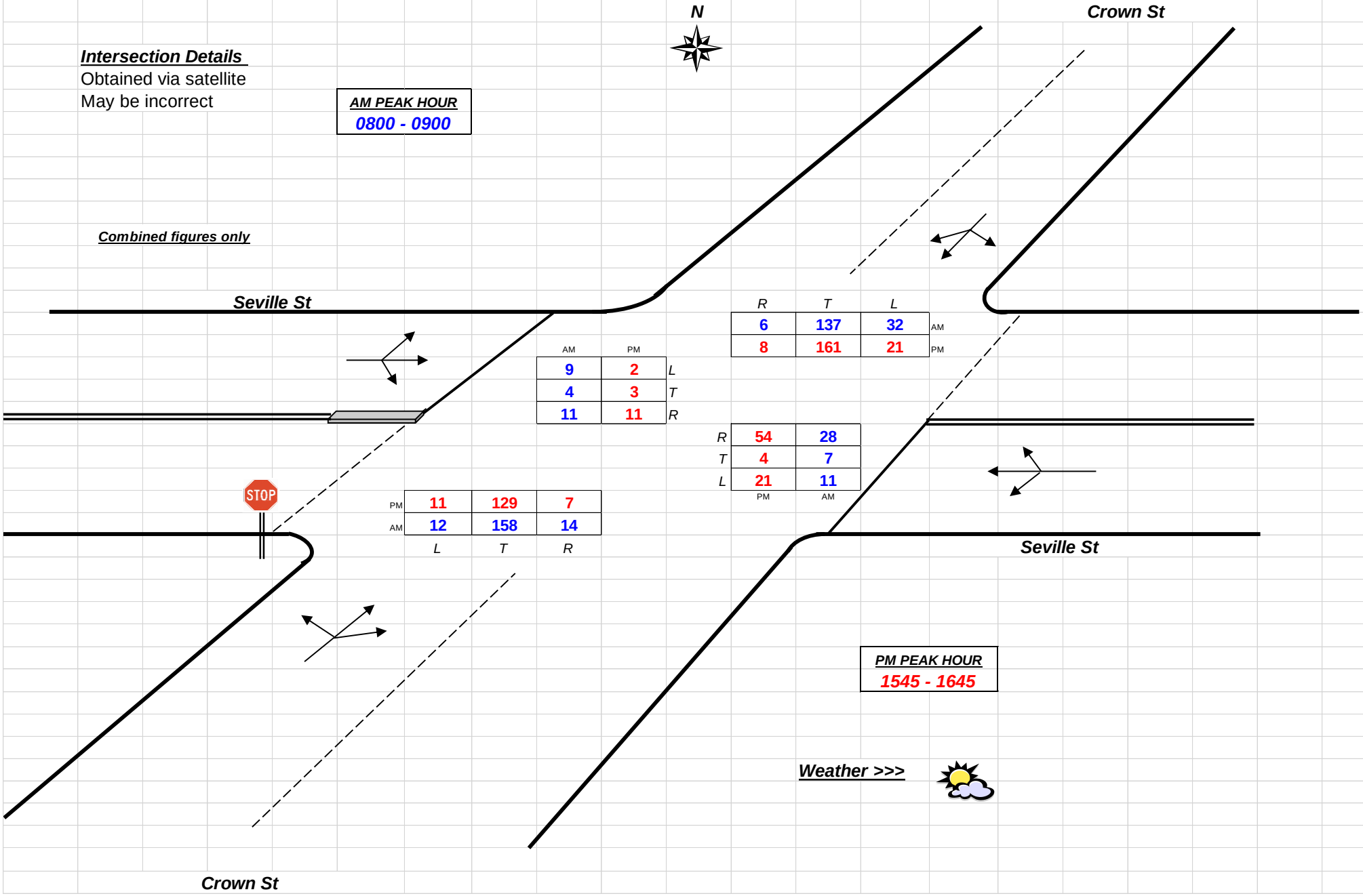
Obtained via satellite

May be incorrect

AM PEAK HOUR

0800 - 0900

Combined figures only



	AM	PM	
	9	2	L
	4	3	T
	11	11	R

	R	T	L	
	6	137	32	AM
	8	161	21	PM

R	54	28	
T	4	7	
L	21	11	
	PM	AM	

PM	11	129	7
AM	12	158	14
	L	T	R

PM PEAK HOUR

1545 - 1645

Weather >>>

APPENDIX C

SIDRA MOVEMENT SUMMARIES

MOVEMENT SUMMARY

Site: 101 [Existing AM]

Mandarin St & Fairfield St, Fairfield
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	39	5.1	0.079	39.0	LOS C	1.7	12.3	0.77	0.70	28.2
3	R2	97	20.6	0.218	40.9	LOS C	4.4	36.1	0.81	0.75	21.7
Approach		136	16.2	0.218	40.4	LOS C	4.4	36.1	0.80	0.74	23.8
East: Fairfield Street (E)											
4	L2	192	4.2	0.215	15.7	LOS B	6.0	43.6	0.46	0.64	36.9
5	T1	297	10.1	0.215	10.2	LOS A	6.1	46.4	0.46	0.44	48.2
Approach		489	7.8	0.215	12.4	LOS A	6.1	46.4	0.46	0.52	44.4
West: Fairfield Street (W)											
11	T1	348	9.8	0.223	10.7	LOS A	6.4	48.4	0.47	0.45	47.8
12	R2	79	1.3	0.223	17.5	LOS B	4.1	30.3	0.48	0.58	43.4
Approach		427	8.2	0.223	12.0	LOS A	6.4	48.4	0.47	0.47	46.9
All Vehicles		1052	9.0	0.223	15.8	LOS B	6.4	48.4	0.51	0.53	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	12.6	LOS B	0.1	0.1	0.46	0.46
P4	West Full Crossing	53	1.1	LOS A	0.0	0.0	0.13	0.13
All Pedestrians		105	6.9	LOS A			0.30	0.30

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

MOVEMENT SUMMARY

Site: 101 [Existing PM]

Mandarin St & Fairfield St, Fairfield
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	57	7.0	0.121	40.4	LOS C	2.5	18.7	0.79	0.72	27.8
3	R2	145	5.5	0.304	42.5	LOS C	6.8	49.8	0.84	0.77	21.3
Approach		202	5.9	0.304	41.9	LOS C	6.8	49.8	0.83	0.76	23.4
East: Fairfield Street (E)											
4	L2	160	5.6	0.303	16.0	LOS B	9.1	66.2	0.48	0.56	38.2
5	T1	558	4.1	0.303	10.5	LOS A	9.5	68.6	0.48	0.47	47.9
Approach		718	4.5	0.303	11.7	LOS A	9.5	68.6	0.48	0.49	46.2
West: Fairfield Street (W)											
11	T1	310	6.5	0.214	9.9	LOS A	6.2	45.5	0.46	0.42	48.6
12	R2	72	2.8	0.214	15.8	LOS B	2.8	20.6	0.49	0.59	44.2
Approach		382	5.8	0.214	11.0	LOS A	6.2	45.5	0.47	0.46	47.8
All Vehicles		1302	5.1	0.304	16.2	LOS B	9.5	68.6	0.53	0.52	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	12.2	LOS B	0.1	0.1	0.45	0.45
P4	West Full Crossing	53	1.1	LOS A	0.0	0.0	0.13	0.13
All Pedestrians		105	6.6	LOS A			0.29	0.29

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

MOVEMENT SUMMARY

Site: 101 [Proposed AM]

Mandarin St & Fairfield St, Fairfield
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	39	5.1	0.079	39.0	LOS C	1.7	12.3	0.77	0.70	28.2
3	R2	101	19.8	0.226	41.0	LOS C	4.6	37.5	0.81	0.75	21.6
Approach		140	15.7	0.226	40.4	LOS C	4.6	37.5	0.80	0.74	23.8
East: Fairfield Street (E)											
4	L2	208	3.8	0.222	15.8	LOS B	6.2	45.1	0.46	0.66	36.7
5	T1	297	10.1	0.222	10.3	LOS A	6.3	48.1	0.46	0.44	48.2
Approach		505	7.5	0.222	12.6	LOS A	6.3	48.1	0.46	0.53	44.1
West: Fairfield Street (W)											
11	T1	348	9.8	0.225	10.8	LOS A	6.5	49.0	0.47	0.45	47.7
12	R2	79	1.3	0.225	17.7	LOS B	4.0	29.8	0.49	0.59	43.2
Approach		427	8.2	0.225	12.1	LOS A	6.5	49.0	0.48	0.48	46.8
All Vehicles		1072	8.9	0.226	16.0	LOS B	6.5	49.0	0.51	0.53	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	12.6	LOS B	0.1	0.1	0.46	0.46
P4	West Full Crossing	53	1.1	LOS A	0.0	0.0	0.13	0.13
All Pedestrians		105	6.9	LOS A			0.30	0.30

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

MOVEMENT SUMMARY

Site: 101 [Proposed PM]

Mandarin St & Fairfield St, Fairfield
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	57	7.0	0.082	28.9	LOS C	2.1	15.3	0.66	0.69	31.7
3	R2	161	5.0	0.229	30.6	LOS C	6.2	45.5	0.71	0.74	25.3
Approach		218	5.5	0.229	30.2	LOS C	6.2	45.5	0.70	0.73	27.3
East: Fairfield Street (E)											
4	L2	164	5.5	0.379	24.4	LOS B	12.3	89.8	0.64	0.66	31.8
5	T1	558	4.1	0.379	19.0	LOS B	12.9	93.2	0.65	0.60	41.6
Approach		722	4.4	0.379	20.2	LOS B	12.9	93.2	0.65	0.61	39.8
West: Fairfield Street (W)											
11	T1	310	6.5	0.274	18.3	LOS B	8.6	63.4	0.62	0.55	42.2
12	R2	72	2.8	0.274	26.4	LOS B	3.7	27.0	0.67	0.70	37.3
Approach		382	5.8	0.274	19.8	LOS B	8.6	63.4	0.63	0.58	41.2
All Vehicles		1322	5.0	0.379	21.7	LOS B	12.9	93.2	0.65	0.62	38.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	19.9	LOS B	0.1	0.1	0.58	0.58
P4	West Full Crossing	53	1.1	LOS A	0.0	0.0	0.13	0.13
All Pedestrians		105	10.5	LOS B			0.35	0.35

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

MOVEMENT SUMMARY

Site: 101 [Existing AM]

Mandarin St & Seville St, Fairfield
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	25	0.0	0.104	3.7	LOS A	0.5	3.8	0.15	0.44	46.5
2	T1	102	0.0	0.104	3.8	LOS A	0.5	3.8	0.15	0.44	45.8
3	R2	15	0.0	0.104	7.1	LOS A	0.5	3.8	0.15	0.44	47.2
Approach		142	0.0	0.104	4.1	LOS A	0.5	3.8	0.15	0.44	46.2
East: Seville Street (E)											
4	L2	18	0.0	0.047	4.3	LOS A	0.2	1.6	0.30	0.51	45.9
5	T1	21	0.0	0.047	4.3	LOS A	0.2	1.6	0.30	0.51	47.2
6	R2	15	0.0	0.047	7.6	LOS A	0.2	1.6	0.30	0.51	45.8
Approach		54	0.0	0.047	5.2	LOS A	0.2	1.6	0.30	0.51	46.5
North: Mandarin Street (N)											
7	L2	35	0.0	0.127	3.7	LOS A	0.7	4.6	0.15	0.42	45.9
8	T1	137	0.0	0.127	3.8	LOS A	0.7	4.6	0.15	0.42	46.1
9	R2	3	0.0	0.127	7.1	LOS A	0.7	4.6	0.15	0.42	46.8
Approach		175	0.0	0.127	3.8	LOS A	0.7	4.6	0.15	0.42	46.1
West: Seville Street (W)											
10	L2	22	0.0	0.039	4.2	LOS A	0.2	1.3	0.28	0.49	45.2
11	T1	15	0.0	0.039	4.2	LOS A	0.2	1.3	0.28	0.49	47.4
12	R2	9	0.0	0.039	7.5	LOS A	0.2	1.3	0.28	0.49	46.8
Approach		46	0.0	0.039	4.9	LOS A	0.2	1.3	0.28	0.49	46.4
All Vehicles		417	0.0	0.127	4.2	LOS A	0.7	4.6	0.19	0.44	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Existing PM]

Mandarin St & Seville St, Fairfield
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	20	0.0	0.197	3.8	LOS A	1.1	7.9	0.18	0.44	46.4
2	T1	222	0.0	0.197	3.8	LOS A	1.1	7.9	0.18	0.44	45.7
3	R2	32	0.0	0.197	7.1	LOS A	1.1	7.9	0.18	0.44	47.1
Approach		274	0.0	0.197	4.2	LOS A	1.1	7.9	0.18	0.44	46.0
East: Seville Street (E)											
4	L2	16	0.0	0.045	4.4	LOS A	0.2	1.5	0.33	0.53	45.7
5	T1	17	0.0	0.045	4.4	LOS A	0.2	1.5	0.33	0.53	47.1
6	R2	18	0.0	0.045	7.7	LOS A	0.2	1.5	0.33	0.53	45.6
Approach		51	0.0	0.045	5.6	LOS A	0.2	1.5	0.33	0.53	46.2
North: Mandarin Street (N)											
7	L2	24	0.0	0.132	4.0	LOS A	0.7	4.9	0.26	0.45	45.5
8	T1	128	0.0	0.132	4.1	LOS A	0.7	4.9	0.26	0.45	45.5
9	R2	12	0.0	0.132	7.4	LOS A	0.7	4.9	0.26	0.45	46.3
Approach		164	0.0	0.132	4.3	LOS A	0.7	4.9	0.26	0.45	45.5
West: Seville Street (W)											
10	L2	55	0.0	0.109	5.0	LOS A	0.6	3.9	0.43	0.58	44.7
11	T1	29	0.0	0.109	5.0	LOS A	0.6	3.9	0.43	0.58	47.0
12	R2	29	0.0	0.109	8.3	LOS A	0.6	3.9	0.43	0.58	46.3
Approach		113	0.0	0.109	5.9	LOS A	0.6	3.9	0.43	0.58	45.9
All Vehicles		602	0.0	0.197	4.7	LOS A	1.1	7.9	0.26	0.47	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Proposed AM]

Mandarin St & Seville St, Fairfield

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	25	0.0	0.111	3.9	LOS A	0.6	4.0	0.22	0.45	46.3
2	T1	102	0.0	0.111	3.9	LOS A	0.6	4.0	0.22	0.45	45.6
3	R2	15	0.0	0.111	7.2	LOS A	0.6	4.0	0.22	0.45	47.0
Approach		142	0.0	0.111	4.3	LOS A	0.6	4.0	0.22	0.45	46.0
East: Seville Street (E)											
4	L2	18	0.0	0.062	4.4	LOS A	0.3	2.1	0.32	0.50	45.9
5	T1	37	0.0	0.062	4.4	LOS A	0.3	2.1	0.32	0.50	47.3
6	R2	15	0.0	0.062	7.7	LOS A	0.3	2.1	0.32	0.50	45.8
Approach		70	0.0	0.062	5.1	LOS A	0.3	2.1	0.32	0.50	46.7
North: Mandarin Street (N)											
7	L2	35	0.0	0.139	3.8	LOS A	0.7	5.1	0.16	0.44	45.7
8	T1	137	0.0	0.139	3.8	LOS A	0.7	5.1	0.16	0.44	45.8
9	R2	19	0.0	0.139	7.1	LOS A	0.7	5.1	0.16	0.44	46.6
Approach		191	0.0	0.139	4.1	LOS A	0.7	5.1	0.16	0.44	45.9
West: Seville Street (W)											
10	L2	26	0.0	0.046	4.2	LOS A	0.2	1.6	0.29	0.49	45.3
11	T1	19	0.0	0.046	4.2	LOS A	0.2	1.6	0.29	0.49	47.4
12	R2	9	0.0	0.046	7.5	LOS A	0.2	1.6	0.29	0.49	46.8
Approach		54	0.0	0.046	4.8	LOS A	0.2	1.6	0.29	0.49	46.4
All Vehicles		457	0.0	0.139	4.4	LOS A	0.7	5.1	0.22	0.46	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Proposed PM]

Mandarin St & Seville St, Fairfield
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mandarin Street (S)											
1	L2	20	0.0	0.200	3.8	LOS A	1.1	8.0	0.20	0.44	46.4
2	T1	222	0.0	0.200	3.9	LOS A	1.1	8.0	0.20	0.44	45.6
3	R2	32	0.0	0.200	7.2	LOS A	1.1	8.0	0.20	0.44	47.0
Approach		274	0.0	0.200	4.3	LOS A	1.1	8.0	0.20	0.44	45.9
East: Seville Street (E)											
4	L2	16	0.0	0.049	4.4	LOS A	0.2	1.7	0.34	0.52	45.7
5	T1	21	0.0	0.049	4.4	LOS A	0.2	1.7	0.34	0.52	47.1
6	R2	18	0.0	0.049	7.7	LOS A	0.2	1.7	0.34	0.52	45.6
Approach		55	0.0	0.049	5.5	LOS A	0.2	1.7	0.34	0.52	46.3
North: Mandarin Street (N)											
7	L2	24	0.0	0.138	4.1	LOS A	0.7	5.2	0.28	0.46	45.3
8	T1	128	0.0	0.138	4.2	LOS A	0.7	5.2	0.28	0.46	45.3
9	R2	16	0.0	0.138	7.5	LOS A	0.7	5.2	0.28	0.46	46.1
Approach		168	0.0	0.138	4.5	LOS A	0.7	5.2	0.28	0.46	45.4
West: Seville Street (W)											
10	L2	71	0.0	0.139	5.0	LOS A	0.7	5.1	0.44	0.58	44.8
11	T1	45	0.0	0.139	5.1	LOS A	0.7	5.1	0.44	0.58	47.1
12	R2	29	0.0	0.139	8.4	LOS A	0.7	5.1	0.44	0.58	46.4
Approach		145	0.0	0.139	5.7	LOS A	0.7	5.1	0.44	0.58	46.0
All Vehicles		642	0.0	0.200	4.7	LOS A	1.1	8.0	0.29	0.48	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
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 [Existing AM]

Crown St & Seville St, Fairfield
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Crown St (S)											
1	L2	12	0.0	0.099	4.9	LOS A	0.1	0.9	0.06	0.08	48.9
2	T1	158	3.8	0.099	0.1	LOS A	0.1	0.9	0.06	0.08	49.4
3	R2	14	0.0	0.099	5.1	LOS A	0.1	0.9	0.06	0.08	48.4
Approach		184	3.3	0.099	0.8	NA	0.1	0.9	0.06	0.08	49.3
East: Seville St (E)											
4	L2	11	0.0	0.061	8.0	LOS A	0.2	1.6	0.35	0.91	44.5
5	T1	7	0.0	0.061	9.0	LOS A	0.2	1.6	0.35	0.91	44.2
6	R2	28	10.7	0.061	9.9	LOS A	0.2	1.6	0.35	0.91	43.9
Approach		46	6.5	0.061	9.3	LOS A	0.2	1.6	0.35	0.91	44.1
North: Crown St (N)											
7	L2	32	6.3	0.094	4.7	LOS A	0.1	0.4	0.03	0.12	48.7
8	T1	137	2.9	0.094	0.0	LOS A	0.1	0.4	0.03	0.12	49.3
9	R2	6	0.0	0.094	5.1	LOS A	0.1	0.4	0.03	0.12	48.3
Approach		175	3.4	0.094	1.1	NA	0.1	0.4	0.03	0.12	49.1
West: Seville St (W)											
10	L2	9	0.0	0.028	8.0	LOS A	0.1	0.7	0.33	0.89	44.6
11	T1	4	0.0	0.028	9.0	LOS A	0.1	0.7	0.33	0.89	44.4
12	R2	11	0.0	0.028	9.1	LOS A	0.1	0.7	0.33	0.89	44.3
Approach		24	0.0	0.028	8.7	LOS A	0.1	0.7	0.33	0.89	44.4
All Vehicles		429	3.5	0.099	2.2	NA	0.2	1.6	0.10	0.23	48.3

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: 101 [Existing PM]

Crown St & Seville St, Fairfield
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Crown St (S)											
1	L2	11	0.0	0.077	4.8	LOS A	0.1	0.4	0.04	0.07	49.0
2	T1	129	0.0	0.077	0.0	LOS A	0.1	0.4	0.04	0.07	49.5
3	R2	7	0.0	0.077	5.2	LOS A	0.1	0.4	0.04	0.07	48.5
Approach		147	0.0	0.077	0.6	NA	0.1	0.4	0.04	0.07	49.4
East: Seville St (E)											
4	L2	21	0.0	0.104	8.1	LOS A	0.4	2.7	0.37	0.92	44.5
5	T1	4	0.0	0.104	9.0	LOS A	0.4	2.7	0.37	0.92	44.2
6	R2	54	11.1	0.104	9.8	LOS A	0.4	2.7	0.37	0.92	43.9
Approach		79	7.6	0.104	9.3	LOS A	0.4	2.7	0.37	0.92	44.1
North: Crown St (N)											
7	L2	21	23.8	0.101	4.9	LOS A	0.1	0.5	0.03	0.08	48.6
8	T1	161	0.0	0.101	0.0	LOS A	0.1	0.5	0.03	0.08	49.5
9	R2	8	0.0	0.101	5.0	LOS A	0.1	0.5	0.03	0.08	48.5
Approach		190	2.6	0.101	0.8	NA	0.1	0.5	0.03	0.08	49.4
West: Seville St (W)											
10	L2	2	0.0	0.021	7.9	LOS A	0.1	0.5	0.35	0.89	44.6
11	T1	3	0.0	0.021	8.8	LOS A	0.1	0.5	0.35	0.89	44.3
12	R2	11	0.0	0.021	9.0	LOS A	0.1	0.5	0.35	0.89	44.2
Approach		16	0.0	0.021	8.8	LOS A	0.1	0.5	0.35	0.89	44.3
All Vehicles		432	2.5	0.104	2.6	NA	0.4	2.7	0.11	0.26	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 [Proposed AM]

Crown St & Seville St, Fairfield
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Crown St (S)											
1	L2	12	0.0	0.099	4.9	LOS A	0.1	0.9	0.07	0.08	48.9
2	T1	158	3.8	0.099	0.1	LOS A	0.1	0.9	0.07	0.08	49.4
3	R2	14	0.0	0.099	5.2	LOS A	0.1	0.9	0.07	0.08	48.4
Approach		184	3.3	0.099	0.8	NA	0.1	0.9	0.07	0.08	49.3
East: Seville St (E)											
4	L2	11	0.0	0.066	8.0	LOS A	0.2	1.7	0.36	0.92	44.4
5	T1	7	0.0	0.066	9.1	LOS A	0.2	1.7	0.36	0.92	44.2
6	R2	31	9.7	0.066	9.9	LOS A	0.2	1.7	0.36	0.92	43.9
Approach		49	6.1	0.066	9.4	LOS A	0.2	1.7	0.36	0.92	44.0
North: Crown St (N)											
7	L2	46	4.3	0.101	4.7	LOS A	0.1	0.4	0.03	0.15	48.5
8	T1	137	2.9	0.101	0.0	LOS A	0.1	0.4	0.03	0.15	49.1
9	R2	6	0.0	0.101	5.1	LOS A	0.1	0.4	0.03	0.15	48.1
Approach		189	3.2	0.101	1.3	NA	0.1	0.4	0.03	0.15	48.9
West: Seville St (W)											
10	L2	9	0.0	0.028	8.0	LOS A	0.1	0.7	0.33	0.89	44.6
11	T1	4	0.0	0.028	9.1	LOS A	0.1	0.7	0.33	0.89	44.4
12	R2	11	0.0	0.028	9.1	LOS A	0.1	0.7	0.33	0.89	44.2
Approach		24	0.0	0.028	8.7	LOS A	0.1	0.7	0.33	0.89	44.4
All Vehicles		446	3.4	0.101	2.4	NA	0.2	1.7	0.10	0.24	48.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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 [Proposed PM]

Crown St & Seville St, Fairfield
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Crown St (S)											
1	L2	11	0.0	0.077	4.8	LOS A	0.1	0.4	0.04	0.07	49.0
2	T1	129	0.0	0.077	0.0	LOS A	0.1	0.4	0.04	0.07	49.5
3	R2	7	0.0	0.077	5.2	LOS A	0.1	0.4	0.04	0.07	48.5
Approach		147	0.0	0.077	0.6	NA	0.1	0.4	0.04	0.07	49.4
East: Seville St (E)											
4	L2	21	0.0	0.123	8.1	LOS A	0.4	3.3	0.38	0.92	44.5
5	T1	4	0.0	0.123	9.0	LOS A	0.4	3.3	0.38	0.92	44.2
6	R2	68	8.8	0.123	9.7	LOS A	0.4	3.3	0.38	0.92	43.9
Approach		93	6.5	0.123	9.3	LOS A	0.4	3.3	0.38	0.92	44.1
North: Crown St (N)											
7	L2	24	20.8	0.103	4.9	LOS A	0.1	0.5	0.03	0.09	48.6
8	T1	161	0.0	0.103	0.0	LOS A	0.1	0.5	0.03	0.09	49.5
9	R2	8	0.0	0.103	5.0	LOS A	0.1	0.5	0.03	0.09	48.5
Approach		193	2.6	0.103	0.8	NA	0.1	0.5	0.03	0.09	49.3
West: Seville St (W)											
10	L2	2	0.0	0.021	7.9	LOS A	0.1	0.5	0.35	0.89	44.6
11	T1	3	0.0	0.021	8.9	LOS A	0.1	0.5	0.35	0.89	44.3
12	R2	11	0.0	0.021	9.0	LOS A	0.1	0.5	0.35	0.89	44.2
Approach		16	0.0	0.021	8.8	LOS A	0.1	0.5	0.35	0.89	44.3
All Vehicles		449	2.4	0.123	2.8	NA	0.4	3.3	0.12	0.28	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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.