TRAFFIC IMPACT ASSESSMENT

SENIORS LIVING DEVELOPMENT

LOT 100 IN DP 1084939 & LOT A IN DP 86486
32 INDUSTRIAL DRIVE & 26 WILLIAM STREET, MAYFIELD

PREPARED FOR: GRAPH BUILDING PTY LTD

AUGUST 2018

18/057

TRAFFIC IMPACT ASSESSMENT
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SENIORS LIVING DEVELOPMENT – WESTS MAYFIELD

LOT 100 IN DP 1084939 & LOT A IN DP 86486
32 INDUSTRIAL DRIVE & 26 WILLIAM STREET, MAYFIELD

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This document has been prepared, checked and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

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This document has been authorised by

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1.0 INTRODUCTION

Intersect Traffic Pty Ltd (Intersect Traffic) has been engaged by Graph Building Pty Ltd on behalf of The Wests Group to prepare a Traffic Impact Assessment for the redevelopment of Wests Mayfield to include a multi-storey Aged Care building and three (3) multi-storey seniors living residential buildings on Lot 100 DP 1084939 and Lot A in DP 86486, 32 Industrial Drive and 26 William Street, Mayfield. The existing "Newcastle Knights" Rugby League Facility at the site will be relocated to the new Sports Centre of Excellence at Broadmeadow allowing an Aged Care Facility with 216 beds and 262 apartments and associated car parking and on-site recreational parkland to be provided on the site.

Vehicular access to the site development is proposed via the existing access at William Street near Industrial Drive and a proposed new access at William Street adjacent to the southern boundary of the site which services the car parking for the residential apartments. However, an ambulance bay for the Aged Care facility will use a new vehicular access at Industrial Drive at the western end of the site. The existing accesses in Industrial Drive will be removed. The proposed development plan is shown in ***Attachment A***.

This report is required to support a development application to Newcastle City Council for the proposal and allow the Council to assess the proposal regarding its impact on the local and state road network. The report addresses issues raised by NSW Roads and Maritime Service (NSW RMS) in pre-DA consultations and in their correspondence dated 23rd July 2018 (See ***Attachment E***). This report presents the findings of the traffic assessment and includes the following;

1. An outline of the existing situation near the site.
2. An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
3. Determines any triggers for the provision of additional infrastructure.
4. Reviews parking, public transport, pedestrian and cycle way requirements for the proposed development, including assessment against Council's DCP and Australian Standard requirements.
5. Presentation of conclusions and recommendations.

2.0 SITE DESCRIPTION

The subject site currently contains the 'Wests Mayfield' club facility, a multi storey hotel with carpark, 'Balance' gymnasium, cafe and pool, the 'Newcastle Knights' facility buildings and training field, a 3-storey carpark, a number of at-grade carparks and a vacant area at the northwest corner of the site. The site is located on the corner of Industrial Drive and William Street, Mayfield. It is approximately 1.5 kilometres north of the Mayfield Shopping precinct and approximately 6 kilometres west of the Newcastle CBD. Its location within the context of surrounding residential and industrial land and buildings is shown in the location plan provided as ***Figure 1***, below.

Figure 1 – Site Location

The site contains the following property descriptors:

- Formal land title of Lot 100 in DP 1084939 and Lot A in DP 86486;
- Postal address of 32 Industrial Drive and 26 William Street, Mayfield;
- Site area of approximately 4.8 hectares; and
- Land zoning of RE2 – Private Recreation in accordance with Newcastle LEP (2012).

The site currently has road frontage to Industrial Drive and William Street. It has a number of vehicular accesses off Industrial Drive and a combined entry / exit vehicular access to William Street. The site access off William Street currently has the right turn out of the site prohibited through a raised concrete median across the access. This directs all exiting traffic from the site to the Industrial Drive / William Street intersection. ***Photographs 1 – 4*** show some of the existing development on the site and some of the existing vehicular accesses at the site.

Photograph 1 – Development site and access at Industrial Drive

Photograph 2 – Development site at Industrial Drive

Photograph 3 – Development site – training field / hotel

Photograph 4 – Development site – vacant northwest corner

3.0 EXISTING ROAD NETWORK

3.1 Industrial Drive

Industrial Drive is a major transport road collecting and distributing traffic to and from Newcastle suburbs west and southeast of the site and connecting to regional areas. It serves as a sub-arterial road under a functional road hierarchy as State Highway 10 from the Pacific Highway (Maitland Road) at its western end, past William Street near the development site and continuing to the Pacific Highway (Stewart Avenue / Hunter Street) in Newcastle to the southeast. Industrial Drive is under the care and control of the NSW Roads and Maritime Services (RMS).

Adjacent to William Street, Industrial Drive is a four-lane two-way sealed road separated by a concrete edged grassed median island with 3.0 to 3.3 metre travel line marked lanes and sealed cycleway / breakdown lanes varying from 1.5 metre to 3.0 metres in width with kerb and gutter and longitude drainage on both sides.

It has an 80 km/h speed zoning near the site and at the time of inspection Industrial Drive was in good condition as shown in ***Photograph 5*** below.

Photograph 5 – Industrial Drive fronting the site

3.2 Vine Street

Vine Street is an urban road collecting and distributing traffic to and from Industrial Drive and the southern suburbs of Newcastle. It serves as a sub-arterial road under a functional road hierarchy as State Road 326 near the site. Vine Street is under the care and control of the NSW Roads and Maritime Services (RMS).

Near Industrial Drive it is a 12.5 metre carriageway between kerbs and is a two-lane two-way sealed road with centreline marking and 3.0 to 3.3 metre travel lanes and sealed parking lanes approximately 3.0 metres in width.

It has a 60 km/h speed zoning near the site and at the time of inspection Vine Street was in good condition as shown in ***Photograph 6*** below.

Photograph 6 – Vine Street near the site

3.3 Crebert Street

Crebert Street near the site is an urban local road under the care and control of Newcastle City Council. Under a functional road hierarchy, it would function as a local collector road with its primary function being to collect and distribute traffic between Ingall Street and Vine Street while also providing vehicular access to adjoining properties. In the vicinity of the site it is a two-lane two-way sealed road with a carriageway width of 12.5 metres. A 50 km/h speed limit applies to this section of road and at the time of inspection Crebert Street was observed to be in fair to good condition (***Photograph 7***).

Photograph 7 – Crebert Street near the site

3.4 William Street

William Street near the site is an urban local road under the care and control of Newcastle City Council. Under a functional road hierarchy, it would function as a local collector road with its primary function being to collect and distribute traffic between Wests Club and Industrial Drive and Crebert Street while also providing vehicular access to adjoining properties. In the vicinity of the site it is a two-lane two-way sealed road with a carriageway width of 12.5 metres with unrestricted parking on both sides of the road. A 50 km/h speed limit applies to this section of road and at the time of inspection William Street was observed to be in good condition (***Photograph 8***). It is noted that the current club access to William Street is restricted to a left out only for exiting vehicles directing all exiting site traffic to the Industrial Drive / William Street intersection.

Photograph 8 – William Street near the site

4.0 ROAD NETWORK IMPROVEMENTS

There are no known road upgrades near the site that will increase the capacity of the local road network. Recent roadworks in Tourle Street doubling the number of lanes north of Industrial Drive and the current construction works for the Light Rail installation will have a minor impact on traffic near the site. Improvements to the local road network may be undertaken in the future in line with Newcastle City Council's and NSW Roads and Maritime Services Works Programmes.

5.0 TRAFFIC VOLUMES

Intersect Traffic engaged Northern Transport Planning and Engineering (NTPE) to carry out manual traffic counts at the Industrial Drive / Vine Street signalised T-intersection, the Industrial Drive / Ingall Street Signalised four-way cross intersection and the Industrial Drive / William Street T-intersection which were undertaken on 19 June 2018. The counts revealed that the peak hour traffic occurred between 7.30 am and 8.30 am and 4:15 pm to 5:15 pm.

Intersect Traffic also carried out manual traffic counts at the Crebert Street / William Street T-intersection on the 23 July 2018 with the peak hour periods being 8.00 am to 9.00 am and 4.15 pm to 5.15 pm.

The mid-block traffic volumes calculated from these traffic counts have been utilised to represent current 2018 volumes. The predicted 2028 volumes have been calculated using an annual background growth rate factor of 2.0% per annum for all roads and are as shown in ***Table 1*** below. The tally sheets for the manual traffic counts carried out by NTPE and Intersect Traffic are provided within ***Attachment B***.

Table 1 – Mid-block 2018 and 2028 traffic volumes

Road	Section	2018 AM peak vtph	2018 PM peak vtph	2028 AM peak vtph	2028 PM peak vtph
Industrial Drive	West of Vine Street	3593	3377	4380	4117
Industrial Drive	East of Vine Street	3204	2873	3906	3502
Industrial Drive	West of William Street	3219	3124	3924	3808
Industrial Drive	East of William Street	3083	2859	3758	3485
Industrial Drive	West of Ingall Street	3058	2840	3728	3462
Industrial Drive	East of Ingall Street	2759	2537	3363	3093
Vine Street	South of Industrial Drive	677	728	825	887
Crebert Street	West of William Street	465	435	567	530
Crebert Street	East of William Street	449	345	547	421
William Street	North of Crebert Street	162	196	197	239
William Street	South of Industrial Drive	170	191	207	233
Ingall Street	North of Industrial Drive	135	170	165	207
Ingall Street	South of Industrial Drive	348	291	424	355

6.0 ROAD CAPACITY

The capacity of the road network is generally determined by the capacity of intersections. However, the *RTA's Guide to Traffic Generating Developments* provides some guidance on mid-block capacities and likely levels of service. For urban roads *Tables 4.3 and 4.4* of the *RTA's Guide to Traffic Generating Developments*, reproduced below, provides some guidance on mid-block capacities and likely levels of service.

Table 4.3
Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Median or inner lane:	Divided Road	1,000
	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Table 4.4
Urban road peak hour flows per direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Source: - RTA's Guide to Traffic Generating Developments (2002).

A desirable level of service on an urban road is generally considered to be a level of service (LoS) C, however for major arterial roads such as Industrial Drive a level of service (LoS) D is considered acceptable. Noting a LoS E on roads with two lanes per direction occurs when mid-block traffic volumes exceed 2,800 vtph per direction (Table 4.4 above) the two-lane road mid-block traffic volume threshold per direction for a LoS D is 2,800 vtph. This means the two-way four lane mid-block traffic volume threshold for a LoS D is 5,600 vtph. Therefore, it is considered that Industrial Drive in the vicinity of the site, as a four-lane two-way urban arterial road, has a two-way mid-block road capacity of 5,600 vtph.

Similarly, a LoS D on a single lane of flow occurs when mid-block traffic volumes exceed 900 vtph the one way one lane mid-block traffic volume threshold for a LoS C is 900 vtph. This means the two-way two-lane mid-block traffic volume threshold for a LoS C is 1,800 vtph. Therefore, it is considered that Vine Street, Crebert Street, Ingall Street and William Street near the site, as two-way two-lane urban roads, each have a mid-block road capacity of 1,800 vtph.

However, for local streets with predominately residential dwellings along their length, such as William Street, the Environmental Capacity of the road as a measure of acceptable residential amenity within the street also needs to be considered.

The environmental road capacity thresholds accepted by NSW Roads and Maritime Service (NSW RMS) are provided within *Table 4.6* of the *RTA's Guide to Traffic Generating Developments (2002)* as reproduced below.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

Source: - RTA's Guide to Traffic Generating Developments (2002).

For a local collector street, the environmental capacity of the local road network is determined from the above table as 300 to 500 vtph. A maximum capacity of 500 vtph has therefore been determined for William Street.

Therefore, two-way mid-block road capacities of 5,600 vtph for Industrial Drive, 1,800 vtph for Vine Street, Crebert Street and Ingall Street as well as an environmental capacity of 300 vtph for William Street have been adopted for this assessment.

7.0 ALTERNATE TRANSPORT MODES

Currently Newcastle Transport (Keolis Downer) operates the public transport services (bus) along Industrial Dive past the site. The service route running past the site is Route 24 (Wallsend – Jesmond – Waratah – Mayfield – Carrington – Newcastle) which operates Monday to Sunday (see ***Figure 2***).

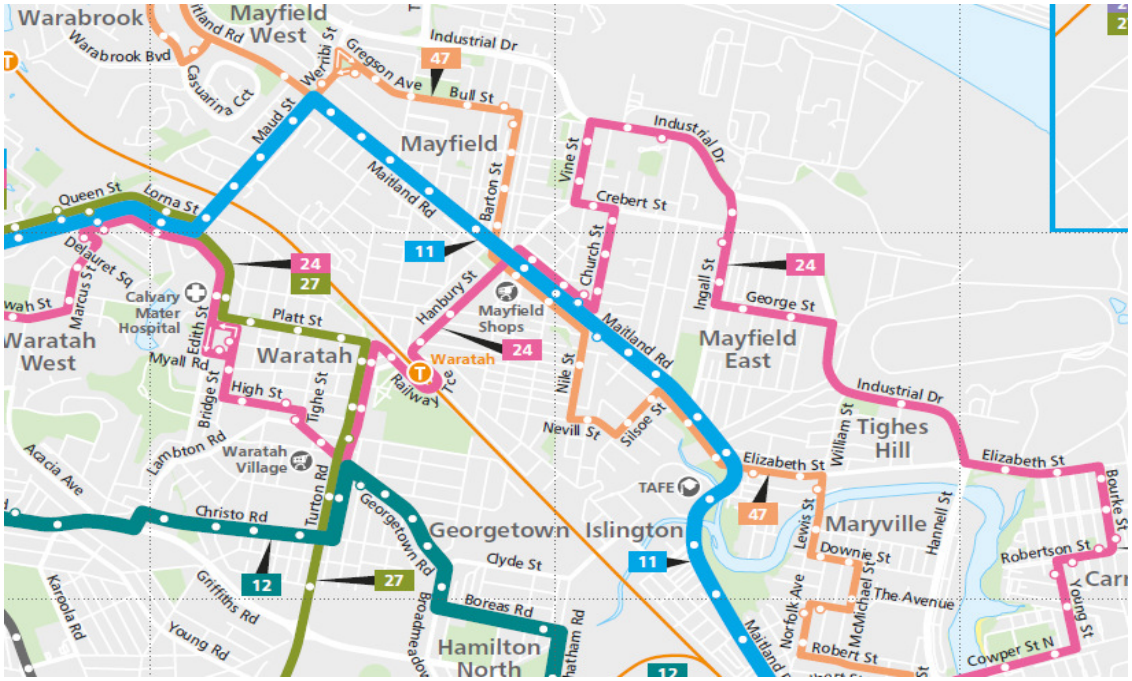

Figure 2 – Existing Bus Route

The nearest bus stop is located directly at the front boundary of the site on the southern side of Industrial Drive (shown below in ***Photograph 9***) and one on the northern side of Industrial Drive opposite the Industrial Drive pedestrian access to the club. The bus stops are between 100 and 200 metres from the proposed Aged Care facility or from various locations of the three proposed seniors' living buildings. The bus service is convenient for use by future residents of the seniors living development and visitors / staff to the Aged Care Facility. This service connects to major bus interchanges at Jesmond, Wallsend and Newcastle providing connection to other bus services to Newcastle, Lake Macquarie, Port Stephens and Maitland suburbs, and railway stations including connection to local railway stations on the Hunter line and to adjoining regions.

Photograph 9 –Bus stop and shelter at the front of the site

A 3.0-metre-wide on-road cycleway on both sides of the road and a 2.4-metre-wide bitumen pedestrian pathway running east / west exist along the Industrial Drive frontage of the development as shown in ***Photograph 10*** below. This provides benefit to pedestrians and cyclists accessing the site from or to the local areas of Mayfield and surrounding suburbs as it connects to concrete footpaths in Vine Street west of the site. In William Street cyclists and pedestrians would either use the existing grassed verges or share the travel lanes on the local road network. ***Photograph 11*** below shows the existing verges in William Street.

Photograph 10 –Cycleway and footpath at Industrial Drive frontage of the site

Photograph11 – Verge at the William Street frontage of the site

8.0 DEVELOPMENT PROPOSAL

The development proposal involves the redevelopment of Wests Mayfield to include a multi-storey Aged Care building and three multi-storey Seniors' Living residential buildings on Lot 100 DP 1084939 and Lot A in DP 86486, 32 Industrial Drive and 26 William Street, Mayfield. Specifically, the development will include the following works:

- Demolition of the buildings used as 'Newcastle Knights' Training facilities;
- Construction of a new 216 bed aged care facility over 7 storeys;
- Construction of new 262 seniors living residential apartments within three buildings over 6 storeys comprising 55 - three bedroom, 45 – two + bedroom, 64 – two bedroom and 98 – one-bedroom units;
- Construction of two new basement car parking areas - 29 spaces for the aged care facility and 300 spaces for the residential apartments;
- Construction of new internal roadways and driveways;
- Removal of right turn out restriction at the existing William Street access to the site;
- Construction of a new community parkland / recreation area; and
- Provision of associated site drainage structures and landscaping.

The development plans are provided within ***Attachment A*** and shows the external road connections to Industrial Drive and William Street.

9.0 TRAFFIC GENERATION

The RMS' *Guide to Traffic Generating Development's* provides specific advice on the traffic generation potential of various land uses.

Regarding housing for aged and disabled the following amended advice is provided within the Technical Direction (TDT 2013/4).

Aged Care Rates

Weekday daily vehicle trips = 1 -2 per dwelling (bed)
Weekday peak hour vehicle trips = 0.1 to 0.2 per dwelling (bed)
(Note that morning site peak hour does not generally coincide with the network peak hour)

Therefore, the additional traffic generated by the proposed aged care facility during the weekday peak period can be calculated as follows (rounded up);

Daily vehicle trips = 216 vtpd.

Weekday AM & PM peak hour = 216 beds x 0.1 trips per bed
= 22 vtph.

The RMS has also released in its Technical Direction (TDT 2013/4) with the results of updated traffic surveys and amended land use traffic generation rates regarding housing for seniors.

Seniors Housing Rates

Weekday daily vehicle trips = 2.1 per dwelling
Weekday peak hour vehicle trips = 0.4 per dwelling
(Note that morning site peak hour does not generally coincide with the network peak hour)

Therefore, the additional traffic generated by the proposed seniors living apartments during the weekday peak period can be calculated as follows (rounded up);

Daily vehicle trips = 262 dwellings x 2.1 trips per dwelling
= 551 vtpd.

Weekday AM & PM peak hour = 262 dwellings x 0.4 trips per dwelling
= 105 vtph.

The total traffic generated from the development is therefore **767 vtpd and 127 vtph**.

However, as the 'Newcastle Knights' training facility is to be relocated, the related peak hour traffic reduction occurring on the site from this relocation is estimated to be in the order of 22 vtph negating the increase created by the aged care facility. The resultant likely peak hour traffic increase for the development site would therefore be **105 vtph** and **550 vtpd**.

10.0 TRIP DISTRIBUTION

Before carrying out any traffic assessment the additional peak hour traffic generated by the development needs to be distributed through the adjoining road network. This involves making assumptions as to distribution patterns to and from the development. In distributing the peak hour traffic through the adjacent road network, the following assumptions have been made for this site.

- 100% of the additional development traffic will access via the southern William Street access to the site (residential units);
- In the AM and PM 60% of trips will exit the site north on William Street and then west on Industrial Drive and past Vine Street;
- In the AM and PM 40% of trips will exit the site south on William Street and then on Crebert Street with 30% east and 10% west of William Street;
- In the AM and PM, the 10% of exiting traffic on Crebert Street west of William Street will turn left (north) at Hanbury Street;
- In the AM and PM 60% of traffic will enter the site via Industrial Drive west of Vine Street turning right (south) into Vine Street, then left (west) into Crebert Street and then left (north) into William Street;
- In the AM and PM 10% of traffic will enter the site via Hanbury Street north of Crebert Street turning right (east) into Crebert Street, then left (north) into William Street;
- In the AM and PM 20% of traffic will enter the site via Industrial Drive east of William Street, turning left (south) into William Street;
- In the AM and PM 10% of traffic will enter the site via Crebert Street east of William Street;
- The **current** AM and PM traffic exiting the site will be redistributed at the existing William Street access 60% north and 40% south, resulting in:
- 24 vtph less AM and 42 vtph less PM traffic on Industrial Drive west of William Street and on Vine Street north of Industrial Drive;
- 18 vtph less AM and 32 vtph less PM traffic in southbound Vine Street traffic turning left (east) into Crebert Street and then north into William Street;
- 6 vtph less AM and 10 vtph less PM in southbound Vine Street traffic south of Crebert Street;
- 18 vtph more AM and 32 vtph more PM traffic west of the existing northern access in William Street and left (east) on Crebert Street;
- 6 vtph more AM and 10 vtph more PM traffic west of the existing northern access in William Street and right (west) on Crebert Street and then left (south) on Hanbury Street.

There may be other traffic movements that have not been considered above which will be very small, however their impact on the network will be insignificant. These assumptions will result in the trip distributions shown in ***Figure 3*** for the relevant traffic movements.

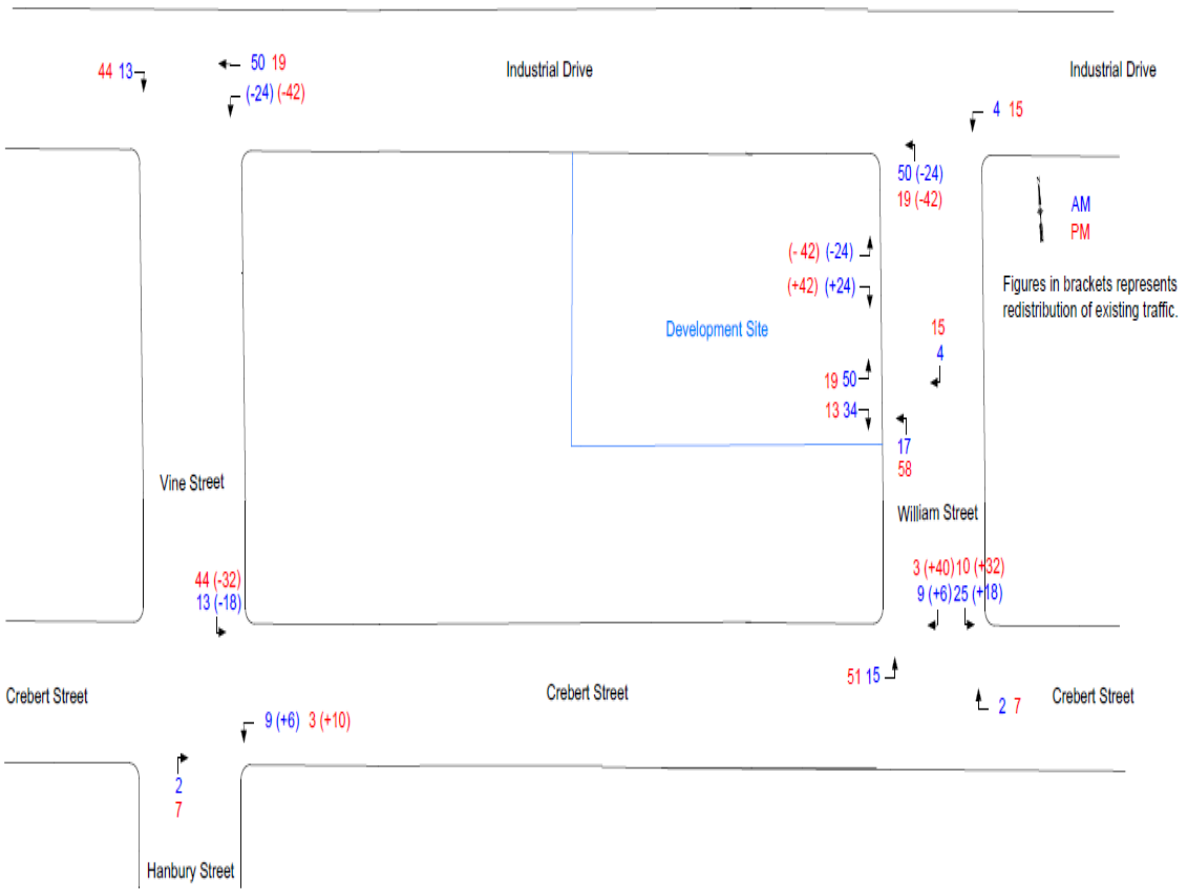

Figure 3 – Development Trip Distribution - PM


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11.0 TRAFFIC IMPACTS OF DEVELOPMENT

11.1 Road Network Capacity

It has previously been shown in ***Section 6*** of this report that the local and state road network is currently operating within its technical mid-block capacity. The proposed development of the site is likely to generate the following maximum additional traffic on the local road network based on the trip distributions shown in ***Figure 3***:

- Industrial Drive – 63 vtph in the AM and PM peak,
- Vine Street – 2 vtph in the PM peak,
- Crebert Street – 64 vtph in the PM peak, and
- William Street – 123 vtph in the PM peak*.

*Whilst there is an additional traffic on William Street this is in the section between the site access and Crebert Street and traffic volumes directed to Industrial Drive will be reduced through the removal of the right turn out restriction from the existing site access to William Street.

The addition of this traffic onto the existing traffic volumes determined in ***Section 5*** will not result in the capacity thresholds for Industrial Drive, Vine Street, Crebert Street and William Street determined in ***Section 6*** to be reached. Even with 2.0 % per annum background traffic growth over a ten-year period these road capacity thresholds are not reached. This is demonstrated in ***Table 1*** below.

Table 2 - Road Capacity Assessment

Road	Section	Capacity vtph	2018 AM peak vtph	2018 PM peak vtph	2028 AM peak vtph	2028 PM peak vtph	Development AM	Development PM
Industrial Drive	West of Vine Street	5600	3656	3440	4443	4180	63	63
Industrial Drive	East of Vine Street	5600	3230	2850	3932	3479	26	-23
Industrial Drive	West of William Street	5600	3245	3101	3950	3785	26	-23
Industrial Drive	East of William Street	5600	3087	2874	3762	3500	4	15
Industrial Drive	West of Ingall Street	5600	3062	2855	3732	3477	4	15
Industrial Drive	East of Ingall Street	5600	2763	2552	3367	3108	4	15
Vine Street	South of Industrial Drive	1800	666	730	814	889	-11	2
Crebert Street	West of William Street	1800	495	499	597	594	30	64
Crebert Street	East of William Street	1800	494	394	592	470	45	49
William Street	North of Crebert Street	500	240	319	275	362	78	123
William Street	South of Industrial Drive	500	200	183	237	225	30	-8
Ingall Street	North of Industrial Drive	1800	135	170	165	207	0	0
Ingall Street	South of Industrial Drive	1800	348	291	424	355	0	0

Therefore, it can be concluded that the local and state road network subject to suitable intersection controls being in place has sufficient spare capacity to cater for the proposed development.

11.2 Intersection Capacity

In assessing intersection performance, the main intersections impacted by the development will be:

- Industrial Drive / Vine Street signalised T-intersection;
- Industrial Drive / Ingall Street Signalised 4 Way Cross intersection;
- Industrial Drive / William Street Give Way controlled T-intersection; and
- Crebert Street / William Street Give Way controlled T-intersection.

For this assessment it needs to be determined whether the intersections as currently constructed can cater for the additional traffic generated by this development or whether any upgrading works are necessary.

The impacts of the development are best assessed using the SIDRA INTERSECTION modelling software. This software package predicts likely delays, queue lengths and thus levels of service that will occur at intersections. Assessment is then based on the level of service requirements of the RMS shown below in Table 4.2 below. Assumptions made in this modelling were:

- The intersection layout will remain as per current conditions.
- Traffic volumes used in the modelling were as collected by NTPE and Intersect Traffic in 2018.
- As the development AM peak is the hour ending 10 am, these traffic volumes recorded at the Industrial Drive / Vine Street intersection have been utilised.
- Traffic generated by the development is distributed as per ***Figure 3.***
- Future traffic growth predicted using a 2.0% per annum background traffic growth rate.

Table 4.2
Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

Source: - RTA's Guide to Traffic Generating Developments (2002).

The summarised 'all vehicles' results of the modelling of each of the intersections are provided in ***Tables 3 - 6*** below. For signalised intersections the average LoS is provided in the summary whilst for the non-signalised intersections the worst movement LoS is provided. The Sidra Movement Summary Tables of each of the intersections are provided in ***Attachment C***.

Table 3 – Industrial Drive / Vine Street Signalised T-intersection – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Average Delay (s)	Average Level of Service	95% back of queue length (cars)
2018AM	0.935	16.6	B	10.2
2018 PM	0.906	25.1	B	35.9
2018 AM with development	0.886	17.5	B	12.4
2018 PM with development	0.898	25.6	B	36.1
2028AM	0.889	19.4	B	14.4
2028 PM	1.060	108.5	F	125.8
2028 AM with development	0.902	19.2	B	17.0
2028 PM with development	1.105	134.3	F	136.6

The modelling and the summarised results in ***Table 3*** above shows that the Industrial Drive / Vine Street Signalised T-intersection currently operates satisfactorily during both the AM and PM peak periods and would continue to do so post development in 2018 without and with development and with 10 years traffic growth to 2028 in all cases except the PM peak period. Average delays, LoS and 95% back of queue lengths all remain at acceptable levels based on the RMS assessment criteria listed above. However, the 2028 PM without and with development, fails requiring intersection upgrades to reduce delays for right turning movements. As the intersection fails in 2028 PM without the addition of the development it would not be the responsibility of this development on its own to provide the upgrades. Therefore, no upgrading of the intersection is required initially in 2018 and a contribution may be required for the future works.

The modelling shows that for the other three intersections - Industrial Drive / Ingall Street Signalised four way cross intersection; Industrial Drive / William Street give way controlled T-intersection; and Crebert Street / William Street give way controlled T-intersection - currently operate satisfactorily during both the AM and PM peak periods and would continue to do so post development in 2018 without and with development and with 10 years traffic growth to 2028 in all cases as shown in ***Tables 4 – 6*** below. Average delays, LoS and 95% back of queue lengths all remain at acceptable levels based on the RMS assessment criteria listed above. Further the modelling shows improved performance of the Industrial Drive / William Street intersection with the reinstatement of the right turn out movement at the existing site access to William Street. This is consistent with the requirements of NSW RMS (see ***Attachment E***) for there to be no further adverse impact on this intersection.

Table 4 – Industrial Drive / Ingall Street Signalised intersection – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Average Delay (s)	Average Level of Service	95% back of queue length (cars)
2018 AM with development	0.870	23.7	B	25.9
2018 PM with development	0.891	24.0	B	31.7
2028 AM with development	0.894	26.4	B	44.7
2028 PM with development	0.938	24.1	B	41.7

Table 5 – Industrial Drive / William Street Give Way T-intersection – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Average Delay (s)	Worst Level of Service	95% back of queue length (cars)
2018 AM with development	0.487	0.4	A	0.6
2018 PM with development	0.401	0.4	A	0.5
2028 AM with development	0.584	0.4	A	0.9
2028 PM with development	0.480	0.4	A	0.5

Table 6 – Crebert Street / William Street Give Way T-intersection – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Average Delay (s)	Worst Level of Service	95% back of queue length (cars)
2018 AM with development	0.159	1.8	A	0.5
2018 PM with development	0.168	2.2	A	0.4
2028 AM with development	0.194	1.8	A	0.6
2028 PM with development	0.199	2.2	A	0.5

It is also noted that the additional traffic at the Vine Street / Crebert Street / Hanbury Street four way Stop Sign Cross intersection is a maximum of 22 vtph in the PM peak. 7 vtph of these are for the only right turn movement being northbound traffic turning east into Crebert Street and the other 15 vtph comprise left in and left out of Crebert Street east of Vine Street. As the additional traffic represents 1.5% more than the 2028 volumes (much less than the (10%) average variation of traffic this will have an insignificant impact on the uninterrupted flow conditions that were observed to operate at this intersection during inspections during peak times.

Furthermore, it is noted that the additional peak hour traffic on Crebert Street east of William Street will be a maximum of 43 vtph eastbound and 7 westbound. This traffic will be distributed over 7 intersections and would not result in any significant impact on their operations. It is therefore concluded that no upgrading of the local and state road network is required as a result of this development.

In assessing performance of the existing development access and the new development access with William Street it is noted that traffic on William Street is likely to be a maximum of 362 vtph (2028) and the likely maximum traffic on the new access will be 105 vtph and the existing access will be 324 vtph. The volumes at these accesses are within the thresholds in the following table taken from Austroads *Guide to Traffic Management – Part 6 – Intersections, Interchanges & Crossings (2009)* for which the guide states a detailed analysis to demonstrate adequate capacity is available is unlikely to be necessary as uninterrupted flow conditions would prevail; and those of the existing access resemble the lower volume amounts in the table and would result in uninterrupted flow conditions.

Major road type[1]	Major road flow (vph)[2]	Minor road flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Notes:

1. Major road is through road (i.e. has priority).
2. Major road flow includes all major road traffic with priority over minor road traffic.
3. Minor road design volumes include through and turning volumes.

It can be concluded therefore that both the proposed new development vehicular access and the existing development accesses at William Street will operate with uninterrupted flow conditions and as such can be constructed as a normal private property urban accesses, subject to Australian Standards *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* requirements described below.

11.3 Access

In assessing the site accesses compliance with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* the following is noted for the existing and proposed accesses.

- Vehicular sight distance from the existing and proposed accesses has been observed to be suitable to meet the requirements as shown in *Figure 3.2* of the Standard, i.e. minimum 45 metres for a 50 km/h speed zone;
- Pedestrian sight lines as required in *Figure 3.2* of the Standard is achieved with the construction of driveways via the appropriate design of landscaping and fencing around the access; and
- The existing access at William Street near Industrial Drive will support 394 car spaces of Class 2 parking (entertainment centres, motels). *Table 3.1* of the Standard thus requires a minimum Class 4 access facility to be constructed for Class 2 parking. *Table 3.2* of the Standard then designates a Class 4 access facility as a separated (1 to 3 metres) entry and exit each 6.0 metres to 8.0 metres wide.
- The proposed access at William Street adjacent to the southern boundary will support 300 car spaces of Class 1A parking (residential parking). *Table 3.1* of the Standard thus

requires a minimum Class 2 access facility to be constructed for Class 1A parking. *Table 3.2* of the Standard then designates a Class 2 access facility as a combined entry and exit 6.0 to 9.0 metres wide or minimum each 3.0 metres wide if separated.

- As a minimum 6-metre-wide driveway is proposed for each of the separated ingress and egress at the current access at William Street and a minimum 6.0-metre-wide access is proposed for the new combined entry / exit access location adjacent to the southern property boundary at William Street, the proposal complies with the standard.
- The proposal removes a number of existing accesses to Industrial Drive resulting in improved road safety environment on this busy arterial road. This is supported by NSW RMS (see ***Attachment E***).

The proposed internal roads need to comply with the requirements of Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* which requires the minimum width of the internal two-way roads to be 5.5 metres. The access design and internal road dimensions have not been provided on the plans however scale to comply with this requirement. This will need to be confirmed at CC stage.

It is concluded that the proposed access arrangements provide a safe and suitable site access to all components of the development and would comply with Newcastle City Council and Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* requirements.

11.4 Off-Street Parking

On-site parking and manoeuvrability should comply with Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004*. The SEPP states the following in Part 7 Development Standards that cannot be used as grounds to refuse a consent within Division 4 Self-contained units (Clause 50):

(h) Parking: if at least the following is provided:

(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or

(ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

and the SEPP also states the following in Part 7 Development Standards that cannot be used as grounds to refuse a consent within Division 2 Residential Care Facilities (Clause 48 (d) that:

(d) **parking for residents and visitors:** if at least the following is provided:

(i) 1 parking space for each 10 beds in the residential care facility (or 1 parking space for each 15 beds if the facility provides care only for persons with dementia), and

(ii) 1 parking space for each 2 persons to be employed in connection with the development and on duty at any one time, and

(iii) 1 parking space suitable for an ambulance.

Note. The provisions of this clause do not impose any limitations on the grounds on which a consent authority may grant development consent.

The proposal is to provide 481 bedrooms within the seniors living buildings on the site and, as the development is proposed by a private entity and not a social housing provider, the seniors living component would need to provide a total of 241 on-site car parks. Noting that 300 resident and visitor car parks (plus 16 motor bike parking spaces, which is greater than 1 in 20 per number of car parking spaces,) are proposed within the concept plan, it is concluded that an excess of on-site car parking is provided for this component of the development.

The proposal is also to provide 216-bed aged care facility with 14 staff resulting requiring the provision of 29 car parking spaces which complies with the *SEPP Part 7 Development Standards Division 2 Residential Care Facilities* requirements and is shown on the plans. It includes 6 accessible parking bays plus a designated ambulance parking space.

Australian Standards *AS 2890.1 2004* requires the following for 90° angle parking as a minimum:

- Class 2 facility - 2.5m wide x 5.4m long bays with a 5.8m aisle width,
- Class 1A facility - 2.4m wide x 5.4m long bays x a 5.8m aisle width, and
- All classes with 1.0 metre blind aisle extensions.

Whilst the current concept plan is not suitably detailed to provide dimensions there is sufficient room and an excess of car parking on the site to ensure all parking spaces and manoeuvring areas could comply with the requirements of both Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* which does require increased car park widths.

Section 7.03 Traffic, Parking and Access of Newcastle City Council DCP 2012 details the parking rates for the remaining existing site development. (The suitability of the 51 spaces specifically allocated to the motel have been assessed in the car park occupancy survey to verify this.) The relevant car parking rates applicable to a licenced club and a gym are:

Registered Club

1 space per 2 staff; and
1 space per 15 m^2 of licenced floor area (bar, lounge) for visitors; or
As verified by survey.

Gymnasium

Minimum 4.5 spaces per 100 m^2,
Maximum 7.5 spaces per 100 m^2, and

The Wests Club building envelope area measures approximately 4,270 m^2 and the Balance Gym building envelope measures 3,600 m^2. Assuming 50 staff maximum and 3,000 m^2 GFA for the licenced bar / lounge area, and using the lower rate of 4.5 spaces per 100 m^2 for the gym and given cross use, the carparking space requirements from these two existing developments are:

= 50 staff / 2 + 3,000 m^2 (club) / 15 + 3,600 m^2 (gym) / 100 x 4.5
= 25 + 200 + 162
= 387 car spaces

To verify that the above rates are applicable a survey of parking was undertaken at the RMS suggested 'gym' peak time of 6pm to 7pm on Thursday, Friday 26th – 28th July 2018 and at various times on Saturday, Sunday, Monday and Tuesday 28th – 31st July. The results of the survey are provided in ***Attachment D***.

The maximum usage of the carpark determined from the survey for the existing club and gym development is 311 car spaces (Monday 5:00 pm) and the motel 47 spaces (Saturday 9:00 pm). The proposed parking for the existing development is 327 existing car spaces in the multi-storey carpark – 233 at Ground Level minus the 69 uncovered spaces west of the multi-storey carpark plus 163 at Level 1 - for the Wests Club and Balance Gym; and the existing 51 car spaces for the Motel, both 5 % or more than the maximum number of occupied spaces counted in the survey.

Therefore, it is concluded that the provision of the proposed car parking complies with the requirements for development specified by the Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking*, the *State Environmental Planning Policy (SEPP) (Housing for*

Seniors and People with a Disability) 2004 Part 7 Development Standards and *Section 7.03 Traffic, Parking and Access* of Newcastle City Council DCP 2012, subject to verification of parking layout dimensions. The proposed car parking will also suitably cater for the peak parking demand currently generated by the Club and Gymnasium on the site.

For the purpose of assessing a site compatibility certificate application, there is sufficient space within the site to accommodate the requisite number of parking spaces. Further analysis and design of car parking arrangements will be undertaken in the development of DA plans.

11.5 Servicing

As a seniors' living development suitable servicing of the site is required to be designed into the development. In this regard the key servicing will be the regular weekly waste collection. This will be undertaken by a private contractor using a suitably sized MRV (8.8 m) side collection vehicle that will enter the site and collect waste from bins within the site. Normal waste and recyclables will be collected separately. The internal road layout and design will therefore need to be able to accommodate the movement of this vehicle such that forward entry and exit from the site onto William Street will occur. Whilst the concept plan at this stage is not detailed enough to provide swept turning paths there is sufficient room on site for this to occur and swept turning paths can be provided at Construction Certificate stage. Servicing of the club and residential aged care facility would be undertaken from the existing set down area and service bays within the site and the proposed set down area and ambulance area for the Residential Aged Care facility. It is noted that the existing 3 bus bays and 4 service vehicle bays utilised for the motel and the club not included in the car park survey will be retained.

Overall it is concluded that the proposed servicing arrangements of the site are suitable with all servicing undertaken on site with forward entry and exit from the site.

12.0 PEDESTRIAN & CYCLE FACILITIES

It is considered that the external pedestrian and bicycle traffic generated by the development would not be significant enough as to provide a nexus for the provision of additional external pedestrian and bicycle paths (on or off road) to the site and the existing infrastructure is considered satisfactory for the scale of development proposed noting a significant amount of pedestrian traffic will be contained to within the site. Suitable internal pedestrian linkages exist on the site and these will be extended to service both the residential care facility and the independent living units proposed on the site.

13.0 PUBLIC TRANSPORT FACILITIES

Industrial Drive near the site is currently serviced by public transport (bus) services provided by Newcastle Transport (Keolis Downer) providing suitable access to all necessary services, facilities and locations near the site. Therefore, suitable public transport services already exist near the site and no additional services or infrastructure is required.

The proposed development may generate additional public transport usage and under *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* the site residents must have access to a bus with a minimum capacity of 10 persons. The above bus service that runs past the site is frequent, very convenient to the site, has a bus shelter and therefore provides a satisfactory public transport service to the development thereby satisfying the requirements of the SEPP.

14.0 CONCLUSIONS

This traffic impact assessment for a proposed Seniors Living Development and Residential Aged Care facility on Lot 100 in DP 1084939 and Lot A in DP 86486, 32 Industrial Drive and 26 William Street, Mayfield which is to provide 262 Seniors Living residential dwellings and a 216 bed Aged Care facility within 4 buildings has concluded:

- Existing traffic volumes on the local road network are within the technical and environmental capacity standards determined by Austroads and the NSW Roads and Maritime Services (RMS).
- The local road network is currently operating satisfactorily with good levels of service and acceptable delay for motorists and has capacity to cater for additional traffic associated with new development in the area.
- The proposed development is likely to generate up to an additional 105 vehicle trips per hour during the AM peak and PM peak traffic periods.
- The local road network will cater for the development traffic generated by this development in 2018 through to 2028 without adversely impacting on either current levels of service experienced by motorists on the road or the residential amenity of existing residents.
- Sidra modelling of the Industrial Drive / Ingall Street Signalised four-way cross intersection; Industrial Drive / William Street Give Way T-intersection; and Crebert Street / William Street Give Way T-intersection shows that they currently operate satisfactorily during both the AM and PM peak periods and would continue to do so post development and with 10 years traffic growth to 2028. Average delays, LoS and 95 % back of queue lengths all remain at acceptable levels based on the RMS assessment criteria.
- Sidra modelling of the Industrial Drive / Vine Street Signalised T-intersection has shown that it currently operates satisfactorily during both the AM and PM peak periods and would continue to do so post development and with 10 years traffic growth to 2028, except for the 2028 PM without and with development models. The development together with many future developments results in the need to upgrade the Industrial Drive / Vine Street Signalised T-intersection which will fail in the 2028 PM peak with or without this development.
- The site accesses off William Street will operate with uninterrupted flow conditions and as such can be constructed as urban property accesses with configurations as described in ***Section 11.3***.
- The proposed site accesses would comply with Newcastle City Council and Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* thereby providing safe and suitable vehicular access to the site.
- The proposed development will provide sufficient and suitable on-site car parking to meet the requirements of both Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004*.
- The site can be suitably serviced for waste collection via a private contractor utilising a side loading MRV (8.8 metre) collection vehicle weekly. There is enough room on site for this vehicle to enter the site, manoeuvre through the site and exit the site in a forward direction.
- The proposed development will not generate significant enough external pedestrian and cycle traffic to require additional external facilities particularly as the majority of pedestrian movements will be contained within the site.
- The existing public bus service that services the site is frequent, very convenient to the site, has a bus shelter and provides a satisfactory public transport service to the development thereby satisfying the public transport requirements of the SEPP.

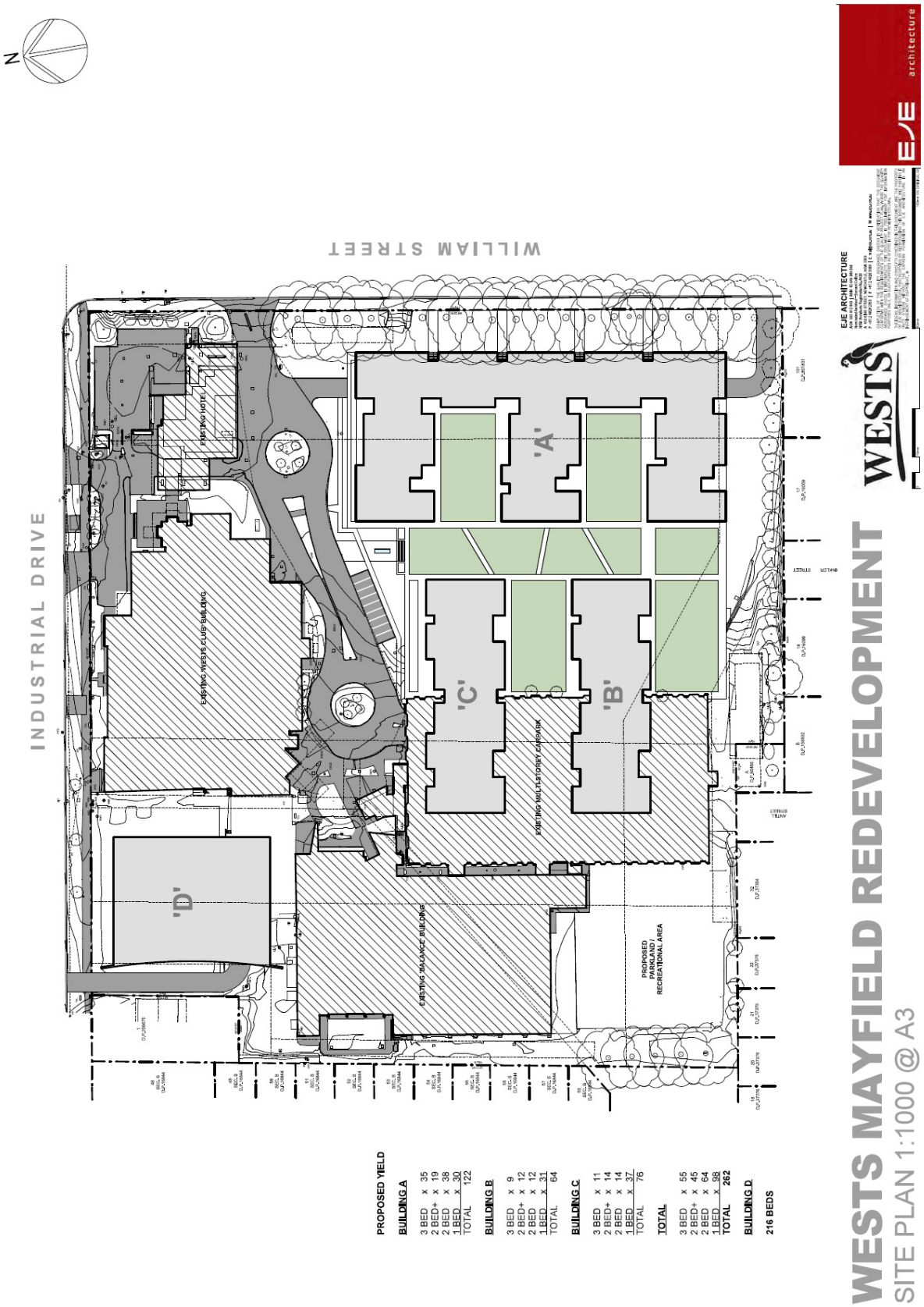
15.0 RECOMMENDATION

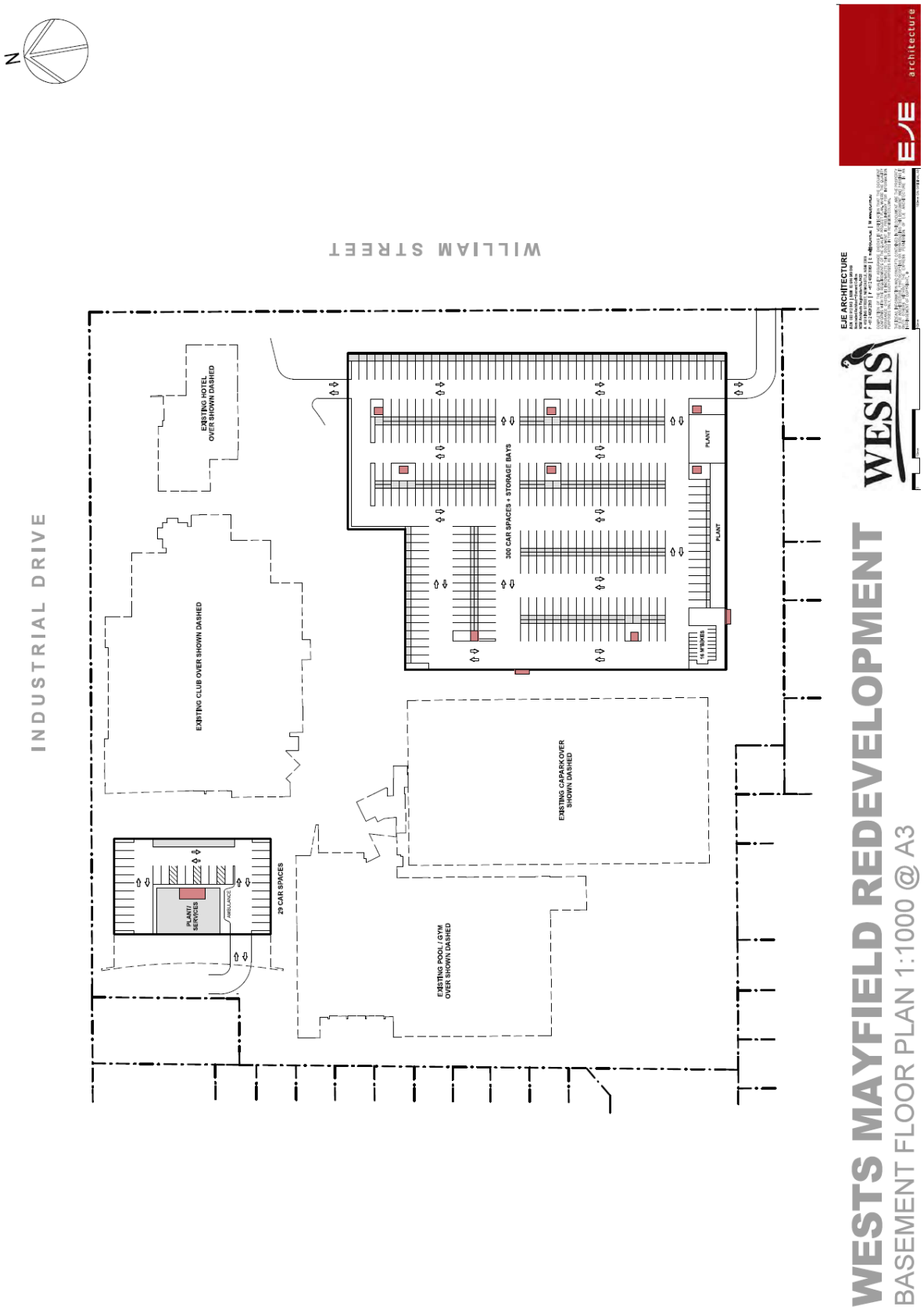
Having carried out this traffic impact assessment for a proposed Seniors Living development and Residential Aged Care facility on Lot 100 in DP 1084939 and Lot A in DP 86486, 32 Industrial Drive and 26 William Street, Mayfield it is recommended that the proposal can be supported from a traffic impact perspective as it will not adversely impact on the local and state road network and can comply with all relevant Newcastle City Council, Austroads, *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* and NSW Roads and Maritime Services (RMS) traffic and parking related requirements.

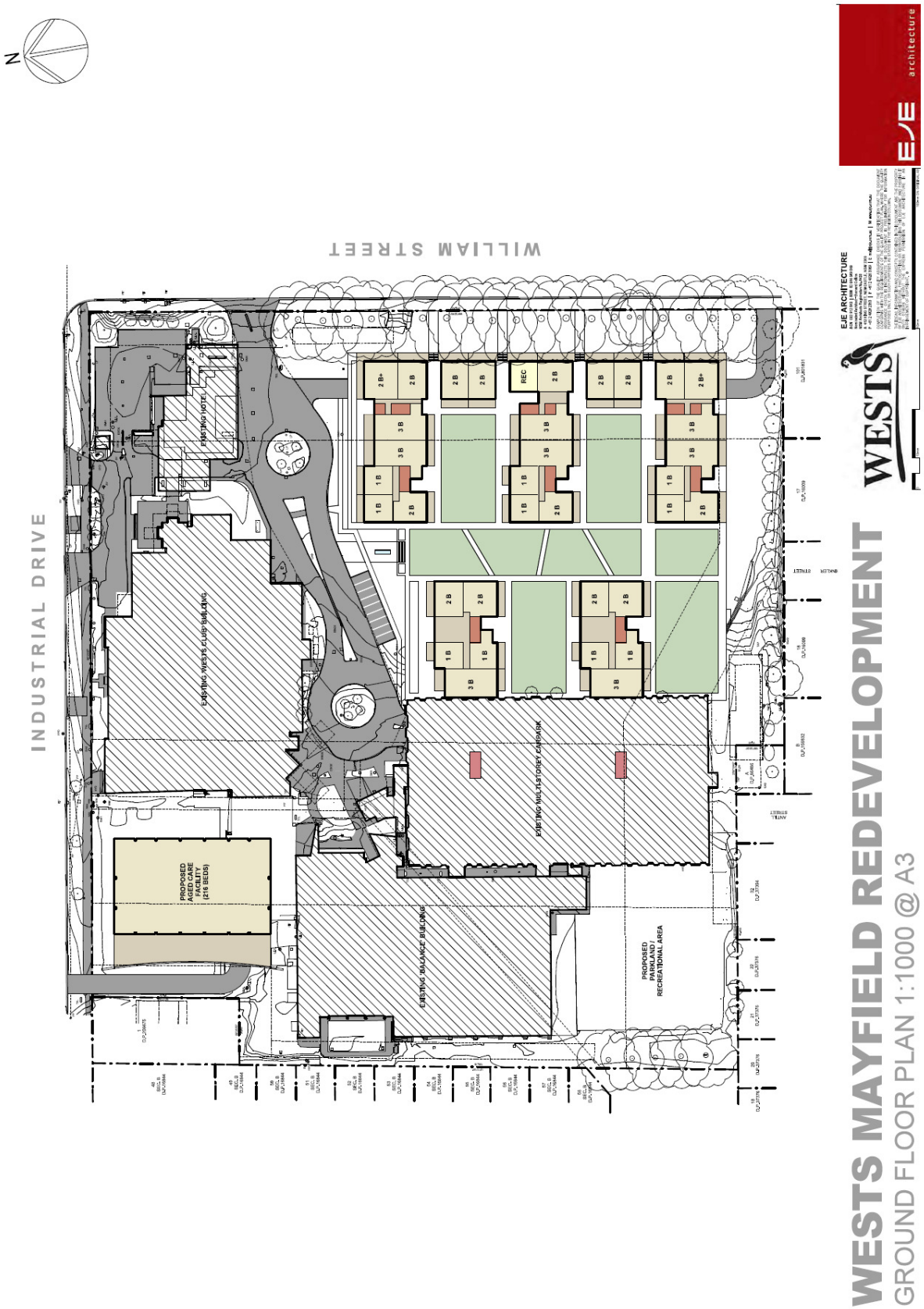
JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A

Development Plans


N
WILLIAM STREET
INDUSTRIAL DRIVE
EXISTING HOTEL
EXISTING WESTS CLUB BUILDING
'A'
'B'
'C'
'D'
EXISTING MULTI-STOREY CARPARK
EXISTING BALANCE BUILDING
PROPOSED PARKLAND RECREATIONAL AREA
PROPOSED YIELD
BUILDING A
3 BED x 35
2 BED+ x 19
2 BED x 38
1 BED x 30
TOTAL 122
BUILDING B
3 BED x 9
2 BED+ x 12
2 BED x 12
1 BED x 31
TOTAL 64
BUILDING C
3 BED x 11
2 BED+ x 14
2 BED x 14
1 BED x 37
TOTAL 76
TOTAL
3 BED x 55
2 BED+ x 45
2 BED x 64
1 BED x 98
TOTAL 262
BUILDING D
216 BEDS
EJE ARCHITECTURE
EJE architecture
WESTS
WESTS MAYFIELD REDEVELOPMENT
SITE PLAN 1:1000 @ A3


N
WILLIAM STREET
INDUSTRIAL DRIVE
EXISTING HOTEL OVER SHOWN DASHED
EXISTING CLUB OVER SHOWN DASHED
300 CAR SPACES + STORAGE BAYS
PLANT
PLANT
16 M'BIKES
EXISTING CARPARK OVER SHOWN DASHED
29 CAR SPACES
PLANT/ SERVICES
AMBULANCE
EXISTING POOL / GYM OVER SHOWN DASHED
EJE ARCHITECTURE
WESTS
EJE architecture
WESTS MAYFIELD REDEVELOPMENT
BASEMENT FLOOR PLAN 1:1000 @ A3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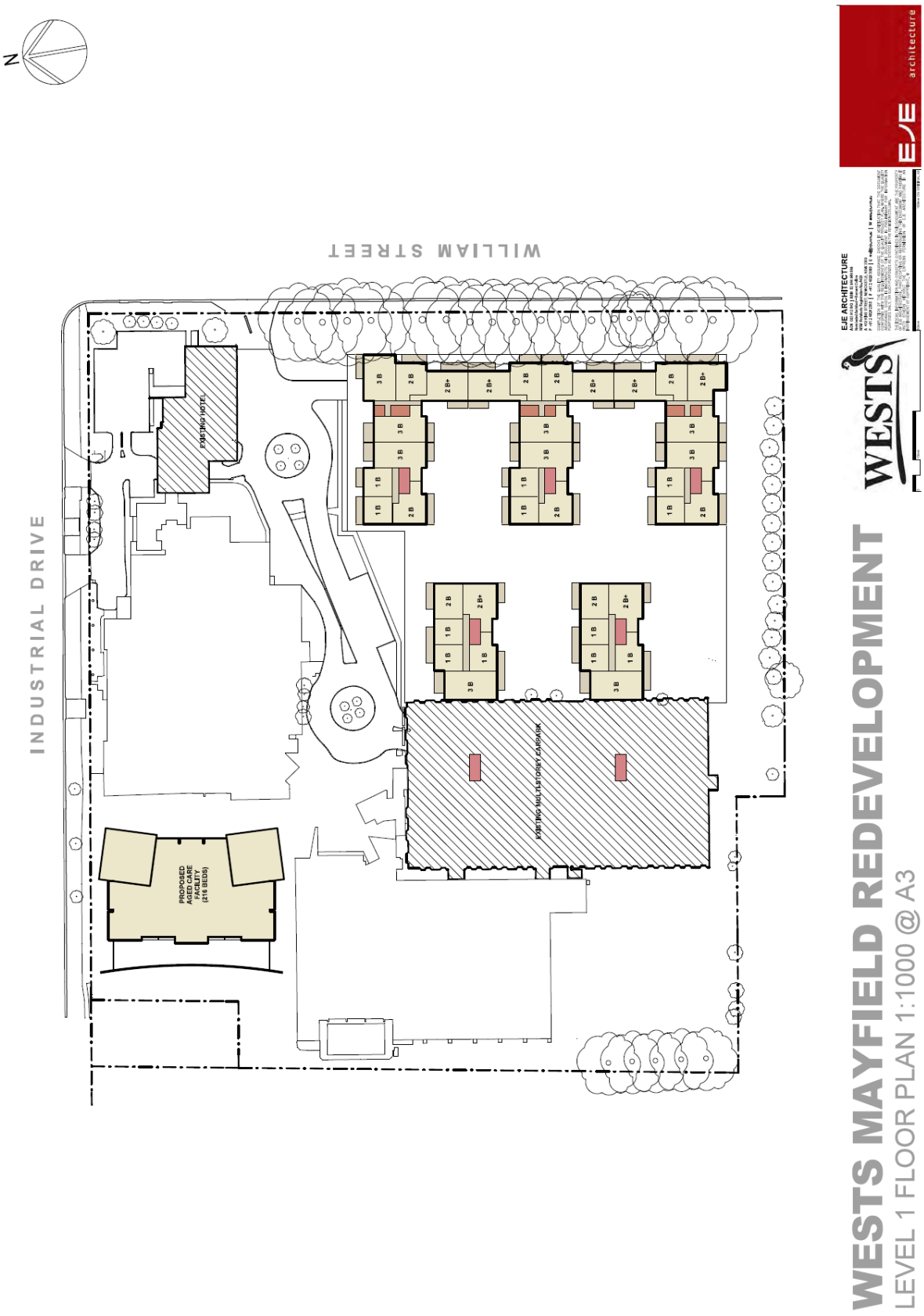
EXISTING WESTS CLUB BUILDING
EXISTING MULTI-STOREY CARPARK
EXISTING BALANCE BUILDING
PROPOSED RESIDENTIAL AGED CARE FACILITY (216 BEDS)
PROPOSED RESIDENTIAL RECREATIONAL AREA
REC
WESTS MAYFIELD REDEVELOPMENT
GROUND FLOOR PLAN 1:1000 @ A3
EJE ARCHITECTURE
WESTS
EJE architecture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EXISTING MULTI-STOREY CARPARK
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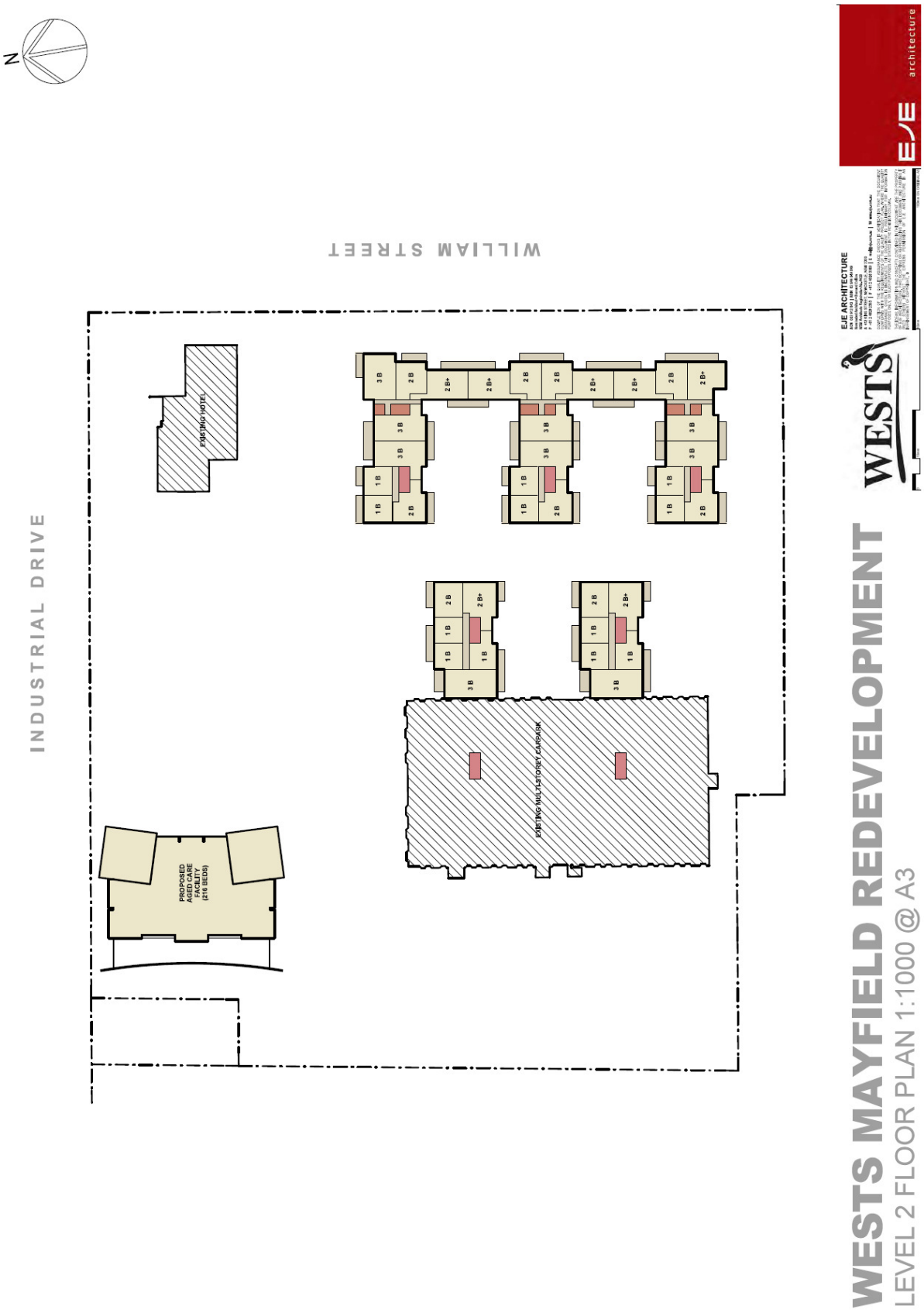
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 1 FLOOR PLAN 1:1000 @ A3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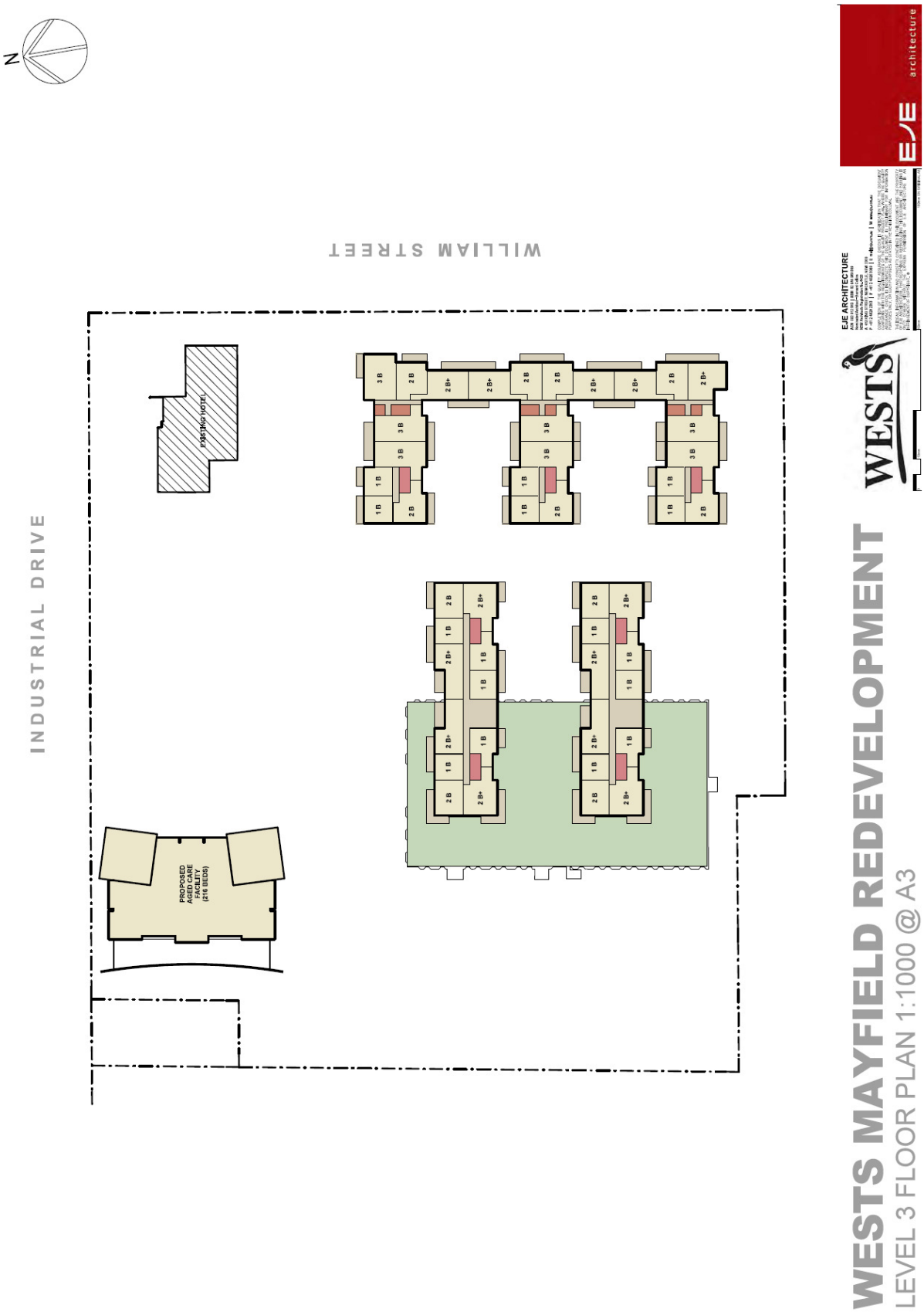
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 2 FLOOR PLAN 1:1000 @ A3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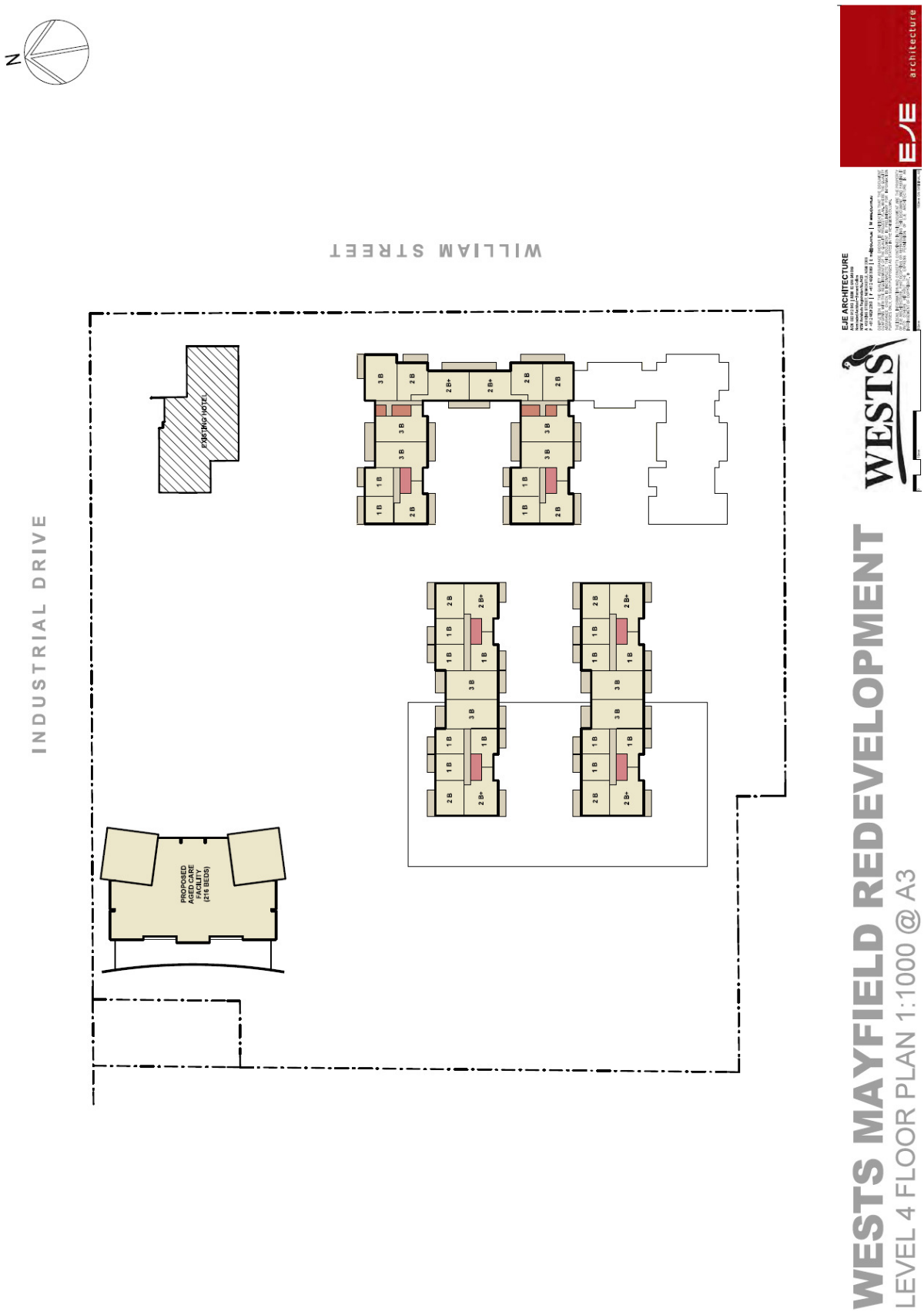
E/E ARCHITECTURE
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 3 FLOOR PLAN 1:1000 @ A3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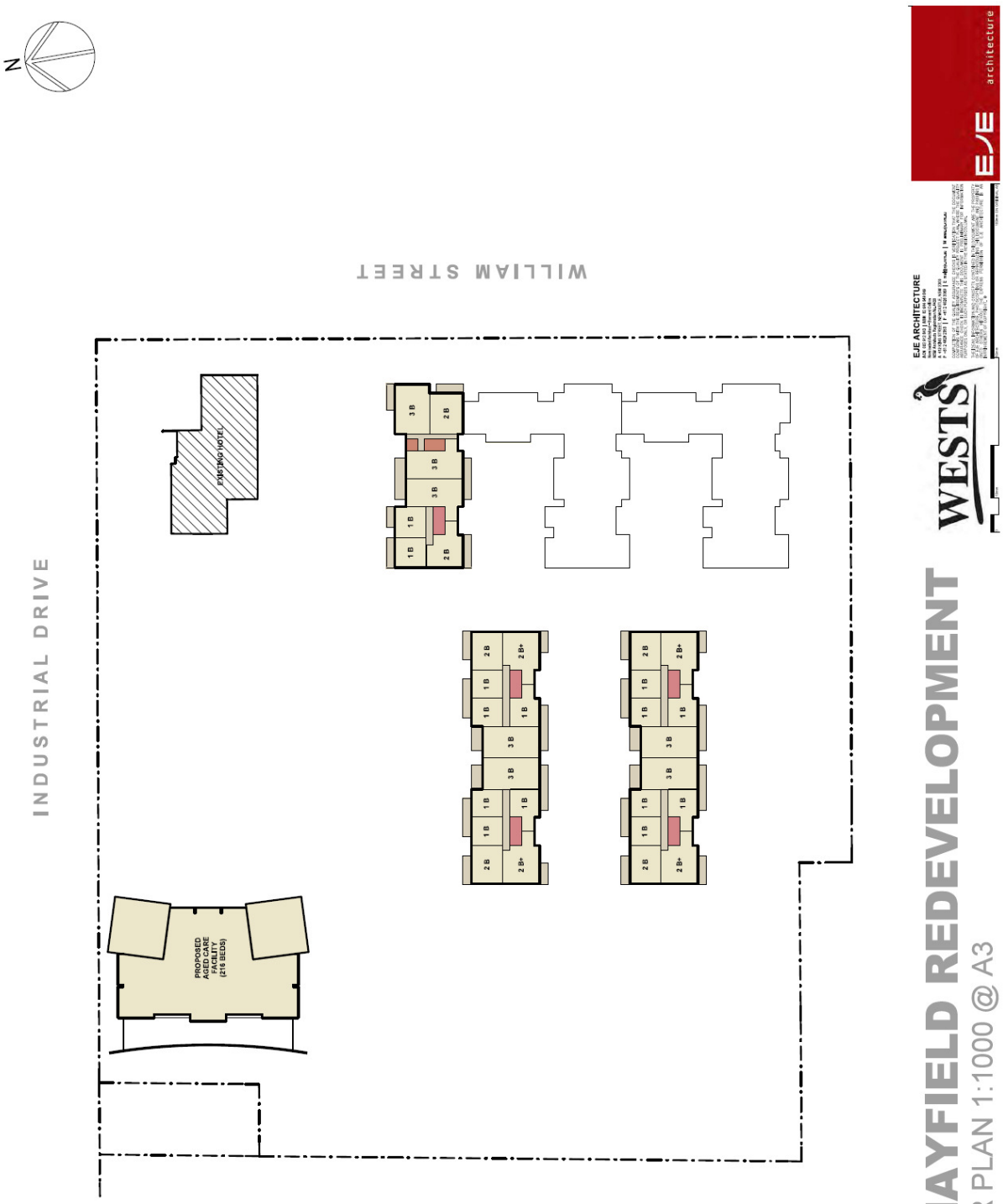
WESTS MAYFIELD REDEVELOPMENT
LEVEL 4 FLOOR PLAN 1:1000 @ A3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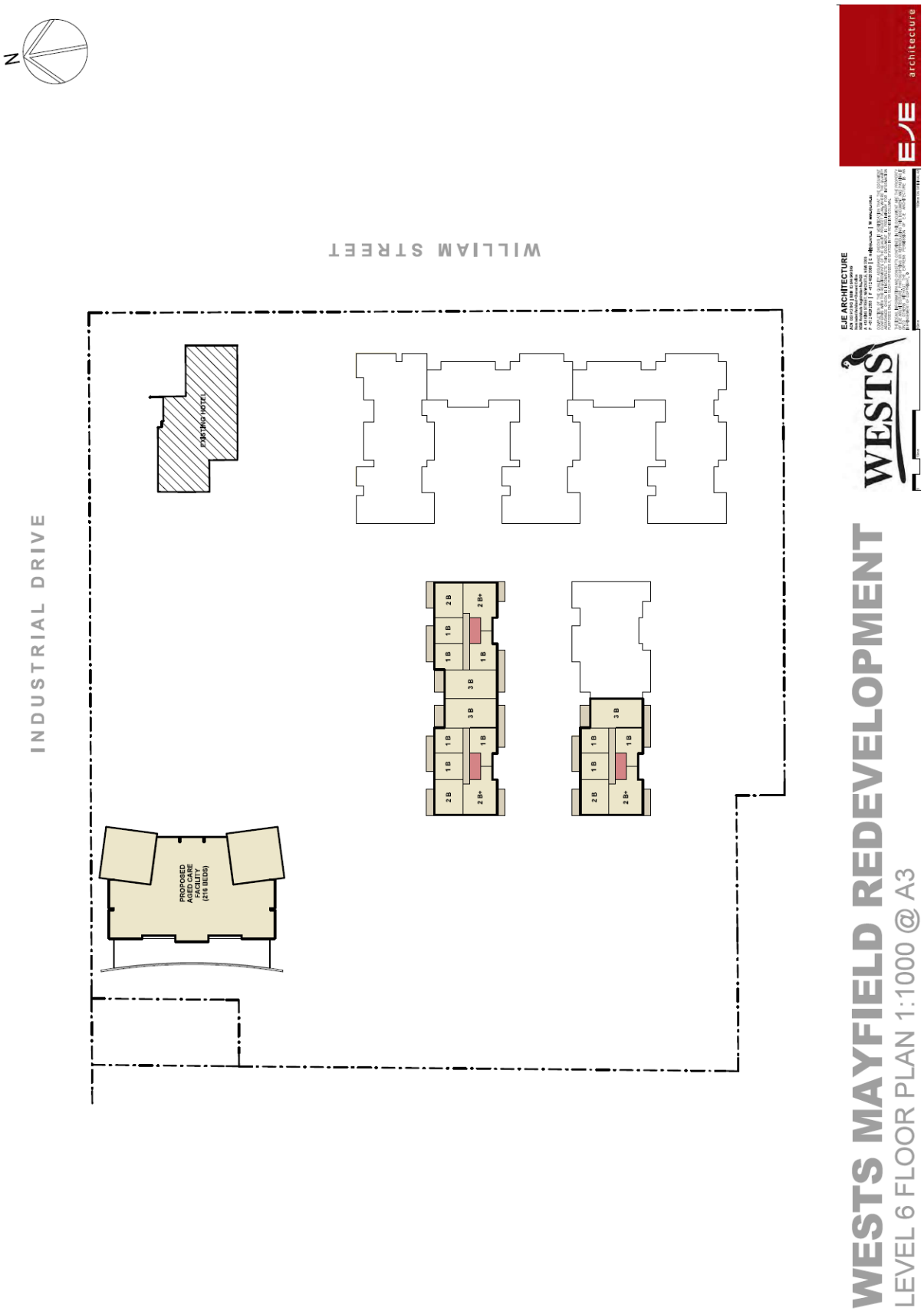
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 5 FLOOR PLAN 1:1000 @ A3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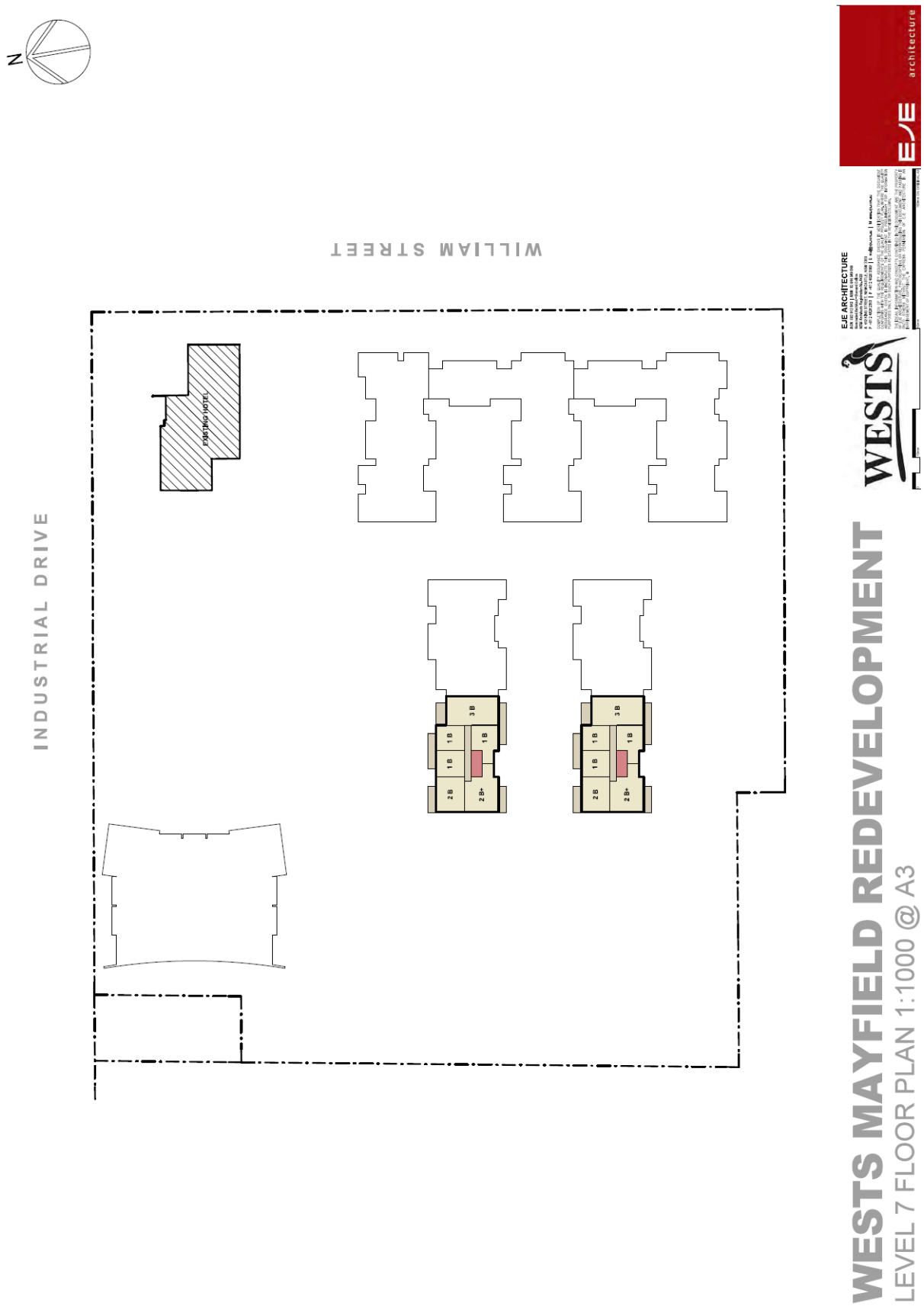
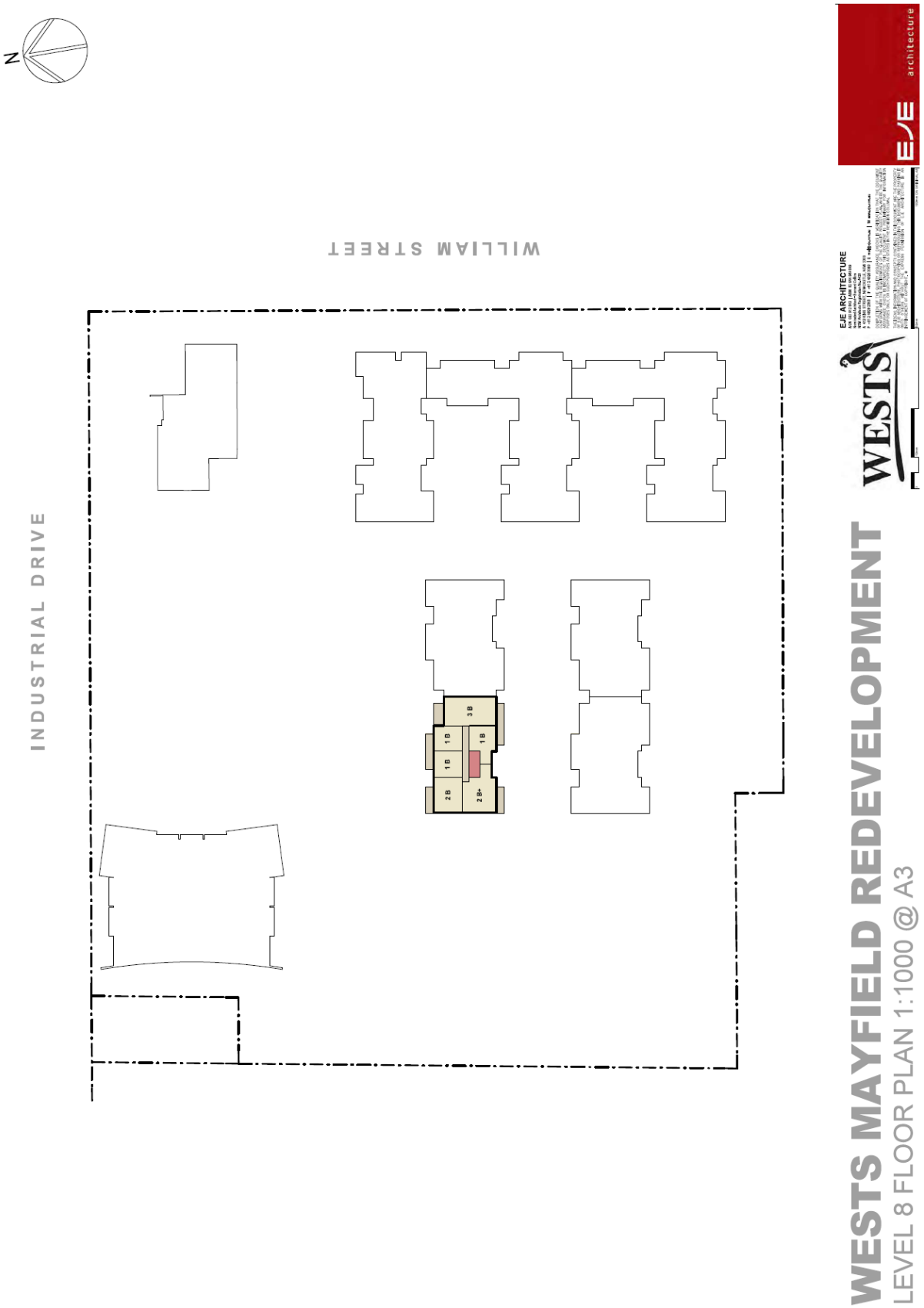
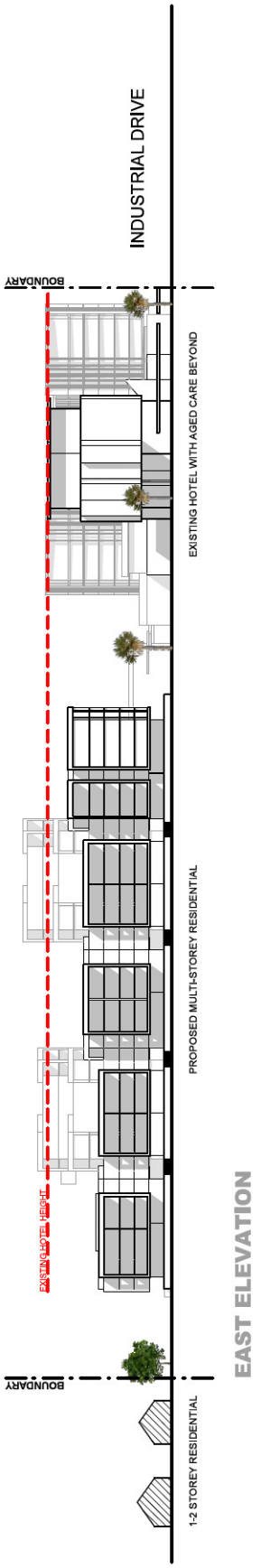
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 6 FLOOR PLAN 1:1000 @ A3


N
WILLIAM STREET
INDUSTRIAL DRIVE
EXISTING HOTEL
1B
2B
2B+
3B
EJE architecture
EJE ARCHITECTURE
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 7 FLOOR PLAN 1:1000 @ A3


N
WILLIAM STREET
INDUSTRIAL DRIVE
3B
1B
1B
1B
2B
2B+
EJE architecture
EJE ARCHITECTURE
WESTS
WESTS MAYFIELD REDEVELOPMENT
LEVEL 8 FLOOR PLAN 1:1000 @ A3



WESTS MAYFIELD REDEVELOPMENT

CONTEXTUAL ANALYSIS 1:750 @ A3

ATTACHMENT B

Traffic Count Data

19/6/2018 - INDUSTRIAL DVE / VINE ST, MAYFIELD

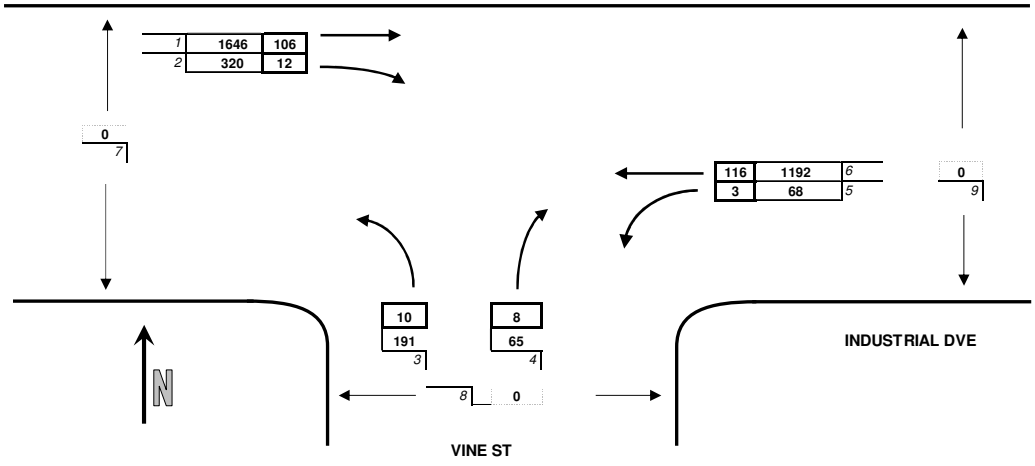
08:30 <<< HOUR ENDING **Tuesday**

1646	Light Vehicles
106	Heavy Vehicles
0	Pedestrians

Summary:

INDUSTRIAL DVE / VINE ST	
3482	Total Light Vehicles
255	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830



19/6/2018 - INDUSTRIAL DVE / VINE ST, MAYFIELD

Light Vehicles

	1	2	3	4	5	6	Total Vehicles 15 MIN	HOUR
07:15	312	50	46	16	17	262	703	
07:30	350	49	37	9	6	312	763	
07:45	461	58	37	14	10	303	883	
08:00	397	89	50	24	22	311	893	3242
08:15	414	100	52	13	13	284 <	876	3415
08:30	374 <	73	52	14	23 <	294	830	3482 <
08:45	406	71 <	47 <	15 <	9	265	813	3412
09:00	340	63	42	15	10	230	700	3219
09:15	284	67	33	12	13	184	593	2936
09:30	239	44	34	9	17	175	518	2624
09:45	198	44	24	2	10	181	459	2270
10:00	170	72	37	4	11	177	471	2041

Pedestrians

	7	8	9
07:15	0	0	0
07:30	0	0	0
07:45	0	0	0
08:00	0	0	0
08:15	0	0	0
08:30	0	0	0
08:45	0	0	0
09:00	0	0	0
09:15	0	0	0
09:30	0	0	0
09:45	0	0	0
10:00	0	0	0

Heavy Vehicles

	1	2	3	4	5	6	Total Vehicles 15 MIN	HOUR
07:15	20	3	1	1	1	13	39	
07:30	21	2	1	2	2	19	47	
07:45	23	2	0	1	1	17	44	
08:00	30	3	0	2	1	35	71	201
08:15	35	4	3	2	1	22	67	229
08:30	18	3	7	3 <	0	42	73	255
08:45	29 <	3 <	0	0	2	46	80	291 <
09:00	25	2	1 <	1	2	30	61	281
09:15	34	1	2	0	2	30 <	69	283
09:30	24 <	2	2	1	1 <	25	55	265
09:45	24	1	2	1	0	26	54	239
10:00	28	1	0	2	1	34	66	244

All Vehicles

	1	2	3	4	5	6	Total Vehicles 15 MIN	HOUR
07:15	332	53	47	17	18	275	742	
07:30	371	51	38	11	8	331	810	
07:45	484	60	37	15	11	320	927	
08:00	427	92	50	26	23	346	964	3443
08:15	449	104	55	15	14	306	943	3644
08:30	392 <	76	59	17 <	23 <	336 <	903	3737 <
08:45	435	74 <	47 <	15 <	11 <	311	893	3703
09:00	365	65	43	16	12	260	761	3500
09:15	318	68	35	12	15	214	662	3219
09:30	263	46	36	10	18	200	573	2889
09:45	222	45	26	3	10	207	513	2509
10:00	198	73	37	6	12	211	537	2285

Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

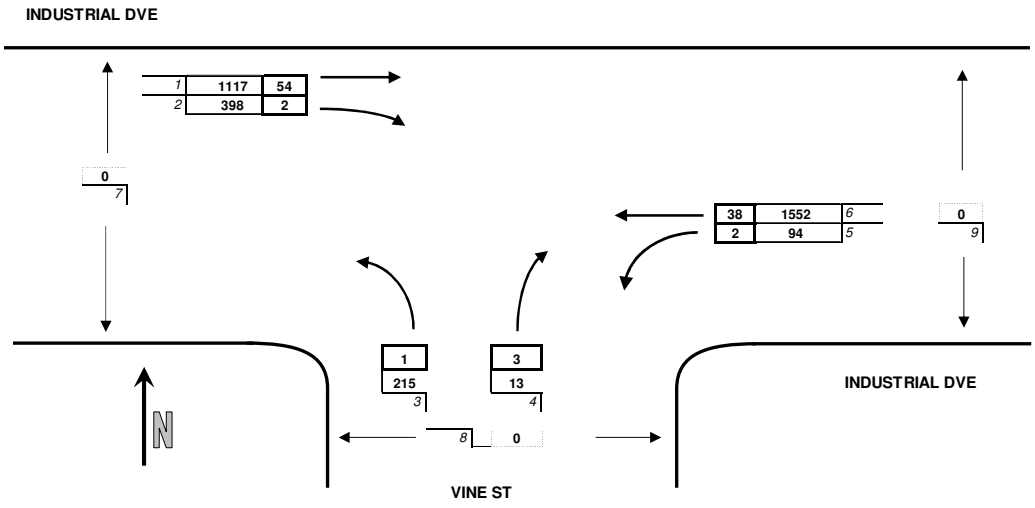
19/6/2018 - INDUSTRIAL DVE / VINE ST, MAYFIELD

17:15 <<< HOUR ENDING **Tuesday**

Summary: INDUSTRIAL DVE / VINE ST	
3389	Total Light Vehicles
100	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830

1117 Light Vehicles
54 Heavy Vehicles
0 Pedestrians



19/6/2018 - INDUSTRIAL DVE / VINE ST, MAYFIELD

	Light Vehicles 1	2	3	4	5	6	Total Vehicles 15 MIN HOUR		Pedestrians 7	8	9
15:15	183	49	57	8	28	369	694		0	0	0
15:30	181	56	70	12	18	310	647		0	0	0
15:45	194	59	51	4	22	428	758		0	0	0
16:00	221	51	52	2	11	360	697	2796	0	0	0
16:15	204	79	65 <	6	28	351	733	2835	0	0	0
16:30	247	96	58	5	19	392	817	3005	0	0	0
16:45	295	99	54	3	30	387	868	3115	0	0	0
17:00	279	107	48	2	22	404	862	3280	0	0	0
17:15	296	96	55	3	23	369 <	842	3389 <	0	0	0
17:30	281 <	99 <	61	7	27 <	299	774	3346	0	0	0
17:45	291	66	47	7	23	311	745	3223	0	0	0
18:00	214	60	58	12 <	21	323	688	3049	0	0	0

	Heavy Vehicles 1	2	3	4	5	6	Total Vehicles 15 MIN HOUR	
15:15	32	4	3	0	3	29	71	
15:30	15	1	3	1	0	23	43	
15:45	25	1	2	1	1	24	54	
16:00	21 <	2 <	1 <	1	1 <	24 <	50	218 <
16:15	17	2	1	1 <	1	14	36	183
16:30	22	0	0	1 <	0	11	34	174
16:45	8	0	0	0	0	9	17	137
17:00	12	2	1	1	1	11	28	115
17:15	12	0	0	1	1	7	21	100
17:30	7	1	1	0	0	13	22	88
17:45	13	0	2	2 <	1	7	25	96
18:00	6	1	1	1 <	0	11	20	88

	All Vehicles 1	2	3	4	5	6	Total Vehicles 15 MIN HOUR	
15:15	215	53	60	8	31	398	765	
15:30	196	57	73	13	18	333	690	
15:45	219	60	53	5	23	452	812	
16:00	242	53	53	3	12	384	747	3014
16:15	221	81	66 <	7	29	365	769	3018
16:30	269	96	58	6	19	403 <	851	3179
16:45	303	99	54	3	30	396	885	3252
17:00	291	109	49	3	23	415	890	3395
17:15	308	96	55	4	24	376	863	3489 <
17:30	288	100 <	62	7	27 <	312	796	3434
17:45	304 <	66	49	9	24	318	770	3319
18:00	220	61	59	13 <	21	334	708	3137

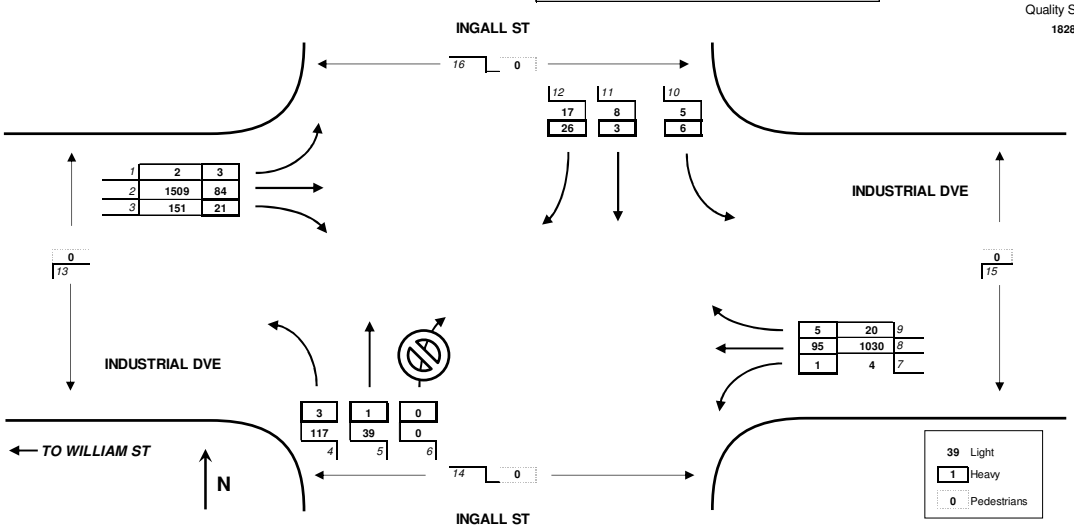
Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

19/6/2018 - INGALL ST / INDUSTRIAL DVE, MAYFIELD

08:30 <<< HOUR ENDING **Tuesday**

Summary:	INGALL ST / INDUSTRIAL DVE
2902	Total Light Vehicles
248	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830



19/6/2018 - INGALL ST / INDUSTRIAL DVE, MAYFIELD

Light Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR		Pedestrians 13	14	15	16
07:15	0	258	23	19	11	0	0	231	1	0	1	4	548		0	0	0	0
07:30	0	296	22	21	5	0	1	279	7	1	5	7	644		0	0	0	0
07:45	0	417	26	32	9	0	0	265	6	2	1	4	762		0	0	0	0
08:00	1	370	52	27	8	0	1	287 <	7	1	1	6	761	2715	0	0	0	0
08:15	1	371	32	29	11	0	1	226	3 <	1	5	5 <	685	2852	0	0	0	0
08:30	0	351 <	41 <	29 <	11 <	0	2	252	4	1	1	2	694	2902 <	0	0	0	0
08:45	1	381	26 <	22	5	0	3	240	4	1	0	4	687	2827	0	0	0	0
09:00	2	303	35	34	9	0	5 <	190	2	1	1	4	586	2652	0	0	0	0
09:15	2 <	251	22	19	7	0	0	170	2	4	5	2	484	2451	0	0	0	0
09:30	0 <	210	22	18	6	0	3 <	186	4	3	6	2	460	2217	0	0	0	0
09:45	0	200	29	13	2	0	3 <	142	4	1	1	7	402	1932	0	0	0	0
10:00	2	153	20	21	1	0	1	166	3	4 <	2 <	0	373	1719	0	0	0	0

Heavy Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR	
07:15	0	15	0	1	0	0	0	9	3	1	0	4	33	
07:30	0	15	1	1	0	0	0	16	1	0	0	2	36	
07:45	2	22	1	2	1	0	0	11	1	1	1	7	49	
08:00	0	25	1	0	0 <	0	0	28	0	4	1	6	65	183
08:15	0	18	11	1	0 <	0	1 <	19	2	1	1 <	4	58	208
08:30	1	19	8 <	0	0 <	0	0 <	37	2	0	0 <	9	76	248
08:45	0	17	0	2	0	0	0 <	33 <	1	3 <	0	6	62	261 <
09:00	1	23	2 <	2	0	0	0 <	26	0	1	0	3	58	254
09:15	0	26 <	0	1	0	0	0	19	0	1	0	11	58	254
09:30	1	18	2	2 <	0	0	0	17	2	0	1	8	51	229
09:45	0	13	4	1	0	0	0	15	3	0	1	6	43	210
10:00	4 <	13	3	0	0	0	0	27	1 <	1	0	7 <	56	208

All Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR	
07:15	0	273	23	20	11	0	0	240	4	1	1	8	581	
07:30	0	311	23	22	5	0	1	295	8	1	5	9	680	
07:45	2	439	27	34	10	0	0	276	7	3	2	11	811	
08:00	1	395	53	27	8	0	1	315	7	5	2	12	826	2898
08:15	1	389	43	30	11	0	2	245 <	5 <	2	6	9	743	3060
08:30	1	370 <	49 <	29 <	11 <	0	2	289	6	1	1	11 <	770	3150 <
08:45	1	398	26	24	5	0	3	273	5	4	0	10	749	3088
09:00	3	326	37	36	9	0	5 <	216	2	2	1	7	644	2906
09:15	2	277	22	20	7	0	0	189	2	5	5	13	542	2705
09:30	1	228	24	20	6	0	3	203	6	3 <	7	10	511	2446
09:45	0	213	33	14	2	0	3	157	7	1	2	13 <	445	2142
10:00	6 <	166	23	21	1	0	1	193	4	5 <	2 <	7 <	429	1927

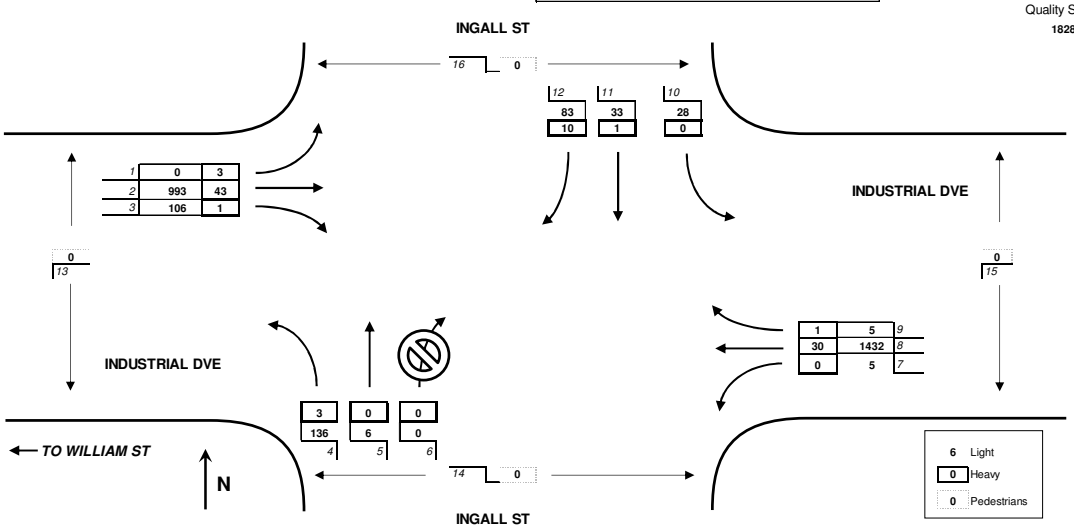
Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

19/6/2018 - INGALL ST / INDUSTRIAL DVE, MAYFIELD

17:15 <<< HOUR ENDING **Tuesday**

Summary:	INGALL ST / INDUSTRIAL DVE
2827	Total Light Vehicles
92	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830



19/6/2018 - INGALL ST / INDUSTRIAL DVE, MAYFIELD

Light Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR		Pedestrians 13	14	15	16
15:15	0	176	21	34	0	0	4	294	1	5	7	22	564		0	0	0	0
15:30	1	166	24	30	2	0	3	273	2	3	3	21	528		0	0	0	0
15:45	2	162	22	30	6	0	3	357	1	13	7	36	639		0	0	0	0
16:00	0	218	19	40	3	0	2	289	0	3	11	21	606	2337	0	0	0	0
16:15	0	182	19	49	3 <	0	2	305	0	14	14	26	614	2387	0	0	0	0
16:30	0	226	32	35 <	1	0	2	323	1	9 <	8	26 <	663	2522	0	0	0	0
16:45	0	254	21	29	0	0	1	347	2	7	7	20	688	2571	0	0	0	0
17:00	0	263	30	36	2	0	1	353	1	6	6	13	711	2676	0	0	0	0
17:15	0	250	23	36	3	0	1	409 <	1	6	12	24	765	2827 <	0	0	0	0
17:30	1	257	28	40	2	0	22	269	1	3	15	15	653	2817	0	0	0	0
17:45	1	262 <	27 <	19	2	0	21	284	3	5	8	13	645	2774	0	0	0	0
18:00	2 <	200	19	24	2	0	25 <	264	2 <	9	11 <	14	572	2635	0	0	0	0

Heavy Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR	
15:15	1	27	2	3	0	0	0	17	0	0	3	6	59	
15:30	1	13	0	2	1	0	0	17	0	0	0	7	41	
15:45	0	20	0	1	0	0	0	18	0	0	0	4	43	
16:00	1 <	19 <	1 <	1 <	0 <	0	0	20 <	0	0	1 <	0 <	43	186 <
16:15	0	16	1	1	0 <	0	0	14	0	0	0	4	36	163
16:30	1	21	0	0	0	0	0	10	1 <	0	0	2	35	157
16:45	1 <	5	0	0	0	0	0	7	0 <	0	1	2	16	130
17:00	0	10	1	2	0	0	0	9	0 <	0	0	2	24	111
17:15	1 <	7	0	1	0	0	0	4	0 <	0	0	4	17	92
17:30	0	7	0	0	0	0	0	9	0	0	0	5	21	78
17:45	1	5	2 <	1	0	0	0	6	0	0	0	1	16	78
18:00	1 <	2	1 <	0	0	0	1 <	4	0	2 <	0	4	15	69

All Vehicles

	1	2	3	4	5	6	7	8	9	10	11	12	Total Vehicles 15 MIN HOUR	
15:15	1	203	23	37	0	0	4	311	1	5	10	28	623	
15:30	2	179	24	32	3	0	3	290	2	3	3	28	569	
15:45	2	182	22	31	6	0	3	375	1	13	7	40	682	
16:00	1	237	20	41	3	0	2	309	0	3	12	21	649	2523
16:15	0	198	20	50	3 <	0	2	319	0	14	14	30 <	650	2550
16:30	1	247	32	35 <	1	0	2	333	2	9 <	8	28 <	698	2679
16:45	1	259	21	29	0	0	1	354	2	7	8	22	704	2701
17:00	0	273	31	38	2	0	1	362	1	6	6	15	735	2787
17:15	1	257	23	37	3	0	1	413 <	1	6	12	28	782	2919 <
17:30	1	264	28	40	2	0	22	278	1	3	15	20	674	2895
17:45	2	267 <	29 <	20	2	0	21	290	3	5	8	14	661	2852
18:00	3 <	202	20	24	2	0	26 <	268	2 <	11	11 <	18	587	2704

Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

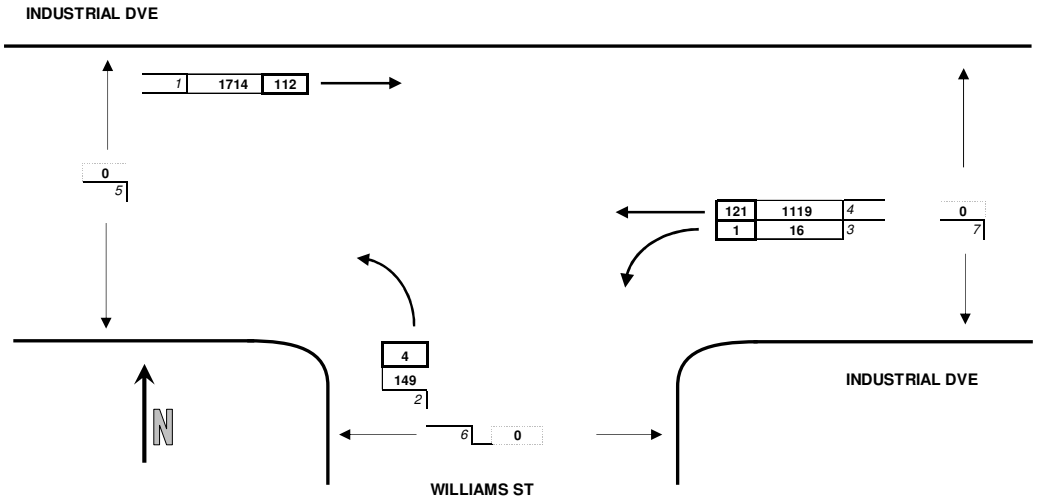
19/6/2018 - INDUSTRIAL DVE / WILLIAMS ST, MAYFIELD

08:30 <<< HOUR ENDING **Tuesday**

Summary: INDUSTRIAL DVE / WILLIAMS ST	
2998	Total Light Vehicles
238	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830

1714 Light Vehicles
112 Heavy Vehicles
0 Pedestrians



19/6/2018 - INDUSTRIAL DVE / WILLIAMS ST, MAYFIELD

	Light Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR		Pedestrians 5	6	7
07:15	310	52	8	247	617		0	0	0
07:30	371	20	3	292	686		0	0	0
07:45	451	25	3	291	770		0	0	0
08:00	420	53 <	8	291	772	2845	0	0	0
08:15	445	33	2	267 <	747	2975	0	0	0
08:30	398 <	38	3	270	709	2998 <	0	0	0
08:45	417	23	7	247	694	2922	0	0	0
09:00	363	15	6	211	595	2745	0	1 <	0
09:15	286	20	6	185	497	2495	0	0 <	0
09:30	267	27	7	187	488	2274	0	0 <	0
09:45	203	13	8 <	170	394	1974	0	0 <	0
10:00	191	22	5	180	398	1777	0	0	0

	Heavy Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR	
07:15	20	0	0	15	35	
07:30	24	1	0	20	45	
07:45	24	1	0	18	43	
08:00	29	1	1	36	67	190
08:15	37	1 <	0	23	61	216
08:30	22	1 <	0	44	67	238
08:45	22	1 <	0	45	68	263
09:00	34 <	0	0	32	66	262
09:15	30	1	1	31 <	63	264 <
09:30	26	0	0	25	51	248
09:45	19	0	0	28	47	227
10:00	30	1	1 <	33	65	226

	All Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR	
07:15	330	52	8	262	652	
07:30	395	21	3	312	731	
07:45	475	26	3	309	813	
08:00	449	54 <	9	327	839	3035
08:15	482	34	2	290	808	3191
08:30	420 <	39 <	3	314 <	776	3236 <
08:45	439	24	7	292	762	3185
09:00	397	15	6	243	661	3007
09:15	316	21	7	216	560	2759
09:30	293	27	7	212	539	2522
09:45	222	13	8 <	198	441	2201
10:00	221	23	6 <	213	463	2003

Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

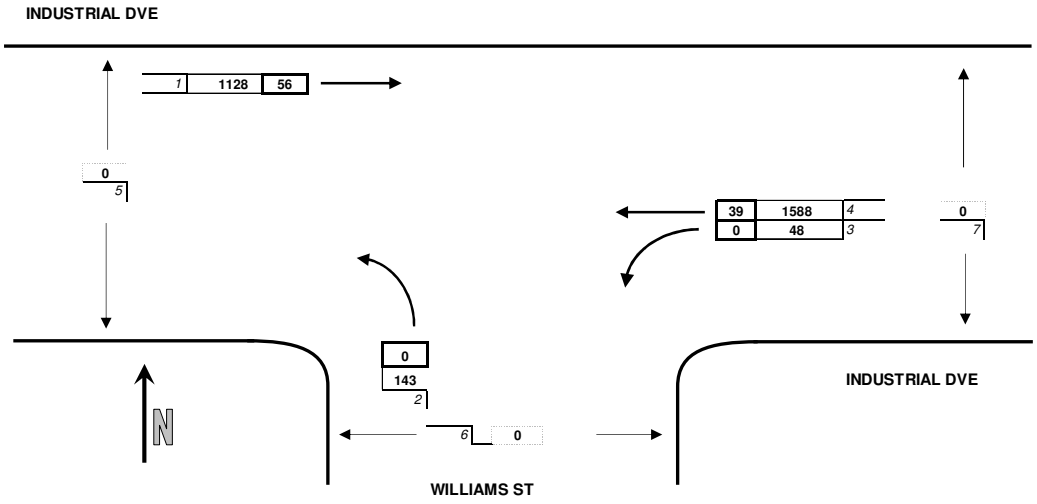
19/6/2018 - INDUSTRIAL DVE / WILLIAMS ST, MAYFIELD

17:15 <<< HOUR ENDING **Tuesday**

Summary: INDUSTRIAL DVE / WILLIAMS ST	
2907	Total Light Vehicles
95	Total Heavy Vehicles
0	Total Pedestrians

Quality Surveys
182830

1128 Light Vehicles
56 Heavy Vehicles
0 Pedestrians



19/6/2018 - INDUSTRIAL DVE / WILLIAMS ST, MAYFIELD

	Light Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR		Pedestrians 5	6	7
15:15	197	34	12	334	577		0	0	0
15:30	207	19	4	316	546		0	0	0
15:45	203	27	5	421	656		0	0	0
16:00	222	19	5	350	596	2375	0	0	0
16:15	212	29	5	372	618	2416	0	0	0
16:30	272	29	11	391	703	2573	0	0	0
16:45	274	38	8	400	720	2637	0	0	0
17:00	306	36	10	393	745	2786	0	0	0
17:15	276	40	19	404 <	739	2907 <	0	0	0
17:30	291 <	44	14	340	689	2893	0	0	0
17:45	272	41	16	307	636	2809	0	0	0
18:00	232	48 <	25 <	322	627	2691	0	0	0

	Heavy Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR	
15:15	30	3	0	29	62	
15:30	22	0	0	28	50	
15:45	25	0	0	23	48	
16:00	19 <	1 <	0	20 <	40	200 <
16:15	18	0	0	18	36	174
16:30	23	0	0	10	33	157
16:45	5	0	0	8	13	122
17:00	15	0	0	13	28	110
17:15	13	0	0	8	21	95
17:30	8	0	0	13	21	83
17:45	13	0	0	8	21	91
18:00	7	0	1 <	10	18	81

	All Vehicles 1	2	3	4	Total Vehicles 15 MIN HOUR	
15:15	227	37	12	363	639	
15:30	229	19	4	344	596	
15:45	228	27	5	444	704	
16:00	241	20	5	370	636	2575
16:15	230	29	5	390	654	2590
16:30	295	29	11	401	736	2730
16:45	279	38	8	408	733	2759
17:00	321	36	10	406	773	2896
17:15	289	40	19	412 <	760	3002 <
17:30	299	44	14	353	710	2976
17:45	285 <	41	16	315	657	2900
18:00	239	48 <	26 <	332	645	2772

Note : Arrows "<" indicate the end time for the peak hour for each turning movement.

Intersect Traffic
PO Box 268
East Maitland, Nsw, 2323
0423324188

Turn Count Summary

Location: William Street at Crebert Street , Mayfield
GPS Coordinates:
Date: 2018-07-23
Day of week: Monday
Weather:
Analyst: Peter

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:32	1	0	2	0	19	16	0	0	0	19	40	0	97
07:45	6	0	0	0	27	9	0	0	0	18	44	0	104
08:00	2	0	3	0	64	18	0	0	0	17	44	0	148
08:15	3	0	1	0	52	23	0	0	0	16	69	0	164
08:30	3	0	1	0	46	9	0	0	0	21	41	0	121
08:45	4	0	2	0	34	11	0	0	0	28	26	0	105
09:00	0	0	0	0	5	0	0	0	0	2	2	0	9

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:32	1	0	2	0	19	16	0	0	0	18	39	0	95
07:45	6	0	0	0	27	9	0	0	0	18	44	0	104
08:00	2	0	3	0	52	18	0	0	0	16	44	0	135
08:15	3	0	1	0	48	23	0	0	0	16	69	0	160
08:30	3	0	1	0	46	9	0	0	0	21	41	0	121
08:45	4	0	2	0	33	11	0	0	0	28	26	0	104
09:00	0	0	0	0	5	0	0	0	0	2	2	0	9

Heavy traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:32	0	0	0	0	0	0	0	0	0	1	1	0	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	12	0	0	0	0	1	0	0	13
08:15	0	0	0	0	4	0	0	0	0	0	0	0	4
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	1	0	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
07:32	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

08:00 - 09:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	0	7	0	196	61	0	0	0	82	180	0	538
Factor	0.75	0.00	0.58	0.00	0.77	0.66	0.00	0.00	0.00	0.73	0.65	0.00	0.82
Approach Factor	0.79			0.78			0.00			0.77			

Peak Hour Vehicle Summary

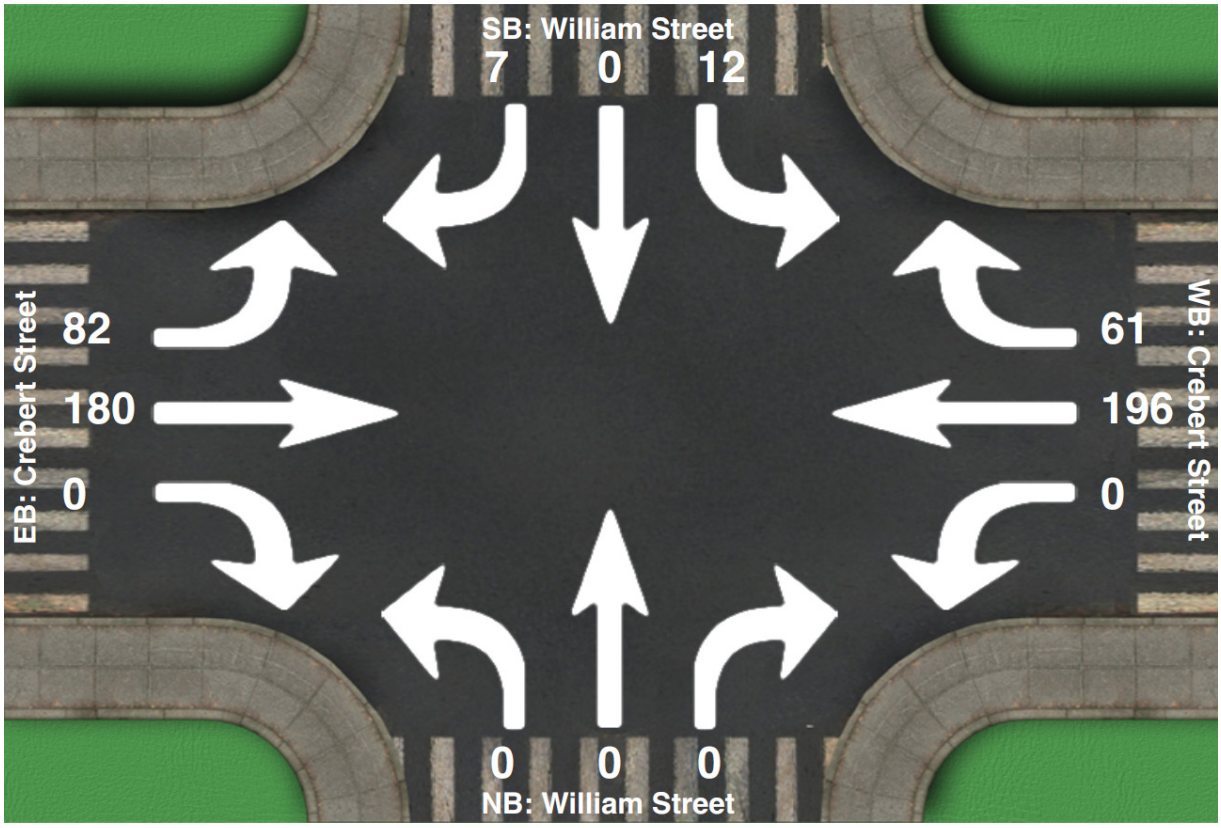
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	12	0	7	0	179	61	0	0	0	81	180	0	520
Heavy	0	0	0	0	17	0	0	0	0	1	0	0	18

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: William Street at Crebert Street , Mayfield
GPS Coordinates:
Date: 2018-07-23
Day of week: Monday
Weather:
Analyst: Peter



Intersection Peak Hour

08:00 - 09:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	0	7	0	196	61	0	0	0	82	180	0	538
Factor	0.75	0.00	0.58	0.00	0.77	0.66	0.00	0.00	0.00	0.73	0.65	0.00	0.82
Approach Factor	0.79			0.78			0.00			0.77			

Intersect Traffic
PO Box 268
East Maitland, Nsw, 2323
0423324188

Turn Count Summary

Location: William Street Q at Crebert Street , Mayfield
GPS Coordinates: Lat=-32.895299, Lon=151.743890
Date: 2018-07-23
Day of week: Monday
Weather: Sunny
Analyst: Peter

Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:15	4	0	1	0	44	7	0	0	0	37	35	0	128
16:30	2	0	2	0	29	11	0	0	0	35	32	0	111
16:45	3	0	0	0	30	12	0	0	0	34	35	0	114
17:00	1	0	1	0	46	13	0	0	0	33	41	0	135

Car traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:15	4	0	1	0	44	7	0	0	0	37	35	0	128
16:30	2	0	2	0	29	11	0	0	0	35	32	0	111
16:45	3	0	0	0	30	12	0	0	0	34	35	0	114
17:00	1	0	1	0	46	13	0	0	0	33	41	0	135

Heavy traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

16:15 - 17:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	10	0	4	0	149	43	0	0	0	139	143	0	488
Factor	0.62	0.00	0.50	0.00	0.81	0.83	0.00	0.00	0.00	0.94	0.87	0.00	0.90
Approach Factor	0.70			0.81			0.00			0.95			

Peak Hour Vehicle Summary

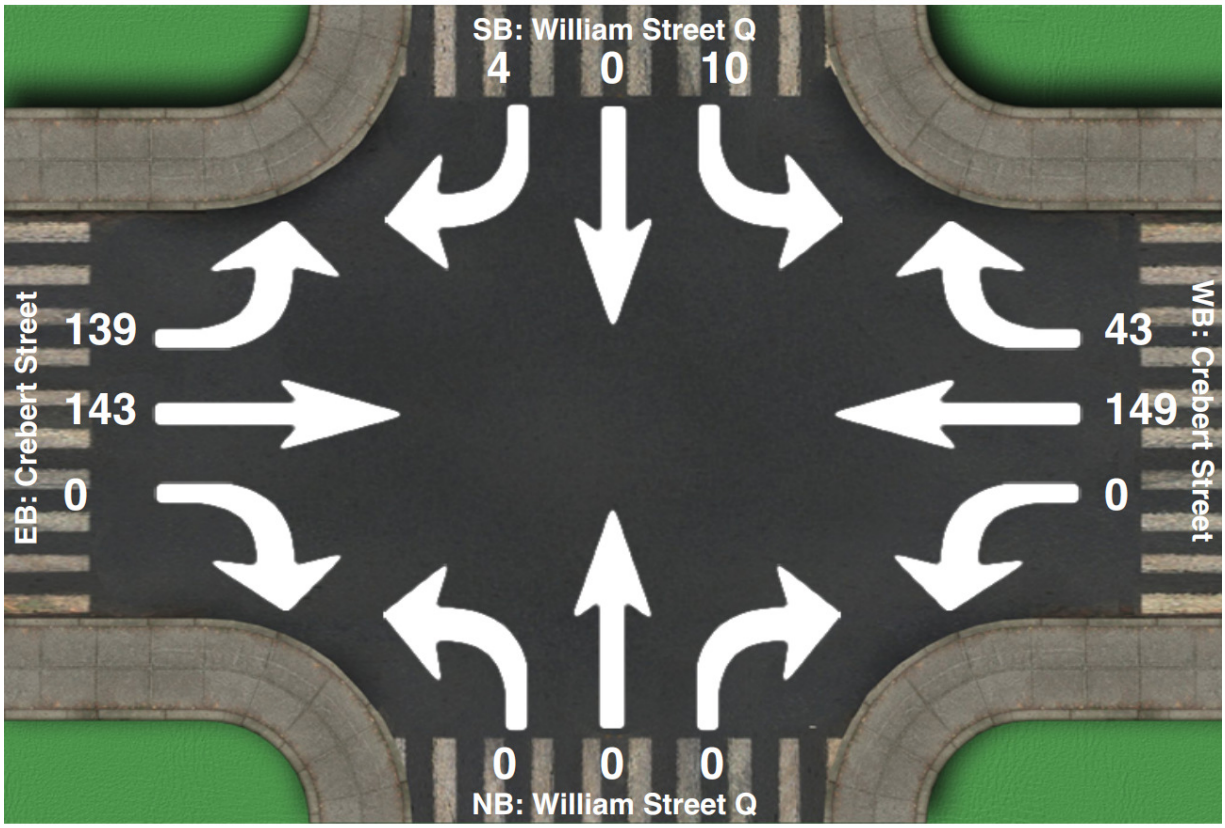
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	10	0	4	0	149	43	0	0	0	139	143	0	488
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: William Street Q at Crebert Street , Mayfield
GPS Coordinates: Lat=-32.895299, Lon=151.743890
Date: 2018-07-23
Day of week: Monday
Weather: Sunny
Analyst: Peter



Intersection Peak Hour

16:15 - 17:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	10	0	4	0	149	43	0	0	0	139	143	0	488
Factor	0.62	0.00	0.50	0.00	0.81	0.83	0.00	0.00	0.00	0.94	0.87	0.00	0.90
Approach Factor	0.70			0.81			0.00			0.95			

ATTACHMENT C

SIDRA Movement Summary Tables

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2018 AM (10am)]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 42 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	141	4.5	0.549	25.5	LOS B	3.0	21.6	0.97	0.80	42.8
3	R2	33	12.9	0.134	23.9	LOS B	0.6	4.9	0.90	0.71	40.0
Approach		174	6.1	0.549	25.2	LOS B	3.0	21.6	0.96	0.78	42.3
East: Industrial Drive											
4	L2	58	7.3	0.166	19.6	LOS B	1.3	10.1	0.78	0.70	46.9
5	T1	876	13.8	0.831	21.0	LOS B	10.2	79.9	0.99	1.00	52.3
Approach		934	13.4	0.831	20.9	LOS B	10.2	79.9	0.98	0.98	52.0
West: Industrial Drive											
11	T1	1054	11.0	0.507	6.0	LOS A	6.7	51.0	0.65	0.57	69.6
12	R2	244	2.2	0.935	39.5	LOS C	7.2	51.3	1.00	1.21	36.2
Approach		1298	9.3	0.935	12.3	LOS A	7.2	51.3	0.71	0.69	58.9
All Vehicles		2405	10.7	0.935	16.6	LOS B	10.2	79.9	0.83	0.81	54.5

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	15.5	LOS B	0.1	0.1	0.86	0.86
All Pedestrians		53	15.5	LOS B			0.86	0.86

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 15:55:53
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2018PM]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 77 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	216	0.5	0.290	22.4	LOS B	5.5	38.7	0.72	0.76	45.3
3	R2	16	18.8	0.125	43.9	LOS D	0.6	4.9	0.96	0.69	31.0
Approach		232	1.7	0.290	23.8	LOS B	5.5	38.7	0.73	0.76	44.1
East: Industrial Drive											
4	L2	96	2.1	0.181	20.9	LOS B	3.4	24.0	0.64	0.67	46.3
5	T1	1590	2.4	0.906	36.4	LOS C	35.9	256.7	0.99	1.08	41.8
Approach		1686	2.4	0.906	35.5	LOS C	35.9	256.7	0.97	1.06	42.0
West: Industrial Drive											
11	T1	1171	4.6	0.404	3.2	LOS A	7.4	53.5	0.36	0.33	74.0
12	R2	400	0.5	0.876	46.3	LOS D	17.7	124.4	1.00	1.01	33.8
Approach		1571	3.6	0.876	14.2	LOS A	17.7	124.4	0.53	0.50	56.3
All Vehicles		3489	2.9	0.906	25.1	LOS B	35.9	256.7	0.75	0.79	47.6

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	16.3	LOS B	0.1	0.1	0.65	0.65
All Pedestrians		50	16.3	LOS B			0.65	0.65

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 18:49:38
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2018 AM (10am) + DEV]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 44 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	141	4.5	0.493	25.3	LOS B	3.0	21.8	0.96	0.78	42.9
3	R2	33	12.9	0.141	25.1	LOS B	0.7	5.2	0.91	0.71	39.4
Approach		174	6.1	0.493	25.2	LOS B	3.0	21.8	0.95	0.77	42.3
East: Industrial Drive											
4	L2	85	4.9	0.174	19.8	LOS B	1.5	11.1	0.77	0.74	45.6
5	T1	928	13.0	0.868	24.5	LOS B	12.4	96.3	1.00	1.06	49.6
Approach		1014	12.4	0.868	24.1	LOS B	12.4	96.3	0.98	1.03	49.2
West: Industrial Drive											
11	T1	1054	11.0	0.490	5.7	LOS A	6.6	50.9	0.62	0.54	70.0
12	R2	258	2.0	0.886	34.3	LOS C	7.1	50.5	1.00	1.10	38.3
Approach		1312	9.2	0.886	11.3	LOS A	7.1	50.9	0.69	0.65	59.9
All Vehicles		2499	10.3	0.886	17.5	LOS B	12.4	96.3	0.83	0.81	53.6

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	16.4	LOS B	0.1	0.1	0.87	0.87
All Pedestrians		53	16.4	LOS B			0.87	0.87

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 18:28:17
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2018PM + DEV]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 82 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	216	0.5	0.281	22.7	LOS B	5.7	40.3	0.70	0.76	45.1
3	R2	16	18.8	0.133	46.8	LOS D	0.6	5.2	0.96	0.69	30.1
Approach		232	1.7	0.281	24.3	LOS B	5.7	40.3	0.72	0.76	43.8
East: Industrial Drive											
4	L2	54	3.7	0.180	22.0	LOS B	3.6	25.7	0.64	0.61	46.9
5	T1	1609	2.4	0.898	35.5	LOS C	36.1	257.9	0.98	1.04	42.3
Approach		1663	2.4	0.898	35.0	LOS C	36.1	257.9	0.97	1.03	42.4
West: Industrial Drive											
11	T1	1171	4.6	0.396	3.0	LOS A	7.3	53.4	0.34	0.31	74.4
12	R2	444	0.5	0.894	50.1	LOS D	21.5	151.4	1.00	1.02	32.6
Approach		1615	3.5	0.894	16.0	LOS B	21.5	151.4	0.52	0.50	54.4
All Vehicles		3510	2.8	0.898	25.6	LOS B	36.1	257.9	0.75	0.77	47.4

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	17.2	LOS B	0.1	0.1	0.65	0.65
All Pedestrians		50	17.2	LOS B			0.65	0.65

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

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2028 AM (10am)]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 46 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

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: Vine Street											
1	L2	161	4.5	0.514	25.5	LOS B	3.5	25.6	0.95	0.79	42.8
3	R2	37	12.9	0.168	26.4	LOS B	0.8	6.2	0.92	0.72	38.8
Approach		198	6.1	0.514	25.7	LOS B	3.5	25.6	0.95	0.78	42.1
East: Industrial Drive											
4	L2	66	7.3	0.178	20.0	LOS B	1.6	12.3	0.77	0.71	46.5
5	T1	998	13.8	0.889	27.6	LOS B	14.4	112.9	0.99	1.11	47.2
Approach		1064	13.4	0.889	27.2	LOS B	14.4	112.9	0.98	1.08	47.1
West: Industrial Drive											
11	T1	1201	11.0	0.542	5.8	LOS A	8.0	61.4	0.63	0.56	69.9
12	R2	278	2.2	0.875	34.4	LOS C	7.9	56.1	1.00	1.10	38.3
Approach		1480	9.3	0.875	11.1	LOS A	8.0	61.4	0.70	0.66	60.2
All Vehicles		2742	10.7	0.889	18.4	LOS B	14.4	112.9	0.82	0.83	52.9

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	60	16.6	LOS B	0.1	0.1	0.85	0.85
All Pedestrians		60	16.6	LOS B			0.85	0.85

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 15:56:16
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2028PM]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.
Design Life Analysis (Final Year): Results for 10 years

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: Vine Street											
1	L2	259	0.5	0.323	29.4	LOS C	9.9	69.4	0.70	0.77	41.4
3	R2	19	18.8	0.234	69.1	LOS E[11]	1.2	9.4	0.99	0.70	24.5
Approach		278	1.7	0.323	32.1	LOS C	9.9	69.4	0.72	0.77	39.7
East: Industrial Drive											
4	L2	115	2.1	0.212	26.9	LOS B	6.2	44.5	0.63	0.68	42.4
5	T1	1908	2.4	1.060	180.3	LOS F[11]	125.8	899.0	0.99	1.82	14.4
Approach		2023	2.4	1.060	171.6	LOS F[11]	125.8	899.0	0.97	1.76	14.9
West: Industrial Drive											
11	T1	1405	4.6	0.437	2.3	LOS A	9.6	69.6	0.26	0.24	75.7
12	R2	480	0.5	1.056	197.7	LOS F[11]	63.0	442.7	1.00	1.44	13.3
Approach		1885	3.6	1.056	52.0	LOS D[11]	63.0	442.7	0.45	0.54	33.8
All Vehicles		4187	2.9	1.060	108.5	LOS F[11]	125.8	899.0	0.72	1.14	21.2

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

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	60	21.1	LOS C	0.1	0.1	0.59	0.59
All Pedestrians		60	21.1	LOS C			0.59	0.59

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 18:51:21
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2028 AM (10am) + DEV]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 50 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	169	4.5	0.471	25.8	LOS B	3.9	28.1	0.93	0.79	42.7
3	R2	39	12.9	0.191	28.7	LOS C	0.9	7.2	0.93	0.72	37.6
Approach		208	6.1	0.471	26.3	LOS B	3.9	28.1	0.93	0.78	41.7
East: Industrial Drive											
4	L2	44	11.4	0.180	20.6	LOS B	1.8	14.1	0.75	0.66	47.4
5	T1	1103	11.8	0.902	29.8	LOS C	17.0	131.3	0.99	1.09	45.7
Approach		1147	11.8	0.902	29.4	LOS C	17.0	131.3	0.98	1.08	45.8
West: Industrial Drive											
11	T1	1264	11.0	0.543	5.4	LOS A	8.6	65.9	0.59	0.53	70.5
12	R2	306	1.8	0.835	32.7	LOS C	8.7	62.0	1.00	1.00	39.1
Approach		1571	9.2	0.835	10.7	LOS A	8.7	65.9	0.67	0.62	60.6
All Vehicles		2926	10.0	0.902	19.2	LOS B	17.0	131.3	0.81	0.81	52.3

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	16.8	LOS B	0.1	0.1	0.82	0.82
All Pedestrians		53	16.8	LOS B			0.82	0.82

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 15:57:04
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 102 [Industrial Dr / Vine St 2028PM + DEV]

Industrial Drive Vine St Signalised T-intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 120 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Vine Street											
1	L2	259	0.5	0.311	28.0	LOS B	9.6	67.3	0.68	0.77	42.1
3	R2	19	18.8	0.232	69.0	LOS E	1.1	9.3	0.99	0.70	24.5
Approach		278	1.7	0.311	30.8	LOS C	9.6	67.3	0.70	0.76	40.4
East: Industrial Drive											
4	L2	73	3.3	0.217	28.2	LOS B	6.4	45.8	0.64	0.63	42.5
5	T1	1927	2.3	1.084	211.7	LOS F	136.6	975.5	0.98	1.96	12.6
Approach		2000	2.4	1.084	205.0	LOS F	136.6	975.5	0.97	1.91	12.9
West: Industrial Drive											
11	T1	1405	4.6	0.437	2.3	LOS A	9.6	69.6	0.26	0.24	75.7
12	R2	524	0.4	1.105	273.0	LOS F	83.6	587.3	1.00	1.64	10.2
Approach		1929	3.5	1.105	75.8	LOS F	83.6	587.3	0.46	0.62	26.9
All Vehicles		4207	2.8	1.105	134.3	LOS F	136.6	975.5	0.72	1.24	18.1

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

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	22.3	LOS C	0.1	0.1	0.61	0.61
All Pedestrians		50	22.3	LOS C			0.61	0.61

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 18:52:04
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 105 [Industrial Drive / Ingall Street 2018AM + DEV]

Industrial Drive Ingall Street Signalised 4 Way Cross intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 65 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Ingall Street											
1	L2	120	2.5	0.142	15.5	LOS B	2.2	15.7	0.61	0.70	42.3
2	T1	40	2.5	0.226	31.5	LOS C	1.3	9.0	0.96	0.70	23.5
Approach		160	2.5	0.226	19.5	LOS B	2.2	15.7	0.70	0.70	37.1
East: Industrial Drive											
4	L2	5	20.0	0.009	21.9	LOS B	0.1	0.8	0.67	0.65	42.4
5	T1	1129	8.4	0.870	31.1	LOS C	21.2	159.4	1.00	1.04	46.0
6	R2	25	20.0	0.167	39.0	LOS C	0.8	6.5	0.95	0.71	33.4
Approach		1159	8.7	0.870	31.2	LOS C	21.2	159.4	0.99	1.04	45.7
North: Ingall Street											
7	L2	11	54.5	0.025	13.0	LOS A	0.2	1.7	0.58	0.61	37.5
8	T1	11	27.3	0.336	31.0	LOS C	1.4	15.1	0.94	0.64	23.6
9	R2	43	60.5	0.336	37.8	LOS C	1.4	15.1	0.97	0.74	25.6
Approach		65	53.8	0.336	32.4	LOS C	1.4	15.1	0.90	0.70	27.1
West: Industrial Drive											
10	L2	5	60.0	0.007	15.4	LOS B	0.1	0.8	0.48	0.65	45.2
11	T1	1593	5.3	0.829	18.5	LOS B	25.9	189.2	0.87	0.87	55.6
12	R2	172	12.2	0.545	22.9	LOS B	3.6	27.9	0.95	0.79	39.2
Approach		1770	6.1	0.829	18.9	LOS B	25.9	189.2	0.87	0.86	54.1
All Vehicles		3154	7.9	0.870	23.7	LOS B	25.9	189.2	0.91	0.91	49.3

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 22 July 2018 16:34:11
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 105 [Industrial Drive / Ingall Street 2018PM + DEV]

Industrial Drive Ingall Street Signalised 4 Way Cross intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 74 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Ingall Street											
1	L2	139	2.2	0.187	19.9	LOS B	3.2	23.1	0.68	0.72	39.0
2	T1	6	0.0	0.038	35.2	LOS C	0.2	1.5	0.94	0.62	22.1
Approach		145	2.1	0.187	20.5	LOS B	3.2	23.1	0.69	0.72	38.2
East: Industrial Drive											
4	L2	5	0.0	0.006	19.5	LOS B	0.1	0.7	0.59	0.65	44.3
5	T1	1477	2.0	0.891	33.4	LOS C	31.7	226.1	0.99	1.06	44.7
6	R2	6	16.7	0.045	43.0	LOS D	0.2	1.7	0.95	0.65	31.8
Approach		1488	2.1	0.891	33.3	LOS C	31.7	226.1	0.99	1.06	44.6
North: Ingall Street											
7	L2	28	0.0	0.040	7.0	LOS A	0.2	1.7	0.33	0.58	53.9
8	T1	34	2.9	0.712	37.6	LOS C	4.1	31.3	0.97	0.75	20.9
9	R2	93	10.8	0.712	44.8	LOS D	4.1	31.3	1.00	0.87	27.2
Approach		155	7.1	0.712	36.4	LOS C	4.1	31.3	0.87	0.79	29.0
West: Industrial Drive											
10	L2	3	100.0	0.005	14.3	LOS A	0.0	0.6	0.42	0.64	46.3
11	T1	1036	4.2	0.459	9.0	LOS A	10.4	75.3	0.60	0.53	66.0
12	R2	107	0.9	0.358	25.9	LOS B	2.7	18.7	0.93	0.77	37.2
Approach		1146	4.1	0.459	10.6	LOS A	10.4	75.3	0.63	0.55	62.9
All Vehicles		2934	3.1	0.891	24.0	LOS B	31.7	226.1	0.83	0.83	49.1

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 22 July 2018 17:05:31
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 105 [Industrial Drive / Ingall Street 2028AM + DEV]

Industrial Drive Ingall Street Signalised 4 Way Cross intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 82 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Ingall Street											
1	L2	144	2.5	0.202	22.4	LOS B	3.8	27.3	0.70	0.73	37.2
2	T1	48	2.5	0.342	41.7	LOS C	2.0	14.0	0.99	0.73	20.1
Approach		192	2.5	0.342	27.2	LOS B	3.8	27.3	0.77	0.73	32.4
East: Industrial Drive											
4	L2	6	20.0	0.008	19.8	LOS B	0.1	1.0	0.55	0.66	44.0
5	T1	1354	8.4	0.803	23.4	LOS B	25.4	190.7	0.91	0.87	51.4
6	R2	30	20.0	0.189	46.3	LOS D	1.2	9.6	0.95	0.72	30.5
Approach		1390	8.7	0.803	23.9	LOS B	25.4	190.7	0.91	0.87	50.8
North: Ingall Street											
7	L2	13	54.5	0.035	17.9	LOS B	0.3	2.9	0.63	0.63	35.0
8	T1	13	27.3	0.107	40.8	LOS C	0.5	4.5	0.96	0.66	20.3
9	R2	52	60.5	0.550	49.9	LOS D	2.3	24.0	1.00	0.78	22.5
Approach		78	53.9	0.550	43.1	LOS D	2.3	24.0	0.93	0.73	23.9
West: Industrial Drive											
10	L2	6	60.0	0.008	14.7	LOS B	0.1	1.0	0.40	0.65	46.0
11	T1	1912	5.3	0.894	27.0	LOS B	44.7	327.2	0.87	0.94	48.8
12	R2	206	12.2	0.706	31.5	LOS C	6.4	49.8	0.99	0.85	34.0
Approach		2124	6.1	0.894	27.4	LOS B	44.7	327.2	0.88	0.93	47.4
All Vehicles		3784	7.9	0.894	26.4	LOS B	44.7	327.2	0.89	0.89	47.3

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 22 July 2018 16:49:48
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 105 [Industrial Drive / Ingall Street 2028PM + DEV]

Industrial Drive Ingall Street Signalised 4 Way Cross intersection
Wests Mayfield Redevelopment
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

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: Ingall Street											
1	L2	167	2.2	0.265	27.6	LOS B	5.3	37.8	0.76	0.75	34.3
2	T1	7	0.0	0.046	42.9	LOS D	0.3	2.1	0.95	0.63	19.7
Approach		174	2.1	0.265	28.2	LOS B	5.3	37.8	0.77	0.75	33.6
East: Industrial Drive											
4	L2	6	0.0	0.006	17.7	LOS B	0.1	0.9	0.49	0.65	45.8
5	T1	1769	2.0	0.884	30.8	LOS C	41.7	297.1	0.96	0.99	46.2
6	R2	7	16.7	0.063	52.2	LOS D	0.3	2.4	0.96	0.66	28.5
Approach		1782	2.1	0.884	30.8	LOS C	41.7	297.1	0.96	0.99	46.2
North: Ingall Street											
7	L2	34	0.0	0.056	7.5	LOS A	0.4	2.6	0.33	0.59	53.3
8	T1	41	2.9	0.938	50.5	LOS D	7.1	53.6	0.98	0.86	17.5
9	R2	112	10.8	0.938	68.8	LOS E	7.1	53.6	1.00	1.22	21.1
Approach		187	7.1	0.938	53.7	LOS D	7.1	53.6	0.87	1.03	23.5
West: Industrial Drive											
10	L2	4	100.0	0.006	13.5	LOS A	0.1	0.8	0.36	0.65	47.1
11	T1	1243	4.2	0.499	8.4	LOS A	13.8	100.2	0.55	0.50	66.6
12	R2	128	0.9	0.520	33.9	LOS C	4.3	30.5	0.97	0.78	32.8
Approach		1375	4.1	0.520	10.8	LOS A	13.8	100.2	0.59	0.52	62.6
All Vehicles		3518	3.1	0.938	24.1	LOS B	41.7	297.1	0.80	0.80	49.0

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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 22 July 2018 17:13:49
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

▽ Site: 101 [Industrial Drive / William St 2018 AM + DEV]

Industrial Drive William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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: William Street											
1	L2	179	2.2	0.149	5.0	LOS A	0.6	4.2	0.21	0.52	50.8
Approach		179	2.2	0.149	5.0	LOS A	0.6	4.2	0.21	0.52	50.8
East: Industrial Drive											
4	L2	21	4.8	0.063	7.0	LOS A	0.0	0.0	0.00	0.12	69.5
5	T1	1240	9.8	0.313	0.0	LOS A	0.0	0.0	0.00	0.01	79.6
Approach		1261	9.7	0.313	0.1	NA	0.0	0.0	0.00	0.01	79.4
West: Industrial Drive											
11	T1	1826	6.1	0.487	0.1	LOS A	0.0	0.0	0.00	0.00	79.7
Approach		1826	6.1	0.487	0.1	NA	0.0	0.0	0.00	0.00	79.7
All Vehicles		3266	7.3	0.487	0.4	NA	0.6	4.2	0.01	0.03	77.2

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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:04:31
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 101 [Industrial Drive / William St 2018 PM + DEV]

Industrial Drive William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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: William Street											
1	L2	166	0.0	0.135	4.9	LOS A	0.5	3.7	0.19	0.51	51.3
Approach		166	0.0	0.135	4.9	LOS A	0.5	3.7	0.19	0.51	51.3
East: Industrial Drive											
4	L2	63	0.0	0.080	7.0	LOS A	0.0	0.0	0.00	0.27	68.9
5	T1	1627	2.4	0.401	0.0	LOS A	0.0	0.0	0.00	0.01	79.5
Approach		1690	2.3	0.401	0.3	NA	0.0	0.0	0.00	0.02	79.0
West: Industrial Drive											
11	T1	1184	4.7	0.313	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		1184	4.7	0.313	0.0	NA	0.0	0.0	0.00	0.00	79.9
All Vehicles		3040	3.1	0.401	0.4	NA	0.5	3.7	0.01	0.04	77.0

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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:01:42
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

▽ Site: 101 [Industrial Drive / William St 2028 AM + DEV]

Industrial Drive William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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: William Street											
1	L2	260	1.4	0.219	5.1	LOS A	0.9	6.5	0.25	0.53	50.9
Approach		260	1.4	0.219	5.1	LOS A	0.9	6.5	0.25	0.53	50.9
East: Industrial Drive											
4	L2	24	4.0	0.075	7.0	LOS A	0.0	0.0	0.00	0.11	69.9
5	T1	1488	9.8	0.375	0.0	LOS A	0.0	0.0	0.00	0.01	79.6
Approach		1512	9.7	0.375	0.2	NA	0.0	0.0	0.00	0.01	79.4
West: Industrial Drive											
11	T1	2191	6.1	0.584	0.1	LOS A	0.0	0.0	0.00	0.00	79.6
Approach		2191	6.1	0.584	0.1	NA	0.0	0.0	0.00	0.00	79.6
All Vehicles		3963	7.2	0.584	0.4	NA	0.9	6.5	0.02	0.04	76.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:07:09
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

▽ Site: 101 [Industrial Drive / William St 2028 PM + DEV]

Industrial Drive William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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: William Street											
1	L2	149	0.0	0.124	5.0	LOS A	0.5	3.3	0.22	0.52	51.2
Approach		149	0.0	0.124	5.0	LOS A	0.5	3.3	0.22	0.52	51.2
East: Industrial Drive											
4	L2	73	0.0	0.096	7.0	LOS A	0.0	0.0	0.00	0.26	69.0
5	T1	1952	2.4	0.480	0.1	LOS A	0.0	0.0	0.00	0.01	79.4
Approach		2025	2.3	0.480	0.3	NA	0.0	0.0	0.00	0.02	78.9
West: Industrial Drive											
11	T1	1421	4.7	0.376	0.0	LOS A	0.0	0.0	0.00	0.00	79.8
Approach		1421	4.7	0.376	0.0	NA	0.0	0.0	0.00	0.00	79.8
All Vehicles		3595	3.2	0.480	0.4	NA	0.5	3.3	0.01	0.03	77.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:03:10
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

▽ Site: 104 [Crebert Street / William Street 2018 AM + DEV]

Crebert St William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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
East: Crebert Street											
5	T1	206	8.7	0.159	0.4	LOS A	0.5	3.7	0.21	0.13	39.0
6	R2	66	0.0	0.159	4.5	LOS A	0.5	3.7	0.21	0.13	39.0
Approach		273	6.6	0.159	1.4	NA	0.5	3.7	0.21	0.13	39.0
North: William Street											
7	L2	68	0.0	0.048	3.9	LOS A	0.2	1.3	0.26	0.47	37.8
9	R2	23	0.0	0.029	5.6	LOS A	0.1	0.6	0.43	0.61	37.0
Approach		92	0.0	0.048	4.3	LOS A	0.2	1.3	0.30	0.50	37.6
West: Crebert Street											
10	L2	102	1.0	0.143	3.4	LOS A	0.0	0.0	0.00	0.17	39.5
11	T1	171	0.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.17	39.3
Approach		273	0.4	0.143	1.3	NA	0.0	0.0	0.00	0.17	39.4
All Vehicles		637	3.0	0.159	1.8	NA	0.5	3.7	0.13	0.20	38.9

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.
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.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:15:35
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 104 [Crebert Street / William Street 2018 PM + DEV]

Crebert St William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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
East: Crebert Street											
5	T1	157	0.0	0.121	0.5	LOS A	0.4	2.8	0.23	0.13	39.0
6	R2	53	0.0	0.121	4.7	LOS A	0.4	2.8	0.23	0.13	39.0
Approach		209	0.0	0.121	1.5	NA	0.4	2.8	0.23	0.13	39.0
North: William Street											
7	L2	55	0.0	0.037	3.7	LOS A	0.1	1.0	0.21	0.45	37.9
9	R2	18	0.0	0.020	5.2	LOS A	0.1	0.5	0.39	0.57	37.2
Approach		73	0.0	0.037	4.1	LOS A	0.1	1.0	0.25	0.48	37.7
West: Crebert Street											
10	L2	200	0.0	0.168	3.4	LOS A	0.0	0.0	0.00	0.29	39.0
11	T1	117	0.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.29	38.8
Approach		317	0.0	0.168	2.2	NA	0.0	0.0	0.00	0.29	39.0
All Vehicles		599	0.0	0.168	2.2	NA	0.4	2.8	0.11	0.26	38.8

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:22:53
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

MOVEMENT SUMMARY

Site: 104 [Crebert Street / William Street 2028 AM + DEV]

Crebert St William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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
East: Crebert Street											
5	T1	247	8.7	0.194	0.5	LOS A	0.6	4.8	0.24	0.13	38.9
6	R2	79	0.0	0.194	4.8	LOS A	0.6	4.8	0.24	0.13	39.0
Approach		326	6.6	0.194	1.6	NA	0.6	4.8	0.24	0.13	38.9
North: William Street											
7	L2	60	0.0	0.044	4.0	LOS A	0.2	1.2	0.29	0.48	37.7
9	R2	24	0.0	0.034	6.2	LOS A	0.1	0.7	0.47	0.66	36.7
Approach		84	0.0	0.044	4.7	LOS A	0.2	1.2	0.34	0.53	37.4
West: Crebert Street											
10	L2	119	0.7	0.171	3.4	LOS A	0.0	0.0	0.00	0.17	39.5
11	T1	208	0.0	0.171	0.0	LOS A	0.0	0.0	0.00	0.17	39.3
Approach		327	0.2	0.171	1.3	NA	0.0	0.0	0.00	0.17	39.4
All Vehicles		738	3.0	0.194	1.8	NA	0.6	4.8	0.15	0.19	38.9

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.
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.

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MOVEMENT SUMMARY

Site: 104 [Crebert Street / William Street 2028 PM + DEV]

Crebert St William St Give Way T-intersection
Wests Mayfield Redevelopment
Giveway / Yield (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
East: Crebert Street											
5	T1	188	0.0	0.147	0.6	LOS A	0.5	3.6	0.26	0.14	38.9
6	R2	62	0.0	0.147	5.0	LOS A	0.5	3.6	0.26	0.14	38.9
Approach		251	0.0	0.147	1.7	NA	0.5	3.6	0.26	0.14	38.9
North: William Street											
7	L2	57	0.0	0.039	3.8	LOS A	0.2	1.1	0.24	0.46	37.8
9	R2	19	0.0	0.024	5.6	LOS A	0.1	0.5	0.43	0.61	37.0
Approach		76	0.0	0.039	4.3	LOS A	0.2	1.1	0.29	0.49	37.6
West: Crebert Street											
10	L2	229	0.0	0.199	3.4	LOS A	0.0	0.0	0.00	0.28	39.1
11	T1	147	0.0	0.199	0.0	LOS A	0.0	0.0	0.00	0.28	38.8
Approach		377	0.0	0.199	2.1	NA	0.0	0.0	0.00	0.28	39.0
All Vehicles		703	0.0	0.199	2.2	NA	0.5	3.6	0.12	0.25	38.8

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

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: 24 July 2018 16:24:41
Project: C:\Work Documents\Project Files\2018\18.057 - Wests Mayfield SL\Sidra\Wests Mayfield.sip7

ATTACHMENT D
CARPARK SURVEY

Wests Carpark Survey - No. Spaces									
Thursday 26th July 2018		6:00 PM		6:30 PM		7:00 PM			
Location	Capacity	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied		
Ground Level	230	63	167	72	158	77	153		
Level 1	163	40	123	42	121	49	114		
Level 2	184	181	3	181	3	181	3		
Motel	51	42	9	36	15	34	17		
Totals	628	326	302	331	297	341	287		
Maximum occupied spaces Ground Level, Level 1 and Level 2					293	6:00 PM			

Friday 27th July 2018		6:00 PM		6:30 PM		7:00 PM			
Location	Capacity	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied		
Ground Level	230	85	145	83	147	82	148		
Level 1	163	78	85	76	87	79	84		
Level 2	184	184	0	184	3	184	3		
Motel	51	43	8	31	20	29	22		
Totals	628	390	238	374	257	374	257		
Maximum occupied spaces Ground Level, Level 1 and Level 2					237	6:30 PM			

Saturday 28th July 2018		1:00 PM		3:30 PM		6:00 PM		9:00 PM	
Location	Capacity	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied
Ground Level	230	102	128	132	98	124	106	166	64
Level 1	163	91	72	100	63	118	45	124	39
Level 2	184	184	0	184	3	184	3	183	1
Motel	51	47	4	34	17	37	14	47	4
Totals	628	424	204	450	181	463	168	520	108
Maximum occupied spaces Ground Level, Level 1 and Level 2					200	1:00 PM			

Sunday 29th July 2018		4:00 PM		6:00 PM		7:00 PM			
Location	Capacity	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied		
Ground Level	230	148	82	145	85	161	69		
Level 1	163	140	23	120	43	131	32		
Level 2	184	183	1	183	3	184	3		
Motel	51	42	9	30	21	29	22		
Totals	628	513	115	478	152	505	126		
Maximum occupied spaces Ground Level, Level 1 and Level 2					131	4:00 PM			

Monday 30th July 2018		5:00 PM		6:00 PM		7:00 PM		8:00 PM	
Location	Capacity	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied	Vacant	Occupied
Ground Level	230	35	195	45	185	75	155	114	116
Level 1	163	52	111	65	98	89	74	111	52
Level 2	184	179	5	180	4	182	2	181	3
Motel	51	40	11	28	23	24	27	18	33
Totals	628	306	322	318	310	370	259	426	204
Maximum occupied spaces Ground Level, Level 1 and Level 2					311	5:00 PM			

ATTACHMENT E
NSW RMS CORRESPONDENCE

Transport Roads & Maritime Services

CR2018/002772
SF2018/195289
MJD

23 July 2018

Development Manager
Graph Building
57 Fletcher Street
Adamstown NSW 2289

Attention: Anthony Williams

INDUSTRIAL DRIVE (H10): PRE-DA ADVICE, SENIORS LIVING AT EXISTING CLUB, GYM, HOTEL AND RECREATION FACILITY, LOT: 100 DP: 1084939, 32 INDUSTRIAL DRIVE MAYFIELD

Reference is made to Graph Building's email dated 2 July 2018, and the meeting held with Roads and Maritime Services (Roads and Maritime) on 21 June 2018.

Roads and Maritime understands that Graph are currently seeking a site compatibility certificate from the Department of Planning for the seniors housing component of the site, proposed to be 262 independent living units and a 216 bed residential care facility.

Roads and Maritime response

Transport for NSW and Roads and Maritime's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

In accordance with the *Roads Act 1993*, Roads and Maritime has powers in relation to road works, traffic control facilities, connections to roads and other works on the classified road network. Industrial Drive (H10) is a classified (State) road and William Street is a local road. Roads and Maritime concurrence is required for connections to Industrial Drive with Council consent, under Section 138 of the Act. Council is the roads authority for these roads and all other public roads in the area.

Roads and Maritime has reviewed the information and provides the following pre-development application advice:

- RMS has no proposal that requires any part of the property. It is to be noted that the property has a common boundary with Industrial Drive (H10) which is classified as a State Road Corridor and is proposed to be declared as a Controlled Access Road.
- The intersection of Industrial Drive and William Street experiences lengthy delays, particularly in the PM peak. Roads and Maritime will require the proponent to investigate options which direct traffic through the local network. Any proposal which results in additional impact on the intersection of Industrial Drive and William Street is unlikely to be supported by RMS.
- Currently, all vehicles leaving the site via William Street are directed to Industrial Drive and not into the local area. It is considered that the removal of the right turn restriction from the existing site driveway at William Street will redistribute trips from site into the local area, and reduce the impact on the Industrial Drive / William Street intersection. Roads and Maritime support the removal of this restriction as part of

the future development, and recommend the proponent address the likely impacts of removing this restriction on the local road network and consult with Newcastle City Council as the road authority.

- Roads and Maritime support the removal of the existing driveways from the site to Industrial Drive, and will consider a driveway from Industrial Drive to the proposed Residential Care Facility (RCF) for ambulances / non-peak hour service vehicles only. Roads and Maritime note the proposed 29 space RCF basement car park with access direct to Industrial Drive, and are unlikely to support an access for this purpose. Roads and Maritime recommend that the proponent consider alternate access for car parking when preparing any future development applications for the RCF.

Please note, this advice is preliminary and based on the limited information provided. Should you require further information please contact Marc Desmond on 0475 825 820 or by email at development.hunter@rms.nsw.gov.au

Yours sincerely

Peter Marler
Manager Land Use Assessment
Hunter Region