

**TRAFFIC AND PARKING IMPACT ASSESSMENT OF
PROPOSED RESIDENTIAL AGED CARE FACILITY
AT 14-20 ELDRIDGE ROAD, BANKSTOWN**



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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

Development Type: Proposed Residential Aged Care Facility

Site Address: 14-20 Eldridge Road, Bankstown

Prepared for: Hansen Yuncken

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1 INTRODUCTION

McLaren Traffic Engineering (MTE) was commissioned by *Hansen Yuncken* to provide a Traffic and Parking Impact Assessment of the Proposed Residential Aged Care Facility at 14-20 Eldridge Road, Bankstown. The assessed site and basement plans are reproduced as a reduced copy in **Annexure A** for reference.

1.1 Description and Scale of Development

The proposed Residential Aged Care Facility (RACF) comprises of the following:

- 4 aged care levels providing 155 beds
- Basement car park level
- 17 visitor car spaces (including 1 accessible)
- 24 staff car spaces
- 1 ambulance space

The site layout includes a basement carpark with a total of 40 car parking spaces and ground level parking for drop-off, disabled parking and an ambulance bay. Vehicular access to the site via three (3) driveways including a one way entry on Eldridge Road, a two-way entry/exit on Eldridge Road and a one way exit on Calidore Lane.

1.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development does not qualify as a traffic generating development with relevant size and/or capacity under Clause 104 of the SEPP (Infrastructure) 2007. Accordingly, formal referral to the Roads and Maritime Services (RMS) is not necessary and Bankstown City Council officers can determine this proposal accordingly.

1.3 Site Description

The subject site is currently vacant, with frontage to Eldridge Road to the north and Calidore Lane to the south. Vehicular access to the existing lots is via the existing driveways on Eldridge Road though an unformed driveway Calidore Lane remains.

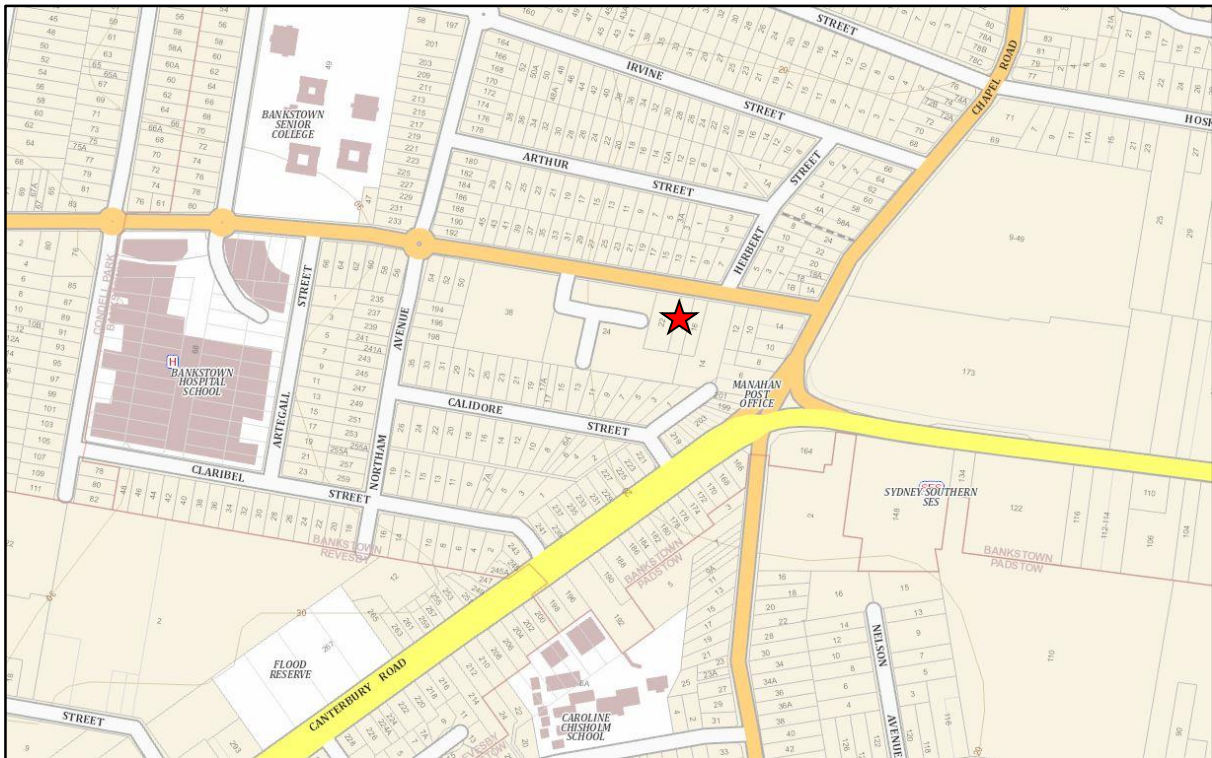
The site is generally surrounded by low to medium density residential dwellings and small retail businesses. Bankstown-Lidcombe Hospital and Bankstown Senior College are located to the west and there is a large bulky goods/industrial/business east of the site.

1.4 Site Context



★ Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



★ Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Hierarchy

Eldridge Road has the following characteristics within close proximity to the site:

- Unclassified LOCAL road.
- Approximately 10m in width facilitating traffic in both directions.
- Signposted 50km/h carriageway.
- Unrestricted parking along both sides of the road.

Chapel Road South has the following characteristics within close proximity to the site:

- RMS Classified REGIONAL Road (No. 7122).
- Approximately 16m in width facilitating two-way passing.
- Signposted 60km/h carriageway.
- Predominantly No Stopping and No Parking Mon – Fri Peak Hours. Signposted ½ P Mon-Fri and Saturday to the south-west of the Eldridge Road / Chapel Road intersection.

Canterbury Road has the following characteristics within close proximity to the site:

- RMS Classified STATE Road (No. 190).
- Approximately 20m in width facilitating four lanes north (including two turning lanes) and two lanes south.
- Signposted 70km/h carriageway.
- No Parking and Peak Hour Clearway Signposting along both sides of the street.

2.2 Existing Traffic Management

- Traffic Light controlled intersection of Eldridge Road / Chapel Road.
- Round-a-bout controlled intersection of Eldridge Road / Northam Avenue.

2.3 Existing Traffic and Parking Environment

Traffic counts were completed at the intersection of Eldridge Road with Chapel Road South and Northam Avenue on Tuesday 27th October 2015, representing a typical weekday. Count data is reproduced in **Annexure B** for reference.

2.3.1 Intersection Performances

Existing intersection performances have been assessed using SIDRA INTERSECTION 6. The analysis is summarised in **Table 1** below.

TABLE 1: INTERSECTION PERFORMANCES (SIDRA INTERSECTION 6)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/vehicle)	Level of Service ⁽³⁾	Control Type	Worst Movement
EXISTING PERFORMANCE						
Eldridge Road / Northam Avenue	AM	0.38	6.6 (11.8)	A (Worst: A)	Round-a-bout	Right turn from Eldridge Road
	PM	0.37	6.6 (11.1)	A (Worst: A)		Right turn from Eldridge Road
Eldridge Road / Chapel Road	AM	0.76	17.1 (39.8)	A (Worst: C)	Signals	Left from Chapel Rd (N)
	PM	0.78	18.0 (39.4)	B (Worst: C)		Left from Chapel Rd (N)

NOTES:

- (1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
- (2) Average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
- (3) Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.

As shown above, the surrounding intersections are operating satisfactorily at Level of Service (LoS) A and B during the morning and afternoon peak periods. This represents minimal delays and additional capacity.

2.4 Public Transport

The subject site has access to existing bus route 487 (stop 2200347), with a stop being located in front of the site along Eldridge Road, as well as stops for routes 487, 922, 923, 924, 9262, M90 and M92 approximately 40m from the intersection of Eldridge Road and Chapel Road South. These routes are serviced by the State Transit Authority of NSW (route 487) and Transdev NSW (routes 922, 923, 924, 9262, M90 and M92).



FIGURE 3: PARTIAL ROUTE PAST SITE – ROUTE 487

2.5 Future Road and Infrastructure Upgrades

From Bankstown City Council's Development Application tracker and website, it does not appear that there is any currently planned traffic infrastructure and traffic generating developments that will directly affect traffic conditions within the immediate vicinity of the subject site.

3 PARKING ASSESSMENT

3.1 SEPP Parking Requirement

Reference is made to the State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004 which designates the following parking rates:

Clause 48 Part D

- 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*

TABLE 2: SEPP PARKING REQUIREMENTS

Land Use	Scale	Rate	Spaces Required
RACF	155 beds	1 per 10 beds	15.5
	48	1 per 2 employees on duty	24
	1	1 Ambulance space	1
Total			40 (39.5) + 1 Ambulance Space

As shown above, the development requires a total of 41 car parking spaces including 1 space suitable for an ambulance. The site provides a total of **42** car parking spaces, including the required breakdown of users and an ambulance bay, meeting the SEPP parking requirements.

3.2 Council Parking Requirement

While the SEPP parking rates being met overrides the DCP parking requirement, consideration is given to the DCP rates as part of this detailed impact assessment. Reference is made to *Bankstown City Council 2015 DCP, Part B5 – Parking* which designates the following parking rates:

Section 2 – Off-Street Parking

Seniors housing

- 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*
- 1 parking space for each 2 persons to be employed in connection with the development and on duty at any one time, and*
- 1 parking space suitable for an ambulance*

TABLE 3: DCP PARKING REQUIREMENTS

Land Use	Scale	Rate	Spaces Required
RACF	155 beds	1 per 10 beds	15.5
	48	1 per 2 employees on duty	24
	1	1 Ambulance space	1
Total			40 (39.5) + 1 Ambulance Space

As shown above, the development would require a total of 41 car parking spaces including 1 space suitable for an ambulance. The site provides a total of **42** car parking spaces, including the required breakdown of users, meeting Council DCP parking requirements.

3.3 Bicycle & Motorcycle parking Requirements

Council's DCP does not provide bicycle or motorcycle parking rates for residential aged care facilities, and as such, the DCP does not require the provision of this facility. Therefore no on-site parking has been provided.

3.4 Servicing & Loading

Bankstown City Council's DCP requires one (1) loading space for deliveries. The site has provided a single service/loading lane and loading dock on the Eastern side of the site. The lane has been designed to accommodate an MRV and will therefore be sufficient in allowing access to all service and loading vehicles.

3.5 Disabled Parking

Bankstown City Council's DCP Part B special parking spaces for people with disabilities at the rate of at least one car space per 100 car spaces provided. As there is 41 car spaces required, one of these spaces must be accessible which is provided at ground level in the most convenient location. The design includes 3.7m width X 7.8m satisfying the manoeuvring and accessibility requirements of AS2890.1 and AS2890.6.

3.6 Car Park Design & Compliance

The proposed site layout and basement plans have been assessed according to AS2890.1, AS2890.2 and AS2890.6 where applicable and found to be generally compliant with relevant clauses. It should be noted that while we have assessed the plans to be compliant with the relevant standards, it is usual that a construction certificate is required prior to construction due to possible changes after DA approval. Swept paths of commercial vehicles and parking circulation are shown in Annexure C for reference. The design of the carparking areas includes the following important features:

- 2.4m X 5.4m staff parking bays (User Class 1a for staff parking)
- 2.5m X 5.4m visitor parking bays (User Class 2 for low turnover visitor parking, average stay more than 1 hour)
- 5.8m wide parking aisles with blind aisle extensions
- 0.3m clearance to obstructions higher than 0.15m

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 Traffic Generation

The RMS Guide to Traffic Generating Developments gives the following evening peak hour traffic generation rate for “Housing for Aged and Disabled Persons”:

0.1 – 0.2 per dwelling

These rates are noted to be for Independent Living Units though an allowance of 0.1 trips per bed in the peak hour should be used for visitor generation. During the morning and evening peak hours the nursing staff do not generally change shifts and only admin staff would hence generate trips at these times. Assume 30% of staff are admin and 1 trip per staff as a conservative estimate of network peak hour trip generation.

The resulting generation of 31 trips (16 visitors + 15 staff) equates to only 1 trip per 2 minutes which is negligible and will be readily absorbed by the surrounding road network. Nevertheless, SIDRA intersection analyses have been completed on the intersection of Eldridge Road and Chapel Road South.

4.2 Traffic Assignment

The generated trips have been distributed onto the wider road network as 25% per cardinal direction with visitors as entry/exit and staff only exiting during the weekday evening peak hour. Further, all outbound trips will turn right out of Eldridge Road onto Chapel Road South while inbound trips will be generally via Canterbury Road though with a small portion using Chapel Road.

4.3 Traffic Impact

The traffic generation outlined in **Section 4.1 & 4.2** above has been added to the existing traffic volumes recorded. SIDRA INTERSECTION 6 was used to assess the intersections performance. The purpose of this assessment is to compare the existing intersection operations to the future scenario under the increased traffic load. The results of this assessment are shown in **Table 4** below:

TABLE 4: INTERSECTION PERFORMANCES (SIDRA INTERSECTION 6)

Intersection	Peak Hour	Degree of Saturation ⁽¹⁾	Average Delay ⁽²⁾ (sec/vehicle)	Level of Service ⁽³⁾	Control Type	Worst Movement
EXISTING PERFORMANCE						
Eldridge Road / Chapel Road	PM	0.78	18.0 (Worst: 39.4)	B (Worst: C)	Signals	Left from Chapel Rd (N)
FUTURE PERFORMANCE (Post development)						
Eldridge Road / Chapel Road	PM	0.78	18.1 (Worst: 39.4)	B (Worst: C)	Signals	Left from Chapel Rd (N)

NOTES:

- (1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
- (2) Average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
- (3) Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.

As shown in **Table 4** above, the nearby signalised intersection of Chapel Road South and Eldridge Road will not be significantly affected by the proposed development. The existing LoS has been retained with minimal delays and additional capacity maintained.

4.4 Residential Amenity

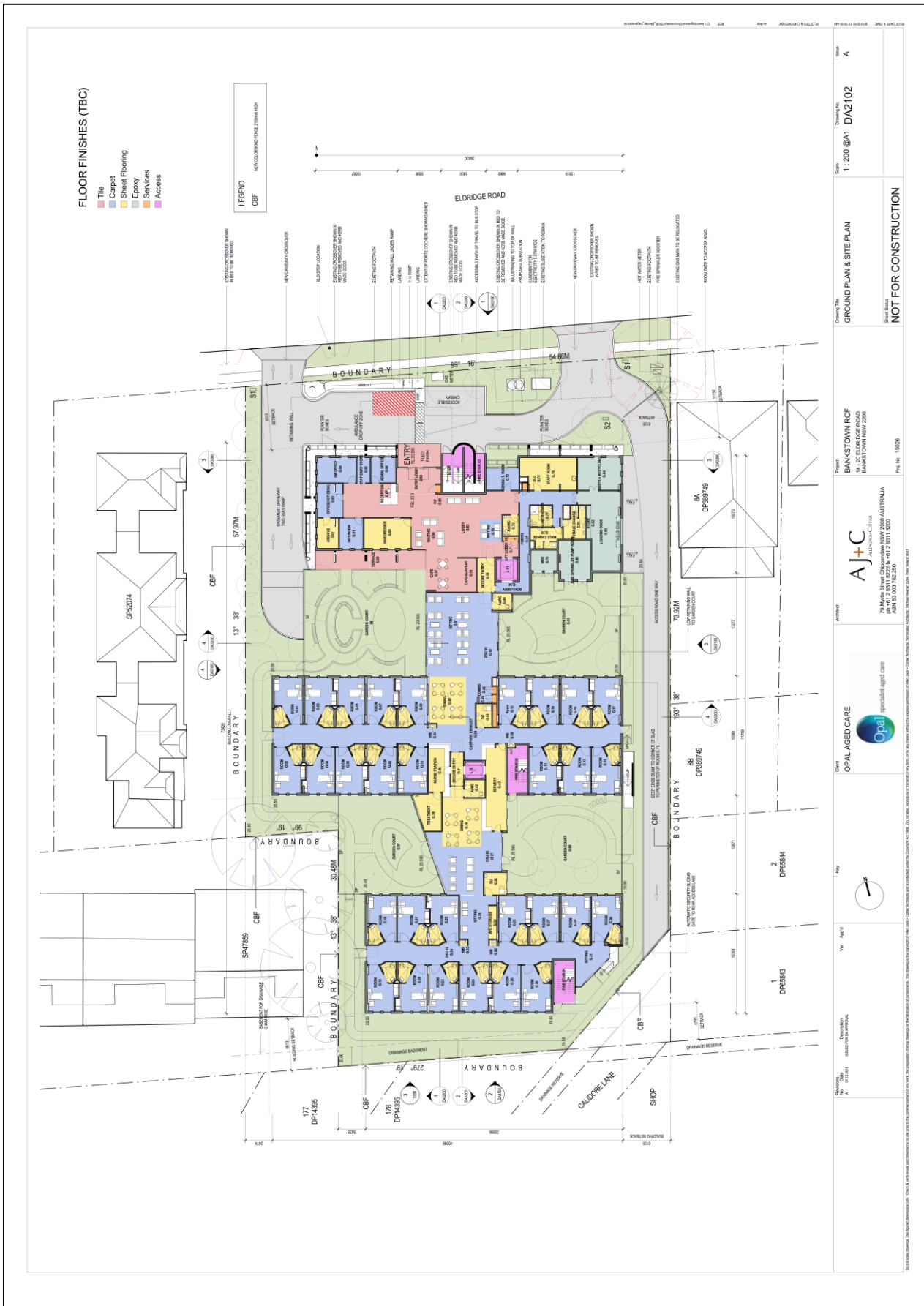
Generally the trips of the site will be on state roads and only a very short segment will be on the local road network. In the vicinity of the site there will be a minor change in traffic generation with a site peak of 31 two-way trips compared to existing traffic of 520 trips in the AM peak hour (6% change) and 468 trips in the PM peak hour (7% change). These changes are minor in a relative and absolute sense and will not result in a noticeable change in amenity to the nearby residents.

5 **CONCLUSION**

In view of the foregoing, the subject proposal (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts. The following outcomes of this traffic impact assessment are relevant to note:

- The development is required to provide a minimum of 40 parking spaces plus an ambulance bay to satisfy the relevant SEPP clauses. The proposed development includes supply of 41 parking spaces plus an ambulance bay, including a disabled visitor space. A drive through pickup/drop-off area is conveniently located at ground level and a single basement level car park suitably address the remaining parking supply. The design meets relevant clauses of AS2890.1, AS2890.2 and AS2890.6.
- Service and delivery vehicles will be serviced via a one-way drive through system in the east of the site, facilitating forward only movements and full compliance for an MRV design vehicle according to relevant clauses of AS2890.2.
- Traffic generation of the site is minor with site generation of 31 vehicle trips during the evening network peak hour. The nursing staff changeover times do not overlap with peak network activity and in any case are minor. The traffic generated by the site is low and will result in negligible changes to the local road network including residential amenity, traffic safety and traffic flow efficiency.

ANNEXURE A: PROPOSED PLAN (SHEET 1 OF 2)



FLOOR FINISHES (TBC)

- Sheet Flooring
- Epoxy
- Unfinished
- Carpet
- Services
- Access

Project Information:

- Project: BANKSTOWN RCF
- Address: 14-20 ELDRIDGE ROAD, BANKSTOWN NSW 2200
- Client: OPAL AGED CARE
- Architect: AJ+C
- Scale: 1:200 @ A1
- Sheet: DA2101
- Revision: 1
- Date: 15/03/2020

NOT FOR CONSTRUCTION

ANNEXURE B: TRAFFIC, PARKING AND SPEED SURVEYS

(SHEET 1 OF 4)

Curtis Traffic Surveys			Turning movement count					Chapel Rd S								
Job:			151004mcl(15_543)					Peak Hour Volumes					Home Focus			
Day, date			27/10/15					N					20			
Location:			Chapel Rd S, Eldridge Rd & mall					↑					28			
Weather:			Fine							123			14			
Client:			McLaren Traffic Engineering					Eldridge Rd		308 1203 41						
										Chapel Rd S						

ANNEXURE B: TRAFFIC, PARKING AND SPEED SURVEYS (SHEET 2 OF 4)

Curtis Traffic Surveys				Turning movement count				Chapel Rd S									
Job:				151004mcl(15_543)		Peak Hour Volumes		8104120									
Day, date				27/10/15		N		253298				727083				Home Focus	
Location:				Chapel Rd S, Eldridge Rd & mall		↑											
Weather:				Fine													
Client:				McLaren Traffic Engineering		Eldridge Rd		23577666									
								Chapel Rd S									

ANNEXURE B: TRAFFIC, PARKING AND SPEED SURVEYS

(SHEET 3 OF 4)

Curtis Traffic Surveys			Turning movement count						Northam Av							
Job:			151004mcl(15_543)			Peak Hour Volumes			1199816							
Day, date			27/10/15			N			6816870			2038912			Eldridge Rd	
Location:			Eldridge Rd & Northam Av													
Weather:			Fine													
Client:			McLaren Traffic Engineering			Eldridge Rd			451624							
									Northam Av							
			From Northam Av, north			From Eldridge Rd west			From Northam Av, south			From Eldridge Rd east				
Time Period			left	through	right	left	through	right	left	through	right	left	through	right	Total	
07:00 to 07:15			3	5	18	3	28	8	6	21	1	3	72	4	172	
07:15 to 07:30			1	7	19	16	47	13	11	25	1	4	55	3	202	
07:30 to 07:45			4	13	23	15	48	14	4	31	0	2	91	4	249	
07:45 to 08:00			4	22	43	15	31	11	13	29	2	4	92	2	268	
08:00 to 08:15			2	26	28	12	43	26	12	55	1	3	104	9	321	
08:15 to 08:30			6	37	25	26	46	19	16	47	1	3	102	5	333	peak
08:30 to 08:45			5	24	25	9	57	5	10	26	3	0	65	12	241	
08:45 to 09:00			5	20	31	16	76	11	7	28	0	5	49	4	252	
Total			30	154	212	112	376	107	79	262	9	24	630	43		
Hourly summary																
07:00 to 08:00			12	47	103	49	154	46	34	106	4	13	310	13	891	
07:15 to 08:15			11	68	113	58	169	64	40	140	4	13	342	18	1040	
07:30 to 08:30			16	98	119	68	168	70	45	162	4	12	389	20	1171	
07:45 to 08:45			17	109	121	62	177	61	51	157	7	10	363	28	1163	
08:00 to 09:00			18	107	109	63	222	61	45	156	5	11	320	30	1147	

ANNEXURE B: TRAFFIC, PARKING AND SPEED SURVEYS (SHEET 3 OF 4)

Curtis Traffic Surveys			Turning movement count					Northam / Av							
Job:			151004mcl(15_543)			Peak Hour Volumes		11613019							
Day, date			27/10/15			N		113197116					17Eldridge Rd		
Location:			Eldridge Rd & Northam Av			↑							333		
Weather:			Fine										27		
Client:			McLaren Traffic Engineering			Eldridge Rd		394417							
								Northam Av							
			From Northam Av, north			From Eldridge Rd west			From Northam Av, south			From Eldridge Rd east			
Time Period			left	through	right	left	through	right	left	through	right	left	through	right	Total
16:00 to 16:15															0
16:15 to 16:30			4	23	28	26	70	14	13	27	1	1	79	4	290
16:30 to 16:45			7	19	20	18	74	29	9	18	0	1	54	2	251
16:45 to 17:00			6	34	29	29	61	24	13	12	4	1	67	5	285
17:00 to 17:15			7	39	30	33	41	31	12	17	4	7	101	4	326 peak
17:15 to 17:30			3	35	29	26	52	32	10	12	7	7	87	5	305
17:30 to 17:45			3	22	28	25	43	29	4	3	2	12	78	3	252
17:45 to 18:00			10	38	31	29	46	23	13	10	1	6	70	4	281
Total			40	210	195	186	387	182	74	99	19	35	536	27	
Hourly summary															
16:00 to 17:00			17	76	77	73	205	67	35	57	5	3	200	11	826
16:15 to 17:15			24	115	107	106	246	98	47	74	9	10	301	15	1152
16:30 to 17:30			23	127	108	106	228	116	44	59	15	16	309	16	1167
16:45 to 17:45			19	130	116	113	197	116	39	44	17	27	333	17	1168 peak hour
17:00 to 18:00			23	134	118	113	182	115	39	42	14	32	336	16	1164