Hemanote Consultants

11 CURTIS ROAD, CHESTER HILL

PROPOSED CHANGE OF USE TO A COMMUNITY FACILITY

TRAFFIC & PARKING IMPACT ASSESSMENT

APRIL 2025

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TRAFFIC & PARKING IMPACT ASSESSMENT

11 CURTIS ROAD, CHESTER HILL

PROPOSED COMMUNITY FACILITY

DATE: 30 APRIL 2025

DISCLAIMER

Doc. Revision	Prepared by	Reviewed by	Issued by	Issue date
Draft 1 (internally)	J. Mikhail	R. Selim	J. Mikhail	10 Feb 2025
Draft 2 (internally)	S. Payet	R. Selim	S. Payet	27 Feb 2025
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Final report (to client)	S. Payet	R. Selim	R. Selim	03 March 2025
Updated Final report (to client)	S. Payet	R. Selim	R. Selim	30 April 2025

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications of the proposed change of use of the existing building located at **11 Curtis Road, Chester Hill** to a community facility.

This report is to be read in conjunction with the architectural plans prepared by AKT Engineering and Consulting (reduced copy of the plans – Issue 'A' and dated 02/12/2024 - is attached in *Appendix 'A'* of this report) and submitted to Canterbury-Bankstown Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access, on-site parking provision, layout and circulation;
- *Section 5:* Assessment of impacts on parking;
- *Section 6:* Assessment of impacts on traffic in the vicinity of the subject site;
- *Section 7:* Management of traffic & parking during peak use and special events; and
- *Section 8:* Outlines conclusions.

2 EXISTING SITE DESCRIPTION

➢ ***Site Location***

The subject site is located on the southern side of Curtis Road at property No. 11 (legally known as Lot A of DP410761), within the suburb of Chester Hill. The site has a frontage of approximately 20 metres to Curtis Road from the north. Refer to Figure 1 for a site locality map.

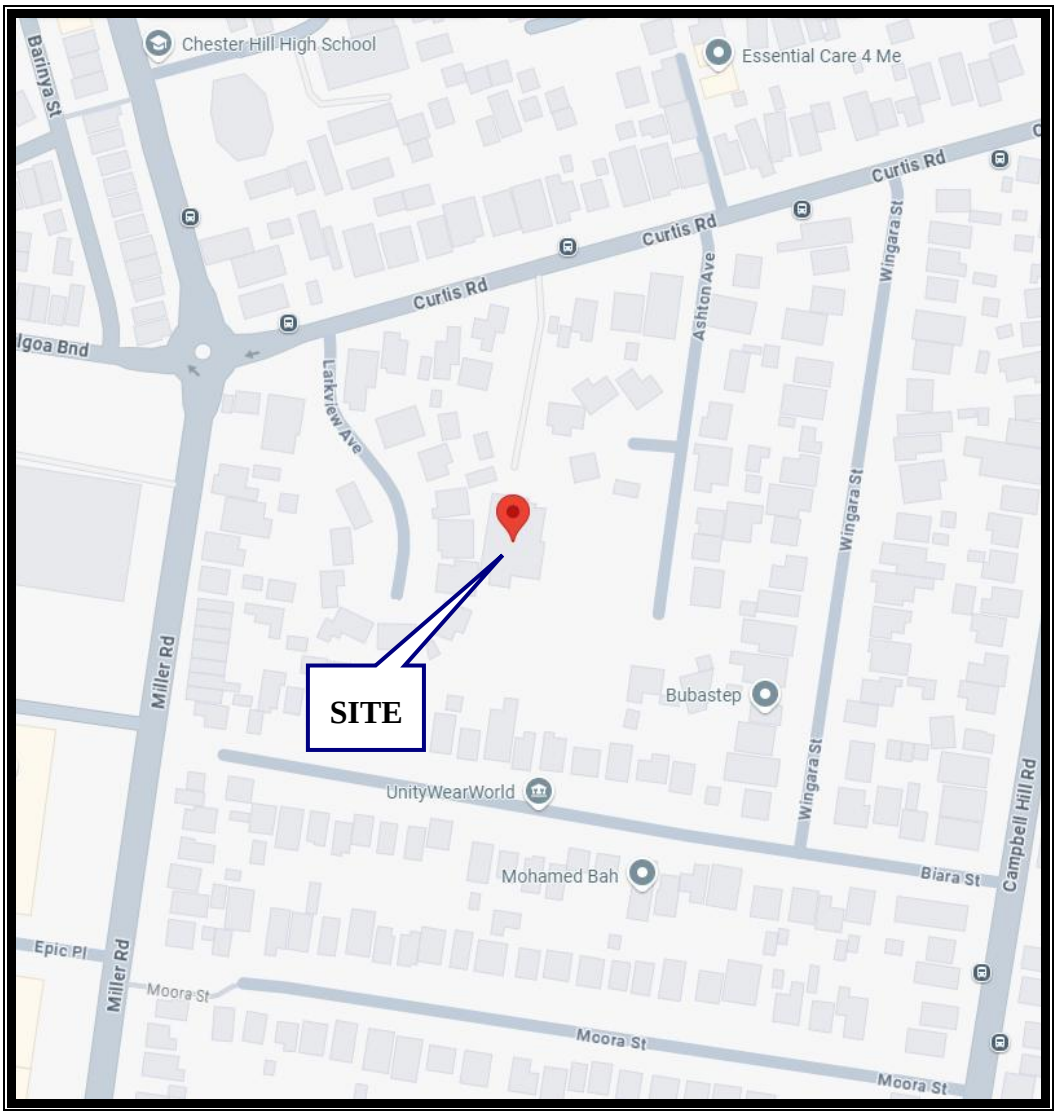

Figure 1: Site Locality Map

- ***Existing Site & Surrounding Land Use***

The subject site has an area of 8,642.1m^2 and is currently occupied by a bowling club. It is located in a mainly residential area, characterised by residential developments, as well as nearby commercial sites.

The site is also located approximately 1.5 km from Chester Hill Railway Station, 1.7 km from Leightonfield Hill Railway Station and 2.5 km from Sefton Railway Station.

Photo 1: Existing site frontage to Curtis Road

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Curtis Road is a local road that runs in a north-east to south-west direction between Campbell Hill Road (local road) to the north-east and Miller Road (local road) to the south-west. Curtis Road intersects with a number of local roads near the subject site, including Larkview Avenue, Ashton Avenue and Wingara Street.

3.2 Road Description and Traffic Control

Curtis Road has a two-way undivided carriageway, with a width between kerbs of approximately 11 metres. This carriageway generally provides one travel lane per direction, with parking available on both sides of the road. At present, unrestricted parking is permitted along both sides of the Curtis Road, with the exception of the signposted 'No Stopping' near its intersections with Larkview Avenue and Campbell Hill Road.

The legal speed limit on Curtis Road is signposted at 50km/h, with the exception of the signposted "School Zone" of 40km/h on school days. Curtis Road intersects with Larkview Avenue, Ashton Avenue and Wingara Street near the subject site, which are all controlled by 'T-priority' traffic measures given to traffic travelling along Curtis Road.

Figure 2: Aerial photograph of the subject site and surrounding road network

Photo 2: Curtis Road at the subject site – facing north-east

Photo 3: Curtis Road at the subject site – facing south-west

3.3 Current Traffic Flows

A traffic volume survey was undertaken by Hemanote Consultants at the following intersections of:

- Curtis Road / Miller Road / Culgoa Bend
- Curtis Road / Campbell Hill Road / Arlewis Street

in the vicinity of the subject site on Thursday 05 December 2024, during morning period (7:00am to 12:00pm) and afternoon/evening period (12:00pm to 7:00pm), considering the proposed peak hours of operation and traffic peak periods.

The traffic flows in the morning & afternoon peak hours are shown in Tables 1 and 2 below and in *Appendix 'B'* of this report.

Traffic movement	Afternoon Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	1.00pm – 2.00pm	5.00pm – 6.00pm
Miller Road (North of Curtis Road / Culgoa Bend)		
Northbound	232	135
Southbound	262	170
Miller Road (South of Curtis Road / Culgoa Bend)		
Northbound	274	205
Southbound	248	147
Curtis Road (East of Miller Road)		
Eastbound	185	170
Westbound	139	87
Culgoa Bend (West of Miller Road)		
Eastbound	12	6
Westbound	22	16

Table 1: Current traffic flows in the vicinity of the subject site (on a typical weekday)

Traffic movement	Afternoon Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	1.00pm – 2.00pm	5.00pm – 6.00pm
Campbell Hill Road (North of Curtis Road)		
Northbound	274	167
Southbound	232	240
Campbell Hill Road (South of Arlewis Street)		
Northbound	235	109
Southbound	189	123
Arlewis Street (East of Campbell Hill Road)		
Eastbound	58	62
Westbound	45	23
Curtis Road (West of Campbell Hill Road)		
Eastbound	193	151
Westbound	184	171

Table 2: Current traffic flows in the vicinity of the subject site (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic afternoon peak period on Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street were between 1:00pm to 2:00pm and the evening peak period was between 5:00pm to 6:00pm on a typical weekday.

The existing traffic flows on Curtis Road, Miller Road, Culgoa Bend, Campbell Hill Road and Arlewis Street are appropriate for local roads, in a mainly residential area, where traffic is free flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

It is determined that the existing mid-block level of service on Curtis Road is at level 'A' in accordance with Table 4.4 of the Roads & Maritime Services' *"Guide to Traffic Generating Developments - 2002"* (shown on the following page).

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

Table 4.4: Urban road peak hour flows per direction RMS Guide)

- ***Current Intersection Performance (pre-development)***

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provide a measure of the operational performance of an intersection, as indicated in Table 4.2 of the Roads & Maritime Services "*Guide to Traffic Generating Developments - 2002*" (shown on the following page).

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

Table 4.2: Level of Service Criteria for intersections (RMS Guide)

A **pre-development** SIDRA intersection performance analysis was undertaken for the existing intersections of Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street, in the vicinity of the subject site (Pre-development).

Refer to Figure 3 on the following page, showing the intersections network layout controlled by a roundabout at Curtis Road / Miller Road / Culgoa Bend and a cross-intersection with associated 'STOP' signage at Curtis Road / Campbell Hill Road / Arlewis Street. Curtis Road, Miller Road, Culgoa Bend, Campbell Hill Road and Arlewis Street have undivided carriageways, all with one through traffic lane in each direction.

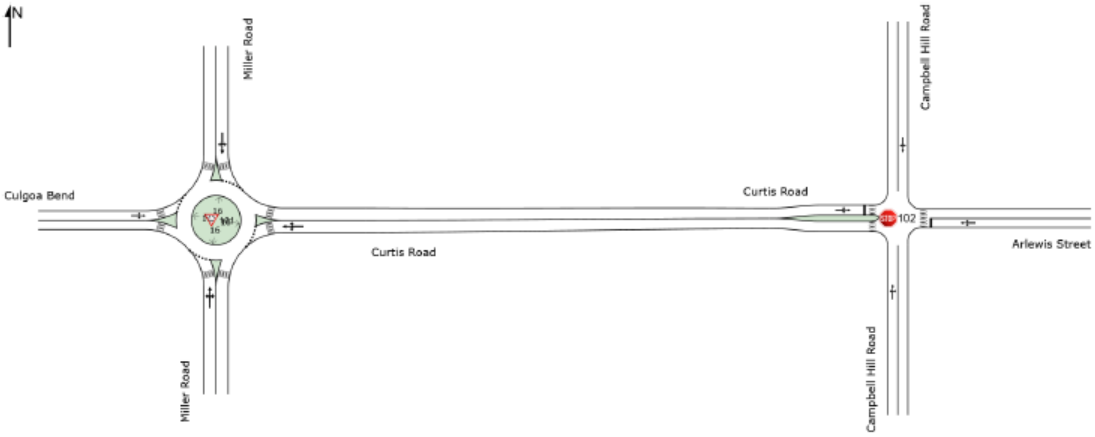

Figure 3: Existing Intersection Network Layout

The pre-development SIDRA performance analysis determined that the current operational performance of the existing intersections of Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street are in good operation at a Level of Service (LOS) 'A' during AM and PM peak periods.

Refer to the summary of the results of the SIDRA intersection performance analysis attached in *Appendix 'C'* of this report.

3.4 Existing Transportation Services

The subject site has good access to public transport services in the form of trains and buses. The site is located approximately 1.5 km from Chester Hill Railway Station, 1.7 km from Leightonfield Hill Railway Station and 2.5 km from Sefton Railway Station.

Frequent bus services operate along Curtis Road, Miller Road, Campbell Hill Road, Gurney Road and Wolumba Street, in close proximity to the subject site (i.e. bus routes 916 and M91).

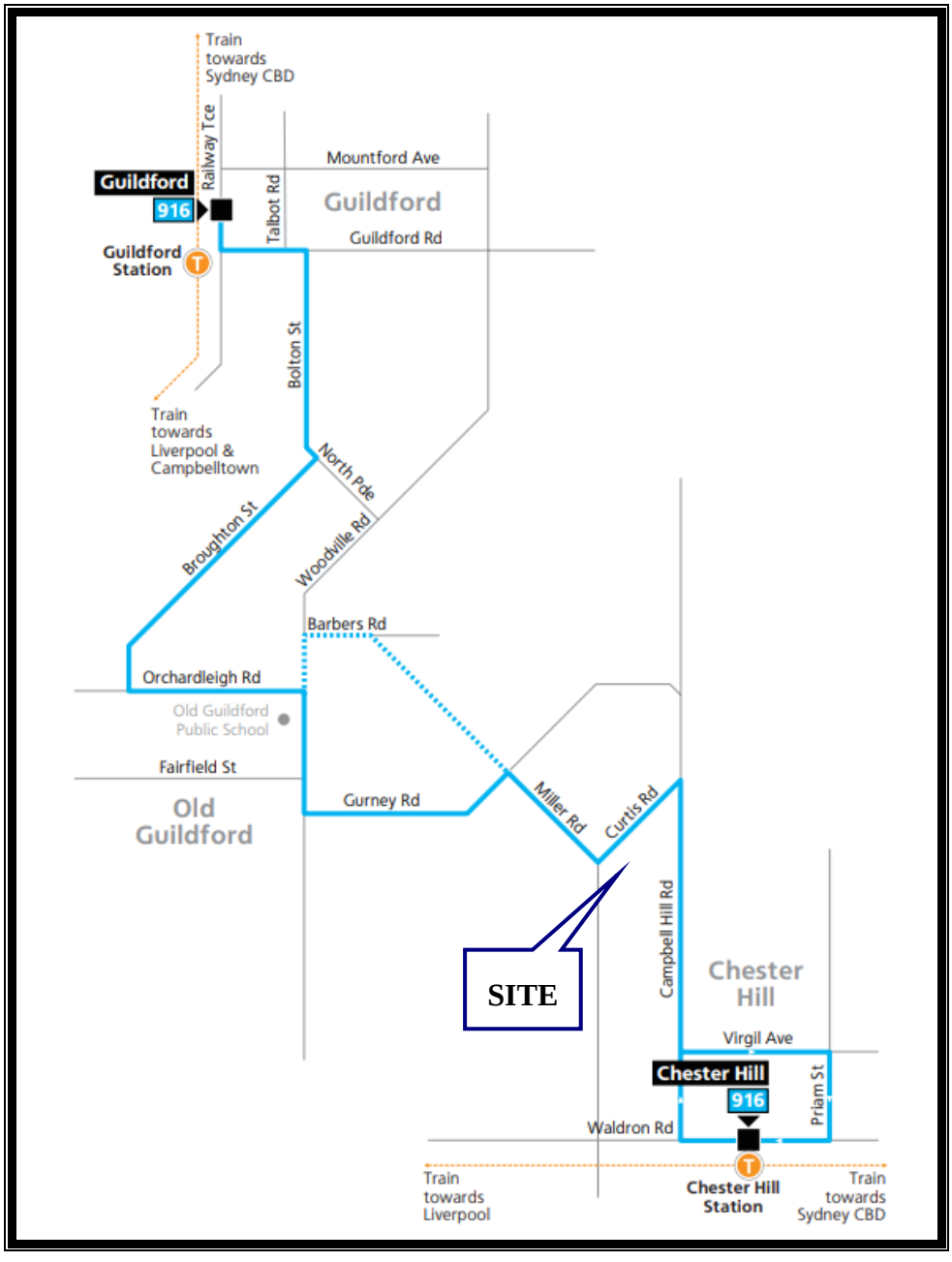

Figure 4: Bus services near the subject site (Bus no. 916)

4 PROPOSED DEVELOPMENT

4.1 Description of the proposal

The proposed development application seeks approval for the change of use of the existing bowling club building located at **11 Curtis Road, Chester Hill**, to a community facility.

The proposed development will include the following:

- Ground level consisting of the main hall, office/administration, kitchen and storage, and amenities, as well as lawn area at the rear of the site, to be used for sports.
- **Assembly area of 196m^2**.
- Existing on-site carparking area consisting of a total of forty-seven (47) car parking spaces, including two (2) accessible car parking spaces, in addition to a dedicated emergency vehicle parking area, at-grade level.
- The proposed hours of operation and expected capacity are as follows:
    - Monday 9:00am to 4:00pm – community assistance – maximum 50 people.
    - Monday 5:00pm to 9:00pm – scouts group meetings – maximum 50 people.
    - Tuesday 9:00am to 4:00pm – community services – maximum 50 people.
    - Tuesday 5:00pm to 9:00pm – soccer training or club meeting – maximum 50 people.
    - Wednesday 9:00am to 4:00pm – community services – maximum 50 people.
    - Wednesday 5:00pm to 9:00pm – scouts group meeting – maximum 50 people.
    - Thursday 9:00am to 4:00pm – food supply, translation, government assistance, forms application assistance – maximum 50 people.
    - Thursday 5:00pm to 9:00pm – soccer training or club meeting – maximum 50 people.
    - Friday 12:00pm to 3:00pm – Islamic prayer – maximum 100 people.

- Friday 5:00pm to 10:00pm – community/board meeting – maximum 80 people.
- Saturday 9:00am to 4:00pm – family gathering, community activities, school program – maximum 50 people.
- Saturday 5:00pm to 10:00pm – family events, funeral services (condolences only) – maximum 80 people.
- Sunday 11:00am to 2:00pm – christening, mass, or similar – maximum 100 people.
- Sunday 5:00pm 10:00pm – Family events – maximum 80 people.

- The overall expected maximum capacity on site at any given time is up to 100 people in attendance.

Refer to ***Appendix 'A'*** for the proposed development plans.

4.2 Vehicular Access

The vehicular access to and from the off-street parking facilities will be via the existing access driveway crossing located in Curtis Road. The access driveway has a width of 8.6 metres, which is adequate for a low volume (Category 1) access driveway in accordance with AS2890.1:2004 – Table 3.2.

The existing access driveway provides two-way vehicular movements, where two vehicles can pass each other at the same time without causing delays or congestion to traffic on the street, and is located more than 6 metres from the tangent point of the adjacent kerbline, in accordance with Figure 3.1 of AS2890.1:2004.

Vehicular access is located and constructed in accordance with the requirements of AS2890.1:2004, where vehicles enter and exit the site in a forward direction at all times.

The clear sight line triangle (2.5m x 2m) between the driver's eye view and pedestrians is provided on the exit side of the driveway, as per Figure 3.3 of AS2890.1:2004.

4.3 On-site Parking Provision

Canterbury-Bankstown Development Control Plan 2023, Chapter 3.2, Section 2, Table 2-5, requires on-site parking for places of public worship to be provided at a minimum rate of:

- Place of public worship that is located outside a centre (B2, B4 Zone) and where the gross floor area of the assembly area is 500m^2 or less:
  - 1 car space per 5m^2 of the assembly area or a rate based on a parking study, of the applicant is seeking a reduced parking provision.
- Bicycle – visitors: 1 space per 20 car spaces.

Refer to Table 3 below for the required and proposed car parking provision for the subject development site:

Type of use	Parking rate	No. seats / Area	Total car parking spaces required	Total car parking spaces proposed
Place of Public Worship				
Place of Public Worship	1 space per 5m^2 of assembly area	**196m^2**	40	47
			Total	**47**
Compliance with off-street car parking				**Yes**

Table 3: On-site parking requirement and provision

The proposed development with a total assembly area GFA of 196m^2 would therefore require the provision of 40 on-site car parking spaces and 2 bicycle storage spaces.

The proposed development provides an existing on-site carparking area consisting of a forty-seven (47) car parking spaces, including two (2) accessible car parking spaces, in addition to a dedicated emergency vehicle parking area, at-grade level.

Therefore, the proposed on-site parking provision is adequate for the proposed development and in compliance with Council's parking requirements.

4.4 On-site Parking Layout and Circulation

The layout of the existing on-site car parking area and manoeuvring arrangements has been designed to enhance vehicular and pedestrian access, where vehicles enter and exit the site in a forward direction, through the provision of adequate internal aisle width and turning space, and is to be retained.

4.5 Waste Collection & Deliveries

All waste storage is to take place within the site and to be collected as per the current arrangements for the subject site, which is to be outlined in the Waste Management Plan.

5 ON-STREET PARKING PROVISION

5.1 Existing Parking Controls

The subject site is located in a mainly residential area, where unrestricted parking is permitted along both sides of the Curtis Road, with the exception of the signposted 'No Stopping' near its intersections with Larkview Avenue and Campbell Hill Road.

5.2 Impacts of Proposed Development on Parking

The parking demand resulting from the proposed development can be accommodated within the existing adequate and compliant on-site parking spaces. The subject site has good access to existing public transport in the form of train and bus services.

Therefore, the proposed development will not have adverse impacts on parking in the surrounding area.

6 EXTERNAL TRAFFIC IMPACT

6.1 Estimated Future Traffic Generation

The "*Guide to Transport Impact Assessment - 2024"* does not provide a traffic generation rate for places of public worship.

It is considered that the highest vehicle trips from the proposed development will be generated during the weekday Islamic prayer services on Friday afternoons.

It should also be noted that family members, friends and neighbours often tend to utilise carpooling to travel to prayer together on Fridays in small groups, with an average of 2 to 3 people per vehicle, therefore, minimising the overall number of vehicle trips.

The subject community facility would also run a minibus shuttle service to pick-up and drop-off members of the local community and in particular the elderly from the surrounding area, when needed. Others who live close by the site may choose to walk or catch a bus and in particular the youth members.

Therefore, it is estimated that between an average of 40 to a maximum 50 vehicle trips will be generated, including drop-offs and pick-ups during the main peak prayer period on Friday afternoons. Traffic generation of other uses of the site at other times of the week will be significantly lower.

6.2 Projected Intersection Performance (post-development)

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provides a measure of the operational performance of an intersection, as indicated in Table 4.2 of the Roads & Maritime Services "*Guide to Traffic Generating Developments - 2002*" (shown on the following page).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
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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

Table 4.2: Level of Service Criteria for intersections (RMS Guide)

A **post-development** SIDRA intersection performance modelling analysis was undertaken for the intersections of Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street, in the vicinity of the subject site, and it was modelled as the proposed network layout as shown in Figure 5 below.

Refer to the summary of the results of the SIDRA intersection performance analysis (undertaken for pre & post development, including the 10-year future growth) attached in *Appendix 'C'* of this report.

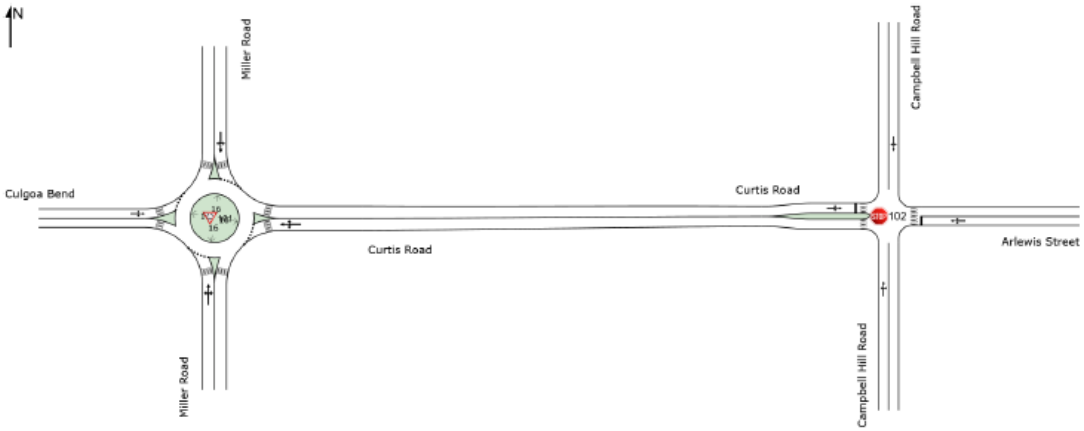


Figure 5: Intersection Network Layout

The following assumptions have been considered and adopted in the SIDRA Network Intersection modelling for the post-development conditions considering that the main access to and from the subject site is through Curtis Road:

- Peak hour traffic generation has been estimated, as outlined in Section 6.1 of this report.
- Afternoon and evening PM Traffic generated by the development was equally adopted for inbound and outbound traffic.
- The distribution of traffic generated from the development at the **modelled intersections** has been assigned based on existing traffic patterns at the approaching and departing legs of these intersections, as well as observed driver behaviour.
- Pre-development network analysis is modelled for the base year (2024) and 10 years of future growth (2034) in surrounding traffic. The annual traffic growth rate for the 10-year future period was based on the SIDRA intersection analysis software, which allows for future analysis of surrounding traffic by applying a uniform growth rate of 2% for each year over the 10-year period.
- Post-development network analysis is modelled for when the proposed development is in operation and after 10 years of future growth in surrounding traffic.

These assumptions will result in the development trip distribution shown in Figures 6 and 7 for relevant traffic movement and modelled intersection.

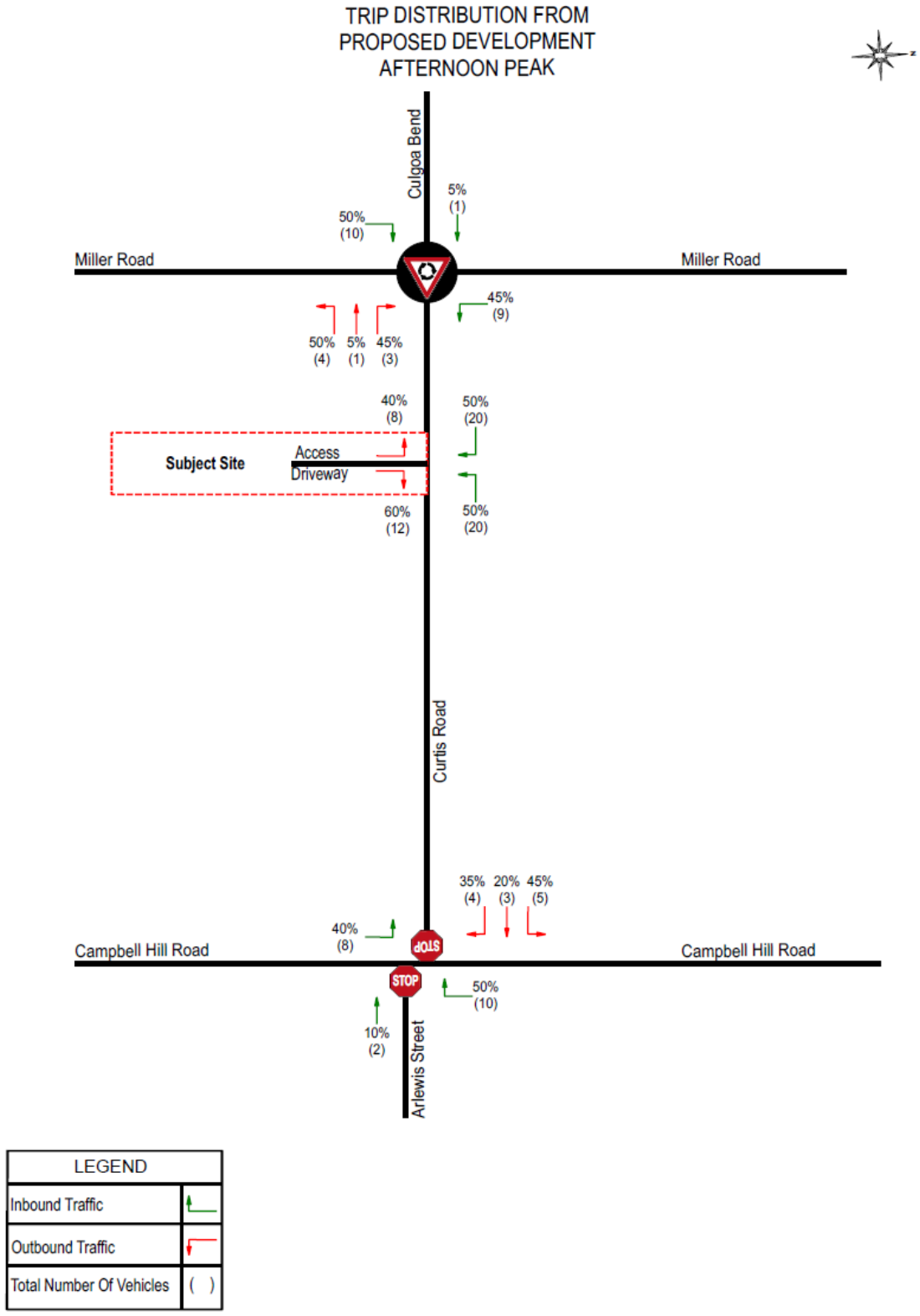


Figure 6: Development Traffic Distribution on the Surrounding Road Network – **PM Peak (Afternoon)**

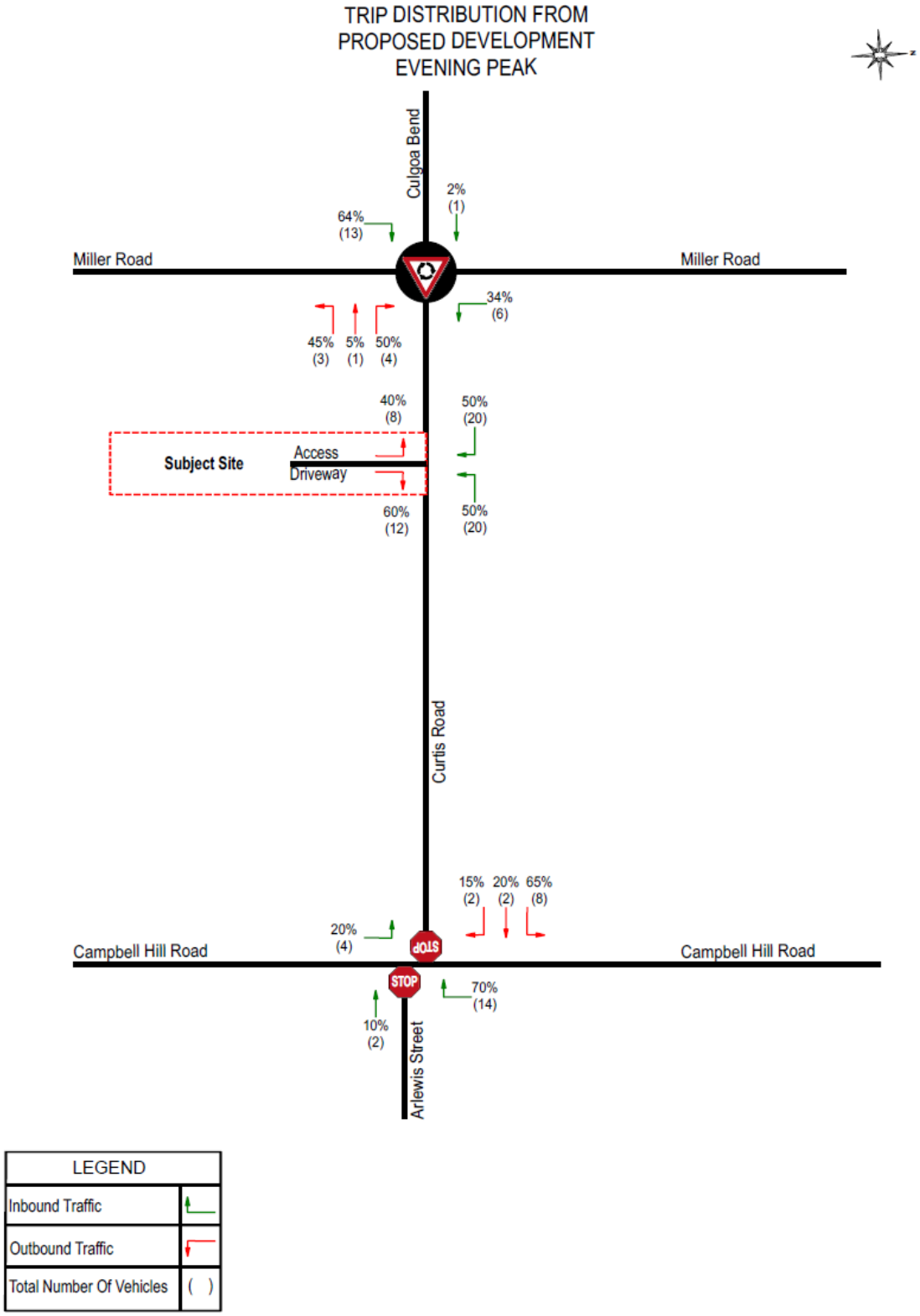


Figure 7: Development Traffic Distribution on the Surrounding Road Network – **PM Peak (Evening)**

The outcome of the SIDRA modelling

A summary of the results of the SIDRA intersection performance analysis has been provided in Tables 4 to 7 below, as well as the SIDRA Movement Summary Tables attached in *Appendix 'C'* of this report.

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.8	0.232
Base Year 2024 – Post Development	A	4.9	0.243
Future Year 2034 – Pre-Development	A	5.0	0.285
Future Year 2034 – Post Development	A	5.1	0.300

Table 4: Network SIDRA Modelling – Curtis Rd / Miller Rd / Culgoa Bnd – 1.00pm – 2.00pm

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.9	0.167
Base Year 2024 – Post Development	A	5.1	0.178
Future Year 2034 – Pre-Development	A	5.0	0.202
Future Year 2034 – Post Development	A	5.2	0.216

Table 5: Network SIDRA Modelling – Curtis Rd / Miller Rd / Culgoa Bnd – 5.00pm – 6.00pm

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.8	0.251
Base Year 2024 – Post Development	A	5.1	0.271
Future Year 2034 – Pre-Development	A	5.3	0.332
Future Year 2034 – Post Development	A	5.6	0.360

Table 6: Network SIDRA Modelling – Curtis Rd / Campbell Hill Rd / Arlewis St – 1.00pm – 2.00pm

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.7	0.152
Base Year 2024 – Post Development	A	4.9	0.166
Future Year 2034 – Pre-Development	A	4.9	0.192
Future Year 2034 – Post Development	A	5.1	0.210

Table 7: Network SIDRA Modelling – Curtis Rd / Campbell Hill Rd / Arlewis St – 5.00pm – 6.00pm

The SIDRA analysis results indicate that the proposed development will have minimal impact on the operational performance of key intersections in the study area, both in the base year and the 10-year future scenarios.

Base Year findings:

For the base year (2024), the proposed development (post-development) will not alter the current LOS (pre-development) at the subject intersections of Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street, as outlined earlier in Section 3.3 of this report, and will continue to operate at its current levels of service during weekday AM and PM peak periods.

Future Year findings:

In the 10-year scenario without the development, the intersections of Curtis Road / Miller Road / Culgoa Bend and Curtis Road / Campbell Hill Road / Arlewis Street, will continue to operate at LOS ‘A’ during the weekday AM and PM peak periods.

For the future year (2034), the proposed development (post-development) will not alter the future LOS at the subject intersections and will continue to operate at the predicted future levels of service.

Therefore, the estimated traffic generation from the proposed development is of low impact on existing flows on Curtis Road and surrounding streets and will not have adverse impacts on the current operational performance of the subject existing intersections, which will continue to operate at the same levels of service.

7 MANAGEMENT OF TRAFFIC & PARKING DURING PEAK USE & SPECIAL EVENTS

The expected maximum attendance during the **peak use** & **special religious events** of Friday afternoons and Sunday mornings/afternoons at the subject site is up to 100 people.

The traffic and parking demand during the peak use and special events can be accommodated within on-site car parking area.

It is recommended that at least 2 to 3 staff members/volunteers patrol the site and fronting street, in high visibility gear during the peak use periods, to ensure there is no disturbance to adjacent properties and their driveways and to efficiently control traffic movements of vehicles into and out of the site.

MANAGEMENT OF TRAFFIC & PARKING DURING PEAK USE OPERATIONS:

· The management of the subject site to provide its community members an educational information flyer advising of safe parking and traffic practices during attending the site and that all vehicles are to be parked within the allocated on-site car parking spaces and that under no circumstances that members block driveways of neighbouring properties.

· Allocated Staff members/volunteers in high visibility gear will be present on site to regulate traffic movements into and out of the site and to manage on-site parking, to ensure that no vehicles are illegally parked and are not obstructing driveways of adjoining properties.

All vehicles are to be parked within the allocated line marked car parking spaces, with no stopping of vehicles or dropping-off/picking-up of people to take place near the driveway, to avoid traffic congestions or vehicle queuing.

· The management of the subject site may have the option to run an additional minibus (i.e. van) service to pick-up and drop-off locals and elderly members of the community, who wish to attend services from the neighbouring local areas, if possible.

8 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposed change of use of the existing bowling club building located at **11 Curtis Road, Chester Hill**, to a community facility**,** will not have adverse impacts on existing traffic or parking conditions and is worthy of Council's support in its current form.

- The current traffic flows on Curtis Road, Miller Road, Culgoa Bend, Campbell Hill Road and Arlewis Street are appropriate for local roads, in a mainly residential area, where traffic is free flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

- The estimated traffic generation from the proposed development is of low impact on existing flows on Curtis Road and surrounding streets and will not have adverse impacts on the current operational performance of the subject existing intersections, which will continue to operate at the same levels of service. The traffic generated by the proposed development can be readily accommodated within the existing road network.

- The potential increase in the number of vehicle movements in and about Curtis Road and adjacent streets will not have adverse impacts on the amenity of the area.

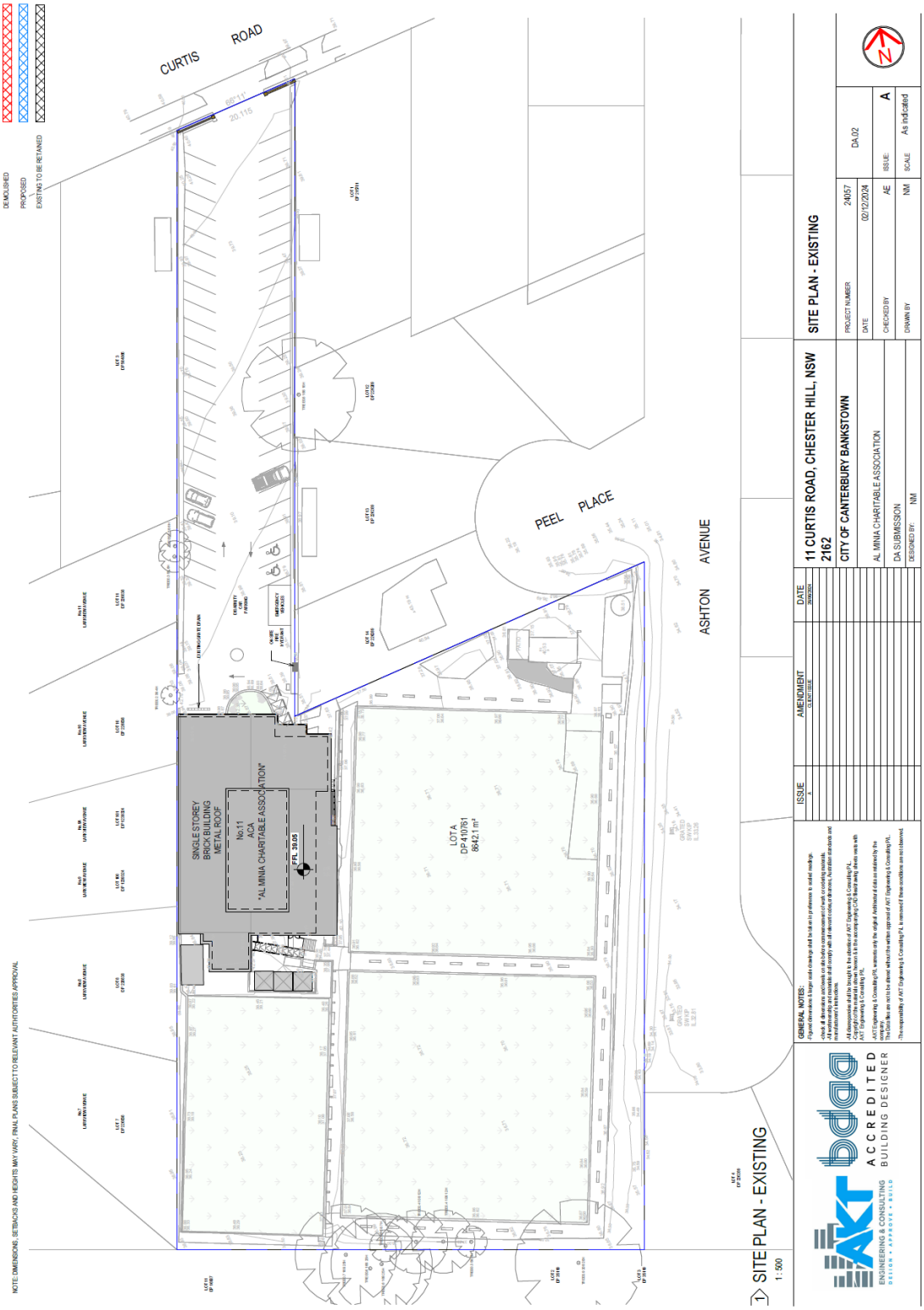
- The parking demand resulting from the proposed development can be easily accommodated within the existing adequate and compliant on-site parking facilities, which is in compliance Council's parking requirements.

- The on-site vehicular access, car parking layout and vehicular circulation is adequate for the proposed development and in accordance with AS2890.1:2004 and AS2890.6:2009 (and the updated AS2890.6:2022), where vehicles are to enter and exit the site in a forward direction at all times.

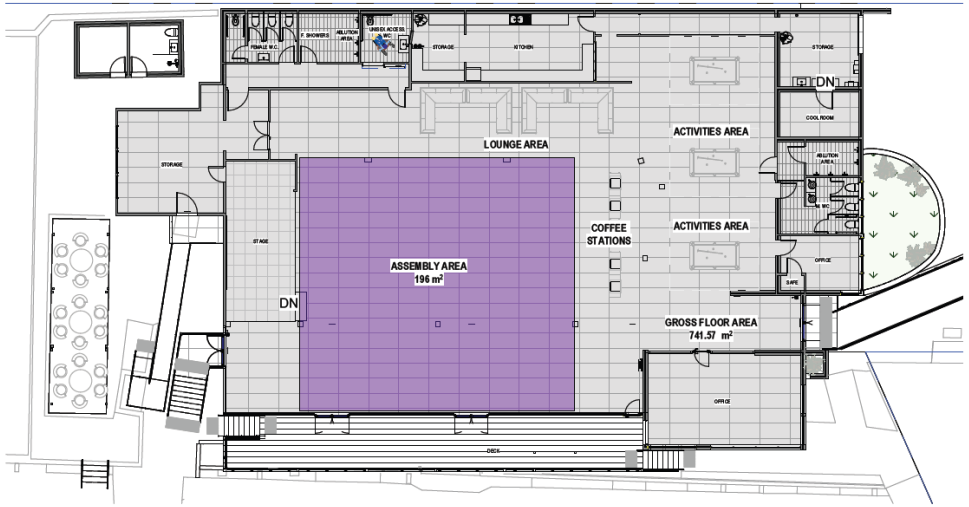
- The subject site has good access to existing public transport services.

- The proposed development will not have adverse impact on parking in the surrounding area.

Appendix 'A' – Proposed Development Plans


DEMOLISHED
PROPOSED
EXISTING TO BE RETAINED
CURTIS ROAD
PEEL PLACE
ASHTON AVENUE
SINGLE STOREY BRICK BUILDING METAL ROOF
No.11 ACA
"AL MINA CHARITABLE ASSOCIATION"
FFL 39.05
LOT A DP 410761 8642.1 m²
NOTE: DIMENSIONS, SETBACKS AND HEIGHTS MAY VARY, FINAL PLANS SUBJECT TO RELEVANT AUTHORITIES APPROVAL
1 SITE PLAN - EXISTING
1 : 500
ISSUE
AMENDMENT
DATE
11 CURTIS ROAD, CHESTER HILL, NSW 2162
CITY OF CANTERBURY BANKSTOWN
AL MINA CHARITABLE ASSOCIATION
DA SUBMISSION
SITE PLAN - EXISTING
PROJECT NUMBER 24057
DATE 02/12/2024
CHECKED BY AE
DRAWN BY NM
DESIGNED BY NM
DA.02
ISSUE A
SCALE As Indicated
GENERAL NOTES:
AKT Engineering & Consulting Pty Ltd
ACCREDITED BUILDING DESIGNER
ENGINEERING & CONSULTING

NOTE: DIMENSIONS, SETBACKS AND HEIGHTS MAY VARY, FINAL PLANS SUBJECT TO RELEVANT AUTHTORITIES APPROVAL



ROOM SCHEDULE	
Name	Area
STOR.	2.77 m²
ABLUTION	4.06 m²
ACCESS. WC	4.87 m²
F. SHOWERS	5.12 m²
MALE ABLUTION	5.88 m²
STORAGE	7.48 m²
STAFF BATH.	7.66 m²
M. WC.	9.21 m²
STORAGE	10.88 m²
FEMALE W.C.	11.01 m²
COOL ROOM	11.85 m²
OFFICE	12.16 m²
STORAGE	18.51 m²
KITCHEN	26.04 m²
STAGE	32.20 m²
STORAGE	33.85 m²
OFFICE	42.35 m²
DECK	65.99 m²
MAIN HALL	479.61 m²

1 GROUND FLOOR PLAN - AREA CALCULATIONS
1 : 200

AKT ENGINEERING & CONSULTING DESIGN + APPROVE + BUILD
bdaa ACCREDITED BUILDING DESIGNER

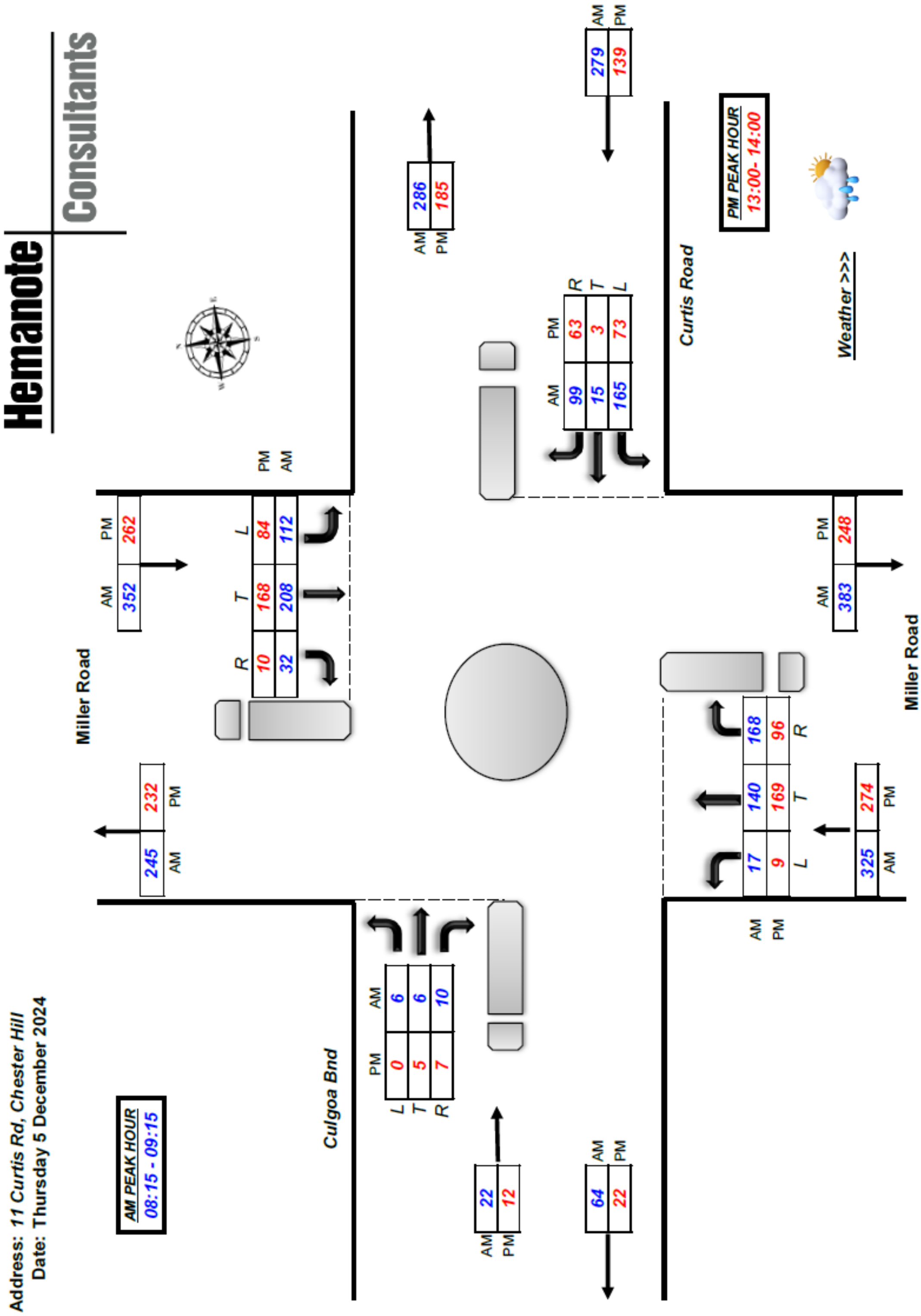
GENERAL NOTES:
-Figured dimensions & larger scale drawings shall be taken in preference to scaled readings.
-check all dimensions and levels on site before commencement of work or ordering materials.
-All workmanship and materials shall comply with all relevant codes, ordinances, Australian standards and manufacturers's instructions.
-All discrepancies shall be brought to the attention of AKT Engineering & Consulting P/L.
-Copyright of the materials shown hereon & in the accompanying CAD files/drawing sheets vests with AKT Engineering & Consulting P/L.
-AKT Engineering & Consulting P/L warrents only the original Architectural data as retained by the company
-The Data files are not to be altered without the written approval of AKT Engineering & Consulting P/L.
-The responsibility of AKT Engineering & Consulting P/L is removed if these conditions are not observed.

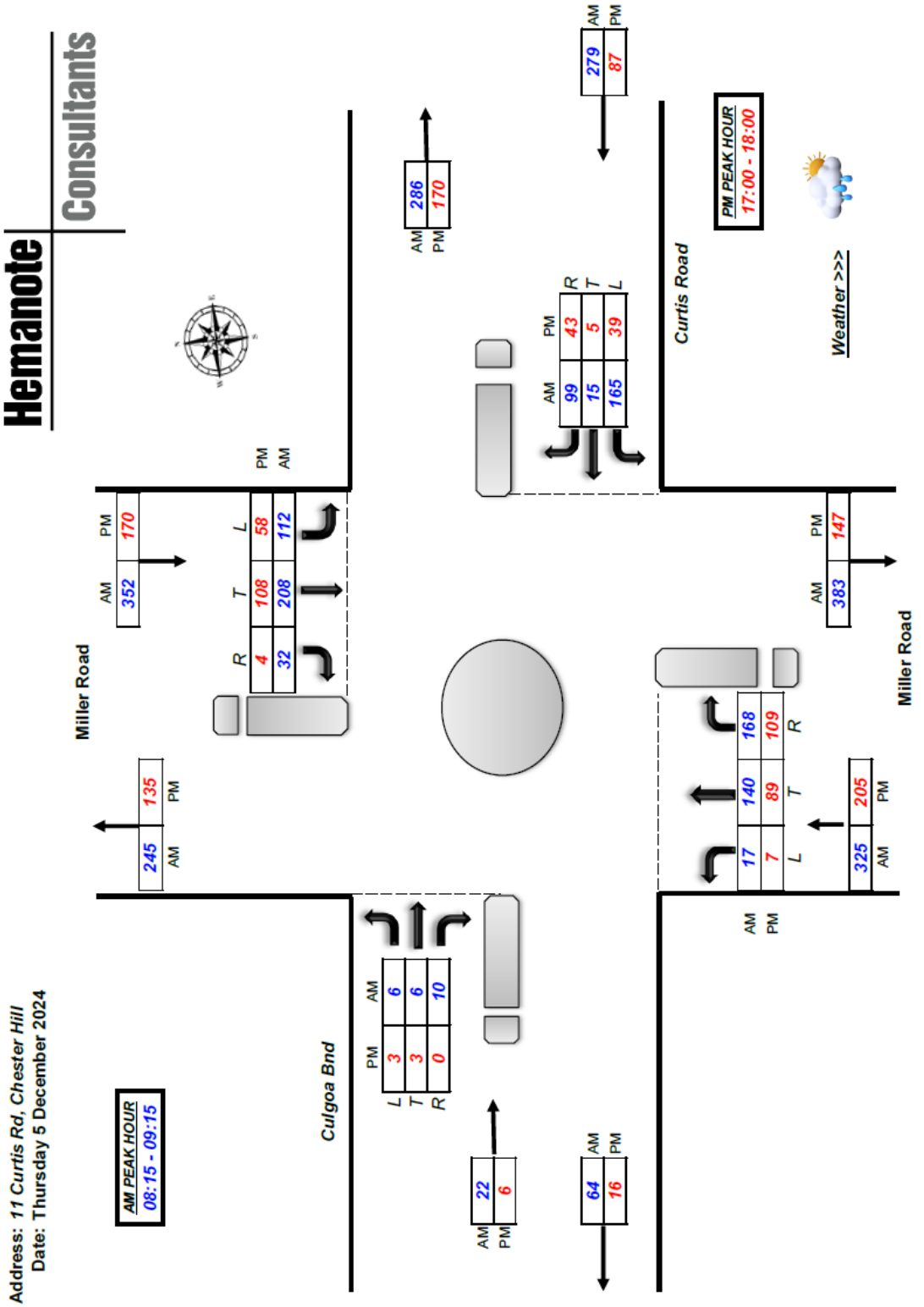
ISSUE	AMENDMENT	DATE
A	CLIENT ISSUE	29/09/2024

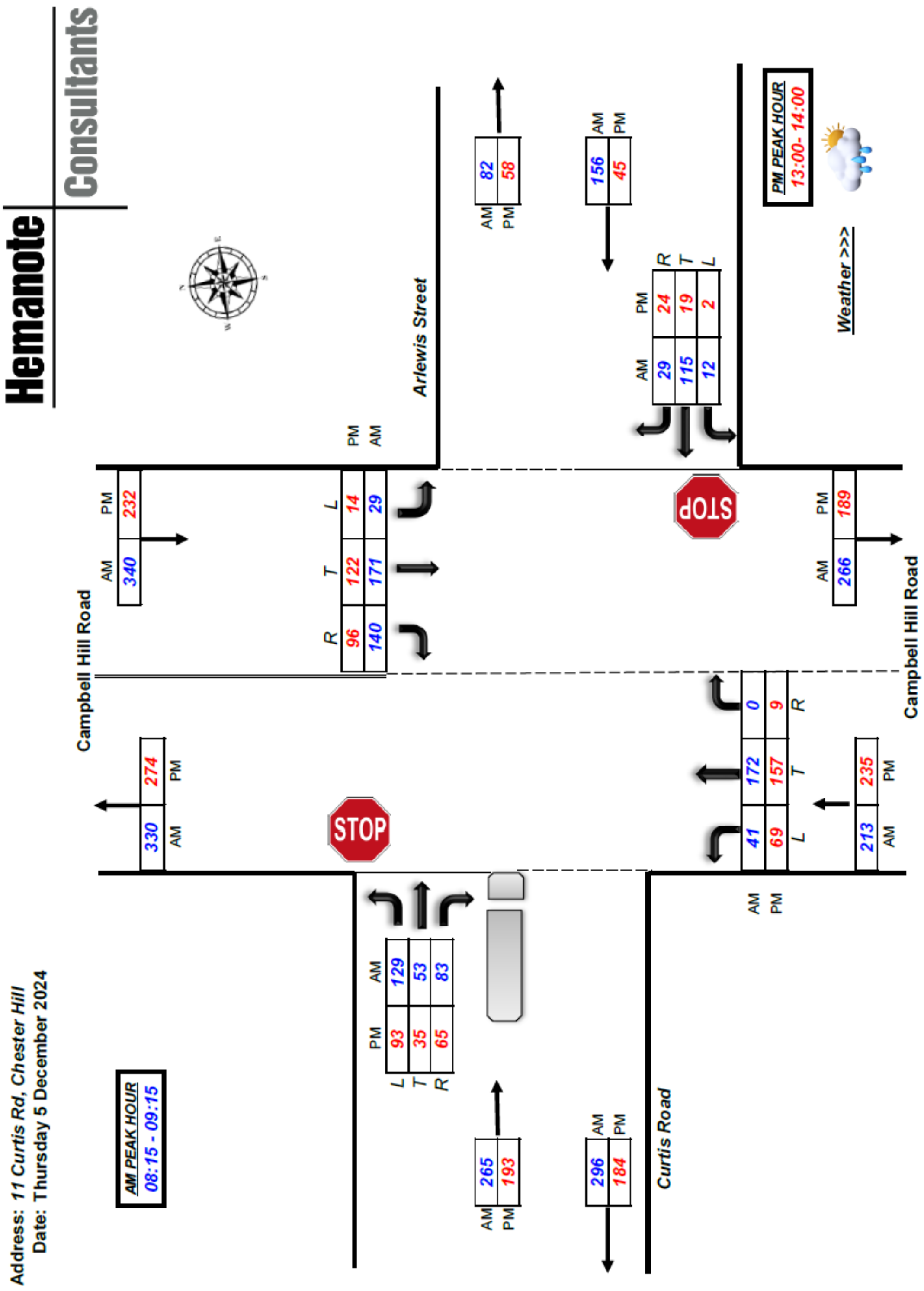
11 CURTIS ROAD, CHESTER HILL, NSW 2162	GROUND FLOOR PLAN - AREA CALCULATIONS
CITY OF CANTERBURY BANKSTOWN	PROJECT NUMBER 24057 · DA.03
AL MINIA CHARITABLE ASSOCIATION	DATE 02/12/2024
DA SUBMISSION	CHECKED BY AE · ISSUE: A
DESIGNED BY: NM	DRAWN BY NM · SCALE 1 : 200

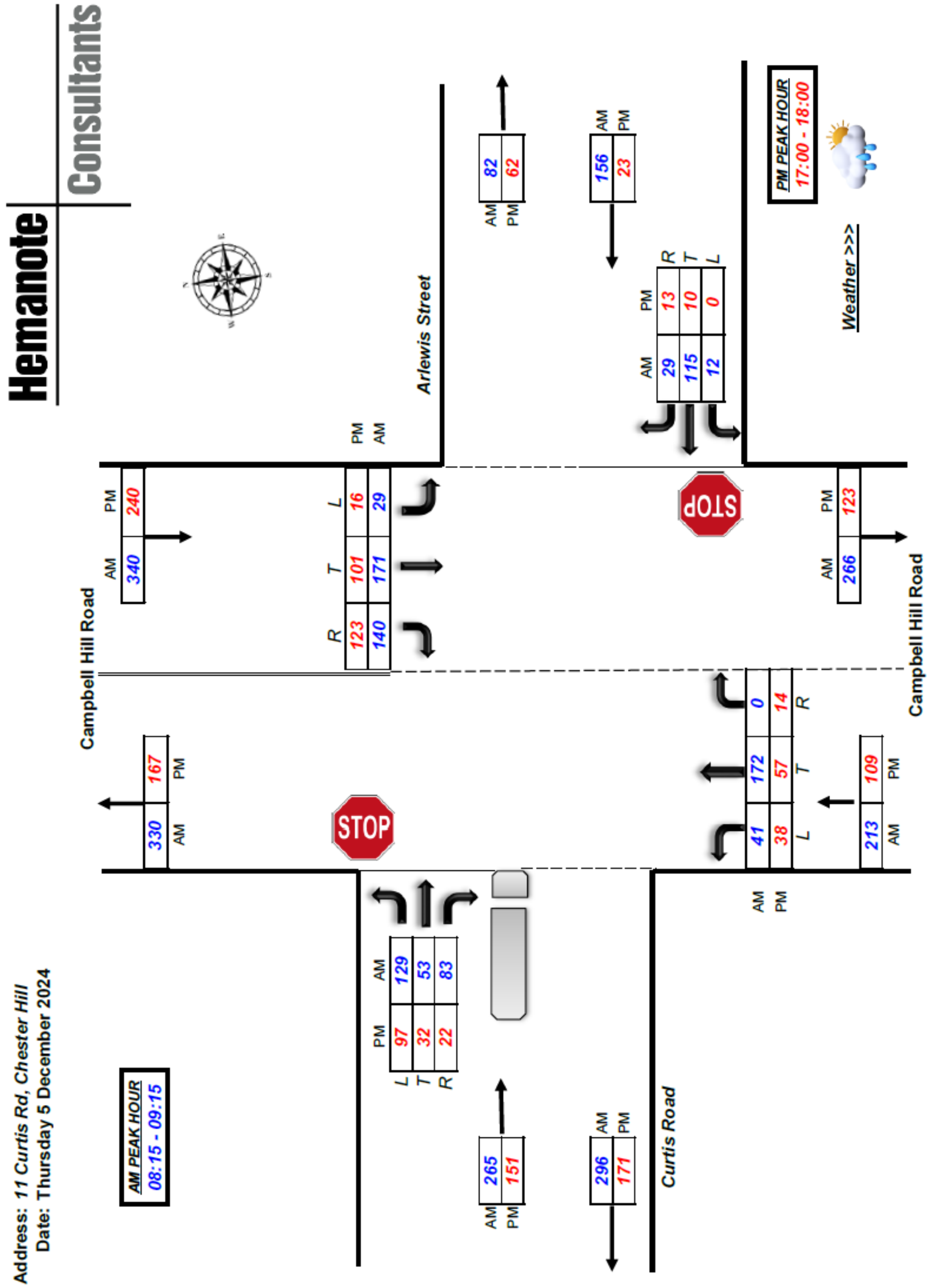
Hemanote Consultants

Appendix 'B' – Traffic Volume Surveys


Address: 11 Curtis Rd, Chester Hill
Date: Thursday 5 December 2024
AM PEAK HOUR
08:15 - 09:15
PM PEAK HOUR
13:00-14:00
Miller Road
Curtis Road
Culgoa Bnd
Miller Road
Weather >>>
AM PM
352 262
245 232
R T L
10 168 84
32 208 112
286 185
279 139
R T L
99 15 165
63 3 73
383 248
325 274
R T L
168 140 17
96 169 9
L T R
6 6 10
0 5 7
22 12
64 22


Hemanote Consultants
Address: 11 Curtis Rd, Chester Hill
Date: Thursday 5 December 2024
AM PEAK HOUR
08:15 - 09:15
PM PEAK HOUR
17:00 - 18:00
Weather >>>
Miller Road
Culgoa Bnd
Curtis Road
Miller Road
AM 352 PM 170
AM 245 PM 135
AM 383 PM 147
AM 325 PM 205
AM 286 PM 170
AM 279 PM 87
AM 64 PM 16
AM 22 PM 6
L T R
AM 4 108 58
PM 32 208 112
AM 6 6 10
PM 3 3 0
AM 99 15 165
PM 43 5 39
AM 17 140 168
PM 7 89 109


Hemanote Consultants
Address: 11 Curtis Rd, Chester Hill
Date: Thursday 5 December 2024
AM PEAK HOUR
08:15 - 09:15
PM PEAK HOUR
13:00- 14:00
Weather >>>
Campbell Hill Road
Arlewis Street
Curtis Road
STOP
STOP
AM 340 PM 232
AM 330 PM 274
AM 266 PM 189
AM 213 PM 235
AM 82 PM 58
AM 156 PM 45
AM 265 PM 193
AM 296 PM 184
R 96 140
T 122 171
L 14 29
AM PM
R 29 24
T 115 19
L 12 2
L 41 69
T 172 157
R 0 9
AM PM
L 129 93
T 53 35
R 83 65


Hemanote Consultants
Address: 11 Curtis Rd, Chester Hill
Date: Thursday 5 December 2024
AM PEAK HOUR
08:15 - 09:15
PM PEAK HOUR
17:00 - 18:00
Weather >>>
Campbell Hill Road
Arlewis Street
Curtis Road
STOP
STOP

Appendix 'C' – SIDRA Intersection Analysis

MOVEMENT SUMMARY – 1.00pm – 2.00pm (Afternoon) – Base Year 2024 – Curtis Road / Miller Road / Culgoa Bend

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	9	2.0	9	2.0	0.229	3.6	LOS A	0.5	3.9	0.27	0.47	0.27	44.2
2	T1	All MCs	178	2.0	178	2.0	0.229	3.4	LOS A	0.5	3.9	0.27	0.47	0.27	43.0
3	R2	All MCs	101	2.0	101	2.0	0.229	7.5	LOS A	0.5	3.9	0.27	0.47	0.27	39.4
Approach			288	2.0	288	2.0	0.229	4.9	LOS A	0.5	3.9	0.27	0.47	0.27	42.2
East: Curtis Road															
4	L2	All MCs	77	2.0	77	2.0	0.139	4.3	LOS A	0.3	2.1	0.39	0.56	0.39	43.5
5	T1	All MCs	3	2.0	3	2.0	0.139	4.1	LOS A	0.3	2.1	0.39	0.56	0.39	45.0
6	R2	All MCs	66	2.0	66	2.0	0.139	8.2	LOS A	0.3	2.1	0.39	0.56	0.39	43.0
Approach			146	2.0	146	2.0	0.139	6.1	LOS A	0.3	2.1	0.39	0.56	0.39	43.3
North: Miller Road															
7	L2	All MCs	88	2.0	88	2.0	0.232	3.8	LOS A	0.5	3.8	0.32	0.43	0.32	40.6
8	T1	All MCs	177	2.0	177	2.0	0.232	3.7	LOS A	0.5	3.8	0.32	0.43	0.32	43.8
9	R2	All MCs	11	2.0	11	2.0	0.232	7.8	LOS A	0.5	3.8	0.32	0.43	0.32	44.4
Approach			276	2.0	276	2.0	0.232	3.9	LOS A	0.5	3.8	0.32	0.43	0.32	43.2
West: Culgoa Bend															
10	L2	All MCs	1	2.0	1	2.0	0.016	5.5	LOS A	0.0	0.3	0.54	0.57	0.54	42.7
11	T1	All MCs	5	2.0	5	2.0	0.016	5.4	LOS A	0.0	0.3	0.54	0.57	0.54	40.8
12	R2	All MCs	7	2.0	7	2.0	0.016	9.5	LOS A	0.0	0.3	0.54	0.57	0.54	42.3
Approach			14	2.0	14	2.0	0.016	7.6	LOS A	0.0	0.3	0.54	0.57	0.54	41.9
All Vehicles			724	2.0	724	2.0	0.232	4.8	LOS A	0.5	3.9	0.32	0.47	0.32	42.8

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	9	2.0	9	2.0	0.239	3.6	LOS A	0.6	4.1	0.28	0.48	0.28	44.2
2	T1	All MCs	178	2.0	178	2.0	0.239	3.5	LOS A	0.6	4.1	0.28	0.48	0.28	43.0
3	R2	All MCs	112	1.8	112	1.8	0.239	7.7	LOS A	0.6	4.1	0.28	0.48	0.28	39.4
Approach			299	1.9	299	1.9	0.239	5.1	LOS A	0.6	4.1	0.28	0.48	0.28	42.1
East: Curtis Road															
4	L2	All MCs	81	1.9	81	1.9	0.147	4.3	LOS A	0.3	2.3	0.40	0.56	0.40	43.8
5	T1	All MCs	4	1.5	4	1.5	0.147	4.4	LOS A	0.3	2.3	0.40	0.56	0.40	46.0
6	R2	All MCs	69	1.9	69	1.9	0.147	8.3	LOS A	0.3	2.3	0.40	0.56	0.40	43.3
Approach			155	1.9	155	1.9	0.147	6.1	LOS A	0.3	2.3	0.40	0.56	0.40	43.6
North: Miller Road															
7	L2	All MCs	98	1.8	98	1.8	0.243	4.0	LOS A	0.6	4.0	0.34	0.44	0.34	40.6
8	T1	All MCs	177	2.0	177	2.0	0.243	3.8	LOS A	0.6	4.0	0.34	0.44	0.34	43.8
9	R2	All MCs	11	2.0	11	2.0	0.243	7.9	LOS A	0.6	4.0	0.34	0.44	0.34	44.4
Approach			285	1.9	285	1.9	0.243	4.0	LOS A	0.6	4.0	0.34	0.44	0.34	43.1
West: Culgoa Bend															
10	L2	All MCs	1	2.0	1	2.0	0.017	5.6	LOS A	0.0	0.3	0.55	0.57	0.55	43.0
11	T1	All MCs	6	1.7	6	1.7	0.017	5.7	LOS A	0.0	0.3	0.55	0.57	0.55	41.2
12	R2	All MCs	7	2.0	7	2.0	0.017	9.6	LOS A	0.0	0.3	0.55	0.57	0.55	42.6
Approach			15	1.9	15	1.9	0.017	7.7	LOS A	0.0	0.3	0.55	0.57	0.55	42.2
All Vehicles			754	1.9	754	1.9	0.243	4.9	LOS A	0.6	4.1	0.33	0.48	0.33	42.9

MOVEMENT SUMMARY – 1.00pm – 2.00pm (Afternoon) – Base Year 2024 – Curtis Road / Campbell Hill Road / Arlewis Street

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	73	2.0	73	2.0	0.132	4.6	LOS A	0.0	0.3	0.03	0.19	0.03	46.8
2	T1	All MCs	165	2.0	165	2.0	0.132	0.0	LOS A	0.0	0.3	0.03	0.19	0.03	47.5
3	R2	All MCs	9	2.0	9	2.0	0.132	4.9	LOS A	0.0	0.3	0.03	0.19	0.03	45.0
Approach			247	2.0	247	2.0	0.132	1.6	NA	0.0	0.3	0.03	0.19	0.03	47.2
East: Arlewis Street															
4	L2	All MCs	2	2.0	2	2.0	0.079	8.0	LOS A	0.1	0.8	0.50	0.96	0.50	37.7
5	T1	All MCs	20	2.0	20	2.0	0.079	10.3	LOS A	0.1	0.8	0.50	0.96	0.50	27.7
6	R2	All MCs	25	2.0	25	2.0	0.079	11.3	LOS A	0.1	0.8	0.50	0.96	0.50	30.9
Approach			47	2.0	47	2.0	0.079	10.7	LOS A	0.1	0.8	0.50	0.96	0.50	30.4
North: Campbell Hill Road															
7	L2	All MCs	15	2.0	15	2.0	0.147	5.4	LOS A	0.3	1.9	0.30	0.36	0.30	39.2
8	T1	All MCs	128	2.0	128	2.0	0.147	0.6	LOS A	0.3	1.9	0.30	0.36	0.30	45.2
9	R2	All MCs	101	2.0	101	2.0	0.147	5.5	LOS A	0.3	1.9	0.30	0.36	0.30	35.5
Approach			244	2.0	244	2.0	0.147	2.9	NA	0.3	1.9	0.30	0.36	0.30	42.9
West: Curtis Road															
10	L2	All MCs	98	2.0	98	2.0	0.251	8.3	LOS A	0.4	3.0	0.44	0.89	0.44	39.1
11	T1	All MCs	37	2.0	37	2.0	0.251	10.7	LOS A	0.4	3.0	0.44	0.89	0.44	40.0
12	R2	All MCs	68	2.0	68	2.0	0.251	11.5	LOS A	0.4	3.0	0.44	0.89	0.44	41.7
Approach			203	2.0	203	2.0	0.251	9.8	LOS A	0.4	3.0	0.44	0.89	0.44	40.3
All Vehicles			742	2.0	742	2.0	0.251	4.8	NA	0.4	3.0	0.26	0.48	0.26	42.4

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	81	1.8	81	1.8	0.136	4.7	LOS A	0.0	0.3	0.03	0.20	0.03	46.8
2	T1	All MCs	165	2.0	165	2.0	0.136	0.0	LOS A	0.0	0.3	0.03	0.20	0.03	47.6
3	R2	All MCs	9	2.0	9	2.0	0.136	4.9	LOS A	0.0	0.3	0.03	0.20	0.03	45.0
Approach			256	1.9	256	1.9	0.136	1.7	NA	0.0	0.3	0.03	0.20	0.03	47.2
East: Arlewis Street															
4	L2	All MCs	2	2.0	2	2.0	0.085	8.0	LOS A	0.1	0.8	0.51	0.96	0.51	37.6
5	T1	All MCs	22	1.8	22	1.8	0.085	10.5	LOS A	0.1	0.8	0.51	0.96	0.51	27.6
6	R2	All MCs	25	2.0	25	2.0	0.085	11.6	LOS A	0.1	0.8	0.51	0.96	0.51	30.8
Approach			49	1.9	49	1.9	0.085	10.9	LOS A	0.1	0.8	0.51	0.96	0.51	30.2
North: Campbell Hill Road															
7	L2	All MCs	15	2.0	15	2.0	0.155	5.5	LOS A	0.3	2.1	0.32	0.38	0.32	38.9
8	T1	All MCs	128	2.0	128	2.0	0.155	0.6	LOS A	0.3	2.1	0.32	0.38	0.32	45.0
9	R2	All MCs	112	1.8	112	1.8	0.155	5.6	LOS A	0.3	2.1	0.32	0.38	0.32	35.1
Approach			255	1.9	255	1.9	0.155	3.1	NA	0.3	2.1	0.32	0.38	0.32	42.5
West: Curtis Road															
10	L2	All MCs	103	1.9	103	1.9	0.271	8.4	LOS A	0.5	3.2	0.45	0.89	0.45	39.3
11	T1	All MCs	40	1.8	40	1.8	0.271	10.9	LOS A	0.5	3.2	0.45	0.89	0.45	40.2
12	R2	All MCs	73	1.9	73	1.9	0.271	11.8	LOS A	0.5	3.2	0.45	0.89	0.45	41.9
Approach			216	1.9	216	1.9	0.271	10.0	LOS A	0.5	3.2	0.45	0.89	0.45	40.5
All Vehicles			776	1.9	776	1.9	0.271	5.1	NA	0.5	3.2	0.27	0.50	0.27	42.4

MOVEMENT SUMMARY – 5.00pm – 6.00pm (Evening) – Base Year 2024 – Curtis Road / Miller Road / Culgoa Bend

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [HV %]	Arrival Flows [Total veh/h]	HV [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Aver. Back Of Queue [Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	7	2.0	7	2.0	0.167	3.4	LOS A	0.4	2.6	0.20	0.50	0.20	44.0
2	T1	All MCs	94	2.0	94	2.0	0.167	3.3	LOS A	0.4	2.6	0.20	0.50	0.20	42.6
3	R2	All MCs	115	2.0	115	2.0	0.167	7.4	LOS A	0.4	2.6	0.20	0.50	0.20	38.9
Approach			216	2.0	216	2.0	0.167	6.5	LOS A	0.4	2.6	0.20	0.50	0.20	41.2
East: Curtis Road															
4	L2	All MCs	41	2.0	41	2.0	0.081	3.8	LOS A	0.2	1.2	0.29	0.53	0.29	43.6
5	T1	All MCs	5	2.0	5	2.0	0.081	3.6	LOS A	0.2	1.2	0.29	0.53	0.29	45.1
6	R2	All MCs	45	2.0	45	2.0	0.081	7.7	LOS A	0.2	1.2	0.29	0.53	0.29	43.2
Approach			92	2.0	92	2.0	0.081	6.7	LOS A	0.2	1.2	0.29	0.53	0.29	43.5
North: Miller Road															
7	L2	All MCs	61	2.0	61	2.0	0.156	3.8	LOS A	0.3	2.4	0.30	0.43	0.30	40.8
8	T1	All MCs	114	2.0	114	2.0	0.156	3.7	LOS A	0.3	2.4	0.30	0.43	0.30	43.9
9	R2	All MCs	4	2.0	4	2.0	0.156	7.8	LOS A	0.3	2.4	0.30	0.43	0.30	44.5
Approach			179	2.0	179	2.0	0.156	3.8	LOS A	0.3	2.4	0.30	0.43	0.30	43.2
West: Culgoa Bend															
10	L2	All MCs	3	2.0	3	2.0	0.008	4.8	LOS A	0.0	0.1	0.47	0.47	0.47	44.2
11	T1	All MCs	3	2.0	3	2.0	0.008	4.7	LOS A	0.0	0.1	0.47	0.47	0.47	42.9
12	R2	All MCs	1	2.0	1	2.0	0.008	8.8	LOS A	0.0	0.1	0.47	0.47	0.47	43.7
Approach			7	2.0	7	2.0	0.008	5.3	LOS A	0.0	0.1	0.47	0.47	0.47	43.7
All Vehicles			494	2.0	494	2.0	0.167	4.9	LOS A	0.4	2.6	0.26	0.48	0.26	42.5

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [HV %]	Arrival Flows [Total veh/h]	HV [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Aver. Back Of Queue [Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	7	2.0	7	2.0	0.178	3.6	LOS A	0.4	2.8	0.21	0.51	0.21	44.0
2	T1	All MCs	94	2.0	94	2.0	0.178	3.3	LOS A	0.4	2.8	0.21	0.51	0.21	42.6
3	R2	All MCs	128	1.8	128	1.8	0.178	7.6	LOS A	0.4	2.8	0.21	0.51	0.21	38.9
Approach			229	1.9	229	1.9	0.178	5.7	LOS A	0.4	2.8	0.21	0.51	0.21	41.2
East: Curtis Road															
4	L2	All MCs	44	1.9	44	1.9	0.089	3.9	LOS A	0.2	1.3	0.30	0.54	0.30	44.1
5	T1	All MCs	6	1.7	6	1.7	0.089	3.8	LOS A	0.2	1.3	0.30	0.54	0.30	46.0
6	R2	All MCs	49	1.8	49	1.8	0.089	7.9	LOS A	0.2	1.3	0.30	0.54	0.30	43.7
Approach			100	1.8	100	1.8	0.089	5.8	LOS A	0.2	1.3	0.30	0.54	0.30	44.0
North: Miller Road															
7	L2	All MCs	67	1.8	67	1.8	0.165	4.0	LOS A	0.4	2.5	0.33	0.44	0.33	40.8
8	T1	All MCs	114	2.0	114	2.0	0.165	3.8	LOS A	0.4	2.5	0.33	0.44	0.33	43.9
9	R2	All MCs	4	2.0	4	2.0	0.165	7.9	LOS A	0.4	2.5	0.33	0.44	0.33	44.5
Approach			185	1.9	185	1.9	0.165	4.0	LOS A	0.4	2.5	0.33	0.44	0.33	43.2
West: Culgoa Bend															
10	L2	All MCs	3	2.0	3	2.0	0.009	4.9	LOS A	0.0	0.1	0.48	0.48	0.48	44.6
11	T1	All MCs	4	1.5	4	1.5	0.009	5.1	LOS A	0.0	0.1	0.48	0.48	0.48	43.5
12	R2	All MCs	1	2.0	1	2.0	0.009	8.9	LOS A	0.0	0.1	0.48	0.48	0.48	44.1
Approach			8	1.8	8	1.8	0.009	5.5	LOS A	0.0	0.1	0.48	0.48	0.48	44.1
All Vehicles			523	1.9	523	1.9	0.178	5.1	LOS A	0.4	2.8	0.27	0.49	0.27	42.6

MOVEMENT SUMMARY – 5.00pm – 6.00pm (Evening) – Base Year 2024 – Curtis Road / Campbell Hill Road / Arlewis Street

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	40	2.0	40	2.0	0.062	4.7	LOS A	0.0	0.4	0.09	0.27	0.09	45.3
2	T1	All MCs	60	2.0	60	2.0	0.062	0.1	LOS A	0.0	0.4	0.09	0.27	0.09	46.3
3	R2	All MCs	15	2.0	15	2.0	0.062	5.0	LOS A	0.0	0.4	0.09	0.27	0.09	44.0
Approach			115	2.0	115	2.0	0.062	2.3	NA	0.0	0.4	0.09	0.27	0.09	45.6
East: Arlewis Street															
4	L2	All MCs	1	2.0	1	2.0	0.037	7.9	LOS A	0.1	0.4	0.44	0.91	0.44	38.4
5	T1	All MCs	11	2.0	11	2.0	0.037	9.2	LOS A	0.1	0.4	0.44	0.91	0.44	28.9
6	R2	All MCs	14	2.0	14	2.0	0.037	10.2	LOS A	0.1	0.4	0.44	0.91	0.44	31.8
Approach			25	2.0	25	2.0	0.037	9.7	LOS A	0.1	0.4	0.44	0.91	0.44	31.3
North: Campbell Hill Road															
7	L2	All MCs	17	2.0	17	2.0	0.145	4.9	LOS A	0.3	2.0	0.20	0.34	0.20	39.0
8	T1	All MCs	106	2.0	106	2.0	0.145	0.3	LOS A	0.3	2.0	0.20	0.34	0.20	45.1
9	R2	All MCs	129	2.0	129	2.0	0.145	4.9	LOS A	0.3	2.0	0.20	0.34	0.20	35.3
Approach			253	2.0	253	2.0	0.145	3.0	NA	0.3	2.0	0.20	0.34	0.20	42.0
West: Curtis Road															
10	L2	All MCs	102	2.0	102	2.0	0.152	7.8	LOS A	0.3	1.8	0.23	0.90	0.23	39.9
11	T1	All MCs	34	2.0	34	2.0	0.152	9.5	LOS A	0.3	1.8	0.23	0.90	0.23	40.7
12	R2	All MCs	23	2.0	23	2.0	0.152	9.9	LOS A	0.3	1.8	0.23	0.90	0.23	42.3
Approach			159	2.0	159	2.0	0.152	8.4	LOS A	0.3	1.8	0.23	0.90	0.23	40.5
All Vehicles			552	2.0	552	2.0	0.152	4.7	NA	0.3	2.0	0.20	0.51	0.20	41.7

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	44	1.8	44	1.8	0.065	4.8	LOS A	0.0	0.4	0.09	0.28	0.09	45.3
2	T1	All MCs	60	2.0	60	2.0	0.065	0.1	LOS A	0.0	0.4	0.09	0.28	0.09	46.4
3	R2	All MCs	15	2.0	15	2.0	0.065	5.0	LOS A	0.0	0.4	0.09	0.28	0.09	44.1
Approach			119	1.9	119	1.9	0.065	2.4	NA	0.0	0.4	0.09	0.28	0.09	45.7
East: Arlewis Street															
4	L2	All MCs	1	2.0	1	2.0	0.041	7.9	LOS A	0.1	0.4	0.45	0.92	0.45	38.4
5	T1	All MCs	13	1.7	13	1.7	0.041	9.4	LOS A	0.1	0.4	0.45	0.92	0.45	28.9
6	R2	All MCs	14	2.0	14	2.0	0.041	10.5	LOS A	0.1	0.4	0.45	0.92	0.45	31.8
Approach			27	1.8	27	1.8	0.041	9.9	LOS A	0.1	0.4	0.45	0.92	0.45	31.2
North: Campbell Hill Road															
7	L2	All MCs	17	2.0	17	2.0	0.155	4.9	LOS A	0.3	2.2	0.21	0.35	0.21	38.9
8	T1	All MCs	106	2.0	106	2.0	0.155	0.3	LOS A	0.3	2.2	0.21	0.35	0.21	44.9
9	R2	All MCs	144	1.8	144	1.8	0.155	5.0	LOS A	0.3	2.2	0.21	0.35	0.21	35.0
Approach			267	1.9	267	1.9	0.155	3.1	NA	0.3	2.2	0.21	0.35	0.21	41.6
West: Curtis Road															
10	L2	All MCs	111	1.8	111	1.8	0.166	7.8	LOS A	0.3	2.0	0.23	0.89	0.23	40.2
11	T1	All MCs	36	1.9	36	1.9	0.166	9.7	LOS A	0.3	2.0	0.23	0.89	0.23	41.0
12	R2	All MCs	25	1.8	25	1.8	0.166	10.2	LOS A	0.3	2.0	0.23	0.89	0.23	42.7
Approach			172	1.9	172	1.9	0.166	8.6	LOS A	0.3	2.0	0.23	0.89	0.23	40.9
All Vehicles			585	1.9	585	1.9	0.166	4.9	NA	0.3	2.2	0.20	0.52	0.20	41.7

MOVEMENT SUMMARY – 1.00pm – 2.00pm (Afternoon) – Future Year 2034 – Curtis Road / Miller Road / Culgoa Bend

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [ ] %	Arrival Flows [Total veh/h]	HV [ ] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh veh]	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	11	2.0	11	2.0	0.281	3.7	LOS A	0.7	5.1	0.32	0.47	0.32	44.1
2	T1	All MCs	213	2.0	213	2.0	0.281	3.6	LOS A	0.7	5.1	0.32	0.47	0.32	42.8
3	R2	All MCs	121	2.0	121	2.0	0.281	7.7	LOS A	0.7	5.1	0.32	0.47	0.32	39.1
Approach			346	2.0	346	2.0	0.281	5.0	LOS A	0.7	5.1	0.32	0.47	0.32	42.0
East: Curtis Road															
4	L2	All MCs	92	2.0	92	2.0	0.174	4.6	LOS A	0.4	2.7	0.45	0.57	0.45	43.3
5	T1	All MCs	4	2.0	4	2.0	0.174	4.4	LOS A	0.4	2.7	0.45	0.57	0.45	44.9
6	R2	All MCs	80	2.0	80	2.0	0.174	8.5	LOS A	0.4	2.7	0.45	0.57	0.45	42.9
Approach			176	2.0	176	2.0	0.174	6.4	LOS A	0.4	2.7	0.45	0.57	0.45	43.2
North: Miller Road															
7	L2	All MCs	106	2.0	106	2.0	0.285	4.0	LOS A	0.7	5.0	0.37	0.44	0.37	40.2
8	T1	All MCs	212	2.0	212	2.0	0.285	3.9	LOS A	0.7	5.0	0.37	0.44	0.37	43.5
9	R2	All MCs	13	2.0	13	2.0	0.285	8.0	LOS A	0.7	5.0	0.37	0.44	0.37	44.2
Approach			331	2.0	331	2.0	0.285	4.1	LOS A	0.7	5.0	0.37	0.44	0.37	42.9
West: Culgoa Bend															
10	L2	All MCs	1	2.0	1	2.0	0.020	6.0	LOS A	0.0	0.3	0.59	0.60	0.59	42.4
11	T1	All MCs	6	2.0	6	2.0	0.020	6.0	LOS A	0.0	0.3	0.59	0.60	0.59	40.4
12	R2	All MCs	9	2.0	9	2.0	0.020	10.1	LOS A	0.0	0.3	0.59	0.60	0.59	42.0
Approach			16	2.0	16	2.0	0.020	8.2	LOS A	0.0	0.3	0.59	0.60	0.59	41.5
All Vehicles			869	2.0	869	2.0	0.285	5.0	LOS A	0.7	5.1	0.37	0.49	0.37	42.6

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [ ] %	Arrival Flows [Total veh/h]	HV [ ] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh veh]	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	11	2.0	11	2.0	0.293	3.8	LOS A	0.8	5.4	0.33	0.48	0.33	44.1
2	T1	All MCs	213	2.0	213	2.0	0.293	3.6	LOS A	0.8	5.4	0.33	0.48	0.33	42.8
3	R2	All MCs	134	1.8	134	1.8	0.293	7.8	LOS A	0.8	5.4	0.33	0.48	0.33	39.1
Approach			359	1.9	359	1.9	0.293	5.2	LOS A	0.8	5.4	0.33	0.48	0.33	41.9
East: Curtis Road															
4	L2	All MCs	97	1.9	97	1.9	0.184	4.6	LOS A	0.4	2.9	0.45	0.58	0.45	43.6
5	T1	All MCs	5	1.5	5	1.5	0.184	4.7	LOS A	0.4	2.9	0.45	0.58	0.45	45.9
6	R2	All MCs	83	1.9	83	1.9	0.184	8.6	LOS A	0.4	2.9	0.45	0.58	0.45	43.2
Approach			186	1.9	186	1.9	0.184	6.4	LOS A	0.4	2.9	0.45	0.58	0.45	43.5
North: Miller Road															
7	L2	All MCs	117	1.8	117	1.8	0.300	4.2	LOS A	0.7	5.3	0.40	0.46	0.40	40.2
8	T1	All MCs	212	2.0	212	2.0	0.300	4.0	LOS A	0.7	5.3	0.40	0.46	0.40	43.5
9	R2	All MCs	13	2.0	13	2.0	0.300	8.1	LOS A	0.7	5.3	0.40	0.46	0.40	44.2
Approach			342	1.9	342	1.9	0.300	4.2	LOS A	0.7	5.3	0.40	0.46	0.40	42.8
West: Culgoa Bend															
10	L2	All MCs	1	2.0	1	2.0	0.022	6.2	LOS A	0.1	0.4	0.60	0.60	0.60	42.7
11	T1	All MCs	8	1.7	8	1.7	0.022	6.3	LOS A	0.1	0.4	0.60	0.60	0.60	40.8
12	R2	All MCs	9	2.0	9	2.0	0.022	10.2	LOS A	0.1	0.4	0.60	0.60	0.60	42.3
Approach			18	1.9	18	1.9	0.022	8.3	LOS A	0.1	0.4	0.60	0.60	0.60	41.8
All Vehicles			904	1.9	904	1.9	0.300	5.1	LOS A	0.8	5.4	0.38	0.49	0.38	42.6

MOVEMENT SUMMARY – 1.00pm – 2.00pm (Afternoon) – Future Year 2034 – Curtis Road / Campbell Hill Road / Arlewis Street

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [HV %]	Arrival Flows [Total veh/h]	HV [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	[Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	87	2.0	87	2.0	0.158	4.6	LOS A	0.0	0.3	0.04	0.19	0.04	46.8
2	T1	All MCs	198	2.0	198	2.0	0.158	0.0	LOS A	0.0	0.3	0.04	0.19	0.04	47.5
3	R2	All MCs	11	2.0	11	2.0	0.158	5.1	LOS A	0.0	0.3	0.04	0.19	0.04	45.0
Approach			297	2.0	297	2.0	0.158	1.6	NA	0.0	0.3	0.04	0.19	0.04	47.2
East: Arlewis Street															
4	L2	All MCs	3	2.0	3	2.0	0.110	8.1	LOS A	0.2	1.1	0.55	0.99	0.55	36.8
5	T1	All MCs	24	2.0	24	2.0	0.110	11.3	LOS A	0.2	1.1	0.55	0.99	0.55	26.3
6	R2	All MCs	30	2.0	30	2.0	0.110	12.8	LOS A	0.2	1.1	0.55	0.99	0.55	29.8
Approach			57	2.0	57	2.0	0.110	12.0	LOS A	0.2	1.1	0.55	0.99	0.55	29.2
North: Campbell Hill Road															
7	L2	All MCs	18	2.0	18	2.0	0.181	5.7	LOS A	0.3	2.4	0.34	0.39	0.34	38.9
8	T1	All MCs	154	2.0	154	2.0	0.181	0.8	LOS A	0.3	2.4	0.34	0.39	0.34	45.0
9	R2	All MCs	121	2.0	121	2.0	0.181	5.7	LOS A	0.3	2.4	0.34	0.39	0.34	35.1
Approach			293	2.0	293	2.0	0.181	3.1	NA	0.3	2.4	0.34	0.39	0.34	42.6
West: Curtis Road															
10	L2	All MCs	117	2.0	117	2.0	0.332	8.8	LOS A	0.6	4.6	0.52	0.91	0.57	38.4
11	T1	All MCs	44	2.0	44	2.0	0.332	12.2	LOS A	0.6	4.6	0.52	0.91	0.57	39.2
12	R2	All MCs	82	2.0	82	2.0	0.332	13.4	LOS A	0.6	4.6	0.52	0.91	0.57	41.0
Approach			244	2.0	244	2.0	0.332	11.0	LOS A	0.6	4.6	0.52	0.91	0.57	39.6
All Vehicles			891	2.0	891	2.0	0.332	5.3	NA	0.6	4.6	0.30	0.51	0.32	41.9

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV [HV %]	Arrival Flows [Total veh/h]	HV [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	[Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	97	1.8	97	1.8	0.164	4.7	LOS A	0.0	0.3	0.04	0.20	0.04	46.8
2	T1	All MCs	198	2.0	198	2.0	0.164	0.0	LOS A	0.0	0.3	0.04	0.20	0.04	47.5
3	R2	All MCs	11	2.0	11	2.0	0.164	5.1	LOS A	0.0	0.3	0.04	0.20	0.04	45.0
Approach			307	1.9	307	1.9	0.164	1.7	NA	0.0	0.3	0.04	0.20	0.04	47.2
East: Arlewis Street															
4	L2	All MCs	3	2.0	3	2.0	0.118	8.1	LOS A	0.2	1.1	0.56	1.00	0.56	36.7
5	T1	All MCs	27	1.8	27	1.8	0.118	11.6	LOS A	0.2	1.1	0.56	1.00	0.56	26.2
6	R2	All MCs	30	2.0	30	2.0	0.118	13.2	LOS A	0.2	1.1	0.56	1.00	0.56	29.7
Approach			59	1.9	59	1.9	0.118	12.2	LOS A	0.2	1.1	0.56	1.00	0.56	28.9
North: Campbell Hill Road															
7	L2	All MCs	18	2.0	18	2.0	0.191	5.7	LOS A	0.4	2.7	0.36	0.42	0.36	38.7
8	T1	All MCs	154	2.0	154	2.0	0.191	0.8	LOS A	0.4	2.7	0.36	0.42	0.36	44.8
9	R2	All MCs	134	1.8	134	1.8	0.191	5.9	LOS A	0.4	2.7	0.36	0.42	0.36	34.6
Approach			306	1.9	306	1.9	0.191	3.3	NA	0.4	2.7	0.36	0.42	0.36	42.2
West: Curtis Road															
10	L2	All MCs	124	1.9	124	1.9	0.360	9.1	LOS A	0.8	5.3	0.54	0.93	0.63	38.3
11	T1	All MCs	48	1.8	48	1.8	0.360	12.8	LOS A	0.8	5.3	0.54	0.93	0.63	39.2
12	R2	All MCs	87	1.9	87	1.9	0.360	14.1	LOS A	0.8	5.3	0.54	0.93	0.63	41.1
Approach			259	1.9	259	1.9	0.360	11.5	LOS A	0.8	5.3	0.54	0.93	0.63	39.6
All Vehicles			931	1.9	931	1.9	0.360	5.6	NA	0.8	5.3	0.32	0.53	0.34	41.8

MOVEMENT SUMMARY – 5.00pm – 6.00pm (Evening) – Future Year 2034 – Curtis Road / Miller Road / Culgoa Bend

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	9	2.0	9	2.0	0.202	3.5	LOS A	0.5	3.3	0.23	0.50	0.23	43.9
2	T1	All MCs	112	2.0	112	2.0	0.202	3.3	LOS A	0.5	3.3	0.23	0.50	0.23	42.5
3	R2	All MCs	138	2.0	138	2.0	0.202	7.4	LOS A	0.5	3.3	0.23	0.50	0.23	38.7
Approach			259	2.0	259	2.0	0.202	5.5	LOS A	0.5	3.3	0.23	0.50	0.23	41.1
East: Curtis Road															
4	L2	All MCs	49	2.0	49	2.0	0.100	3.9	LOS A	0.2	1.5	0.33	0.54	0.33	43.5
5	T1	All MCs	6	2.0	6	2.0	0.100	3.8	LOS A	0.2	1.5	0.33	0.54	0.33	46.0
6	R2	All MCs	54	2.0	54	2.0	0.100	7.9	LOS A	0.2	1.5	0.33	0.54	0.33	43.1
Approach			110	2.0	110	2.0	0.100	5.9	LOS A	0.2	1.5	0.33	0.54	0.33	43.4
North: Miller Road															
7	L2	All MCs	73	2.0	73	2.0	0.192	4.0	LOS A	0.4	3.0	0.35	0.44	0.35	40.4
8	T1	All MCs	136	2.0	136	2.0	0.192	3.9	LOS A	0.4	3.0	0.35	0.44	0.35	43.7
9	R2	All MCs	5	2.0	5	2.0	0.192	8.0	LOS A	0.4	3.0	0.35	0.44	0.35	44.4
Approach			215	2.0	215	2.0	0.192	4.0	LOS A	0.4	3.0	0.35	0.44	0.36	43.0
West: Culgoa Bend															
10	L2	All MCs	4	2.0	4	2.0	0.010	5.1	LOS A	0.0	0.2	0.51	0.50	0.51	43.9
11	T1	All MCs	4	2.0	4	2.0	0.010	5.1	LOS A	0.0	0.2	0.51	0.50	0.51	42.5
12	R2	All MCs	1	2.0	1	2.0	0.010	9.2	LOS A	0.0	0.2	0.51	0.50	0.51	43.5
Approach			9	2.0	9	2.0	0.010	5.7	LOS A	0.0	0.2	0.51	0.50	0.51	43.4
All Vehicles			592	2.0	592	2.0	0.202	5.0	LOS A	0.5	3.3	0.30	0.49	0.30	42.4

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV %]	Arrival Flows [Total veh/h	HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller Road															
1	L2	All MCs	9	2.0	9	2.0	0.216	3.5	LOS A	0.5	3.6	0.25	0.51	0.25	43.9
2	T1	All MCs	112	2.0	112	2.0	0.216	3.4	LOS A	0.5	3.6	0.25	0.51	0.25	42.5
3	R2	All MCs	154	1.8	154	1.8	0.216	7.6	LOS A	0.5	3.6	0.25	0.51	0.25	38.7
Approach			275	1.9	275	1.9	0.216	5.8	LOS A	0.5	3.6	0.25	0.51	0.25	41.0
East: Curtis Road															
4	L2	All MCs	53	1.9	53	1.9	0.109	4.0	LOS A	0.2	1.6	0.34	0.55	0.34	44.0
5	T1	All MCs	8	1.7	8	1.7	0.109	4.0	LOS A	0.2	1.6	0.34	0.55	0.34	45.9
6	R2	All MCs	59	1.8	59	1.8	0.109	8.0	LOS A	0.2	1.6	0.34	0.55	0.34	43.6
Approach			120	1.8	120	1.8	0.109	6.0	LOS A	0.2	1.6	0.34	0.55	0.34	43.9
North: Miller Road															
7	L2	All MCs	81	1.8	81	1.8	0.203	4.2	LOS A	0.4	3.2	0.37	0.46	0.37	40.4
8	T1	All MCs	136	2.0	136	2.0	0.203	4.0	LOS A	0.4	3.2	0.37	0.46	0.37	43.7
9	R2	All MCs	5	2.0	5	2.0	0.203	8.1	LOS A	0.4	3.2	0.37	0.46	0.37	44.3
Approach			222	1.9	222	1.9	0.203	4.2	LOS A	0.4	3.2	0.37	0.46	0.37	42.9
West: Culgoa Bend															
10	L2	All MCs	4	2.0	4	2.0	0.011	5.3	LOS A	0.0	0.2	0.52	0.51	0.52	44.4
11	T1	All MCs	5	1.5	5	1.5	0.011	5.5	LOS A	0.0	0.2	0.52	0.51	0.52	43.1
12	R2	All MCs	1	2.0	1	2.0	0.011	9.3	LOS A	0.0	0.2	0.52	0.51	0.52	43.9
Approach			10	1.8	10	1.8	0.011	5.9	LOS A	0.0	0.2	0.52	0.51	0.52	43.8
All Vehicles			628	1.9	628	1.9	0.216	5.2	LOS A	0.5	3.6	0.31	0.50	0.31	42.5

MOVEMENT SUMMARY – 5.00pm – 6.00pm (Evening) – Future Year 2034 – Curtis Road / Campbell Hill Road / Arlewis Street

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	48	2.0	48	2.0	0.075	4.7	LOS A	0.1	0.4	0.10	0.28	0.10	45.2
2	T1	All MCs	72	2.0	72	2.0	0.075	0.1	LOS A	0.1	0.4	0.10	0.28	0.10	46.2
3	R2	All MCs	18	2.0	18	2.0	0.075	5.1	LOS A	0.1	0.4	0.10	0.28	0.10	44.0
Approach			138	2.0	138	2.0	0.075	2.4	NA	0.1	0.4	0.10	0.28	0.10	45.6
East: Arlewis Street															
4	L2	All MCs	1	2.0	1	2.0	0.050	8.0	LOS A	0.1	0.5	0.48	0.94	0.48	37.8
5	T1	All MCs	13	2.0	13	2.0	0.050	9.8	LOS A	0.1	0.5	0.48	0.94	0.48	27.9
6	R2	All MCs	16	2.0	16	2.0	0.050	11.3	LOS A	0.1	0.5	0.48	0.94	0.48	31.1
Approach			30	2.0	30	2.0	0.050	10.5	LOS A	0.1	0.5	0.48	0.94	0.48	30.5
North: Campbell Hill Road															
7	L2	All MCs	20	2.0	20	2.0	0.176	5.0	LOS A	0.3	2.5	0.23	0.35	0.23	38.9
8	T1	All MCs	128	2.0	128	2.0	0.176	0.3	LOS A	0.3	2.5	0.23	0.35	0.23	44.9
9	R2	All MCs	155	2.0	155	2.0	0.176	5.0	LOS A	0.3	2.5	0.23	0.35	0.23	35.0
Approach			303	2.0	303	2.0	0.176	3.0	NA	0.3	2.5	0.23	0.35	0.23	41.8
West: Curtis Road															
10	L2	All MCs	123	2.0	123	2.0	0.192	7.8	LOS A	0.3	2.3	0.27	0.88	0.27	39.7
11	T1	All MCs	40	2.0	40	2.0	0.192	10.3	LOS A	0.3	2.3	0.27	0.88	0.27	40.5
12	R2	All MCs	28	2.0	28	2.0	0.192	10.8	LOS A	0.3	2.3	0.27	0.88	0.27	42.1
Approach			191	2.0	191	2.0	0.192	8.8	LOS A	0.3	2.3	0.27	0.88	0.27	40.3
All Vehicles			662	2.0	662	2.0	0.192	4.9	NA	0.3	2.5	0.23	0.51	0.23	41.5

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	HV %	Arrival Flows [Total veh/h]	HV %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Campbell Hill Road															
1	L2	All MCs	53	1.8	53	1.8	0.078	4.8	LOS A	0.1	0.4	0.10	0.29	0.10	45.3
2	T1	All MCs	72	2.0	72	2.0	0.078	0.1	LOS A	0.1	0.4	0.10	0.29	0.10	46.3
3	R2	All MCs	18	2.0	18	2.0	0.078	5.1	LOS A	0.1	0.4	0.10	0.29	0.10	44.0
Approach			143	1.9	143	1.9	0.078	2.5	NA	0.1	0.4	0.10	0.29	0.10	45.6
East: Arlewis Street															
4	L2	All MCs	1	2.0	1	2.0	0.056	8.0	LOS A	0.1	0.5	0.50	0.95	0.50	37.8
5	T1	All MCs	15	1.7	15	1.7	0.056	10.1	LOS A	0.1	0.5	0.50	0.95	0.50	27.9
6	R2	All MCs	16	2.0	16	2.0	0.056	11.7	LOS A	0.1	0.5	0.50	0.95	0.50	31.0
Approach			33	1.8	33	1.8	0.056	10.8	LOS A	0.1	0.5	0.50	0.95	0.50	30.3
North: Campbell Hill Road															
7	L2	All MCs	20	2.0	20	2.0	0.188	5.0	LOS A	0.4	2.7	0.24	0.36	0.24	38.7
8	T1	All MCs	128	2.0	128	2.0	0.188	0.4	LOS A	0.4	2.7	0.24	0.36	0.24	44.8
9	R2	All MCs	173	1.8	173	1.8	0.188	5.1	LOS A	0.4	2.7	0.24	0.36	0.24	34.6
Approach			321	1.9	321	1.9	0.188	3.2	NA	0.4	2.7	0.24	0.36	0.24	41.4
West: Curtis Road															
10	L2	All MCs	133	1.8	133	1.8	0.210	7.9	LOS A	0.4	2.6	0.28	0.88	0.28	40.0
11	T1	All MCs	43	1.9	43	1.9	0.210	10.6	LOS A	0.4	2.6	0.28	0.88	0.28	40.8
12	R2	All MCs	30	1.8	30	1.8	0.210	11.2	LOS A	0.4	2.6	0.28	0.88	0.28	42.5
Approach			206	1.9	206	1.9	0.210	8.9	LOS A	0.4	2.6	0.28	0.88	0.28	40.6
All Vehicles			702	1.9	702	1.9	0.210	5.1	NA	0.4	2.7	0.24	0.53	0.24	41.4