

A photograph of a paved road with white lane markings, a grassy verge, and several trees under a blue sky with scattered clouds. The road is in the foreground, and the background shows a residential or resort area with more trees and a fence.

TRAFFIC & PARKING ASSESSMENT

MANUFACTURED HOME ESTATE / LIFESTYLE RESORT

**LOTS 7 & 8 DP 810442 AND LOT 11 DP 597659
27 – 33 METFORD ROAD, TENAMBIT**

PREPARED FOR: REGAL HUNTER PROPERTY PTY LTD

MAY 2024

23/156

**TRAFFIC & PARKING ASSESSMENT
REGAL HUNTER PROPERTY PTY LTD****MANUFACTURED HOME ESTATE / LIFESTYLE RESORT
LOTS 7 & 8 DP 810442 AND LOT 11 DP 597659
27 – 33 METFORD ROAD, TENAMBIT**

Intersect Traffic Pty Ltd (ABN: 43 112 606 952)

Address:16 Mount Harris Drive
Maitland Vale NSW 2320
PO Box 268
East Maitland NSW 2323**Contact:**(Mob) 0423 324 188
Email: jeff@intersecttraffic.com.au**QUALITY ASSURANCE**

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

Issue	Date	Description	By
A	19/02/24	Draft	JG
B	20/02/24	Edit	JG
C	05/05/24	Final Proof/Amended plan additional site	JG
D	05/05/24	Approved	JG

Copyright © Intersect Traffic Pty Ltd

This document has been authorised by


Date 5th May 2024**Disclaimer**

This report has been prepared based on the information supplied by the client and investigation undertaken by Intersect Traffic Pty Ltd & other consultants. Recommendations are based on Intersect Traffic's professional judgement only and whilst every effort has been taken to provide accurate advice, Council and any other regulatory authorities may not concur with the recommendations expressed within this report. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Intersect Traffic Pty Ltd. Intersect Traffic makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

Confidentiality Statement

All information, concepts, ideas, strategies, commercial data, and all other information whatsoever contained within this document as well as any and all ideas and concepts described during the presentation are provided on a commercial in confidence basis and remain the intellectual property and Copyright of Intersect Traffic Pty Ltd and affiliated entities.

CONTENTS

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION	2
3.0 EXISTING ROAD NETWORK	4
3.1 METFORD ROAD	4
3.2 MAIZE STREET	4
4.0 ROAD NETWORK IMPROVEMENTS	5
5.0 TRAFFIC VOLUMES	5
6.0 ROAD CAPACITY	6
7.0 ALTERNATE TRANSPORT MODES	6
8.0 DEVELOPMENT PROPOSAL	7
9.0 TRAFFIC GENERATION	8
10.0 TRIP DISTRIBUTION	10
11.0 TRAFFIC IMPACTS OF DEVELOPMENT	11
11.1 ROAD NETWORK TWO-WAY MID-BLOCK CAPACITY	11
11.2 INTERSECTION CAPACITY	11
11.3 ACCESS	13
11.4 OFF-STREET PARKING	13
12.0 PEDESTRIAN FACILITIES	14
13.0 ALTERNATE TRANSPORT MODE FACILITIES	14
14.0 CONCLUSIONS	15
15.0 RECOMMENDATION	15

ATTACHMENTS

ATTACHMENT A	DEVELOPMENT PLANS
ATTACHMENT B	TRAFFIC DATA
ATTACHMENT C	SIDRA SUMMARY TABLES

FIGURES

<i>Figure 1 – Site Location.</i>	<i>2</i>
<i>Figure 2 – Bus Route Map Extract</i>	<i>7</i>
<i>Figure 3 – Development Traffic Distribution</i>	<i>10</i>

PHOTOGRAPHS

<i>Photograph 1 – Development site from Metford Road.</i>	<i>3</i>
<i>Photograph 2 – Development site from Regal Hotel.</i>	<i>3</i>
<i>Photograph 3 – Metford Road along the site frontage.</i>	<i>4</i>
<i>Photograph 4 – Maize Street west of Metford Road.</i>	<i>5</i>

TABLES

<i>Table 1 – Existing and future traffic volumes near the site.</i>	<i>6</i>
<i>Table 2 – Traffic Generation Rates Surveyed Lifestyle Villages -</i>	<i>8</i>
<i>Table 3 - Road Capacity Assessment</i>	<i>11</i>
<i>Table 4 – Metford Road / Maize Street – Sidra Modelling – Results Summary</i>	<i>12</i>



1.0 INTRODUCTION

Intersect Traffic Pty Ltd (Intersect Traffic) was engaged by Regal Hunter Property Pty Ltd to prepare a Traffic and Parking Assessment Report for a proposed manufactured home estate / lifestyle resort on Lots 7 & 8 DP 810442 and Lot 11 DP 597659, 27 - 33 Metford Road, Tenambit. The resort yields 101 manufactured home sites. The site will be serviced by an entry access directly off Metford Road approximately 50 metres north of Ribee Street and 40 metres south of the Regal Hotel exit driveway. The development concept plans are shown in **Attachment A**.

This report is required to support a development application to Maitland City Council and presents the findings of the traffic and parking assessment including the following:

1. An outline of the existing situation in the vicinity of 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. Reviews parking, public transport, pedestrian, and cycle way requirements for the proposed development, including assessment against Council, Local Government Regulations, Australian Standards and Transport for NSW (TfNSW) standards and requirements; and
4. Presentation of conclusions and recommendations.

2.0 SITE DESCRIPTION

The subject site is shown in **Figure 1** below. It is located on the eastern side of Metford Road, Tenambit approximately 650 metres north of Maize Street. The site is immediately south of the Regal Hotel, Tenambit and is approximately 1.5 km's north-east of the Tenambit Local Shopping Village and 3.6 km's north-east of the Greenhills Shopping Centre.

The site is currently vacant and is addressed as 27 – 33 Metford Road, Tenambit. The property is titled Lots 7 & 8 DP 810442 and Lot 11 DP 597659 and has a total area of approximately 5.4 ha's. The site is currently zoned RU2 – Rural Landscape pursuant to the Maitland LEP (2011). The site currently is only serviced by rural residential gravel access off Metford Road at the southern boundary of the site. The development site is shown in **Photographs 1 & 2** below.

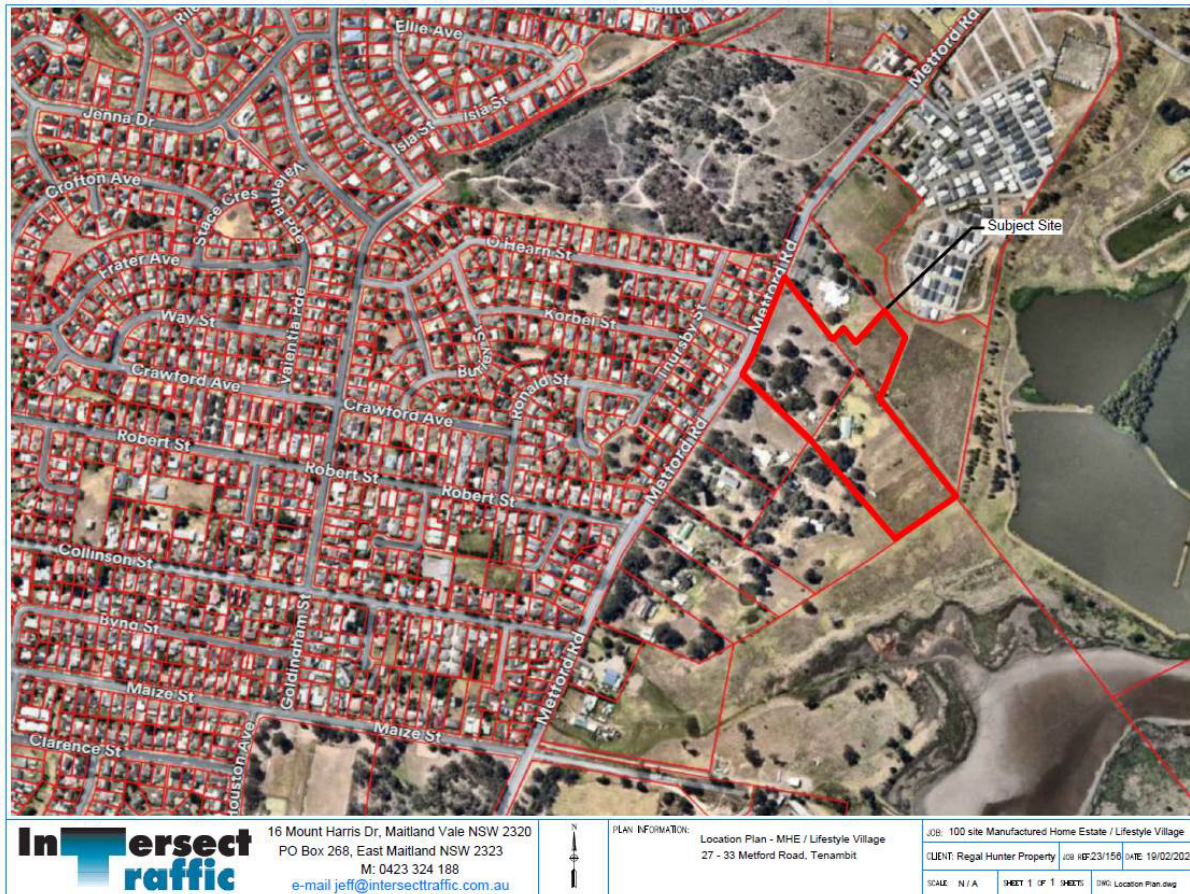


Figure 1 – Site Location.



Photograph 1 – Development site from Metford Road.



Photograph 2 – Development site from Regal Hotel.

3.0 EXISTING ROAD NETWORK

3.1 Metford Road

Metford Road is a local collector road that collects and distributes traffic from Morpeth and Tenambit to the arterial road network being either Raymond Terrace Road or the New England Highway at East Maitland and Metford. As a local road it is under the care and control of Maitland City Council and a 60 km/h speed zoning applies past the site.

Near the site Metford Road is a two-lane two-way urban road with kerb and gutter on both sides of the road and a 12.5 metre carriageway which is centre line and edge line marked. It therefore provides for two travel lanes one in each direction and a parking lane on both sides of the road. At the time of inspection Metford Road was observed to be in good condition as shown in **Photograph 3** below.



Photograph 3 – Metford Road along the site frontage.

3.2 Maize Street

Maize Street near the site is a local collector road providing access to Metford Road in the south and eventually Morpeth Road in the north for residents of Tenambit. It also provides access to the local Tenambit Shopping Village and would be used by residents of the development when accessing the Maitland CBD or travelling west of Maitland. As a local road it is under the care and control of Maitland City Council and a 50 km/h speed zoning applies to the road. (See **Photograph 4**). It is a two-lane two-way urban road with kerb and gutter along both sides of the road and has a carriageway width of approximately 10 metres. It is centre line marked and provides for a single lane of traffic in each direction and some on-street car parking. Maize Street intersects with Metford Road at a basic right turn / basic left turn (BAR/BAL) give way priority-controlled T-intersection 650 metres south of the site. At the time of inspection Maize Street was observed to be in good condition as shown in **Photograph 4** below.



Photograph 4 – Maize Street west of Metford Road.

4.0 ROAD NETWORK IMPROVEMENTS

There are no known future road network improvements that will increase the capacity of the local road network. Maintenance and improvements to the existing local road network will be undertaken in future in line with Maitland City Council works programs.

5.0 TRAFFIC VOLUMES

Northern Transport Planning and Engineering (NTPE) on behalf of Intersect Traffic undertook a traffic classifier count on Metford Road near the site from Thursday 1st February 2024 until Wednesday 7th February 2024. The classifier count identified the peak two-way mid-block traffic volumes on Metford Road as;

- ◆ AM peak – 711 vtpm on Friday 2nd February 2024 between 8 am and 9 am; and
- ◆ PM peak – 783 vtpm on Friday 2nd February 2024 between 3 pm and 4 pm.

NTPE also undertook a manual traffic count at the Metford Road / Maize Street intersection on Thursday 1st February 2024. These counts were undertaken between 7 am – 9 am and 3.00 pm to 6 pm as they represent the periods when the peak road network traffic flows would occur. The peak hour periods identified by the count were 8 am – 9 am and 3 pm to 4 pm which is consistent with the traffic classifier results except that the count was not taken on the peak day being Friday 2nd February. A review of the results indicate that the AM count on Thursday was 90% of the Friday AM count and the PM count on Thursday was 91 % of the Friday PM count. The results of these traffic counts are provided in **Attachment B**.

The resulting mid-block traffic volumes calculated from these counts are shown in **Table 1** below with future 2034 traffic predicted using a 1.5 % per annum background traffic growth recommended by TfNSW. These existing and future volumes have been adopted in this assessment.

Table 1 – Existing and future traffic volumes near the site.

Road	Section	2024		2034 @ 1.5% p.a.	
		AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)
Metford Road	north of Maize Street	854	821	991	953
Metford Road	south of Maize Street	1061	1071	1231	1243
Metford Road	site frontage	711	783	825	909
Maize Street	west of Metford Road	427	468	496	543

6.0 ROAD CAPACITY

The capacity of urban roads is generally determined by the capacity of intersections. However, Table 4.3 of the RTA’s ‘Guide to Traffic Generating Developments’ provides some guidance on mid-block capacities for urban roads for a level of service (LoS) C. This table is reproduced below.

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

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

Based on this table it is considered that both Metford Road and Maize Street would have a two-way mid-block capacity of up to 1,800 vtph on the assumption that a LoS C or better was desirable on urban roads, as both are two-way undivided roads with single lane capacities of 900 vtph.

From the traffic volume data provided in **Section 5** above, for this assessment it can be seen that as existing peak traffic volumes for Metford Road and Maize Street are less than the determined road capacities above, there is existing spare capacity within the local road network to cater for additional traffic generated by developments in the area.

7.0 ALTERNATE TRANSPORT MODES

Hunter Valley Buses run public bus services in the Tenambit area. Route 183 (Tenambit Loop – Greenhills Gardens – East Maitland – Maitland – Telarah – Rutherford Loop runs along Robert Street and Collinson Street very near the site. The route operates frequently Monday to Friday with less services Saturday and Sunday. This bus route also connects to Greenhills Shopping Centre, other bus routes at various bus interchanges and railway stations, provide access to hospitals, shopping centres in nearby suburbs along its route and opportunities for travel further afar. Route 183 and some adjoining routes and railway stations are shown in the extract of the bus route map in **Figure 2** below.

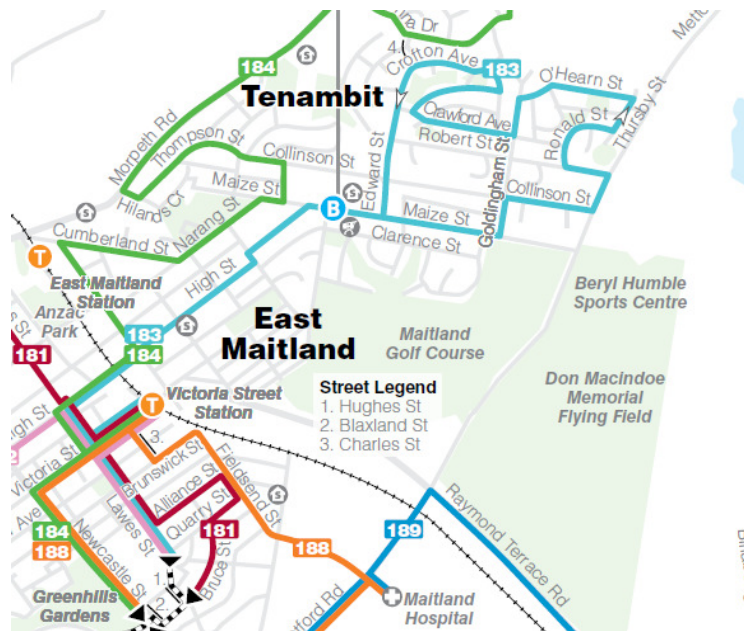


Figure 2 – Bus Route Map Extract

The nearest bus stops to the site are in Thursby Street near Korbel Street approximately 220 metres from the site and on Metford Road near Robert Street approximately 300 metres from the site. Therefore, it is concluded that the existing Hunter Valley Buses service 183 from Rutherford to Greenhills via Tenambit provides a suitable and frequent bus service for the future residents of the Lifestyle Village that connects the site to all the major retail, commercial, medical and transport precincts in the Maitland area.

There are no concrete footpaths or on and off-road cycleways in the vicinity of the site until Maize Street. Maize Street has an off-road shared pathway running from Metford Road to Houston Avenue (see **Photograph 4**) and then a 1.2-metre-wide concrete footpath running through to the local Tenambit Shopping Village. However, the footpath areas on the local road network are general level and well grassed and suitable for pedestrian use as shown in **Photograph 3** above.

The existing park lanes on Metford Road (also see **Photograph 3** above) are generally underutilised and suitable for relatively safe cycling along the road.

8.0 DEVELOPMENT PROPOSAL

The development proposal is to construct a 101-site manufactured home estate / lifestyle resort on existing vacant land at Lots 7 & 8 DP 810442 and Lot 11 DP 597659, 27 - 33 Metford Road, Tenambit. Specifically, the proposal includes the following:

- ◆ Bulk earthworks.
- ◆ Provision of a total of 101 long term manufactured home sites.
- ◆ Internal road network with a ring road and four other connecting or internal loop roads.
- ◆ New vehicular access to Metford Road.
- ◆ On-site visitor car parking spaces in accordance with the NSW government manufactured home estate guidelines.
- ◆ Caravan storage area; and
- ◆ Drainage and landscaping including provision of one on-site detention basin.

The development concept plans are shown in **Attachment A**.

9.0 TRAFFIC GENERATION

In undertaking this traffic impact assessment and noting the instructions from the client as the development being a Lifestyle Village targeting the over 55 years market it was considered that the best comparable rate to use within the rates provided by Transport for NSW (TfNSW) was the seniors living rates provided in TfNSW's Technical Direction TDT 13/04. These are the latest rates provided by TfNSW and include seniors housing. The rates for the seniors housing are based on 10 surveys undertaken in 2009 with five surveys in Sydney and five surveys in Regional NSW.

The reason these rates are considered comparable for an over 55's lifestyle resort are as follows.

- ◆ Car ownership rates for residents would be similar i.e., 1 per dwelling.
- ◆ Many of the over 55's residents would be retired therefore there are no trips to and from work and no trips to and from schools; and
- ◆ As such it is unlikely the morning peak for the lifestyle resort would coincide with the road network AM peak.

As such the senior's housing rates in the TDT13/04 as shown below, have been used to predict development traffic in this assessment.

- ◆ Daily Trips = 2.1 trips per dwelling; and
- ◆ Weekday peak hour = 0.4 trips per dwelling.

Note: - As traffic impact assessment is based on peak hourly rates the daily trip rate is not relevant for the traffic impact assessment.

Intersect Traffic has also previously undertaken traffic impact assessments for two similar Lifestyle Village developments in the Port Stephens area. Both developments involved extensions to the existing villages. As there were existing villages, Intersect Traffic was able to undertake traffic surveys at these village entrances and exits to determine the traffic generation for these villages. The two villages surveyed in early 2022 were.

- ◆ Latitude One Lifestyle Resort – Nelson Bay Road, Anna Bay – Ingenia Communities – 223 sites; and
- ◆ Sunrise Lifestyle Village – Nelson Bay Road, Bobs Farm – Hometown (Australia) Pty Ltd – 110 sites.

The results of the traffic generation surveys for these two Lifestyle Villages are shown below in **Table 1**.

Table 1 – Traffic Generation Rates Surveyed Lifestyle Villages -

Lifestyle Village	Location	Traffic Generation	
		AM peak (m/s)	PM peak (m/s)
Sunrise	Nelson Bay Road, Bobs Farm	0.18	0.31
Latitude One	Nelson Bay Road, Anna Bay	0.23	0.26

As can be seen, the traffic generation rates for the AM and PM peak hour periods for both these Lifestyle Villages is less than the 0.4 vtp/h adopted in this assessment. Therefore, the adoption of the 0.4 vtp/h rate in this assessment ensures a robust worst case traffic impact assessment is undertaken for the development.

Whilst TDT 13/04 states that while the morning peak hour site traffic does not coincide with the morning road network peak hour for this assessment it has been assumed that they do coincide. This again ensures a robust assessment of the traffic impacts of the development.

Therefore, the peak hour traffic generation from the site is as follows;

AM & PM Peak Hour

Traffic Generation = 0.4 vehicle trips per dwelling x 101 dwellings
= **41 vtp**. (rounded up)

Daily Trips

Traffic Generation = 2.1 vehicle trips per dwelling x 101 dwellings
= **213 vtp**.



10.0 TRIP DISTRIBUTION

Before considering the traffic impacts of the development, the traffic generated by the development needs to be distributed onto the local road network. In this regard assumptions need to be made in relation to origins and destinations of trips and the nature of the trips to and from the site.

Based on likely origin / destinations for residents the assumptions used in distributing the traffic generated by the development are listed below.

AM peaks & PM peaks

- ◆ 30% of trips will arrive / depart via Metford Road to the north.
- ◆ 70 % of trips will arrive / depart via Metford Road to the south.
- ◆ In the AM 70% of the trips will be outbound and 30% of trips will be inbound.
- ◆ In the PM 70% of the trips will be inbound and 30% of the trips outbound.
- ◆ At the Metford Road / Maize Street intersection 20% of traffic will have an origin / destination west along or from Maize Street

The resulting trip distribution for development traffic onto the adjoining road network is therefore likely to be as shown below in **Figure 3**.

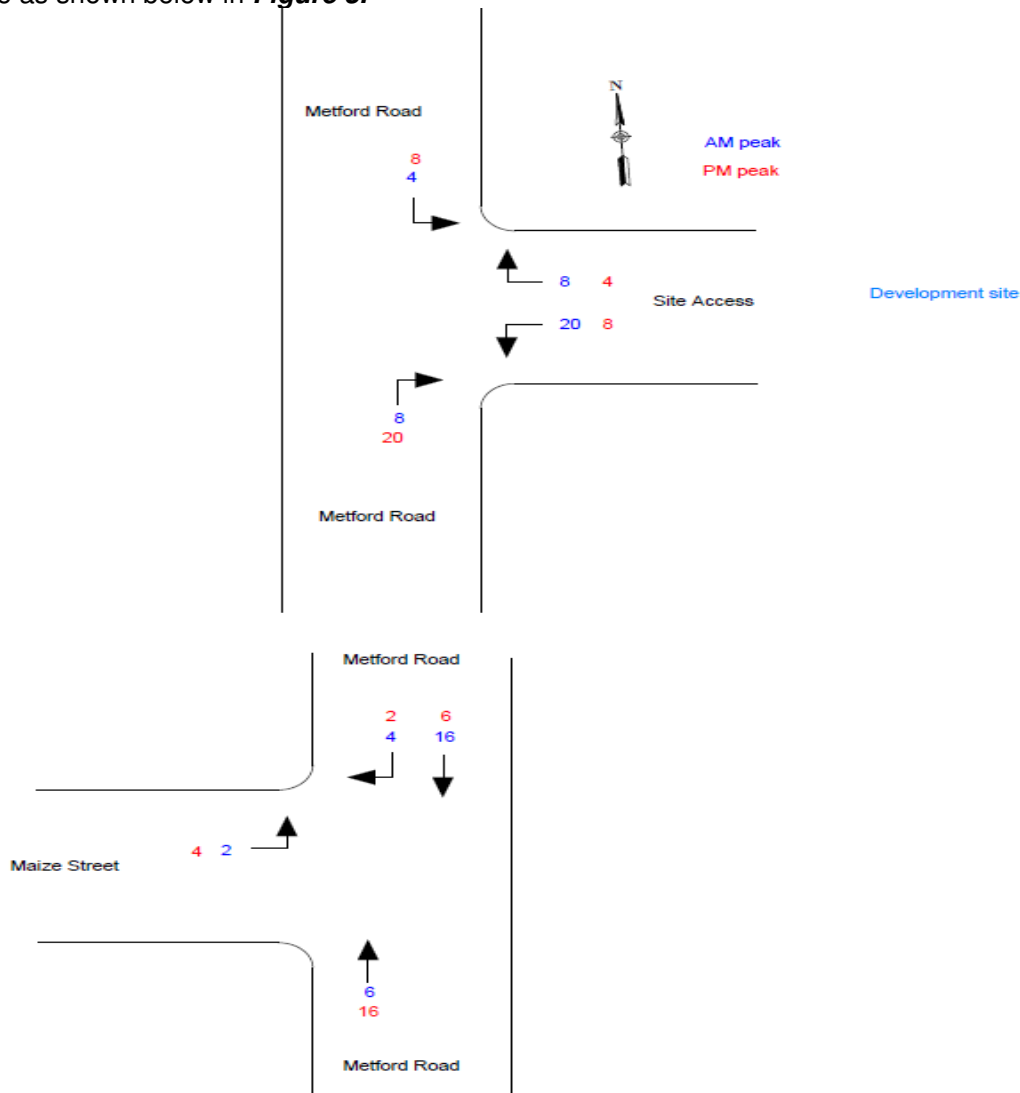


Figure 3 – Development Traffic Distribution

11.0 TRAFFIC IMPACTS OF DEVELOPMENT

11.1 Road Network Two-way Mid-Block Capacity

It has previously been shown in **Section 6** of this report that the local road network is currently operating well within its technical and environmental two-way mid-block capacity as relevant.

The Lifestyle Resort is likely to generate the following additional traffic (maximum) on the local road network based on the trip distributions shown in **Figure 3**.

- ◆ Metford Road – north of site – 12 vtph (AM and PM peak).
- ◆ Metford Road – south of site & north of Maize Street – 28 vtph (AM & PM peak).
- ◆ Metford Road – south of Maize Street – 22 vtph (AM & PM peak); and
- ◆ Maize Street – west of Metford Road - 6 vtph (AM & PM peak).

The addition of this traffic onto the 2024 traffic volumes determined in **Section 5** will not result in the capacity thresholds for the local road network determined in **Section 6** to be reached. Even with the predicted 2032 traffic volumes these road capacity thresholds are not reached. This is demonstrated in **Table 3** below.

Table 3 - Road Capacity Assessment

Road	Section	Capacity vtph	2024		2034 @ 1.5% p.a.		Development traffic	
			AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)	AM	PM
Metford Road	north of Maize Street	1800	882	849	1019	981	28	28
Metford Road	south of Maize Street	1800	1083	1093	1253	1265	22	22
Metford Road	site frontage	1800	739	811	853	937	28	28
Maize Street	west of Metford Road	1800	433	474	502	549	6	6

The post development two-way mid-block traffic volumes are lower than the determined road capacities through to at least 2034 and as such the adjoining local road network has sufficient spare capacity to cater for the proposed development.

11.2 Intersection Capacity

The two main intersections impacted by the development are Metford Road / Maize Street BAR / BAL give way-controlled T-intersection and the Raymond Terrace Road / Metford Road roundabout.

With the additional traffic on the Raymond Terrace Road / Metford Road roundabout being only 22 vtph distributed over 4 legs of the roundabout it would be expected that the roundabout could easily cater for the development noting the roundabout already works satisfactorily during peak traffic periods. As traffic is further diluted through the local road network it will have little if any impact on intersections on the road network further afield.

The impact of the additional traffic on the Metford Road / Maize Street intersection has been undertaken using the SIDRA INTERSECTION 9 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 TfNSW shown below in **Table 4.2 of RTA’s Guide to Traffic Generating Developments 2002**.

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).

Assumptions made in this modelling were:

- ◆ The intersection layout will remain as per current conditions i.e. BAR / BAL intersection.
- ◆ Traffic volumes used in the modelling were as described in **Section 5** above with 10% added to the intersection count volumes.
- ◆ Traffic generated by the development is distributed as per **Figure 3**.
- ◆ Future traffic growth predicted using a 1.5 % per annum background traffic growth rate as recommended by TfNSW; and
- ◆ When calibrating the model to reflect observed delays and queue lengths it was found the best calibration was with a gap acceptance for the right turn movement out of Maize Street of 6 seconds rather than the default 7 seconds.

The summarised results of the network modelling with the worst average delays and LoS recorded are provided in **Table 4** below. The full Sidra Movement Summary Tables are provided in **Attachment D**.

Table 4 – Metford Road / Maize Street – Sidra Modelling – Results Summary

Modelled Peak	Degree of Saturation (v/c)	Worst Average Delay (s)	Average Level of Service	95% back of queue length (cars)
2024 AM	0.471	19.6	B	2.5
2024 PM	0.327	16.6	B	1.5
2024 AM plus development	0.504	21.3	B	2.7
2024 PM plus development	0.343	17.5	B	1.6
2034 AM plus development	0.804	43.0	D	5.7
2034 PM plus development	0.535	26.4	B	2.7

The modelling shows that this intersection will continue to operate satisfactorily post development through to 2034. Average delays and queue lengths remain within the acceptable criteria set by TfNSW though in the AM peak by 2034 the right turn out movement from Maize Street is approaching capacity and Council may need to look at upgrading the intersection control at the intersection at that time. The impact of the development is to increase average delays and 95 % back of queue lengths by less than 2 seconds and less than 1 vehicle, respectively. There is no loss of LoS resulting from the development therefore it is reasonable to conclude that the proposed development does not adversely impact on the operation of this intersection.

Overall, it is considered reasonable to conclude that the development will not adversely impact on the efficiency or effectiveness of the local road network.

11.3 Access

The proposed development will access the road network directly via Metford Road. Access to the site and individual sites would be required to meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* as well as Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off-street car parking*.

In regard to the regulation the important requirements and an assessment of compliance are:

- ◆ A dwelling site must have access to an access road – Proposal is compliant.
- ◆ An entry road to a manufactured home estate must be a minimum of 8 metres wide. In the case of a divided entrance and exit road the width of the sealed road on either side of the median must be at least 5 metres. – It is not proposed to have a divided access road within the development and therefore the proposed site access being 13 metres wide is compliant with this requirement.
- ◆ The width of an access road (internal) must be 6 metres for two-way flow or 4 metres for one way flow and one way flow needs to be indicated by a conspicuous sign. The proposal complies with this requirement as all internal roads except the 13-metre-wide access are 6 metres wide therefore suitable for two-way flow.

Overall, it is therefore considered reasonable to conclude the proposed site access and internal access roads are suitable for two-way flow of vehicles and compliant with the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021*.

Sight distance along Metford Road at the proposed new access would comply with Austroads requirements for a public road intersection being greater than 123 metres for a 60 km/h speed zoning (*Table 3.2 of Guide to Road Design Part 4A – Unsignalised and signalised Intersections (2020)*). By observation on site the sight distances at this access in both directions are in excess of 150 metres and thus compliant with Austroads requirements.

Therefore, it is considered the proposed access arrangements to the site and within the site are suitable being compliant with Austroad, Council and Local Government Regulations requirements.

11.4 Off-Street Parking

The proposed development will generate an on-site parking demand. Therefore, on-site parking in accordance with the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021* will need to be provided. The relevant requirements within the Regulation are:

Resident Parking

1 resident parking space per dwelling site

Visitor Parking

For developments with between 70 and 105 sites – 16 spaces

Accessible Parking

1 visitor accessible parking space per 100 sites or fraction of 100 sites

*Resident and visitor parking is to be 6.1 metres x 2.5 metres while the accessible visitor car parks are to comply with Australian Standard AS2890.6-2009 *Parking facilities Part 6: Off-street parking for people with disabilities*.*

Noting that on completion of the proposed expansion a total of 101 long term sites would exist within the park the following on-site parking is required to be provided:

- ◆ Resident Parking – 101 car parks
- ◆ Visitor Car Parking - 16 car parks
- ◆ Accessible Visitor Car Parking $101 / 100 = 2$ accessible car parks (within the 16 visitor car parks to be provided).

On examination of the plans, it was found that:

- ◆ As each site has an area in excess of 220 m² it is considered there is sufficient room on each site to provide an on-site resident car park; and
- ◆ 23 visitor car parking spaces including 2 accessible spaces are shown on the plans.

Therefore, it is concluded that the development is compliant with the caravan park regulations for on-site car parking. Whilst not dimensioned on the plans, there is adequate space for the visitor (including access) car parking spaces to be provided in accordance with AS2890.1-2004.

It is therefore concluded that in regard to on-site car parking the proposal would meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021*.

The site will be serviced by a medium rigid sized waste collection vehicle that can enter the site in a forward direction and proceed to collect bins from in front of each site before exiting the site in a forward direction. Therefore, on assessment it is concluded that the servicing arrangements for the proposed Lifestyle Resort are satisfactory.

12.0 PEDESTRIAN FACILITIES

The proposed development may generate some external pedestrian traffic. Therefore, it is considered there is sufficient nexus for the development to provide a pedestrian pathway on the eastern side of Metford Road along the site frontage. Internal pedestrian paths will also need to be provided to facilitate the safe passage of pedestrians around the site.

13.0 ALTERNATE TRANSPORT MODE FACILITIES

The proposed development may generate an increased demand for public transport however it is not expected that this demand would be sufficient to require changes to the existing public transport in the area. It is concluded that no changes to the existing public transport services is required as a result of this development and no additional infrastructure would be required.

The development will not generate any significant additional bicycle traffic therefore no nexus for the provision of additional cycle ways in the vicinity of the site is necessary as a result of the development.

14.0 CONCLUSIONS

This traffic and parking assessment for a proposed manufactured home estate / lifestyle resort on Lots 7 & 8 DP 810442 and Lot 11 DP 597659, 27 - 33 Metford Road, Tenambit has determined the following:

- ◆ Current traffic volumes on the local and state road network are below the technical two-way mid-block capacities of the roads and as such there is spare capacity within the road network to cater for development in the area.
- ◆ It is expected that the additional traffic generated by the development will be up to 41 vtp/h in the AM and PM peak or 213 vtpd.
- ◆ The local road network has sufficient spare two-way mid-block capacity to cater for the additional development traffic without adversely impacting on current level of service (LoS) experienced by motorists on the road network.
- ◆ Sidra Intersection modelling has shown the proposed development will not have an adverse impact on the operation / capacity of the Metford Road / Maize Street give way-controlled T-intersection.
- ◆ The Raymond Terrace Road / Metford Road roundabout could easily cater for the additional development traffic (22 vtp/h) noting the roundabout already works satisfactorily during peak traffic periods. As traffic is further diluted through the local road network it will have little if any impact on intersections on the road network further afield.
- ◆ The proposed access arrangements to the site and within the site are suitable being compliant with Austroad, Council and Local Government Regulations requirements.
- ◆ In regard to on-site car parking the proposal would meet the requirements of the *Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021*.
- ◆ Waste collection vehicles would be able to enter the site in a forward direction and collect bins from in front of sites before exiting the site in a forward direction. Therefore, the site is able to be safely and conveniently serviced for waste collection.
- ◆ There is sufficient nexus for the development to be required to construct a concrete footpath on the eastern side of Metford Road along the site frontage. Internal pedestrian paths will also need to be provided to facilitate the safe passage of pedestrians around the site.
- ◆ No changes to the existing public transport services are required as a result of this development and no additional infrastructure would be required; and
- ◆ No nexus for the provision of additional cycle ways in the vicinity of the site is necessary as a result of the development noting that the increase in cycle traffic resulting from the development will be minor.

15.0 RECOMMENDATION

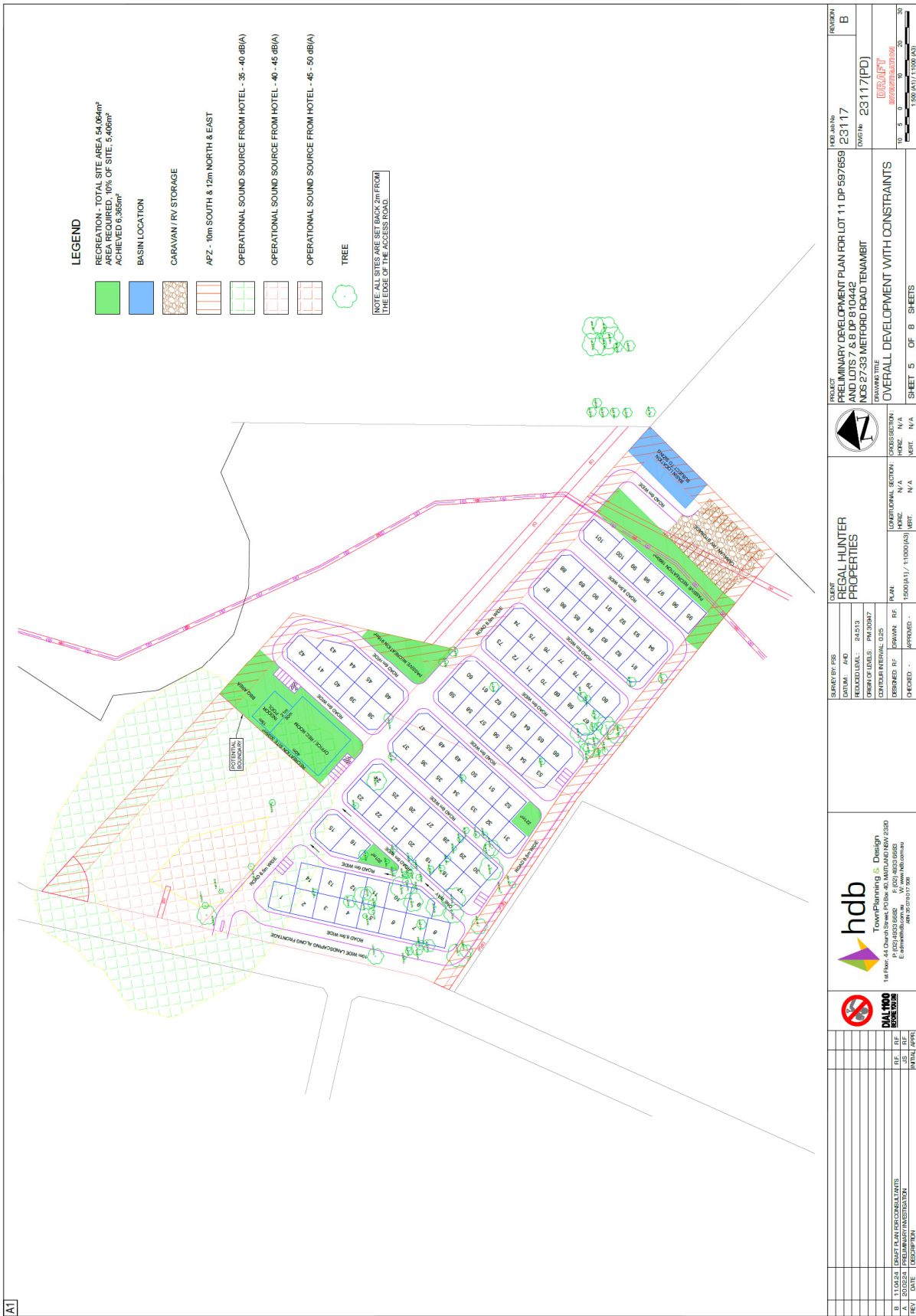
Having carried out this traffic and parking assessment for a proposed manufactured home estate / lifestyle resort on Lots 7 & 8 DP 810442 and Lot 11 DP 597659, 27 - 33 Metford Road, Tenambit it is recommended that the proposal can be supported from a traffic and parking impact perspective as it will not adversely impact on the local and state road network and complies with all relevant Maitland City Council, NSW Government, Australian Standard, Austroad and TfNSW requirements.

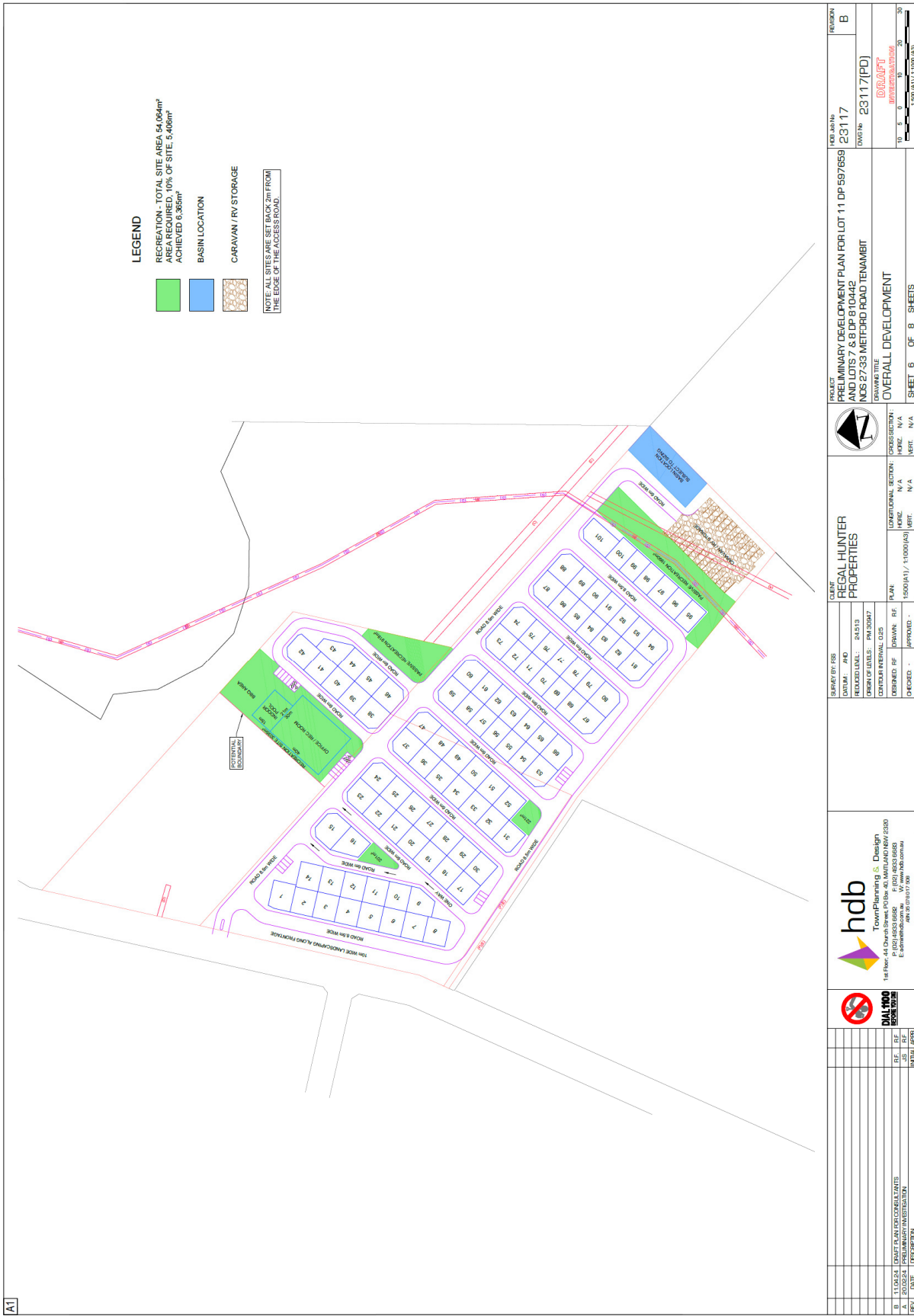


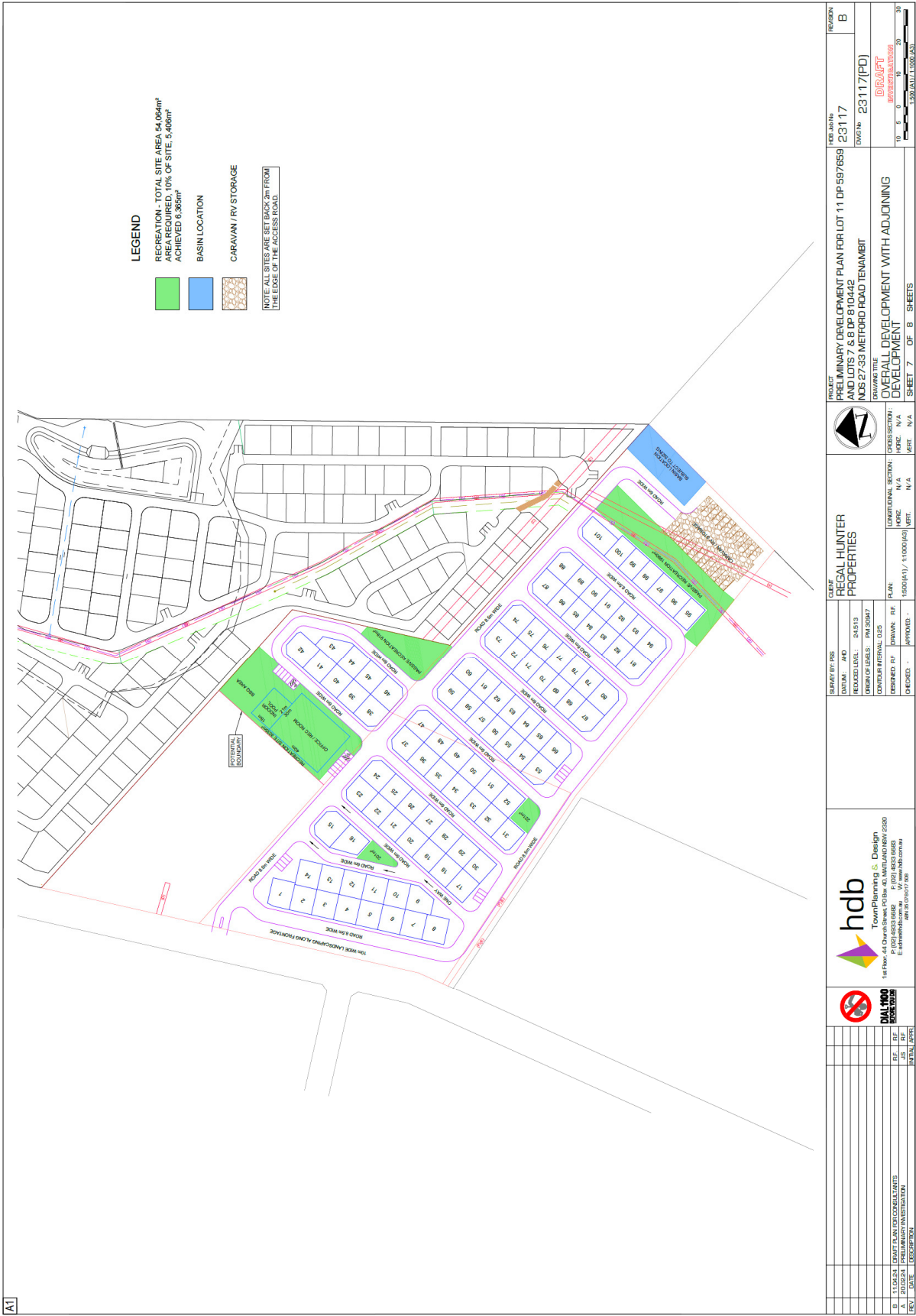
JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

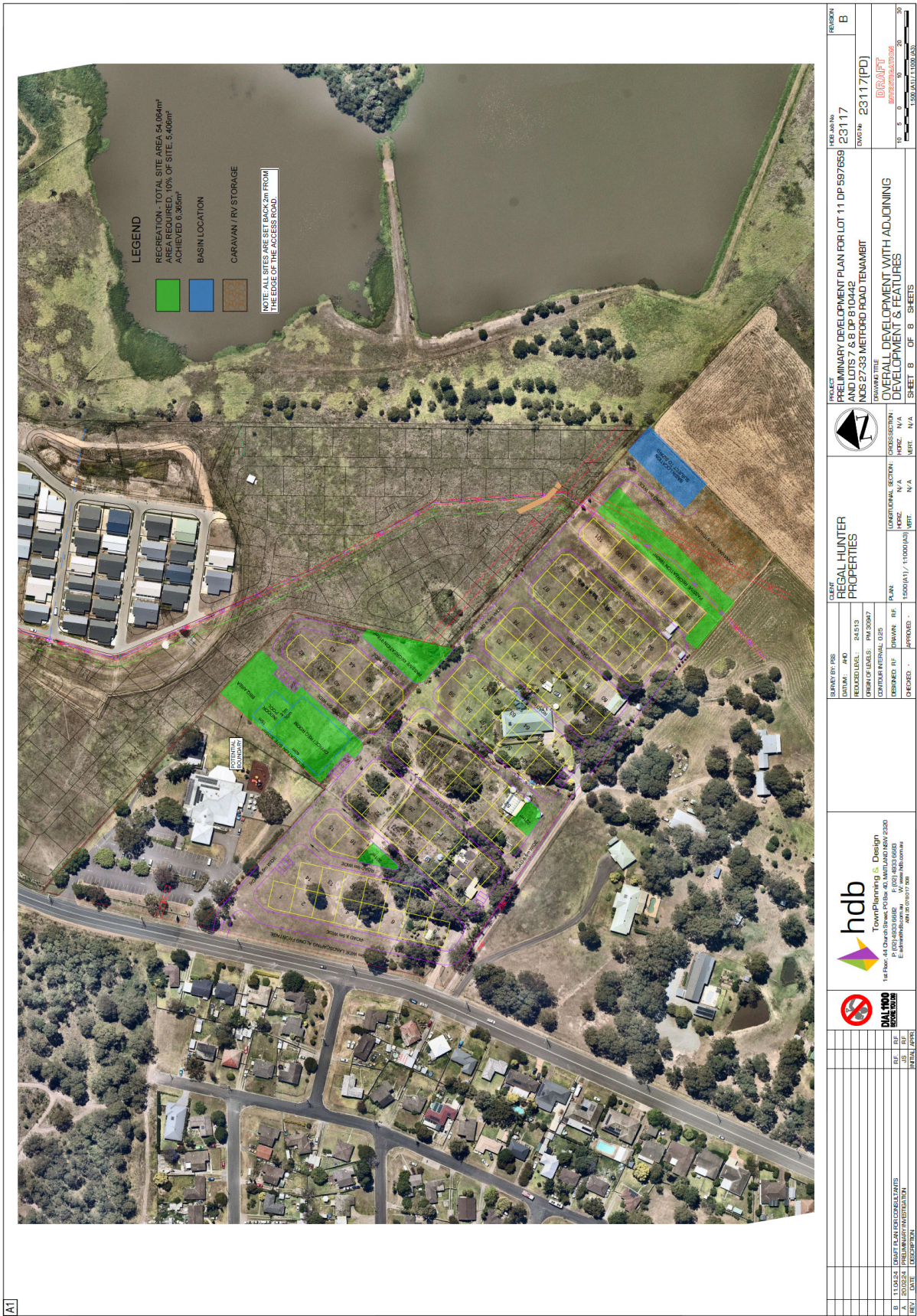
ATTACHMENT A

Development Plans









A1

<p>hdb Town Planning & Design 1st Floor, 44 Deeds Street, P.O. Box 42, Manildra NSW 2330 P: (02) 4833 6886 F: (02) 4833 6969 E: info@hdb.com.au W: www.hdb.com.au ABN 29 091917 299</p>		<p>REGAL HUNTER PROPERTIES</p>	<p>PROJECT PRELIMINARY DEVELOPMENT PLAN FOR LOT 11 DP 597659 AND LOTS 7 & 8 DP 810442 NCS 27/33 METFORD ROAD TENAMBIT</p>	<p>DATE 24/5/13</p>	<p>REVISION B</p>
<p>DATE 24/5/13</p>	<p>PROJECT NO. 23117</p>	<p>DATE 23/11/17</p>	<p>PROJECT TITLE OVERALL DEVELOPMENT WITH ADJOINING DEVELOPMENT & FEATURES</p>	<p>DATE 23/11/17</p>	<p>PROJECT NO. 23117</p>
<p>DESIGNED BY J. BROWN</p>	<p>APPROVED BY J. BROWN</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>	<p>DATE 15/02/11</p>	<p>SCALE N/A</p>	<p>DATE 15/02/11</p>	<p>PROJECT NO. 23117</p>
<p>DATE</p>					

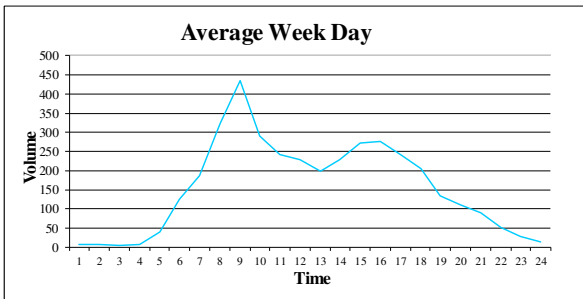
ATTACHMENT B

Traffic Data

Site 1 NEAR 29 METFORD RD TENAMBIT [60]

Southbound

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day Ave.	W/End Ave.	7 Day Ave
Time	01/02/24	2/02/2024	3/02/2024	4/02/2024	5/02/2024	6/02/2024	7/02/2024			
0:00	10	11	15	29	5	7	9	8	22	12
1:00	5	6	9	13	6	8	12	7	11	8
2:00	4	5	4	8	5	3	6	5	6	5
3:00	5	6	8	3	7	8	9	7	6	7
4:00	53	39	18	11	31	42	39	41	15	33
5:00	112	123	36	21	133	128	127	125	29	97
6:00	190	171	62	41	191	207	177	187	52	148
7:00	309	293	101	70	338	354	318	322	86	255
8:00	428	450	222	162	437	442	419	435	192	366
9:00	298	298	277	230	287	264	306	291	254	280
10:00	241	288	324	256	243	207	235	243	290	256
11:00	225	251	311	280	252	200	215	229	296	248
12:00	210	222	270	226	189	156	211	198	248	212
13:00	232	267	257	214	174	224	241	228	236	230
14:00	291	297	275	181	265	262	245	272	228	259
15:00	290	293	233	152	262	274	261	276	193	252
16:00	255	268	203	152	261	218	214	243	178	224
17:00	280	217	190	139	163	180	183	205	165	193
18:00	175	138	156	116	105	115	139	134	136	135
19:00	120	167	119	106	89	78	99	111	113	111
20:00	86	123	116	85	71	88	87	91	101	94
21:00	46	85	86	46	41	29	60	52	66	56
22:00	25	43	42	22	22	23	24	27	32	29
23:00	20	26	30	11	11	10	2	14	21	16
Total	3910	4087	3364	2574	3588	3527	3638	3750	2969	3527

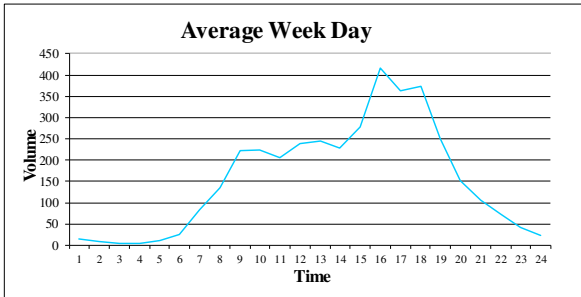


Summary			
	from	to	
AM Peak	8:00 AM	9:00 AM	450
PM Peak	2:00 PM	3:00 PM	297
Week Day Average			3750
Weekend Day Average			2969
7 Day Average			3527

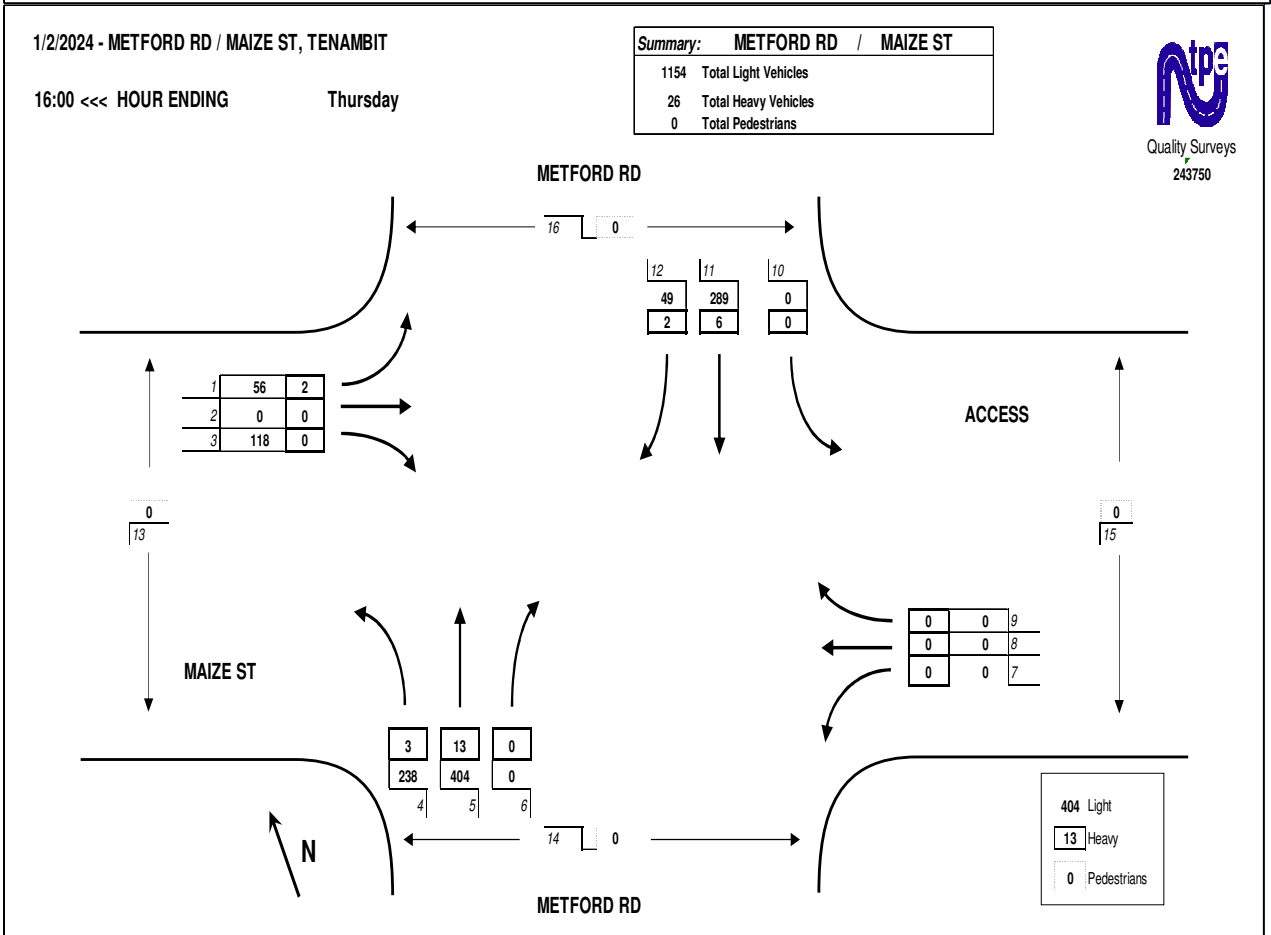
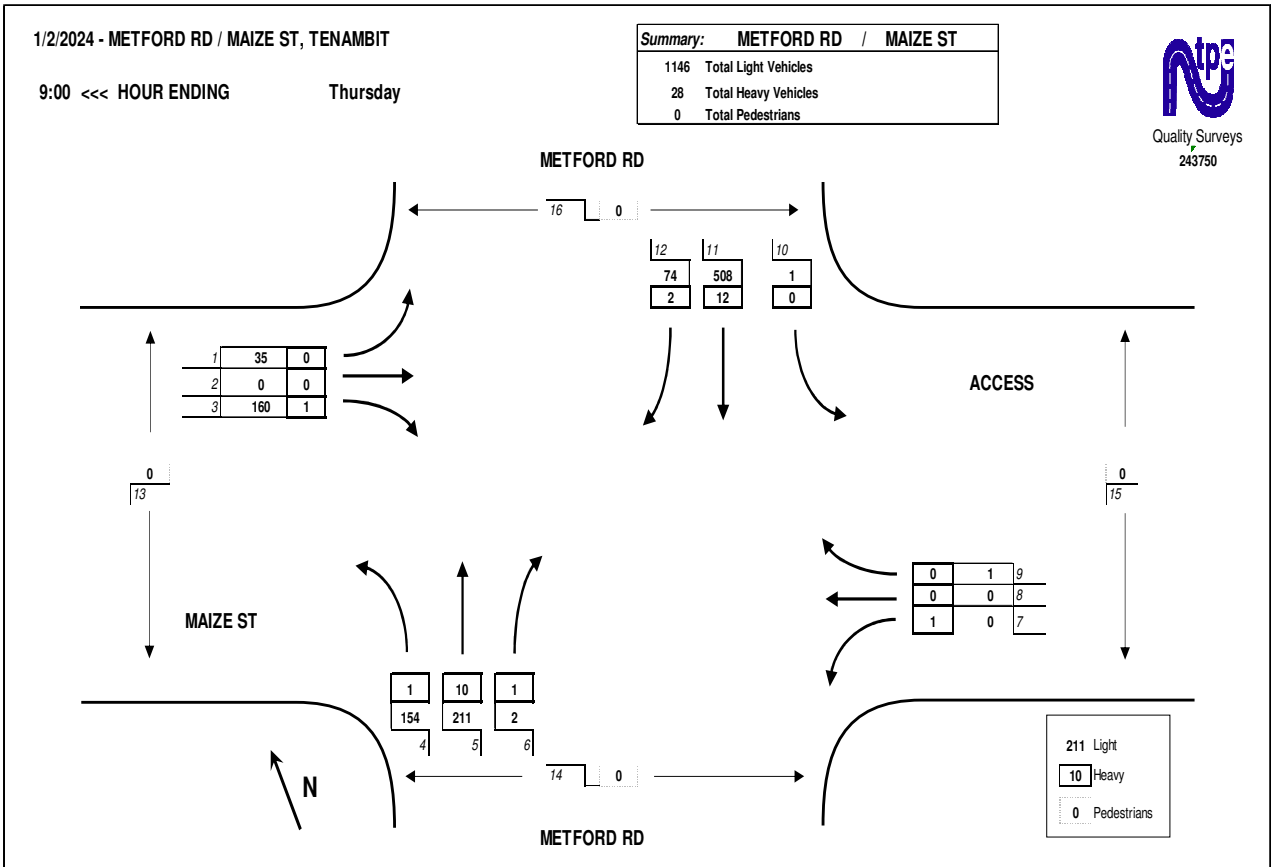
Site 1 NEAR 29 METFORD RD TENAMBIT [60]

Northbound

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	W/Day Ave.	W/End Ave.	7 Day Ave
Time	01/02/24	2/02/2024	3/02/2024	4/02/2024	5/02/2024	6/02/2024	7/02/2024			
0:00	15	15	23	33	13	14	18	15	28	19
1:00	7	11	11	14	7	4	13	8	13	10
2:00	3	6	8	9	3	7	2	4	9	5
3:00	5	9	7	4	3	3	5	5	6	5
4:00	18	10	10	4	10	4	10	10	7	9
5:00	29	24	18	11	28	20	24	25	15	22
6:00	94	81	43	41	81	86	76	84	42	72
7:00	138	132	78	43	146	137	123	135	61	114
8:00	212	261	100	97	205	225	206	222	99	187
9:00	222	234	209	133	236	189	243	225	171	209
10:00	216	240	276	192	225	162	187	206	234	214
11:00	241	255	357	271	221	223	252	238	314	260
12:00	278	249	325	227	224	233	242	245	276	254
13:00	215	274	276	207	180	253	218	228	242	232
14:00	293	295	260	209	250	270	280	278	235	265
15:00	426	490	277	207	388	411	370	417	242	367
16:00	347	384	222	168	384	352	353	364	195	316
17:00	430	341	244	187	385	344	371	374	216	329
18:00	289	288	179	137	191	230	263	252	158	225
19:00	193	157	138	120	132	133	143	152	129	145
20:00	132	113	99	84	79	106	101	106	92	102
21:00	85	80	92	63	62	71	66	73	78	74
22:00	34	56	59	27	30	43	51	43	43	43
23:00	23	40	45	18	15	17	22	23	32	26
Total	3945	4045	3356	2506	3498	3537	3639	3733	2931	3504



Summary			
	from	to	
AM Peak	8:00 AM	9:00 AM	261
PM Peak	3:00 PM	4:00 PM	490
Week Day Average			3733
Weekend Day Average			2931
7 Day Average			3504



ATTACHMENT C

Sidra Summary Tables

MOVEMENT SUMMARY

Site: 101 [2024 AM + 10% (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 1 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh.]	[Dist]				
			veh/h		veh/h		v/c	sec		veh	m				km/h
South: Metford Road															
1	L2	All MCs	179	0.6	179	0.6	0.097	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	256	4.5	256	4.5	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			435	2.9	435	2.9	0.135	2.3	NA	0.0	0.0	0.00	0.24	0.00	56.8
North: Metford Road															
8	T1	All MCs	602	2.3	602	2.3	0.334	1.0	LOS A	1.1	7.9	0.18	0.20	0.18	58.5
9	R2	All MCs	88	2.6	88	2.6	0.334	8.3	LOS A	1.1	7.9	0.24	0.27	0.24	55.5
Approach			690	2.3	690	2.3	0.334	2.0	NA	1.1	7.9	0.19	0.21	0.19	58.1
West: Maize Street															
10	L2	All MCs	41	0.0	41	0.0	0.039	6.6	LOS A	0.1	1.0	0.33	0.59	0.33	51.9
12	R2	All MCs	186	0.6	186	0.6	0.471	19.6	LOS B	2.5	17.6	0.85	1.05	1.23	43.8
Approach			227	0.5	227	0.5	0.471	17.3	LOS B	2.5	17.6	0.75	0.97	1.07	45.1
All Vehicles			1352	2.2	1352	2.2	0.471	4.6	NA	2.5	17.6	0.22	0.35	0.28	55.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Tuesday, 20 February 2024 9:07:15 AM

Project: D:\Work\2023\23.156 - Manufactured Home Estate Metford Road Tenambit\Metford_Maize.sip9

MOVEMENT SUMMARY

Site: 101 [2024 PM + 10 % (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 1 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]	%	Arrival Flows [Total HV]	%	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh.]	Dist [m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Metford Road															
1	L2	All MCs	279	1.2	279	1.2	0.152	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	483	3.1	483	3.1	0.253	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			762	2.4	762	2.4	0.253	2.1	NA	0.0	0.0	0.00	0.21	0.00	57.1
North: Metford Road															
8	T1	All MCs	342	2.0	342	2.0	0.226	2.0	LOS A	1.1	7.8	0.27	0.31	0.27	57.2
9	R2	All MCs	59	3.9	59	3.9	0.226	11.2	LOS A	1.1	7.8	0.38	0.44	0.38	53.6
Approach			401	2.3	401	2.3	0.226	3.4	NA	1.1	7.8	0.29	0.33	0.29	56.6
West: Maize Street															
10	L2	All MCs	67	3.4	67	3.4	0.089	8.3	LOS A	0.3	2.2	0.49	0.72	0.49	50.8
12	R2	All MCs	137	0.0	137	0.0	0.327	16.6	LOS B	1.5	10.8	0.80	0.97	0.98	45.5
Approach			204	1.1	204	1.1	0.327	13.9	LOS A	1.5	10.8	0.70	0.89	0.82	47.1
All Vehicles			1366	2.2	1366	2.2	0.327	4.2	NA	1.5	10.8	0.19	0.35	0.21	55.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / 1PC | Processed: Tuesday, 20 February 2024 9:08:31 AM

Project: D:\Work\2023\23.156 - Manufactured Home Estate Metford Road Tenambit\Metford_Maize.sip9

MOVEMENT SUMMARY

▽ Site: 101 [2024 AM + development + 10% (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 1 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		[Veh. veh]	[Dist m]				km/h
South: Metford Road															
1	L2	All MCs	179	0.6	179	0.6	0.097	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	263	4.4	263	4.4	0.139	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			442	2.9	442	2.9	0.139	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
North: Metford Road															
8	T1	All MCs	628	2.2	628	2.2	0.351	1.1	LOS A	1.2	8.7	0.19	0.21	0.19	58.5
9	R2	All MCs	95	2.4	95	2.4	0.351	8.4	LOS A	1.2	8.7	0.25	0.28	0.25	55.4
Approach			723	2.2	723	2.2	0.351	2.0	NA	1.2	8.7	0.20	0.22	0.20	58.0
West: Maize Street															
10	L2	All MCs	43	0.0	43	0.0	0.042	6.6	LOS A	0.1	1.0	0.34	0.60	0.34	51.9
12	R2	All MCs	186	0.6	186	0.6	0.504	21.3	LOS B	2.7	19.0	0.86	1.07	1.30	43.0
Approach			229	0.5	229	0.5	0.504	18.6	LOS B	2.7	19.0	0.77	0.98	1.12	44.4
All Vehicles			1394	2.2	1394	2.2	0.504	4.8	NA	2.7	19.0	0.23	0.35	0.29	54.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2024 PM + development + 10 % (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 1 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h	%	Arrival Flows [Total HV] veh/h	%	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh]	Dist m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Metford Road															
1	L2	All MCs	279	1.2	279	1.2	0.152	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	501	3.0	501	3.0	0.262	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			780	2.4	780	2.4	0.262	2.0	NA	0.0	0.0	0.00	0.21	0.00	57.1
North: Metford Road															
8	T1	All MCs	349	2.0	349	2.0	0.236	2.2	LOS A	1.2	8.4	0.28	0.32	0.28	57.1
9	R2	All MCs	61	3.8	61	3.8	0.236	11.4	LOS A	1.2	8.4	0.40	0.46	0.40	53.4
Approach			410	2.3	410	2.3	0.236	3.5	NA	1.2	8.4	0.29	0.34	0.29	56.5
West: Maize Street															
10	L2	All MCs	72	3.2	72	3.2	0.097	8.5	LOS A	0.3	2.4	0.50	0.74	0.50	50.7
12	R2	All MCs	137	0.0	137	0.0	0.343	17.5	LOS B	1.6	11.3	0.82	0.98	1.02	45.0
Approach			208	1.1	208	1.1	0.343	14.4	LOS A	1.6	11.3	0.71	0.90	0.84	46.8
All Vehicles			1399	2.2	1399	2.2	0.343	4.3	NA	1.6	11.3	0.19	0.35	0.21	55.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 101 [2034 AM + development + 10% (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Metford Road															
1	L2	All MCs	209	0.6	209	0.6	0.113	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	306	4.4	306	4.4	0.161	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			515	2.9	515	2.9	0.161	2.3	NA	0.0	0.0	0.00	0.23	0.00	56.8
North: Metford Road															
8	T1	All MCs	730	2.2	730	2.2	0.417	1.7	LOS A	2.0	14.5	0.21	0.24	0.26	58.0
9	R2	All MCs	110	2.4	110	2.4	0.417	9.4	LOS A	2.0	14.5	0.29	0.33	0.35	54.8
Approach			841	2.2	841	2.2	0.417	2.7	NA	2.0	14.5	0.22	0.25	0.27	57.6
West: Maize Street															
10	L2	All MCs	50	0.0	50	0.0	0.051	6.9	LOS A	0.2	1.3	0.37	0.62	0.37	51.8
12	R2	All MCs	217	0.6	217	0.6	0.804	43.0	LOS D ¹¹	5.7	40.0	0.96	1.34	2.29	34.2
Approach			267	0.5	267	0.5	0.804	36.2	LOS C	5.7	40.0	0.85	1.20	1.93	36.5
All Vehicles			1622	2.2	1622	2.2	0.804	8.1	NA	5.7	40.0	0.25	0.40	0.46	52.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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

MOVEMENT SUMMARY

▽ Site: 101 [2034 PM + development + 10% (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Metford Road / Maize Street Tenambit
 February 2024 counts
 Site Category: (None)
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh. veh]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Metford Road															
1	L2	All MCs	325	1.2	325	1.2	0.176	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
2	T1	All MCs	583	3.0	583	3.0	0.305	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			908	2.4	908	2.4	0.305	2.1	NA	0.0	0.0	0.00	0.21	0.00	57.1
North: Metford Road															
8	T1	All MCs	406	2.0	406	2.0	0.297	3.1	LOS A	1.7	12.2	0.31	0.36	0.31	56.2
9	R2	All MCs	71	3.8	71	3.8	0.297	13.5	LOS A	1.7	12.2	0.47	0.53	0.47	52.2
Approach			477	2.3	477	2.3	0.297	4.7	NA	1.7	12.2	0.33	0.38	0.33	55.6
West: Maize Street															
10	L2	All MCs	84	3.2	84	3.2	0.128	9.3	LOS A	0.4	3.2	0.54	0.80	0.54	50.1
12	R2	All MCs	159	0.0	159	0.0	0.535	26.4	LOS B	2.7	19.2	0.90	1.09	1.37	40.5
Approach			243	1.1	243	1.1	0.535	20.5	LOS B	2.7	19.2	0.78	0.99	1.08	43.4
All Vehicles			1628	2.2	1628	2.2	0.535	5.6	NA	2.7	19.2	0.21	0.37	0.26	54.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2024 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: INTERSECT TRAFFIC PTY LTD | Licence: NETWORK / IPC | Processed: Tuesday, 20 February 2024 9:07:24 AM

Project: D:\Work\2023\23.156 - Manufactured Home Estate Metford Road Tenambit\Metford_Maize.sip9