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**2- 4 Tea Tree Road, Forster – Aged Care Development  
Traffic Assessment Report**

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# Executive Summary

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This report has been prepared to assess the traffic implications and requirements associated with the proposed 90-bed aged care facility at 2-4 Tea Tree Road, Forster.

The development footprint includes a new site access driveway intersection with Tea Tree Road. The layout has been designed to allow a typical Mid-Coast Council (MCC) Refuse vehicle to service the site. Swept path assessment has demonstrated that Refuse vehicles are able to enter/exit the site in a forward gear.

Background traffic has been assumed to grow at an annual rate of 4% along The Lakes Way as per information provided by the RMS. In 2032, following the construction of the site, it has been forecasted that the traffic volumes along The Lakes Way in the vicinity of the site will increase to 7,478 vehicles per day.

It is worth noting that the proposed development is adjacent to Manufactured Home Estates is a community development that attracts the over 55 age group who are seeking a retirement lifestyle.

For a robust assessment, background traffic volume includes the development on Tea Tree Road (including Boomerang Cove and other surrounding developments).

The proposal benefits from 54 (visitor/staff) car parking spaces in line with Mid Coast Council car parking requirements.

The Turn Warrant Assessment for the development traffic indicates that the intersection of The Lakes Way and Tea Tree Road will require the provision of a Basic Left Turn (BAL) and a Channelised Right Turn short CHR(s) treatment. The Channelised Right Turn short CHR(s) being the recommended treatment for the intersection mitigation works proposed. The line marking being retrofitted to the existing passing lane.





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## **Appendices**

Appendix A – Site Layout

Appendix B – Traffic Survey

Appendix C – SIDRA Output

Appendix D – Swept Path



## 1. Introduction

### 1.1 Background

Burchills Engineering Solutions Ltd has been engaged by Palm Lake Works Pty Ltd to assess the traffic aspects for aged care with a 90-bed facility development application located at 2-4 Tea Tree Road, Forster, NSW. The proposed development layout is attached as Appendix A to this report.

The subject site is located in Forster, which is a coastal town in the Mid North Coast region of New South Wales. The site lies within R2 low-density residential and is surrounded by medium-density residential, environmental conservation and rural landscape zones as shown in Figure 1.1 below.

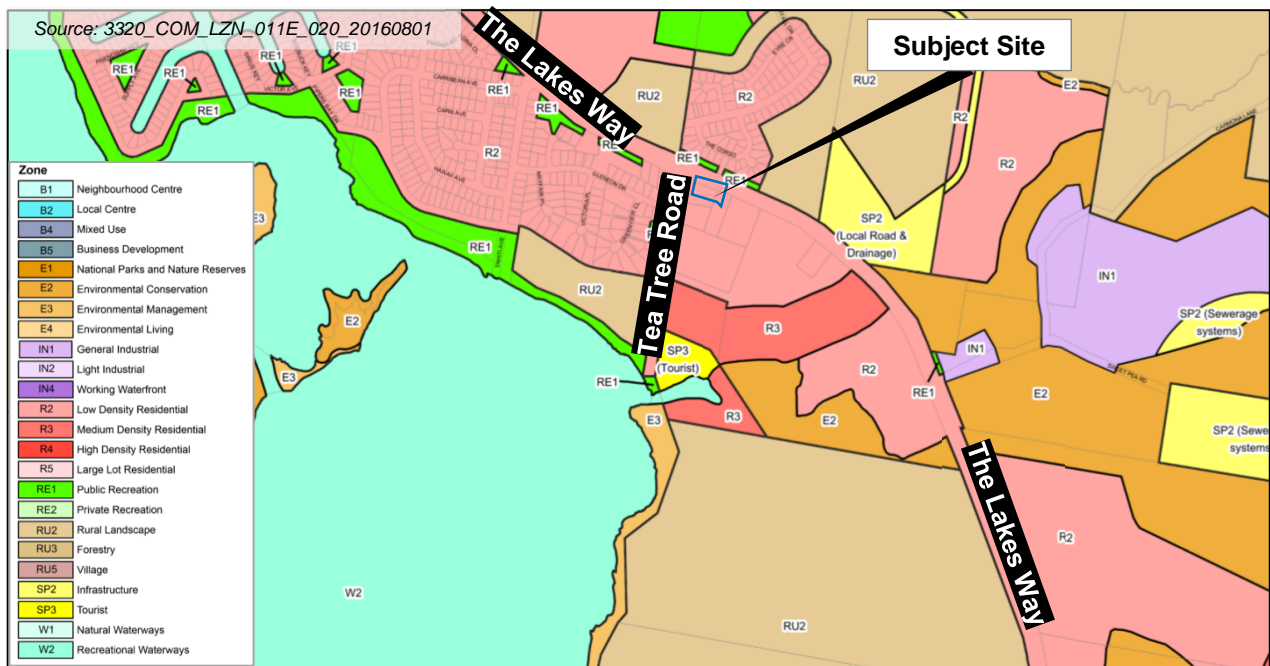


Figure 1.1 Site Location

The purpose of this TAR is to assess the traffic and transport components of the proposed development (aged care) against the planning scheme requirements for the Mid-Coast Council (MCC), and Australian Standards.

The scope of this report addresses the following:

- External traffic impacts;
- Internal traffic arrangement, including:
  - Site access design;
  - Pedestrian connectivity; and
  - Servicing provisions.

## 1.2 Scope of Work

This report provides an audit of the existing transport conditions in the vicinity of the site including a description of the local road network and its operation. It also determines the anticipated level of trip generation, the distribution of these trips and the impact of this development traffic on the local road network. In addition, the report addresses the key issues in relation to the provisions made for the loading, unloading and manoeuvring of service vehicles.

The reporting structure adopted as part of this assessment is outlined below:

Section	Description
2	<p>Describes the site location and the existing road network in the vicinity of the site;</p> <ul style="list-style-type: none"> <li>➤ Define the scope and study area to include all roads which have the potential to be measurably affected by traffic resulting from the development.</li> <li>➤ Include a traffic survey at the intersection of Tea Tree Road and The Lakes Way intersection to form the 'existing scenario' or 'baseline case'.</li> <li>➤ Consider likely traffic growth in the study area over the next ten years and estimate the traffic for the 'existing scenario + 10 years' assuming the development has not gone ahead.</li> <li>➤ Review other modes of transport that are available for the site (e.g. rail, buses, cycling, car-pooling, public and private) and/or propose initiatives that will encourage fewer vehicles on the road. Quantify how these will influence the traffic generation rate for the proposed development.</li> </ul>
3	<p>Outlines the relevant characteristics of the proposed development including access and parking arrangements; Swept path analysis includes servicing, loading and waste collection;</p> <ul style="list-style-type: none"> <li>➤ Address on-site vehicle provisions for car parking;</li> <li>➤ Address on-site vehicle provisions for bicycle parking;</li> <li>➤ Assess servicing requirements for waste collection, fire trucks and service vehicles including preparation of vehicle swept path diagrams.</li> <li>➤ Review Active and public transport availability and opportunities.</li> </ul>
4	<p><b>Traffic Generation</b></p> <p>Considers the trip generation likely to be associated with the proposed development; Assesses the qualitative impact on the surrounding road network of the additional trips generated by the proposed development.</p>
5	<p><b>Traffic assessment criteria.</b></p> <p>a. Analyses the proposed development, stating all assumptions and data obtained from other sources to conclude on the likely traffic generated by the development. Explain the hours of operation and the mix of user types (e.g. staff, customers, residents, service vehicles etc.).</p>
6	<p><b>Sidra assessment</b></p> <p>a. Distribute and model trips across the network and the resulting network performance, using SIDRA software for the Tea Tree Rd / The Lakes Way intersection. Note that the peak hourly trips for the Aged Care will not coincide with the peak hourly trips for the road.</p>



	<p>b. Determine the likely 'post-development scenario' and forecast the 'post-development scenario + 10 years' horizon by extending the above modelling.</p> <p>Compare the existing scenario with the post-development scenario over the ten-year horizon to determine likely impacts of the development on the intersection.</p>
7	<p>Turn Warrant Assessment</p> <p>Identify road safety and efficiency concerns in line with the AUSTROADS Guide to Road Design and any RMS Supplements to AUSTROADS and propose solutions or upgrades to resolve any impact issues identified for the intersection and driveway location where the development contributes to them. Such considerations to include (without limitation):</p> <ul style="list-style-type: none"> <li>➤ Safe Systems approach,</li> <li>➤ Level of Service, Degree of Saturation,</li> <li>➤ Road geometry, curves, lane widths,</li> </ul>
8	<p>Design Review</p> <p>Intersection treatments. The existing intersection at The lakes Way contains a passing lane that transitions into a left turn lane into an unnamed road that connects to The Corso. The aerial and street view images show the unmade road is blocked off using water-filled barriers. The TIA proposed to examine the road closure, including turning lanes, acceleration and deceleration lanes;</p> <p>Queue storage distances, Sight distances, Speed zones, Gap acceptance.</p>
9	<p>Presents a summary of the report and identifies the main recommendations and conclusions arising from the Traffic Impact and Safety Assessment Report.</p>

### 1.3 References

The following documents have been used in the preparation of this report:

- Roads and Traffic Authority 2013a, *Guide to Traffic Generating Developments*, Roads and Traffic Authority, Sydney;
- Austroads *Guide to Road Design* Part 4A 2017;
- MidCoast Council *Development Control Plan (DCP)*; and
- NSW Government - *Seniors Housing Design Guide*.

### 1.4 Report Constraints

Burchills Engineering Solutions has carried out this traffic report that complies with industry-standard traffic engineering practices and standards applicable during the assessment in May 2024. The report was based on the available project information and conditions at the time of the assessment. However, Burchills Engineering Solutions cannot be held responsible for any changes to the project planning or road conditions that occur after the report's completion, which may affect the accuracy of the assessment's findings.



## 2. Proposed Project

### 2.1 Masterplan

The proposed overall masterplan development comprises an aged care (90-bed facility), Boomerang Cove (service apartment and residential flats) and a retirement village subdivision that includes approximately 393 residential lots and a clubhouse. The development is expected to be constructed in twelve (12) stages with stage 1a as bulk earthworks.

The ultimate completion year for the development is expected to be the year 2032.

A layout of the proposed development master plan is shown in Figure 2.1 below and can be found at Appendix A.

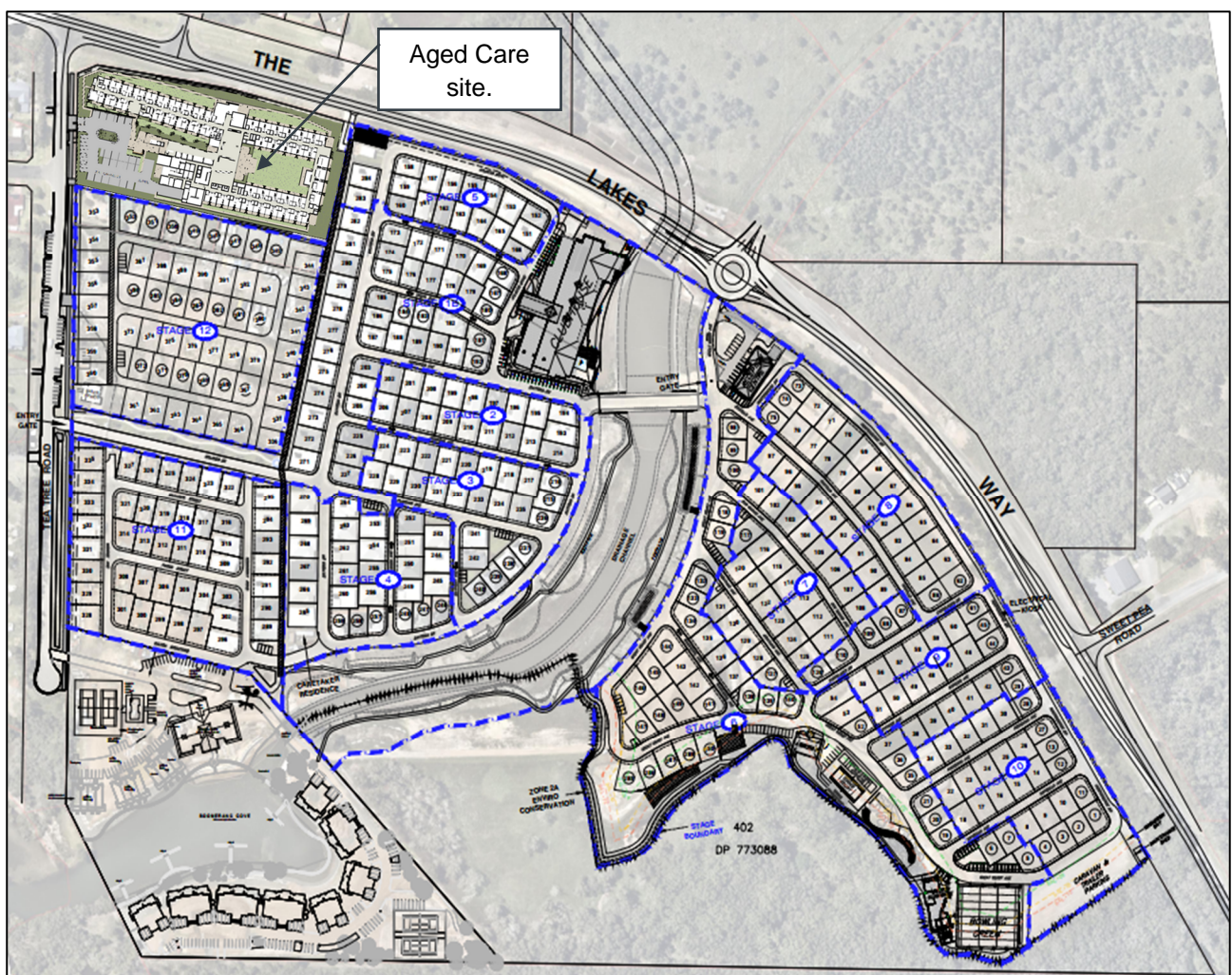


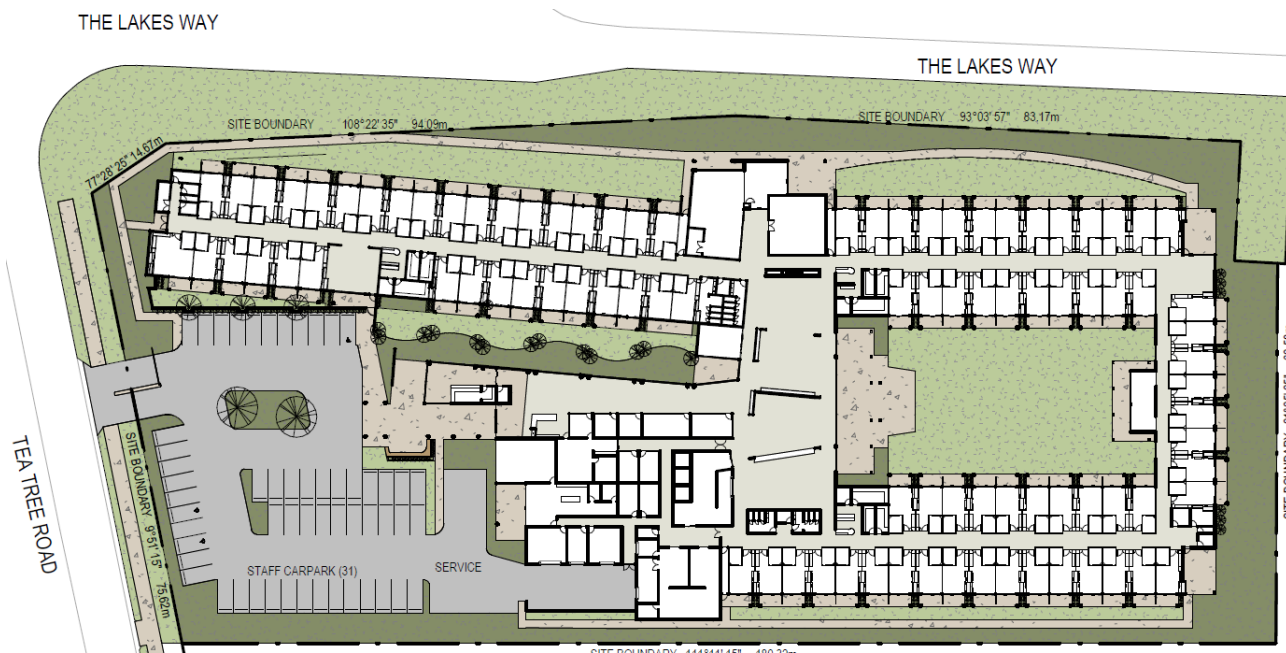
Figure 2.1 Proposed Master Plan

At present, Stages 1B–5 and 11 (a total of 181 units) are occupied. The construction for stage 12 is expected to start in late 2024.

## 2.2 Aged Care

The proposed development application will include the construction of a 90-bed facility with a total of 54 off-street parking plus an ambulance standing / parking area. The proposed development is expected to be complete by the late year 2025.

Figure 2.2 shows the site layout for Aged Care and a detailed layout is provided at Appendix A.



**Figure 2.2 Proposed Aged Care Development**



### 3. Existing Conditions

#### 3.1 Site Location

The proposed development is situated on lot 22/838699 north east off Tea Tree Road. The site is located within the MidCoast Council area and is currently zoned as a Low-medium density residential zone. The subject site and its surrounding environs are shown in Figure 3.1.



Figure 3.1 Subject Site

#### 3.2 Road Network

Table 3.1 below shows the key road characteristics in the vicinity of the site.

Table 3.1 Key Road Characteristics

Road	Authority	Classification	Posted Speed	Typical Form
The Lakes Way	MCC	Regional Road	60 km/h	Two-lane, two-way, undivided
Tea Tree Road	MCC	Sub-Arterial Road	60 km/h	Two-lane, two-way undivided

### 3.2.1 The Lakes Way

The Lakes Way is a two-lane, two-way undivided, sealed council-managed road with a posted speed of 60km/hr. The Lakes Way aligned in an east-west direction providing main access for the developments on both sides of the road. The Lakes Way is shown in Figure 3.2.



**Figure 3.2 The Lakes Way**

As shown above, The Lakes Way has an existing passing lane. The lane widths for The Lakes Way are shown in Table 3.2 below.

**Table 3.2 The Lakes Way Lane Widths**

Lane Description	Sealed Lane Width
Eastbound Through Lane	3.4 m
Westbound Through Lane	3.4 m

### 3.3 Tea Tree Road

Tea Tree Road is a two-lane council-controlled road, classified as Sub-Arterial Road. In the vicinity of the site, Tea Tree Road has an 11.0m carriageway width comprising 2 x 3.5m general traffic lanes and 2.0m bicycle lanes/ shoulders on both sides of the road. Tea Tree Road is subject to 60km/h speed limit. This road benefits from the street lighting and a 2.5m wide shared footpath on the eastern side of the road in the vicinity of the site. A photograph of the Tea Tree Road cross-section in the vicinity of the intersection with The Lakes Way is presented in Figure 3.3 below.





**Figure 3.3 Tea Tree Road**

As seen in the figure above Tea Tree Road has sealed shoulders on both sides. The lane width for Tea Tree Road is shown in Table 3.3 below.

**Table 3.3 Tea Tree Road Lane Widths**

Lane Description	Sealed Lane Width
Northbound Through Lane	3.6 m
Southbound Through Lane	3.6 m

### 3.4 Adjacent Development Traffic

The overall master plan shows that the development has access to the wider road network via Tea Tree Road. A summary of the adjacent stage development is as follows:

- Stages 1b – 5: 134 residential units;
- Stage 11: 47 residential units;
- Boomerang Cove;
- 24 Serviced Apartments; and
- 52 Residential Flats.

The main access to the development mentioned above is via Tea Tree Road.

To create a robust traffic assessment, the approved development traffic volumes for the complete development have been incorporated into the background traffic volumes for Tea Tree Road.



4. Traffic Generations

4.1 Background Traffic Volume

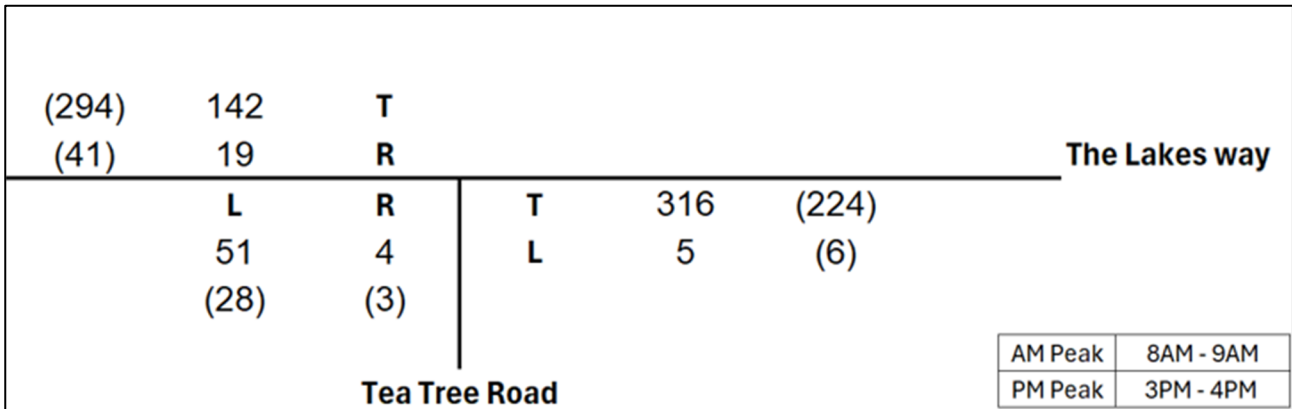
To understand the existing traffic conditions in the vicinity of the site, a traffic survey was undertaken by Matrix during the AM and PM peak periods on 11th April 2024 at The Lakes Way / Tea Tree Road intersection.

The surveyed and adopted peak periods have been summarised in Table 4.1 below; a copy of the traffic survey data is provided in Appendix B.

Table 4.1 Assessment Peak Periods

Survey Details	Peak Period	
	AM	PM
Surveyed Period	06:00 am – 09:00 am	3:00 pm – 06:00 pm
Adopted Hourly Peak Period	08:00 am – 09:00 am	03:00 pm – 04:00 pm

Figure 4.1 shows the AM and PM peak traffic volume at the intersection of The Lakes Way / Tea Tree Road.



4.2 Adjacent Development Traffic

The adjacent stages (1b-5 and 11) bordering the subject site (Aged Care) as shown in the master plan are fully constructed and occupied. Moreover, Stages 12 of the development and Boomerang Cove (apartments) are expected to begin construction after the subject site.

To create a robust traffic assessment, the adjacent developments (Stage 12 and Boomerang Cove) are considered in an ultimate scenario (fully built and occupied) and the traffic volumes of those developments are incorporated into the background traffic volumes for Tea Tree Road.

4.3 Traffic Growth

Burchills Engineering has based the background traffic on the population growth in the subject area (Forster North). The current population for Forster North is 7,687 and is forecast to grow to 7,951 by 2036 with a 3.44% population growth in 12 years. Thus, a growth rate of 1% per annum is used for background traffic growth along The Lakes Way as per population growth information provided on the community website.

#### 4.4 Traffic Generation

In order to determine the traffic likely to be generated by the development, reference has been made to the RTA *Guide to Traffic Generating Developments* (GTGD) October 2002. Table 4.2 summarises the trip generation rates for vehicles per hour (vph), and the trip generation rate adopted for the traffic assessment for Aged Care, Stage 12, Boomerang Cove and the Clubhouse.

**Table 4.2 Adopted Traffic Generations (Stages 1 and 2, and Ultimate)**

Land Use	Yield	Trip Generation Rate		Trip Generation	
		AM Peak	PM Peak	AM Peak	PM Peak
<b>Aged Care Facility</b>	90 Beds	0.2 trips/bed	0.2 trips/bed	18 vph	18 vph
<b>Stage 12*</b>	58 units	0.4 trips / dwelling	0.4 trips / dwelling	23 vph	23 vph
<b>Boomerang Cove*</b>	76 apartments	0.6 / Apartment	0.6 / Apartment	46 vph	46 vph
<b>Club House*</b>	2050 m <sup>2</sup>	6 trips / 100 m <sup>2</sup>	6 trips / 100 m <sup>2</sup>	98 vph	98 vph
<b>Total</b>				<b>185 vph</b>	<b>185 vph</b>

\*Trip rates have been assumed for the Tech Memo prepared for Tea Tree Road Capacity by Burchills Engineering

It is to be noted that the trip rates for Stages 12, Boomerang Cove and Club House is assumed from the Tech Memo prepared for Tea Tree Capacity by Burchills Engineering (Dated 21<sup>st</sup> July 2022). The proposed Aged Care development is expected to generate 18 vph in both AM and PM peaks with a total of 185 vph in both peaks considering the completion of the adjacent approved developments.

For robust traffic assessment, traffic volume for Clubhouse is also assumed to be generated externally to the residential development. However, this may not be the actual case as the Clubhouse is expected to mainly facilitate the residents of the proposed development. It is also to be noted that majority of traffic (70%) will arrive to the clubhouse via Tea Tree Road and remaining (30%) Great Coast Avenue).



- Tea Tree Road North: 95%; and
- Tea Tree Road South: 5%.

Figure 4.4 shows the development trip distinction for the Aged Care

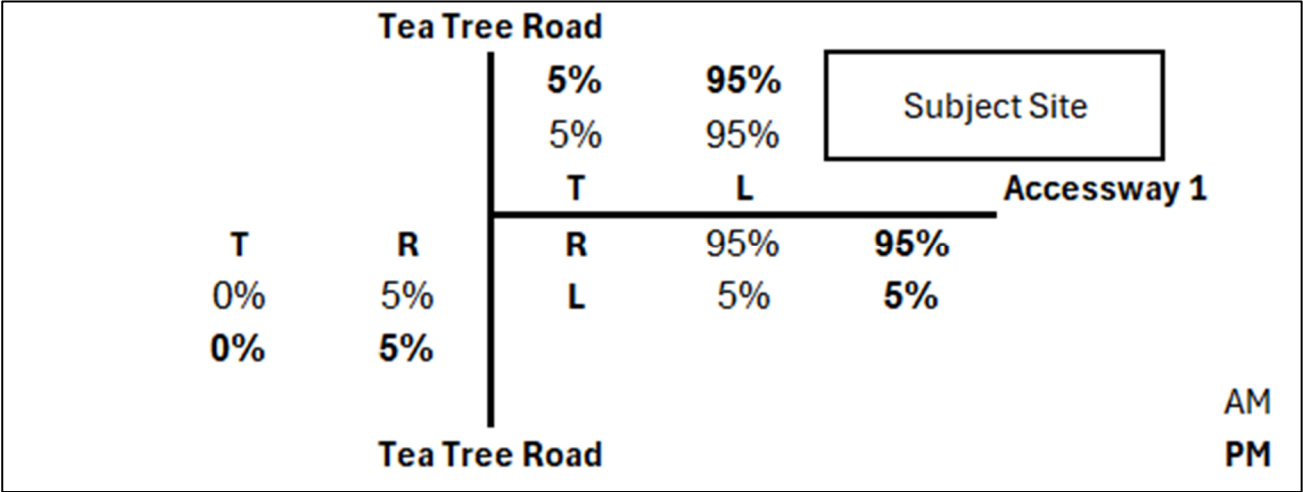


Figure 4.4 Development Distribution on Tea Tree Road / Accessway 1

## 5. Traffic Assessment Criteria

### 5.1 Assessment Scenarios

Burchills Engineering Solutions has assumed a year of opening in 2025 for Aged Care and a 10-year horizon has been considered as of the year 2034.

Table 5.1 summarises the impact assessment scenarios.

**Table 5.1 Impact Assessment Scenarios**

Impact Assessment Scenario	Study Intersection
2025 BG	<ul style="list-style-type: none"> <li>The Lakes Way / Tea Tree Road</li> </ul>
2025 BG + DEV	<ul style="list-style-type: none"> <li>The Lakes Way / Tea Tree Road</li> <li>Accessway 1 / Tea Tree Road</li> </ul>
2035 BG + DEV	<ul style="list-style-type: none"> <li>The Lakes Way / Tea Tree Road</li> </ul>

### 5.2 Assessment Criteria

The performance of the intersections has been analysed by using SIDRA Intersection 9 software. SIDRA is an industry-recognised analysis tool that estimates the capacity and performance of intersections based on input parameters, including geometry and traffic volumes, and provides estimates of an intersection's Degree of Saturation (DOS), queues and delays.

#### 5.2.1 Intersection Delay

The TMR GTIA recognises the intersection delay as a greater indicator of intersection performance in comparison to the previous TMR GARID's focus on the degree of saturation (DOS) criteria. The TMR GTIA appreciates that in urban networks, the DOS of an intersection may not be the most accurate representation of the intersection's operation as it is expected that existing intersections are approaching capacity with the growth of our cities.

Furthermore, for priority-controlled intersections and roundabouts, where the average peak hour delay for any movement exceeds 42 seconds, as outlined in the GTIA, the intersection should be upgraded for safety purposes. At an individual intersection level, where this threshold has been exceeded, Burchills Engineering has made further comments.

#### 5.2.2 Intersection Degree of Saturation (DoS)

While the movement delay is considered to provide a better indication of intersection performance and safety for priority-controlled intersections and roundabouts, the DOS should still be considered when assessing the performance of the intersection.

Table 5.2 provides the DOS thresholds adopted for the assessment.



**Table 5.2 Adopted Intersection Performance Thresholds - Degree of Saturation**

Intersection Treatment	DOS Threshold
Signalised Intersections	Less than or equal to 0.90
Roundabouts	Less than or equal to 0.85
Priority Controlled Intersections	Less than or equal to 0.80

*Source: TMR Guidelines for Road Impacts Development*



## 6. SIDRA Assessment

### 6.1 Intersection SIDRA Output (Year – 2025)

#### 6.1.1 Existing Intersection of The Lakes Way and Tea Tree Road

The existing intersection is currently a priority-controlled T-intersection arrangement. The aerial and SIDRA-assessed layout is illustrated in Figure 6.1.

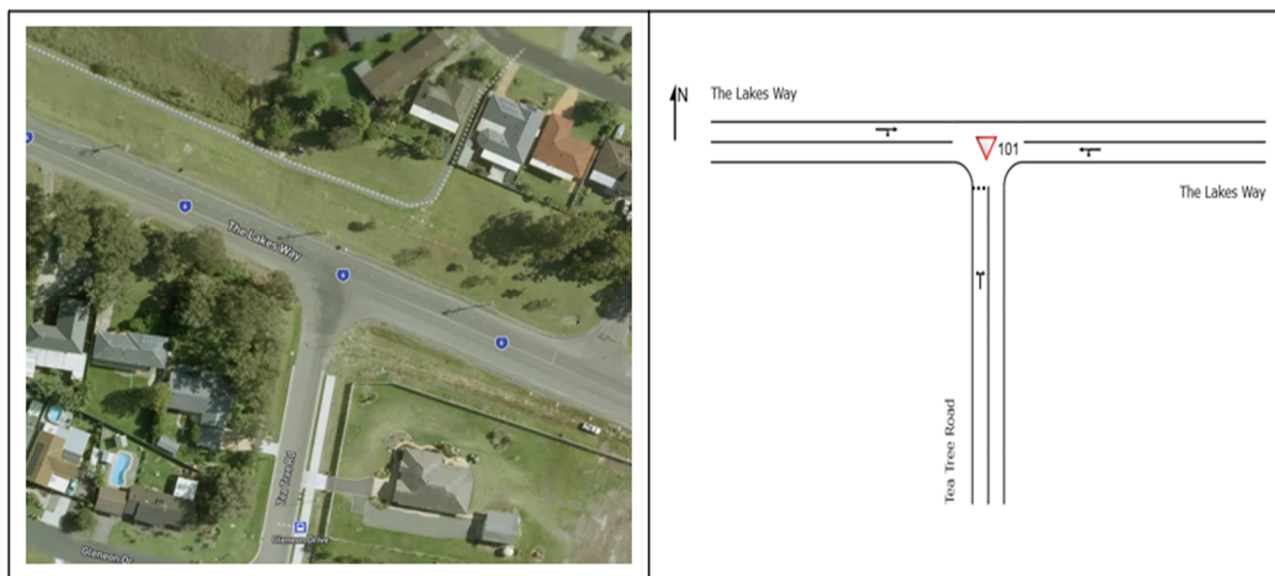


Figure 6.1 Aerial and SIDRA Layout – Intersection – The Lakes Way and Tea Tree Road

The result of the SIDRA assessment is summarised in Table 6.1. The SIDRA layouts and detailed results are included in Appendix C. The 2025 Background (BG) traffic volumes include the traffic volume generated by surrounding developments (Stage 12, Clubhouse and Boomerang Cove).

Table 6.1 SIDRA Results – Intersection – The Lakes Way and Tea Tree Road (Year 2025)

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue
2025 BG	0.177	1.1 sec	1.4 m	0.193	0.9 sec	2.6 m
2025 BG + DEV	0.193	2.4 sec	4.4 m	0.235	2.2 sec	5.9 m

As shown in Table 6.1, the T-intersection of The Lakes Way and Tea Tree Road performs within the acceptable thresholds (DOS <0.85 and delay <42 seconds) in all scenarios.

As such, The Lakes Way and Tea Tree Road intersection is anticipated to operate satisfactorily following the year of opening for the development.





### 6.1.2 Accessway 1 / Tea Tree Road

The intersection is proposed to be a three-way, priority-controlled arrangement. The SIDRA-assessed layout is illustrated in Figure 6.2.

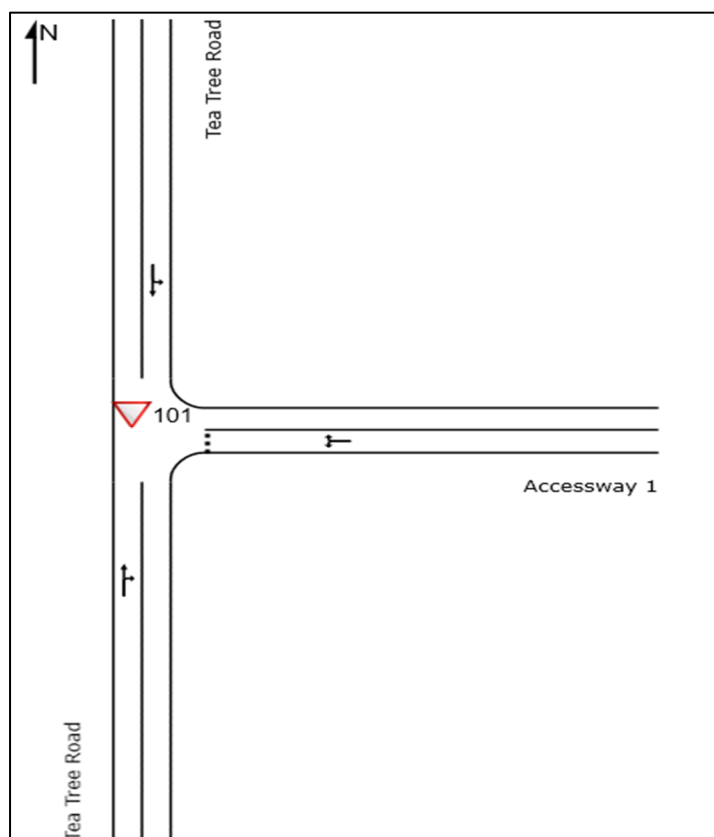


Figure 6.2 SIDRA Layout – Intersection: Accessway 1 / Tea Tree Road (Year 2025)

The results of the SIDRA assessment are summarised in Table 6.2. The SIDRA layouts and detailed results are included in Appendix C.

Table 6.2 SIDRA Results - Intersection: Accessway 1 / Tea Tree Road (Year 2025)

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue
2025 BG + DEV	0.083	0.5 sec	0.3 m	0.075	0.4 sec	0.2 m

As shown in Table 6.2, the Accessway 1 / Tea Tree Road intersection performs within the acceptable thresholds (DOS <0.80 and delay <42 seconds) in all scenarios.

As such, the Accessway 1 / Tea Tree Road intersection is anticipated to operate satisfactorily following the year of opening for the development.

## 6.2 Intersection SIDRA Output (Year – 2035)

### 6.2.1 Existing Intersection of The Lakes Way and Tea Tree Road

The result of the SIDRA assessment for the intersection of The Lakes Way and Tea Tree Road for Year 2035 is summarised in Table 6.3. The SIDRA layouts and detailed results are included in Appendix C.





**Table 6.3 SIDRA Results – Intersection – The Lakes Way and Tea Tree Road (Year 2035)**

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue	DOS	Critical Mvmt Delay	95 <sup>th</sup> %ile Queue
2035 BG	0.195	1.1 sec	1.6 m	0.241	1.0 sec	3.1 m
2035 BG + DEV	0.210	2.4 sec	4.7 m	0.256	2.2 sec	6.5 m

As shown in Table 6.3, the T-intersection of The Lakes Way and Tea Tree Road performs within the acceptable thresholds (DOS <0.85 and delay <42 seconds) in all scenarios.

As such, The Lakes Way and Tea Tree Road intersection is anticipated to operate satisfactorily following the year of opening for the development.



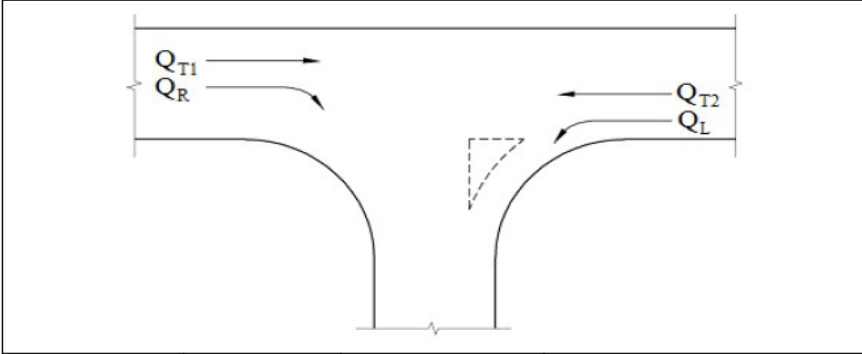


## 7. Turn Warrant Analysis

### 7.1 Turn Warrant

A turn warrant assessment has been undertaken in accordance with Department of Transport and Main Roads (DTMR) *Road Planning and Design Manual* Edition 2: Volume 3 Supplement to Austroads *Guide to Road Design* Part 4A: Unsignalised Intersections August 2014. A summary of the traffic movement parameters considered is shown Figure 7.1 below.

**Figure 4A-2 - Calculation of the major road traffic volume parameter 'Q<sub>M</sub>'**



Road Type	Turn Type	Splitter Island	Q <sub>M</sub> (veh/h)
2 Lane 2 Way	Right	No	= Q <sub>T1</sub> + Q <sub>T2</sub> + Q <sub>L</sub>
		Yes	= Q <sub>T1</sub> + Q <sub>T2</sub>
	Left	Yes/No	= Q <sub>T2</sub>
4 Lane 2 Way	Right	No	= 50% x Q <sub>T1</sub> + Q <sub>T2</sub> + Q <sub>L</sub>
		Yes	= 50% x Q <sub>T1</sub> + Q <sub>T2</sub>
	Left	Yes/No	= 50% x Q <sub>T2</sub>

**Figure 7.1 Turn Warrant Q<sub>M</sub> Traffic Flow Calculation**

### 7.2 Turn Warrant Assessment - Year 2035

#### 7.2.1 The Lakes Way and Tea Tree Road Intersection

The adopted volumes for the development scenario for the intersection of The Lakes Way and Tea Tree Road for the turn warrant assessment is shown in Table 7.1 with the turn warrant diagram shown in Figure 7.2.

**Table 7.1 Trips Peak Hours (2035)**

Traffic Volume	AM peak hour	PM peak hour
Q <sub>T1</sub> (westbound)	158	326
Q <sub>T2</sub> (eastbound)	351	249
Q <sub>L</sub>	21	26
Q <sub>R</sub>	29	74
Q <sub>M</sub> Left	351	249
Q <sub>M</sub> Right	530	601

It is to be noted that development traffic for the Clubhouse use is not considered for turn warrant assessment as the expected peak for the Clubhouse will be outside of the development peak hours. Any events or gatherings at the Clubhouse are expected to be one-off events as such the trips generated by the Clubhouse will not be in the same peak hours.





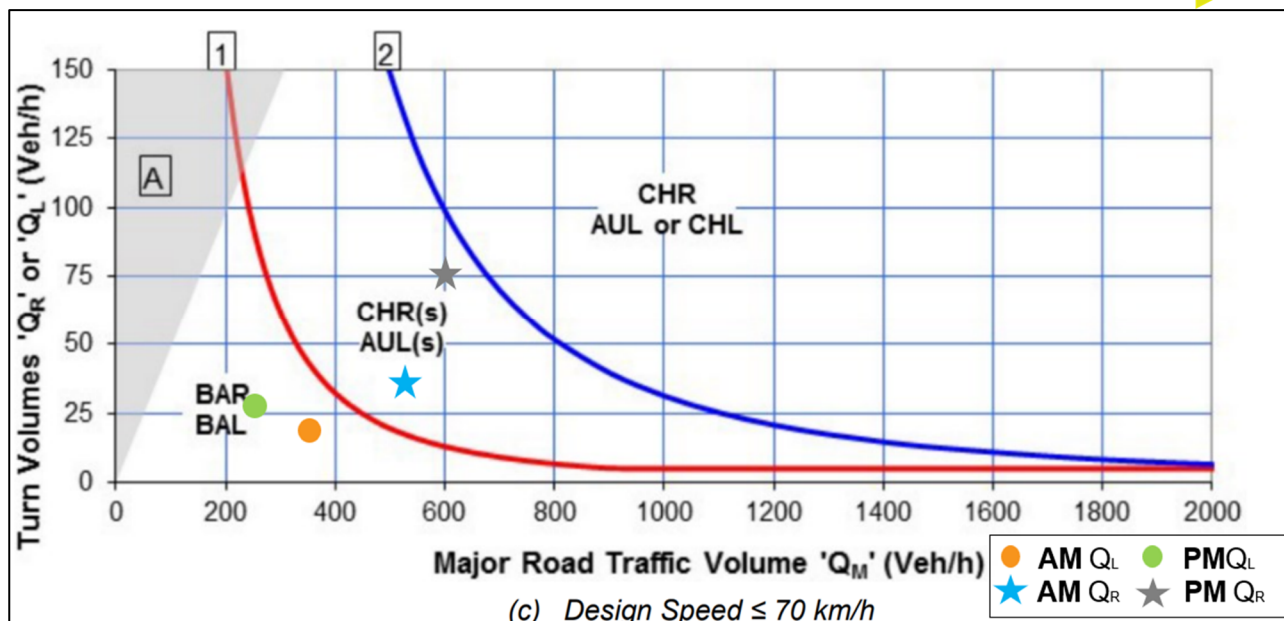


Figure 7.2 The Lakes Way and Tea Tree Road Turn Warrant Assessment for Year 2035

The assessment above indicates that the intersection of The Lakes Way and Tea Tree Road will require the provision of a Basic Left Turn (BAL) and a Channelised Right Turn short CHR(s) treatment.

Figure 7.3 below shows a diagram of a Channelised Right Turn (short) intersection layout as adopted for The Lakes Way and Tea Tree Road intersection mitigation. The line marking for the CHR(s) configuration is retrofitted to the existing intersection and passing lane. .

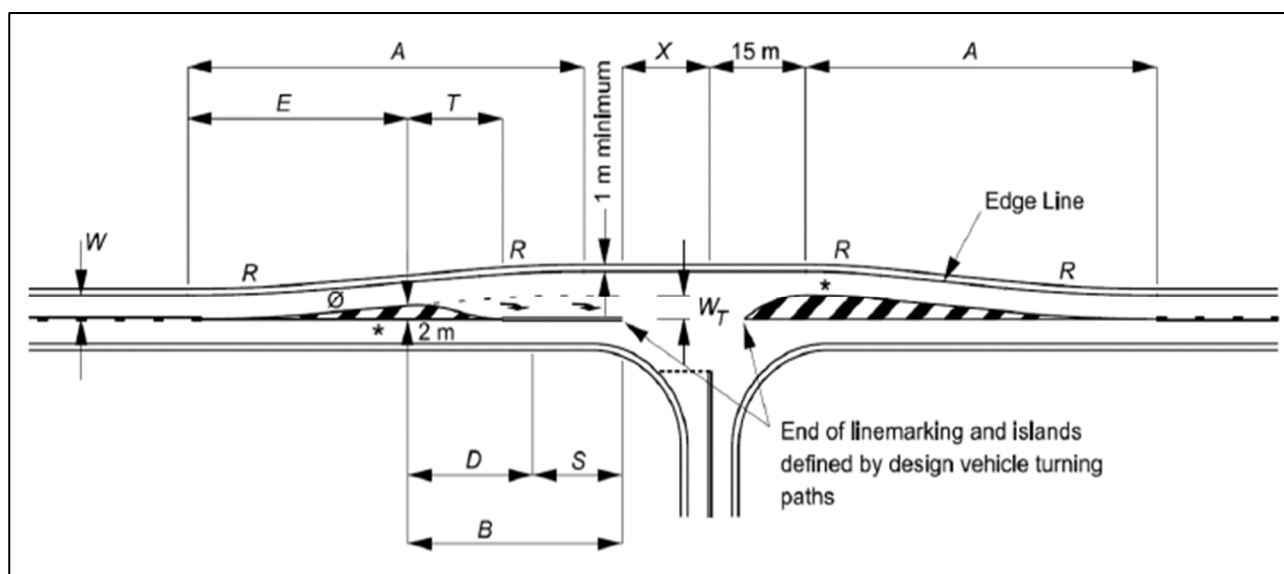


Figure 7.3 Channelised Right Turn Short CHR(s)



## 8. Design Review

### 8.1 Design Review

#### 8.1.1 Design Overview

Burchills Engineering Solutions has undertaken a detailed review of the proposed site layout to ensure compliance with relevant standards and guidelines, including:

- MidCoast Council Development Control Plan;
- Australian/New Zealand Standard AS2890.1:2004 Off-street car parking;
- Australian/New Zealand Standard AS2890.6:2022; and
- Austroads Guide to Road Design: Part 4A (AGRD).

#### 8.1.2 Sight Distance

The safe intersection sight distance (SISD) at the proposed site access intersection has been assessed against the requirements of Australian/New Zealand Standard AS2890.1:2004. The SID distances are summarized in Table 8.1 below.

**Table 8.1 Sight Distance Assessment for 60km/h Design Speed (Tea Tree Road)**

Direction	SISD (2s Reaction Time)	Available	Compliant
Facing North	65m	90m	Yes
Facing South	65m	100m+	Yes

As seen in Table 8.1 above, the sight distance at the site access intersection meets the AS2890.1:2004 requirements.

In addition to the above, pedestrian sight triangles (2m x 2.5m) on either side of the site, access will also be provided for better visibility of traffic and other road users.

#### 8.1.3 Site Access

The proposed crossover is 6m wide at the property boundary which accords with the width requirement outlined in AS2890.1 for Category 2 access facility (25 – 100 spaces with User Class 3 parking).

### 8.2 Car Parking Requirements

The car parking requirements for the development according to the MCC Car Parking and Access (Part G) are outlined in Table 8.2 below.





**Table 8.2 MCC Car Parking and Access (Part G)**

Land Use	Yield	Parking Type	Parking Rate	Parking Requirement
Aged Care	90 Beds	Visitor	1 Space per 3 beds for Visitors	30
		Doctor	1 space per 15 beds for Visiting Doctor	6
	30	Staff	1 space per 2 Staff/Resident Doctor	15
<b>Total Required</b>				<b>51</b>

As seen in Table 8.2, a total of 51 car parking spaces are required. In addition to the above parking requirements the MCC Car Parking and Access (Part G) also required parking for the Ambulance.

### 8.2.1 Car Parking Provision

The subject development benefits from the provision of 54 car parking spaces (excluding the Ambulance Bay) that exceeds the minimum requirements of MCC Car Parking and Access (Part G).

### 8.3 Car Parking Layout Review

The car parking layout has been reviewed against AS2890;1 *off-street car parking* as summarised in Table 8.3 below.

**Table 8.3 Car Parking Layout Design Review**

Design Element	Proposed	AS2890 Requirement	Compliant
Visitor / staff car parking (Class 1A and 3)	Min. 2.6m x 5.4m	2.6m x 5.4m	Yes
Parking aisle width	Min. 6.2m	Aisle width 5.8m	Yes
Blind aisle extension	Min. 1.0m	Min. 1.0m	Yes

It is also to be noted the proposed development also proposed eight (8) tandem parking arrangements for staff with a dimension of 2.6m x 10.8m.

### 8.4 Servicing Arrangements

#### 8.4.1 Requirements

The MCC Car Parking and Access (Part G) does not prescribe a service vehicle for Aged Care usage. It is anticipated that an HRV vehicle (10.7m long custom vehicle adopted) will be the largest vehicle accessing the subject site.

#### 8.4.2 Waste Collection

The subject development is expected to use the onsite bin collection service. The waste collection vehicle, which is smaller than the custom design vehicle adopted, can ingress/egress the subject site in forward gear.

A swept path assessment is provided at Appendix D.



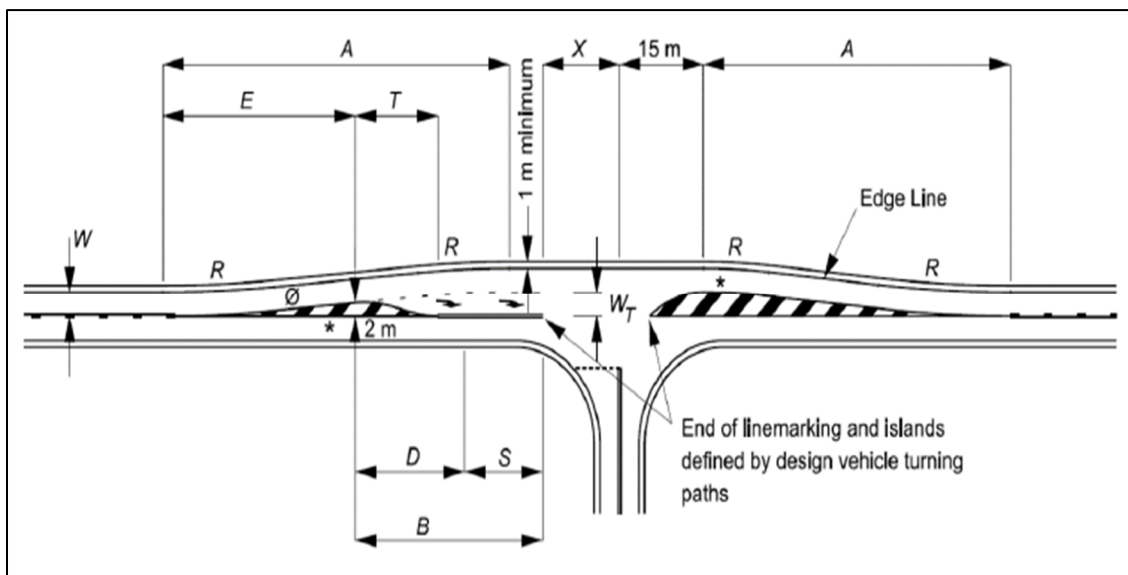


## 9. Conclusions

Burchills Engineering Solutions has been engaged by Palm Lake Works Pty Ltd to provide a Traffic Assessment Report (TAR) for the Aged Care (90-bed) development at 2-4 Tea Tree Road, Forster.

Based on the assessment and analysis outlined within this report, the following conclusions are made:

- The development includes a total of 90-bed aged care usage;
- The development is anticipated to generate 18 vehicles per peak hour during both AM and PM Peaks;
- Access to the development is to be provided via site intersections with Tea Tree Road;
- The operation of the Tea Tree Road / Accessway 1 intersection has been assessed using SIDRA Intersection. The results of the assessment indicate that the site access intersections will operate within acceptable performance thresholds for the year of opening scenario;
- The operation of The Lakes Way / Tea Tree Road intersection has been assessed using SIDRA Intersection for the 2025 and 2035 post-development scenarios. The results of the assessment indicate that the intersection will operate within acceptable performance thresholds during the AM and PM post-development design scenarios;
- Both new accesses are designed to meet the Safe Sight Distance (SSD) requirements;
- The assessment above indicates that the intersection of The Lakes Way and Tea Tree Road will require the provision of a Basic Left Turn (BAL) and a Channelised Right Turn Short CHR(s) treatment; and
- The figure below shows a diagram of a Channelised Right Turn Short CHR(s).



The Channelised Right Turn short CHR(s) being the recommended treatment for the intersection mitigation works proposed. The line marking being retrofitted to the existing passing lane.

On the basis of the above, the proposed development is considered to be satisfactory from a traffic engineering perspective.



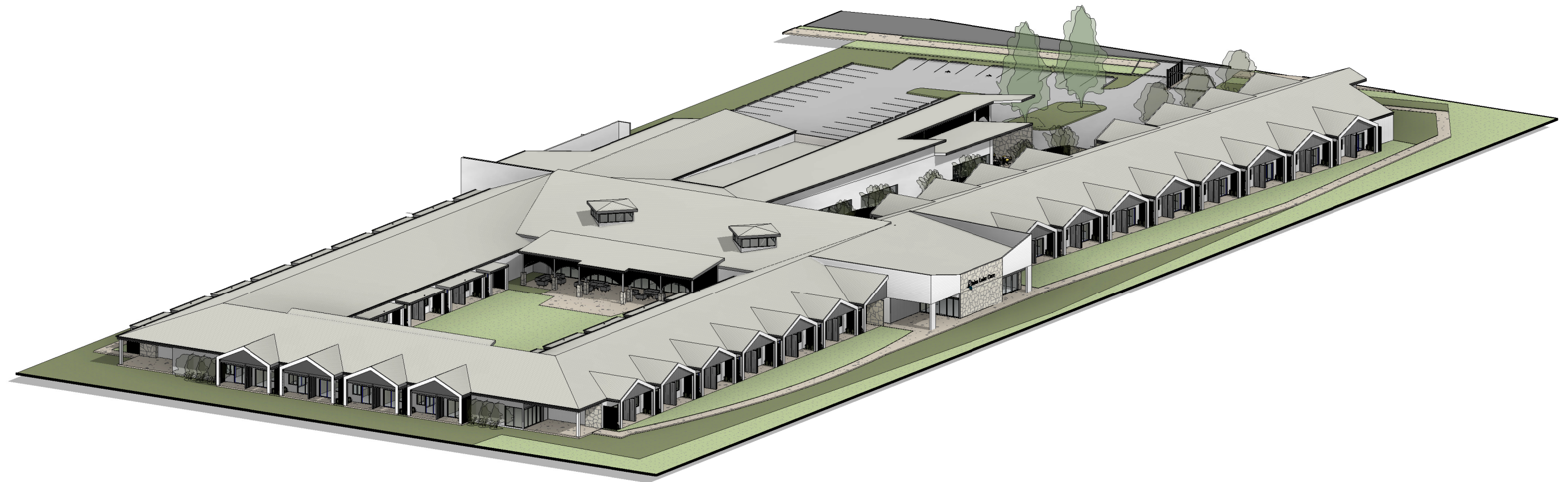


## Appendix A – Site Layout

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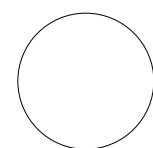
AXONOMETRIC VIEWS

PALM LAKE CARE - FORSTER

PALM LAKE WORKS

20230024 SD901 6

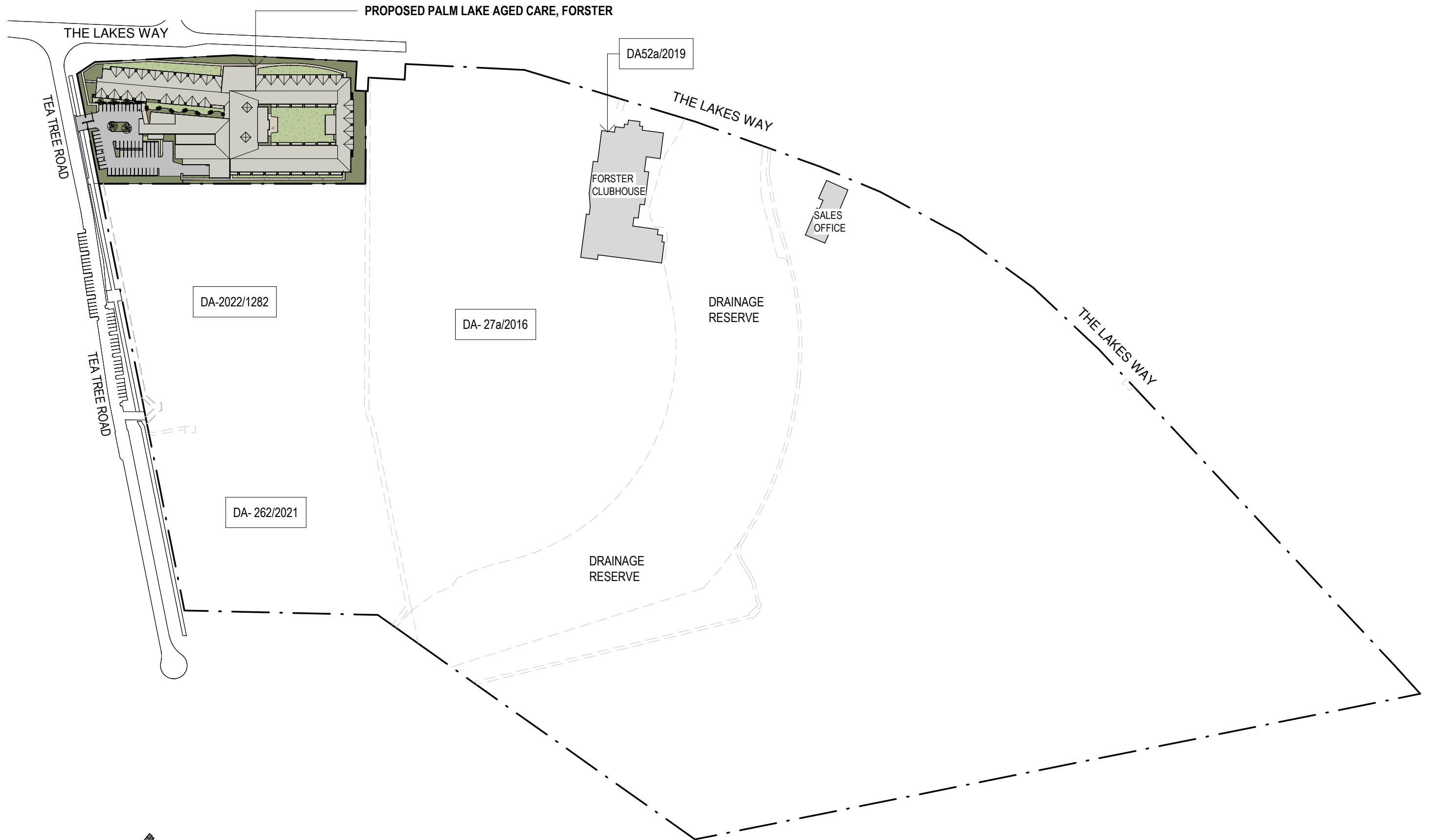
06/09/2024



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Suite 1A, 76 Commercial Road, Teneriffe QLD 4005 T: 07 3252 1711 E: brisbane@pwarch.com.au  
Unit 11, 58-60 Torquay Road, Pialba Q 4655 T: 07 4124 5088 E: herveybay@pwarch.com.au

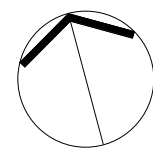




1 SITE PLAN - Locality Plan  
1 : 2500

LOCALITY SITE PLAN  
PALM LAKE CARE - FORSTER  
PALM LAKE WORKS

20230024 SD001 6  
06/09/2024



0  
Suite 1A, 76 Commercial Road, Teneriffe QLD 4005 T: 07 3252 1711 E: brisbane@pwarch.com.au  
Unit 11, 58-60 Torquay Road, Pialba Q 4655 T: 07 4124 5088 E: herveybay@pwarch.com.au

**PW**  
PARUPS WARING  
ARCHITECTURE



#### AREA CALCULATIONS:

SITE AREA: 15766.6m<sup>2</sup>  
 GFA AREA: 6690.5m<sup>2</sup>

SITE COVER: 42.5%

#### IMPERVIOUS SURFACES:

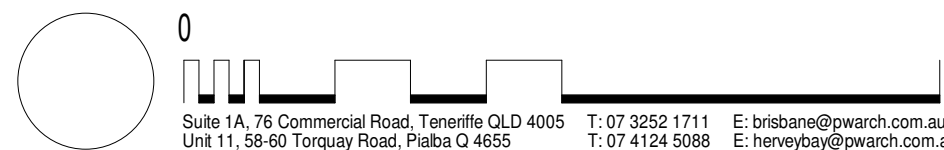
- Outdoor Roofed Area 1369.1m<sup>2</sup>  
 - Parking and Footpaths 2838.5m<sup>2</sup>

1 SITE PLAN.  
 1:1000

SITE PLAN  
 PALM LAKE CARE - FORSTER  
 PALM LAKE WORKS

20230024 SD 002 7

06/09/2024



**PW**  
 PARUPS WARING  
 ARCHITECTURE





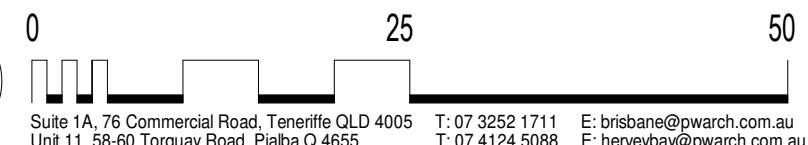
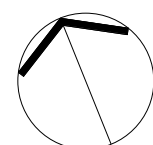
# GROUND FLOOR PLAN

PALM LAKE CARE - FORSTER

PALM LAKE WORKS

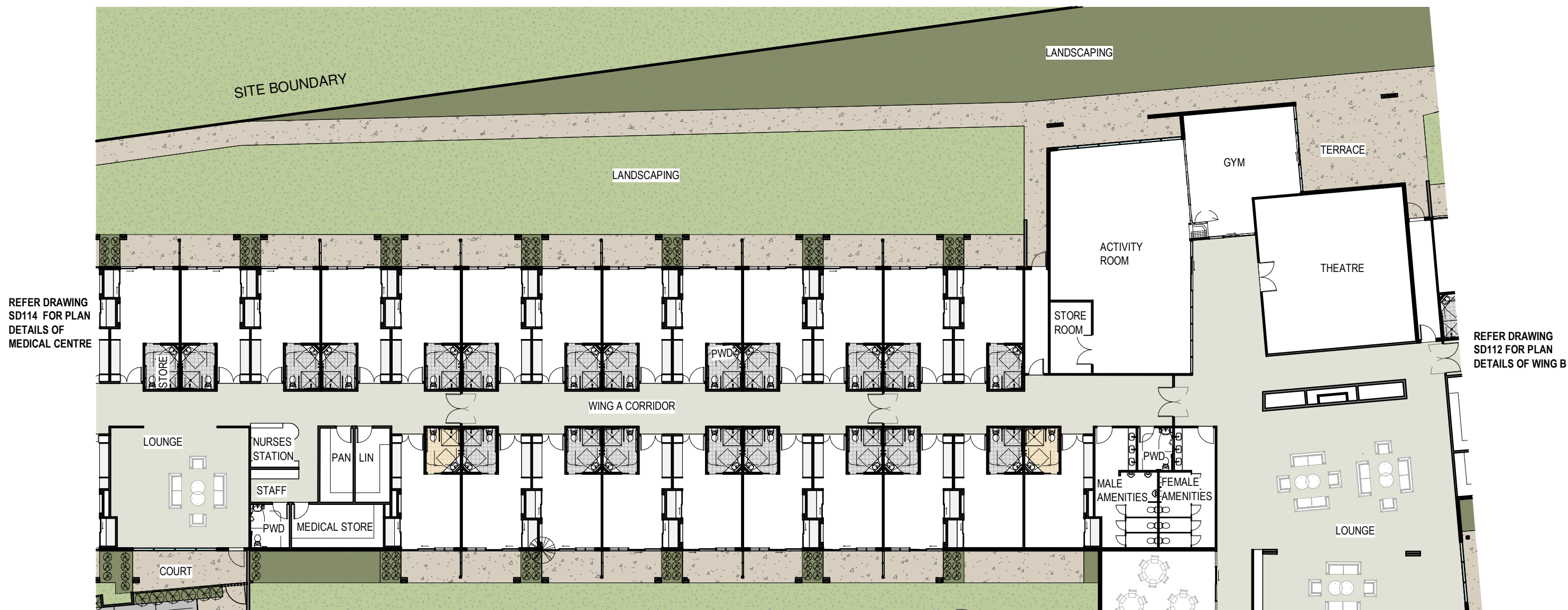
20230024 SD 101 9

06/09/2024









1 Detail Floor Plan - Wing A  
1 : 250

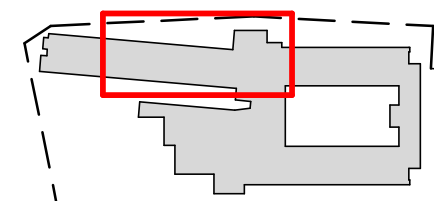
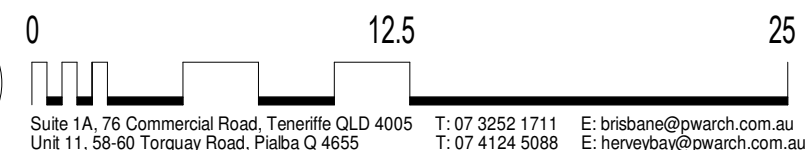
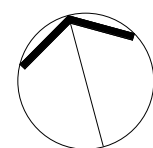
DETAIL GROUND FLOOR PLAN - WING A (PART 1)

PALM LAKE CARE - FORSTER

PALM LAKE WORKS

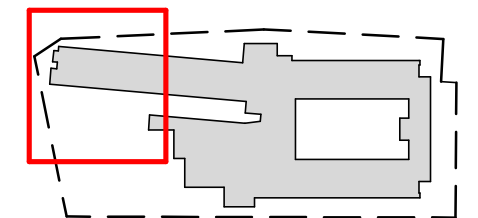
20230024 SD 111 6

06/09/2024



**PW**  
PARUPS WARING  
ARCHITECTURE





1 DETAIL FLOOR PLAN - WING A (PART 2)  
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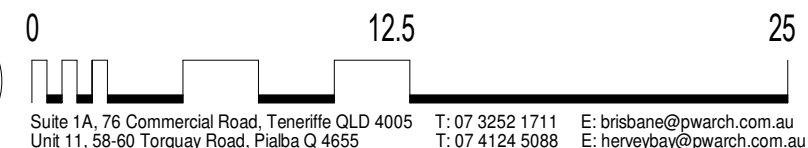
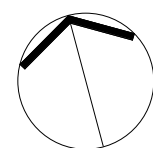
DETAIL GROUND FLOOR PLAN - WING A (PART 2)

PALM LAKE CARE - FORSTER

PALM LAKE WORKS

20230024 SD112 6

06/09/2024





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FOR PLAN DETAILS  
OF WING FOYER, LOUNGE & DINING

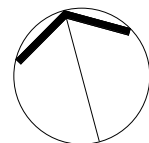
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REFER LANDSCAPE ARCHITECT FOR  
DETAILS

REFER DRAWING SD113  
FOR PLAN DETAILS  
OF WING C

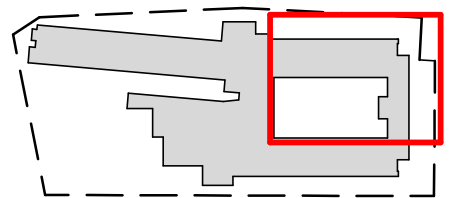
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1:250

DETAIL GROUND FLOOR PLAN - WING B & D  
PALM LAKE CARE - FORSTER  
PALM LAKE WORKS

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06/09/2024



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Unit 11, 58-60 Torquay Road, Pialba Q 4655 T: 07 4124 5088 E: herveybay@pwarch.com.au

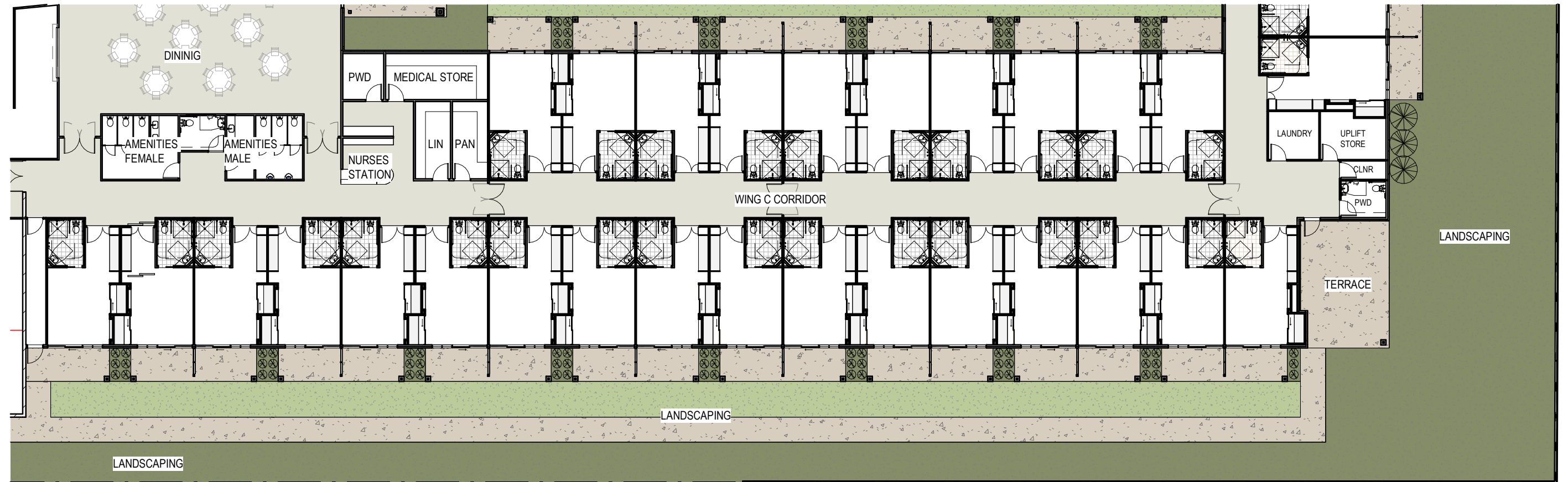


**PW**  
PARUPS WARING  
ARCHITECTURE



REFER DRAWING SD112  
FOR PLAN DETAILS  
OF WING B & WING D

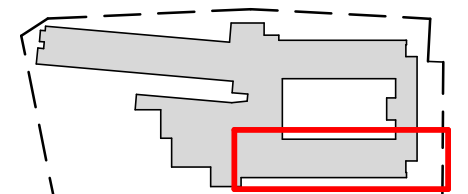
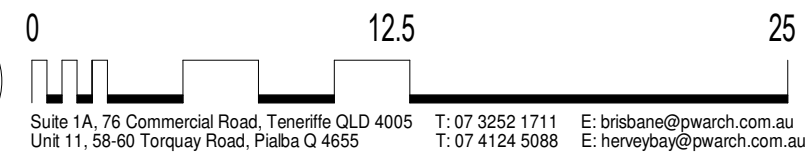
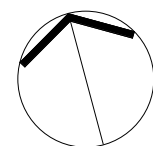
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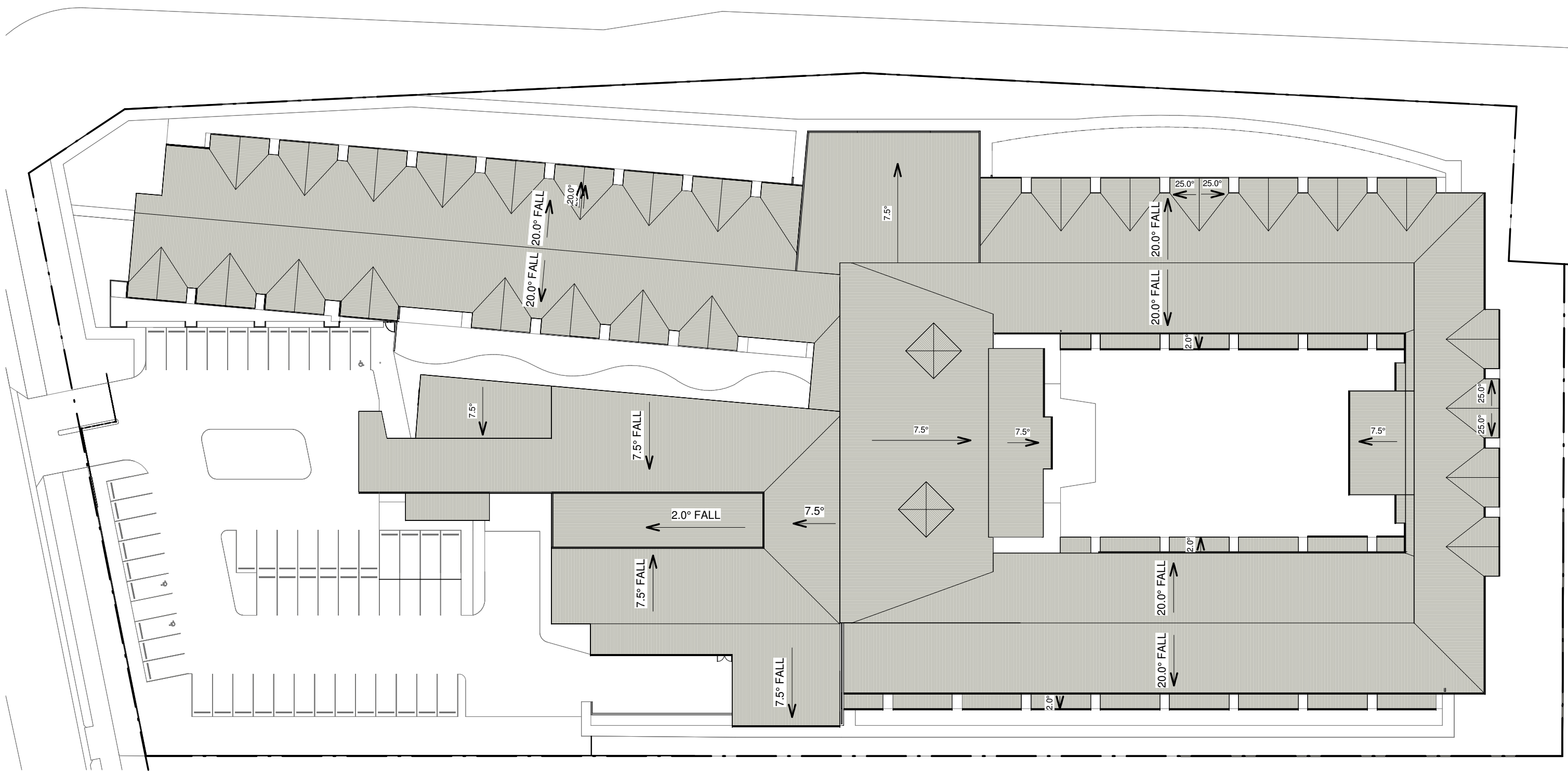
1 Detail Floor Plan - Wing C  
1 : 250

DETAIL GROUND FLOOR PLAN - WING C  
PALM LAKE CARE - FORSTER  
PALM LAKE WORKS

20230024 SD 114 6  
06/09/2024



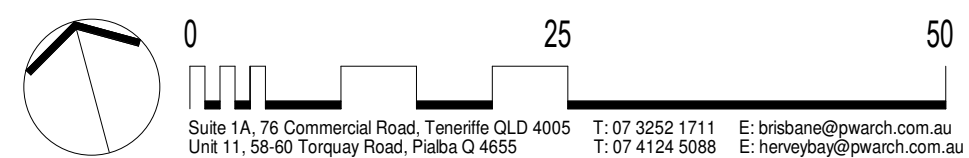
**PW**  
PARUPS WARING  
ARCHITECTURE



1 Roof Plan  
1 : 500

ROOF PLAN  
PALM LAKE CARE - FORSTER  
PALM LAKE WORKS

20230024 SD 300 6  
06/09/2024





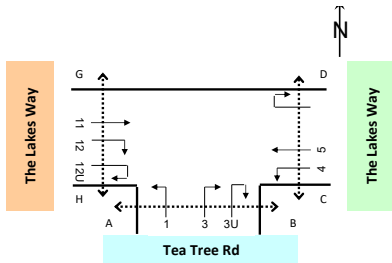


## Appendix B – Traffic Survey

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Day/Date	: Thu, 11 April 2024
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data



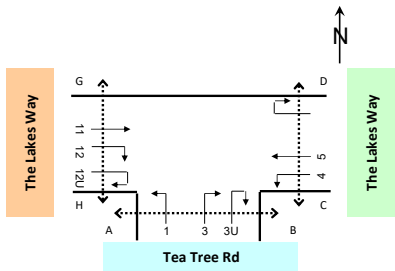
	Class 1	Class 2	Class 3		Ped Class 1	Ped Class 2
<b>Classifications</b>	Lights	Heavies	Cyclists		Peds	Cyclists

Approach	Tea Tree Rd										The Lakes Way													
Direction	Direction 1 (Left Turn)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total
6:00 to 6:15	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	30	2	0	32	0	0	0	0
6:15 to 6:30	2	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	33	0	0	33	0	0	0	0
6:30 to 6:45	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	34	2	0	36	0	0	0	0
6:45 to 7:00	3	0	1	3	2	0	0	2	0	0	0	0	0	0	0	0	41	1	0	42	0	0	0	0
7:00 to 7:15	1	1	0	2	1	0	0	1	0	0	0	0	0	0	0	0	28	4	0	32	0	0	0	0
7:15 to 7:30	6	0	0	6	1	0	0	1	0	0	0	0	0	0	0	0	47	1	4	48	0	0	0	0
7:30 to 7:45	4	0	0	4	4	0	0	4	0	0	0	0	0	0	0	0	62	2	1	64	0	0	0	0
7:45 to 8:00	7	0	0	7	0	1	0	1	0	0	0	0	1	0	0	1	68	3	0	71	0	0	0	0
8:00 to 8:15	5	0	0	5	2	0	0	2	0	0	0	0	0	1	0	1	60	2	0	62	0	0	0	0
8:15 to 8:30	14	0	0	14	1	0	0	1	0	0	0	0	1	0	0	1	94	3	0	97	0	0	0	0
8:30 to 8:45	16	0	0	16	0	0	0	0	0	0	0	0	3	0	0	3	73	3	0	76	0	0	0	0
8:45 to 9:00	15	1	0	16	1	0	0	1	0	0	0	0	0	0	0	0	80	1	0	81	0	0	0	0
AM Totals	77	2	1	79	13	1	0	14	0	0	0	0	6	1	0	7	650	24	5	674	0	0	0	0
15:00 to 15:15	9	0	0	9	1	0	0	1	0	0	0	0	2	0	0	2	59	2	0	61	0	0	0	0
15:15 to 15:30	8	0	0	8	1	0	0	1	0	0	0	0	0	0	0	0	59	3	0	62	0	0	0	0
15:30 to 15:45	6	0	0	6	0	0	0	0	0	0	0	0	3	0	0	3	42	4	0	46	0	0	0	0
15:45 to 16:00	5	0	0	5	1	0	0	1	0	0	0	0	1	0	0	1	53	2	0	55	0	0	0	0
16:00 to 16:15	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	46	3	0	49	0	0	0	0
16:15 to 16:30	4	0	0	4	1	0	0	1	0	0	0	0	1	0	0	1	35	1	0	36	0	0	0	0
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17:30 to 17:45	8	0	0	8	1	0	0	1	0	0	0	0	0	0	0	0	26	1	0	27	0	0	0	0
17:45 to 18:00	2	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	24	1	0	25	0	0	0	0
PM Totals	63	1	0	64	12	0	0	12	0	0	0	0	14	1	0	15	491	23	0	514	0	0	0	0

Approach	The Lakes Way												Crossing Pedestrians																				
Direction	Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)				B to A			A to B			D to C			C to D			H to G						G to H		
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total			
6:00 to 6:15	15	2	4	17	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:15 to 6:30	26	1	1	27	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0			
6:30 to 6:45	38	4	0	42	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45 to 7:00	47	4	0	51	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:00 to 7:15	34	1	0	35	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0			
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7:45 to 8:00	31	4	0	35	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
8:00 to 8:15	31	3	0	34	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 to 8:30	19	4	0	23	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 to 8:45	36	4	0	40	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0			
8:45 to 9:00	43	2	0	45	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
AM Totals	375	38	5	413	36	4	0	40	0	0	0	0	0	0	0	0	0	0	1	1	2	3	0	3	3	0	0	3	0	0	0		
15:00 to 15:15	52	1	0	53	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:15 to 15:30	93	2	0	95	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:30 to 15:45	74	6	0	80	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:45 to 16:00	65	1	0	66	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16:00 to 16:15	67	1	0	68	8	1	0	9	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16:15 to 16:30	69	1	0	70	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16:30 to 16:45	53	3	0	56	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16:45 to 17:00	57	3	0	60	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
17:00 to 17:15	55	1	0	56	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
17:15 to 17:30	71	0	0	71	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0			

[illegible]

<b>Job No.</b>	: AUNSW9287
<b>Client</b>	: Burchills
<b>Suburb</b>	: Forster
<b>Location</b>	: 1. The Lakes Way / Tea Tree Rd
<b>Day/Date</b>	: Thu, 11 April 2024
<b>Weather</b>	: Fine
<b>Description</b>	: Classified Intersection Count
	: Hourly Summary



Approach	Tea Tree Rd												The Lakes Way													
Direction	Direction 1 (Left Turn)					Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)					Direction 6U (U Turn)			
Time Period	Lights	Heavies	Cyclists	Total		Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total		Lights	Heavies	Cyclists	Total
6:00 to 7:00	9	0	1	9		3	0	0	3	0	0	0	0	1	0	0	1	138	5	0	143		0	0	0	0
6:15 to 7:15	9	1	1	10		4	0	0	4	0	0	0	0	1	0	0	1	136	7	0	143		0	0	0	0
6:30 to 7:30	13	1	1	14		4	0	0	4	0	0	0	0	1	0	0	1	150	8	4	158		0	0	0	0
6:45 to 7:45	14	1	1	15		8	0	0	8	0	0	0	0	0	0	0	0	178	8	5	186		0	0	0	0
7:00 to 8:00	18	1	0	19		7	0	0	7	0	0	0	0	1	0	0	1	205	10	5	215		0	0	0	0
7:15 to 8:15	22	0	0	22		8	0	0	8	0	0	0	0	1	1	0	2	237	8	5	245		0	0	0	0
7:30 to 8:30	30	0	0	30		8	0	0	8	0	0	0	0	2	1	0	3	284	10	1	294		0	0	0	0
7:45 to 8:45	42	0	0	42		4	0	0	4	0	0	0	0	5	1	0	6	295	11	0	306		0	0	0	0
8:00 to 9:00	50	1	0	51		4	0	0	4	0	0	0	0	4	1	0	5	307	9	0	316		0	0	0	0
AM Totals	77	2	1	79		13	1	0	14	0	0	0	0	6	1	0	7	650	24	5	674		0	0	0	0
15:00 to 16:00	28	0	0	28		3	0	0	3	0	0	0	0	6	0	0	6	213	11	0	224		0	0	0	0
15:15 to 16:15	26	1	0	27		2	0	0	2	0	0	0	0	4	0	0	4	200	12	0	212		0	0	0	0
15:30 to 16:30	22	1	0	23		2	0	0	2	0	0	0	0	5	0	0	5	176	10	0	186		0	0	0	0
15:45 to 16:45	23	1	0	24		4	0	0	4	0	0	0	0	3	0	0	3	169	7	0	176		0	0	0	0
16:00 to 17:00	20	1	0	21		4	0	0	4	0	0	0	0	4	0	0	4	154	6	0	160		0	0	0	0
16:15 to 17:15	15	0	0	15		7	0	0	7	0	0	0	0	8	0	0	8	152	5	0	157		0	0	0	0
16:30 to 17:30	14	0	0	14		6	0	0	6	0	0	0	0	7	1	0	8	147	6	0	153		0	0	0	0
16:45 to 17:45	15	0	0	15		5	0	0	5	0	0	0	0	6	1	0	7	138	6	0	144		0	0	0	0
17:00 to 18:00	15	0	0	15		5	0	0	5	0	0	0	0	4	1	0	5	124	6	0	130		0	0	0	0
PM Totals	63	1	0	64		12	0	0	12	0	0	0	0	14	1	0	15	491	23	0	514		0	0	0	0

Approach		The Lakes Way												Crossing Pedestrians																				
Direction		Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)				B to A			A to B			D to C			C to D			H to G						G to H		
Time Period		Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total			
6:00 to 7:00		126	11	5	137	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0			
6:15 to 7:15		145	10	1	155	7	1	0	8	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3	0	3	0	0	0			
6:30 to 7:30		152	15	0	167	8	1	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0			
6:45 to 7:45		136	14	0	150	9	3	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0			
7:00 to 8:00		120	14	0	134	12	3	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	2	0	0	0			
7:15 to 8:15		117	16	0	133	10	2	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0			
7:30 to 8:30		103	14	0	117	12	2	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
7:45 to 8:45		117	15	0	132	14	1	0	15	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0			
8:00 to 9:00		129	13	0	142	18	1	0	19	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0			
AM Totals		375	38	5	413	36	4	0	40	0	0	0	0	0	0	0	0	0	1	1	2	3	0	3	3	0	3	0	0	0	0			
15:00 to 16:00		284	10	0	294	40	1	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:15 to 16:15		299	10	0	309	38	2	0	40	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:30 to 16:30		275	9	0	284	40	2	0	42	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:45 to 16:45		254	6	0	260	38	2	0	40	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16:00 to 17:00		246	8	0	254	30	2	0	32	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0			
16:15 to 17:15		234	8	0	242	30	1	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0			
16:30 to 17:30		236	7	0	243	20	1	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	2	1	0	1			
16:45 to 17:45		233	4	0	237	19	0	0	19	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	2	0	2	1	0	1	1			
17:00 to 18:00		211	2	0	213	19	0	0	19	1	0	0	1	0	0	0	0	0	0	1	0	1	1	1	0	1	2	0	2	1	0	1		
PM Totals		741	20	0	761	89	3	0	92	2	0	0	2	0	0	0	0	0	0	1	0	1	2	0	2	2	0	2	1	0	1			



## Appendix C – SIDRA Output

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## SITE LAYOUT

▽ Site: 101 [The Lakes Way and Tea Tree Road AM Peak 2025  
BG (Site Folder: The Lakes Way and Tea Tree Road)]

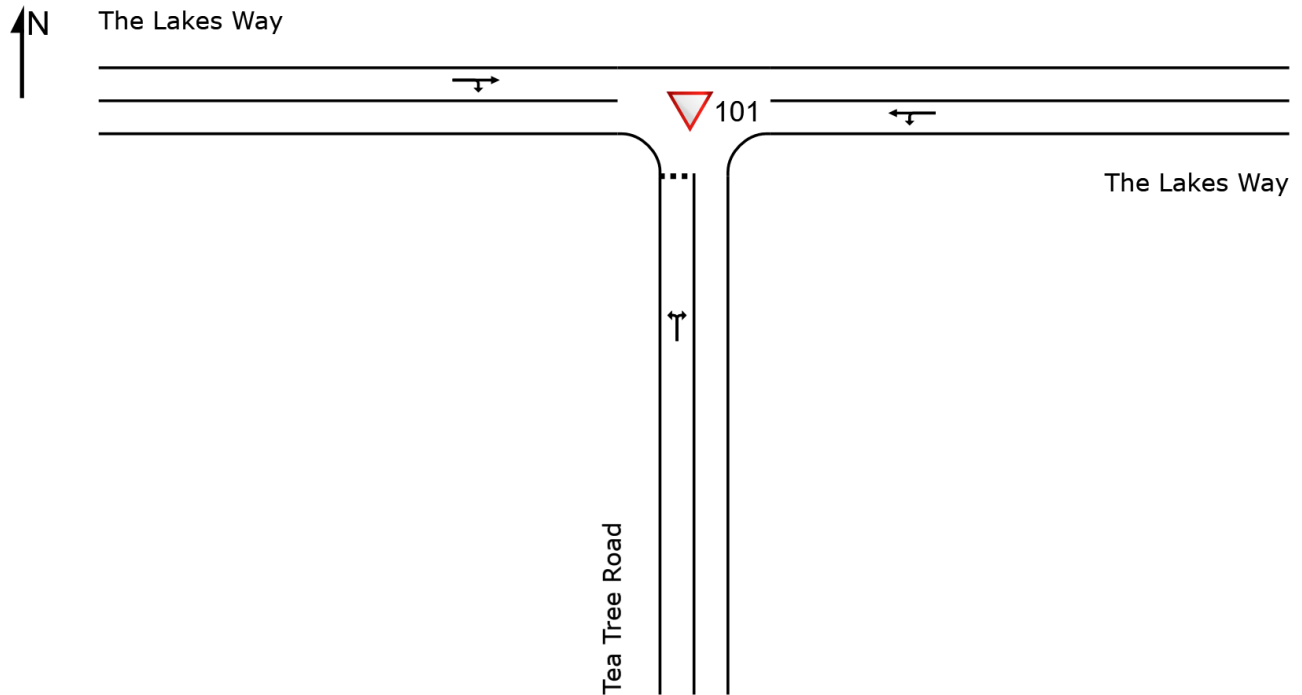
---

New Site

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: BURCHILLS ENGINEERING SOLUTIONS | Licence: NETWORK / 1PC | Created: Monday, 27 May 2024 12:13:23 PM

Project: I:\Projects\2019\BE190213\_223 The Lakes Way, Forster\Traffic\SIDRA\SIDRA (Aged Care, Access of Tea Tree Road).sip9

# MOVEMENT SUMMARY

Site: 101 [The Lakes Way and Tea Tree Road AM Peak 2025  
BG (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	52	2.0	55	2.0	0.052	6.7	LOS A	0.2	1.4	0.39	0.62	0.39	52.3
3	R2	4	0.0	4	0.0	0.052	7.8	LOS A	0.2	1.4	0.39	0.62	0.39	52.0
Approach		56	1.9	59	1.9	0.052	6.8	LOS A	0.2	1.4	0.39	0.62	0.39	52.3
East: The Lakes Way														
4	L2	5	5.0	5	5.0	0.177	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.0
5	T1	319	3.0	336	3.0	0.177	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		324	3.0	341	3.0	0.177	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: The Lakes Way														
11	T1	143	9.0	151	9.0	0.097	0.3	LOS A	0.2	1.3	0.12	0.07	0.12	58.8
12	R2	19	5.0	20	5.0	0.097	6.9	LOS A	0.2	1.3	0.12	0.07	0.12	56.5
Approach		162	8.5	171	8.5	0.097	1.0	NA	0.2	1.3	0.12	0.07	0.12	58.5
All Vehicles		542	4.6	571	4.6	0.177	1.1	NA	0.2	1.4	0.08	0.09	0.08	58.6

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



# MOVEMENT SUMMARY

Site: 101 [The Lakes Way and Tea Tree Road PM Peak 2025  
BG (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	28	0.0	29	0.0	0.027	6.3	LOS A	0.1	0.7	0.32	0.57	0.32	52.6
3	R2	3	0.0	3	0.0	0.027	8.2	LOS A	0.1	0.7	0.32	0.57	0.32	52.2
Approach		31	0.0	33	0.0	0.027	6.5	LOS A	0.1	0.7	0.32	0.57	0.32	52.6
East: The Lakes Way														
4	L2	6	0.0	6	0.0	0.128	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.2
5	T1	226	5.0	238	5.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		232	4.9	244	4.9	0.128	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
West: The Lakes Way														
11	T1	297	3.0	313	3.0	0.193	0.2	LOS A	0.4	2.6	0.11	0.07	0.11	58.9
12	R2	41	2.0	43	2.0	0.193	6.5	LOS A	0.4	2.6	0.11	0.07	0.11	56.7
Approach		338	2.9	356	2.9	0.193	1.0	NA	0.4	2.6	0.11	0.07	0.11	58.6
All Vehicles		601	3.5	633	3.5	0.193	0.9	NA	0.4	2.6	0.08	0.08	0.08	58.7

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

# MOVEMENT SUMMARY

Site: 101 [The Lakes Way and Tea Tree Road AM Peak 2025  
WD (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	148	2.0	156	2.0	0.153	6.9	LOS A	0.6	4.4	0.42	0.65	0.42	52.2
3	R2	15	0.0	16	0.0	0.153	8.2	LOS A	0.6	4.4	0.42	0.65	0.42	51.9
Approach		163	1.8	172	1.8	0.153	7.0	LOS A	0.6	4.4	0.42	0.65	0.42	52.2
East: The Lakes Way														
4	L2	33	5.0	35	5.0	0.193	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.6
5	T1	319	3.0	336	3.0	0.193	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
Approach		352	3.2	371	3.2	0.193	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.2
West: The Lakes Way														
11	T1	143	9.0	151	9.0	0.110	0.5	LOS A	0.3	2.3	0.20	0.12	0.20	58.1
12	R2	33	5.0	35	5.0	0.110	7.1	LOS A	0.3	2.3	0.20	0.12	0.20	55.9
Approach		176	8.3	185	8.3	0.110	1.7	NA	0.3	2.3	0.20	0.12	0.20	57.7
All Vehicles		691	4.2	727	4.2	0.193	2.4	NA	0.6	4.4	0.15	0.21	0.15	57.0

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

# MOVEMENT SUMMARY

▼ Site: 101 [The Lakes Way and Tea Tree Road PM Peak 2025  
WD (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	77	0.0	81	0.0	0.086	6.3	LOS A	0.3	2.3	0.34	0.61	0.34	52.6
3	R2	15	0.0	16	0.0	0.086	9.0	LOS A	0.3	2.3	0.34	0.61	0.34	52.2
Approach		92	0.0	97	0.0	0.086	6.8	LOS A	0.3	2.3	0.34	0.61	0.34	52.5
East: The Lakes Way														
4	L2	42	0.0	44	0.0	0.148	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	57.5
5	T1	226	5.0	238	5.0	0.148	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.0
Approach		268	4.2	282	4.2	0.148	0.9	NA	0.0	0.0	0.00	0.09	0.00	58.8
West: The Lakes Way														
11	T1	297	3.0	313	3.0	0.235	0.5	LOS A	0.8	5.9	0.23	0.15	0.23	57.8
12	R2	93	2.0	98	2.0	0.235	6.7	LOS A	0.8	5.9	0.23	0.15	0.23	55.7
Approach		390	2.8	411	2.8	0.235	2.0	NA	0.8	5.9	0.23	0.15	0.23	57.3
All Vehicles		750	2.9	789	2.9	0.235	2.2	NA	0.8	5.9	0.16	0.19	0.16	57.2

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

# MOVEMENT SUMMARY

▼ Site: 101 [The Lakes Way and Tea Tree Road AM Peak 2035  
BG (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	57	2.0	60	2.0	0.059	6.9	LOS A	0.2	1.6	0.41	0.63	0.41	52.3
3	R2	4	0.0	4	0.0	0.059	8.1	LOS A	0.2	1.6	0.41	0.63	0.41	51.9
Approach		61	1.9	64	1.9	0.059	7.0	LOS A	0.2	1.6	0.41	0.63	0.41	52.2
East: The Lakes Way														
4	L2	6	5.0	6	5.0	0.195	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.9
5	T1	351	3.0	369	3.0	0.195	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		357	3.0	376	3.0	0.195	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: The Lakes Way														
11	T1	158	9.0	166	9.0	0.108	0.3	LOS A	0.2	1.5	0.13	0.07	0.13	58.8
12	R2	21	5.0	22	5.0	0.108	7.1	LOS A	0.2	1.5	0.13	0.07	0.13	56.5
Approach		179	8.5	188	8.5	0.108	1.1	NA	0.2	1.5	0.13	0.07	0.13	58.5
All Vehicles		597	4.6	628	4.6	0.195	1.1	NA	0.2	1.6	0.08	0.09	0.08	58.5

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

# MOVEMENT SUMMARY

Site: 101 [The Lakes Way and Tea Tree Road PM Peak 2035  
BG (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	31	0.0	33	0.0	0.030	6.4	LOS A	0.1	0.8	0.34	0.58	0.34	52.6
3	R2	3	0.0	3	0.0	0.030	8.7	LOS A	0.1	0.8	0.34	0.58	0.34	52.1
Approach		34	0.0	36	0.0	0.030	6.6	LOS A	0.1	0.8	0.34	0.58	0.34	52.5
East: The Lakes Way														
4	L2	7	0.0	7	0.0	0.141	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.2
5	T1	249	5.0	262	5.0	0.141	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		256	4.9	269	4.9	0.141	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
West: The Lakes Way														
11	T1	326	3.0	343	3.0	0.214	0.2	LOS A	0.4	3.1	0.12	0.08	0.12	58.8
12	R2	46	2.0	48	2.0	0.214	6.7	LOS A	0.4	3.1	0.12	0.08	0.12	56.6
Approach		372	2.9	392	2.9	0.214	1.0	NA	0.4	3.1	0.12	0.08	0.12	58.5
All Vehicles		662	3.5	697	3.5	0.214	1.0	NA	0.4	3.1	0.09	0.08	0.09	58.6

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

# MOVEMENT SUMMARY

▼ Site: 101 [The Lakes Way and Tea Tree Road AM Peak 2035  
WD (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	153	2.0	161	2.0	0.164	7.1	LOS A	0.7	4.7	0.44	0.67	0.44	52.2
3	R2	15	0.0	16	0.0	0.164	8.7	LOS A	0.7	4.7	0.44	0.67	0.44	51.8
Approach		168	1.8	177	1.8	0.164	7.2	LOS A	0.7	4.7	0.44	0.67	0.44	52.1
East: The Lakes Way														
4	L2	33	5.0	35	5.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.6
5	T1	351	3.0	369	3.0	0.210	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	59.4
Approach		384	3.2	404	3.2	0.210	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.3
West: The Lakes Way														
11	T1	158	9.0	166	9.0	0.121	0.5	LOS A	0.3	2.5	0.21	0.12	0.21	58.1
12	R2	35	5.0	37	5.0	0.121	7.3	LOS A	0.3	2.5	0.21	0.12	0.21	55.9
Approach		193	8.3	203	8.3	0.121	1.8	NA	0.3	2.5	0.21	0.12	0.21	57.7
All Vehicles		745	4.2	784	4.2	0.210	2.4	NA	0.7	4.7	0.15	0.21	0.15	57.1

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



# MOVEMENT SUMMARY

▼ Site: 101 [The Lakes Way and Tea Tree Road PM Peak 2035  
WD (Site Folder: The Lakes Way and Tea Tree Road)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
1	L2	80	0.0	84	0.0	0.093	6.4	LOS A	0.4	2.5	0.36	0.62	0.36	52.5
3	R2	16	0.0	17	0.0	0.093	9.6	LOS A	0.4	2.5	0.36	0.62	0.36	52.1
Approach		96	0.0	101	0.0	0.093	7.0	LOS A	0.4	2.5	0.36	0.62	0.36	52.4
East: The Lakes Way														
4	L2	42	0.0	44	0.0	0.161	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	57.5
5	T1	249	5.0	262	5.0	0.161	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		291	4.3	306	4.3	0.161	0.8	NA	0.0	0.0	0.00	0.09	0.00	58.9
West: The Lakes Way														
11	T1	326	3.0	343	3.0	0.256	0.5	LOS A	0.9	6.5	0.24	0.15	0.24	57.8
12	R2	97	2.0	102	2.0	0.256	6.9	LOS A	0.9	6.5	0.24	0.15	0.24	55.7
Approach		423	2.8	445	2.8	0.256	2.0	NA	0.9	6.5	0.24	0.15	0.24	57.3
All Vehicles		810	3.0	853	3.0	0.256	2.2	NA	0.9	6.5	0.17	0.18	0.17	57.2

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

## SITE LAYOUT

▽ Site: 101 [Tea Tree Road and Accessway 1 AM Peak 2025 BG  
(Site Folder: Tea Tree Road and Accessway 1)]

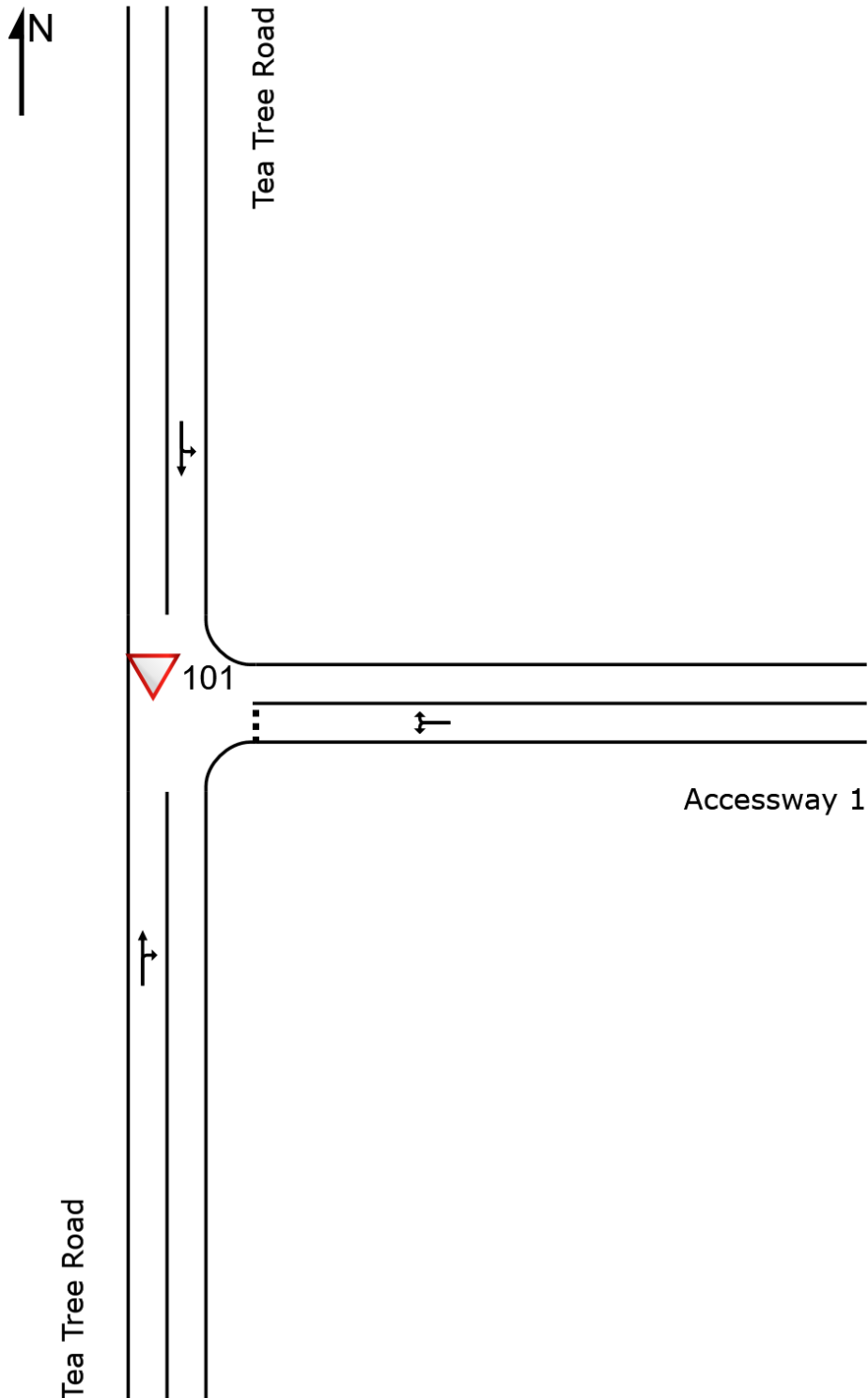
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New Site

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.





# MOVEMENT SUMMARY

▼ Site: 101 [Tea Tree Road and Accessway 1 AM Peak 2025 BG  
(Site Folder: Tea Tree Road and Accessway 1)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
2	T1	56	2.0	59	2.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
3	R2	1	1.0	1	1.0	0.031	5.5	LOS A	0.0	0.0	0.00	0.01	0.00	57.7
Approach		57	2.0	60	2.0	0.031	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
East: Accessway 1														
4	L2	1	1.0	1	1.0	0.002	5.6	LOS A	0.0	0.0	0.09	0.56	0.09	53.3
6	R2	1	1.0	1	1.0	0.002	5.7	LOS A	0.0	0.0	0.09	0.56	0.09	52.9
Approach		2	1.0	2	1.0	0.002	5.7	LOS A	0.0	0.0	0.09	0.56	0.09	53.1
North: Tea Tree Road														
7	L2	1	1.0	1	1.0	0.014	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.1
8	T1	24	5.0	25	5.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		25	4.8	26	4.8	0.014	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		84	2.8	88	2.8	0.031	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.6

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

# MOVEMENT SUMMARY

▼ Site: 101 [Tea Tree Road and Accessway 1 PM Peak 2025 BG  
(Site Folder: Tea Tree Road and Accessway 1)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
2	T1	31	1.0	33	1.0	0.017	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	59.8
3	R2	1	1.0	1	1.0	0.017	5.6	LOS A	0.0	0.0	0.01	0.02	0.01	57.6
Approach		32	1.0	34	1.0	0.017	0.2	NA	0.0	0.0	0.01	0.02	0.01	59.7
East: Accessway 1														
4	L2	1	1.0	1	1.0	0.002	5.7	LOS A	0.0	0.0	0.13	0.54	0.13	53.2
6	R2	1	1.0	1	1.0	0.002	5.7	LOS A	0.0	0.0	0.13	0.54	0.13	52.8
Approach		2	1.0	2	1.0	0.002	5.7	LOS A	0.0	0.0	0.13	0.54	0.13	53.0
North: Tea Tree Road														
7	L2	1	1.0	1	1.0	0.026	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.2
8	T1	47	5.0	49	5.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.9
Approach		48	4.9	51	4.9	0.026	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
All Vehicles		82	3.3	86	3.3	0.026	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.6

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

# MOVEMENT SUMMARY

Site: 101 [Tea Tree Road and Accessway 1 AM Peak 2025 WD  
(Site Folder: Tea Tree Road and Accessway 1)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
2	T1	152	2.0	160	2.0	0.083	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
3	R2	1	1.0	1	1.0	0.083	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	57.7
Approach		153	2.0	161	2.0	0.083	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: Accessway 1														
4	L2	1	1.0	1	1.0	0.012	5.7	LOS A	0.0	0.3	0.24	0.57	0.24	52.9
6	R2	11	1.0	12	1.0	0.012	6.3	LOS A	0.0	0.3	0.24	0.57	0.24	52.5
Approach		12	1.0	13	1.0	0.012	6.2	LOS A	0.0	0.3	0.24	0.57	0.24	52.5
North: Tea Tree Road														
7	L2	5	1.0	5	1.0	0.036	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
8	T1	61	5.0	64	5.0	0.036	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
Approach		66	4.7	69	4.7	0.036	0.4	NA	0.0	0.0	0.00	0.05	0.00	59.4
All Vehicles		231	2.7	243	2.7	0.083	0.5	NA	0.0	0.3	0.01	0.05	0.01	59.4

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

# MOVEMENT SUMMARY

▼ Site: 101 [Tea Tree Road and Accessway 1 PM Peak 2025 WD  
(Site Folder: Tea Tree Road and Accessway 1)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Tea Tree Road														
2	T1	87	1.0	92	1.0	0.047	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
3	R2	1	1.0	1	1.0	0.047	5.9	LOS A	0.0	0.1	0.01	0.01	0.01	57.7
Approach		88	1.0	93	1.0	0.047	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.9
East: Accessway 1														
4	L2	1	1.0	1	1.0	0.007	5.9	LOS A	0.0	0.2	0.26	0.57	0.26	52.9
6	R2	6	1.0	6	1.0	0.007	6.3	LOS A	0.0	0.2	0.26	0.57	0.26	52.4
Approach		7	1.0	7	1.0	0.007	6.2	LOS A	0.0	0.2	0.26	0.57	0.26	52.5
North: Tea Tree Road														
7	L2	9	1.0	9	1.0	0.075	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.9
8	T1	126	5.0	133	5.0	0.075	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		135	4.7	142	4.7	0.075	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.5
All Vehicles		230	3.2	242	3.2	0.075	0.4	NA	0.0	0.2	0.01	0.04	0.01	59.4

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

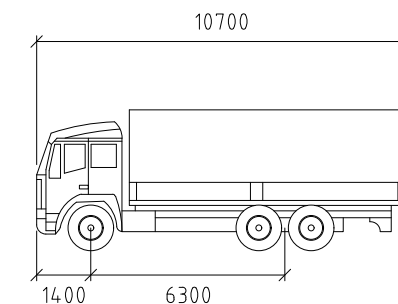
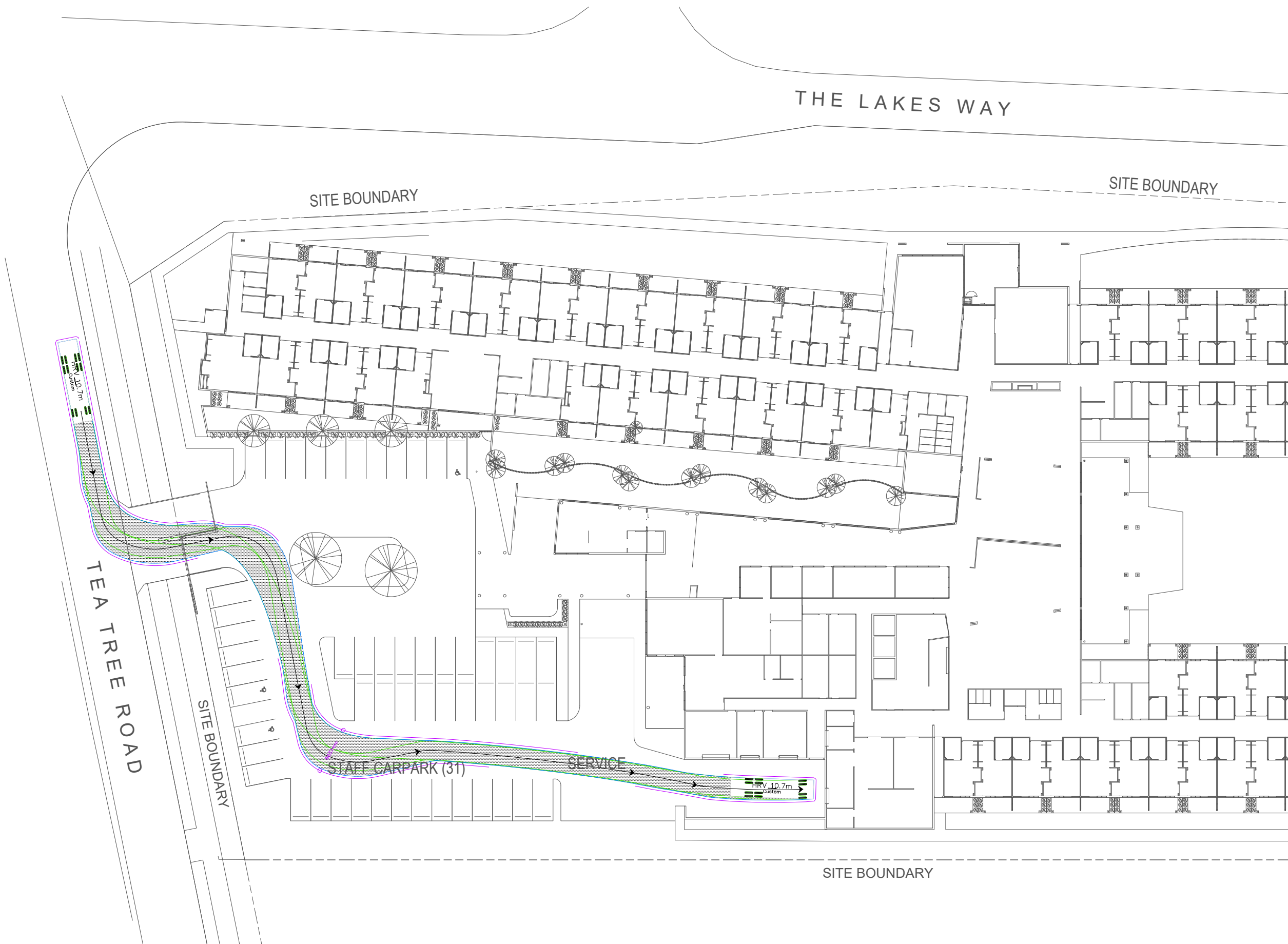
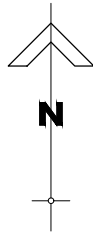




## Appendix D – Swept Path

---





HRV 10.7m

	mm
Width	: 2450
Track	: 2450
Lock to Lock Time	: 6.0
Steering Angle	: 39.0

HRV 10.7m  
Custom  
[mm]  
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Prepared for : Palmlake Works Pty Ltd

Designer : Ash Kotnala  
Checked : Dale Kleimeyre  
Date : 14-08-2024

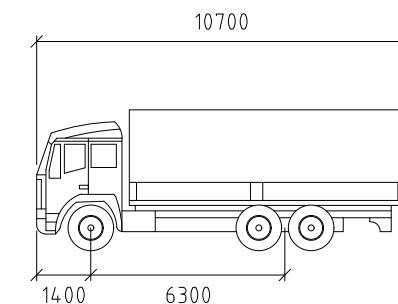
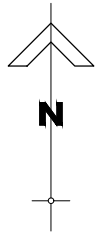
HRV (10.7m)- Swept Path  
2-4 Tea Tree Road, Forster, NSW

SCALE 5 0 5 10 (metres)  
1:250 (FULL SIZE)

BE190213-SK04



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Coote Burchills Engineering Pty Ltd  
ABN 76 166 942 365



HRV 10.7m

	mm
Width	: 2450
Track	: 2450
Lock to Lock Time	: 6.0
Steering Angle	: 39.0

HRV 10.7m  
Custom  
[mm]  
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Prepared for : Palmlake Works Pty Ltd

Designer : Ash Kotnala  
Checked : Dale Kleimeyre  
Date : 14-08-2024

HRV (10.7m)- Swept Path  
2-4 Tea Tree Road, Forster, NSW

SCALE 5 0 5 10 (metres)  
1:250 (FULL SIZE)

BE190213-SK05



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