



**23 LOT SUBDIVISION
40768 TASMAN HIGHWAY, ST LEONARDS**

**TRAFFIC IMPACT ASSESSMENT
DECEMBER 2024**





23 Lot Subdivision 40768 Tasman Hwy, St Leonards

TRAFFIC IMPACT ASSESSMENT

- Final 6
- December 2024

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Document history and status

| Revision | Date issued | Reviewed by | Approved by | Date approved | Revision type |
|----------|---------------------------|-------------|-------------|---------------------------|---------------|
| 1 | 6 th July 2023 | R Burk | R Burk | 6 th July 2023 | Draft #1 |
| 2 | 8 th Aug 2023 | R Burk | R Burk | 8 th Aug 2023 | Final |
| 3 | 14 th Oct 2024 | R Burk | R Burk | 14 th Oct 2024 | Final 2 |
| 4 | 18 th Nov 2024 | R Burk | R Burk | 18 th Nov 2024 | Final 3 |
| 5 | 19 th Nov 2024 | R Burk | R Burk | 19 th Nov 2024 | Final 4 |
| 6 | 18 th Dec 2024 | R Burk | R Burk | 18 th Dec 2024 | Final 5 |
| 7 | 20 th Dec 2024 | R Burk | R Burk | 20 th Dec 2024 | Final 6 |
| | | | | | |
| | | | | | |

Distribution of copies

| Revision | Copy no | Quantity | Issued to |
|----------|---------|----------|--------------------|
| Draft #1 | 1 | 1 | Ashley Brook (6ty) |
| Final | 1 | 1 | Ashley Brook (6ty) |
| Final 2 | 1 | 1 | Ashley Brook (6ty) |
| Final 3 | 1 | 1 | Ashley Brook (6ty) |
| Final 4 | 1 | 1 | Ashley Brook (6ty) |
| Final 5 | 1 | 1 | Ashley Brook (6ty) |
| Final 6 | 1 | 1 | Ashley Brook (6ty) |
| | | | |
| | | | |

| | |
|------------------------------|---------------------------|
| Printed: | 20 December 2024 |
| Last saved: | 20 December 2024 04:12 PM |
| File name: | 40768 Tasman Hwy |
| Author: | Richard Burk |
| Project manager: | Richard Burk |
| Name of organisation: | TBA |
| Name of project: | 40768 Tasman Hwy |
| Name of document: | 40768 Tasman Hwy |
| Document version: | Final 6 |
| Project number: | |



1. Introduction

1.1 Background

A 23-lot residential subdivision is proposed at 40768 Tasman Hwy adjacent Boomer Road, St Leonards. This report has been prepared to assess the traffic impact of the proposal.

This TIA has been prepared based on Department of State Growth (DSG) guidelines and responds to Tasmanian Planning Scheme – Launceston Codes C2 & C3.

1.2 Objectives

A Traffic Impact Assessment is a means for assisting in the planning and design of sustainable development that considers:

- Safety and capacity
- Equity and social justice
- Economic efficiency
- The environment and future development.

This TIA considers the impact of the proposal on projected traffic volumes expected by 2033.

1.3 Scope of Traffic Impact Assessment (TIA)

This TIA considers in detail the impact of the proposal on Tasman Highway and the proposed junction with Boomer Road.

1.4 References

- RTA Guide to Traffic Generating Development 2002
- Tasmanian Planning Scheme - Launceston
- Austroads Guide Road Design Part 4A: Unsignalised & Signalised Intersections 2021
- Guide to Traffic Management Part 6: Intersections, Interchanges & Crossings 2020.
- LGAT Tasmanian Standard Drawings



1.5 Statement of Qualifications and Experience

This TIA has been prepared by Richard Burk, an experienced and qualified traffic engineer in accordance with the requirements of the Department of State Growth's guidelines and Council's requirements. Richard's experience and qualifications include:

- 36 years professional experience in road and traffic engineering industry
 - Manager Traffic Engineering at the Department of State Growth until May 2017.
 - Previous national committee membership with Austroads Traffic Management Working Group and State Road Authorities Pavement Marking Working Group
- Master of Traffic, Monash University, 2004
- Post Graduate Diploma in Management, Deakin University, 1995
- Bachelor of Civil Engineering, University of Tasmania, 1987

A handwritten signature in blue ink, appearing to read 'R Burk', is shown on a light blue background.

Richard Burk

BE (Civil) M Traffic Dip Man. MIE Aust CPEng

Director Traffic and Civil Services Pty Ltd

1.6 Glossary of Terms

| | |
|-------------------|---|
| AADT | Annual Average Daily Traffic - The total number of vehicles travelling in both directions passing a point in a year divided by the number of days in a year. |
| Acceleration Lane | An auxiliary lane used to allow vehicles to increase speed without interfering with the main traffic stream. It is often used on the departure side of intersections. |
| Access | The driveway by which vehicles and/or pedestrians enter and/or leave the property adjacent to a road. |
| ADT | Average Daily Traffic – The average 24-hour volume being the total number of vehicles travelling in both directions passing a point in a stated period divided by the stated number of days in that period. |
| Austroroads | The Association of Australian and New Zealand road transport and traffic authorities and includes the Australian Local Government Association. |
| Delay | The additional travel time experienced by a vehicle or pedestrian with reference to a base travel time (e.g. the free flow travel time). |
| DSG | Department of State Growth – The Tasmanian Government Department which manages the State Road Network. |
| GFA | Gross Floor Area |
| Intersection Kerb | The place at which two or more roads meet or cross. A raised border of rigid material formed at the edge of a carriageway, pavement or bridge. |
| km/h | Kilometres per hour |
| Level of Service | An index of the operational performance of traffic on a given traffic lane, carriageway or road when accommodating various traffic volumes under different combinations of operating conditions. It is usually defined in terms of the convenience of travel and safety performance. |
| m | Metres |
| Median | A strip of road, not normally intended for use by traffic, which separates carriageways for traffic in opposite directions. Usually formed by painted lines, kerbed and paved areas grassed areas, etc. |
| Movement | A stream of vehicles that enters from the same approach and departs from the same exit (i.e. with the same origin and destination). |
| Phase | The part of a signal cycle during which one or more movements receive right-of-way subject to resolution of any vehicle or pedestrian conflicts by priority rules. A phase is identified by at least one movement gaining right-of-way at the start of it and at least one movement losing right-of-way at the end of it. |



| | |
|---|---|
| Sight Distance | The distance, measured along the road over which visibility occurs between a driver and an object or between two drivers at specific heights above the carriageway in their lane of travel. |
| Signal Phasing | Sequential arrangement of separately controlled groups of vehicle and pedestrian movements within a signal cycle to allow all vehicle and pedestrian movements to proceed. |
| SISD | Safe Intersection Sight Distance – The sight distance provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation and to decelerate to a stop before reaching the collision point. |
| Speed | Distance travelled per unit time. |
| 85th Percentile | The speed at which 85% of car drivers will travel slower and 15% will travel faster. A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian traffic demands. |
| Traffic-actuated Control | A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian traffic demands. |
| Traffic Growth Factor | A factor used to estimate the percentage annual increase in traffic volume. |
| Trip | A one-way vehicular movement from one point to another excluding the return journey. Therefore, a vehicle entering and leaving a land use is counted as two trips. (RTA Guide to Traffic generating Developments). |
| Turning Movement | The number of vehicles observed to make a particular turning movement (left or right turn, or through movement) at an intersection over a specified period. |
| Turning Movement Count | A traffic count at an intersection during which all turning movements are recorded. |
| Vehicle Actuated Traffic Signals | Traffic signals in which the phasing varies in accordance with the detected presence of vehicles on the signal approaches. |
| vpd | vehicles per day – The number of vehicles travelling in both directions passing a point during a day from midnight to midnight. |
| vph | vehicles per hour – The number of vehicles travelling in both directions passing a point during an hour. |

1.7 Site Specific Glossary of Terms

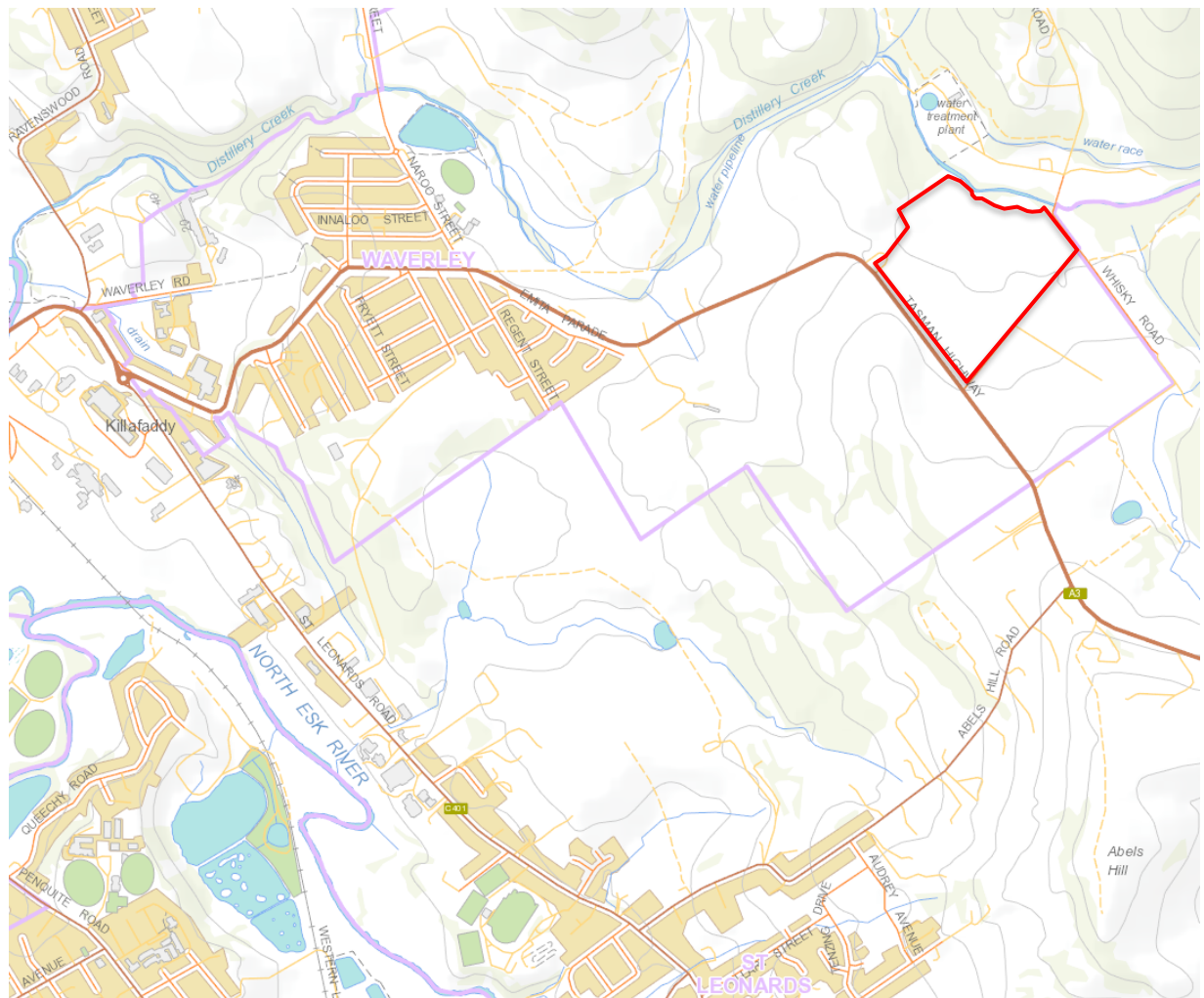
| | |
|-----|------------------------|
| CoL | City of Launceston |
| SSA | Safe System Assessment |

2. Site Description

Figures 1 & 2 show the development location of 40768 Tasman Hwy some 8 km East of the Launceston CBD. See Appendix H for property address and title reference.

The proposed subdivision site accesses Boomer Road via a proposed road. Boomer Road accesses the Tasman Highway. The subdivision site slopes gently downhill towards Distillery Creek along the Northern boundary of the site.

Figure 1 – Development location



Source: The List, DPIPWE

Figure 2 – Aerial view of proposed subdivision site



Source: The List, DPIPWE

3.1 Description of Proposed Development

Proposed Lots 1-9 access Boomer Road

Proposed Lots 10 -23 access the proposed Road

[illegible]

BOOMER ROAD
TYPICAL SECTION

SCALE 1:100

RURAL 'S4' ROAD
TYPICAL SECTION

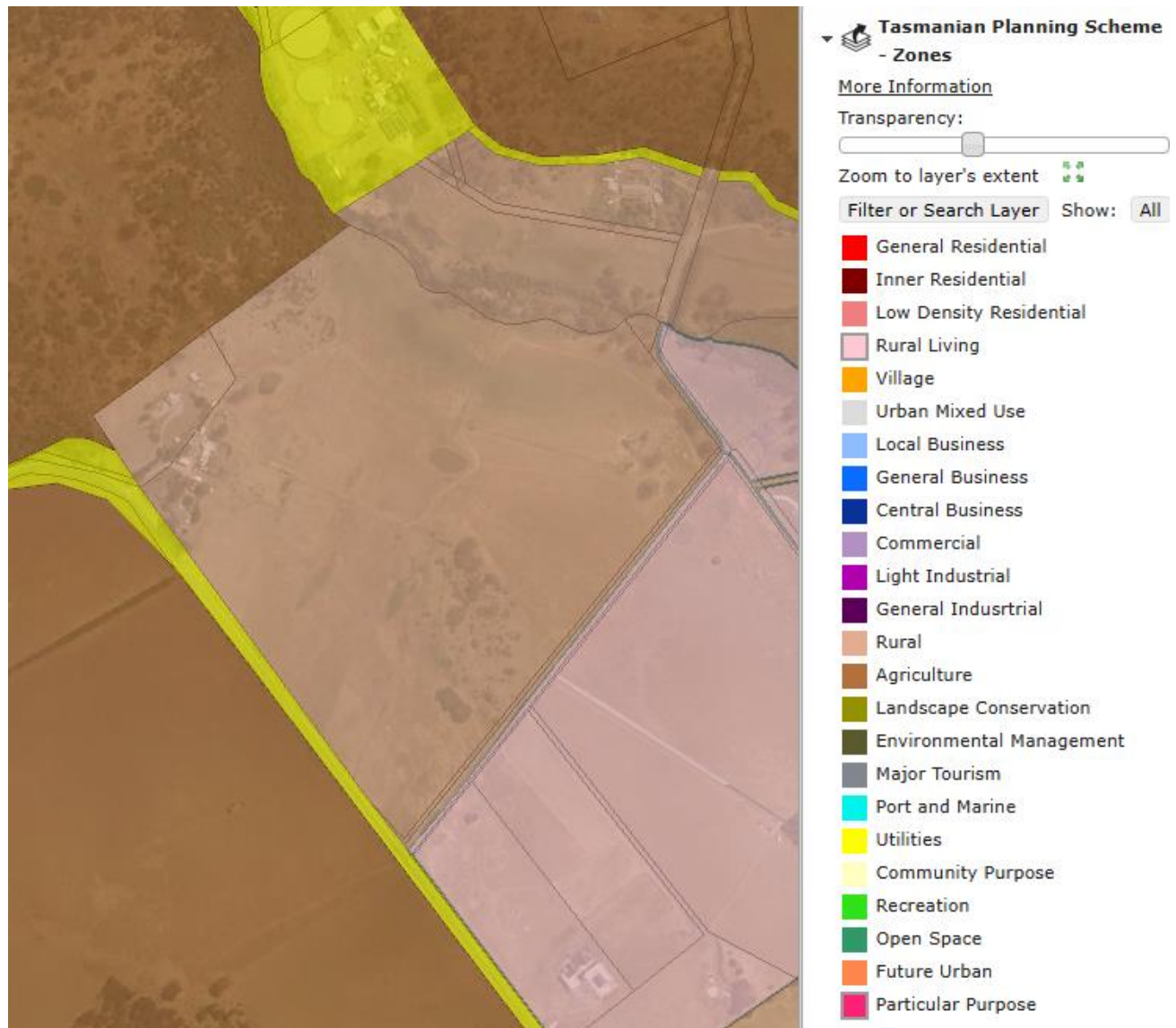
SCALE 1:100



3.2 Council Planning Scheme

The proposed development site zoning is shown in Figure 4 as per the Tasmanian Planning Scheme - Launceston.

Figure 4 – 40768 Tasman Highway is zoned Rural.



Source: *The List*, DPIPWE

3.3 State Road Network Objectives

DSG is the authority responsible for the State Road network impacted by the proposal. DSG objectives are to maintain traffic safety and capacity.

3.4 Local Road Network Objectives

City of Launceston (CoL) is the authority responsible for the Council Road network impacted by the proposal. CoL objectives are to maintain traffic safety and capacity.

4. Existing Conditions

4.1 Transport Network

The transport system adjacent the proposed development site consists of Tasman Hwy, Boomer Road and Whisky Road.

4.1.1 Tasman Highway, St Leonards

Tasman Hwy is a Category 4 Feeder Road in the State Road Hierarchy. The road does not have Limited Access status and is part of the Tasmanian 26m Double B Network, see Appendix C. The Boomer Road junction is at Chainage 9.47 of Link 91 of Tasman Hwy, see Appendix C.

Tasman Hwy has a speed limit of 100km/h on the approaches to Boomer Road, see Figure 5. The seal width is 7.3m between edge lines and the road is additionally delineated with a Separation line and guideposts. The road has no footpaths.

Figure 5 – Tasman Hwy Eastbound approach to development site.



4.1.2 Tasman Highway / Boomer Road junction

The existing junction has a simple layout and is situated midway along a straight. The Tasman Hwy approaches to the junction have an estimated speed environment of 100km/h. Figures 6-12 show the nature of the junction.



Figure 6 – Tasman Hwy / Boomer Rd junction



Simple
junction
layout.

Source: *The List*, DPIPWE

Figure 7 – Boomer Rd approach to Tasman Hwy



This State Road junction
is line marked but has no
Give Way sign.

Figure 8 – Looking right from Boomer Rd along Tasman Hwy



Sight distance
right is 305m.



Figure 9 – Looking left from Boomer Rd along Tasman Hwy



Sight distance
left is 248m.

Figure 10 – Tasman Hwy Northern approach to Boomers Rd junction



Figure 11 – Tasman Highway Southern approach to Boomers Rd junction



Figure 12 – Tasman Highway Southern approach to Boomers Rd junction



4.1.3 Boomer Road, Waverley

Boomer Road has a sealed width of 5.2m with minimal shoulders and has a straight alignment along the East boundary of the development site.

The road has no delineation. Technically the General Rural default speed limit of 100km/h applies as the site is rural and there is no urban infrastructure. The speed environment is estimated at 60km/h and the road has no footpaths.

Figure 13 – Looking West along Boomer Road





4.1.4 Boomer Road / Proposed Road junction

Figures 14 - 18 show the nature of the proposed junction and approaches.

Figure 14 – Boomer Road / Proposed Road junction



Source: *The List*, DPIPWE

Figure 15 – Looking right along Boomer Road from the proposed road.



Sight distance
right is 290m.

Figure 16– Looking left along Boomer Road from the proposed road.



Sight distance
left is 290m.

Figure 17 – Boomer Road Western approach to the proposed road



Figure 18 – Boomer Road Eastern approach to the proposed road



Figure 19 – Boomer Road Southern approach to Distillery Creek





4.1.5 Whiskey Road

Whiskey Road is 430m in length and has a sealed width of 4.8m seal with no shoulders and a straight alignment, see Figure 20.

Technically the General Default Sealed Rural Speed limit of 100 km/h applies. The speed environment is estimated at 60km/h and the road has no delineation or footpaths.

Figure 20 – Looking South along Whiskey Road from Boomer Road



4.1.6 Boomer Road / Whiskey Road junction

Figures 21-28 show the nature of the proposed junction and approaches.

Figure 21 – Boomer Road / Whiskey Road junction



Source: *The List*, DPIPWE

Figure 22 – Whiskey Road approach to Boomer Road



Figure 23 – Looking right along Boomer Road from Whiskey Road.



Sight distance
right is 140m.

Figure 24 – Looking left along Boomer Road from Whiskey Road.



Sight distance left:

- 40m with tree
- 250m with tree removal.

Figure 25 – Boomer Road Western approach to Whisky Road



Figure 26 – Boomer Road Western approach at Whisky Road Junction



Forward sight distance is limited:

- 40m with shrub
- 80m with shrub removal.

Figure 27 – Boomer Road Northern approach to Whisky Road



Figure 28 – Boomer Road Northern approach at Whisky Road



4.2 Traffic Activity

Traffic activity from DSG records is summarised as follows, see Appendix E for details.

Tasman Hwy (approaching Boomer Road)

- AADT: 2,000 vpd (2023)
- % CV: 2.7%
- 2.7% compound annual growth
- Projected AADT: 2,600 vpd (2033) without proposal.

Boomer Road (approaching Tasman Hwy)

- AADT: 280 vpd (2023)
- % CV: 3%
- Projected AADT: 380 vpd (2033) without proposal.

4.3 Crash History

The Department of State Growth is supplied with reported crashes by Tasmania Police. The Department maintains a crash database from the crash reports which is used to monitor road safety, identify problem areas and develop improvement schemes.

The 5-year reported crash history records 1 property damage only crash near the Coles Bay Tourist Road / Edge of the Bay junction. The crash history provides no evidence of a crash on Boomer Road as of the 1st June 2023 as advised by DSG.

4.4 Services

No street lighting is provided on Boomer Road or Whisky Road.



4.5 Road Safety Review

4.5.1 Tasman Highway

No road safety issues were identified on the approaches to the Boomer Road junction where the speed limit is 100km/h.

4.5.2 Boomer Road

Boomer Road is a sealed rural road in a rural environment where there is no urban infrastructure e.g. streetlighting. Technically therefore the General Sealed Rural Default Speed Limit of 100km/h applies. The speed environment is estimated as 60km/h due to the road standard and length between Tasman Hwy and Whisky Road junction which is 600m. Due to the road length and standard (5.2m seal width with minimal shoulders and no delineation) the default speed limit is considered unsuitable. 60km/h is considered a suitable speed limit.

4.5.3 Tasman Hwy / Boomer Rd junction

The following issues were identified from site assessment:

- The existing junction has a simple layout for left and right turns off the highway. A left turn facility is needed due to the intensification in use. The junction is line marked as a T junction without a Give Way sign, see Figure 7.
- A right turn facility for turning movements off Tasman Hwy to Boomer Road is not required as the turning volumes are expected to be very low. This means that the potential roadside hazards on the West side of the junction opposite Boomer Road are unaffected by the proposal. These hazards include:
 - seldom used farm access without driveable culvert endwalls
 - undriveable Tasman Hwy culvert inlet
 - power pole

4.5.4 Boomer Rd / proposed road junction

This proposed junction site has no road safety issues apart from the speed limit.

4.5.5 Whisky Road

Whisky Road is a sealed rural road in a rural environment where there is no urban infrastructure e.g. streetlighting. Technically therefore the General Sealed Rural Default Speed Limit of 100km/h applies. The speed environment is estimated as 60km/h due to the road standard and length of 430m. Due to the road length and standard (4.2m seal width with minimal shoulders and no delineations) the default speed limit is considered unsuitable. 60km/h is considered a suitable speed limit.



4.5.6 Boomer Rd / Whisky Road junction

This junction is on the apex of a 90-degree bend in the Boomer Road alignment.

Sight distance looking left along Boomer Road from Whisky Road is severely limited by a tree, see Figure 24.

Sight distance looking straight ahead along Boomer Road at the Whisky Road junction is also severely limited by overgrowth, see Figure 26.

4.6 Austroads Safe System Assessment

Tasman Hwy and Boomer Road have been assessed in accordance with the Austroads Safe System assessment framework. This framework involves consideration of exposure, likelihood and severity to yield a risk framework score. High risk crash types and vulnerable road user crash types are assessed for each site and aggregated to provide an overall crash risk. Crash risk is considered in terms of three components:

- Exposure (is low where low numbers of through and turning traffic) i.e. 1 out of 4
- Likelihood (is low where the infrastructure standard is high) i.e. 1 out of 4
- Severity (is low where the speed environment is low) i.e. 1 out of 4

The Austroads Safe System Assessment process enables the relative crash risk of an intersection or road link to be assessed. Vulnerable Road users are considered along with the most common crash types.

The crash risk score is an indication of how well the infrastructure satisfies the *safe system objective which is for a forgiving road system where crashes do not result in death or serious injury*.

From safe system assessment, Tasman Highway and Boomer Road have been determined to be not well aligned with the safe system objective with crash risk scores of 68 / 448 and 60 / 448, respectively. See Figure 28 and Appendix D for the assessment details.

Figure 28 – Austroads Safe System Assessment alignment between crash score and risk





5. Traffic Generation and Assignment

This section of the report estimates how traffic generated by the proposal is distributed within the adjacent road network now and ten years future.

5.1 Traffic Growth

Assumed background traffic compound annual growth of:

- Tasman Hwy: 3.7 %
- Boomer Rd: 3%

5.2 Trip Generation

Applicable of the following RTA traffic generation rates for dwelling houses are considered appropriate:

- 9 vpd / dwelling
- and 0.85vph/ dwelling

The 9 lots accessing Boomer Road are estimated to generate 81 vpd and 8 vph.

The 14 lots access the proposed road are estimated to generate 126 vpd and 12vph.

Tasman Hwy will experience an estimated increase in traffic of 207 vpd and 20 vph.

5.3 Trip Assignment

Traffic assignments at impacted junctions are summarised in Figures 29 and 30.



Figure 29 – 2033 Traffic Assignment at Tasman Hwy / Boomer Rd junction

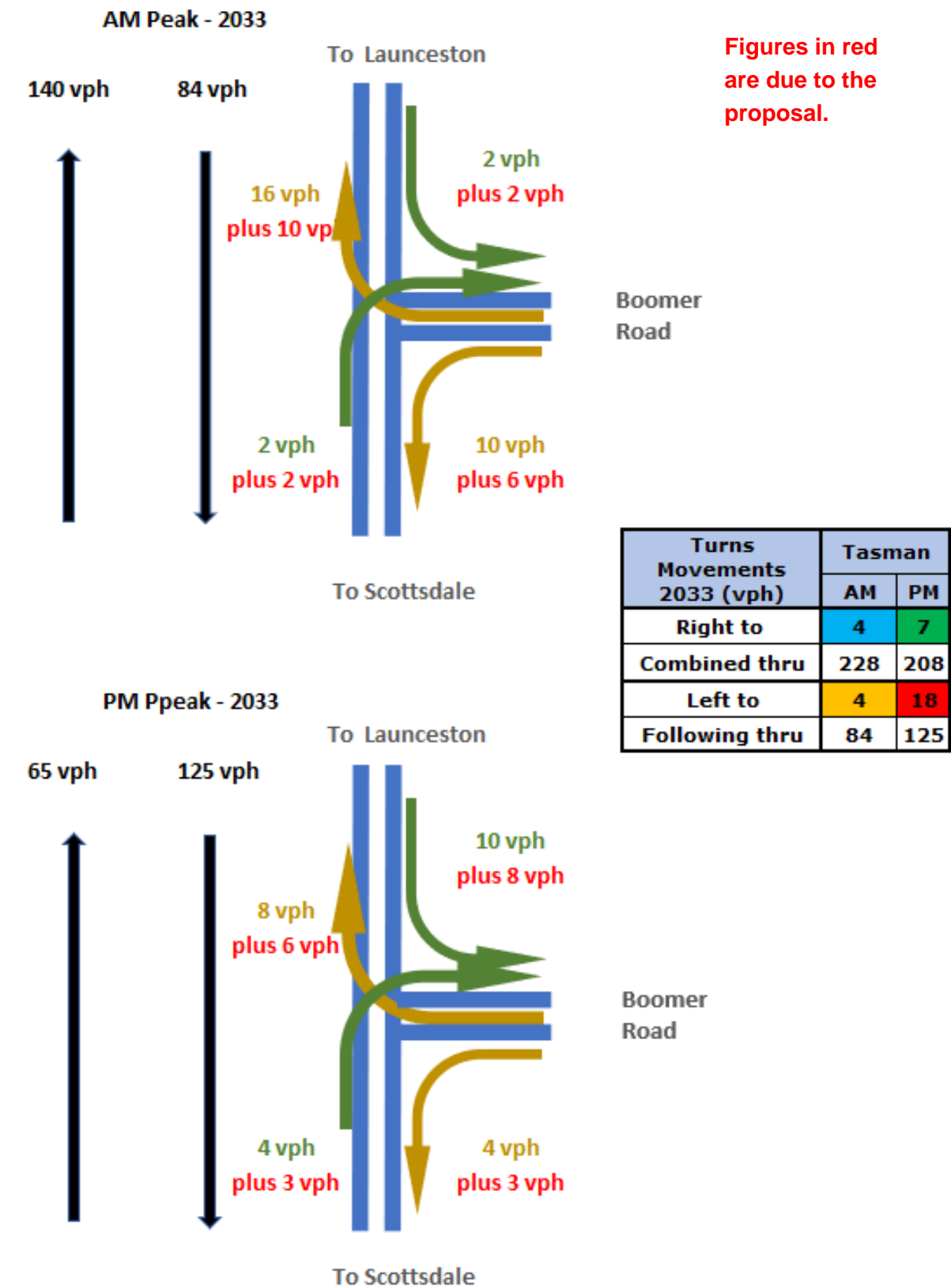
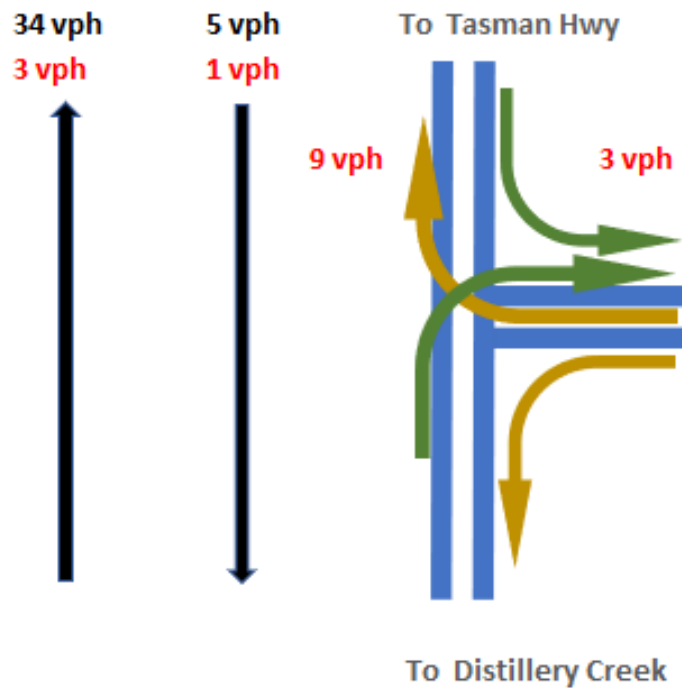


Figure 30 – 2033 Traffic Assignment at Boomer Rd / Proposed Rd junction

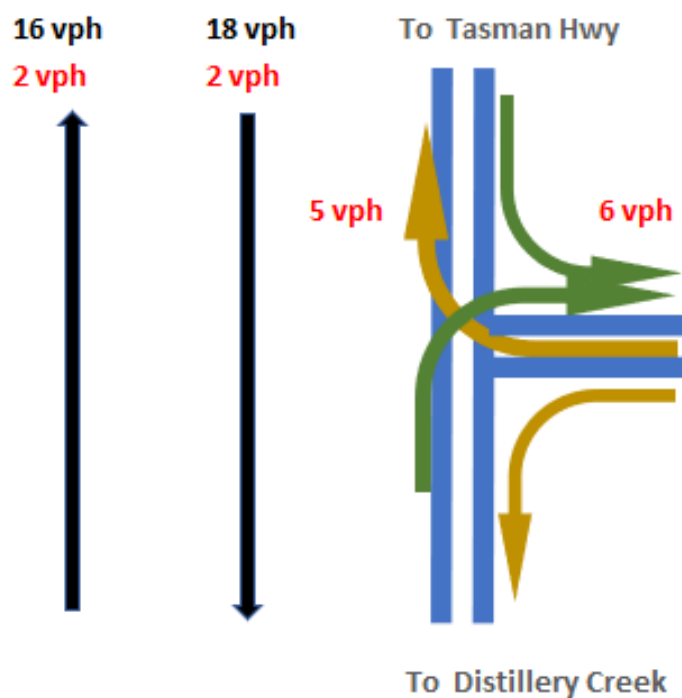
AM Peak - 2033



Figures in red
are due to the
proposal.

| Turns Movements 2033 (vph) | Boomer | |
|----------------------------------|--------|----|
| | AM | PM |
| Right to | 0 | 0 |
| Combined thru | 46 | 44 |
| Left to | 3 | 6 |
| Following thru | 6 | 20 |

PM Peak - 2033



6. Impact on Road Network

6.1 Sight Distance Criteria – Figure 31

Figure 31 – Sight distance summary

| Junction / Access | Speed | | Road Frontage Sight Distance | | | |
|---------------------|--------|-------------|------------------------------|-----------|----------|---------------|
| Major Rd - Minor Rd | Limit | Environment | Austrroads | Available | | AS/NZS 2890.1 |
| | (km/h) | (km/h) | SISD (m) | Left(m) | Right(m) | SSD (m) |
| Junctions | | | | | | |
| Tasman / Boomer | 100 | 100 | 248 | 305 | 248 | NA |
| Boomer / Proposed | 100 | 60 | 123 | 290 | 290 | |
| Boomer / Whisky | 100 | 40 | 73 | 250 | 140 | |
| Access to Lot | | | | | | |
| 1 | 100 | 60 | 123 | 500 | 80 | 65 |
| 2 | 100 | 60 | 123 | 430 | 150 | 65 |
| 3 | 100 | 60 | 123 | 380 | 215 | 65 |
| 4 | 100 | 60 | 123 | 320 | 270 | 65 |
| 5 | 100 | 60 | 123 | 190 | 330 | 65 |
| 6 | 100 | 60 | 123 | 120 | 400 | 65 |
| 7 | 100 | 60 | 123 | 100 | 480 | 65 |
| 8 | 100 | 50 | 123 | 45 | 540 | 45 |
| 9 | 100 | 60 | 123 | 100 | 100 | 65 |
| 10 | 60 | 60 | 123 | 135 | 70 | 65 |
| 11 | 60 | 60 | 123 | 135 | 70 | 65 |
| 12 | 60 | 60 | 123 | 70 | 70 | 65 |
| 13 | 60 | 60 | 123 | 70 | 70 | 65 |
| 14 | 60 | 60 | 123 | 70 | 70 | 65 |
| 15 | 60 | 60 | 123 | 70 | 70 | 65 |
| 16 | 60 | 60 | 123 | 70 | 70 | 65 |
| 17 | 60 | 60 | 123 | 70 | 70 | 65 |
| 18 | 60 | 60 | 123 | 70 | 70 | 65 |
| 19 | 60 | 60 | 123 | 65 | 65 | 65 |
| 20 | 60 | 60 | 123 | 80 | 170 | 65 |
| 21 | 60 | 60 | 123 | 90 | 170 | 65 |
| 22 | 60 | 60 | 123 | 80 | 135 | 65 |
| 23 | 60 | 60 | 123 | 80 | 135 | 65 |

Austroads Junction Compliant

AS/ NZS 2890.1 Property Access Compliant

Existing Sealed Rural Default Speed Limit applicable to Boomer Road

Proposed road speed limit.

6.2 Junction warrants

Junction layout requirements are based on Austroads Guidelines which take into account the standard of the road, speed limit, through & side road traffic i.e. Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings – 2020.

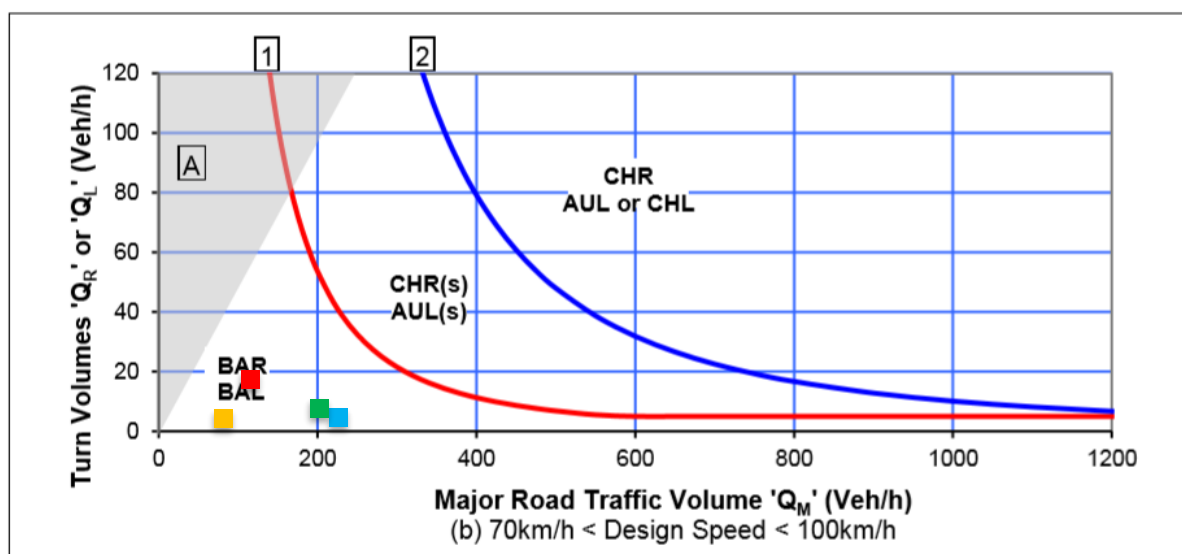
6.2.1 Tasman Hwy / Boomer Rd Junction

Figure 32 shows the relevant Austroads junction layout warrant for the Tasman Hwy / Boomer Rd junction. Figure 32 demonstrates that the volume of right turners from the Tasman Highway to Boomer Road is very low though technically warranting Basic Right (BAR) and Basic Left (BAL) turn facilities. See Appendix F for BAR and BAL junction layouts within a 100km/h design speed.

The existing junction has a simple layout that does not meet the BAR and BAL standard, see Figures 6-12 and non ideal alignment with the Austroads Safe System Assessment objective, see Section 4.6.

Technically upgrade to a BAR & BAL junction is required once 12 lots have been developed i.e. upon occupancy of dwellings. However, as the right turn flow to Boomer Road from the Tasman Hwy is very low a BAR right turn facility is not considered necessary.

Figure 32 – Austroads Warrant for Tasman Hwy / Boomer Road junction 2033.



Source: Austroads GTM Part 6-2020

| Turns Movements 2033 (vph) | Tasman | |
|----------------------------------|--------|-----|
| | AM | PM |
| Right to | 4 | 7 |
| Combined thru | 228 | 208 |
| Left to | 4 | 18 |
| Following thru | 84 | 125 |



The proposed junction, see Appendix A, has been reviewed in terms of Austroads junction layout requirements, see Figure 32. From DSG guidelines a BAL facility is considered adequate as projected through and turning traffic movements by 2033 are too low to justify a BAR facility. This approach is consistent with previous DSG advice on similar situations on State Roads i.e similar in terms of through and turning traffic flows.

Figure 33 shows the footprint for a suitable BAL junction layout. Figure 34 shows the available roadside widths.

Figure 33 – Proposed BAR &BAL for Tasman Hwy / Boomer Road junction.

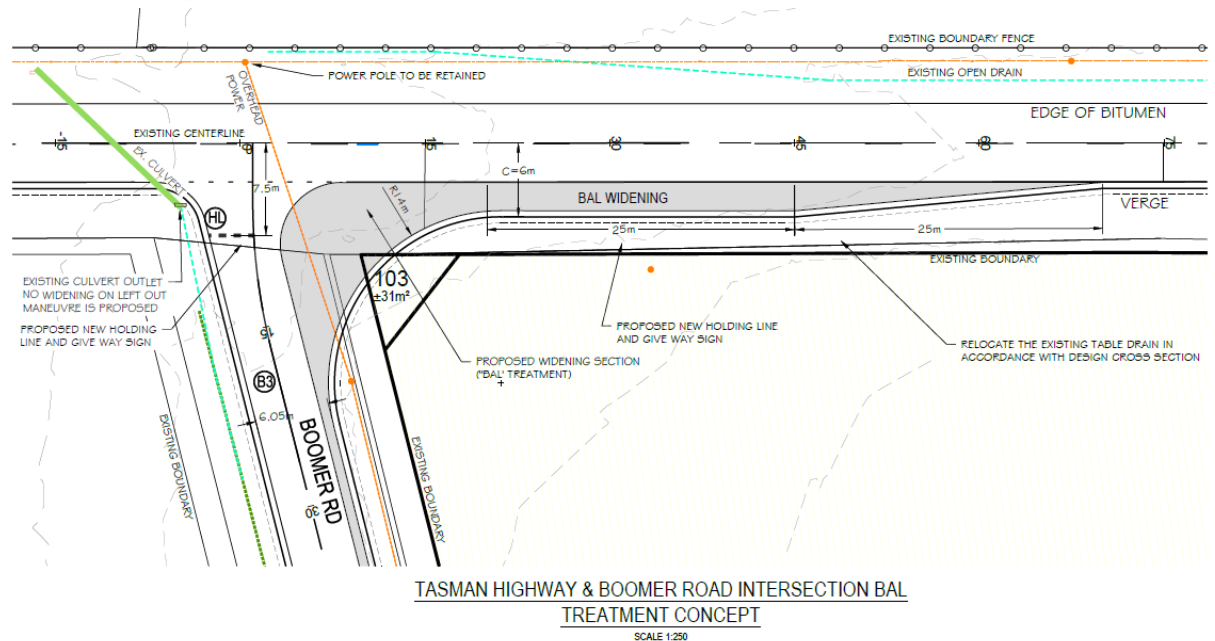


Figure 34 – Available roadside width Tasman Hwy / Boomer Road junction



For a BAL left turn facility 6.0 m of sealed width is required from the centreline of the road. The available width from the centreline of the road is adequate. Figure 35 shows the proposed approach alignment and clearances for the BAL. Also see Appendix A.

Figure 35 – Proposed BAL facility at the Tasman Hwy / Boomer Road junction





6.2.2 Boomer Rd / Proposed Road Junction

Figure 30 shows that the through volume on Boomer Road is very low and the right and left turn movements from Boomer Road into the proposed road would be very low.

A simple junction layout is adequate for very low volume situations as is the case with the proposal.

6.3 Impact of traffic generated by the proposal.

The proposal is estimated to have a negligible impact on Tasman Hwy / Boomer Rd junction as traffic activity levels are very low. The existing and proposed junction are estimated to operate at Level of Service A. Appendix B describes Austroads Levels of Service definitions.

6.4 Tasmanian Subdivision Guideline Considerations

No issues have been identified.

6.5 Transport Planning Considerations

The proposed road standard is shown in Figure 3.2

6.6 Proposed internal traffic management.

The proposed sealed road width is 6m and the road terminates with a 24m diameter Cul-De-Sac, see Figure 36.

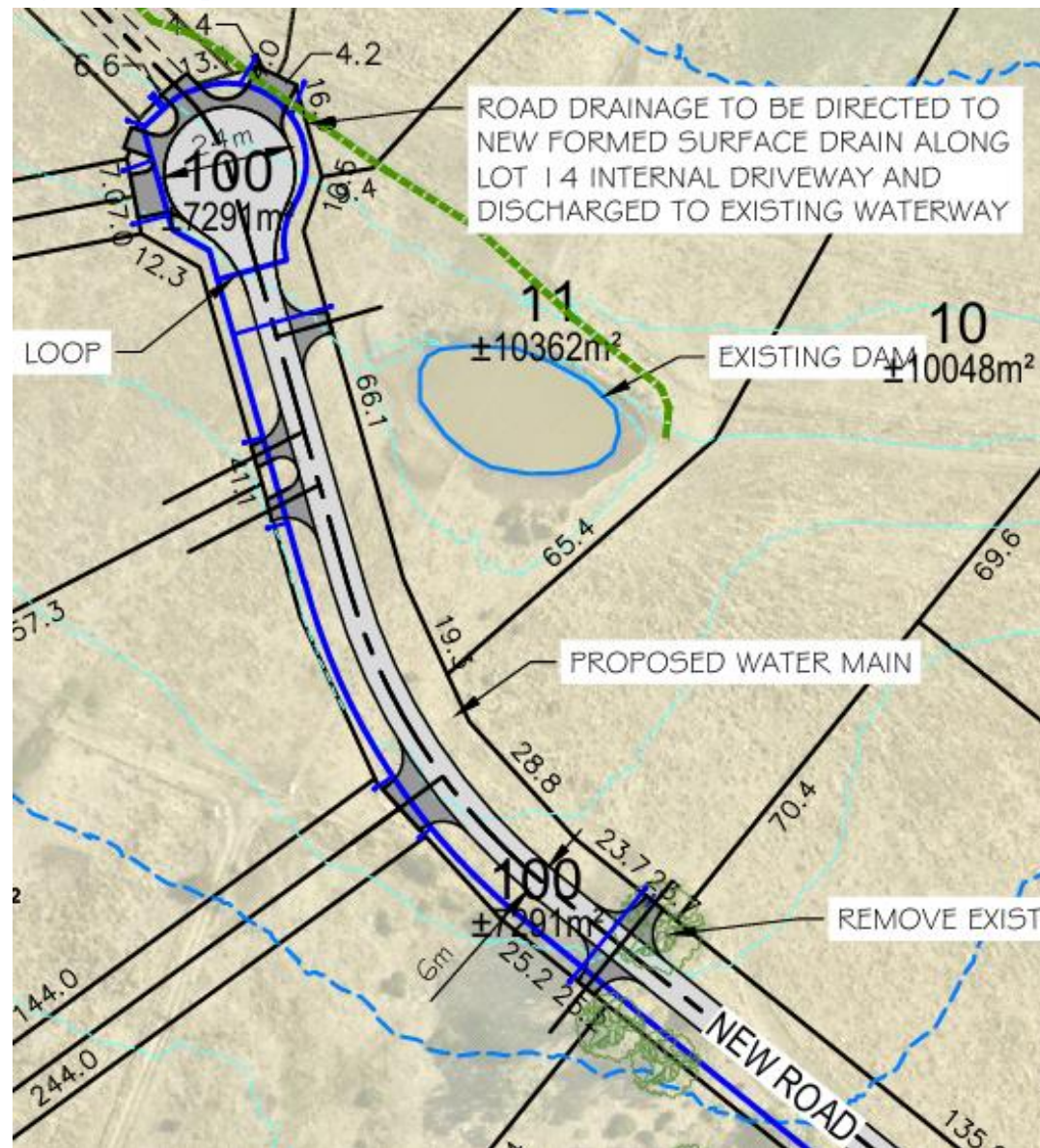
LGAT standard drawings apply specifies traffic facilities as follows:

- TSD-R02 - 6m minimum seal width for rural roads with 300-2,000 vpd.
- TSD-R08 - 18m minimum sealed diameter for rural Cul -De-Sacs.
- TSD-R03 & R04 – sealed driveways with a culvert for rural property access.

LGAT standard drawings are available online at:

https://www.lgat.tas.gov.au/_data/assets/pdf_file/0027/813735/Tasmanian-Municipal-Standards-Drawings-v3-December-20202.pdf

Figure 36 – Proposed subdivision road Cul-De-Sac and accesses.



6.7 Impacts on road users.

6.7.1 Public Transport

No impact.

6.7.2 Delivery Vehicles

No impact.

6.7.3 Pedestrians and Cyclists

No impact.

6.7.4 Motorcyclists

Minimal impact.



6.8 Other impacts

6.8.1 Environmental

No applicable environmental impacts were identified in relation to:

- Noise, vibration or visual impact
- Community severance, pedestrian amenity
- Hazardous loads, air pollution or ecological impacts
- Heritage and Conservation

6.8.2 Street Lighting and Furniture

No street lighting is provided or required or proposed.

6.9 Liveability, Safety and Amenity Guidelines

Guidelines for the safety and amenity of a residential areas include:

- Residential precincts need to be bounded by traffic routes and/or natural barriers to minimise conflict.
- Direct vehicular and pedestrian access should be avoided from single dwelling units onto road with over 2,000 vehicles per day.
- Effective street lengths should be less than 200-250m in order to achieve typical vehicle speeds of 40km/h.
- Cyclist and pedestrian demands should be catered for separately using path or cycle networks.

To maximise the liveability, safety and amenity of the local area, road and street network layout should be such that:

- A minimum of 60% of lots should abut residential streets with less than 300vpd passing traffic.
- A minimum of 80% of lots should abut residential streets with less than 600 vpd passing traffic.
- A maximum of 5% of single dwelling lots should abut residential streets with between 1,000-2,000 vpd passing traffic.
- A maximum of 1% of single dwelling lots should abut local streets or collectors with less than 3,000 vpd passing traffic, and
- No single dwelling lot should abut a route with > 3,000 vpd passing traffic.

These guidelines are from *TE&M Chapter 2.2: Design of New Urban Networks*.

The proposal satisfies the liveability, safety and amenity targets described above.



6.10 Tasmanian Planning Scheme – Launceston

Road and Railway Assets Code C3

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction.

Acceptable Solution A1.1 – Not applicable as the relevant roads are not Category 1.

Acceptable Solution A1.2 – *For a road, excluding a Category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority.*

Written consent from the road owner (City of Launceston) has not been issued. This TIA has been prepared to assist Council in assessing the proposal. **A1.2 is currently not satisfied.**

Acceptable Solution A1.3 – Not applicable as no rail network is involved.

Acceptable solution A1.4: *Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing will not increase by more than:*

- (a) *The amounts in Table C3.1*
- (b) *Allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road; and*

The proposal involves traffic from:

- 14 lots i.e 126 vpd accessing Boomer Road from a proposed subdivision road.
- 23 lots i.e 207 vpd accessing Tasman Hwy from Boomer Road.

Table C3.1 allows up to 10 vpd increase for vehicles up to 5.5m in length on major roads. Tasman Hwy is a major road. **A1.4 is not Satisfied.**

Performance Criteria P1: *Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:*

- (a) *any increase in traffic caused by the use.*
- (b) *the nature of the traffic generated by the use.*
- (c) *the nature of the road.*
- (d) *the speed limit and traffic flow of the road.*
- (e) *any alternative access to a road.*
- (f) *the need for the use.*
- (g) *any traffic impact assessment; and*
- (h) *any advice received from the rail or road authority.*

(a) The increase in traffic due to the proposal is estimated at:

- 207 vpd from 23 lots accessing Tasman Hwy from Boomer Road.
- 126 vpd from 14 lots accessing Boomer Road from a proposed subdivision road.



A BAL junction layout is proposed at the Tasman Hwy / Boomer Rd junction.

A simple junction layout is proposed at the Boomer Road / Proposed Road junction.

These junction standards are consistent with Austroads, DSG and CoL guidelines for projected traffic in 2033.

- (b) The nature of the traffic generated by the use will be 98% light vehicles post residential construction phase.
- (c) Boomer is of a suitable standard to cope with projected traffic activity in 2033, see Section 6. The proposed roads are to a standard consistent with LGAT standards for rural roads.
- (d) The Tasman Highway has a speed limit of 100km/h, accordingly the Boomer Road junction will be upgraded to a BAL standard to suit.

The existing Boomer Road speed limit is technically 100km/h however a 60km/h speed limit is considered appropriate for the standard and function of the road. 60km/h has been used at the nearby White Gum Rise rural subdivision, see Towers Road speed limit in Appendix I. The proposed junction will be provided with a simple junction layout to suit a 60km/h speed environment.

- (e) No alternative accesses are available.
- (f) The use is consistent with the Land Use zoning for the area.
- (g) This TIA finds no reason to disallow the proposal due to traffic impacts.
- (h) No specific advice on traffic management has been received from Council.

In summary there are no traffic capacity issues, and the proposal adequately mitigates potential traffic safety issues arising due to the proposal. **P1 is satisfied.**

Acceptable solution A1.5: Vehicular traffic must be able to enter and leave a major road in a forward direction. A1.5 is satisfied.



C3.6.1 Habitable buildings for sensitive uses within a road or railway attenuation area

Acceptable Solution A1

Unless within a building area on a sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be:

- (a) within a row of existing habitable buildings for sensitive uses and no closer to the existing or future major road or rail network than the adjoining habitable building;
- (b) an extension which extends no closer to the existing or future major road or rail network than:
 - (i) the existing habitable building; or
 - (ii) an adjoining habitable building for a sensitive use; or
- (c) located or designed so that external noise levels are not more than the level in Table C3.2 measured in accordance with Part D of the *Noise Measurement Procedures Manual, 2nd edition, July 2008*.

A1 is not applicable as the site is not within a road or railway attenuation area because Tasman Highway is not a Category 1, 2 or 3 road in the State Road Hierarchy.

C3.7.1 Subdivision for sensitive uses within a road or railway attenuation area

Not applicable as the proposed subdivision is not within a road or railway attenuation area.

Acceptable Solution A1

A lot, or a lot proposed in a plan of subdivision, intended for a sensitive use must have a building area for the sensitive use that is not within a road or railway attenuation area.

A1 is not applicable as the site is not within a road or railway attenuation area because Tasman Highway is not a Category 1, 2 or 3 road in the State Road Hierarchy.



6.11 Department of State Growth requirements

DSG review of TIA

These reviews are required to:

- consider proposals and whether the TIA prepared satisfies DSG requirements.
- resolve any issues so the TIA can be finalised.
- enable the TIA endorsement provided by DSG to be communicated to Council as part of the Development application process.

These reviews are usually arranged by the TIA author. The email address for submissions is:

Development@stategrowth.tas.gov.au

Crown landowner consent

This is to provide DSG to opportunity to check alignment of proposals with DSG objectives for the road. If the proposal aligns with DSG objectives Crown Land Consent is issued by DSG. Crown Landowner Consent is required where there is a proposed change in use of property adjacent to a state road. The website for Crown Landowner Consent is:

https://www.transport.tas.gov.au/road/permits/crown_landownerconsent/

Access works permits

Developers must obtain an access works permit from DSG for proposed work within a state road reservation. Applications need to include:

- suitably design plans detailing the proposal and services affected.
- relevant design calculations for stormwater management and pavement design
- a traffic impact assessment

The website for access works permit applications is:

<https://www.transport.tas.gov.au/road/permits/road-access>

Summary of DGS requirements

DSG advice of acceptance this TIA is attached to Appendix G.

The developer may need to apply for Crown Landowner consent.

The developer will need to apply for an Access works permit to undertake the required works in the State Road reservation i.e junction upgrading to BAL layout.

CoL should apply to the DSG Transport Commissioner for 60km/h speed limit approval for Boomer Road, Whisky Road and the proposed subdivision road.



7. Recommendations and Conclusions

This traffic impact assessment has been prepared to assess the proposed 23 lot residential subdivision of 40768 Tasman Hwy. It is estimated the proposal will generate up to 207 vpd once fully developed.

The assessment has reviewed traffic activity at the site, existing road conditions, road safety, crash history, Austroads junction warrants and Tasmanian Planning Scheme – Launceston - Road & Railway Assets Code C3 requirements.

Tasman Hwy is projected to have traffic activity of 2,600 vpd by 2033 within a 100km/h speed limit. The junction with Boomer Road has no recorded crashes over the last 5 years and from traffic safety review and Safe System Assessment, is considered a low crash risk.

Boomer Road has estimated traffic activity of 240 vpd in a low-speed environment estimated at 50km/h. Boomer Road has no recorded crashes over the last 5 years and from traffic safety review and Safe System Assessment, is considered a very low crash risk.

The proposal will approximately double traffic activity on Boomer Road to some 470vpd by 2033, which is a low traffic activity level.

The Tasman Hwy / Boomer Road junction will require upgrading to a BAL layout to support the safe and efficient operation due to the proposal.

Evidence is provided to demonstrate the proposal can satisfy the Tasmanian Planning Scheme - Launceston - Code C3.

Recommendations:

Obtain DSG approvals.

- *Crown Landowner Consent from DSG if required.*
- *Access Works Permit from DSG for BAL junction upgrade work.*

Boomer Road / Proposed Road junction

- *Manage as a simple junction in accordance with the Priority Rule i.e no junction line marking or signage apart from street name sign.*

Boomer Road / Whisky Road junction

- *Remove trees and shrubs limiting sight distance, see Figures 24 & 26.*



Proposed Road

- *Construct property accesses compliant with Rural Property Access LGAT Standard Drawings TSD-R03 and TSD-R04 including:*
 - *Setback access gates to suit the design vehicle (10m for cars with trailers).*
 - *Seal accesses to the access gate.*
 - *Driveway culverts with driveable culvert headwalls type 1*

Suggestions:

- *CoL make application to the DSG Transport Commissioner for a 60km/h speed limit on Boomer Road, Whisky Road and the proposed subdivision road.*

DSG confirmation of acceptability of this TIA is attached in Appendix G.

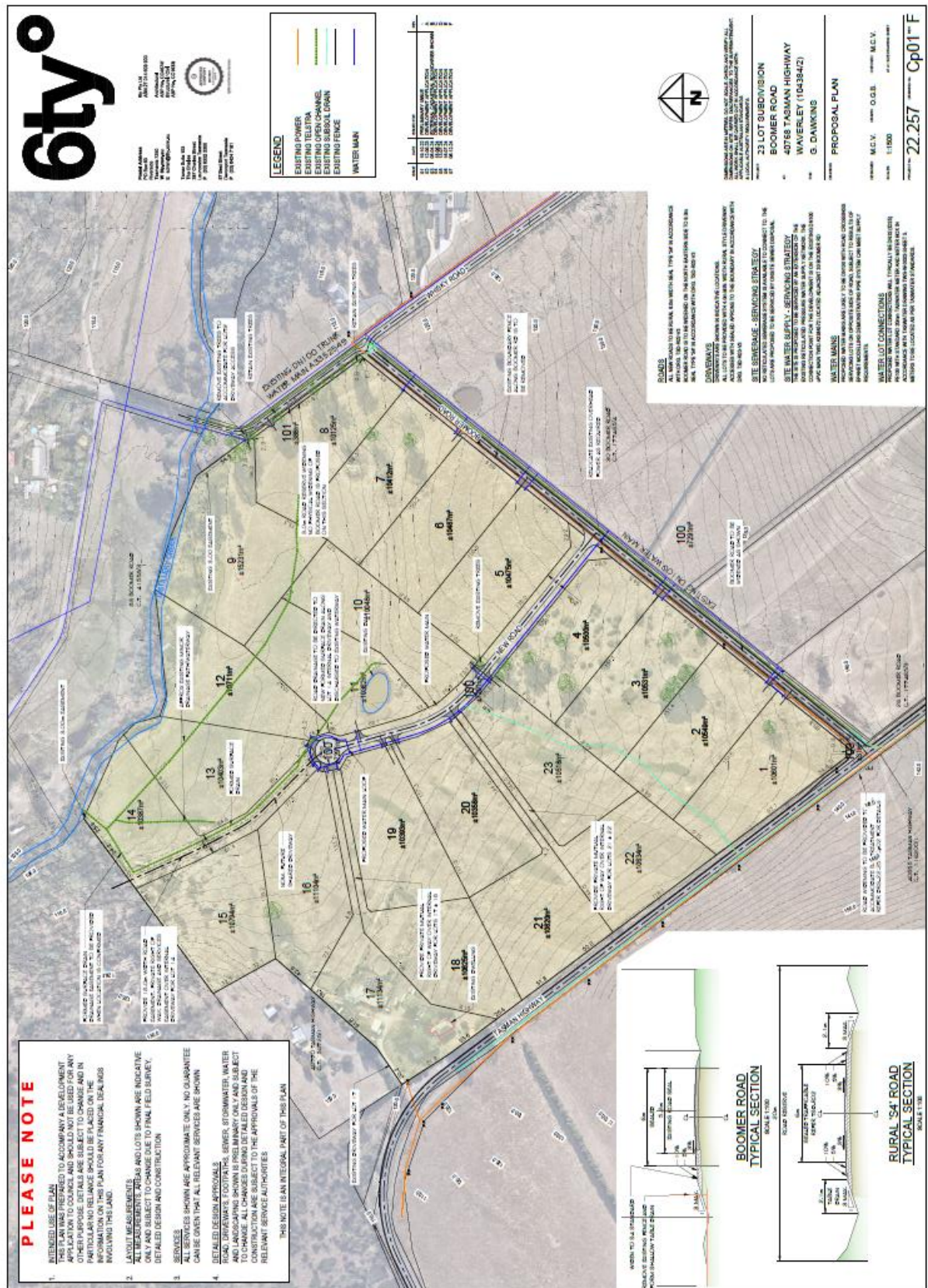
Overall, it has been concluded that the existing roads and proposed development should operate safely and efficiently provided the above recommendations are implemented.

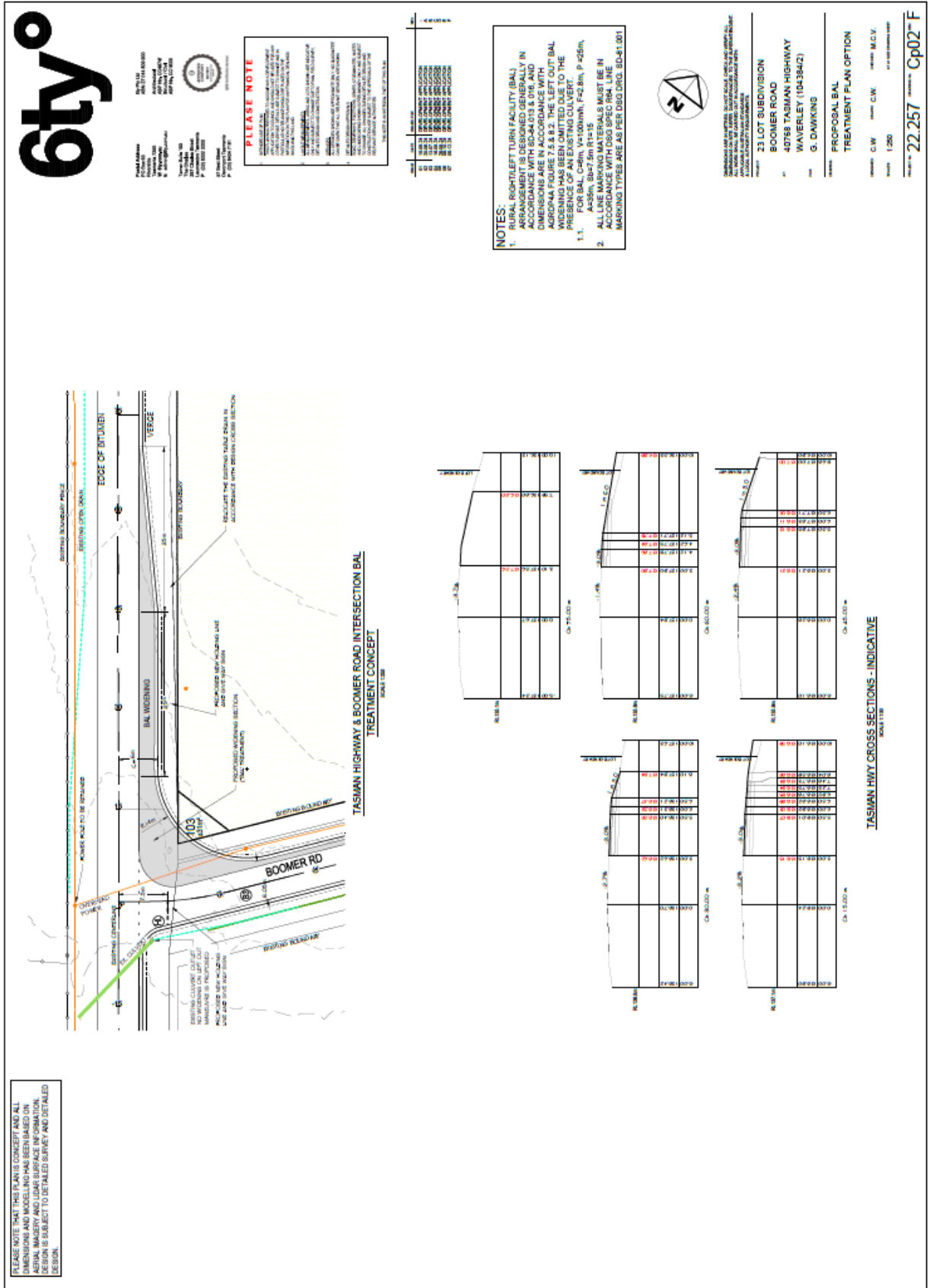
Based on the findings of this report the proposal is supported on traffic grounds.



Appendices

Appendix A – Proposed Plan of Subdivision





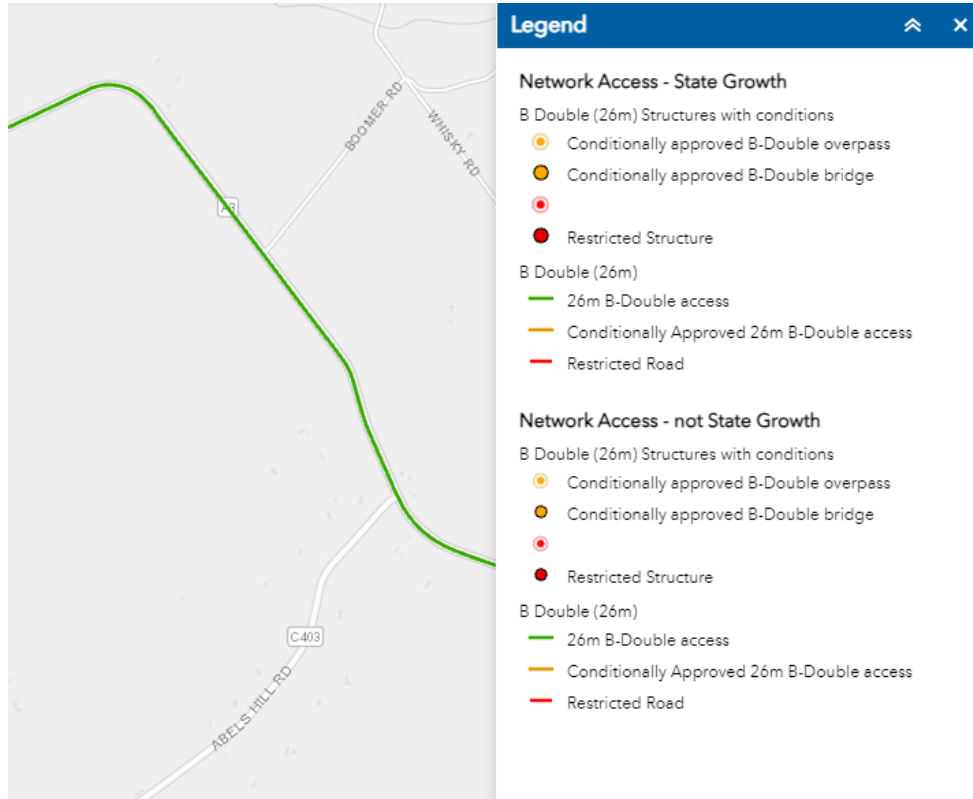


Appendix B – Austroads Level of Service descriptions

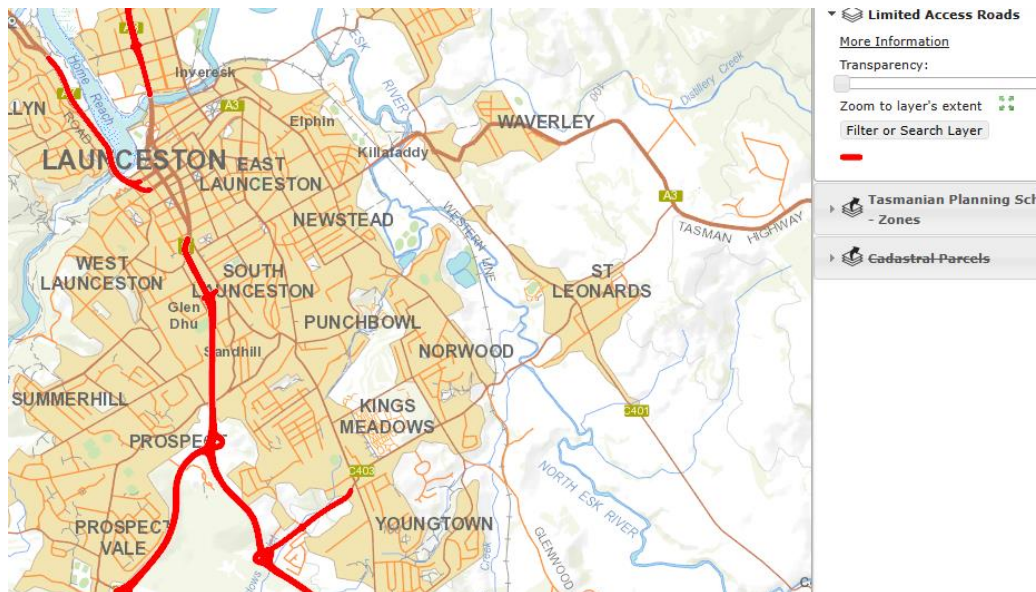
| | |
|--------------------|--|
| Level of service A | A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent. |
| Level of service B | In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A. |
| Level of service C | Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level. |
| Level of service D | Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems. |
| Level of service E | Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown. |
| Level of service F | In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result. |

Appendix C – State Road Information

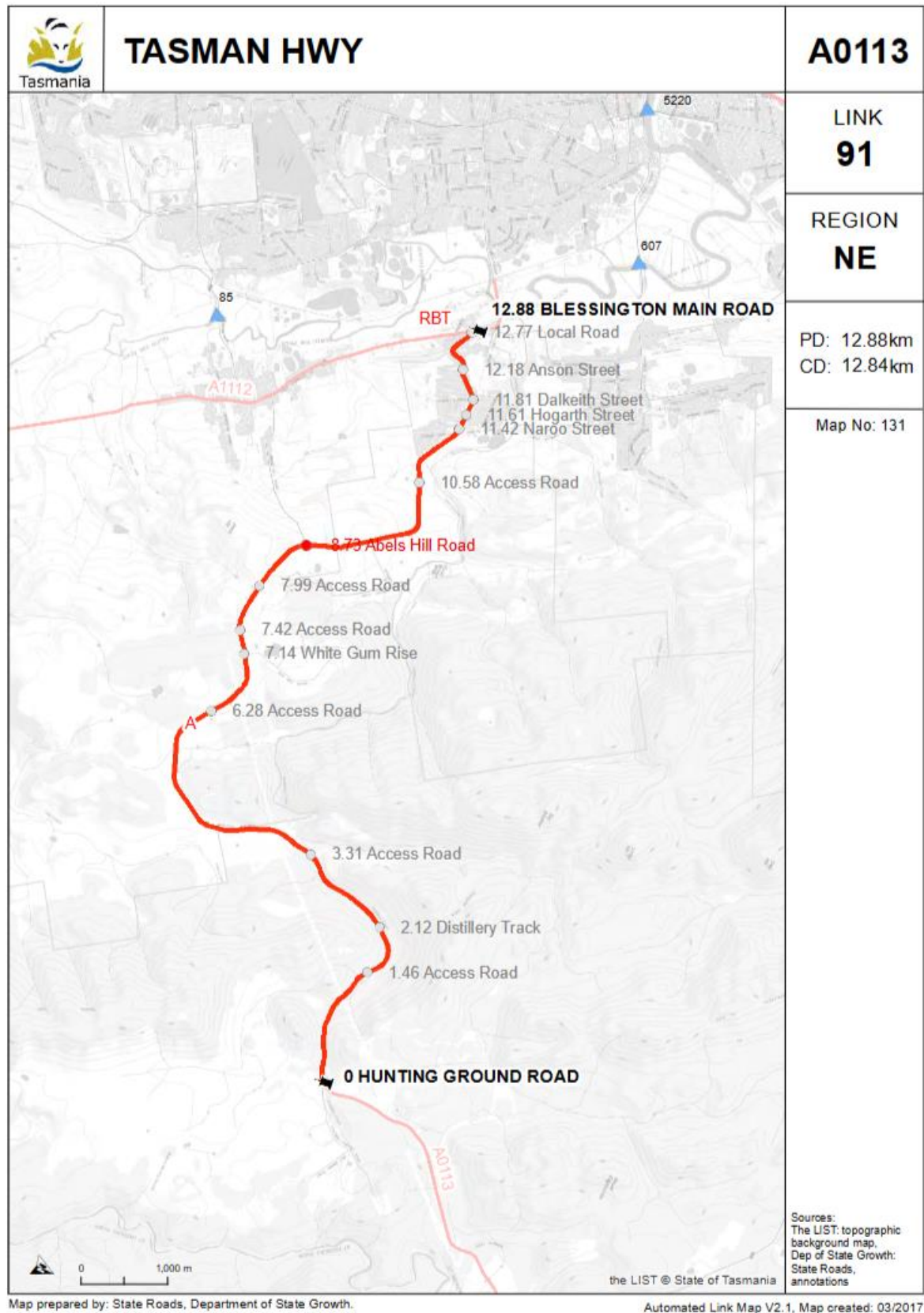
Tasmanian 26m B Double Network



Limited Access State Road Network



Department of State Growth Link Maps



Appendix D – Safe Systems Assessment

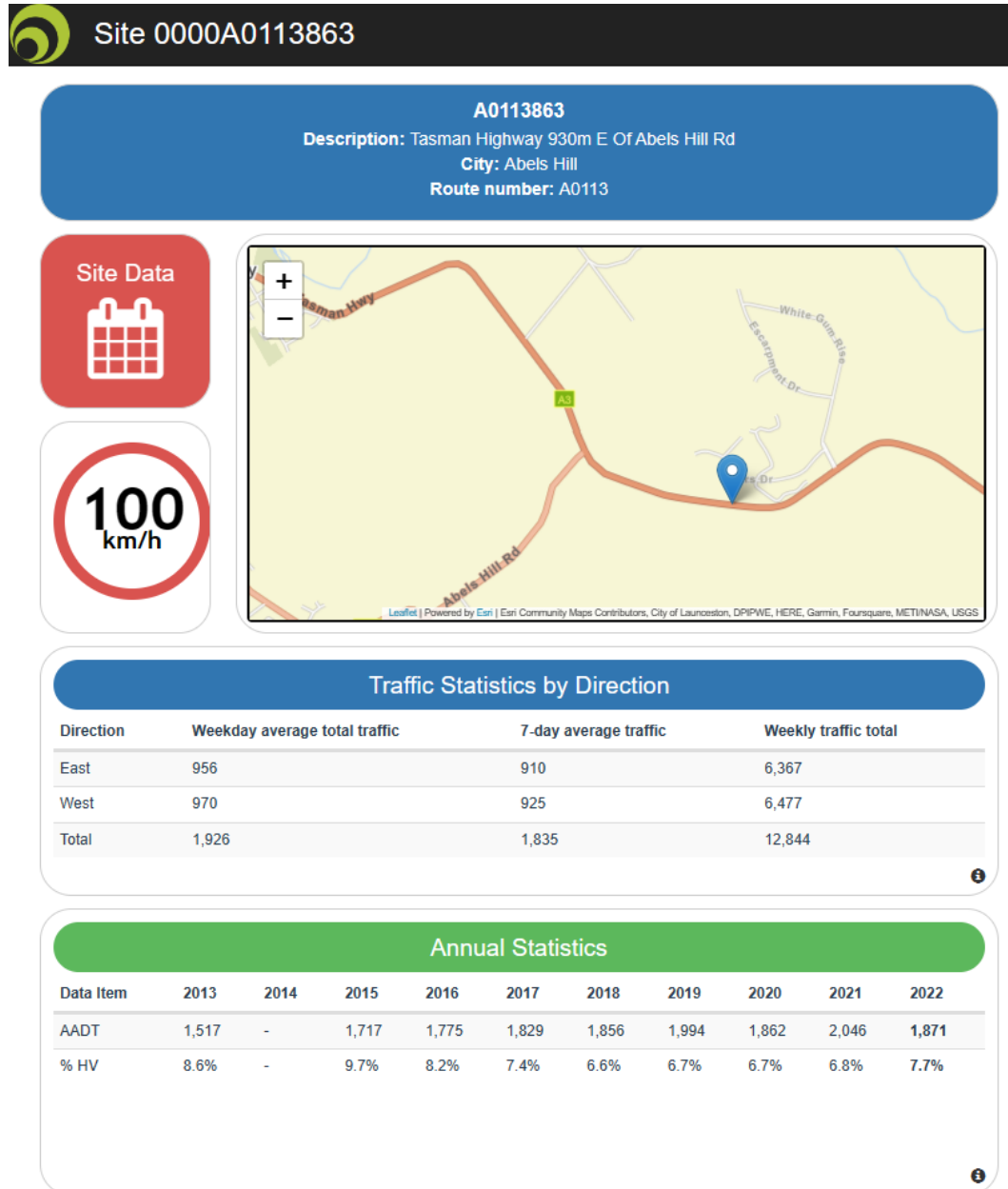
| Safe System Assessment | | Existing Tasman Hwy approaches to Boomer Road | | | | | | |
|------------------------|--|--|--|--|---|--|-------------------------------|--|
| Exposure | Justification (AADT 2,000 vpd) | Run-off-road | Head-on | Intersection | Other | Pedestrian | Cyclist | Motorcyclist |
| | Score / 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Likelihood | | Category 4 State Road with straight alignment, 7.3m seal width, standard delineation, adequate sight distance and no roadside hazards. | Category 4 State Road with straight alignment, 7.3m seal width, standard delineation, adequate sight distance and no roadside hazards. | Simple junction layout in high speed environment, minimal right turn movements off the Tasman Hwy with roadside hazards. | No facilities for bus to stop off the road. | No facilities for pedestrians, pedestrian unfriendly roadsides | No facilities for pedestrians | Category 4 State Road with straight alignment, 7.3m seal width, standard delineation, adequate sight distance and no roadside hazards. |
| | Score / 4 | 1 | 1 | 4 | 3 | 4 | 3 | 1 |
| Severity | Justification (100 km/h speed limit) | High speed environment | High speed environment | High speed environment | High speed environment | High Severity for pedestrians | High Severity for cyclists | High Severity for motorcyclists |
| | Score / 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Product | Total Score /64 | 4 | 4 | 16 | 12 | 16 | 12 | 4 |
| | Total /448 | | | | | | | 68 |

Safe System Assessment **Boomer Road (Approaches to proposed junction)**

| | | Run-off-road | Head-on | Intersection | Other | Pedestrian | Cyclist | Motorcyclist |
|------------|---|---|---|--|---|---|--|---|
| Exposure | Justification (AADT 240 vpd) | Low traffic volume, no reported crash history | Low traffic volume, no reported crash history | Low traffic volume on proposed junction approaches and side road and no reported crashes | Bus route | Some pedestrian activity in rural environment | Low cyclist activity | Low motorcyclist activity |
| | Score / 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Likelihood | Justification | Straight rural access road, 5.2m seal width, no delineation, adequate sight distance and no roadside hazards. | Straight rural access road, 5.2m seal width, no delineation, adequate sight distance and no roadside hazards. | Simple junction layout in low speed environment, minimal right turn movements off Boomer Road. | No facilities for bus to stop off the road. | No facilities for pedestrians | No facilities for pedestrians | Straight rural access road, 5.2m seal width, no delineation, adequate sight distance and no roadside hazards. |
| | Score / 4 | 2 | 3 | 1 | 2 | 4 | 2 | 1 |
| Severity | Justification (60 km/h speed environment) | Low speed environment | Low speed environment | Low speed environment | Low speed environment | High speed environment for pedestrians | High speed environment for pedestrians | High Severity for motorcyclists |
| | Score / 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Product | Total Score /64 | 8 | 12 | 4 | 8 | 16 | 8 | 4 |
| | | Total /448 | | | | | | 60 |

Appendix E – Traffic Count Data

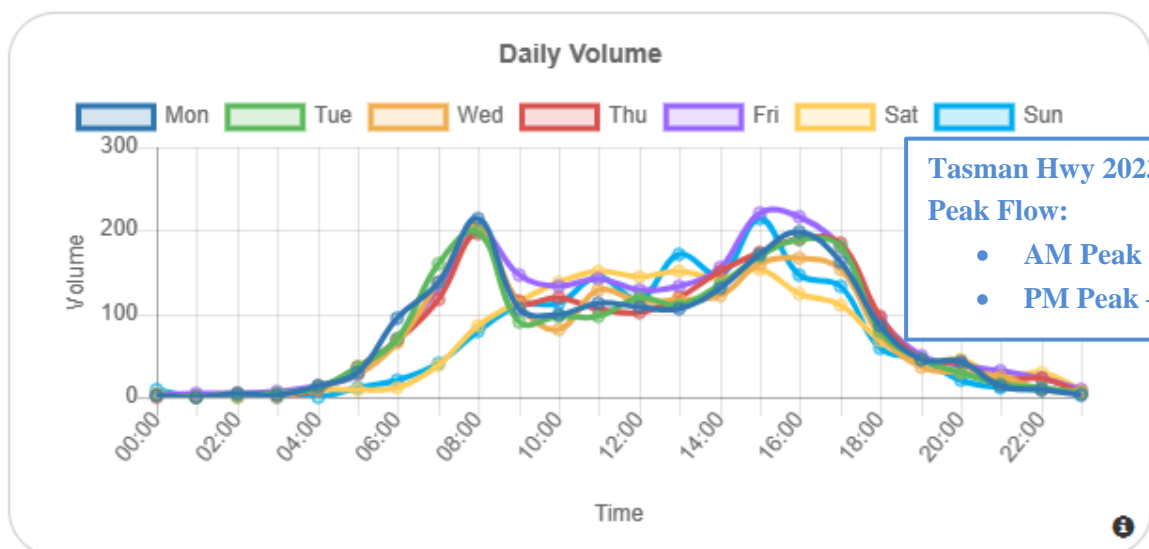
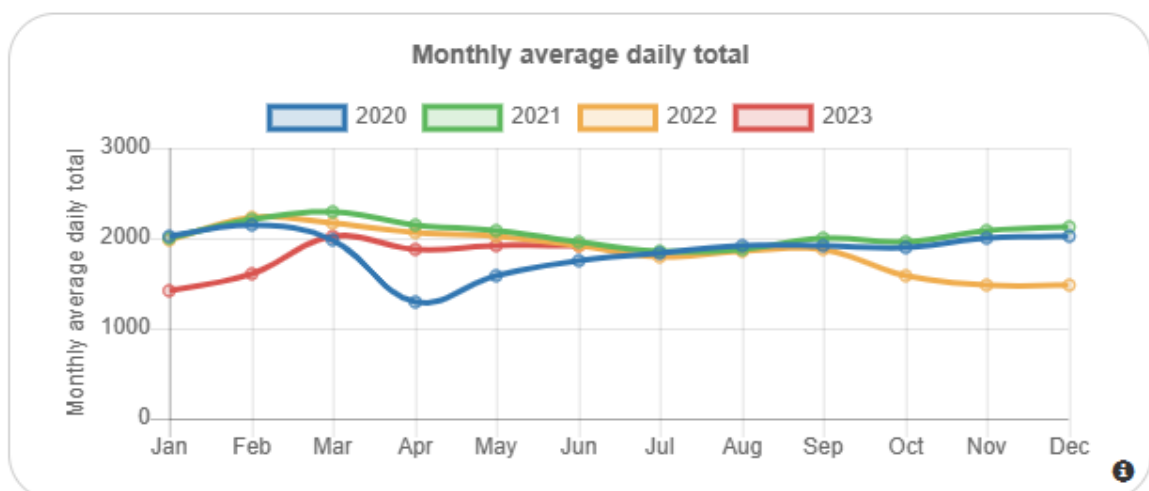
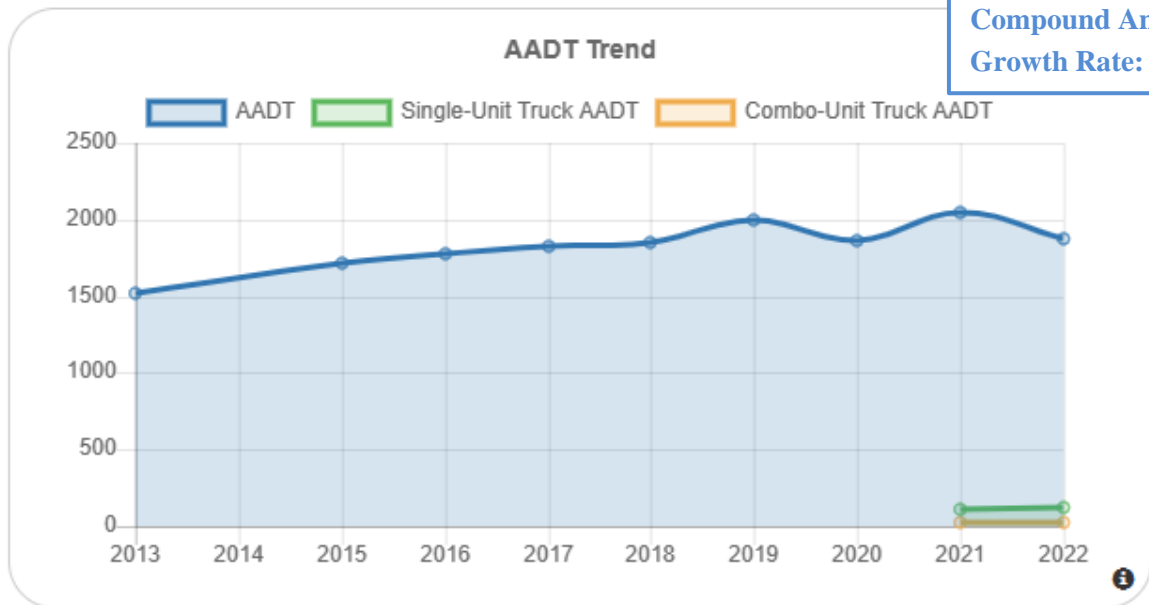
Tasman Hwy - DSG Data



Tasman Hwy AADT:

- 2000 vpd (2023)
- 2,600 vpd (2033)
- 8 % Trucks

**Compound Annual
Growth Rate: 2.7%**



Tasman Hwy 2023

Peak Flow:

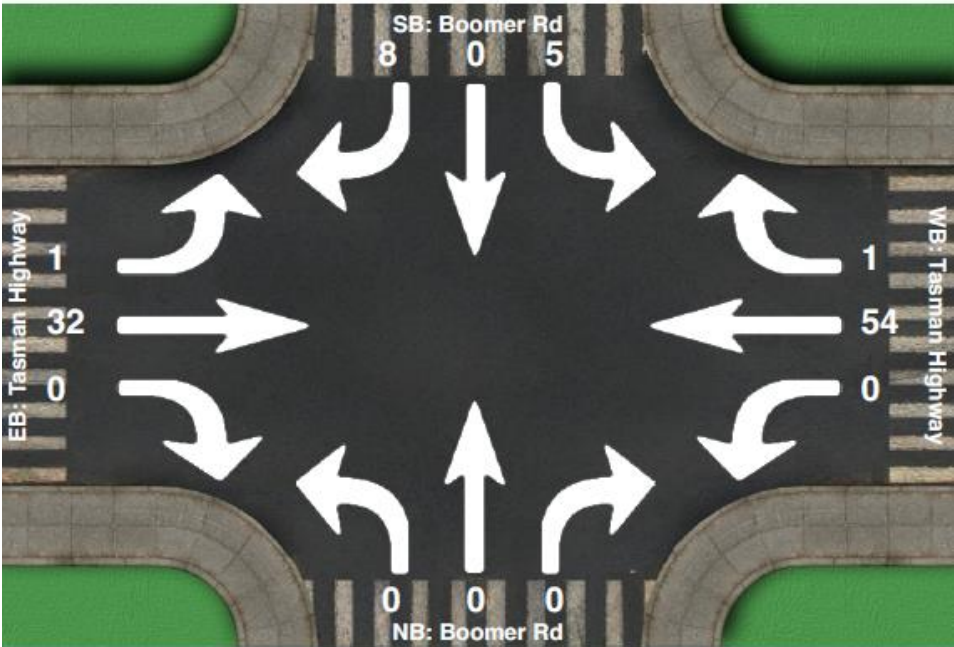
- AM Peak – 200 vph.
- PM Peak – 200 vph.



Tasman Hwy - TCS Traffic Survey Data

Intersection Count Summary

Location: Boomer Rd at Tasman Highway, Waverley
GPS Coordinates:
Date: 2023-05-22
Day of week: Monday
Weather: Fine
Analyst: Sid Saxby



Intersection Count Summary

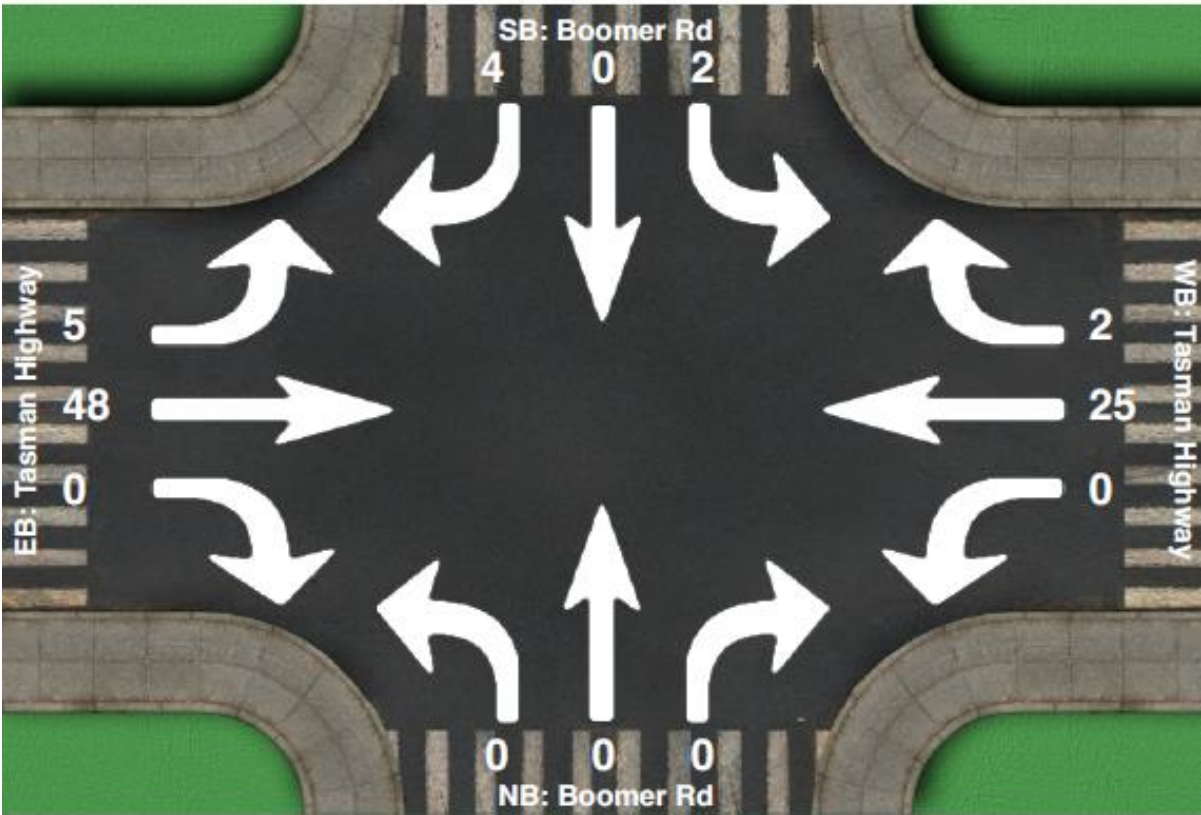
08:00 - 08:30

| | SouthBound | | | Westbound | | | Northbound | | | Eastbound | | | Total |
|---------------|------------|------|-------|-----------|------|-------|------------|------|-------|-----------|------|-------|-------|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Vehicle Total | 5 | 0 | 8 | 0 | 54 | 1 | 0 | 0 | 0 | 1 | 32 | 0 | 101 |



Intersection Count Summary

Location: Boomer Rd at Tasman Highway, Waverley
GPS Coordinates:
Date: 2023-05-22
Day of week: Monday
Weather: Fine
Analyst: Sid Saxby



Intersection Count Summary

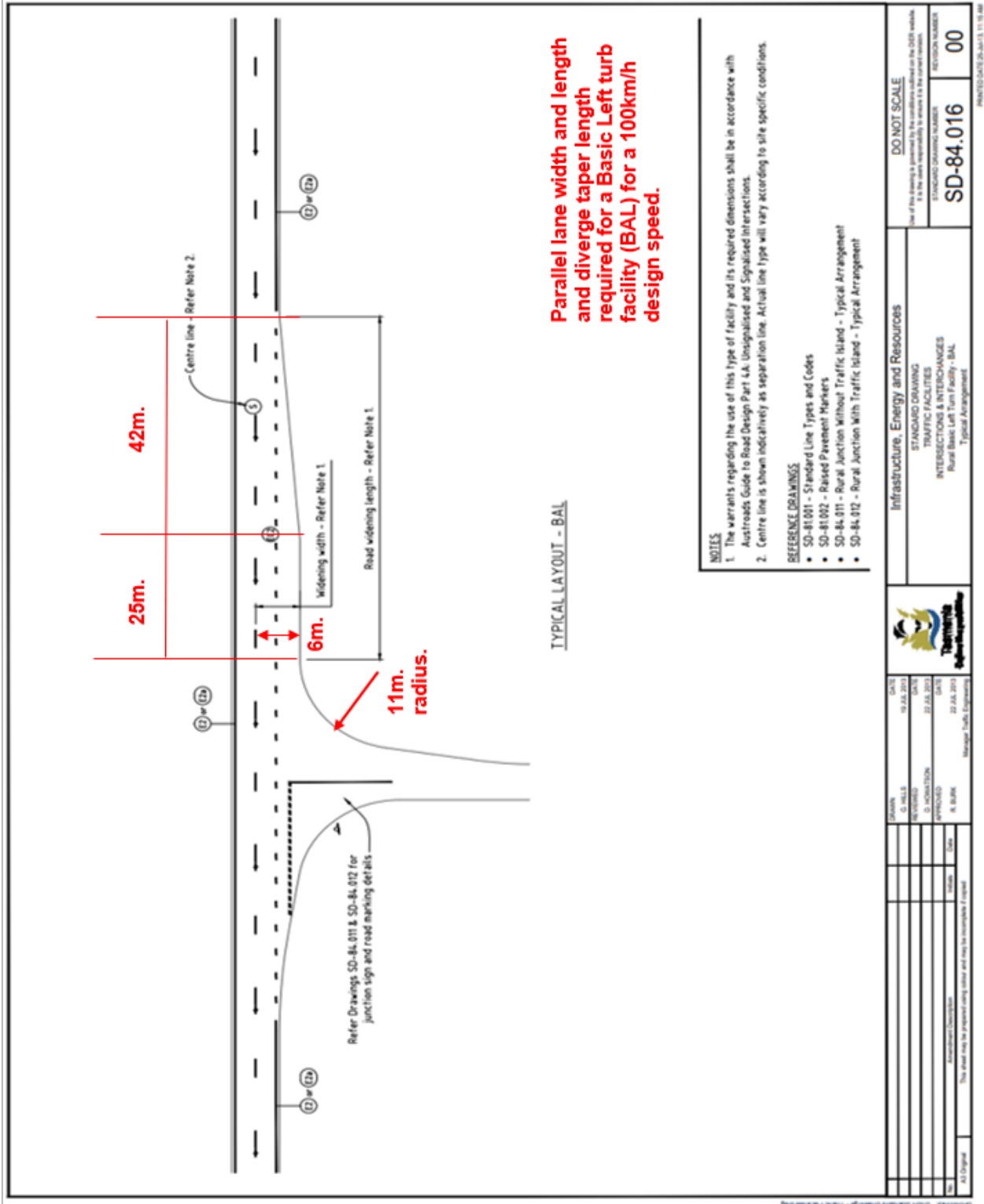
17:00 - 17:29

| | SouthBound | | | Westbound | | | Northbound | | | Eastbound | | | Total |
|---------------|------------|------|-------|-----------|------|-------|------------|------|-------|-----------|------|-------|-------|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | |
| Vehicle Total | 2 | 0 | 4 | 0 | 25 | 2 | 0 | 0 | 0 | 5 | 48 | 0 | 86 |



Appendix F – DSG Junction Layouts

BAL junction layout





Appendix G – DSG advice on TIA acceptability

Fri 20/12/2024 1:24 PM

RE: Tasman Hwy - Boomer Road junction, Waverley - Updated TIA



Siale, Vili <Vili.Siale@stategrowth.tas.gov.au>
To Richard Burk



1:24 PM

Our Reference: D24/291309/2

Hi Richard,
Thank you for your email and latest TIA.

Following a review of the attached TIA, your assessment of the generated right turn traffic would be very low which would not have triggered a BAR. However, the BAL is still warranted, according to the traffic number.

Given the above, your latest TIA is accepted.

If you have any further queries regarding this matter, please let me know.

Regards,
Vili,

Vili Siale | Traffic Engineering Liaison Officer

Traffic Engineering | Network Management

State Roads | Department of State Growth

11A Goodman Court, INVERMAY TAS 7248 | GPO Box 536, Hobart TAS 7001

Ph. (03) 6777 1951 | Mb. 0439 101 614

www.stategrowth.tas.gov.au

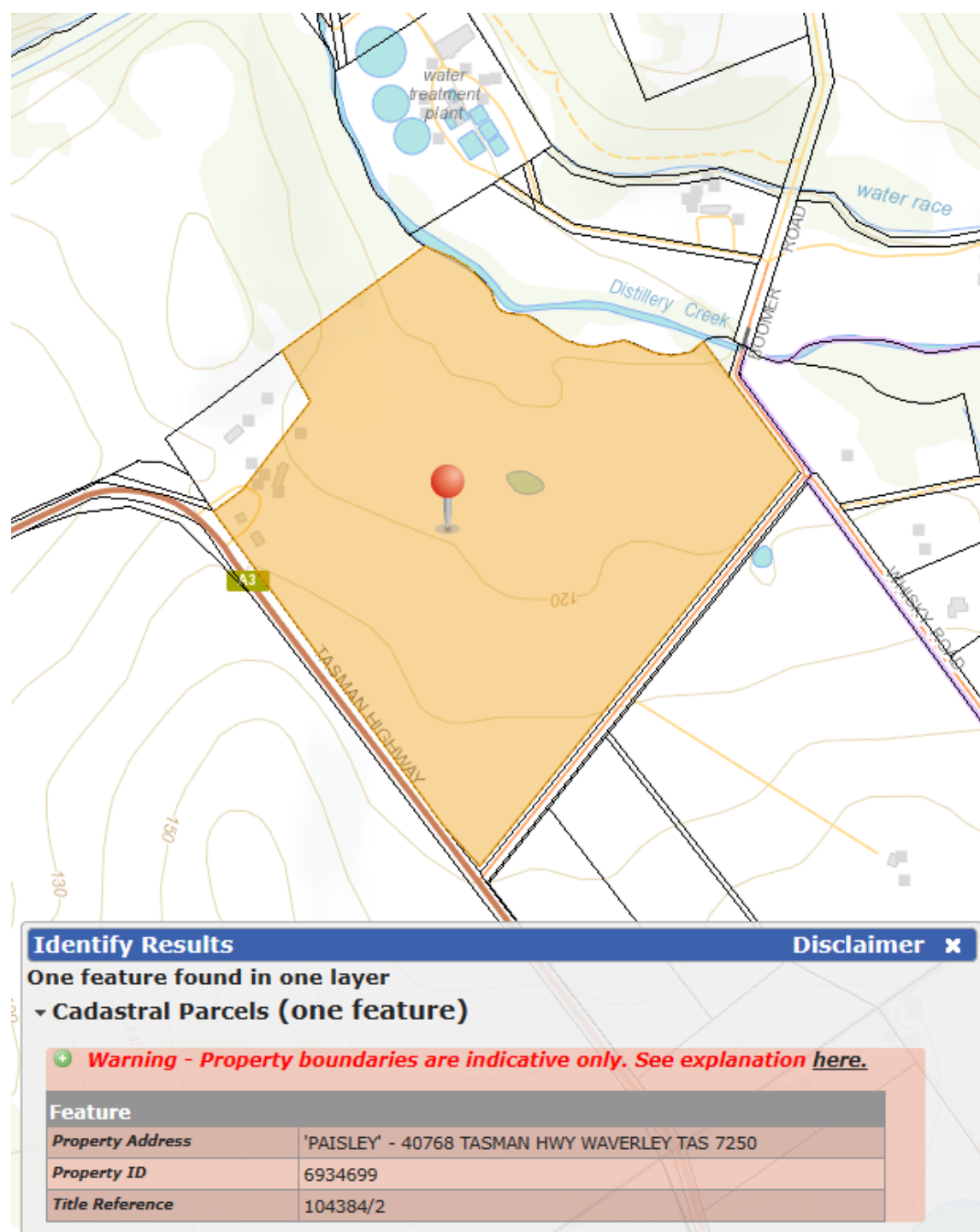
Courage to make a difference through

TEAMWORK | INTEGRITY | RESPECT | EXCELLENCE

My current work pattern:

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--------|---------|-----------|----------|--------|
| Office | Office | Office | WFH | WFH |

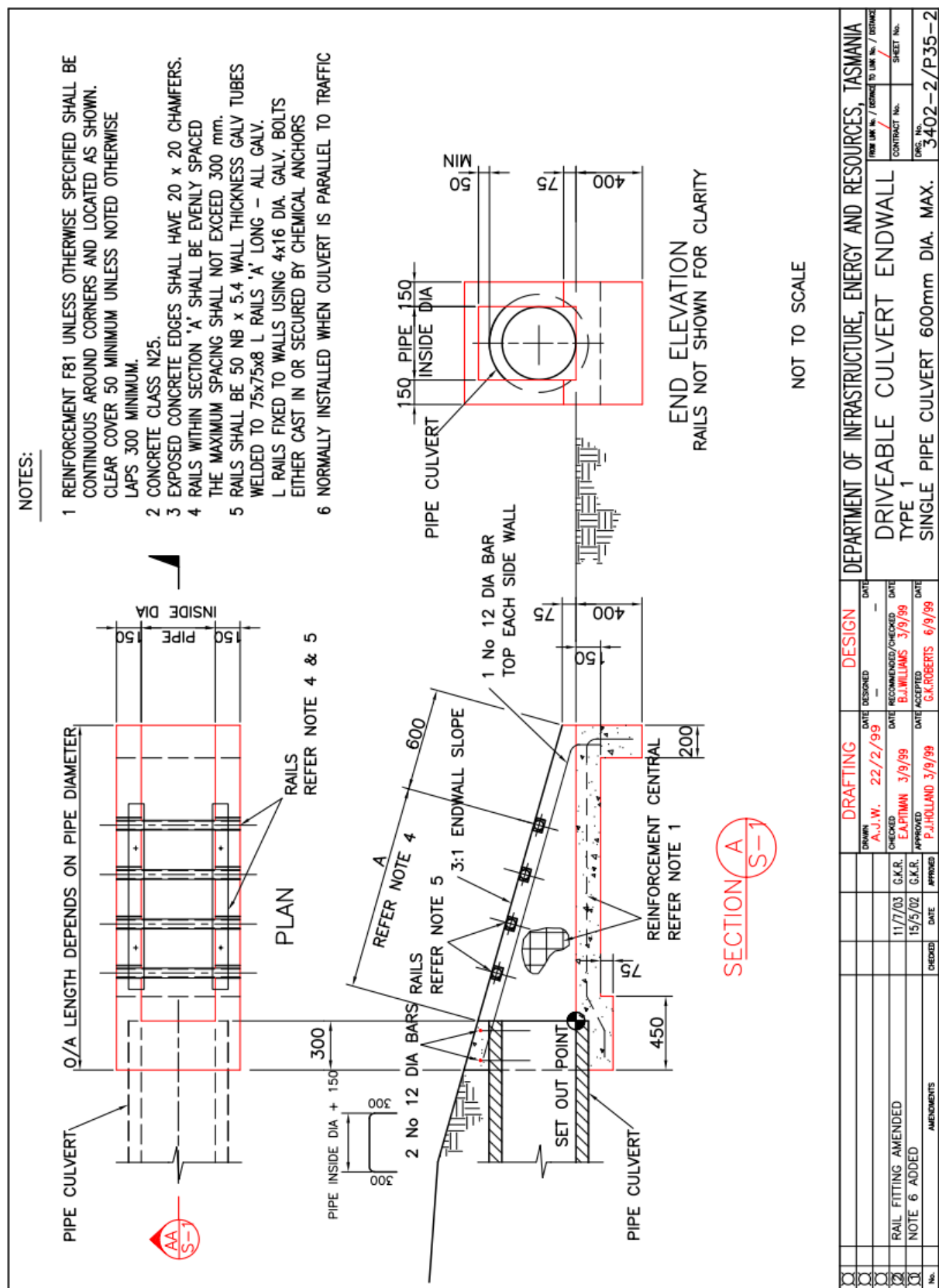
Appendix H – Property & Title Reference



Appendix I – Towers Drive Speed Limit,



Appendix J – Driveable Culvert Endwall Type 1



Appendix K – Grated Pit V Gutter

