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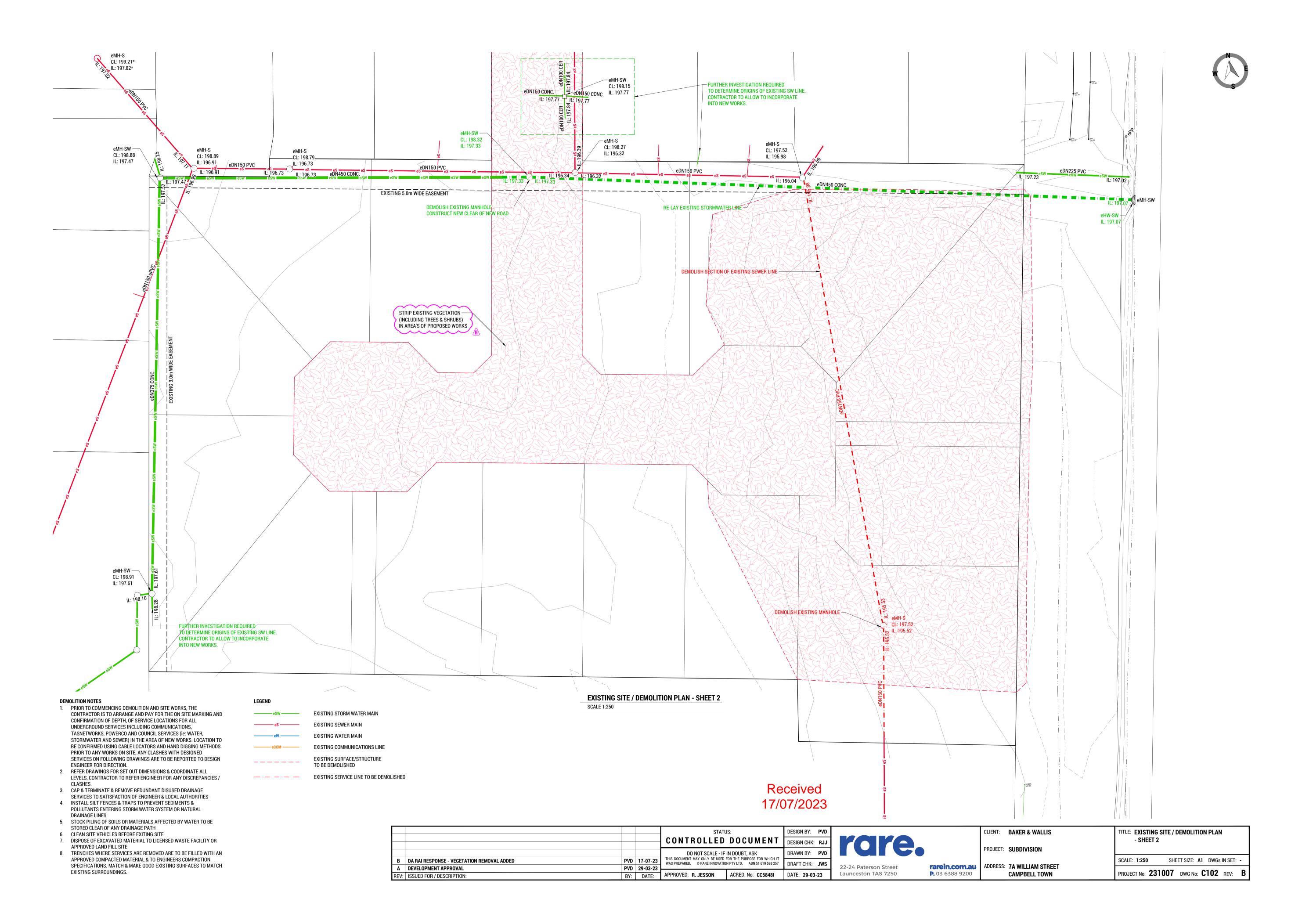
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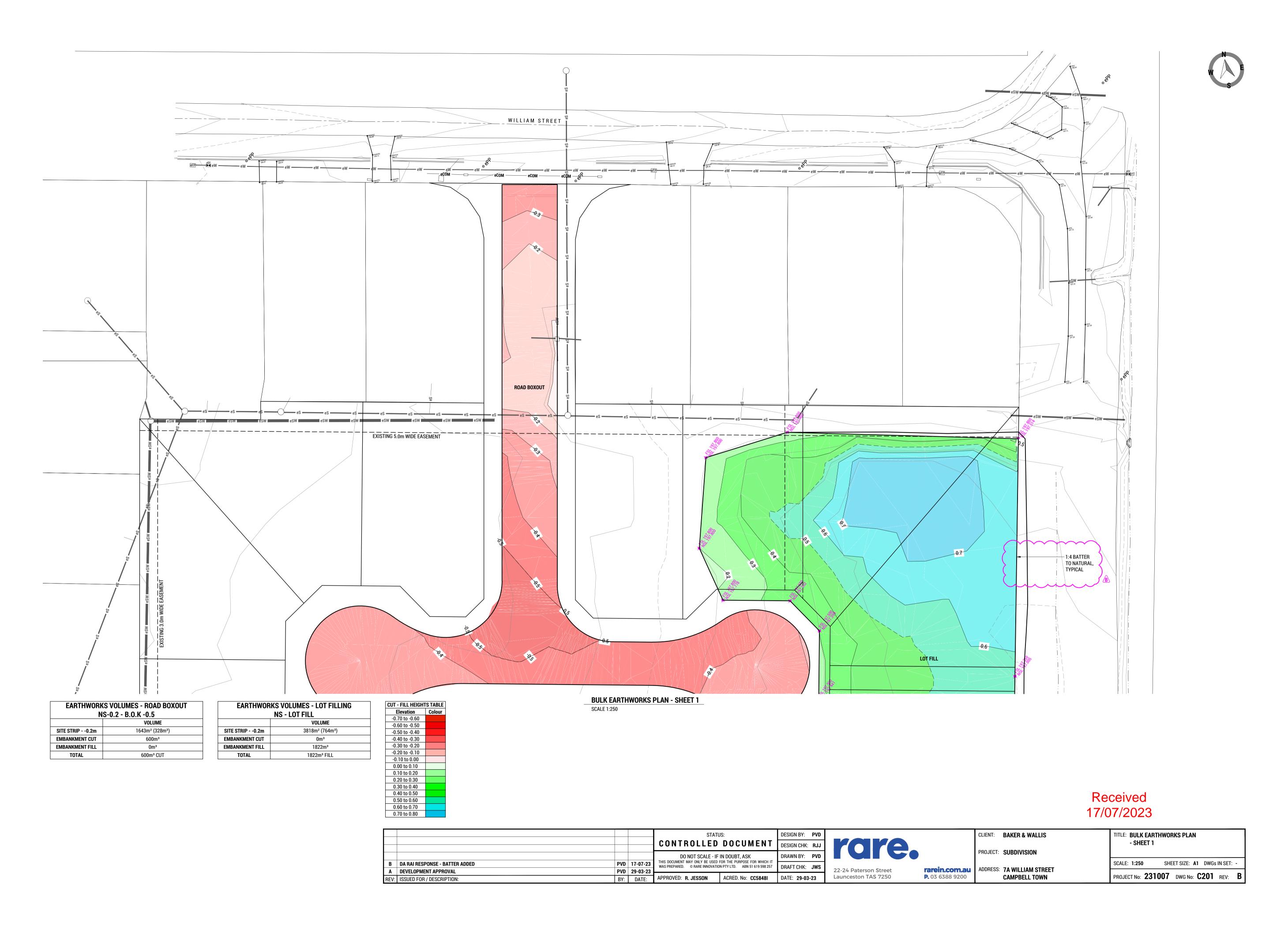
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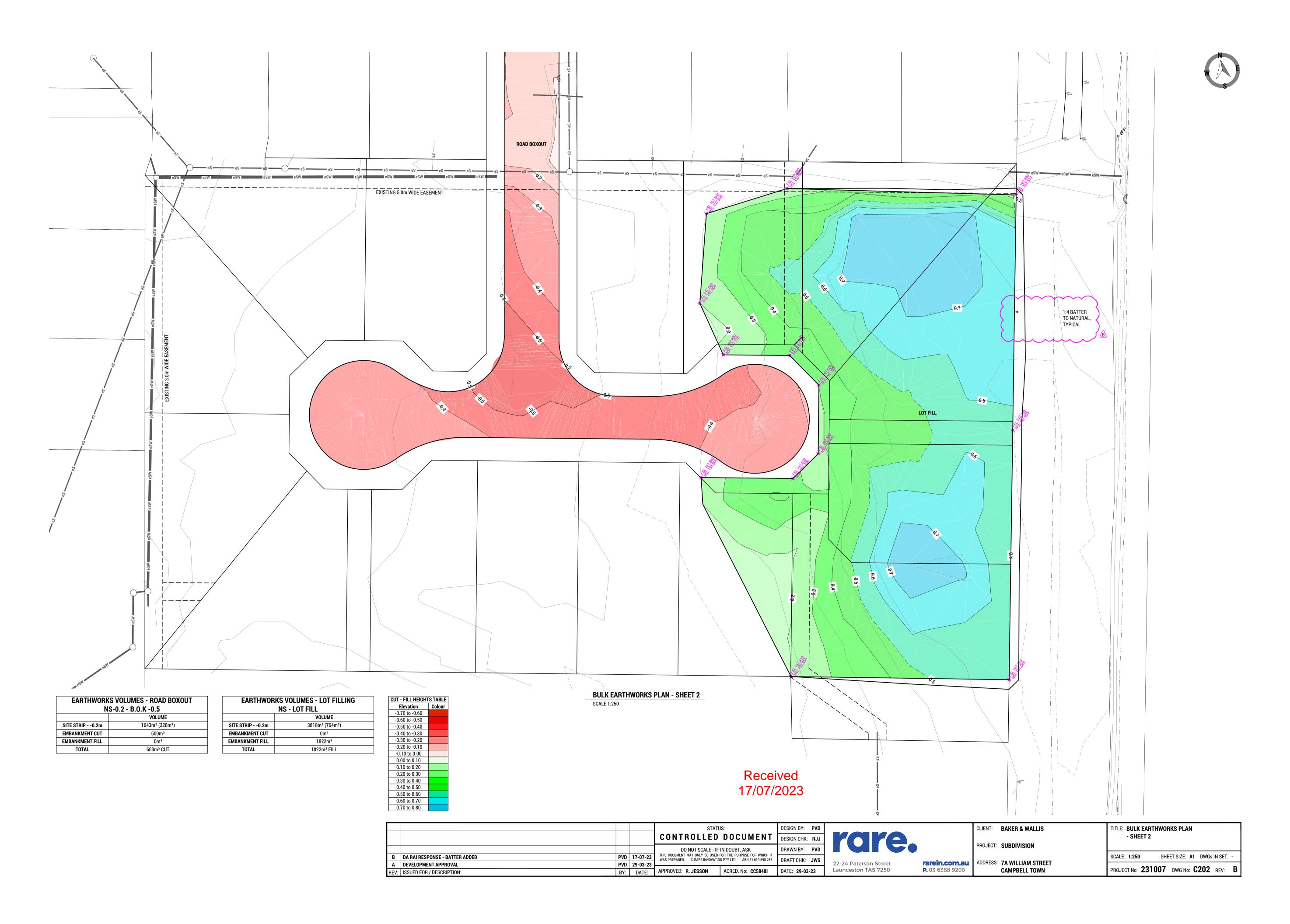
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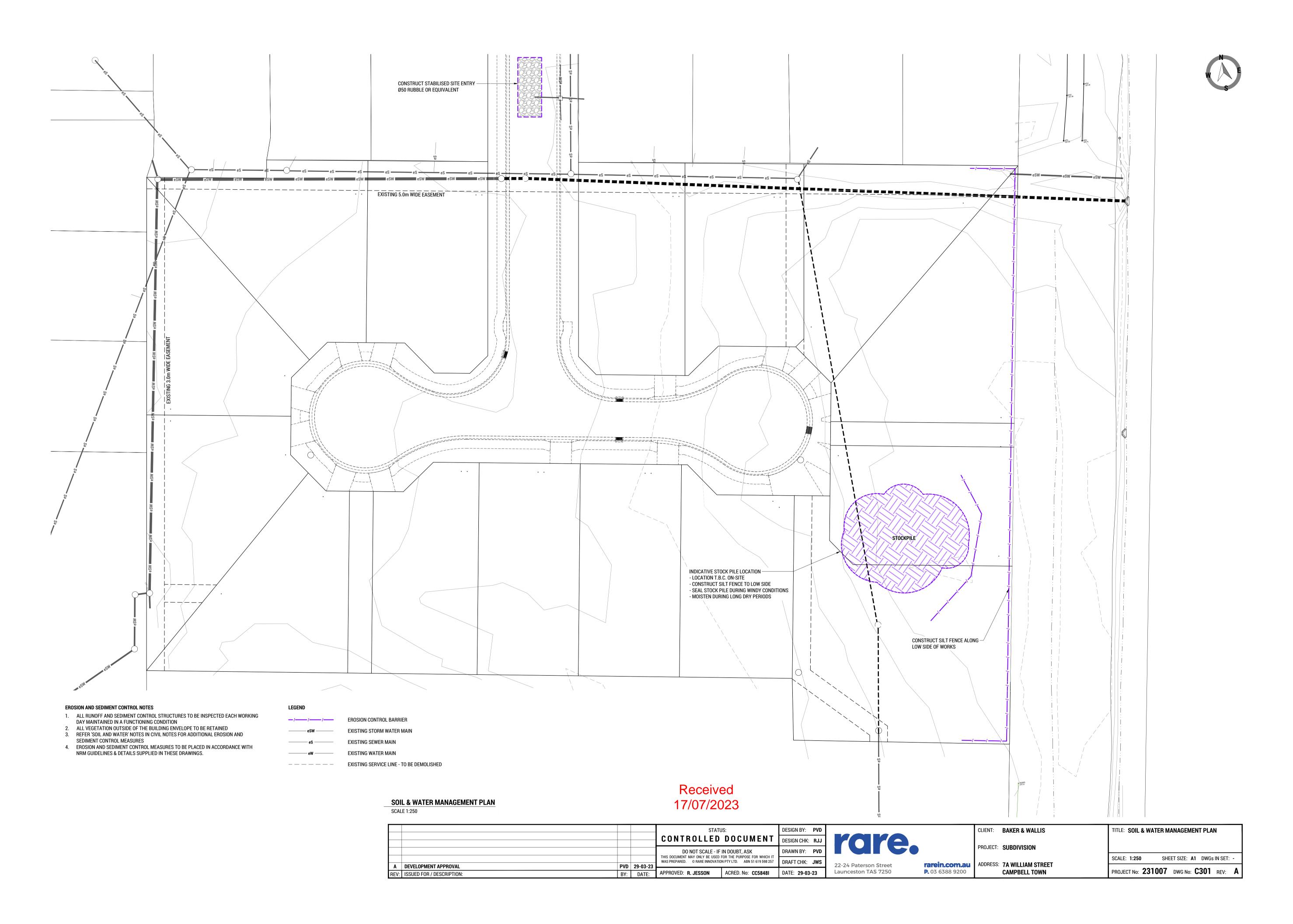
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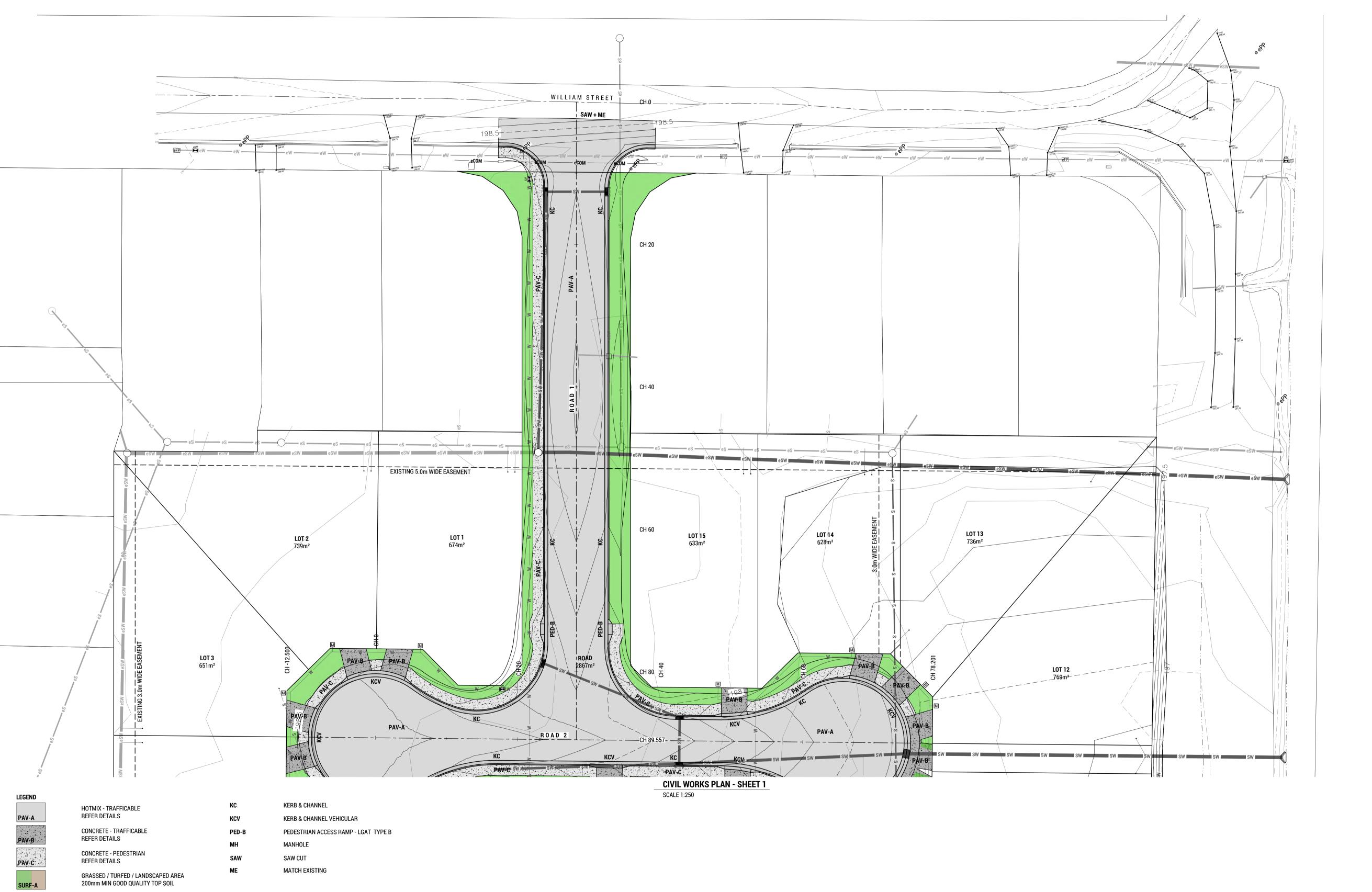




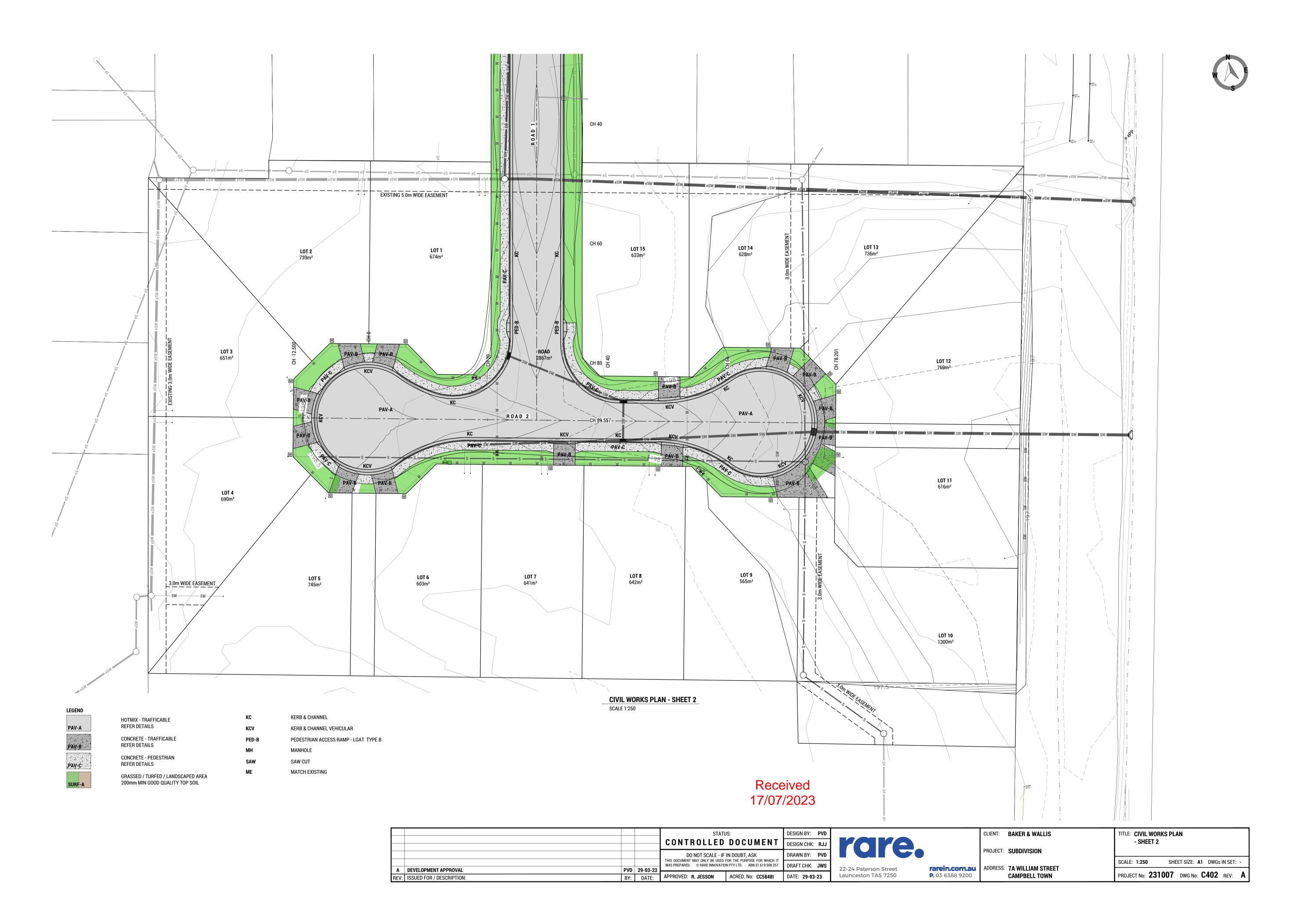
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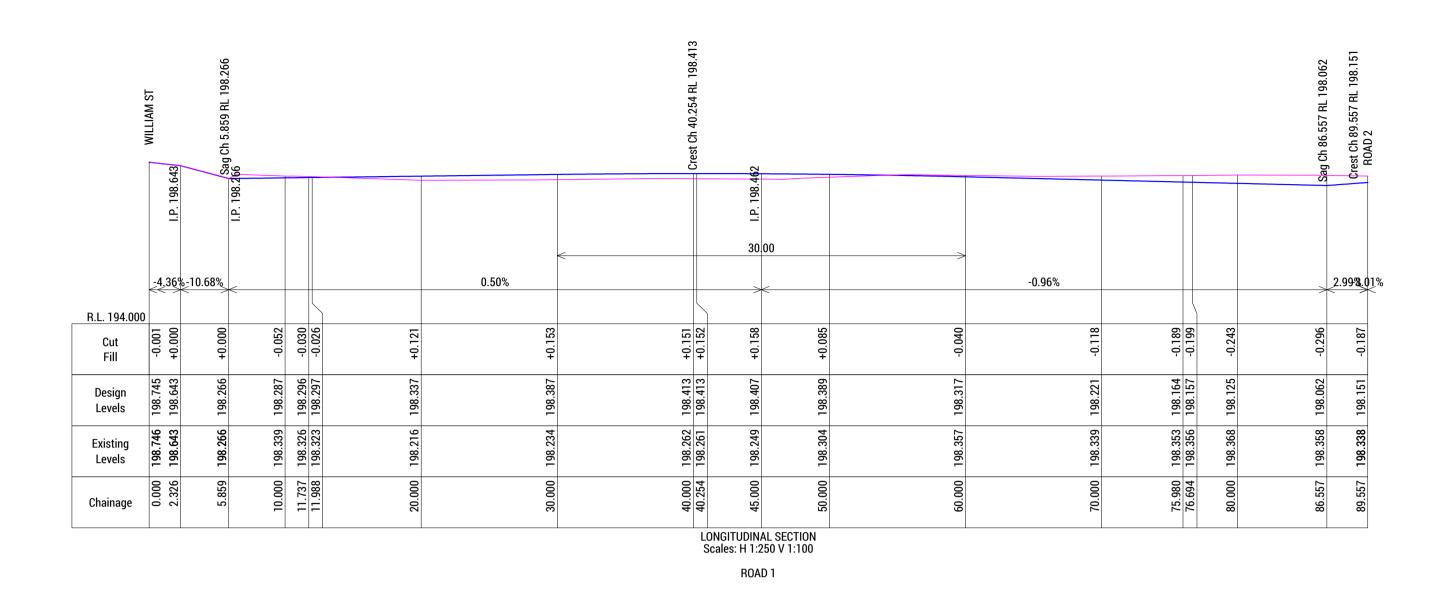


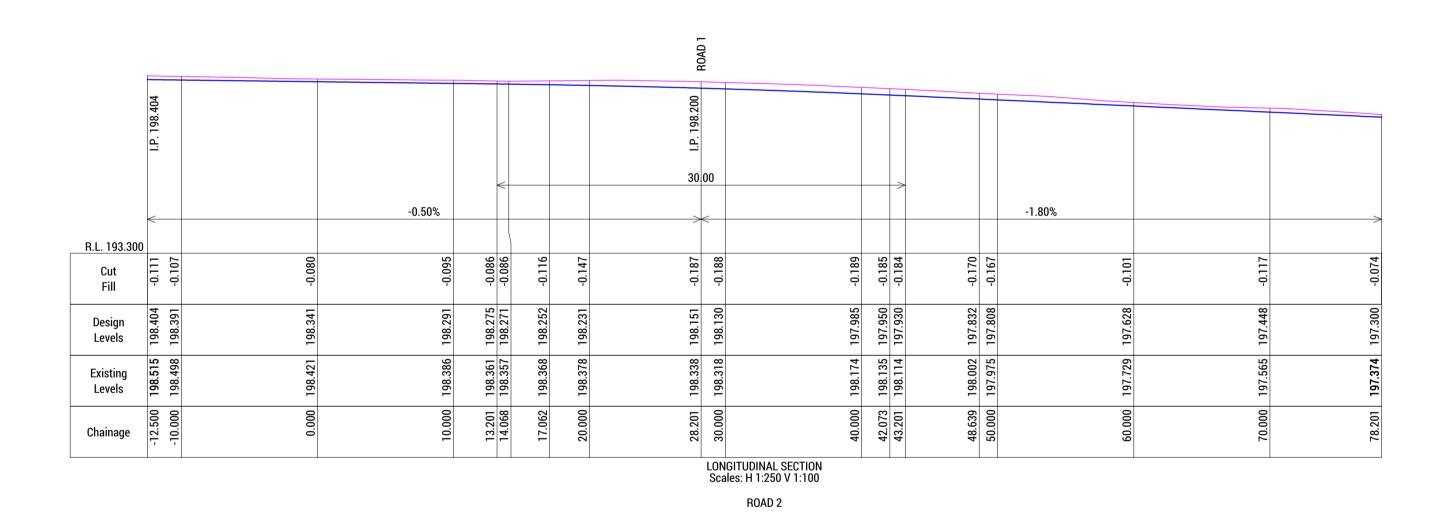




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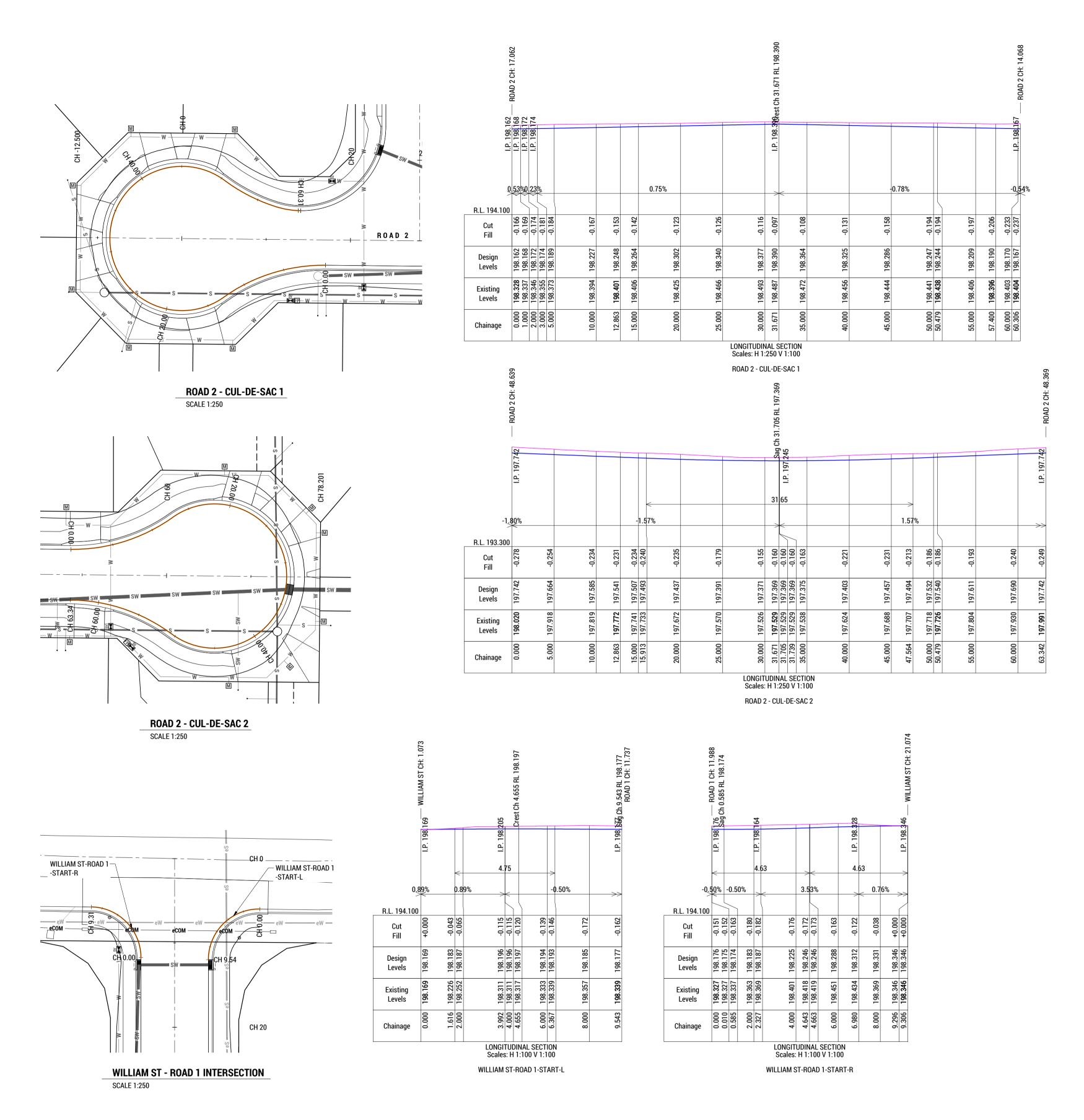


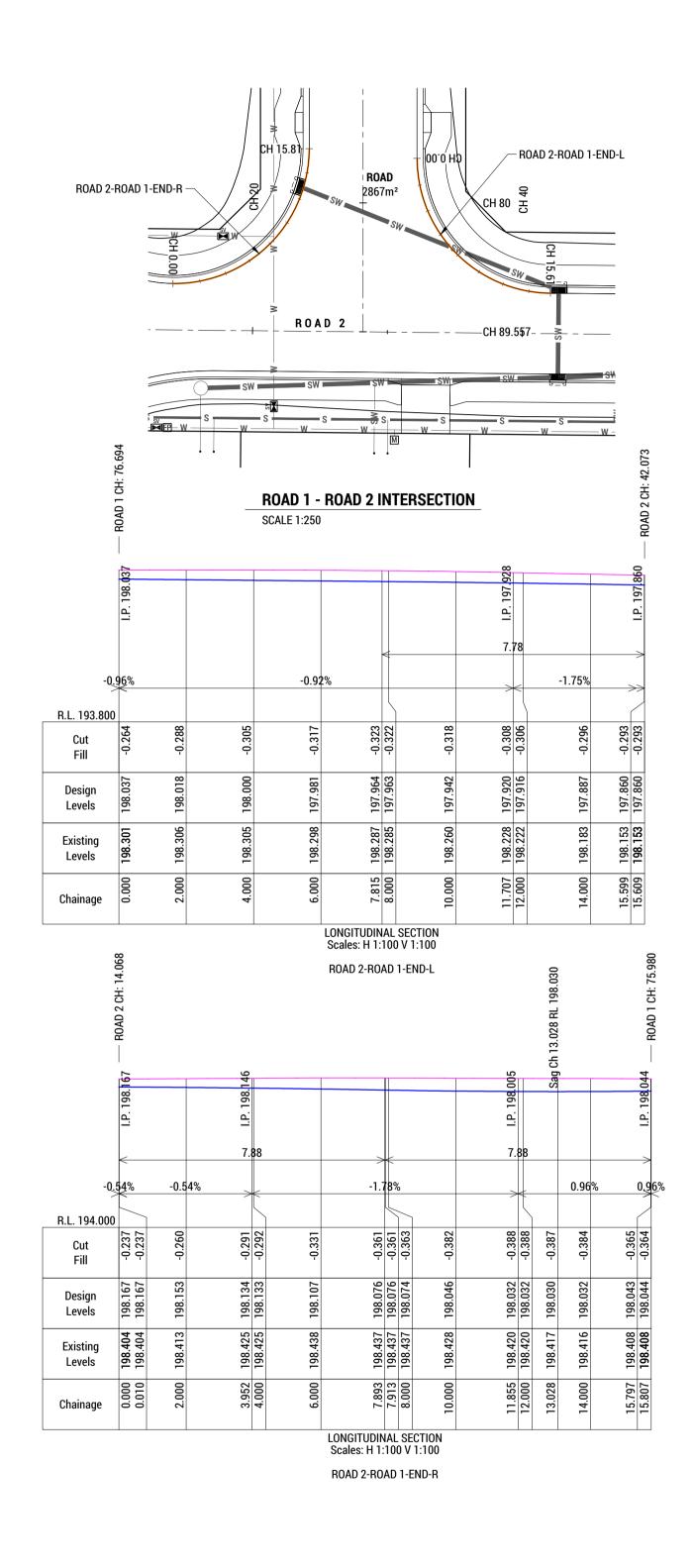




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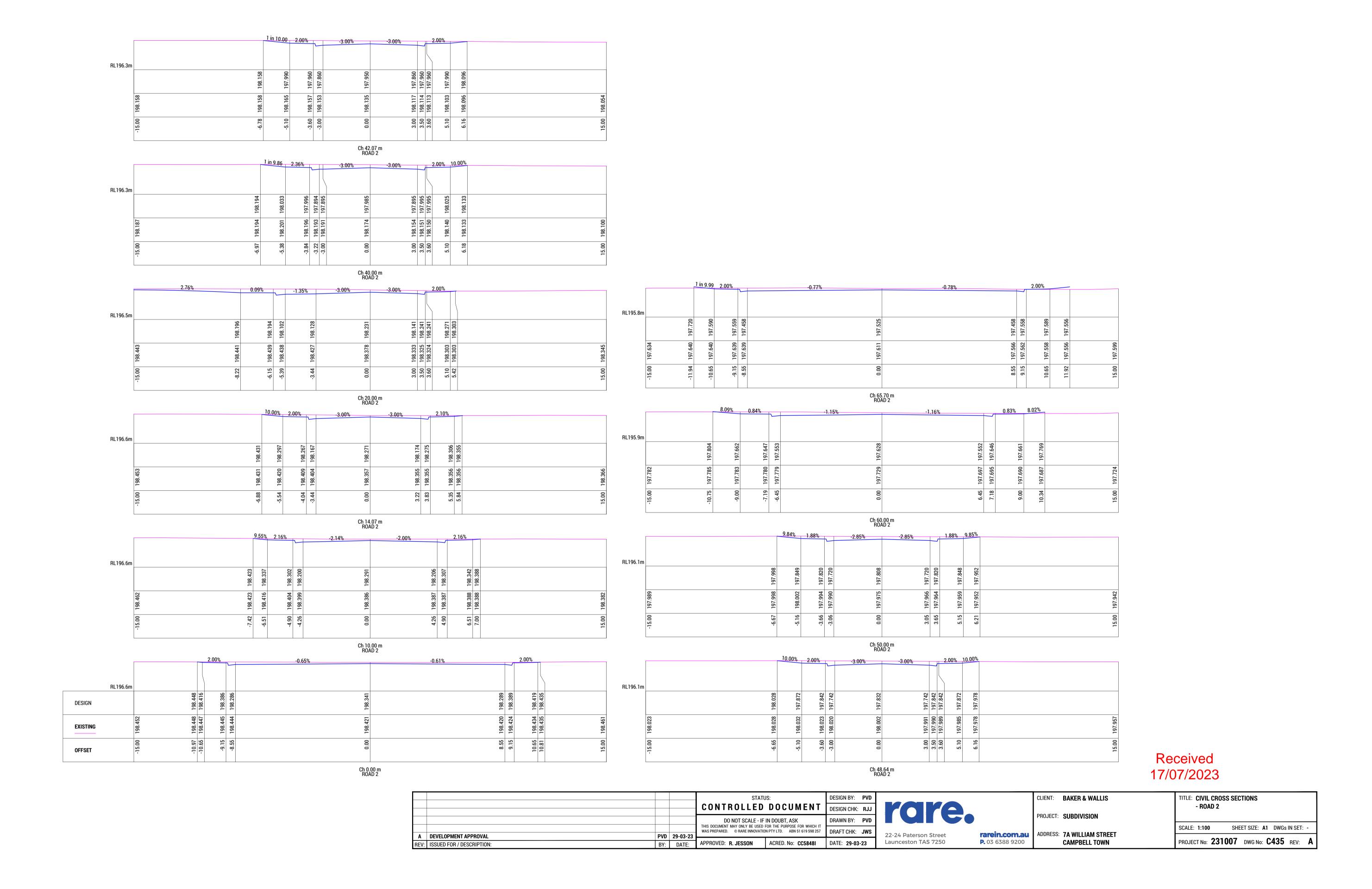


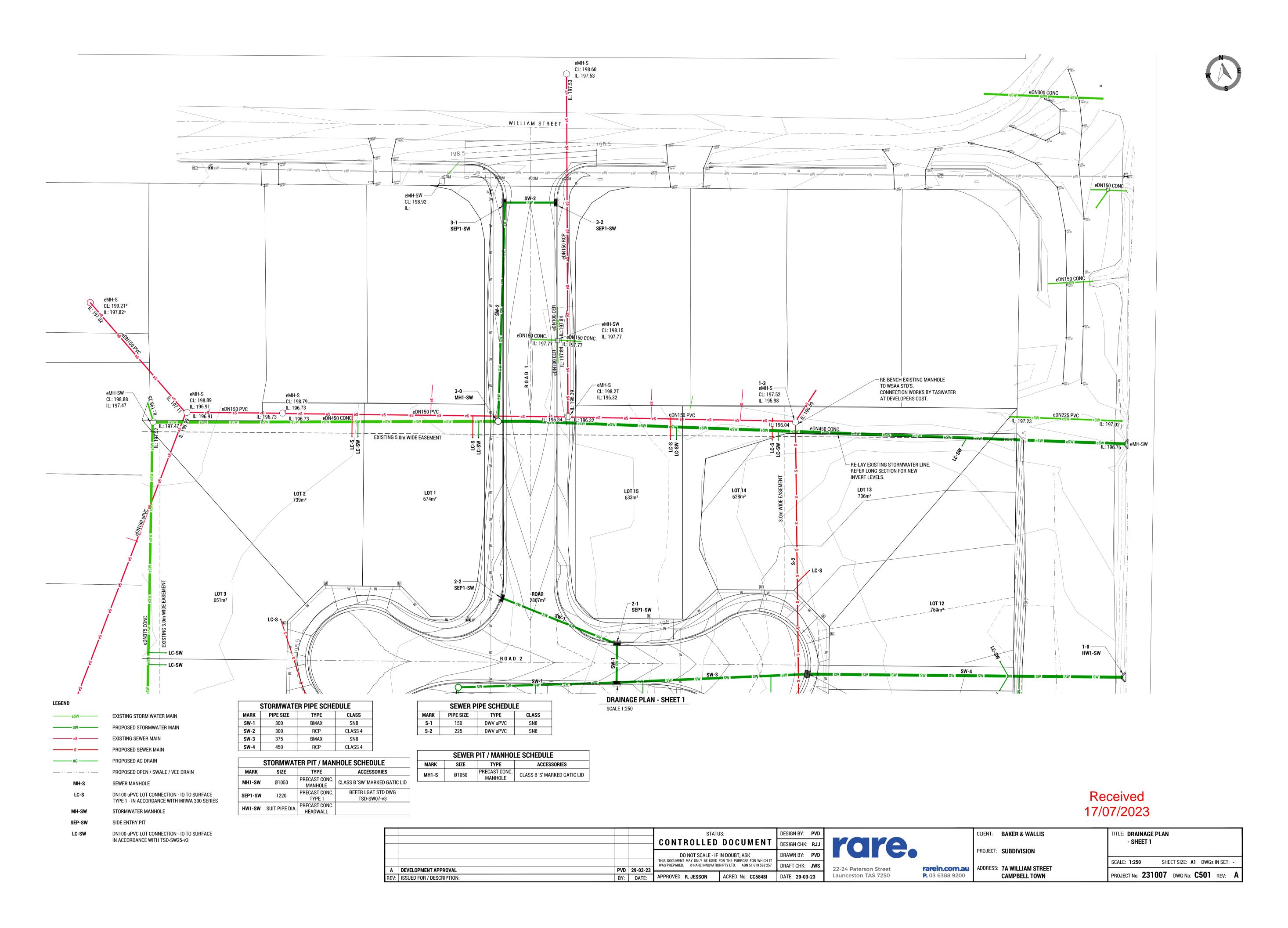


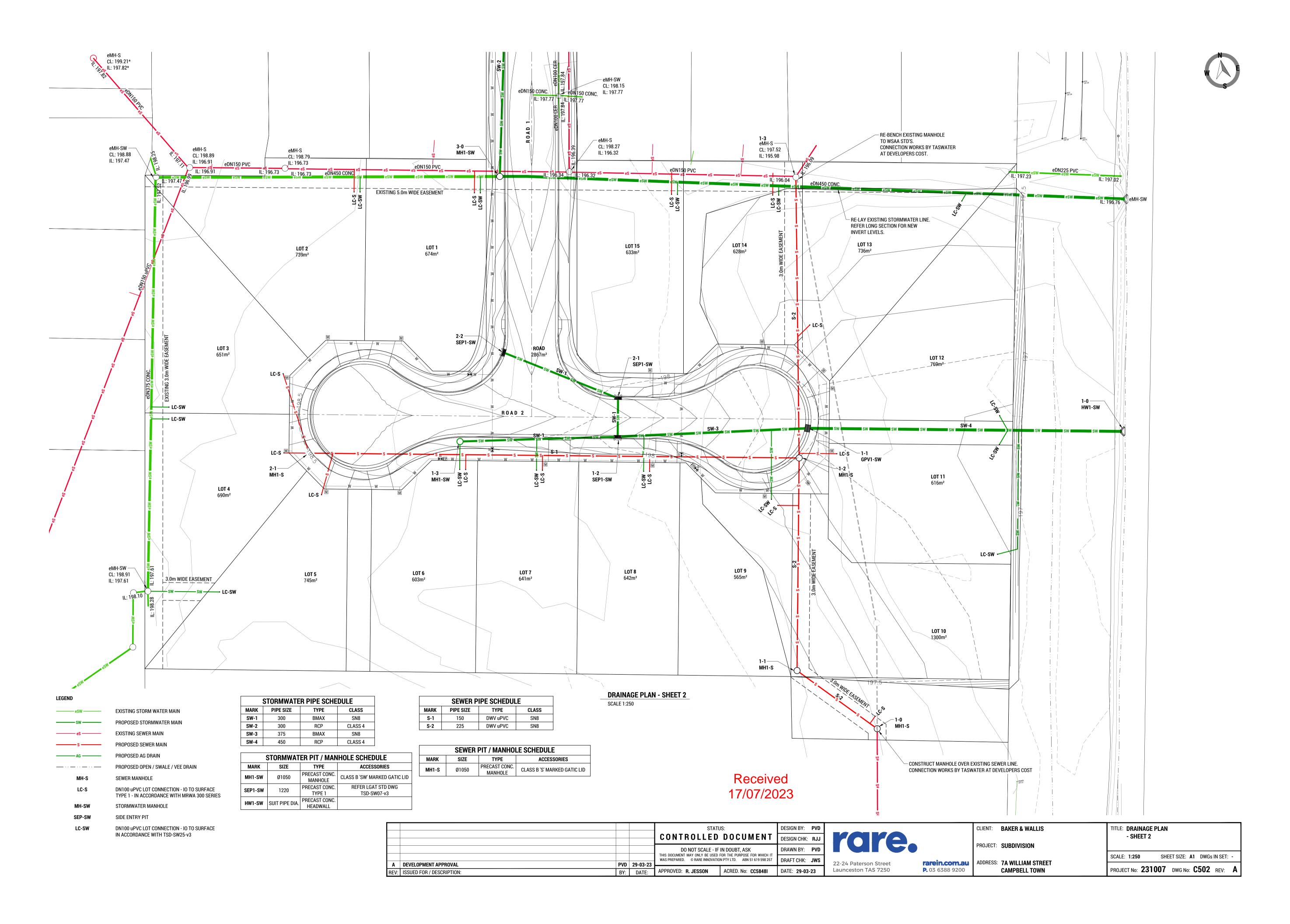
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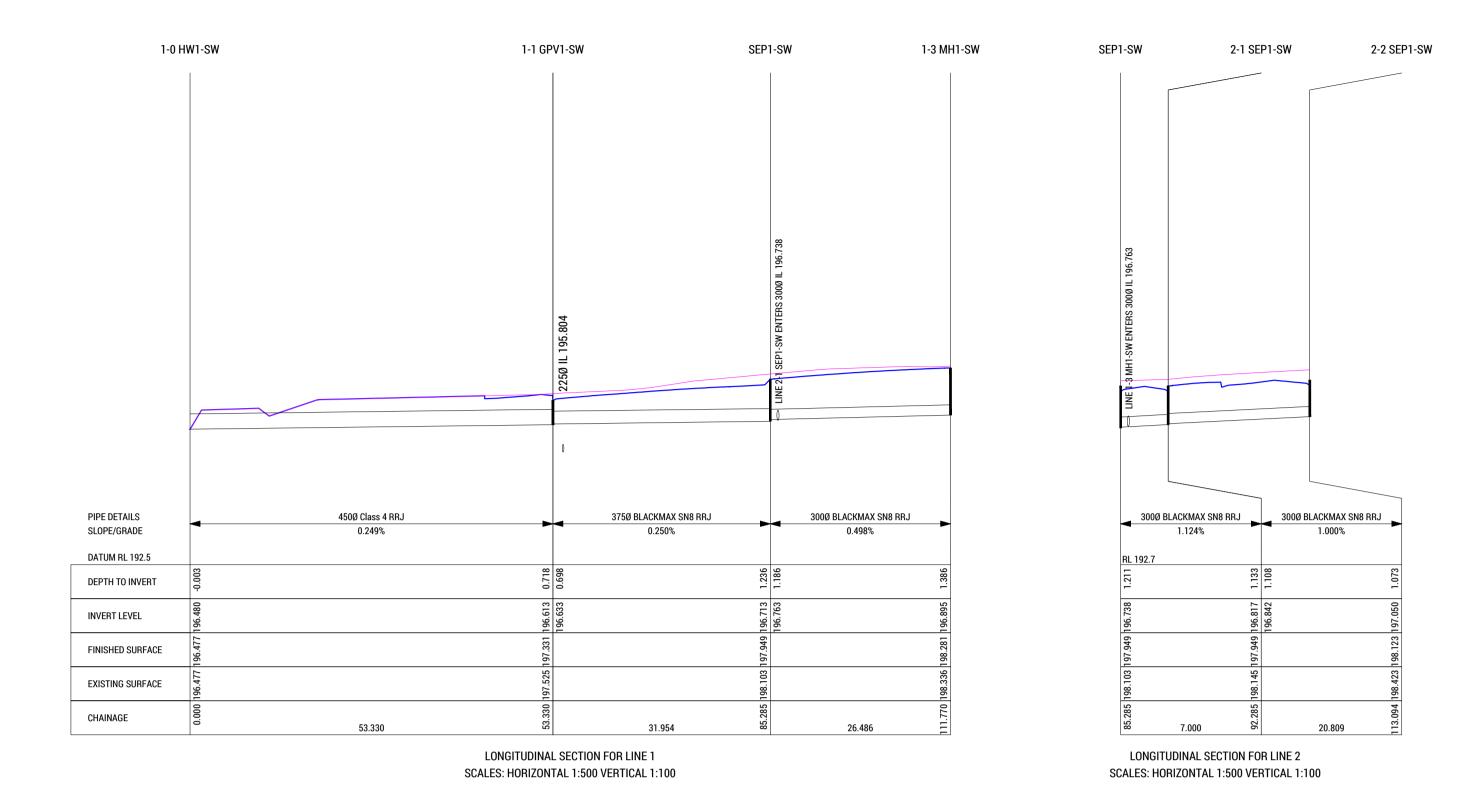


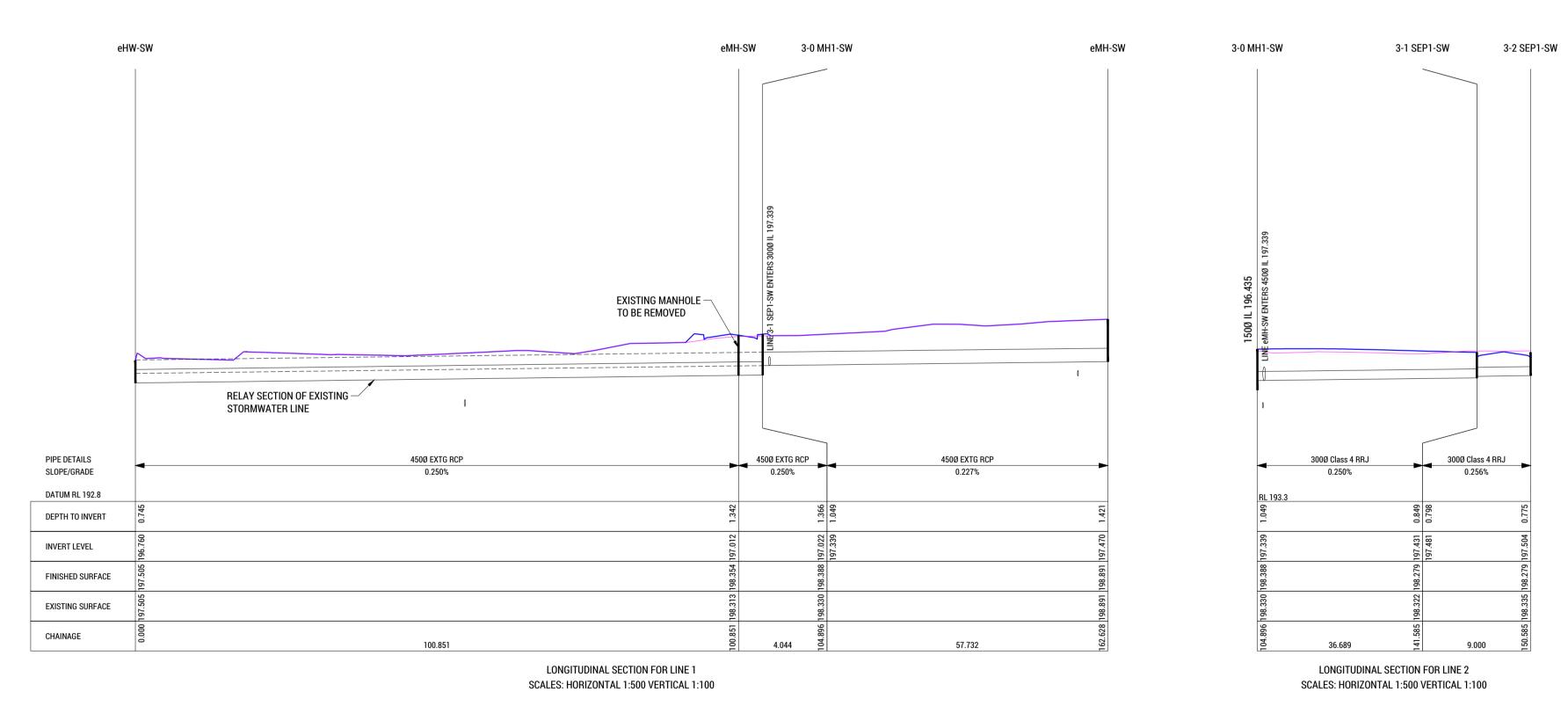
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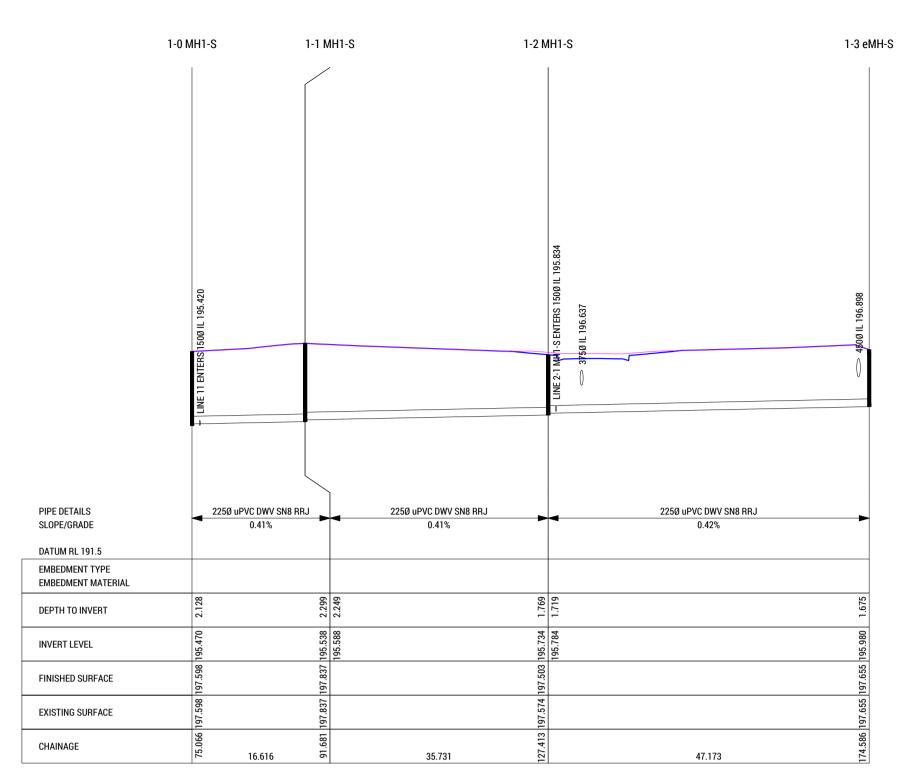


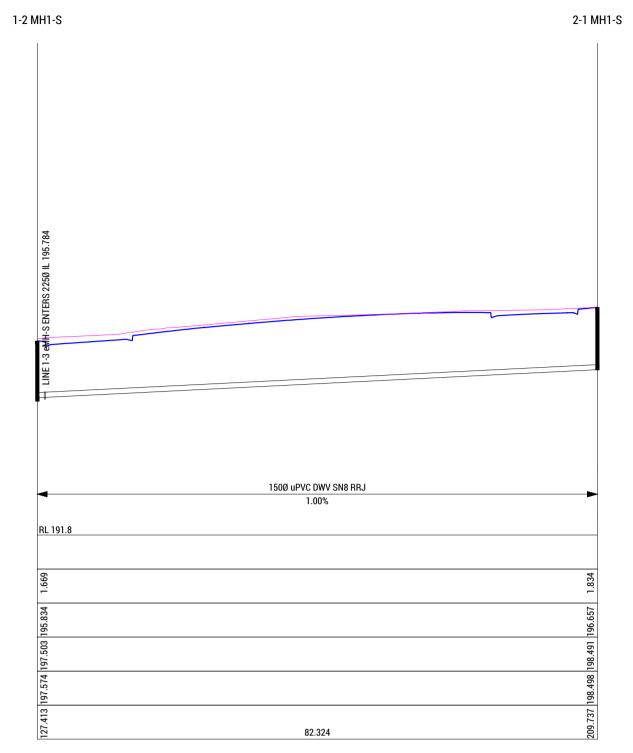






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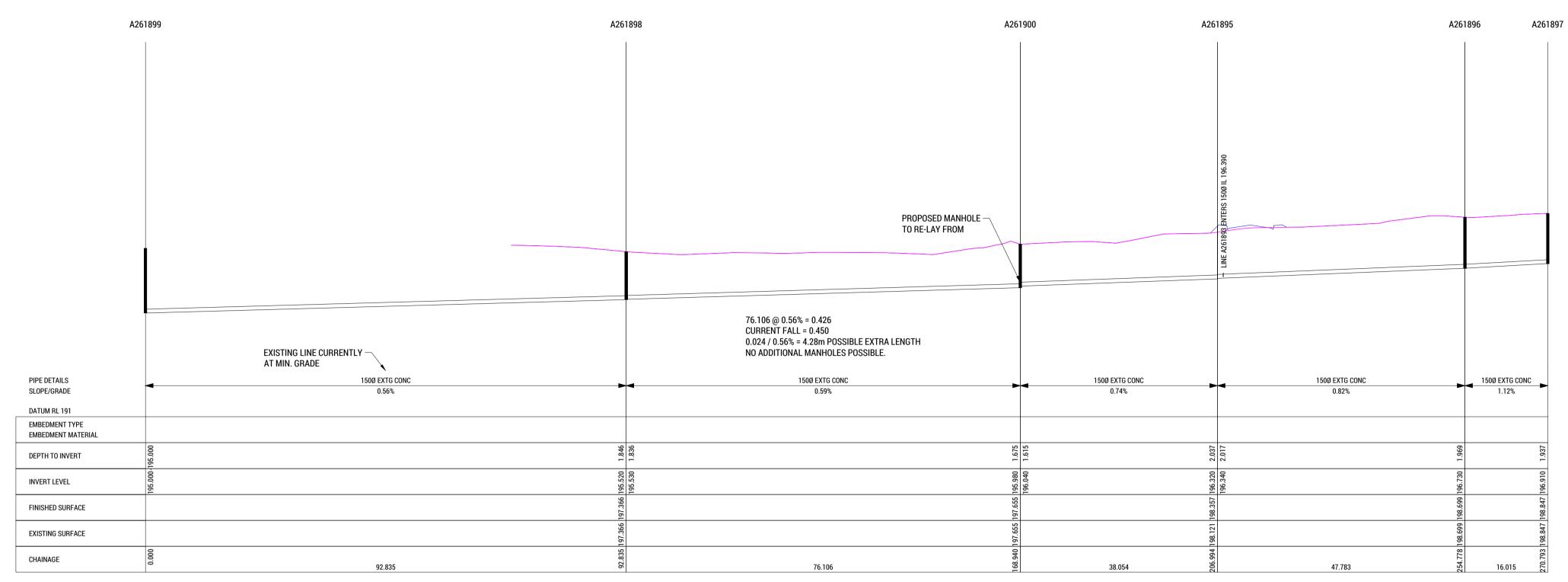
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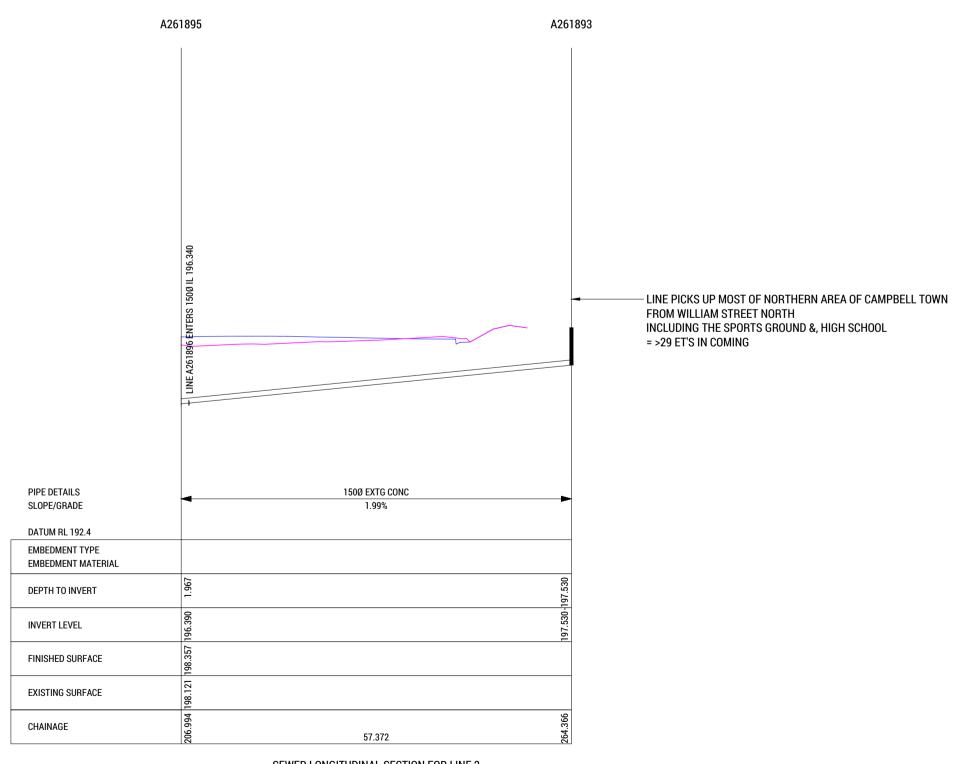
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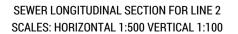
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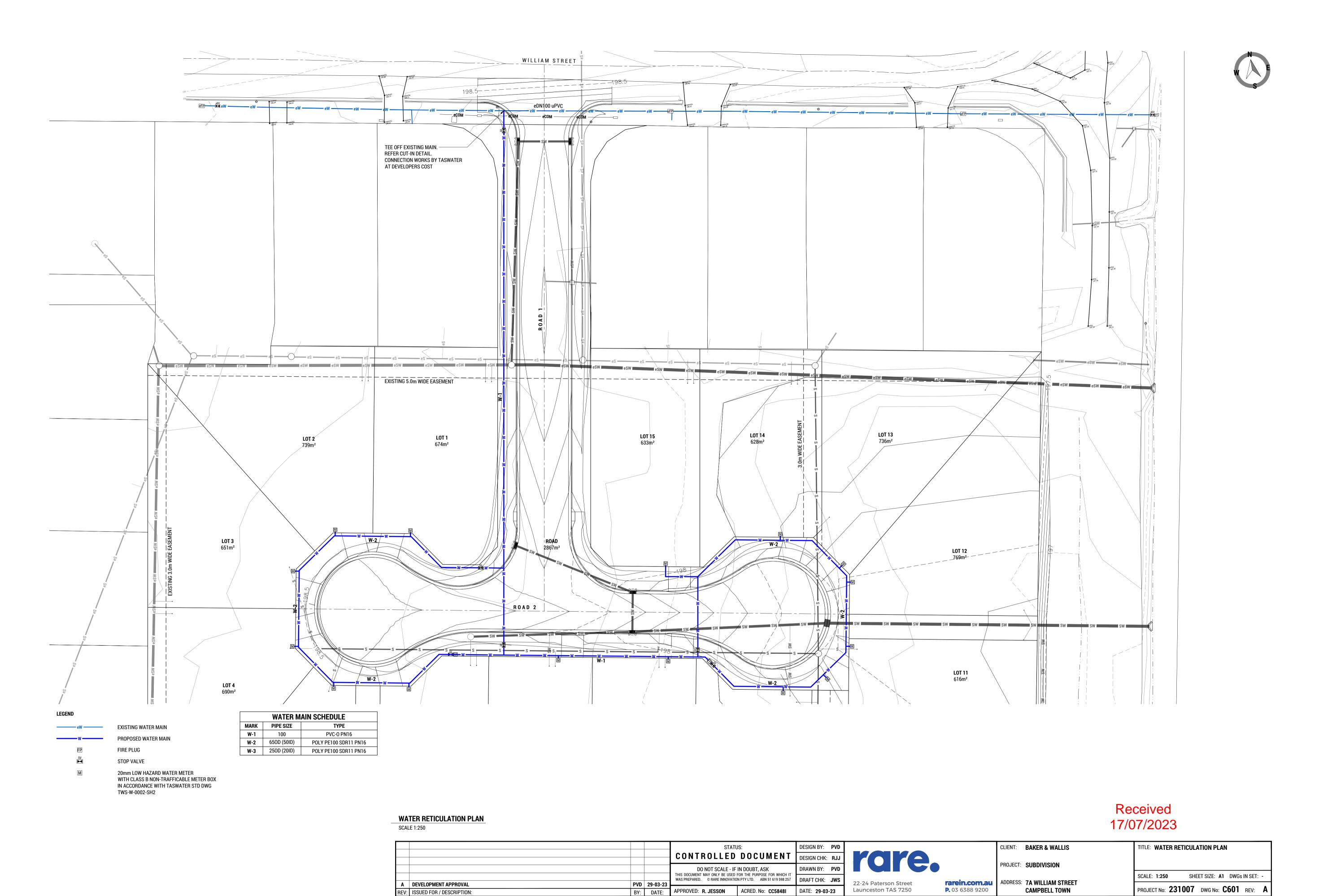
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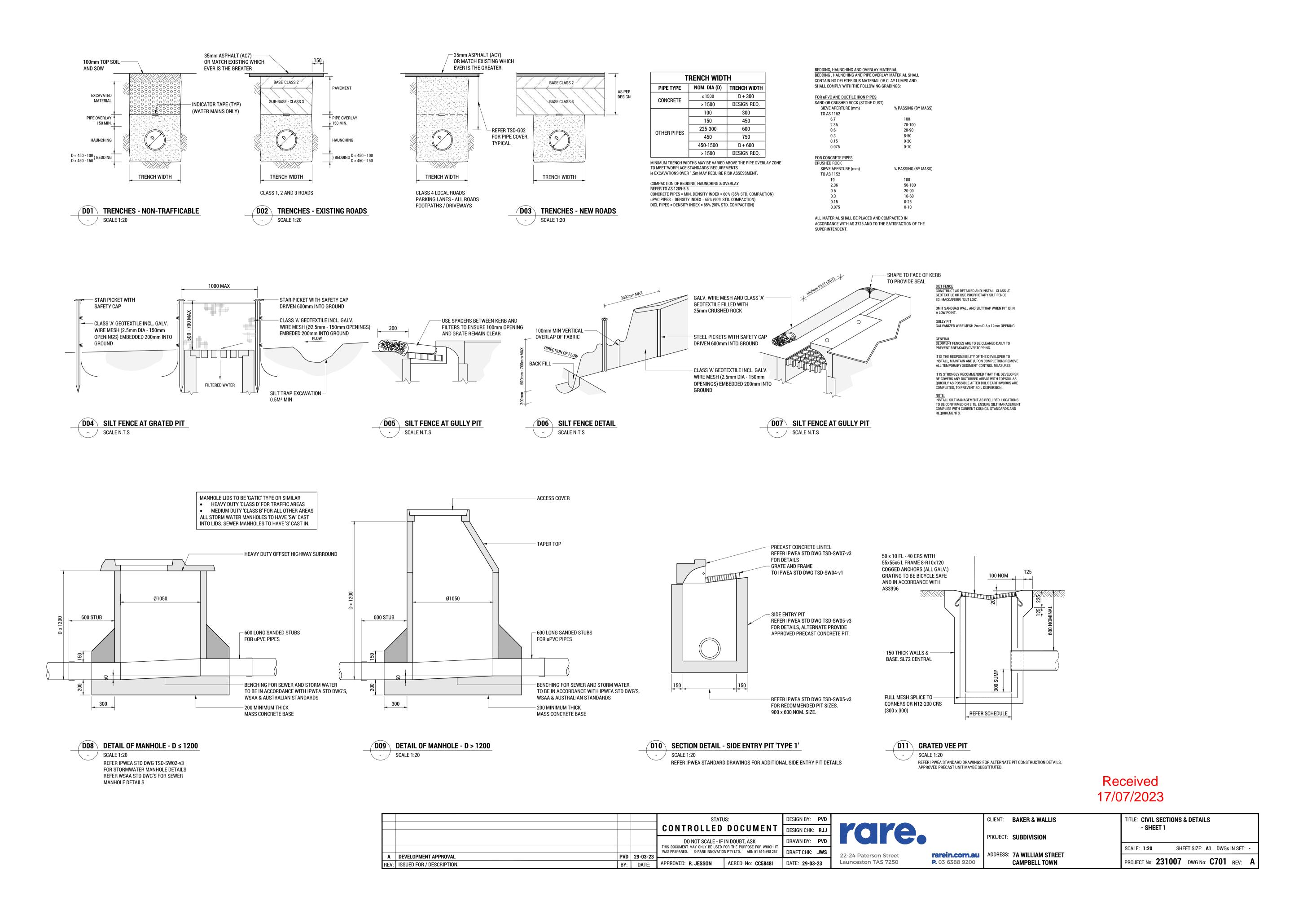
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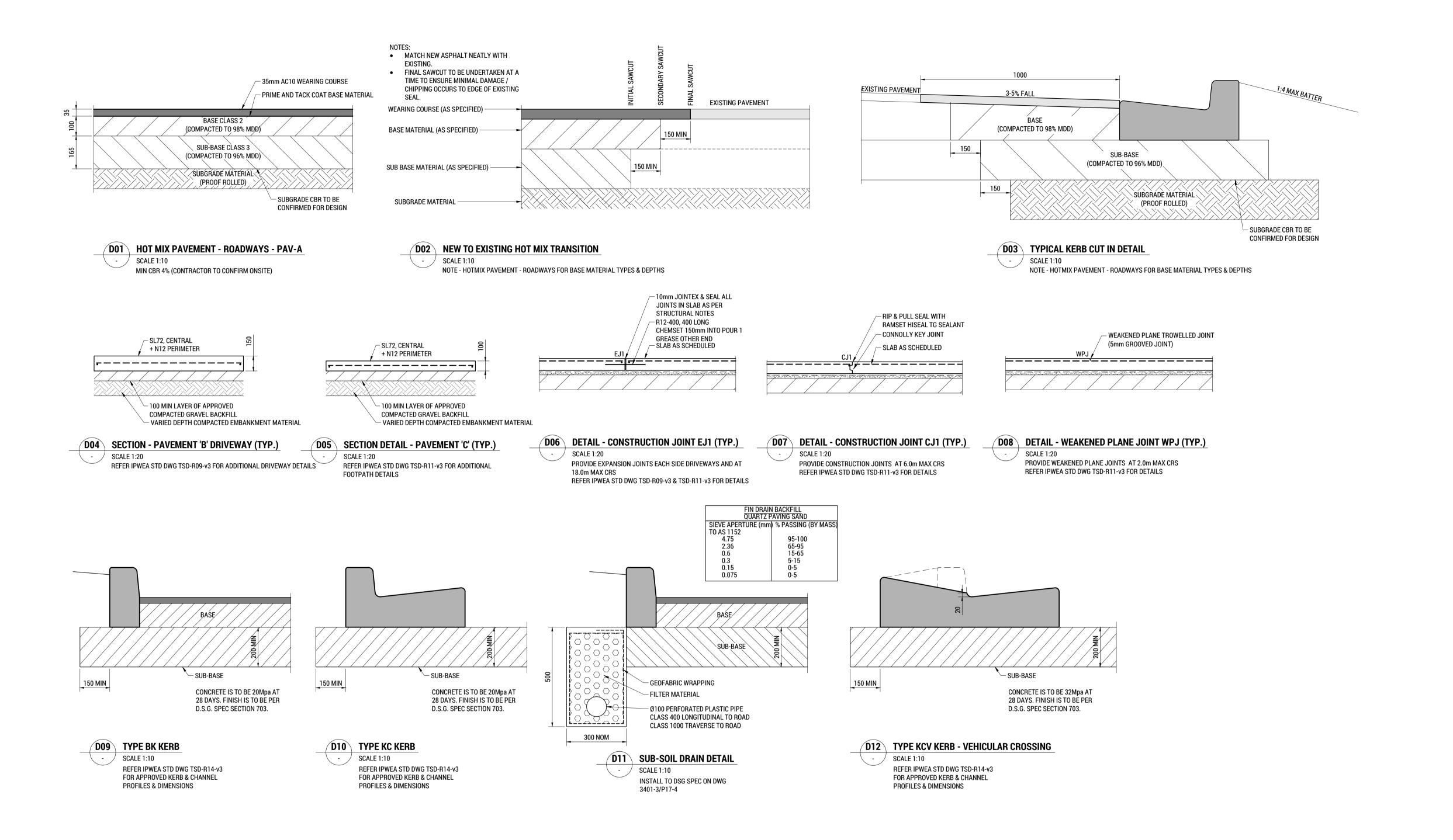
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## 7A WILLIAM STREET, CAMPBELL TOWN 15 LOT SUBDIVISION TRAFFIC IMPACT ASSESSMENT

**APRIL 2023** 





### 7A William Street, Campbell Town 15 Lot Subdivision

#### TRAFFIC IMPACT ASSESSMENT

- Final
- April 2023

Traffic & Civil Services ABN 72617648601 1 Cooper Crescent RIVERSIDE

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#### 1. Introduction

#### 1.1 Background

A 15 Lot General Residential subdivision is proposed at 7A William Street, Campbell Town. This TIA has been prepared to assess the impact of the proposal with recommendations where necessary.

This Traffic Impact Assessment (TIA) must be submitted with the development application and provide the following details:

- The significance of the impact of these movements on the existing road network.
- Any changes required to accommodate the additional traffic.

The TIA has been prepared based on Department of State Growth guidelines.

#### 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 the local road network which includes William Street and High Street, Campbell Town.

#### 1.4 References

- RTA Guide to Traffic Generating Developments 2002
- Tasmanian Planning Scheme Northern Midlands
- Austroads Guidelines
  - o Road Design: Part 4A: Unsignalised & Signalised Intersections 2021
  - o Traffic Management: Part 6:Intersections, Interchanges & Crossings 2020

5|Page



#### 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
  - o Manager Traffic Engineering, Department of State Growth until May 2017.
  - Previous National committee memberships of Austroads Traffic Management and State Road Authorities Pavement Marking Working Groups
- Master of Traffic, Monash University, 2004
- Post Graduate Diploma in Management, Deakin University, 1995
- Bachelor of Civil Engineering, University of Tasmania, 1987

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 stared number of days in that period.

Austroads The Association of Australian and New Zealand road transport and traffic

authorities and includes the Australian Local Government Association.

Delay The additional travel time experiences by a vehicle or pedestrian with

reference to a vase 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 tragic 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).

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

NMC Northern Midlands Council

SSA Safe System Assessment



### 2. Site Description

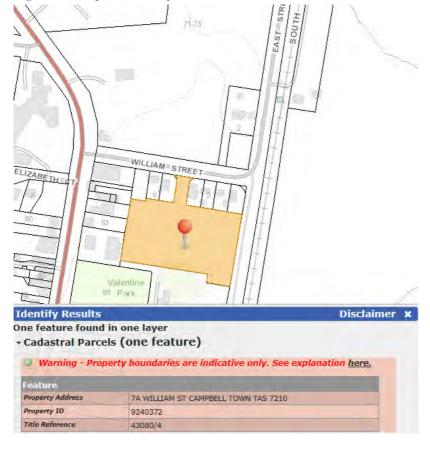
Figure 1 to 3 show the proposed subdivision site at Campbell Town. The land is generally flat and cleared paddock with minimal vegetation. A major rail line is located some 28m from the Eastern boundary of lots 10-13 of the proposed subdivision.

Figure 1 – Proposed development site



Source: LISTmap

Figure 2 – Proposed development site





Source: LISTmap

Figure 3 – Proposed development site





### 3. Proposal, Planning Scheme and Road Owner objectives.

#### 3.1 Description of Proposed Development

The proposal urban residential subdivision involves 15 lots as shown in Figure 4. Lot sizes vary between 565 and 1300 m2 in area.

An overall subdivision plan is attached in Appendix A.

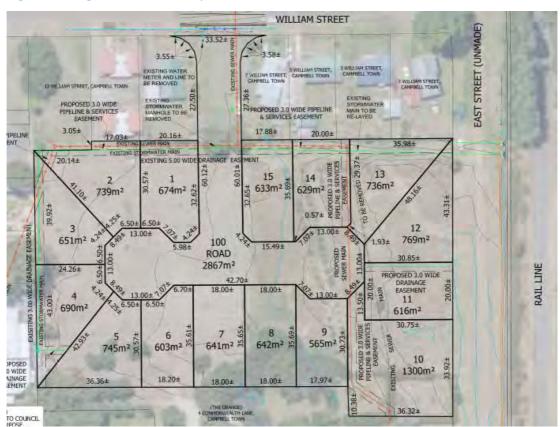


Figure 4 – Proposed subdivision layout



#### 3.2 Council Planning Scheme

The proposed development involves land zoned General Residential in accordance with the Tasmanian Planning Scheme – Northern Midlands shown in Figure 5.

Tasmanian Planning Scheme - Zones More Information Transparency: Zoom to layer's extent Filter or Search Layer Show: All General Residential Inner Residential Low Density Residential Rural Living Village Urban Mixed Use Local Business General Business Central Business Commercial Light Industrial General Industrial Rural Agriculture Landscape Conservation Environmental Management Major Tourism Port and Marine Utilities Community Purpose Recreation Open Space Future Urban Particular Purpose

Figure 5 – Development site is zoned General Residential

Source: LISTmap

#### 3.3 Council Road Network Objectives

To ensure safe and efficient operation of Council Roads.



### 4. Existing Conditions

#### 4.1 Transport Network

The adjacent transport network consists of the Tasrail South Line, High Street (Midlands Highway) which is a State Road, and William Street and East Street which are Council Roads.

#### 4.1.1 South Rail Line

The South Rail Line has an approximately North – South alignment and passes to the East of the development site by 20m with a some 18m wide rail reservation with the rail line centrally positioned within the reservation, see Figure 6.

Figure 6 - South Rail Line adjacent the development site.



#### 4.2 High Street

High Street (Midlands Highway) is a Category 1- Trunk Road in the State Road Hierarchy, see Appendix F, with an estimated AADT of 7,870 vpd (2021) 360m North of William Street and is part of the Tasmanian 26m B Double network, see Appendix E.

The High / William Street junction is within a 50km/h speed limit, see Figure 7.

Road delineation is provided with street lighting and line marking. The seal width is 20m in the vicinity of the William Street junction. There is kerb & channel and footpath along both sides of the road.



Figure 7 – High Street Speed Limit.



Northern approach to High Street and 50km/h Zone followed by William Street junction.

#### 4.3 William Street

William Street is 210m in length with a 4.7m seal width in a General Residential setting with estimated AADT of 70vpd (2023). Delineation is provided with street lighting.

The General Urban Speed Limit of 50km/h applies.

#### 4.4 High Street / William Street junction

Figures 8-14 show the nature of the High Street / William Street junction.

Figure 8- Aerial view of High / William Street junction



Source: LISTmap

This junction effectively operates as an Austroads BAR junction as through traffic passes to the left of vehicles propped to turn right to William Street.



Figure 9 – William Street approach to High Street



Figure 10 – Elevation view of High Street / William Street junction



Figure 11 – Looking right along High Street from William Street



Sight Distance right is >120m.



Figure 12 – Looking left along High Street from William Street



Sight Distance left is >120m.

Figure 13 – High Street Northern approach to William Street



Figure 14 – High Street Southern approach to William Street





# 4.5 William Street / Proposed Road junction

Figures 15 - 20 show the nature of the Gardners Road / Allen Street junction.

Figure 15 – Aerial view of William Street / Proposed Road junction



Source: LISTmap

Figure 16 – Elevation view of William Street / Proposed Road junction



Figure 17 - Looking right along William Street from Proposed Road



Sight Distance right is 95m.



Figure 18 – Looking left along William Street from Proposed Road



Sight Distance left is 125m.

Figure 19 – William Street Eastern approach to Proposed Road



Figure 20 – William Street Western approach to Proposed Road





#### 4.6 East Street

East Street is 1000m in length with a 3.5m seal width and technically within a General Residential setting with estimated AADT of 70vpd (2023).

The General Urban Speed Limit of 50km/h applies, and delineation is provided with a street light and some guide posts.

# 4.7 Sight Distance Summary

Sight distance requirements are summarised in Figure 21.

Figure 21 – Summary of sight distance requirements

			Austroads	Current	Provision	AS / NZS 2890.1
Junction	Speed	Speed	Road	frontage	sight dista	ance
Major Rd - Minor Rd	Limit	Environment	SISD (m)	Available		SSD (m)
	(km/h)	(km/h)	313D (III)	Left(m)	Right(m)	33D (III)
High - William	50	50	97	> 120	> 120	45
William - Proposed	50	40	73	125	95	35

Austroads Compliant

# 4.8 Traffic Activity

# 4.8.1 High Street

Estimated ADDT is 7,870 vpd (2021) 360m North of William Street junction from DSG data, see Appendix B.

# 4.8.2 William Street

Estimated ADDT is 70 vpd (2023) from TCS observations, see Appendix C.



# 4.9 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 crash history records one reported crash, see Figure 22 and 23. There is no evidence of a crash propensity on William Street.

Figure 22 – 5 Year reported Crash History on William Street

Crash Id	Description	Date	Time	Severity	Light	Location	Units
50827827	147 - Emerging from driveway or lane	23-Sep-2020	14:00	PDO	Day	William Street	LV & HV

PDO Property Damage Only

LV Light Vehicle

HV Heavy Vehicle

Figure 23 – 5 Year reported Crash locations on William Street



# 4.10 Services

No above ground services appear to be disaffected by the proposal.

# 4.11 Road Safety Review

A road safety review was conducted for William Street and no road safety issues were identified.



# 4.12 Austroads Safe System Assessment

William Street approaches to the proposed road junction 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 indicates 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, William Street approaches to the proposed Road are determined to be well aligned with the safe system objective with a very low crash risk score of 20/448, see Figures 24 and 25.

Figure 24 – Austroads Safe System Assessment alignment between crash score and risk

<40/448 Very low risk score

(40-80)/ 448 Low risk score

(80-180)/448 Moderate to high risk score

>180/448 High risk score

20 Total

Traffic Impact Assessment



Figure 25 - Safe System Assessment of William Street, Campbell Town

speed environment for vulnerable road straight alignment, Motorcyclist street lighting and Narrow 4.7m seal, Moderate to High Low motorcyclist adequate sight users such as otorcyclists 7 speed environment ow cyclist activity. for vulnerable road Narrow 4.7m seal, straight alignment, street lighting and Moderate to High adequate sight users such as 7 4 yclists No formal footpath, speed environment nowed pedestrian for vulnerable road Moderate to High Low pedestrian Pedestrian friendly verges. users such as 7 edestians activity. straight alignment, street lighting and Narrow 4.7m seal, residential street. environment and minimal roadside Very low volume adequate sight Low speed 7 7 Other nazards. 7,870 vpd(2021) and 50km/h approaches Effectively satisfies BAL junction layout Intersection Aistroads BAR and intersection with no crash history environment Low speed High Street crashes, low traffic straight alignment, street lighting and Narrow 4.7m seal, inimal roadside environment and adequate sight Head-on No reported ന m Low speed hazards. crashes, low traffic straight alignment, street lighting and Narrow 4.7m seal, environment and ninimal roadside adequate sight No reported ന m Low speed distance. /64 Limit and Speed 50km/h Speed (AADT 70vpd.) **Environment.** 4 Justification William St **Total Score** Score Score Score Likelihood Exposure

Safe System Assessment

**Existing situation William Street** 

Product

Severity



# 5. Traffic Generation and Assignment

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

# 5.1 Traffic Growth

Background traffic compound annual growth of 1% has been assumed due to background infill development.

# 5.2 Trip Generation

Traffic generation rates are sourced from RTA Guide to Traffic Generating Developments 2002.

For dwelling houses traffic generation rates are 9 daily trips per house with 0.85 peak hour vehicle trips.

For 15 lots this amounts to peak activity estimated at 13 vph and 135 vpd.

# 5.3 Trip Assignment

Trip assignments have been estimated as follows:

- William Street / Proposed Road junction 2033 Figure 26
- High Street / William Street junction 2033 Figure 27



Figure 26 - Projection for William Street / Proposed Road junction for 2033

AM Peak - 2033 with development

# To East Street Figures in red 3 vph 7 vph are due to the Proposed Road Peak Hour Movement Summary(vph) **TEF** AM Turns 10 To High Street Peak Hour Movement Summary(vph) TEF PM Turns PM Peak - 2033 with development Left In 10 0 10 8 Right In

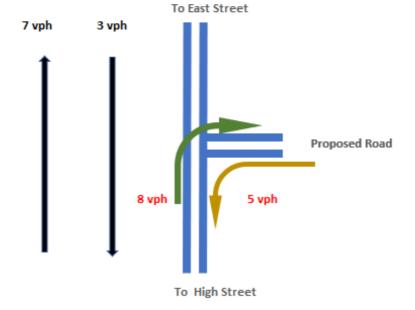
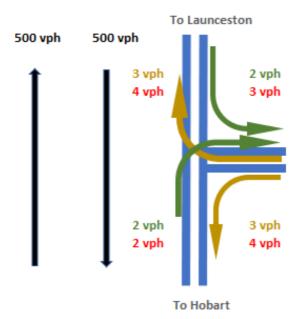




Figure 27 – Projection for High Street / William Street junction for 2033

## AM Peak - 2033 with development



Figures in red are due to the proposal.

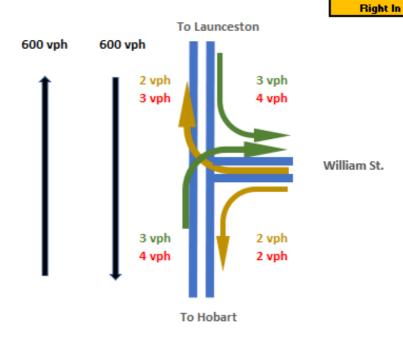
William St

Peak Hour Movement Summary(vph)		
АМ	Turns	TEF
Left In	5	500
Right In	4	1005

Peak Hour Movement Summary(vph)		
PM	Turns	TEF
Left In	7	40

1207

PM Peak - 2033 with development





# Impact on Road Network

# 6.1 Impact on William Street

Traffic generations estimation indicates that the proposal will add up to 135vpd to the projected 100vpd (2033) on William Street. While this is more than double 2033 traffic, the aggregate volume of 235vpd is low and there are no traffic capacity issues at this level with the road operation at LOS A, see Appendix D for LOS descriptions.

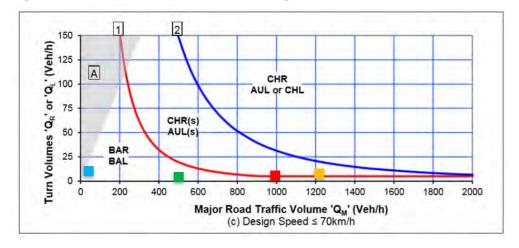
## 6.2 Austroads Junction warrant

The William Street junctions with Hight Street and the proposed road have been reviewed in terms of Austroads junction layout requirements as follows.

# 6.2.1 High Street / William Street Junction

Figure 28 demonstrates that a Simple Right and Left turn junction layout is adequate for the High / William Street junction, and this effectively matches the current junction layout.

Figure 28 - Austroads Junction warrant for High Street / William Street Junction 2033



Peak Hour Movement Summary(vph)		
AM	Turns	TEF
Left In	5	500
Right In	4	1005

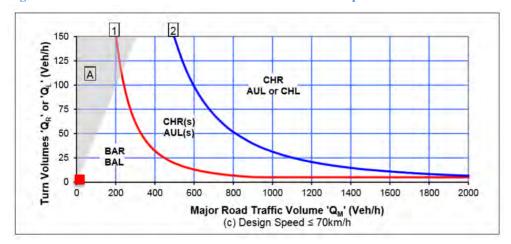
Peak Hour Movement Summary(vph)		
PM	Turns	TEF
Left In	7	40
Right In	7	1207



# 6.2.2 William Street / Proposed Road Junction

Figure 29 demonstrates that a Simple Right and Left turn junction layout is adequate for the William / Proposed Road junction which matches with the current junction layout.

Figure 29 – Austroads Junction warrant William Street / Proposed Road Junction 2033



Peak Hour Movement Summary(vph)		
AM	Turns	TEF
Left In	0	7
Right In	5	10

Peak Hour Movement Summary(vph)		
PM	Turns	TEF
Left In	0	10
Right In	00	10



## 6.3 Impact on High Street / William Street junction

The impact of the proposal on this junction is notable in that traffic activity will increase by 135vpd from 100 vpd to 235 vpd h by 2033 however this activity is low and has a very minor impact on traffic safety and traffic capacity.

The junction is estimated to continue to operate at LOS A with no traffic capacity issues.

The junction is estimated to continue to operate safely. There is no crash history and the turning movements associated with the development would be well catered for with the current junction layout.

# 6.4 Impact on William Street / Proposed Road junction

The impact of the proposal on this junction is notable in that activity will increase from by 100vpd to 235 vpd by 2033 however this activity is low and has a very minor impact on traffic safety and traffic capacity.

The junction is estimated to continue to operate at LOS A with no traffic capacity issues.

The junction is estimated to continue to operate safely. The 5-year reported crash history shows no evidence of a crash propensity and it is assessed that turning movements will be well catered for with the proposed junction layout.

# 6.5 Impacts on road users.

# 6.5.1 Public Transport

No effects.

# 6.5.2 Delivery Vehicles

No effects.

# 6.5.3 Pedestrians and Cyclists

Proposal will increase pedestrian activity on William Street between the proposed road and High Street.

# 6.5.4 Motorcyclists

No effects.



## 6.6 Other impacts

#### 6.6.1 Environmental

No applicable environmental impacts were identified in relation to:

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

Noise, vibration or visual impact of South Rail line operation on residential amenity requires consideration.

# 6.6.2 Street Lighting and Furniture

No issues.

#### 6.6.3 Tasmanian Subdivision Guideline Considerations

No issues.

# 6.6.4 Transport Planning Considerations

No issues.

# 6.7 Urban residential street standard.

Currently William Street has a 4.7m seal with kerb & channel along the Southern side.

In accordance with LGAT standard drawing TSD-R06, the minimum urban road standard for a 15 lot Cul-De-Sac Road less than 150m in length is a type 4 Local Cul-De-Sac with a trafficable width of 6.9m and footpath one side.

The recommended urban residential road property access standard is detailed in the LGAT standard drawings TSD-R09. These standards are available online at:

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



## 6.8 Liveability, Safety and Amenity Guidelines

Guidelines for the safety and amenity of residential areas include:

- Bound residential precincts with traffic routes 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.
- Cater for cyclist & pedestrian demand with separate paths 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 liveability, safety and amenity targets described above.



#### 6.9 Tasmanian Planning Scheme – Northern Midlands

#### Road and Railway Assets Code C3

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

**Acceptable Solution A1.1** – For a category 1 road or a limited access road, vehicular traffic to and from the site will not require:

- (a) A new junction
- (b) A new vehicle crossing.
- (c) A new level crossing.

Not applicable as the 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.

**A1.2 is not satisfied** as no written consent has been issued by the road or rail crossing authority, see response to Performance Criteria P1.

**Acceptable Solution A1.3** – For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority.

Not applicable as no new private level crossing is proposed.

Acceptable solution A1.4: Vehicular traffic to and from the site, using and 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

**A1.4 is not satisfied** from Table C3.1 as proposal involves up to 135vpd and involves other road and more than 40 vpd for vehicles up to 5.5m in length.



**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 up to 135 vpd. From review of Austroads junction warrants it has been determined that:
  - High Street / William Street junction layout is adequate.
  - William Street / Proposed Road junction layout is adequate.
- (b) The nature of the traffic generated by the use will be 98% light vehicles post residential construction phase.
- (c) The proposed road is to be constructed to a 6.9m width from face to face of kerb with kerb & Channel and footpath one side consistent with LGAT guidelines.
- (d) The General Urban Default Speed Limit of 50km/h will apply which is appropriate for the traffic activity and function of William Street.
- (e) There is no suitable alternative access.
- (f) The proposal is consistent with zoning for the area and considered cost effective and efficient infill development.
- (g) This traffic assessment identifies no reason to disallow the proposal due to traffic impacts.
- (h) No rail or road infrastructure is disaffected by the proposal.

In summary there are no traffic safety or capacity issues 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.

#### Table C3.2 Acceptable noise levels within a road or railway attenuation area

#### Roads

The arithmetic average of the A-weighted L10 sound pressure levels for each of the one-hour periods between 6:00am and midnight on any day [L10 (18-hour)] of 63 dB(A).

Habitable buildings (sensitive uses) are proposed within the General Residential Zone and within 50m of the South Railway Line through Campbell Town (the rail attenuation area) and closer to the rail network than adjoining habitable buildings, see Figures 30 and 31.

It may be possible that the noise level exceeds > 63 dB. A noise & vibration report is being prepared by a consultant. Details to be advised in due course.

A1 may or may not be satisfied.

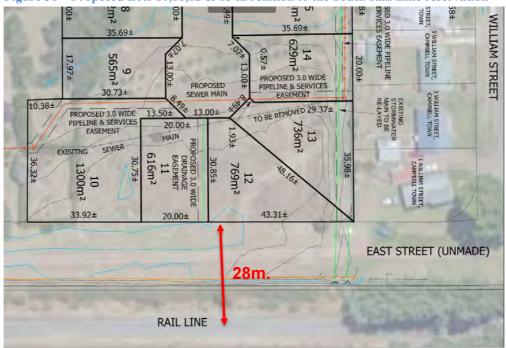


Figure 30 – South Rail Line East of proposed subdivision



Source: LISTmap, DPIPWE

Figure 31 – Proposed Lots 10,11,12 & 13 in relation to the South Rail Line reservation





## Performance Criteria P1

Habitable buildings for sensitive uses within a road or railway attenuation area, must be sited, designed or screened to minimise adverse effects of noise, vibration, light and air emissions from the existing or future major road or rail network, having regard to:

- (a) the topography of the site;
- (b) the proposed setback;
- (c) any buffers created by natural or other features;
- (d) the location of existing or proposed buildings on the site;
- (e) the frequency of use of the rail network;
- (f) the speed limit and traffic volume of the road;
- (g) any noise, vibration, light and air emissions from the rail network or road;
- (h) the nature of the road;
- the nature of the development;
- (j) the need for the development;
- (k) any traffic impact assessment;
- (I) any mitigating measures proposed;
- (m) any recommendations from a suitably qualified person for mitigation of noise; and
- (n) any advice received from the rail or road authority.
  - a. The topography of the site is flat, and the development site is approximately level with South Rail line, see Figure 30.
  - b. The development site Eastern boundary is 20m from the South Rail line reservation and 28m from the rail line ie < 50m West of the South Line, see Figure 30.
  - c. The South Rail line is at a similar ground level to proposed lots 10, 11,12 and 13.
  - d. Lots 10-13 are within 28m of the South Rail Line, see Figure 30.
  - e. The South Rail Line is operational in the vicinity of the proposal.
  - f. Rail activity on the South line is regular.
  - g. Rail noise over 63 dB is possible.



- h. The proposed lots are not grade separated from the Western Line.
- i. The proposed development is for residential dwellings consistent with the Tasmanian Planning Scheme Land Use Zoning Northern Midlands.
- j. The development is justified on commercial grounds.
- k. This traffic impact assessment determines that subject to the recommendations contained in this report, the subdivision proposal will allow continued safe and efficient operation of William Street and is supported on traffic grounds.
- 1. Mitigations may be required to mitigate road noise concerns.
- m. A noise assessment report has been requested by Council?
- n. TasRail may request the offset dimension of proposed Lots 10- 13 to the South Line reservation boundary.

Subject to TasRail advice, P1 may be satisfied.



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

Not applicable as no subdivision is proposed 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.

The proposal is for a 15 lot General Residential subdivision with lots 10-13 within 50m of the South Rail line and railway attenuation area. **A1 is not satisfied.** 

#### Performance Criteria P1

A lot, or a lot proposed in a plan of subdivision, intended for sensitive uses within a road or railway attenuation area, must be sited, designed or screened to minimise the effects of noise, vibration, light and air emissions from the existing or future major road or rail network, having regard to:

- (a) the topography of the site;
- (b) any buffers created by natural or other features;
- (c) the location of existing or proposed buildings on the site;
- (d) the frequency of use of the rail network;
- (e) the speed limit and traffic volume of the road;
- (f) any noise, vibration, light and air emissions from the rail network or road;
- (g) the nature of the road;
- (h) the nature of the intended uses;
- (i) the layout of the subdivision;
- (j) the need for the subdivision;
- (k) any traffic impact assessment;
- (I) any mitigating measures proposed;
- (m) any recommendations from a suitably qualified person for mitigation of noise; and
- (n) any advice received from the rail or road authority.

See responses under C3.6.1.

Subject to Noise & Vibration report & TasRail advice, P1 may be satisfied.



# 7. Recommendations and Conclusions

This report has been prepared to assess the proposed 15 lot subdivision of 7A William Street, Campbell Town in accordance with Tasmanian Planning Scheme - Northern Midlands and Road & Railway Assets Code C3 requirements.

It has been prepared following a review of available traffic and crash data, Road Safety Review, Austroads Safe System Assessment, future growth projections and review of applicable Austroads guidelines and Council Road standards.

# 7.1 Traffic Safety:

From road safety review, review of 5 year reported crash history and Austroads Safe System assessment no traffic safety issues have been identified with the proposal.

#### 7.2 South Rail Line

As the South Rail Line is less than 50m from the development site and noise and vibration assessment will be required to determine what mitigations may be necessary.

#### 7.3 William Street

It is estimated that the proposal will contribute up to 135vpd to William Street. Though this is a significant increase on the estimated AADT of 70 vpd (2023), the total traffic volume is very low and will have a very minor impact on operation of the road.

# 7.4 High Street / William Street junction

The existing junction layout is adequate for the increased traffic and negligibly impacted.

# 7.5 Tasmanian Planning Scheme – Northern Midlands

Evidence is provided to demonstrate the proposal satisfies Road & Railway Assets Code C3 requirements, subject to Noise and Vibration assessment.



#### Recommendations:

- Construct the new road to a trafficable width of 6.9m with kerb & channel and footpath one side consistent with LGAT urban road standard TSD- R06.
- Install proposed driveways consistent with LGAT urban standard TSD-R09.
- Install street lighting on the proposed road to Council standard.
- Construct footpath along the Southern side of William Street from the Proposed Road to High Street.
- Comply with determination on unit setback requirement for the Southern Rail Line Reservation.
- Comply with any mitigations identified and agreed from the noise and vibration report for the South Rail Line.

This traffic impact assessment finds that the proposed subdivision of 7A William Street provides adequately for continued safe and efficient operation of the impacted road network. The increased traffic resulting will have a very minor impact on the operation of the High Street / William Street junction.

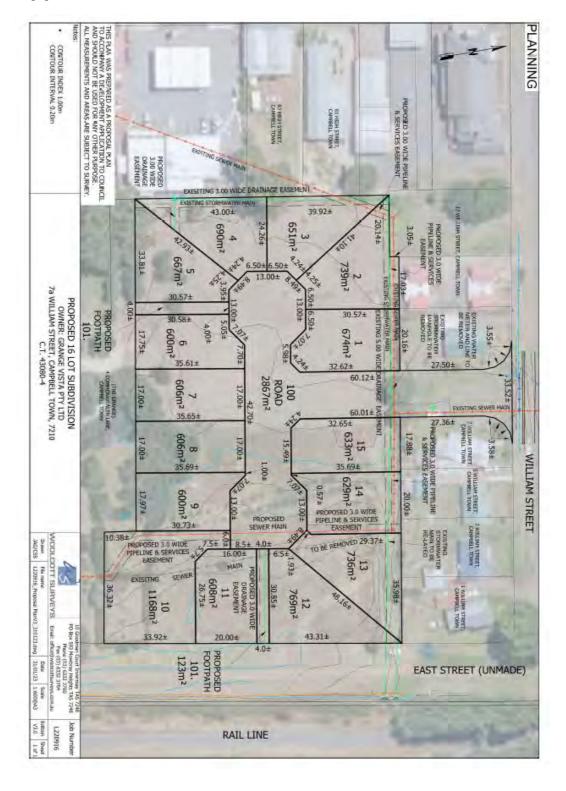
Overall, it has been concluded that subject to the recommendations contained in this report, the proposed subdivision will allow continued safe and efficient operation of William Street and is supported on traffic grounds.



# **Appendices**

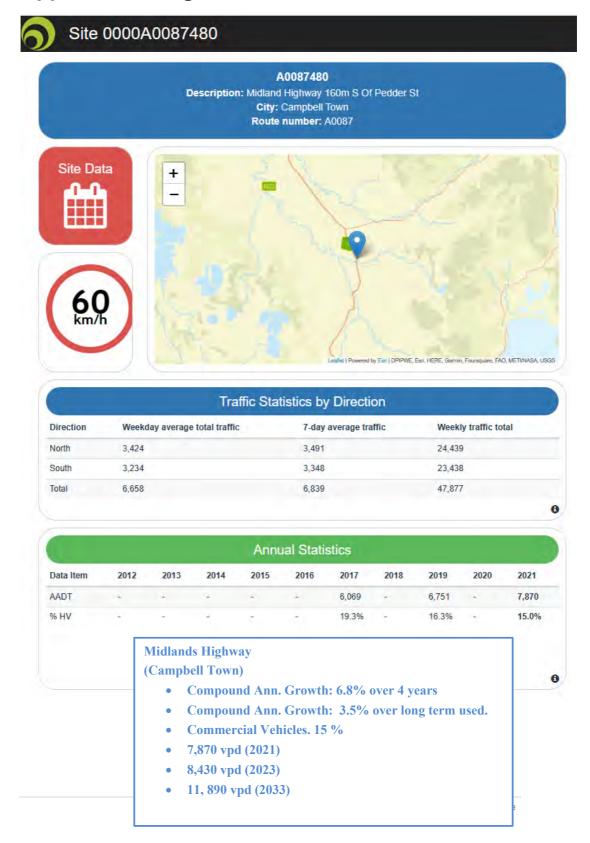


# Appendix A - Subdivision Plan





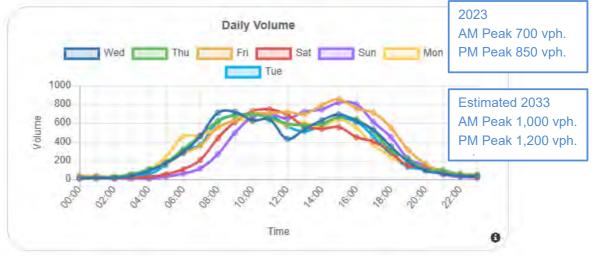
# **Appendix B - High Street Traffic Data**













# **Appendix C - William Street Traffic Data**

Estimated AADT 70vpd (2023)

Estimated AADT 100vpd (2033) due to background Compound annual growth at 3.5%.



# **Appendix D - 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.

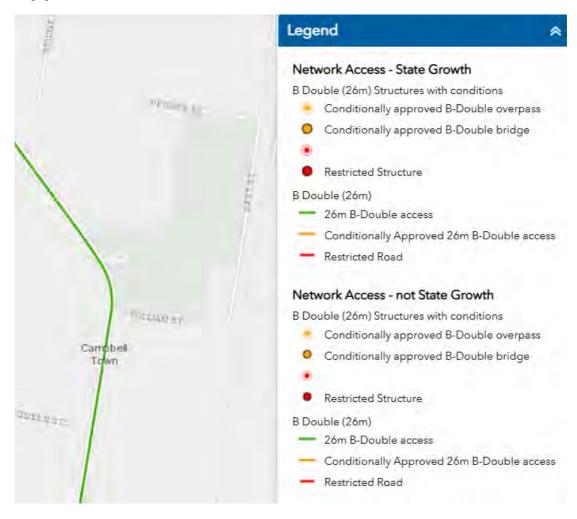
Level of service F In the zone of forced flow, where the amount of traffic

approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays

result.

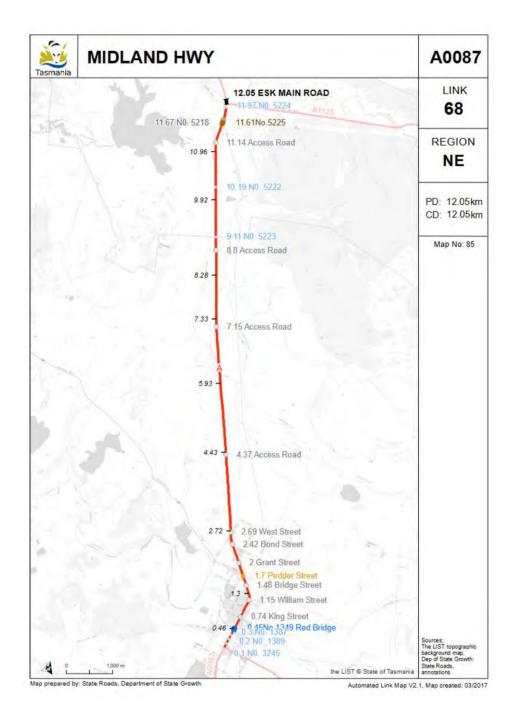


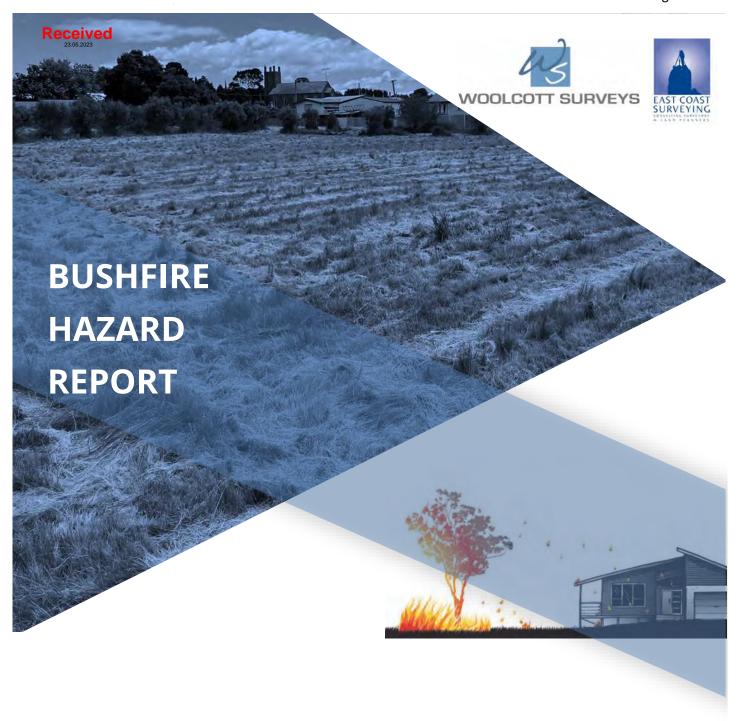
# Appendix E - Tas. 26m B Double Network





# Appendix F - Midlands Highway - Link 68





15 Lot Subdivision 7a William Street, Campbell Town

April 2023



Job number: L220916

WS118

Prepared by: James Stewart (james@woolcottsurveys.com.au)

Town Planner & Bushfire Hazard Practitioner 157

Rev. no	Description	Date
1	FINAL	05/04/2023
2	UPDATE	02/05/2023

#### Disclaimer

This report deals with the potential bushfire risk only, all other statutory assessments sit outside of this report. This report is not to be used for future or further development on the site, other then what has been specifically provided for in the certified plans attached. Woolcott Surveys Pty Ltd accepts no responsibility to any purchaser, prospective purchaser or mortgagee of the property who in any way rely on this report. This report sets out the owner's requirements and responsibilities and does not guarantee that buildings will survive in the event of a bushfire event. If characteristics of the property change or are altered from those which have been identified, the BAL classification may be different to that which has been identified as part of this report. In this event the report is considered to be void.

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# **Executive Summary**

Development of a 15 lot residential subdivision is proposed for 7a William Street, Campbell Town. The development will be completed over one stage. Access to lots will be via William Street, which adjoins the property to the north.

The site is entirely within the boundary of a bushfire prone area shown on an overlay of a planning scheme map for the *Tasmanian Planning Scheme – Northern Midlands*. A bushfire event at this site or within the immediate area is likely to impact on future buildings at this location and subject development to considerable radiant heat and ember attack.

A bushfire hazard management plan has been prepared and is provided as an appendix to this report. The plan sets out the owner's responsibilities to maintain a managed area for each lot, taking into consideration the relevant requirements under Australian Standard AS3959-2018 Construction of buildings in bushfire-prone areas.

#### **Conclusions and recommendations**

- a) Hazard management areas meeting the requirements of BAL 19 can be achieved for lots 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14. Lots 1-3, and Lot 15 meet the requirements of BAL LOW, being over 50m from any bushfire prone vegetation.
- b) Future dwellings on lots 1-15 must maintain Hazard Management Areas and follow recommendations as outlined in the Bushfire Hazard Management Plan and section 5.2 of this report. Maintenance of these hazard management areas is to be in perpetuity.
- c) The proposed road must be in compliance with Table C13.1, Element A, outlined in section 5.3 of this report, with the exception of a 12m outer radius turning head. No standing signage is to be provided at both ends of the cul-de-sac.
- d) New hydrants are required in accordance with the TasWater supplement to Water Supply code of Australia WAS 03-2011-3.1 MRWA Edition 2:0. Hydrants to have a separation of not more than 60m.
- e) All lots are to be treated as a hazard management area in accordance with section 5.2 of this report. Maintenance of all hazard management areas must be in perpetuity.
- f) Prior to the sealing of the final plan, solid metal fencing to a height of 2.4m is required along the eastern boundary of lots 10, 11 and 12, and solid fencing to a height of 2.1m is required along the southern boundary of lot 7, 8, 9, and 10, as shown on the Bushfire Hazard Management Plan. Fencing should not be constructed across the eastern boundary of lot 101.

Signed:

Author: James Stewart Accreditation No: BFP-157

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## 1. Introduction

This Bushfire Hazard Report and Bushfire Hazard Management Plan (BHMP) has been prepared in support of a proposed 15 lot subdivision at 7a William Street, Campbell Town.

# 1.1 The subject site

The following is a summary of the application information:

Property address	7a William Street, Campbell Town.
Certificate of title	CT43080/4
Property ID (PID)	9240372
Property Owners	Grange Vistas Pty Ltd
Existing Use and Development	Vacant Land
Existing Zoning	General Residential.
Planning Scheme	Tasmanian Planning Scheme – Northern Midlands
Identified on a Bushfire Overlay Map	Yes
Priority Habitat identified	Yes
Proposed Works	15 Residential lots, cul de sac road and two pedestrian linkages.
Water Supply	Reticulated water supply.
Vehicular Access	William Street.

#### 1.2 Bushfire Assessment

A bushfire assessment is a process of analysing information about the potential impacts on a proposed development that is likely to occur in a bushfire hazard scenario. A 'bushfire-prone area' is an area where a bushfire event is potentially likely to occur, and that may result in significant adverse impact on buildings and/or lives.

In Tasmania, most local Councils have a planning scheme overlay map that identifies bushfire-prone areas. Subdivision within a bushfire-prone area triggers the assessment of the Bushfire-Prone Areas Code under the planning schemes and subsequently requires assessment against the provisions of the Code. The assessment generally requires a BHMP to be provided as part of the application.

The bushfire assessment will determine the Bushfire Attack Level (BAL) for the future lots, which measures the possible exposure of a building to bushfire hazard. The BAL is assessed in accordance with Australian Standard AS 3959-2018 construction of buildings in bushfire-prone areas.

The subject site falls within the municipal area of Northern Midlands. The assessment has been undertaken in accordance with C13.0 Bushfire-Prone Areas Code and to accompany a subdivision application under the *Tasmanian Planning Scheme – Northern Midlands*. Please refer to Section 6 of the report for detail.

15 Lot Subdivision - 7a William Street, Campbell Town



A BAL assessment is required to understand the fuel management requirements for the subject site and to demonstrate that future new buildings within each proposed new lots can be constructed to a BAL19 level under the *Building Act 2016*.

#### 1.3 References

The following documents were referred in the preparation of, and should be read in connection with, this bushfire assessment report:

- Tasmanian Government, Director's Determination Requirements for Building in Bushfire Prone Areas Version 2.2.
- Tasmanian Government, Director's Determination Bushfire Hazard Areas Version 1.1
- Tasmanian Planning Scheme Northern Midlands. C13.0 Bushfire-Prone Areas Code
- Australian Standard, AS3959-2018 construction of buildings in bushfire-prone areas.
- Building Act 2016
- Tasmanian Fire Service, Bushfire Hazard Advisory Notes



2. Site Description

#### 2.1 Site context

A 15-lot subdivision is being undertaken at 7a William Street, Campbell Town. The subdivision will be undertaken in one stage. The site consists of one regular shaped internal lot, which has a total area of 1.3ha. The land is located on the eastern side of the existing urban area of Campbell Town, within the general residential area of the township.

The site is currently vacant land. There is informal access provided via an unformed access strip onto William Street. The site adjoins the TasRail line and reserve to the east of the site.

The site adjoins residential land to the north and commercial development to the west. Land to the south appears to be residential, although does contain a permanently listed heritage building, 'The Grange'.

The site is generally flat, with the site sitting at the 200m AHD contour.



Figure 1 – Aerial view of the subject site and its surrounding area (source: The LISTMap)

The subject site will be serviced by a reticulated water supply maintained by TasWater which runs from William Street to the north.



#### 2.2 Planning controls

The site is within the municipal area of the Northern Midlands Council. Therefore, the planning instrument is the *Tasmanian Planning Scheme – Northern Midlands* (The Scheme).

The subject site is currently within the General Residential Zone. There are two small portions of land within the open space zone. The subject site adjoins the General Residential zone to the north, general business zone to the west, community purpose land to the south, and utilities zone to the east.

The subject site entirely falls within the Bushfire-Prone Areas Overlay



Figure 2 – Zoning Map (source: The LIST Map)



3. The Proposal

It is proposed to subdivide the subject site into 15 residential lots. The lots are intended for residential development. Lots range in size from 600m² up to 1168m². A new cul-de-sac road will be developed from William Street, providing access via two cul-de-sac heads across the subject site. Solid metal fencing will be provided on the eastern boundary of lots 10, 11 and 12, and the southern boundary of lots 7-10 to provide a greater BAL 19 compliant building areas.

Cul-de-sac roads will be compliant with LGAT standards, with a recommendation to provide no standing signage on the cul-de-sac. The development will be serviced via reticulated water with hydrants installed as per engineering design and TasWater requirements.

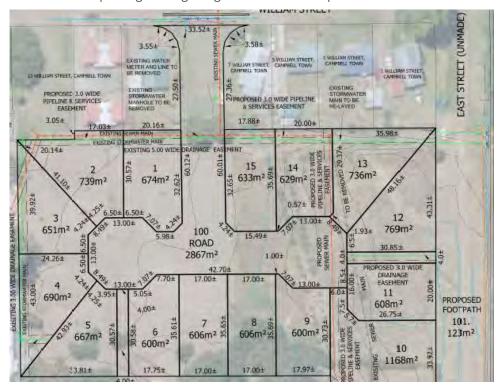


Figure 3 – Proposed subdivision layout. Refer to Annexure 2 for detail.



#### 4. Bushfire Site Assessment

#### 4.1 Vegetation Analysis

#### 4.1.1 TasVeg Mapping

The TasVeg map 4.0 provides general information indicating potential bushfire prone vegetation in the area.

The mapping shows the vegetation community across the subject site as FAG (Agricultural Land). Land to the north, south and west are classified as Urban (FUM) land. The mapping appears to be generally be an accurate portrayal of mapping on site. A site visit noted that land to the south, adjoining lots 6-10 was classified as grassland and wasn't currently managed by the Grange residential property.

No other vegetation classifications other than grassland has been identified within 120m of the subject site.

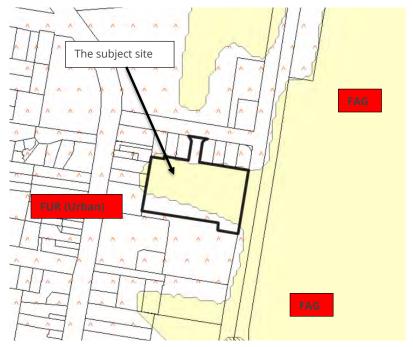


Figure 4 – TasVeg 4.0 map (source: The LISTMap)

#### 4.1.2 Vegetation Type and Separation

A site visit was conducted on the 9<sup>th</sup> of March 2023. An analysis of the land and bushfire prone vegetation within 120m from the subject site is provided below.

Direction	Analysis
North	Land directly north of the access onto William Street, contained grassland for 100m+. The grassland was used for grazing purposes at the time of inspection. It adjoined the recreation complex to the north west.
East	Grassland for 100m+. Part of a large and active farming estate. The road reserve directly adjoining the site wasn't managed and was assessed as a bushfire threat.
South	Land to the south of lots 7-10 was classified as grassland for a distance of approximately 5m - 15m. This portion of land was privately owned and part of the heritage listed 'Grange' estate. The site visit showed that this portion of the land wasn't managed with the remainder of the site and was assessed as a potential threat. Land to the south of lots 5 and 6 provided an unused gravel track. There were some vegetation plantings within this access strip to the south. There was no unmanaged understory through this section, with the strip of trees having a width of 8m. Land beyond the strip to the south was managed as the Campbell Town park. The balance of the land to the south was considered as managed.
West	Managed for 100m+



Figure 5 – Vegetation analysis within 100m – 120m of site.

#### 4.2 Slope Analysis

Figure 6 below shows the slope of land under the classified vegetation **in relation to** the subject site. The identified bushfire prone vegetation occurs on land that is generally flat. There is no obvious slope within the surrounding area.



Figure 6 – Effective slope of site and surrounding bushfire prone vegetation.

#### 4.3 Photos



Figure 7 – view across the subject site, looking south west.



Figure 8 – Unmanaged grassland on property to the south, adjoining lots 7-10.



Figure 9 – Unmanaged road reserve to the east. Classified as grassland.



Figure 10 – Managed portion of land on the property to the south, the grassland identified on this site (figure 8) is to the right of this photo.



Figure 11 – Vegetation on the southern sides of lots 5 and 6. Not classified as bushfire prone due to lack of understory and minimal width. Not within 20m of other bushfire prone vegetation and adjoins park.



Figure 12 – managed park, public land that adjoins the access strip to the south of lots 5 and 6.



#### 5. Bushfire Protection Measures

#### 5.1 BAL Rating and Risk Assessment

The purpose of the BAL assessment is to identify the minimum separation between the bushfire prone vegetation and a building area within each proposed lot. The assessment aims to achieve the minimum requirements of **BAL 19**.

The definition of BAL 19 is highlighted as follows:

Bushfire attack level (BAL)	Predicted bushfire attack and exposure level
BAL-LOW	Insufficient risk to warrant specific construction requirements
BAL-12.5	Ember attack, radiant heat below 12.5kW/m <sup>2</sup>
BAL-19	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5-19kW/m <sup>2</sup>
BAL-29	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19-29kW/m <sup>2</sup>
BAL-40	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 29-40kW/m <sup>2</sup>
BAL-FZ	Direct exposure to flames radian heat and embers from the fire front.

The distances from each lot to the classified vegetation is presented below, along with the slope and type of vegetation. To better demonstrate the required separation as hazard management areas, a 10m x 15m building area is shown on each lot. As per the analysis in Section 4.1, the only vegetation around the subject site is grassland.

Lots 1-3 and lot 15 have been assessed as BAL LOW. This is on the basis that lots are over 50m form grassland, which is the only identified bushfire prone vegetation within 100m of the subject site.

Lot 4	North	East	South East	West
Vegetation within 100m of site	0m-100m+ Managed	0m-100m+ Managed	0m-40m+ Managed 40m-60m Grassland 60m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	NA	Flat	NA
BAL 19 Setbacks	NA	NA	NA	NA
BAL 12.5 Setbacks	NA	NA	NA	NA

Lot 5	North	East	South East	West
Vegetation within 100m of site	0m-100m+ Managed	0m-100m+ Managed	0m-20m+ Managed 20m-40m Grassland 40m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	NA	Flat	NA
BAL 19 Setbacks	NA	NA	NA	NA
BAL 12.5 Setbacks	NA	NA	NA	NA

Lot 6	North	East	South East	West
Vegetation within 100m of site	Managed	0m-85m Managed 85m-100m+ Grassland	0m-6m+ Managed 6m-20m Grassland 20m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	NA	6m	NA
BAL 12.5 Setbacks	NA	NA	9m	NA

Lot 7	North	East	South	West
Vegetation within 100m of site	Managed	0m-70m Managed 70m-100m+ Grassland	0m-6m+ Managed 6m-20m Grassland 20m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	NA	6m	NA
BAL 12.5 Setbacks	NA	NA	9m	NA

Lot 8	North	East	South	West
Vegetation within 100m of site	0m-100m+ Managed	0m-55m Managed 55m-100m+ Grassland	0m-6m+ Managed 6m-20m Grassland 20m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	NA	6m	NA
BAL 12.5 Setbacks	NA	NA	9m	NA

Lot 9	North	East	South	West
Vegetation within 100m of site	0m-100m+ Managed	0m-40m Managed 40m-100m+ Grassland	0m-6m+ Managed 6m-20m Grassland 20m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	NA	6m	NA
BAL 12.5 Setbacks	NA	NA	9m	NA

Lot 10	North	East	South	West
Vegetation within 100m of site	0m-100m+ Managed	0m-5.5m Managed 5.5m-100m+ Grassland	0m-6m+ Managed 6m-20m Grassland 20m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	5.5m	6m	NA
BAL 12.5 Setbacks	NA	9m	9m	NA

Lot 11	North	East	South	West
Vegetation within 100m of site	0m-100m+ Managed	0m-7.5m Managed 7.5m-100m+ Grassland	0m-30m+ Managed 30m-44m Grassland 44m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	7.5m	NA	NA
BAL 12.5 Setbacks	NA	10.5m	NA	NA

Lot 12	North	East	South	West
Vegetation within 100m of site	0m-60m Managed 60m-100m+ Grassland	0m-7.5m Managed 7.5m-100m+ Grassland	0m-55m+ Managed 55m-69m Grassland 69m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	7.5m	NA	NA
BAL 12.5 Setbacks	NA	10.5m	NA	NA

Lot 13	North	East	South	West
Vegetation within 100m of site	0m-60m Managed 60m-100m+ Grassland	0m-7.5m Managed 7.5m-100m+ Grassland	0m-60m+ Managed 60m-74m Grassland 74m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	6m	NA	NA
BAL 12.5 Setbacks	NA	9m	NA	NA



Lot 14	North	East	South	West
Vegetation within 100m of site	0m-60m Managed 60m-100m+ Grassland	0m-38m Managed 38m-100m+ Grassland	0m-55m+ Managed 55m-69m Grassland 69m-100m+ Managed	0m-100m+ Managed
Slope (degrees, over 100m)	NA	Flat	Flat	NA
BAL 19 Setbacks	NA	NA	NA	NA
BAL 12.5 Setbacks	NA	NA	NA	NA



#### 5.2 Hazard Management Areas

As outlined in the *Planning Directive 5.1 – Bushfire-Prone Areas Code*, a Bushfire Hazard Management Area (BHMA) will be managed in accordance with the provided plan. Existing vegetation needs to be strategically modified and then maintained within this area in accordance with the BHMP to achieve the following outcomes:

- to reduce the quantity of windborne sparks and embers reaching buildings;
- to reduce radiant heat at the building; and
- to halt or check direct flame attack.

The BHMA will be developed within and up to the property boundaries to provide access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present that will significantly contribute to the spread of a bushfire.

The BHMA will be achieved by adoption of the following strategies:

#### **Maintenance of Fuel Management Areas**

It is the responsibility of the property owner to maintain and manage the landscaping in accordance with the Bushfire Hazard Management Plan and the current Guidelines for Development in Bushfire-Prone Areas of Tasmania.

This area is to be regularly managed and maintained. Landscaping in this area will be minimised:

- Grass maintained to a maximum height of 100mm, with fuel loads kept to less than 2 tonnes per hectare which will be maintained at this level.
- Trees and any undergrowth will be clear of (BCA) class 1 9 buildings on all sides.
- All undergrowth and understorey of trees (up to 2m) will be removed within the bushfire hazard management area.
- Select larger trees can be retained within the BHMA, ensuring a minimum 5m canopy separation is provided between each established tree.
- Pathways to 1 metre surrounding the buildings and landscaping material, will be non-combustible (stone, pebbles etc.).
- The total shrub cover will be a maximum of 20% of the available area.
- There will be a clear space from the buildings of at least four (4) times the mature height of any shrubs planted.
- Shrubs will not be planted in clumps, this is to avoid build-up of debris and dead vegetation materials.

#### Landscaping

- vegetation along the pathways to comprise non-flammable style succulent ground cover
  or plants (avoid plants that produce fine fuel which is easily ignited, plants that produce a
  lot of debris, trees and shrubs which retain dead material in branches or which shed long
  strips of bark, rough fibrous bark or drop large quantities of leaves in the spring and
  summer, vines on walls or tree canopies which overhang roofs)
- timber woodchip and flammable mulches cannot be used and brush and timber fencing should be avoided where possible



#### 5.3 Roads

Table C13.1 - Roads must be constructed as per the following table. In this instance, performance criteria have been addressed due to the size of the cul-de-sac outer radius.

Element		Requirement		
A. Roads		Unless the development standards in the zone require a higher standard, the following apply:		
		(a) two-wheel drive, all-weather construction;		
		(b) load capacity of at least 20t, including for bridges and culverts;		
		(c) minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac road;		
		(d) minimum vertical clearance of 4m;		
		<ul><li>(e) minimum horizontal clearance of 2m from the edge of the carriageway;</li></ul>		
		(f) cross falls of less than 3 degrees (1:20 or 5%);		
		(g) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads;		
		(h) curves have a minimum inner radius of 10m;		
		(i) dead-end or cul-de-sac roads are not more than 200m in length unless the carriageway is 7 meters in width;		
		<ul><li>(j) dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius; and</li></ul>		
		carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with <i>Australian Standard AS1743-2001 Road signs-Specifications</i> .		



5.4 Access

Table C13.2 Private access roads must be constructed as per the following table:

Element		Requirement
A.	Property access length is less than 30m; or access is not required for a fire appliance to access a fire fighting water point.	There are no specified design and construction requirements.

#### 5.5 Fire Fighting Water Supply

Table C13.4 Reticulated water supply for firefighting.

Ele	ement	Requirement
A.	Distance between building area to be protected and water supply.	<ul> <li>The following requirements apply:</li> <li>(a) the building area to be protected must be located within 120m of a fire hydrant; and</li> <li>(b) the distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.</li> </ul>
В.	Design criteria for fire hydrants	The following requirements apply:  (a) fire hydrant system must be designed and constructed in accordance with <i>TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA 2<sup>nd</sup> Edition</i> ; and  (b) fire hydrants are not installed in parking areas.
C.	Hardstand	A hardstand area for fire appliances must be:  (a) no more than 3m from the hydrant, measured as a hose lay; (b) no closer than 6m from the building area to be protected; (c) a minimum width of 3m constructed to the same standard as the carriageway; and (d) connected to the property access by a carriageway equivalent to the standard of the property access.

#### 6. Bushfire-Prone Areas Code Assessment

An assessment of C13.0 Bushfire-Prone Areas Code under the Scheme is provided as follows.

#### C13.6 Development Standards for Subdivision

#### C13.6.1 Subdivision: Provision of hazard management areas

#### Objective

Subdivision provides for hazard management areas that:

- (a) facilitate an integrated approach between subdivision and subsequent building on a lot;
- (b) provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and
- (c) provide protection for lots at any stage of a staged subdivision.

Performance Criteria			Proposed solutions		
21		P1  Performance criteria is relied upon due to relying on Colorbond fencing to increase the potential build area.			
A proposed plan of subdivision shows adequate hazard management areas in relation to the building areas shown on lots within a bushfire-prone area, having regard to:					
a) b)		a)	An adequate hazard management area has been provided for lots along the southern and eastern sides. Each lot is required to maintain the entire lot as a hazard management area.		
c)	any stage of staged subdivision; the nature of the bushfire-prone	b)	The subdivision will not be staged.		
σ,	vegetation including the type, fuel load, structure and flammability;	c)	The bushfire prone vegetation is grassland. Its fuel load, structure and flammability is		
d)	the topography, including site slope;		considered low.		
e)	any other potential forms of fuel and ignition sources;	d)	The bushfire prone vegetation is on land with no slope. It is level/upslope from the site.		
f)	separation distances from the bushfire- prone vegetation not unreasonably restricting subsequent development;	e)	There are no other identified forms of fuel and ignition sources.		
g)	an instrument that will facilitate management of fuels located on land	f)	The separation distances do not restrict subsequent development.		
h)	external to the subdivision; and any advice from the TFS.	g)	There is no need to have a part 5 agreement or easement on land external to the subdivision.		
			The TFS has reviewed the proposal.		



#### C13.6.2 Subdivision: Public and firefighting access

#### Objective

Access roads to, and the layout of roads, tracks and trails, in a subdivision:

- (a) allow safe access and egress for residents, fire fighters and emergency service personnel;
- (b) provide access to the bushfire-prone vegetation that enables both property to be defended when under bushfire attack and for hazard management works to be undertaken;
- (c) are designed and constructed to allow for fire appliances to be manoeuvred;
- (d) provide access to water supplies for fire appliances; and
- (e) are designed to allow connectivity, and where needed, offering multiple evacuation points.

#### **Acceptable solutions**

# A proposed plan of subdivision shows access and egress for residents, fire-fighting vehicles and emergency service personnel to enable protection from bushfires, having regard to:

- a) appropriate design measures, including:
  - i) two way traffic;
  - ii) all weather surfaces
  - iii) height and width of any vegetation clearances
  - iv) load capacity
  - v) provision of passing bays
  - vi) traffic control devices
  - vii) geometry, alignment and slope of roads, tracks and trails
  - viii) use of through roads to provide for connectivity
  - ix) limits on the length of cul-de-sacs and dead-end roads
  - x) provision of turning areas
  - xi) provision for parking areas
  - xii) perimeter access; and
  - xiii) fire trails
- b) the provision of access to
  - bushfire-prone vegetation to permit the undertaking of hazard management works; and
  - ii) fire fighting water supplies; and any advice from the TFS.

#### **Proposed solutions**

P1) Performance criteria is relied upon due to the outer radius of the proposed cul-de-sac. It is proposed to have standard kerb and channel, thus not providing 12m outer radius suitable for turning.

A more detailed response to the criteria is provided later in this report.



#### C13.6.3 Subdivision: Provision of water supply for firefighting purposes

#### Objective

Adequate, accessible and reliable water supply for the purposes of fire fighting can be demonstrated at the subdivision stage and allow for the protection of life and property associated with the subsequent use and development of bushfire-prone areas.

Acc	eptable solutions	Proposed solutions		
A1 (a)	In areas serviced with reticulated water by the water corporation:  TFS or an accredited person certifies that there is an insufficient increase in risk from	<ul><li>A1</li><li>a) Not applicable</li><li>b) The acceptable solution is achieved, noting</li></ul>		
(b)	bushfire to warrant the provision of a water supply for fire fighting purposes;	that the BHMP shows the indicative location of hydrants. This will be determined as part of the final engineering design. Building		
(b)	A proposed plan of subdivision showing the layout of fire hydrants, and building areas, is included in a bushfire hazard management plan approved by the TFS or accredited person as being compliant with Table E4; or	areas are compliant with table C13.4, being within 120m of a hydrant.		
(c)	A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.			
A2	In areas that are not serviced by reticulated water by the water corporation:	A2 Not applicable as the subject site is serviced by reticulated water.		
(a)	The TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant provision of a water supply for fire fighting purposes;			
(b)	The TFS or an accredited person certifies that a proposed plan of subdivision demonstrates that a static water supply, dedicated to fire fighting, will be provided and located compliant with Table E5; or			
(c)	A bushfire hazard management plan certified by the TFS or an accredited person demonstrates that the provision of water supply for fire fighting purposes is sufficient to manage the risks to property and lives in the event of a bushfire.			



7. Justification of Cul-De-Sacs

As noted in section 6 of this report, the application relies on performance criteria due to the culde-sacs not proposing a 12m outer radius turning head. The cul-de-sac has instead proposed to be constructed in accordance with LGAT standards, being a 9m outer radius head with regular kerb and channel.

In providing justification on a reduced standard, it is noted that all parts of the access standards can be achieved as compliant with Table C13.1, with the exclusion of the cul-de-sac radius. The current cul-de-sac is proposed to be 9m outer radius, with regular kerb and channel, consistent with the remainder of residential areas in Campbell Town

In arguing that a cul-de-sac constructed to urban standards is appropriate, the following is noted:

- Lots 1-3 and 15 are considered insufficient increase in risk, being over 50m from bushfire prone vegetation (grassland). The majority of remaining lots can be developed at BAL 12.5.
- The surrounding area is not bushland, but predominantly urban and agricultural in character, made up of residential uses and grazing land. The closest bushfire prone vegetation is 30m from the end of the eastern cul -de-sac.
- All lots can provide compliant accesses, as building areas for each of these lots is less than 30m from a road.
- Hydrants will be installed along the new cul-de-sac road, as well as on the surrounding road networks which adjoin the site.

It is subsequently argued that an urban cul-de-sac outer radius of 9m is appropriate for the location, given the nature of the lots and surrounding area, compliant accesses, and water provisions.

The safety of fire fighters has been considered when making this assessment. The generally urban environment to the north, south and west ensures there will be no unmanaged fuels in these areas. The road reserve to the east provides vehicular access for fire trucks in an emergency event.

A detailed response to the performance criteria of clause C13.6.2 Subdivision: Public and firefighting access is provided below.

- P1) Performance criteria is relied upon as:
- a) The cul-de-sac head will be constructed in accordance with LGAT Standard drawings, having a radius of 9m. The acceptable solution requires a radius of 12m for cul-de-sacs within a bushfire prone area.
  - i. The road provides for two way traffic, including access for fire vehicles in a bushfire event.
  - ii. The road will be sealed as per LGAT standards. The road will be suitable for use in all weather conditions.
  - iii. There is no vegetation above the road. The road has a horizontal separation to any potential grassland threat to the south of minimum 30m to the east. There is an additional threat to the south, approximately 30m from the eastern cul-de-sac.
  - iv. The road has an appropriate load capacity to facilitate fire vehicles in a bushfire event.
  - v. Passing is achievable given the width of the road (5.5m) and road reserve (14m).

15 Lot Subdivision - 7a William Street, Campbell Town

- vi. There are no recommended traffic control devices as part of the subdivision.
- vii. The cul-de-sac head is level, and on a flat surface. The bushfire threat is on flat land in this part of the adjoining site.
- viii. The road is a cul-de-sac road and is within an urban area.
- ix. The cul-de-sac has a length of approximately 80m. It is considered there is ample opportunity for vehicles to exit to the north in a bushfire event.
- x. Turning area is provided. There are numerous access strips in the end of the proposed road, allowing for a three-point turn if required.
- xi. Parking areas at the end of the cul-de-sac will be limited due to the number access strips in this part. No standing signage has been recommended for both the eastern and western end of the cul de sac.
- xii. Perimeter access is provided to the east on the crown road reservation, however given the nature of the bushfire vegetation, is not seen as a requirement. The surrounding land to the north, west and generally south has been developed.
- xiii. There are no proposed fire trails, the road reserve to the east could provide vehicular access should it be required.
- b) The TFS can access the bushfire prone vegetation on the surrounding lots should a bushfire event occur.
- c) The application has been referred to TFS for comment who have confirmed they are satisfied with the reduced sized cul-de-sac.

The bushfire threat in this area is assessed as generally low. The lots will be cleared in their entirety to provide for residential development. The entire lot will be treated as a bushfire hazard management area. The development is within an established urban environment. The requirements to provide a cul-de-sac with 12m radius would be out of character with this area, and not considered warranted given the level of threat. The risk is considered low based on the site characteristics and nature of the area.

Performance criteria is achieved.



8. Conclusions and Recommendations

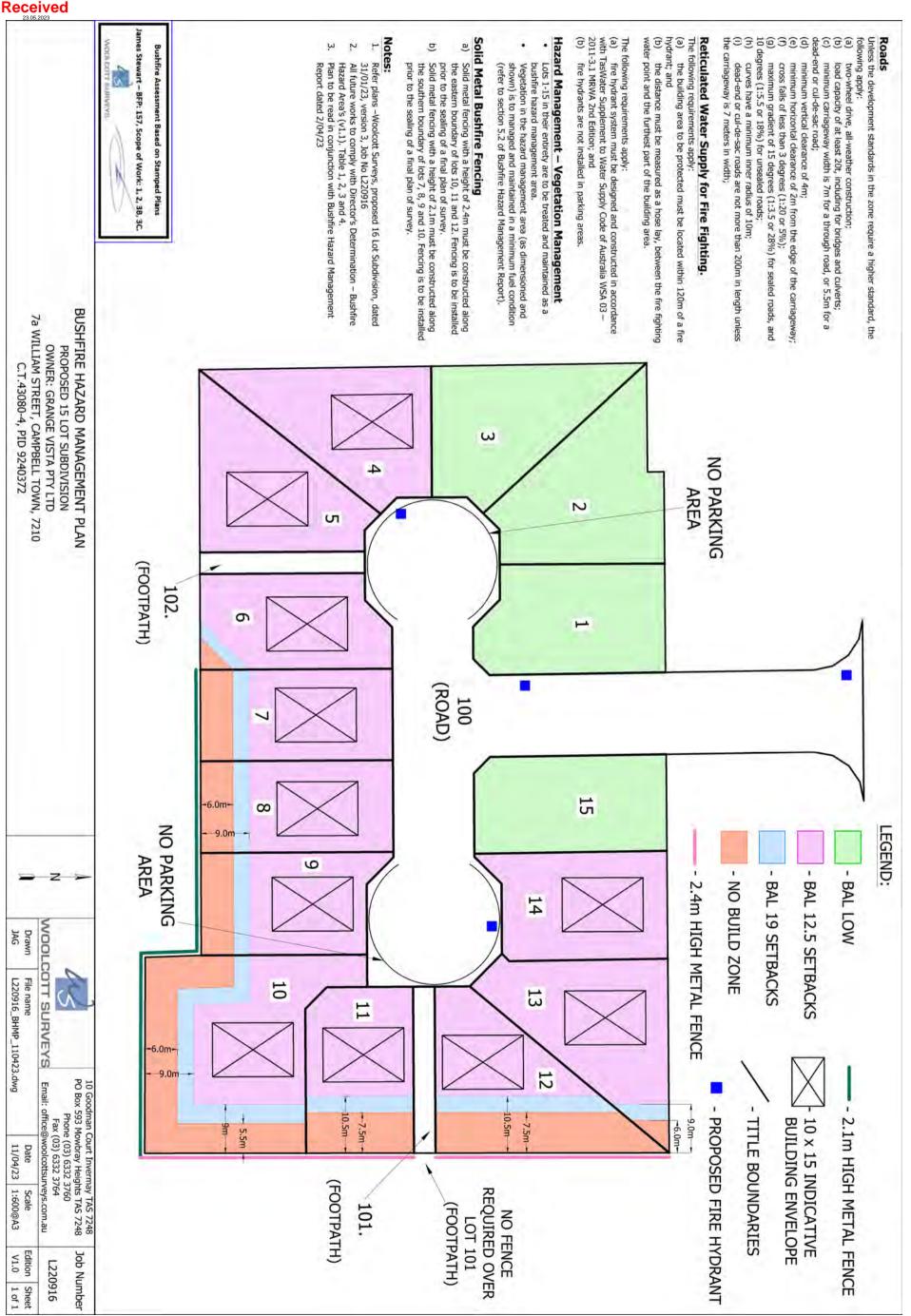
The proposal seeks planning approval for a 15-lot subdivision at 7a William Street, Campbell Town.

All of the lots have demonstrated that a building area can be provided in an area meeting the requirements of BAL 19. Despite this, bushfire fencing has been provided on the eastern and southern sides of the lots to provide a greater usable area for future dwellings to develop. Fire hydrants on the new cul-de-sac road provide sufficient protection, with building envelopes being within 120m of a hydrant. No access requirements are needed due to the hydrants being located on proposed roads.

- a) Hazard management areas meeting the requirements of BAL 19 can be achieved for lots 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14. Lots 1-3, and Lot 15 meet the requirements of BAL LOW, being over 50m from any bushfire prone vegetation.
- b) Future dwellings on lots 1-15 must maintain Hazard Management Areas and follow recommendations as outlined in the Bushfire Hazard Management Plan and section 5.2 of this report. Maintenance of these hazard management areas is to be in perpetuity.
- c) The proposed road must be in compliance with Table C13.1, Element A, outlined in section 5.3 of this report, with the exception of a 12m outer radius turning head. No standing signage is to be provided at both ends of the cul-de-sac.
- d) New hydrants are required in accordance with the TasWater supplement to Water Supply code of Australia WAS 03-2011-3.1 MRWA Edition 2:0. Hydrants to have a separation of not more than 60m.
- e) All lots are to be treated as a hazard management area in accordance with section 5.2 of this report. Maintenance of all hazard management areas must be in perpetuity.
- f) Prior to the sealing of the final plan, solid metal fencing to a height of 2.4m is required along the eastern boundary of lots 10, 11 and 12, and solid fencing to a height of 2.1m is required along the southern boundary of lot 7, 8, 9, and 10, as shown on the Bushfire Hazard Management Plan. Fencing should not be constructed across the eastern boundary of lot 101.



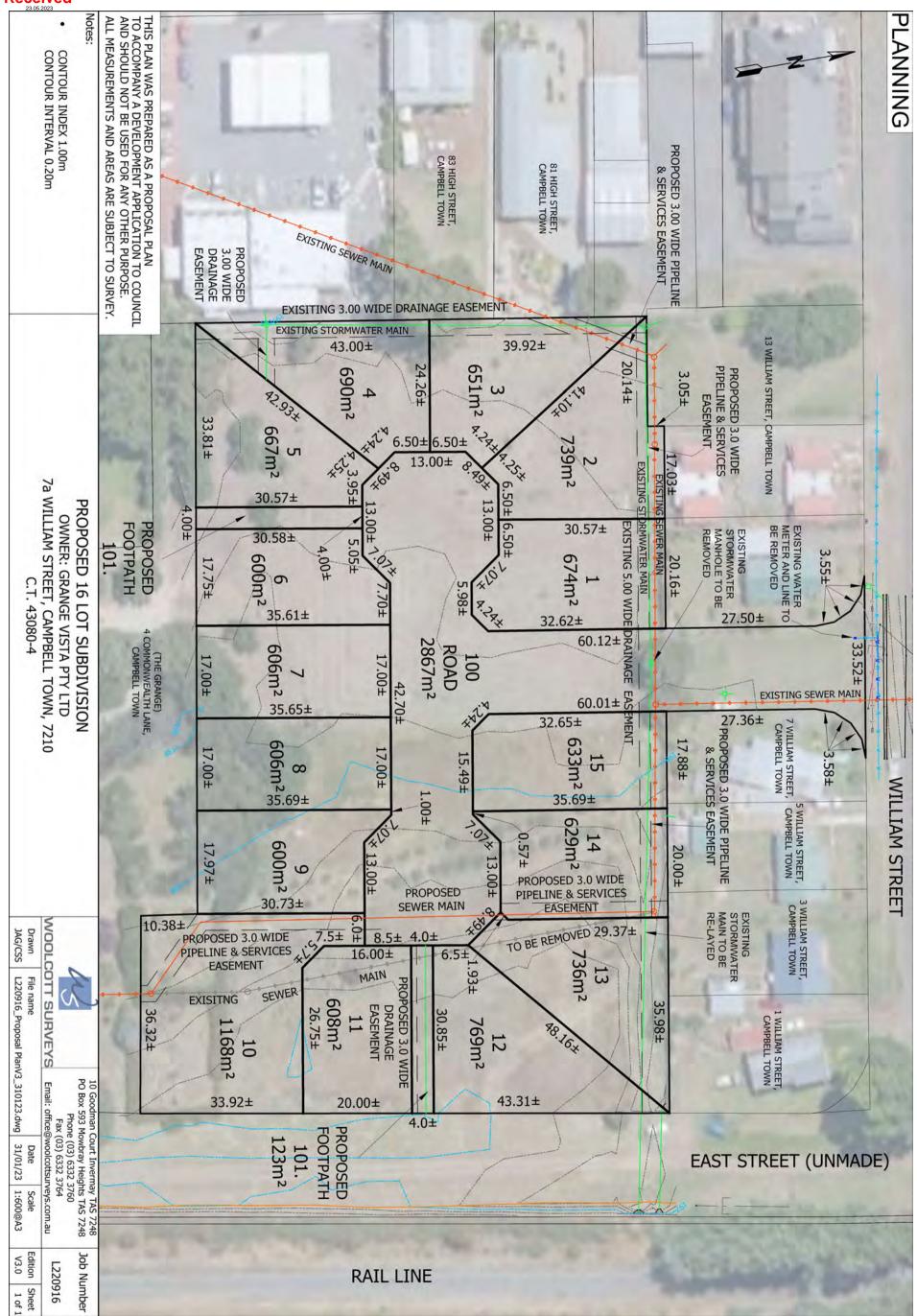
## **Annexure 1 - Bushfire Hazard Management Plan**





## **Annexure 2 – Subdivision Proposal Plan**

#### **Received**





# **Annexure 3 - Planning Certificate**



#### **BUSHFIRE-PRONE AREAS CODE**

# CERTIFICATE<sup>1</sup> UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

#### 1. Land to which certificate applies

The subject site includes property that is proposed for use and development and includes all properties upon which works are proposed for bushfire protection purposes.

Street address: 7a William Street, Campbell Town

Certificate of Title / PID: CT43080/4, PID9240372

#### 2. Proposed Use or Development

Description of proposed Use and Development:

15 Lot Subdivision + Road lot + footpath lots x 2

**Applicable Planning Scheme:** 

Tasmanian Planning Scheme - Northern Midlands

#### 3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Bushfire Hazard Report	Woolcott Surveys	02/05/2023	2
Proposed 16 Lot Subdivision	Woolcott Surveys	31/01/2023	3
Bushfire Hazard Management Plan	Woolcott Surveys	11/04/2023	1

Planning Certificate from a Bushfire Hazard Practitioner v5.0

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<sup>&</sup>lt;sup>1</sup> This document is the approved form of certification for this purpose and must not be altered from its original form.